TPC Benchmark™ W Full Disclosure Report

for

IBM @server xSeries 440

with

IBM @server xSeries 330

using

Microsoft SQL Server 2000 Enterprise Edition

Submitted for Review

September 12, 2002

Amended December 9, 2002

First Edition - September 2002

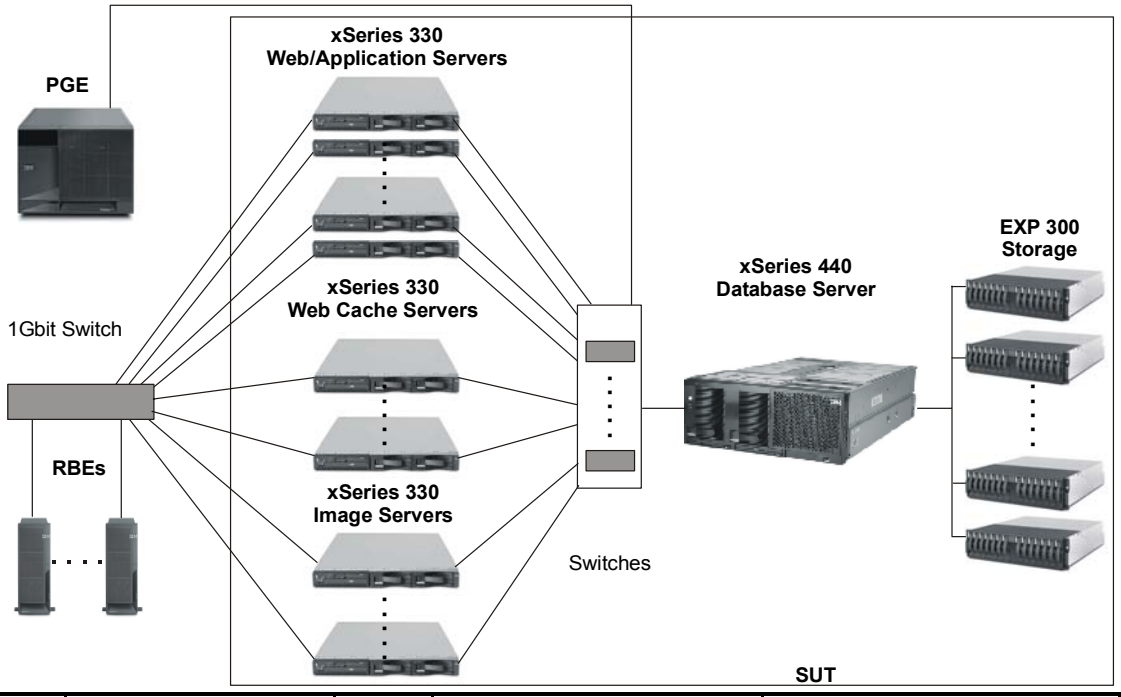
Trademarks

Notes

[1] MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.
[2] When referring to hard disk capacity, one GB equals one billion bytes. Total user-accessible capacity may be less.

IBM	IBM @server xSeries 440 with xSeries 330 using Microsoft SQL Server 2000	TPC-W Version 1.8 Report Date: 9/12/2002 Amended: 12/9/2002
Price Performance **$32.62** / WIPS@10,000	**Performance** 21,139.7 WIPS @10,000	**Available: December 31, 2002**
Total Cost $689,477	**WIPSo@10,000** 2,394.6	**WIPSb@10,000** 18,434.3
Scale 10,000 Items	**Number of Users** 164,000	**Number of Systems** 63
Web Server Microsoft Corporation Internet Information Server 5.0	**Application Server** Microsoft ISAPI	**Image Server** Microsoft Corporation Internet Information Server 5.0
Database Manager Microsoft SQL Server 2000 Enterprise Edition	**Load Balancer** Microsoft DNS	**Web Cache** Microsoft ISA SE Volera Excelerator 2.1

Other Software: Microsoft Windows 2000 Indexing Services



Function	System	# of Systems	Operating System	Processors	Memory
Web Server	xSeries 330	26	Windows 2000 Server	2 Pentium III 1.26GHz/512KB	768MB
Web Server / Other Sofware	xSeries 330	1	Windows 2000 Server	2 Pentium III 1.26GHz/512KB	768MB
Image Server	xSeries 330	20	Windows 2000 Server	2 Pentium III 1.26GHz/512KB	512MB
Image Server / Load Balancer	xSeries 330	1	Windows 2000 Server	2 Pentium III 1.26GHz/512KB	512MB
Database Server	xSeries 440	1	Microsoft .NET EE	8 Xeon MP 1.6GHz/1MB	8GB
Web Cache	xSeries 330	9	Windows 2000 Server Microsoft ISA SE	2 Pentium III 1.26GHz/512KB	512MB
Web Cache	xSeries 330	3	Windows 2000 Server Microsoft ISA SE	2 Pentium III 1.26GHz/512KB	768MB
Web Cache	xSeries 330	2	Volera Excelerator 2.1	1 Pentium III 1.26GHz/512KB	2GB

@server xSeries 440 with @server xSeries 330 using Microsoft SQL Server 2000

TPC-W Rev. 1.8

Report Date: Sept. 12, 2002

Price Performance	Performance	Availability Date
$32.62 per WIPS@10,000	21,139.7 WIPS@10,000	Dec. 31, 2002

Description	Part No.	Third Party Brand	Third Party Price	Unit Price	Qty.	Extended Price	3 yr.Maint. Price
Web/Application/Image Server Hardware							
xSeries 330 w/1.26GHz/512KB Pentium III	8674-31X	IBM	1	$1,729	62	$107,198	$46,376
1.26GHz Pentium III Processor	25P2836	IBM	1	599	60	35,940	0
256MB 133MHz ECC SDRAM RDIMM	10K0020	IBM	1	245	90	22,050	0
512MB 133MHz ECC SDRAM RDIMM	10K0022	IBM	1	499	8	3,992	0
18.2GB 15K Ultra160 SCSI Drive	06P5767	IBM	1	439	78	34,242	0
30GB EIDE ATA/100 Drive	00N8203	IBM	1	129	21	2,709	0
20/40 DDS/4 4mm SCSI Internal Tape Drive	00N7991	IBM	1	769	1	769	0
E54 15" (13.8" Viewable) Color Display	633147N	IBM	1	139	1	139	90
Intel PRO/1000 XT Adapter	22P6501	Intel	1	89	35	3,115	0
NetBAY42 Rack Standard Expansion Cabinet	9306421	IBM	1	1,439	2	2,878	600
Software							
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	60	44,280	incl. below
Microsoft ISA Server SE	E84-00042	Microsoft	2	1,295	24	31,080	incl. below
Volera Excelerator 2.1 (for 2GB)	993-000077-001	Volera	3	17,995	2	35,990	0
3-Years of Volera Technical Support (7x24)	051-001259-001	Volera	3	8,998	3		26,994
				Subtotal		$324,382	$74,060
Database Server Hardware							
xSeries 440 - 1.6GHz/1MB Xeon Processor MP	8687-3RX	IBM	1	$27,099	1	$27,099	$3,390
W/ 2 x 1.6GHz/1MB Xeon MP Processor							
W/ 4 x 512MB PC1600 ECC SDRAM RDIMM							
xSeries SMP Expansion Module	32P8340	IBM	1	5,199	1	5,199	0
1.6GHz/1MB Xeon MP Processor	32P8707	IBM	1	6,599	6	39,594	0
512MB PC1600 ECC SDRAM RDIMM	33L3324	IBM	1	499	12	5,988	0
ServeRAID-4H Ultra160 SCSI Adapter	37L6889	IBM	1	2,099	3	6,297	0
18.2GB 15K Ultra160 SCSI Drive	06P5767	IBM	1	439	155	68,045	0
20/40 DDS/4 4mm SCSI Internal Tape Drive	00N7991	IBM	1	769	1	769	0
E54 15" (13.8" Viewable) Color Display	633147N	IBM	1	139	1	139	90
EXP300 Storage Expansion Enclosure	35311RU	IBM	1	3,179	11	34,969	2,200
NetBAY42 Rack Standard Expansion Cabinet	9306421	IBM	1	1,439	1	1,439	300
Software							
Microsoft SQL Server 2000 Enterprise Edition	810-00846	Microsoft	2	16,541	8	132,328	
Microsoft .NET Enterprise Server	N/A	Microsoft	2	2,699	1	2,699	
Visual C++ Professional 6.0	048-00317	Microsoft	2	549	1	549	
3-Year Maintenance for Microsoft Software		Microsoft	2	1,950	3		5,850
				Subtotal		$325,114	$11,830
Connectivity							
Cisco Catalyst-XL EE w/49% Disc.	WS-C3524-XL-EN	Cisco	4	2,995	4	6,110	
Cisco 24x7x4 Onsite Service w/32% Disc.	CON-OSP-WS-C3524	Cisco	4				$4,341
				Subtotal		$6,110	$4,341
				Total		$655,606	$90,231
Large volume discount of 14% on IBM hardware; prices will vary if purchased separately.						($56,360)	
3rd Party Brand:							
1:IBM, 2: Microsoft, 3: Volera, 4: Cisco Systems		**3-Year Cost of Ownership**				**$689,477**	
3rd Party Pricing:		**WIPS@10,000**				**21,139.7**	
1: IBM, 2: Microsoft, 3: Volera, 4: Cisco Systems		**$ / WIPS@10,000**				**$32.62**	

Independently Audited by: Francois Raab InfoSizing, Inc.

IBM	@server xSeries 440 with @server xSeries 330 using Microsoft SQL Server 2000	TPC-W Rev. 1.8 Report Date September 12, 2002

Price Performance	Performance	Availability Date
$32.62 per WIPS@10,000	21,139.7 WIPS@10,000	December 31, 2002

Numerical Quantities Summary

WIPS Interaction Summary

Interaction	Mix	Count	90% Response
Home	16.00	6,087,473	0.20
Shopping Cart	11.60	4,415,386	0.20
Customer Registration	3.00	1,141,952	0.10
Buy Request	2.60	989,725	0.30
Buy Confirm	1.20	456,194	2.40
Order Inquiry	0.75	286,490	0.20
Order Display	0.66	252,318	0.20
Search Request	20.00	7,610,045	0.10
Search Results	17.00	6,469,302	0.40
New Products	4.99	1,900,420	0.40
Best Sellers	5.00	1,902,722	0.40
Product Detail	17.00	6,468,341	0.10
Admin. Request	0.10	37,548	0.10
Admin. Confirm	0.09	33,670	0.80

Measurement Intervals Summary

	Shopping	Browsing	Ordering
Ramp-up Time (min.)	11 Min 50 Sec	22 Min 20 Sec	30 Min 43 Sec
Length of Measurement Interval (min.):	30 Min	30 Min	30 Min
Average Think Time (sec.)	7.62 Sec	7.91 Sec	7.06 Sec
Average User Session Duration (min.):	14.97 Min	14.94 Min	14.98Min
Number of Users	164,000	148,000	17,500

Table of Contents

Introduction

TPC Benchmark W (TPC-W) is a transactional Web benchmark. The workload is performed in a controlled Internet commerce environment that simulates the activities of a business-oriented transactional Web server. The workload exercises a breadth of system components associated with such environments, which are characterized by:

- Multiple online browser sessions
- Dynamic page generation with database access and update
- Consistent Web objects
- The simultaneous execution of multiple transaction types that span a breadth of complexity
- Online transaction execution modes
- Databases consisting of many tables with a wide variety of sizes, attributes, and relationships
- Transaction integrity (ACID properties)
- Contention on data access and update

The performance metric reported by TPC-W is the number of Web interactions processed per second. Multiple Web interactions are used to simulate the activity of a retail store, and each interaction is subject to a response time constraint. The store size is chosen from among a set of given scale factors, which is the number of items in inventory and varies from 1,000 items to 10,000,000 items. The performance metric for this benchmark is expressed in Web Interactions Per Second at a tested scale factor expressed by WIPS@ scale factor where scale factor is the number of items in the ITEM table, for example, 123WIPS@100,000. All references to WIPS in this specification mean WIPS@ scale factor.

TPC-W simulates three different profiles by varying the ratio of browse to buy: primarily shopping (WIPS), browsing (WIPSb) and Web-based ordering (WIPSo). All references to WIPS (WIPSb, WIPSo) results must include the primary metrics, which are the WIPS rate, the associated price per WIPS ($/WIPS), and the availability date of the priced configuration.

0 General Items

0.1 Benchmark Sponsor

A statement identifying the benchmark sponsor(s) and other participating companies must be provided.

IBM Corporation sponsored this TPC-W benchmark.

0.2 Application Source Code

The source code of the application program or programs as defined in Clause 1.2.10, as well as all input for product-generated code, must be disclosed.

See Appendix A for all application source code.

0.3 Parameter Settings

Settings must be provided for all customer-tunable parameters and options that have been changed from the defaults found in actual products, including but not limited to:

- *Database tuning options*
- *Web server tuning and logging options*
- *Recovery/commit options*
- *Consistency/locking options*
- *Operating system and application configuration parameters*
- *Configuration parameters and options for any other software component incorporated into the pricing structure*
- *Compilation and linkage options and run-time optimizations used to create/install applications, OS, DBMS, web server, and/or any other commercial product.*

See Appendix D for the parameters used in this benchmark.

0.4 Configuration Diagrams

Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences. This includes, but is not limited to:

- *Number and type of processors*
- *Physical memory actually present on the SUT*
- *Size of allocated memory and any specific mapping/partitioning of memory unique to the test*
- *Number and type of disk units and controllers*
- *Number of channels or bus connections to disk units, including their protocol type*
- *Number of LAN (e.g., Ethernet) connections, including routers, workstations, terminals, etc., that were physically used in the test or are incorporated into the pricing structure*
- *Type and run-time execution location of software components (e.g., DBMS, web server, application server or program, transaction monitors, etc.).*
- *Number and type of crytographic processors or crytographic accelerators, if applicable.*

The configuration description and diagrams for the tested and priced systems are shown at the end of this section. For the configured system, all references to 10/100 adapters refer to the onboard NIC while references to 1Gbps Ethernet refer to the Intel PRO/1000 XT Adapters.

Web Servers	
Model	xSeries 330
Quantity	27
Qty/Processor	Two 1.26GHz/512KB Pentium III
Physical Memory	768MB
Allocated Memory	None
Disk Controller	Onboard Ultra160 SCSI
Qty/Disk Drive	Two 18.2GB
LAN Connections	Onboard 100Mbps internal
Software	Windows 2000 Server
Cryptographic Accelerator	None

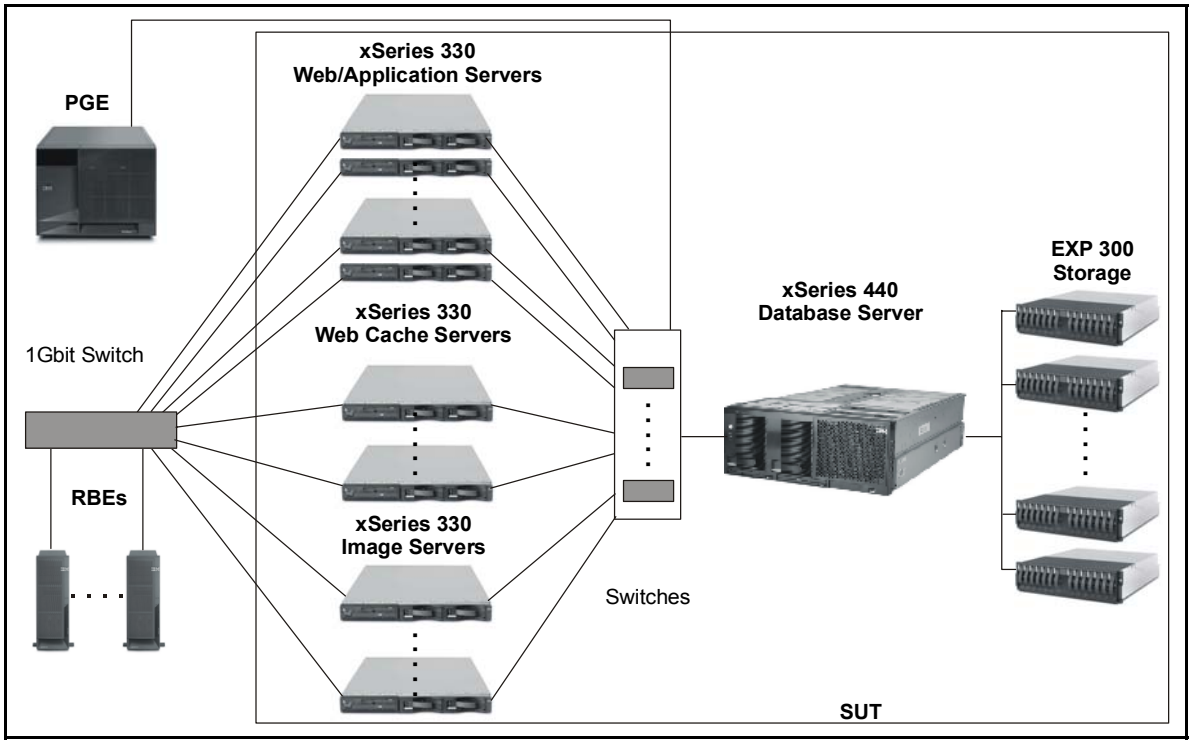
Image Servers / Image Load Balancer Server	
Model	xSeries 330
Quantity	20 Image Servers, 1 Image/Load Balancer Server
Qty/Processor	Two 1.26GHz/512KB Pentium III
Physical Memory	512MB
Allocated Memory	None
Disk Controller	Onboard Ultra160 SCSI
Qty/Disk Drive	20 with 30GB EIDE 1 with 18.2GB SCSI
LAN Connections	1Gbps Ethernet to external network / 100Mbps Ethernet to internal network
Software	Windows 2000 Server
Cryptographic Accelerator	None

Web Cache Servers	
Model	xSeries 330
Quantity	12
Qty/Processor	Two 1.26GHz/512KB Pentium III
Physical Memory	9 with 512MB 3 with 768MB
Allocated Memory	None
Disk Controller	Onboard Ultra160 SCSI
Qty/Disk Drive	11 with 18.2GB SCSI 1 with 30GB EIDE
LAN Connections	1Gbps Ethernet to external/100Mbps Ethernet to internal network
Software	Windows 2000 Server with Microsoft ISA Standard Edition
Cryptographic Accelerator	None

Web Cache Servers	
Model	xSeries 330
Quantity	2
Qty/Processor	One 1.26GHz/512KB Pentium III
Physical Memory	2048MB
Allocated Memory	None
Disk Controller	Onboard Ultra160 SCSI
Qty/Disk Drive	Two 18.2GB
LAN Connections	1Gbps Ethernet to external/100Mbps Ethernet to internal
Software	Volera Excelerator 2.1
Cryptographic Accelerator	None

Database Server	
Model	xSeries 440
Quantity	One
Qty/Processor	Eight 1.6GHz/1MB Xeon Processor MP
Qty/Physical Memory	Sixteen 512MB for a total of 8GB
Memory Mapping/Partitioning	None
Disk Controller	Three ServeRAID-4H Ultra160 SCSI Adapters
Qty/Disk Drive	One 18.2GB
LAN Connections	100Mbps Ethernet to internal network
Software	Windows .NET Enterprise Server with SQL Server 2000
Cryptographic Accelerator	None

0.4.1 Measured Configuration



The measured configuration depicted above used the following hardware and software components:

- xSeries 330 (application, image, and Web cache servers)
- xSeries 440 (database server)
- EXP300 Storage Expansion Enclosure (database storage)
- Cisco Catalyst-XL Switches
- Microsoft SQL Server 2000 Enterprise Edition
- Microsoft Windows 2000 Server (service pack 2)
- Microsoft Windows .NET Enterprise Server
- Microsoft Internet Information Server 5.0
- Microsoft ISA Standard Edition
- Volera Excelerator 2.1

0.4.2 Priced Configuration

The priced configuration differs from the measured configuration because it uses additional storage enclosures and drives as follows:

- Two EXP300 Storage Expansion Enclosures
- Fourteen 18.2GB SCSI drives

1 Web Object and Logical Database Design

1.1 Location of JPEG and GIF Images

The location of the JPEG and GIF images used in the benchmark must be disclosed. This information must include on which system and in what logical structure the images are stored (database or file system).

The JPEG and GIF images are stored in an NTFS directory on a webserver (ip address: 192.168.1.2). This directory is then shared and all dedicated image cache server have a "virtual directory" set up under IIS.

The parameters for the image server's virtual directory are configured where "content comes from a share located on another computer," and the network directory for this share is "\\192.168.1.2\images." This allows for a simpler more manageable configuration since there is only one location for the images. This also means that the image servers are not the primary store of image data, they are used as image caches.

1.2 Database Table Definitions

Listings must be provided for all table definition statements and all other statements used to set up the database. (8.1.2.1)

See Appendix B for the database design definitions.

1.3 Database Organization

The physical organization of tables and indexes within the database must be disclosed.

See Appendix B for the physical organization of tables and indexes.

1.4 Horizontal/Vertical Partitioning

Any horizontal or vertical partitioning of tables or rows in the TPC-W benchmark must be disclosed (see Clause 1.6.4 and 1.6.5). Replication of tables, if used, must be disclosed (see Clause 1.6.6).

No horizontal or vertical partitioning was used.

1.5 Additional or Duplicated Attributes

Additional and/or duplicated attributes in any table must be disclosed, along with a statement on the impact on performance (see Clause 1.6.7).

A NEW_ORDER table was used to keep track of the next O_ID for the buy confirm interaction. A NEXT_C_ID table was used to keep track of the next C_ID for the customer registration interaction. A NEW_ADDR_ID table was used to keep track of new address insertions.

See Appendix B for details.

2 Web Interactions and Workload

2.1 Random Number Generation

The method of random number generation must be disclosed.

The random numbers were generated by the RBE (remote browser emulator) using a mixed linear congruential generator and unique seeds for each emulated browser (EB) during the measurement interval. The initial seeds are chosen randomly and compared against the set of all seeds to gaurantee uniqueness.

2.2 Emulated Browsers

The number of Emulated Browsers used in the measured intervals must be disclosed.

The number of emulated browsers used for the measurement intervals is displayed below.

WIPS	WIPSb	WIPSo
164,000	148,000	17,500

2.3 User Sessions

The percentage of User sessions started during each Measurement Interval with known Customers must be disclosed with at least 1 decimal place.

The percentage of user sessions started during each Measurement Interval with known Customers is displayed below.

WIPS	WIPSb	WIPSo
80%	79.9%	80.1%

2.4 CART Implementation

The implementation of the CART data must be explained in sufficient detail to allow a replication of the benchmark, including the durability of the CART data over a single point of failure.

The CART data is stored on each individual Web server that contains the ISAPI code. The pointer to the correct cart for any given user is stored in the database in the SC_PTR table. In the event of a Web server failure, the Web server queries the database for the correct cart for the returning user. Each Web server contains two drives which are software RAID-1 mirrored to ensure durability over a drive failure.

2.5 Implementation of Security

A description of how security requirements were met as defined in Clause 2.2.1, must be disclosed, including key lengths.

The RBE and the SUT used openSSL libraries to transfer SSL requests between the RBE and SUT and between the SUT and the PGE. The application servers that perform the secure interactions use Microsoft Internet Information Server, which handles SSL encryption/decryption internally. The following SSL parameters were used:

Protocol:	SSL version 3
Cipher:	RC4
Cipher strength:	128
Hash:	MD5
Hash strength:	128

Key Exchange: RSA
Key Exchange strength: 1024

2.6 HTML Code

The HTML code for one representative Web page for each Web interaction must be included in the Full Disclosure Report.

See Appendix C for the HTML code used for each transaction.

2.7 Languages and APIs Used to Implement Interactions

A statement must be provided describing the development language(s) and the types of APIs used between commercial components to implement the interactions. This includes, but is not limited to, the interfaces to the database server, Web server, commerce package or application, or any other commercial product used. For example, the application is written in C and interfaces to the database with ODBC calls that initiate stored procedures.

The commerce package calls application code through the standard CGI interface. The application code is written in C++ and interfaces to the database with ODBC calls that initiate stored procedures.

3 Database Transaction and System Properties

3.1 ACID Tests

All interactions with any database maintaining the tables defined in Clause 1 must be made through a database transaction supporting full ACID (Atomicity, Consistency, Isolation and Durability) properties, as defined in Clauses 3.1.2 to 3.1.4.

3.1.1 Atomicity

3.1.1.1 Atomicity Property Definition

The system under test must guarantee that database transactions are atomic. Within a database transaction, the system will either perform all individual operations on the data, or will assure that no operations leave any effects on the data (see Clause 3.1.2.1).

3.1.1.2 Atomicity Tests

The Atomicity tests require that the Buy Confirm Web interaction be instrumented so that the update to the database may be aborted while in progress, affecting the final outcome of the update, but without affecting the ability of the SUT to complete the Web interaction.

The following steps describe Atomicity test 1:

1. *Request and complete a New Products Web interaction and chose an item from the response page.*
2. *Request and complete a Product Detail Web interaction for the item chosen in step 1.*
3. *Request an instrumented Buy Confirm Web interaction for the item chosen in step 1, ordering the item, and complete the Web interaction without aborting its updates.*
4. *Request and complete an Order Display Web interaction for the order placed in step 3.*
5. *The information presented in the response page from step 4 must match the order entered in step 3.*

The following steps describe Atomicity test 2:

1. *Request and complete a Best Sellers, a New Products Web or a Search Result Web interaction and choose an item from the response page.*
2. *Request and complete a Product Detail Web interaction for the item chosen in step 1.*
3. *Request an instrumented Buy Confirm Web interaction for the item chosen in step 1, ordering the item, and abort its updates before completion.*
4. *Request and complete an Order Detail Web interaction for the item ordered in step 1.*
5. *The information presented in the response page from step 4 must make no mention of the order entered in step 3.*

Atomicity tests 1 and 2 were completed successfully.

3.1.2 Consistency

3.1.2.1 Consistency Property Definition

The system under test must guarantee that database transactions are consistent. Assuming that the database is initially in a consistent state, the system will ensure that any TPC-W database transaction takes the database from one consistent state to another.

3.1.2.2 Consistency Conditions

A consistent state for the TPC-W database is defined to exist when:

1. *(I_A_ID) is a valid Foreign Key reference to an existing (A_ID)*
2. *(C_ADDR_ID) is a valid Foreign Key reference to an existing (ADDR_ID)*
3. *(O_C_ID) is a valid Foreign Key reference to an existing (C_ID)*
4. *O_BILL_ADDR and O_SHIP_ADDR are valid Foreign Key references to an existing (ADDR_ID)*
5. *(OL_I_ID) is a valid Foreign Key reference to an existing (I_ID)*
6. *(OL_O_ID) is a valid Foreign Key reference to an existing (O_ID)*
7. *(CX_O_ID) is a valid Foreign Key reference to an existing (O_ID)*
8. *(CX_CO_ID) is a valid Foreign Key reference to an existing (CO_ID)*
9. *CX_XACT_AMT = O_TOTAL when CX_O_ID = O_ID*
10. *(ADDR_CO_ID) is a valid Foreign Key reference to an existing (CO_ID)*

Consistency queries were executed before and after the test for consistency conditions 1 through 10.

3.1.3 Isolation

3.1.3.1 Isolation Property Definition

Isolation can be defined in terms of phenomena that can occur during the execution of concurrent database transactions. The following phenomena are considered, given two atomic database transactions, T1 and T2:

P0 ("Dirty Write"): Database transaction T1 reads a data element and modifies it. Database transaction T2 then modifies or deletes that element, and performs a COMMIT. If T1 were to attempt to reread the data element, it may receive the modified value from T2 or discover that the data element has been deleted.

P1 ("Dirty Read"): Database transaction T1 modifies a data element. Database transaction T2 then reads that data element before T1 performs a COMMIT. If T1 were to perform a ROLLBACK, T2 will have read a value that was never committed and that may thus be considered to have never existed.

P2 ("No-repeatable Read"): Database transaction T1 reads a data element. Database transaction T2 then modifies or deletes that data element, and performs a COMMIT. If T1 were to attempt to reread the data element, it may receive the modified value or discover that the data element has been deleted.

P3 ("Phantom"): Database transaction T1 reads a set of values N that satisfy some <search condition>. Database transaction T2 then executes statements that generate one or more data elements that satisfy the <search condition> used by database transaction T1. If database transaction T1 were to repeat the initial read with the same <search condition>, it obtains a different set of values.

3.1.3.2 Isolation Tests

The isolation tests require that several Web interactions be modified so that a query or an update to the database may be halted while in progress, without affecting the final outcome of the query or the update, and without affecting the ability of the SUT to complete the Web interaction.

3.1.3.2.1 Isolation Test 1

To verify isolation between two TPC-W update transactions, perform the following steps:

1. *From browser A, request and complete a Best Sellers, a New Products or a Search Results Web interaction and choose an item from the response page.*
2. *From browser A, request and complete a Product Detail Web interaction for the item chosen in the previous step.*
3. *From browser B, repeat steps 1 and 2 above for the same item.*
4. *From browser A, request an Admin Request Web interaction from the Product Detail Page of step 2.*
5. *From browser A, modify the item's image and price by initiating an instrumented Admin Confirm Web interaction.*
6. *Interrupt the processing of the Admin Confirm Web interaction from browser A after updating the image but before updating the price.*
7. *From browser B, repeat step 4 above. Verify that the Admin Request Web interaction either waits for Browser A to resume or completes. If the Admin Request Web interaction completes, then repeat step 5 above, updating the item's thumbnail and price (using a different value than Browser A).*
8. *Verify that browser B's Admin Confirm Web interaction, if requested in step 7, either waits for browser A to resume, or displays an Admin Confirm Page containing the item's image from step 2 and the price and thumbnail as updated by browser B.*
9. *Resume the processing of the Admin Confirm Web interaction interrupted in step 6.*
10. *Verify that browser A displays an Admin Confirm Page containing the item's new image, and either the old thumbnail and the price as updated by browser A, or the new thumbnail and the price as updated by browser B.*

Isolation test 1 was completed successfully with Browser A displaying the thumbnail and price as updated by Browers A.

3.1.3.2.2 Isolation Test 2

To verify isolation between a TPC-W update transaction and an arbitrary transaction, perform the following steps:

1. *From a browser, request and complete a Best Sellers Web interaction.*
2. *From the same browser, request and complete a Product Detail Web interaction for the first item found in the previous step.*
3. *From the same browser, request an Admin Request Web interaction from the Product Detail Page of the previous step.*
4. *From the same browser, modify the item's image, thumbnail and price by initiating an instrumented Admin Confirm Web interaction.*
5. *Interrupt the processing of the Admin Confirm Web interaction after updating the image but before updating the price and thumbnail.*
6. *Using a database query and update utility, request an update of the description of the first item found in step 1. Commit this update as soon as allowed by the database. (The update request may hang while waiting for the processing of the Admin Confirm Web interaction to complete.)*
7. *Resume the processing of the Admin Confirm Web interaction interrupted in step 5.*
8. *Verify that the browser displays an Admin Confirm Page containing the item's new image, new thumbnail and new price.*
9. *Using a database query and update utility, verify that the first item found in step 1 now reflects the updates from step 6 and from the Admin Confirm Web interaction.*

Isolation test 2 was completed successfully.

3.1.3.2.3 Isolation Test 3

To verify isolation between a TPC-W read-only transaction and an arbitrary transaction, perform the following steps:

1. *From a browser, request and complete and Order Display Web interaction.*
2. *Using a database query and update utility, requested an update of the quantity of the first line item of the order displayed in step 1, but do not commit this update.*
3. *From the same browser, request and complete another Order Display Web interaction to retrieve the same order as in step 1.*
4. *Verify that the browser's Order Display Web interaction either waits for the update utility to commit, or displays an Order Display Page containing the same information as displayed in step 1.*
5. *Using a database query and update utility, commit the pending updates to the database.*
6. *If the browser was waiting in step 4, verify that it has resumed and that it displays an Order Display Page containing the new quantity for the first line item. If the brower was not waiting in step 4, request and complete a new Order Display Web interaction to retrieve the same order as in step 1 and verify that the Order Display Page contains the new quantity for the first line item.*

Isolation test 3 was completed successfully.

3.1.4 Durability

The system under test must guarantee that database transactions are durable. The system will preserve the effects of any committed database transaction after recovery from any single point of failure. For each component susceptible to one of the failure types defined in Clause 3.1.5.3 perform the following steps:

1. *Verify that Consistency Conditions 2, 3, 7 and 9, as specified in Clause 3.1.3.2, are met.*
2. *Obtain the total number of rows in the ORDERS table to determine the current count of orders (count1) in the database.*
3. *Start the mix of web interactions used for the Shopping Interval (see Clause 5.2.1) from a number of EBs within at least 10% of the number of EBs used for the reported WIPS metric.*
4. *Run for at least 5 minutes once all EBs have started requesting web interactions; and keep a count of the number of Buy Confirm web interactions successfully completed by all EBs.*
5. *Cause the failure selected from the list in Clause 3.1.5.3.*
6. *Stop the RBE and collect the total number of Buy Confirm web interactions successfully completed by all EBs (RBE-count).*
7. *If necessary, stop and restart the system under test using normal recovery procedures, where applicable.*
8. *Repeat step 2 to determine the current count of orders (count2) in the database. Verify that (count2-count1) is greater than or equal to the number of successfully completed Buy Confirm web interactions (RBE-count). If there is an inequality, the difference must be less than or equal to the number of EBs active during this test.*
   ***Comment**: This difference should be due only to database transactions which were committed on the system under test, but for which the Response Page was not returned to the EB before the failure.*
9. *Verify that Consistency Conditions 2, 3, 8 and 9, as specified in Clause 3.1.3.2, are still met.*

The durability tests were performed with all the EBs. A database log drive was removed, a database data drive was removed, the database server was powered off, and an application server was powered off. No committed transactions were lost since all drives on the database are on RAID-5. Also, it was shown that application servers recover their respective shopping carts from the file system after power loss. The application code links with the object file "commode.obj" (supplied by Microsoft with Visual Studio 6.0). This ensures the durability of the Shopping Cart during a power loss by forcing a NTFS 'write-through' operation to the physical disk before proceeding with the Shopping Cart operation.

3.2 Web Page Consistency

Most Web pages returned by the SUT to the EB reflect the content of the database by displaying plain data and Web objects (GIF pictures). As database transactions update the content of the database, the Web pages must display a consistent reflection of these updates, with the exception of the Search Results Page.

3.2.1 Web Page Consistency Property Definition

The effects of any update database transaction must be reflected with consistency in subsequent Web pages returned by the SUT to the EB: the Web pages must reflect either the effect of the entire update operation or none of it.

The Search Result Page is the only exception to the Web page consistency requirement. The Search Result Page contains the result of a query. The index used to answer this query may be based upon the initial population and is not required to be updated along with any database updates, including updates made by the Admin Confirm Web interaction.

The Web page consistency tests were completed successfully as described in section 3.2.2.

3.2.2 Web Page Consistency Test

This test requires that a series of Web interactions be requested from several User Sessions while the system is operating under the following load:

- *Load 1: The mix of web interactions used during the Shopping Interval and producing a WIPS rate greater than both 10% of the reported WIPS and 100 WIPS (or within 90% of the reported WIPS rate if it is less than 100).*
- *Load 2: A set of 30 different User Sessions, each executing the Product Detail web interaction in a continuous loop. All User Sessions must repeatedly query the same item, chosen in step 1 below, and must maintain a log of the response pages, including the date header provided by the HTTP 1.1 protocol.*

The following list of steps must be executed in sequence:

1. *From User Session A, complete a New Products Web interaction and choose an item from the response page, excluding the first 10 items.*
2. *Start the Load 1 above.*
3. *Start the Load 2 above.*
4. *Wait a minimum of two minutes.*
5. *From User Session A, complete an Admin Confirm Web interaction for the item chosen in step 1, changing the price, the published date and the image of the item.*
6. *Wait 30 seconds.*
7. *From User Session B, immediately after step 6 completes, complete a New Products Web interaction on the subject of the item chosen in step 1.*
8. *Wait a minimum of two minutes.*
9. *Terminate the Load 2 and the Load 1.*

The following conditions must be met:

- *All Product Detail Pages returned by the Load 2 meet the requirements defined in Clause 3.2.1.2.*
- *The New Products Page returned in step 8 contains the item chosen in step 1 within its first 10 entries.*

The described conditions were met and verified by the auditor.

4 Scaling and Database Population

4.1 Cardinality of Tables

The cardinality (e.g., the number of rows) of each table as initially populated (see Clauses 4.3 and 4.4), must be disclosed.

The following table contains the TPC Benchmark W defined tables and the number of rows for each table as they were initially populated.

Table 4.1 Database Tables Cardinality

Table Name	Rows
CUSTOMER	472,320,000
COUNTRY	92
ADDRESS	944,640,000
ORDERS	425,088,000
ORDER_LINE	1,275,243,218
AUTHOR	2,500
CC_XACTS	425,088,000
ITEM	10,000

4.2 180-Day Space

The space required to sustain 180 days of reported throughput as defined in Clause 4.4 must be disclosed.

See Appendix E for the 180-day space calculations.

4.3 8-Hour Space

The space required for 8 hours of Web-server access logs as defined in Clause 4.5 must be disclosed.

See Appendix E for the 8-hour space calculations.

4.4 Distribution of Tables and Logs

The method for distributing table and log data across all media must be described.

Table 4.2 Table and Log Distribution

Controller	Drives	Partition	Size	Use	Array Configuration
Onboard	1 - 18.2GB	C:	18.2GB (NTFS)	OS	Onboard
1	56 - 18.2GB	T: V:	831.4GB (RAW) 50GB (NTFS)	Database Data File tempdb	RAID-50
2	56 -18.2GB	U: W:	831.4GB (RAW) 50GB (NTFS)	Database Data File templog	RAID-50
3	14 - 18.2GB	L:	220.4GB (RAW)	SQL Log File	RAID-5

The controller cache on all controllers was set to write-through mode.

Note: The Database Data File is one file group that resides on both T: and U:.

5 Performance Metrics and Response Times

5.1 TPC-W Primary Metrics

The WIPS@scale factor and the price per WIPS@scale factor must be disclosed. WIPSb@scale factor and WIPSo@scale factor are secondary metrics and must be included in the Executive Summary.

- WIPS@10,000: 21,139.7
- Price per WIPS@10,000: $32.62

These primary metrics, along with the secondary metrics, can be found in the Executive Summary at the beginning of this report.

5.2 Reproducibility of the Measurement Results

A description of the method used to determine the reproducibility of the measurement results must be reported as well as the WIPS from the reproducibility run.

A repeatability measurement was taken on the SUT for the same length of time as the measured run.

Table 5.1 Repeatability

	WIPS @ 10,000
Run1	21,139.7
Run2	21,172.3
Difference	0.001%

5.3 Measurement Intervals

The duration, start time and stop time of each Measurement Interval must be disclosed. For Measurement Intervals reported from the same run, the timing precision must be sufficiently small to demonstrate each Measurement Interval is non-overlapping.

Table 5.2 Measurement Intervals

	WIPS @ 10,000 (Shopping)	WIPSb @ 10,000 (Browsing)	WIPSo @ 10,000 (Ordering)
Duration	30 Minutes	30 Minutes	30 Minutes
Start	09:46:14	15:05:52	16:42:52
End	10:16:14	15:35:52	17:12:52

For more details, see the Numerical Quantities Summary in the Executive Summary at the beginning of this report.

5.4 Percentage of Each Web Interaction

The percentage of each Web interaction executed during each measured interval must be displayed in tabular form. Percentages must be reported to 2 decimal points.

Table 5.3 Web Interactions Mix Executed during Measured Intervals

Web Interaction	Browsing Mix (WIPSb)	Shopping Mix (WIPS)	OLTP Mix (WIPSo)
Browse			
Home	28.99%	16.00%	9.13%
New Product	11.00%	4.99%	0.46%
Best Seller	11.00%	5.00%	0.46%
Product Detail	21.03%	17.00%	12.35%
Search Request	11.99%	20.00%	14.55%
Search Results	11.00%	17.00%	13.09%
Order			
Shopping Cart	2.00%	11.60%	13.53%
Customer Registration	0.82%	3.00%	12.85%
Buy Request	0.75%	2.60%	12.73%
Buy Confirm	0.69%	1.20%	10.17%
Order Inquiry	0.30%	0.75%	0.24%
Order Display	0.25%	0.66%	0.21%
Admin. Request	0.10%	0.10%	0.12%
Admin. Confirm	0.09%	0.09%	0.11%

5.5 Web Interaction Response Times

The minimum, maximum, average and 90th percentile response time must be reported for each Web interaction in tabular form with a column for each of the Measurement Intervals of WIPS, WIPSo and WIPSb (see Clause 5.1).

Table 5.4 Response Times for WIPS Run

Interaction Type	Minimum	Maximum	Average	90th
Admin Confirm	0.19	12.17	0.60	0.80
Admin Request	0.00	4.38	0.03	0.10
Best Sellers	0.01	9.41	0.26	0.40
Buy Confirm	2.05	8.38	2.24	2.40
Buy Request	0.00	9.91	0.17	0.30
Customer Registration	0.00	3.52	0.01	0.10
Home	0.00	8.23	0.06	0.20
New Products	0.00	7.47	0.26	0.40
Order Display	0.00	5.84	0.09	0.20
Order Inquiry	0.00	8.09	0.08	0.20
Product Detail	0.00	117.38	0.04	0.10
Search Request	0.00	6.95	0.05	0.10
Search Results	0.00	9.22	0.26	0.40
Shopping Cart	0.00	6.58	0.08	0.20

Table 5.5 Response Times for WIPSb Run

Interaction Type	Minimum	Maximum	Average	90th
Admin Confirm	0.14	3.52	0.27	0.40
Admin Request	0.00	1.34	0.01	0.10
Best Sellers	0.01	3.09	0.23	0.30
Buy Confirm	2.03	3.55	2.08	2.20
Buy Request	0.00	3.45	0.07	0.20
Customer Registration	0.00	2.05	0.01	0.10
Home	0.00	4.76	0.04	0.10
New Products	0.00	2.88	0.23	0.30
Order Display	0.00	1.09	0.04	0.10
Order Inquiry	0.00	3.50	0.04	0.10
Product Detail	0.00	120.19	0.02	0.10
Search Request	0.00	2.59	0.03	0.10
Search Results	0.00	3.94	0.23	0.30
Shopping Cart	0.00	2.70	0.05	0.10

Table 5.6 Response Times for WIPSo Run

Interaction Type	Minimum	Maximum	Average	90th
Admin Confirm	0.13	0.91	0.17	0.20
Admin Request	0.00	0.88	0.00	0.10
Best Sellers	0.13	1.19	0.20	0.30
Buy Confirm	2.03	3.77	2.06	2.10
Buy Request	0.00	1.39	0.02	0.10
Customer Registration	0.00	0.86	0.00	0.10
Home	0.00	1.64	0.01	0.10
New Products	0.13	0.98	0.19	0.30
Order Display	0.00	0.17	0.01	0.10
Order Inquiry	0.00	0.17	0.00	0.10
Product Detail	0.00	119.86	0.00	0.10
Search Request	0.00	1.42	0.01	0.10
Search Results	0.11	1.73	0.19	0.30
Shopping Cart	0.00	1.05	0.02	0.10

5.6 Web Interaction Think Times

The minimum, maximum and average of all think times executed during the Measurement Interval must be reported.

Table 5.7 Think Times

Measurement Intervals	Think Times		
	Minimum	Maximum	Average
WIPS	0.00	78.58	7.62
WIPSb	0.00	79.31	7.91
WIPSo	0.00	70.50	7.05

5.7 Checkpoints

The number of checkpoints in the Measurement Interval, the time in seconds from the start of the Measurement Interval to the first checkpoint and the Checkpoint Interval must be disclosed.

Table 5.8 Checkpoints

Mix	# of Checkpoints	Duration	Checkpoint Interval
WIPS	3	2 min 55 sec	8 Minutes
WIPSb	3	1 min 27 sec	8 Minutes
WIPSo	4	22 sec	8 Minutes

5.8 Web Page Assembly

See Section 6.5 for Web Page Assembly description.

5.9 Measured Throughput of Each Measurement Interval

The measured throughput of each measured interval must be graphed as described in Clause 5.6.2 and the graphs must be included in the Full Disclosure Report.

Figure 5.1 Web Interactions per Second (WIPS) for Each Measurement Interval

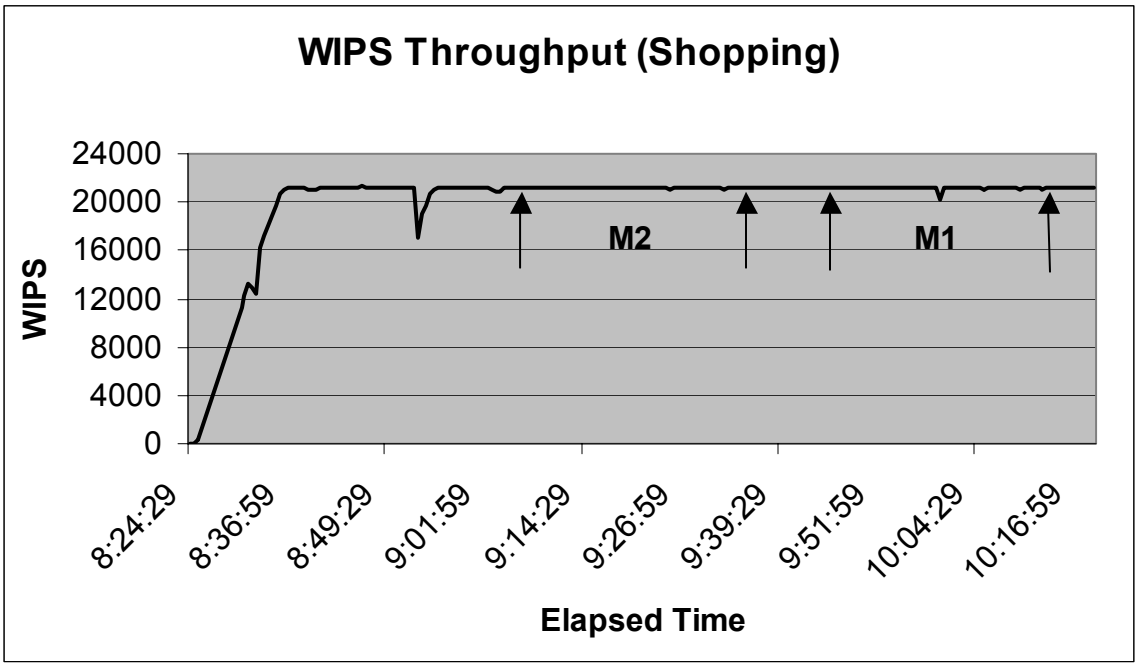


Figure 5.2 WIPSb Throughput

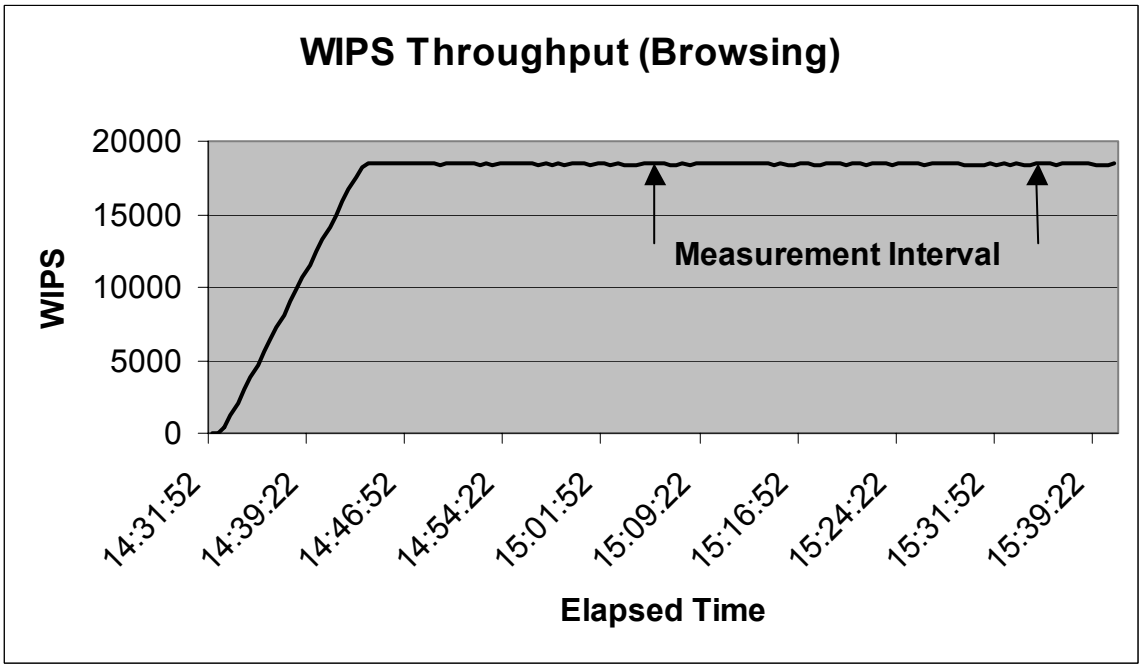
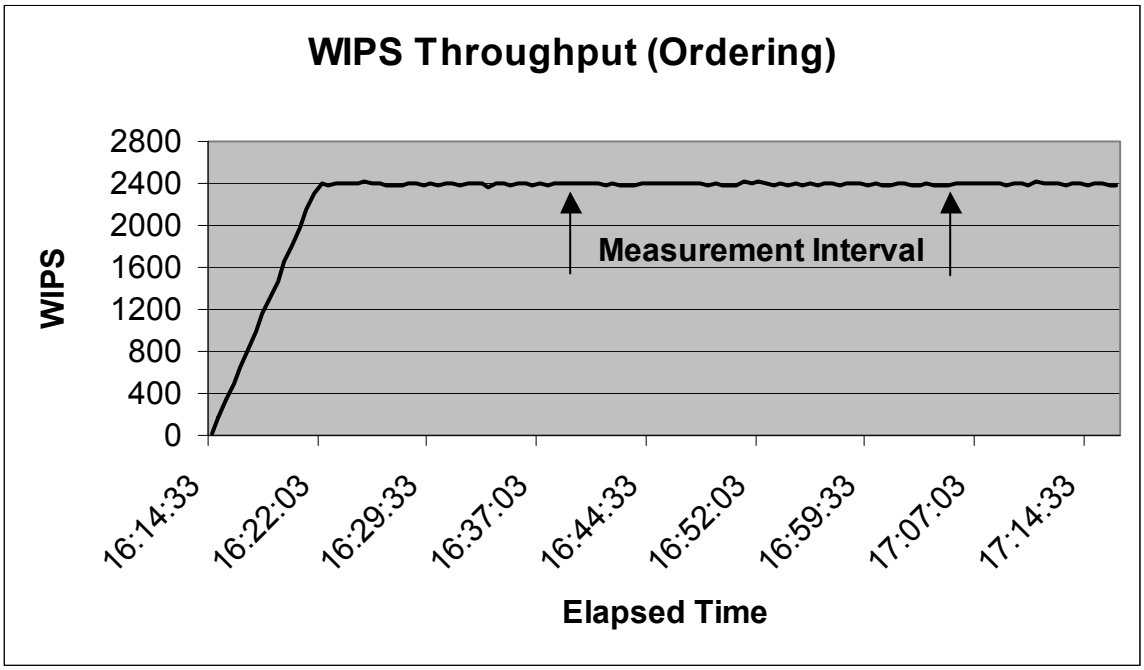


Figure 5.3 WIPSo Throughput



5.10 Performance Statistics

A set of performance statistics is required and must be reported. Clause 5.7.1 and 5.7.2 define how these monitored metrics are to be aggregated.

See Section 5.13 for the performance statistics.

5.11 Monitoring Tools Used

The monitoring tools used during the Measurement Intervals must be described and the operational methods invoked must be reported. For example, the monitor was invoked as a started task, and binary data was recorded every 15 seconds to a disk for post-processing.

On those servers running Windows 2000 (service pack 2) and .NETEnterprise Server, the standard Performance Monitor tool was used to capture all required data and recorded to disk every 30 seconds for post-processing. On those systems running Volera Excelerator 2.1, a screen capture utility was invoked to capture the performance screen that showed the CPU utilization and network throughput.

5.12 Sampling Technique

If a sampling technique is used to obtain performance data, then the sample rate (per second) must be reported as specified in Clause 5.7.1.6.

Sampling was used only for the Web Caches, which ran Volera Excelerator 2.1. The sampling rate was every 165 seconds.

5.13 Monitored Metrics

The monitored metrics as defined in Clause 5.7 must be reported in a table or tables.

5.13.1 Definition of Reported Metrics

The reported metrics were captured with Windows 2000 Performance Monitor (Perfmon). The metrics are defined below.

% CPU busy Processor: % Processor Time\ _Total

% Processor Time is the percentage of time that the processor is executing a non-Idle thread. This counter was designed as a primary indicator of processor activity. It is calculated by measuring the time that the processor spends executing the thread of the Idle process in each sample interval, and subtracting that value from 100%. (Each processor has an Idle thread which consumes cycles when no other threads are ready to run). It can be viewed as the percentage of the sample interval spent doing useful work. This counter displays the average percentage of busy time observed during the sample interval. It is calculated by monitoring the time the service was inactive, and then subtracting that value from 100%.

Physical Memory: [Amount of available physical memory]

Memory dedicated to shared pool.

Page size of memory manager is 4Kbytes.

Page In / Page Out Memory Pages Input/sec / Pages Output/sec

Pages Input/sec is the number of pages read from disk to resolve hard page faults. (Hard page faults occur when a process requires code or data that is not in its working set or elsewhere in physical memory, and must be retrieved from disk). This counter was designed as a primary indicator of the kinds of faults that cause system-wide delays. It includes pages retrieved to satisfy faults in the file system cache (usually requested by applications) and in non-cached mapped memory files. This counter counts numbers of pages, and can be compared to other counts of pages, such as Memory: Page Faults/sec, without conversion. This counter displays the difference between the values observed in the last two samples, divided by the duration of the sample interval.

Pages Output/sec is the number of pages written to disk to free up space in physical memory. Pages are written back to disk only if they are changed in physical memory, so they are likely to hold data, not code. A high rate of pages output might indicate a memory shortage. Windows NT writes more pages back to disk to free up space when physical memory is in short supply. This counter counts numbers of pages, and can be compared to other counts of pages, without conversion. This counter displays the difference between the values observed in the last two samples, divided by the duration of the sample interval.

Swap In / Swap Out Memory Page Reads/sec / Page Writes/sec

Page Reads/sec is the number of times the disk was read to resolve hard page faults. (Hard page faults occur when a process requires code or data that is not in its working set or elsewhere in physical memory, and must be retrieved from disk). This counter was designed as a primary indicator of the kinds of faults that cause system-wide delays. It includes reads to satisfy faults in the file system cache (usually requested by applications) and in non-cached mapped memory files. This counter counts numbers of read operations, without regard to the numbers of pages retrieved
by each operation. This counter displays the difference between the values observed in the last two samples, divided by the duration of the sample interval.

Page Writes/sec is the number of times pages were written to disk to free up space in physical memory. Pages are written to disk only if they are changed while in physical memory, so they are
likely to hold data, not code. This counter counts write operations, without regard to the number
of pages written in each operation. This counter displays the difference between the values
observed in the last two samples, divided by the duration of the sample interval.

Logical READS per second System: File Read Operations/sec

File Read Operations/sec is the combined rate of file system read requests to all devices on the computer, including requests to read from the file system cache. It is measured in numbers of reads. This counter displays the difference between the values observed in the last two samples, divided by the duration of the sample interval.

Physical READS per second Physical Disk Disk Reads/sec _Total

Disk Reads/sec is the rate of read operations on the disk (_Total is for all disks).

Logical WRITES per second System File Write Operations/sec

File Write Operations/sec is the combined rate of the file system write requests to all devices on the computer, including requests to write to data in the file system cache. It is measured in numbers of writes. This counter displays the difference between the values observed in the last two samples, divided by the duration of the sample interval.

Physical WRITES per second Physical Disk Disk WRITES/sec _Total

Disk Writes/sec is the rate of write operations to the disk (_Total is for all disks).

Network Interface: Packets/sec All Instances

Packets/sec is the rate at which packets are sent and received on the network interface.

System I/O rate: Process: IO Data Operations/sec

The rate the process is issuing read and write I/O operations. This counter counts all I/O activity generated by the process to include file, network and device I/Os.

Total Disk I/O rate Physical Disk Disk Transfers/sec _Total

Disk Transfers/sec is the rate of read and write operations on the disk.

Avg device utilization Physical Disk % Disk Time _Total

% Disk Time is the percentage of elapsed time that the selected disk drive is busy servicing read or write requests (_Total is for all disks).

Avg service time Physical Disk Avg. Disk sec/Transfer _Total

Avg. Disk sec/Transfer is the time in seconds of the average disk transfer (_Total is for all disks).

Avg disk data transfer size Physical Disk Avg. Disk Bytes/Transfer _Total

Avg. Disk Bytes/Transfer is the average number of bytes transferred to or from the disk during write or read operations (_Total is for all disks).

Total logging I/O rates Web Service: Physical Disk Disk Transfers/sec _Total for log drive

Disk Transfers/sec is the rate of read and write operations on the disk.

TCP/IP connections / second: Web Service: Anonymous users/ sec

HTTP requests / sec Web Service: Total Method requests / sec

HTTP errors / sec: Web Server log

HTTP bytes/sec Web Service: Bytes Sent/sec

HTTP successes / sec

Table 5.9 Counter Description

Metric	Counter
% CPU busy	Processor: %Processor Time_Total
Physical Memory	Memory: Available Mbytes
Memory dedic. to shared pool	Database query
Page In / Page Out	Memory: Pages Input/sec, Pages Output/sec
Swap In / Swap Out	Memory: Page Reads/sec, Page Write/sec
Logical READS per second	System: File Read Operations/sec
Physical READS per second	Physical Disk: Disk Reads/sec
Logical WRITES per second	System: File Write Operations/sec
Physical WRITES per second	Physical Disk: Disk Writes/sec
System I/O rate	Process: I/O Data Operations/sec]_Total
Total Disk I/O rate	Physical Disk: Disk Transfers/sec \ _Total
Avg device utilization	Physical Disk: % Disk Time \ _for each device
Avg service time	Physical Disk: Avg. Disk sec/Transfer \ _for each device
Avg disk data transfer size	Physical Disk: Avg. Disk bytes/Transfer \ _for each device
Total logging I/O rates	Physical Disk: Disk Transfers/sec \ for log drive
TCP/IP connections / second	Web Service: Anonymous Users/sec
HTTP requests / sec	Web Service: Total Method Requests/sec
HTTP errors / sec	Web server log
HTTP bytes / sec	Web Service: Bytes Sent/sec
HTTP successes / sec	Web server log

Table 5.10 WIPS, WIPSb and WIPSo Database

Metric - Database Server	WIPS	WIPSb	WIPSo
Device C: Physical Reads per second	0.06	0.02	0.00
Device C: Physical writes per second	0.66	0.69	0.68
Device C: avg. device utilization	0.32	0.32	0.30
Device C: Total Disk IO rate	0.73	0.71	0.68
Device C: avg. disk data transfer size	6020.05	5776.26	5785.29
Device C: avg. service time	0.004	0.004	0.004
Device L: Physical Reads per second	0.00	0.00	0.00
Device L: Physical writes per second	942.75	543.49	743.47
Device L: avg. device utilization	15.45	8.09	11.03
Device L: Total Disk IO rate	942.75	543.49	743.47
Device L: avg. disk data transfer size	1125.26	880.07	955.40
Device L: avg. service time	0.002	0.001	0.001
Device V: Physical Reads per second	0.06	0.04	0.00
Device V: Physical writes per second	0.35	0.16	0.24
Device V: avg. device utilization	0.03	0.02	0.01
Device V: Total Disk IO rate	0.41	0.20	0.24
Device V: avg. disk data transfer size	8900.78	8687.32	9581.61
Device V: avg. service time	0.001	0.001	0.000
Device W: Physical Reads per second	0.00	0.00	0.00
Device W: Physical writes per second	35.48	18.97	28.35
Device W: avg. device utilization	7.71	2.36	3.01
Device W: Total Disk IO rate	35.48	18.97	28.35
Device W: avg. disk data transfer size	43460.21	43457.56	43458.83
Device W: avg. service time	0.002	0.001	0.001
Device T: Physical Reads per second	564.69	258.79	33.07
Device T: Physical writes per second	155.40	71.21	48.93
Device T: avg. device utilization	455.34	184.42	24.63
Device T: Total Disk IO rate	720.09	330.00	82.00
Device T: avg. disk data transfer size	8470.85	8411.23	8794.48
Device T: avg. service time	0.006	0.006	0.006
Device U: Physical Reads per second	564.71	258.14	33.22
Device U: Physical writes per second	154.47	70.84	49.58
Device U: avg. device utilization	470.17	185.33	27.73
Device U: Total Disk IO rate	719.18	328.98	82.81
Device U: avg. disk data transfer size	8469.52	8415.01	8783.80
Device U: avg. service time	0.007	0.006	0.006
Device Total Physical Reads per secon	1129.52	516.99	66.30
Device Total Physical writes per secon	1289.12	705.35	871.25
Device Total avg. device utilization	86.27	34.60	6.07
Device Total Total Disk IO rate	2418.64	1222.34	937.55
Device Total avg. disk data transfer siz	6080.90	5516.56	3526.62
Device Total avg. service time	0.004	0.003	0.001
Swap out	0.00	0.00	0.00
Page in	0.00	0.00	0.00
Page out	0.00	0.00	0.00
Available Memory MB	597.93	588.38	577.00
Swap in	0.00	0.00	0.00
Memory Shared pool (bytes)	112749090.13	108556834.13	108803686.40
% CPU Busy	45.89	21.39	14.56
Logical Writes	1296.23	712.51	878.41
Logical Reads	1136.98	524.68	74.03
System IO Rate	2433.21	1237.18	952.43

Table 5.11 WIPS Web Server Aggregate

Metric - WIPS	Index /Application Server	AdminConfirm /Application Server	Web /Application Server	Cache /Application Server
Page Size	4k	4k	4k	4k
Http successes/sec	1291.10	18.71	1036.90	18.71
Http errors/sec	0.00	0.00	0.00	0.00
Http Requests/sec	1291.10	18.71	1036.90	18.71
Http Bytes Sent/sec	1231268.45	35724.42	2866369.56	4964988.00
TCP/IP Connections/sec	0.41	17.08	12.90	15.19
Logical Writes	0.99	0.91	81.84	38.16
Logical Reads	0.25	0.20	0.95	39.77
% CPU Busy	37.79	21.00	77.24	73.97
System IO Rate	1.24	1.11	82.78	77.94
Physical Writes/sec	3.17	1.05	149.80	36.96
Total Disk I/O rate	3.17	1.05	150.02	37.78
Physical Reads/sec	0.00	0.00	0.23	0.83
Average service time	0.007	0.005	0.009	0.004
Avg disk data transfer size	31996.62	5813.95	7837.42	1580.82
Avg device utilization	2.07	0.61	95.66	14.17
Page Out	0.00	0.00	0.47	0.01
Page In	22.74	0.94	33.55	0.39
Swap out	0.00	0.00	3.06	0.00
Swap in	2.85	0.12	13.62	0.05
Memory Available	570.85	326.58	43.02	81.82

Table 5.12 WIPS Cache

WIPS	Image Web Cache / DNS	Image Web Cache	Volera Web Cache 1	Volera Web Cache 2
CPU Utilization	71.24	66.30	52.80	57.50
Network Bytes /Sec	45751947.57	45168935.94	25625974.00	26117767.00

Table 5.13 WIPSb Web Servers Aggregate

Metric - WIPSb	Index /Application Server	AdminConfirm /Application Server	Web /Application Server	Cache /Application Server
Page Size	4k	4k	4k	4k
Http successes/sec	1026.85	16.36	865.29	16.37
Http errors/sec	0.00	0.00	0.00	0.00
Http Requests/sec	1026.85	16.36	865.29	16.37
Http Bytes Sent/sec	188200.90	29160.97	2583117.80	3786103.00
TCP/IP Connections/sec	0.08	14.95	9.94	13.70
Logical Writes	1.00	0.91	28.43	32.17
Logical Reads	2.17	9.06	0.70	32.94
% CPU Busy	30.82	19.15	44.60	61.89
System IO Rate	3.18	1.11	29.13	65.10
Physical Writes/sec	3.10	0.92	82.81	31.96
Total Disk I/O rate	3.10	1.21	83.46	31.96
Physical Reads/sec	0.00	0.29	0.65	0.00
Average service time	0.007	0.006	0.013	0.003
Avg disk data transfer size	26180.23	7311.00	6720.69	1599.71
Avg device utilization	2.11	0.73	97.85	8.88
Page Out	0.00	0.00	0.00	0.00
Page In	18.01	1.88	23.42	0.34
Swap out	0.00	0.00	0.00	0.00
Swap in	2.25	0.39	6.52	0.05
Memory Available	623.02	357.50	284.62	141.08

Table 5.14 WIPSb Web Cache

WIPSb	Image Web Cache / DNS	Image Web Cache	Volera Web Cache 1	Volera Web Cache 2
CPU Utilization	58.50	57.57	59.30	62.50
Network Bytes /Sec	28622599.12	29070327.07	32416873.00	32733993.00

Table 5.15 WIPSo Web Servers Aggregate

Metric - WIPSo	Index /Application Server	AdminConfirm /Application Server	Web /Application Server	Cache /Application Server
Page Size	4k	4k	4k	4k
Http successes/sec	224.50	2.60	143.21	2.60
Http errors/sec	0.00	0.00	0.00	0.00
Http Requests/sec	224.50	2.60	143.21	2.60
Http Bytes Sent/sec	66861.16	4530.17	413156.50	386354.00
TCP/IP Connections/sec	0.02	2.33	1.43	1.60
Logical Writes	0.99	0.91	34.73	5.70
Logical Reads	0.25	0.36	0.93	5.40
% CPU Busy	9.73	2.34	24.31	6.27
System IO Rate	1.24	1.11	35.66	11.10
Physical Writes/sec	1.70	0.57	78.95	5.36
Total Disk I/O rate	1.70	0.57	78.96	5.36
Physical Reads/sec	0.00	0.00	0.00	0.00
Average service time	0.006	0.005	0.008	0.004
Avg disk data transfer size	12385.80	4433.44	6444.12	1788.78
Avg device utilization	1.01	0.30	51.72	1.93
Page Out	0.00	0.00	0.00	0.00
Page In	4.22	0.14	7.84	0.06
Swap out	0.00	0.00	17.52	0.00
Swap in	0.53	0.02	4.52	0.01
Memory Available	631.20	519.55	528.43	142.77

Table 5.16 WIPSo Web Cache

WIPSo	Image Web Cache / DNS	Image Web Cache	Volera Web Cache 1	Volera Web Cache 2
CPU Utilization	3.90	6.06	5.50	6.30
Network Bytes /Sec	3499601.93	3629311.15	1103737.00	1262394.00

5.14 CPU Utilization Graphs

The CPU utilization must be graphed (as defined in Clause 5.7.2.1.2) and the graphs must be included in the Full Disclosure Report.

Figure 5.6 Database Server CPU Utilization

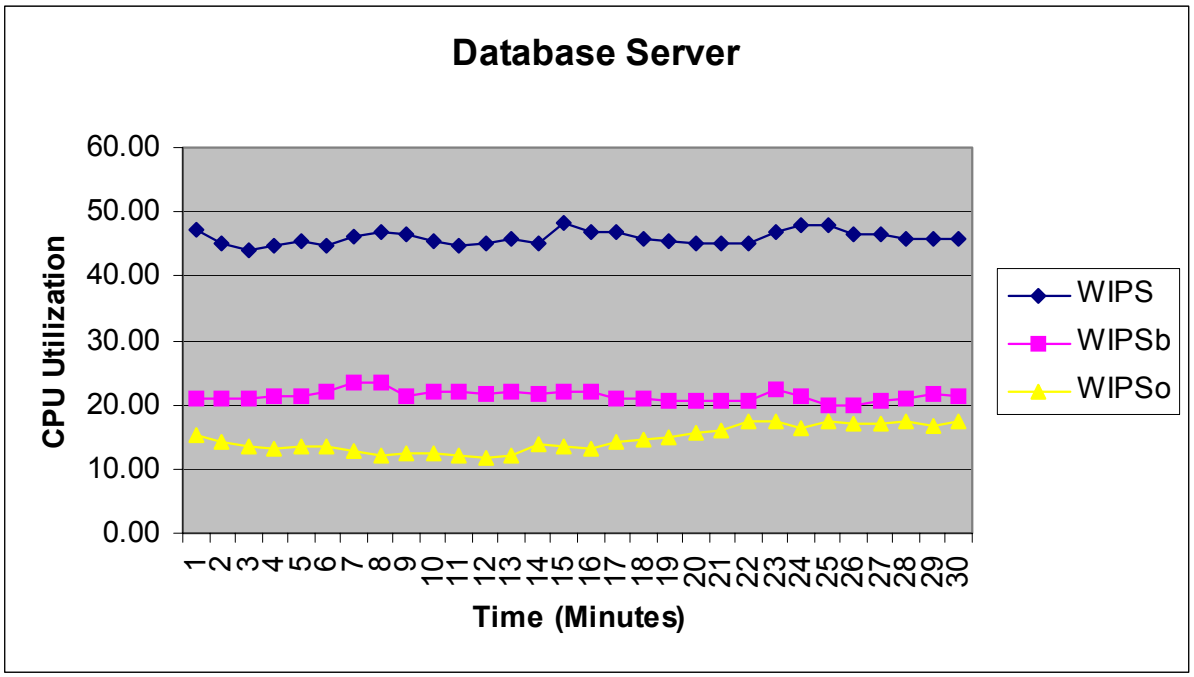


Figure 5.7 Web Application Server CPU Utilization

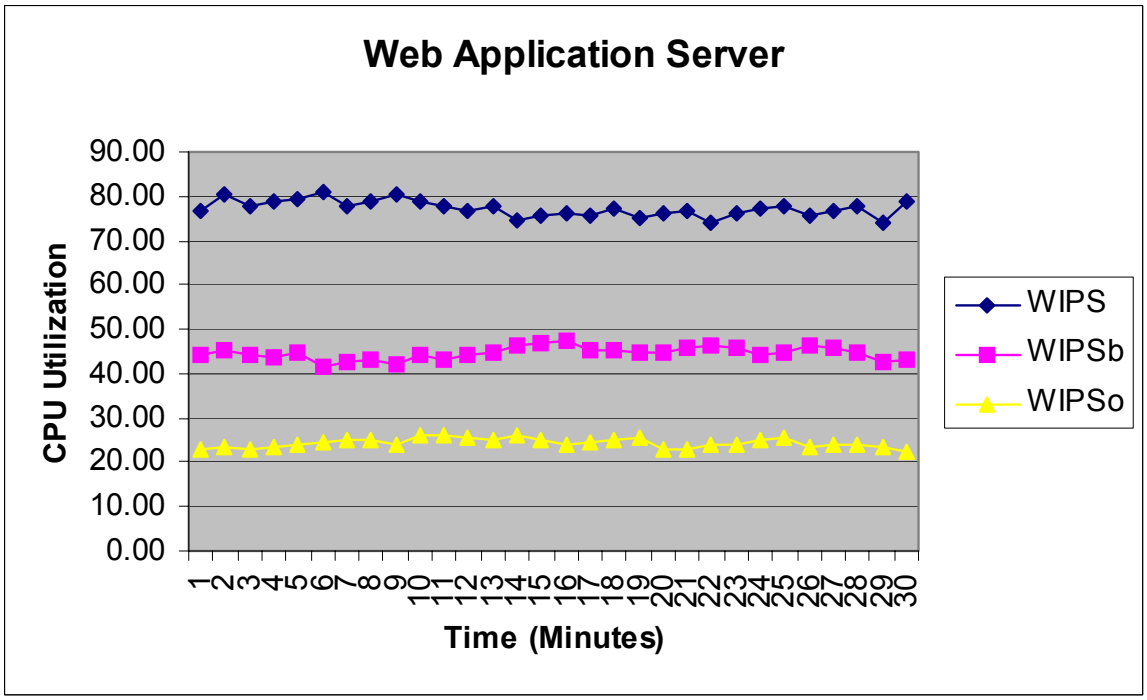


Figure 5.8 Cache / Application Server CPU Utilization

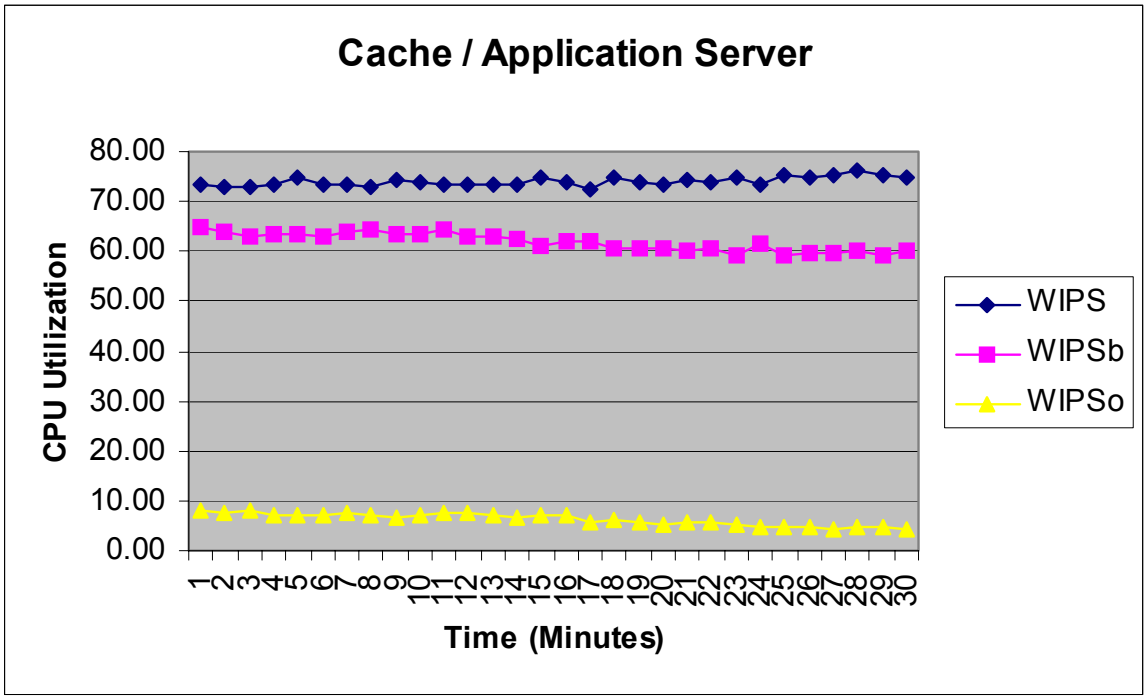


Figure 5.9 Index / Application Server CPU Utilization

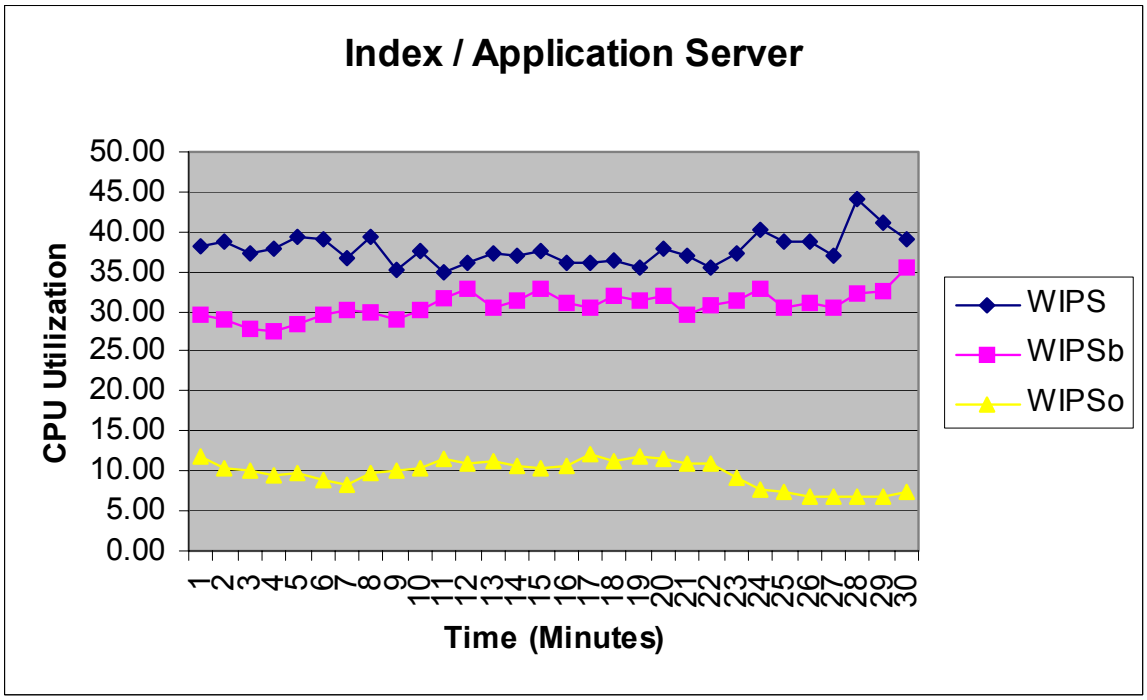
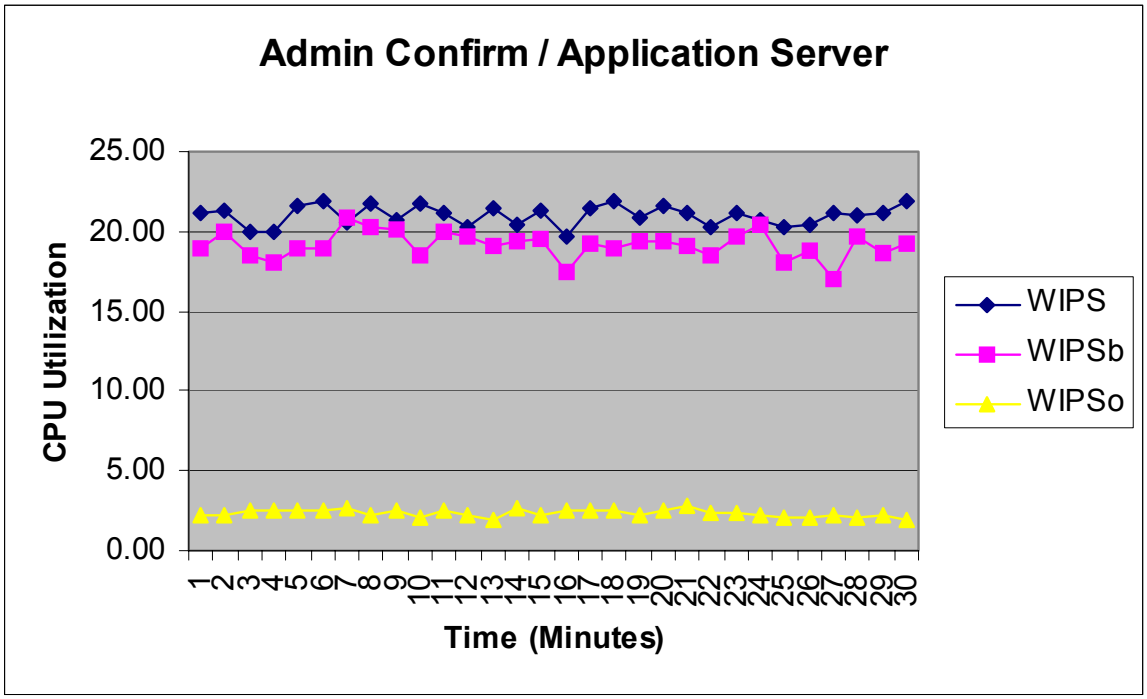


Figure 5.10 Admin Confirm / Application Server CPU Utilization



6 SUT, RBE and Network

6.1 Function Diagram of Measured Configuration

A complete functional diagram of the measured configuration must be disclosed. A detailed list of all software and hardware functionality being performed on the Driver System, and its interface to the SUT must be disclosed (see Clause 6.6.3.6).

The RBEs generate the transaction input data and transmit it to the SUT as HTTP requests. Then the RBEs receive the output from the SUT as HTML, time-stamp the result, and forwards the transaction information to the Master RBE for post-test processing. No other functionality is included in the driver system.

Detailed diagrams of benchmarked and priced configurations are provided in the section named General Items at the beginning of this report.

6.2 Network Bandwidth

The rated bandwidth of the network(s) component used in the measured configuration must be disclosed, along with any setting restricting that bandwidth. This includes, but is not limited to, the inter-node connections within the SUT, between the SUT and the RBE, and between the SUT and the Payment Gateway Emulation.

The rated bandwidth of the network components used in the measured configuration is as follows:

- All cache servers, cache/application servers, and image servers in the SUT are connected to the external network through a 1 Gbit network switch.
- The database, Web application, cache servers, image servers, and cache/application servers have interconnects to the SUT through 100Mbps network adapters through the Cisco 3524-XL switches.
- Each RBE is connected to the SUT through a 1 Gbit link.
- The PGEs are connected to the SUT through a 100Mbps link.

There were no settings restricting the bandwidth.

6.3 Operator Intervention

If the configuration requires operator intervention to meet the requirements of performance levels and uninterrupted operations, the mechanisms and the frequency of this intervention must be disclosed.

In order to meet the requirement of uninterrupted execution for 14 days, it is necessary to perform a tape backup of all Web server access logs and database logs on a daily basis.

6.4 RBE Availability

It must be disclosed if the RBE is commercially available or proprietary.

The RBE (IBM TPC-W Webmaster 2002 Gold Edition) is proprietary.

6.5 Webpage Assembly

A Web Page Assembly description is required that describes how the Web Interaction pages are assembled. The Web Page Assembly provides a high level description in easy to read text that describes which servers are providing which frames and/or images.

1 Web Cache xSeries 330s (Volera Excelerator 2.1)

- Title Search Results frame
- Author Search Results frame
- Subject Search Results frame
- Best Sellers frame
- New Products Frame
- Product Detail

1 Web Cache xSeries 330 (Volera Excelerator 2.1)

- Resolves cache misses from above Web Cache
- Title Search Results frame
- Author Search Results frame
- Subject Search Results frame
- Best Sellers frame
- New Products Frame
- Product Detail

12 Web Cache xSeries 330 (Internet Security and Acceleration Server - Standard Edition)

- Promotional Processing

1 Web Server / Application Server xSeries 330 (Windows 2000 Server IIS 5.0)

- AdminConfirm

1 Web Server / Application Server xSeries 330 (Windows 2000 Server IIS 5.0)

- Resolves all stale Web Cache data
- Resolves all Author and Title Search Results
- Resolves all non-secure Images

25 Web Server / Application Server xSeries 330s (Windows 2000 Server IIS 5.0)

- All other Web Interaction pages
- Secure Images

20 Image Server / Load Balancer xSeries 330 (Windows 2000 Server IIS 5.0)

- All non-secure Images
- Microsoft DNS Server (Load Balancer)

6.6 RBE Error Handling

The types of errors that result in an EB sesion being closed and re-initialized (as defined in 5.5.1.5.) Must be disclosed. Any error handling method that is not disclosed is assumed to be a retry.

Errors of all types result in the EB session being closed and re-initialized.

6.7 RBE Start Seed Generators

The RBE method of generating the start seeds for the EBs must be disclosed. It should be clear that the start seeds are different for each EB. Knowledge of previously used start seeds may only be used to generate a unique set of start seeds for all subsequent runs. If knowledge of previous start seeds is not used, then the period of the selection for new seeds sets must be greater then 10,000.

The start seeds are generated by first seeding one initial seed with the current time. A random number is generated from this seed for each EB. A check is made to ensure that these random numbers are unique across all Ebs. These random numbers are then used as the input values for the seeding algorithm for each EB's start seed.

6.7 RBE Random Number Generators

The number of random number generators used for each EB must be disclosed along with their purpose(s). Examples of purposes include: choosing the next web interaction, building random text strings, deciding whether the shipping address is changed, think time generation, etc.

One random number generator is used for each EB. The EB uses this generator for all purposes where random data needs to be generated. The random number generator is a 48-bit mixed linear congruential generator.

8 Clause 7: Pricing Related Items

7.1 Hardware and Software Components

A detailed list of the hardware and software used in the priced system must be reported. Each item must have a vendor part number, description and release/revision level, and either general availability status or committed delivery date. If package-pricing is used, contents of the package must be disclosed. Pricing source(s) and effective date(s) must also be reported.

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the beginning of this report. The price quotations are included in Appendix F.

7.2 Three-Year Cost of System Configuration

The total 3-year price of the entire configuration must be reported, including hardware, software and maintenance charges. Separate component pricing is recommended. The basis of all discounts must be disclosed.

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the front of this report. The price quotations are included in Appendix F.

7.3 Availability Dates

The committed delivery date for general availability (availability date) of products used in the price calculations must be reported. When the priced system includes products with different availability dates, availability date reported on the Executive Summary must be the date by which all components are committed to being available. The Full Disclosure Report must report availability dates individually for at least each of the categories for which a pricing subtotal must be provided (see Clause 7.3.1.3).

The xSeries 440 is orderable and generally available now. Microsoft .NET Enterprise Server will be available December 31, 2002. All other hardware and the software used in this benchmark are orderable and generally available now.

7.4 Usage Pricing

For any usage pricing, the sponsor must disclosed:

- *Usage level at which the component was priced*
- *A statement of the company policy allowing such pricing*

The component pricing based on usage is shown below:

- 8 copies of Microsoft SQL Server 2000 EE (per processor licensing, i.e., eight CPUs in xSeries 440)
- 1 copy of Microsoft .NET Enterprise Server
- 60 copies of Microsoft Windows 2000 Server
- 24 copies of Microsoft Internet Security and Acceleration Standard Edition (per processor licensing, two CPUs in xSeries 330)
- 2 copies of Volera Excelerator 2.1
- 3-year support for all hardware components (spares were priced for hardware components for which 4-hour response time is not offered)

7.5 Country-Specific Pricing

Additional Clause 7 related items may be included in the Full Disclosure Report for each country-specific priced configuration. Country-specific pricing is subject to Clause 7.1.7.

The configuration is priced for the United States of America.

9 Clause 9: Audit Related Items

9.1 Auditor's Report

The auditor's agency name, address, phone number, and Attestation letter with a brief audit summary report indicating compliance must be included in the Full Disclosure Report. A statement should be included specifying who to contact in order to obtain further information regarding the audit process.

This implementation of the TPC Benchmark W was audited by Francois Raab of InfoSizing, Inc.

The Full Disclosure Report is available from www.tpc.org.

INFO SIZING

TPC TRANSACTION PROCESSING PERFORMANCE COUNCIL CERTIFIED AUDITOR

Benchmark Sponsors: William D. Hall
Mgr., Server Systems Performance
IBM Personal Systems Group
3039 Cornwallis Road
Research Triangle Park, NC 27709

September 12, 2002

I verified the TPC Benchmark™ W performance of the following configuration:

Platform:	**IBM @server xSeries 440 with xSeries 330**
Database Manager:	**Microsoft SQL Server 2000 Enterprise Edition**
Web Server:	**Microsoft Internet Information Server 5.0**
Commerce Server**:**	**ISAPI application**
Web Cache:	**Microsoft ISA SE and Volera Excelerator 2.1**

The detailed configuration was:

CPU's Speed	Memory	Storage	Operating System
Web Server: IBM @server xSeries 330 (27 systems, each with)			
2 x Pentium III (1.26 GHz)	768 MB Main 512 KB L2-cache/cpu	2 x 18.2 GB	Windows 2000 Server
Image Server: IBM @server xSeries 330 (21 systems, each with)			
2 x Pentium III (1.26 GHz)	512 MB Main 512 KB L2-cache/cpu	1 x 18.2 GB	Windows 2000 Server
ISA Web Cache: IBM @server xSeries 330 (12 systems, each with)			
2 x Pentium III (1.26GHz)	Main: 512MB * 9 768MB * 3 512 KB L2-cache/cpu	1 x 18.2 GB	Windows 2000 Server Microsoft ISA SE
Volera Web Cache: IBM @server xSeries 330 (2 systems, each with)			
1 x Pentium III (1.26GHz)	2 GB Main 512 KB L2-cache/cpu	2 x 18.2 GB	Volera Excelerator 2.1
Database Server: IBM @server xSeries 440			
8 x Xeon MP (1.6 GHz)	8 GB Main 1 MB L3-cache/cpu	127 x 18.2GB	Windows .NET EE

The results were:

WIPS@10,000	WIPSo	WIPSb	**Number of Users**
21,139.7	2,394.6	18,434.3	**164,000**

In my opinion, these performance results were produced in compliance with the TPC's requirements for the benchmark. The following verification items were given special attention:

- The database records were the proper size
- The database was properly scaled and populated for 10,000 items
- The required ACID properties and web consistency rules were met
- The web interactions were correctly implemented
- Emulated browsers generated input data according to the specified percentages
- The web interaction cycle times included the required think times
- The reported response times were correctly measured
- All 90% response times were under the specified maximums
- The reported measurement interval was 30 minutes (1800 seconds)
- The reported measurement interval was representative of steady state conditions
- Three checkpoints were taken during the reported measurement interval
- The repeatability of the measured performance was verified over a 4 hours run
- The secondary metrics were each collected over a 30 minutes measurement interval
- The database and log storage requirements were correctly computed
- The system pricing was verified for major components and maintenance

Additional Audit Notes:

None.

Respectfully Yours,

François Raab
President

1373 North Franklin Street • Colorado Springs, CO 80903-2527 • Office: 719/473-7555 • Fax: 719/473-7554

Appendix A: Application Source Code

TPCW.dll

ISAsock.h

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: PGEsock.h
 *
 *   Derived from the ARBY TPC-W RBE ElfSock Class.  It defines a
PGE
 *   connection via an ElfSock that recreates itself on every 100th
access
 *   as per the TPC-W Specification.
 *
 *   ElfSock.h uses OPENssl to provide SSL support.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include <afxmt.h>
#include <windows.h>
#include <stdio.h>

// gotta know what an ElfSock is.
//
#include "ElfSock.h"
#include "timer.h"

class ISAsock : public ElfSock
{
public:

  // Increment the use counter to the PGEsock.
  //
  // Construct
  //
  ISAsock() {} ;

  // Destruct
  ~ISAsock() {};
} ;
```

elfSock.cpp

```
/*
 *   Copyright (c) 1999-2000 Intel Corporation
 *
 *   File: elfSock.cpp
 *
 *   Implements a low level and basic interface to WWW servers.  It
provides
 *   just as much functionality as is required by the Web_Interface
class.
 *   Note that this uses winsock extensively and since SSL winsock
appears to
 *   be unsupported for NT and W2K currently, we use the really cool
OPENSSL
 *   implementation of SSL available from www.openssl.org.
 *
 *   Intel TPC-W Remote Browser Emulator (RBE)
 */

#include <Winsock2.h>
#include <io.h>
#define NOCRYPT

#include <openssl/rsa.h>       // OpenSSL stuff
#include <openssl/crypto.h>
#include <openssl/x509.h>
#include <openssl/pem.h>
#include <openssl/ssl.h>
#include <openssl/err.h>

#define CHK_NULL(x) if ((x)==NULL) exit (1)
#define CHK_ERR(err,s) if ((err)==-1) { perror(s); exit(1); }
#define CHK_SSL(err) if ((err)==-1) { ERR_print_errors_fp(stderr);
exit(2); }

#include <assert.h>
#include <stdio.h>

#include "elfSock.h"

ElfSock::ElfSock()
{
 error_file=0;
 flag_isOpen=0;
 flag_isSecure=0;
 send_buf_len=0;
 TargetPort=0;
 TargetHost[0]=0;
}

ElfSock::~ElfSock()
{
 Close();
}

int ElfSock::ConnectTo(const char *host, int port)
{
 struct hostent *p;
 int length,status;
 struct sockaddr_in addr;
 instance=socket(AF_INET, SOCK_STREAM,0);
 addr.sin_family = AF_INET;

 TargetPort=port;
 if(strcmp(host,TargetHost))
 {
  strcpy(TargetHost,host);
 }

 /*
  * Set up outgoing telnet socket for streaming transmission
  * Magic code that parses both "server.who.com" and "127.52.34.53"
  */
 assert(!flag_isOpen);
/*
 * GRRRRRR!!!! This is only supported on Windows CE.  Now we
gotta use
 * openSSL instead of intrinsic NT support.
 *
 if(flag_isSecure)
 {
  DWORD optval=SO_SEC_SLL;
  int err;
  err=setsockopt(instance,SOL_SOCKET, SO_SECURE, &optval,
sizeof(optval));
  assert(!err);
 }
```

```
*/
 if(p=gethostbyname(host))
 {
  addr.sin_addr.s_addr = ((struct in_addr *)p->h_addr)->s_addr;
  //fprintf(stderr,"Converted %s -> %d\n",host,addr.sin_addr.s_addr);
 }
 else
 {
  addr.sin_addr.s_addr=inet_addr(host);
  //fprintf(stderr,"Converted %s -> %d\n", host,
addr.sin_addr.s_addr);
 }
 addr.sin_port = htons(port);
 length=sizeof(struct sockaddr_in);

 status=connect(instance,(struct sockaddr*)&addr,length);
 assert(!status);
 flag_isOpen=1;
 if(flag_isSecure)
 {
  InitializeSSL();
 }
 return instance;
}

void ElfSock::Close()
{
 if(flag_isOpen)
 {
  if(flag_isSecure) { FreeSSL(); }
  closesocket(instance);
 }
 flag_isOpen=0;
}

void ElfSock::WriteNow(const char *outbuf,int len,int flushbuf)
{
 int bytes_sent;

 if(flushbuf)
 {
  WriteCommit();
 }
 if(flag_isSecure)
 {
  bytes_sent=SSL_write(ssl, outbuf, len);
  if(bytes_sent==-1)
  {
   if ( error_file ) {
      fprintf(error_file, "Error on secure socket... reopening
socket\n");
    }
    Close();
    MakeSecure();
    ConnectTo(TargetHost,TargetPort);
    bytes_sent=SSL_write(ssl, outbuf, len);
  }
 }
 else
 {
  bytes_sent=send(instance, outbuf, len, 0);
  if(bytes_sent==-1)
  {
   if ( error_file ) {
      fprintf(error_file, "Error on nonsecure socket... reopening
socket\n");
    }
    Close();
    ConnectTo(TargetHost,TargetPort);
    bytes_sent=send(instance, outbuf, len, 0);
  }
 }
 assert(bytes_sent==len);
}

void ElfSock::WriteCommit()
{
 if(send_buf_len)
 {
  WriteNow(send_buf,send_buf_len,0);
  last_send_buf=send_buf_len;
  send_buf_len=0;
 }
}

int ElfSock::Write(const char *buf,int len)
{
 memcpy(&send_buf[send_buf_len],buf,len);
 send_buf_len+=len;
 assert(send_buf_len<8192);
 return len;
}

int ElfSock::WriteString(const char *string)
{
  return Write(string,strlen(string));
}

int ElfSock::SnagHeader()
{
 int i;
 int done=0;
 for(i=0;!done;i++)
 {
  int ret;
  if(flag_isSecure)
  {
   ret=SSL_read(ssl, &header[i], 1);
  }
  else
  {
   ret=recv(instance, &header[i], 1, 0);
  }
  assert(ret==1);
  if(i > 1)
  {
   if(header[i-2]=='\n' && header[i-1]=='\r' && header[i]=='\n') {
done=1; }
    else if(i>2) {
     /* GRRR.  IIS 5.0 violates the HTTP/1.1 specification by
sometimes
      * ending headers with " \r\n" instead of just "\r\n" at the
beginning
      * of a line.  Now we have to extend our parsing
      */
     if ( header[i-3]=='\n' && header[i-2]==' ' &&
        header[i-1]=='\r' && header[i]=='\n')
     { done=1; }
    }
  }
 }
 header[i]=0;
 char *p=strstr(header,"HTTP/1.1 ");
 assert(p);
 sscanf(p,"HTTP/1.1 %d",&lastStatus);
 p=strstr(header,"Connection: ");
```

```
  if(p)
  {
   fprintf(stderr,"WARNING: Status=%d -- Connection Update\nLast
Request:",lastStatus);
   send_buf[last_send_buf]=0;
   fprintf(stderr,"%s\n",send_buf);
   fprintf(stderr,"       INCOMING HEADERS: %s\n\n\n",header);
  }
  p=strstr(header,"Content-Length: ");
  if(!p)
  {
   fprintf(stderr,"ERROR: Status=%d -- Missing Content-length!\nLast
Request:",lastStatus);
   send_buf[last_send_buf]=0;
   fprintf(stderr,"%s\n",send_buf);
   fprintf(stderr,"       INCOMING HEADERS: %s\n\n\n",header);
   assert(lastStatus==500);
   Close();
   lastLen=0;
   sprintf(contentType,"text/html");
   return lastStatus;
  }
  sscanf(p,"Content-Length: %d",&lastLen);
  p=strstr(header,"Content-Type: ");
  assert(p);
  sscanf(p,"Content-Type: %s\r\n",contentType);
  return lastStatus;
}

int ElfSock::Read(char *buf,int len)
{
  int thisone,thusfar=0;
  for(thusfar=0;thusfar<lastLen;)
  {
   if(flag_isSecure)
   {
    thisone=SSL_read(ssl, &buf[thusfar], lastLen-thusfar);
   }
   else
   {
    thisone=recv(instance, &buf[thusfar], lastLen-thusfar, 0);
   }
   thusfar+=thisone;
  }
  return lastLen;
}

void ElfSock::TossData()
{
  char buf[8192];
  int lastlen,thisone,size;
  for( size=lastLen ; size > 0 ; size-=lastlen )
  {
   if(size>8192) { thisone=8192; } else { thisone=size; }
   if(flag_isSecure)
   {
    lastlen=SSL_read(ssl, buf, thisone);
   }
   else
   {
    lastlen=recv(instance, buf, thisone, 0);
   }
  }
}

void ElfSock::MakeSecure()
{
  flag_isSecure=1;
}

int ElfSock::isOpen()
{
  return flag_isOpen;
}

int ElfSock::getStatus()
{
  return lastStatus;
}

const char *ElfSock::getContentType()
{
  return contentType;
}

const char *ElfSock::getNamedHeader(const char *in)
{
  return strstr(header,in);
}

void ElfSock::FreeSSL()
{
  SSL_shutdown (ssl);  /* send SSL/TLS close_notify */
  SSL_free (ssl);
  SSL_CTX_free (ctx);
}

void ElfSock::PrintCertificateInfo()
{
  X509*    server_cert;
  char*    str;

  /* Following two steps are optional and not required for
     data exchange to be successful. */

  /* Get the cipher - opt */

  printf ("SSL connection using %s\n", SSL_get_cipher (ssl));

  /* Get server's certificate (note: beware of dynamic allocation) - opt
*/

  server_cert = SSL_get_peer_certificate (ssl);
CHK_NULL(server_cert);
  printf ("Server certificate:\n");

  str = X509_NAME_oneline (X509_get_subject_name
(server_cert),0,0);
  CHK_NULL(str);
  printf ("\t subject: %s\n", str);
  free (str);

  str = X509_NAME_oneline (X509_get_issuer_name
(server_cert),0,0);
  CHK_NULL(str);
  printf ("\t issuer: %s\n", str);
  free (str);

  /* We could do all sorts of certificate verification stuff here before
     deallocating the certificate. */

  X509_free (server_cert);
}

void ElfSock::InitializeSSL()
{
```

```
 int err=0;
 SSL_METHOD *meth;

 SSLeay_add_ssl_algorithms();
 meth = SSLv3_client_method();
 SSL_load_error_strings();
 ctx = SSL_CTX_new (meth);                       CHK_NULL(ctx);

 CHK_SSL(err);

 ssl = SSL_new (ctx);                         CHK_NULL(ssl);
 SSL_set_fd (ssl, instance);
 err = SSL_connect (ssl);                     CHK_SSL(err);

 // PrintCertificateInfo();
}
```

elfSock.h

```
#ifndef _ARBY_ELFSOCK_H
#define _ARBY_ELFSOCK_H

/*
 *   Copyright (c) 1999-2000 Intel Corporation
 *
 *   File: elfSock.h
 *
 *   Defines a low level and basic interface to WWW servers.  It
provides just
 *   as much functionality as is required by the Web_Interface class.
Note
 *   that this uses winsock extensively and since SSL winsock appears
to be
 *   unsupported for NT and W2K currently, we use the really cool
OPENSSL
 *   implementation of SSL available from www.openssl.org.
 *
 *   Intel TPC-W Remote Browser Emulator (RBE)
 */

#include <openssl/ssl.h>


class ElfSock
{
 protected:
   SSL_CTX *ctx;         // OPENssl context -- used iff socket is secure
   SSL *ssl;             // OPENssl secure socket wrapper
   int
     instance,           // Winsock socket instance
     TargetPort,         // What server port connected to (80 or 443)
     flag_isSecure,      // Are we in secure mode?
     flag_isOpen,        // Is the socket open yet?
     lastLen,            // How big was the last response from server?
                         // Comes from Content-Length: header
                         // (see HTTP/1.1 spec clause 4.4)
     lastStatus,         // What was last response code from server
                         // follows the HTTP/1.1 token at header start
                         // (see HTTP/1.1 spec clause 6.1)
     last_send_buf,
     send_buf_len;       // How big is our outgoing request?
   char TargetHost[128];  // Name of target www server
   char contentType[128]; // Type of content returned from WWW
server
                         // Comes from Content-Type: header
                         // (see HTTP/1.1 spec clause 7.1)
   char header[1024];    // Holds entire last header from WWW server
   char send_buf[8192];  // Buffers entire request packet before
shipping

  void PrintCertificateInfo();  // Utility function to print certificate
specs
  void InitializeSSL();  // Initializes SSL on a connected winsock
socket
  void FreeSSL();        // Shuts down SSL on an initialized SSL socket
 public:
  FILE *error_file;

  ElfSock();
  ~ElfSock();
  virtual void MakeSecure();     // Tell ElfSock that the socket should
use SSL
  virtual int ConnectTo(const char *host, int port); // Tell ElfSock
where to go
  virtual void Close();                    // Close an open socket

  virtual int Read(char *buf, int len);        // Read last response into
buffer
                                 // len MUST be >= lastLen
  virtual int Write(const char *buf, int len);  // Write bytes to outgoing
buff
  virtual int WriteString(const char *string);  // Write string to
outgoing buff
  virtual void WriteCommit();                // Send outgoing buff to
server
  virtual void WriteNow(const char *buf, int len, int flushbuf=1); //
send string NOW to server
  virtual int SnagHeader();                  // Read header from server
                                 // Call it after WriteCommit
  virtual void TossData();                   // Toss data in response.  Use
instead
                                 // of read if dont want to save data

  virtual int isOpen();                    // find out if that socket is open
  virtual int getStatus();                 // fetch status of last WWW
request
  virtual const char *getContentType();        // fetch type of last
response
  virtual const char *getNamedHeader(const char *in); // Get resp
header of given name

  friend class PGEsock;
} ;

#endif
```

elfStream.cpp

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: elfStream.cpp
 *
 *   Implements a simplest possible memory streaming class.  This is
required
 *   because the ISAPI DLL must know how long the response is if
HTTP1.1
 *   keepalives are to be used.  So you write everything into an
elfStream then
 *   get the length and write to the actual output stream from the
elfStream.
 *
 *   Intel TPC-W ISAPI Implementation
 */
```

```
#include <stdio.h>
#include <string.h>

#include "ElfStream.h"

// Push the string into the stream and return the stream.
// Note that this was inlined in elfStream.cpp but anomolous behavior
was
// exhibited possibly due to an ISAPI bug.  May want to try inlining it
again.
//
elfStream &operator<<(elfStream &elf, const char *str)
{
                elf.write(str,strlen(str)); return elf;
};

// Push the textified long into the stream and return the stream.
// Note that this was inlined in elfStream.cpp but anomolous behavior
was
// exhibited possibly due to an ISAPI bug.  May want to try inlining it
again.
//
elfStream &operator<<(elfStream &elf, long l)
   { elf.curLen+=sprintf(&elf.myBuff[elf.curLen],"%ld",l); return elf;
} ;
```

elfStream.h

```
#ifndef __MYSAPI_ELFSTREAM_H_
#define __MYSAPI_ELFSTREAM_H_

/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: elfStream.h
 *
 *   Defines a simplest possible memory streaming class.  This is
required
 *   because the ISAPI DLL must know how long the response is if
HTTP1.1
 *   keepalives are to be used.  So you write everything into an
elfStream then
 *   get the length and write to the actual output stream from the
elfStream.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include <afxisapi.h>

#define MAX_STREAM_SIZE 32764

class elfStream {
protected:
  int curLen;                   // How long so far?
  char myBuff[MAX_STREAM_SIZE];  // The outgoing buffer

public:

  // Let the member buffer suck in character strings
  //
  friend elfStream & operator<<(elfStream&, const char *);

  // Let the member buffer suck in longs.
  //
  friend elfStream & operator<<(elfStream&, long);

  // Inline function to let the member buffer suck generic buffers and
lengths
  //
  void remove(int bytes)
  { ZeroMemory(&myBuff[curLen-bytes],bytes); curLen-=bytes; };

  void write(const char *buf, int len)
    { if ((curLen + len) < MAX_STREAM_SIZE )
memcpy(&myBuff[curLen],buf,len); curLen+=len;};

  // Inline function to return length of stream.
  //
  int getBufSize()
    { return curLen; };

  void ZeroBuf()
  { ZeroMemory(myBuff,MAX_STREAM_SIZE); curLen=0; };
  // Inline function to return pointer to internal buffer
  //
  const char *getBuf()
     { return myBuff; };

  // Inline constructor sets to innocuous values
  //
  elfStream() { curLen=0; };

  // Inline destructor
  //
  ~elfStream() { };

} ;

#endif
```

PGEsock.cpp

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: PGEsock.cpp
 *
 *   Implements the PGEsock class that is derived from the ARBY
TPC-W RBE
 *   ElfSock Class.  It implements a PGE connection via an ElfSock
that
 *   recreates itself on every 100th access as per the TPC-W
Specification.
 *
 *   ElfSock.h uses OPENssl to provide SSL support.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include "PGEsock.h"

// ArbyTimer socktimer;

// Call during a blocking time to test if instance has been used 100
times.
// If so, initialize the replacement ElfSock.  It will decide for itself
// if any work is needed.
//
int PGEsock::preReplaceAsNeeded( unsigned int delta )
{
   // Is there anything to do?
   //
```

```
   unsigned int current_time = (socktimer() - socktime) + delta;

   if((useCount==100) | (current_time >= 200000))
   {
     reset_use = 1;   //
     if (delta==0) {      // delta is 0 for inline replacement
       inline_replace++;
     }

     // replacement should use SSL
     //
     replacement.MakeSecure();

     // Connect to target system
     //
     replacement.ConnectTo(TargetHost,TargetPort);
     return 1;
   }
   return 0;
}

// Call after using the PGEsock to replace the instance of ElfSock with
the
// newly created replacement instance if it was the 100th instance.  It
will
// decide for itself if any work is needed.
//
int PGEsock::ReplaceAsNeeded()
{
   // Is there anything to do?
   //
   if(reset_use)
   {
      useCount=reset_use=0;                  // new instance used 0 times
            socktime = socktimer();

      // Reset state of the ElfSock to use replacement connection.
Relies
      // on internal knowledge of ElfSock class.  Note that PGEsock is a

      // friend class of ElfSock allowing you to muck with protected
members.
      //
      Close();                          // Close current connection
      ctx=replacement.ctx;                  // SSL  context=replacement's
      ssl=replacement.ssl;                  // SSL instance=replacement's
      instance=replacement.instance;        // winsock
instance=replacement's
      flag_isOpen=replacement.flag_isOpen;  // copy isopen flag
      lastLen=replacement.lastLen;          // copy status info over
      lastStatus=replacement.lastStatus;
      send_buf_len=0;
      replacement.flag_isOpen=0;            // reset replacement to unused.
      return 1;
   }
   return 0;
}
```

PGEsock.h

```
#ifndef __TPCW_PGESOCK_H_
#define __TPCW_PGESOCK_H_

/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: PGEsock.h
 *
 *   Derived from the ARBY TPC-W RBE ElfSock Class.  It defines a
PGE
 *   connection via an ElfSock that recreates itself on every 100th
access
 *   as per the TPC-W Specification.
 *
 *   ElfSock.h uses OPENssl to provide SSL support.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include <afxmt.h>
#include <windows.h>
#include <stdio.h>

// gotta know what an ElfSock is.
//
#include "ElfSock.h"
#include "timer.h"

class PGEsock : public ElfSock
{
public:

  CMutex theLock;        // ensure exclusive access
  int useCount,          // how many times has this instance been used
(0-99)
      inline_replace,       // how many times this PGEsock been used?
      reset_use;
  unsigned int socktime; // how long has this instance been around?

  ElfSock replacement;   // Replacement ElfSock instance initialized
during
                  // 2sec wait of 100th access on previous instance.

  ArbyTimer socktimer;

  // Call during a blocking time to test if instance has been used 100
times.
  // If so, initialize the replacement ElfSock.  It will decide for itself
  // if any work is needed.
  //
  int preReplaceAsNeeded(unsigned int delta);

  // Call after using the PGEsock to replace the instance of ElfSock
with the
  // newly created replacement instance if it was the 100th instance.  It
will
  // decide for itself if any work is needed.
  //
  int ReplaceAsNeeded();

  // Increment the use counter to the PGEsock.
  //
  void Inc() { useCount++; } ;

  // Construct
  //
  PGEsock()
{useCount=inline_replace=reset_use=0;socktime=socktimer();} ;

  // Destruct
  ~PGEsock() {};
} ;

#endif
```

random.cpp

```
/*
 *  Copyright (c) 1999-2000 Intel Corporation
 *
 *  Random.cpp
 *
 * Generator copied from:  Random Numbers Generators: Good Ones
Are Hard
 * to Find. Communications of the ACM - October 1988 Volume 31
Number 10.
 */


/*
 * Include files.
 */
#include <math.h>
#include <stdlib.h>
#include <stdio.h>

#include "random.h"

/*
 * Defines.
 */
#define A           16807
#define M      2147483647
#define Q          127773      /* M div A */
#define R            2836      /* M mod A */


/*********************************************************
****************
 *
 * Function: SpinSeed
 *
 * Description:
 *     Brutt force find find the nth element of the LCG sequences by
 *     spinning the seed.
 *
 * Parameters:
 *     seed - Seed to spin
 *     spin - spin counter
 *
 * Returns:
 *     None
 *
 *********************************************************
***************/
INT32
SpinSeed( INT32 seed, INT32 spin )
{
INT32 i;
INT32 Test;
INT32 Upper;
INT32 Lower;

   for ( i = 0; i < spin; ++i ) {
      Upper = seed / Q;
      Lower = seed % Q;

      Test = (A * Lower) - (R * Upper);
      if ( Test > 0 ) {
         seed = Test;
      }
      else {
         seed = Test + M;
      }
   }
   return( seed );
}

/*
 * Function: LCGrand32
 *
 * Description:
 *       LCGrand32 uses a standard Linear-Congruential Generator,
(LCG),
 *       to generate 32 bit integer pseudo random numbers between 1
and
 *       (2^31-1) The standard equation "seed = (A * seed) mod M" is
not
 *       used since (A * seed) could be as large as 2^45 which would
 *       overflow 32 bits causing incorrect results.
 *
 * Parameters:
 *       seed - pointer to a 32 bit seed value
 *
 * Returns:
 *       Returns a random 32 bit interger value between 1 and 2^31-1.
 *
 */
INT32
LCGrand32( INT32 *seed )
{
INT32 Test;
INT32 Upper;
INT32 Lower;

   Upper = *seed / Q;
   Lower = *seed % Q;

   Test = (A * Lower) - (R * Upper);
   if ( Test > 0 ) {
      *seed = Test;
   }
   else {
      *seed = Test + M;
   }

   return( *seed );
}

/*
 * Function: Irand32
 *
 * Description:
 *       Irand32 uses LCGrand32() to generate 32 bit integer pseudo
random
 *       numbers between 1 and (2^31-1).  The high and low order bits
are
 *       swapped since it is well known that the low order bits of a LCG
is not
 *       very random.  Finally a number from the Lower to Upper is
returned.
 *
 * Parameters:
 *       seed  - Pointer to a 32 bit seed value
 *       Lower - Lower bound of random number to be returned
 *       Upper - Upper bound of random number to be returned
 *
 * Returns:
 *       Returns a random interger from lower and upper
 */
INT32
Irand32( INT32 *seed, INT32 Lower, INT32 Upper )
```

```
{
INT32 LCGresult;

   /*
    *  Get rid of the obvious error cases first
    */
   if ( Lower >= Upper ) {
      return( Lower );
   }

   /*
    * Increment Upper in order that the modules of LCGIrand32 result
    * covers the entire range from lower to upper.
    */
   ++Upper;

   /*
    *  Use LCGrand32() to obtain a 32 bit pseudo random integer
between 1
    *  and (2^31-1).  Next swap the low order bits and high order bits
since
    *  it is well known that the low order bits of a LCG are not very
random.
    *  Make sure that the resulting shifted value is non negative.
    */
   LCGresult = LCGrand32( seed );

   /*
    *  Return a random number between lower and upper
    */
   return( Lower + (LCGresult % (Upper - Lower)) );
}

/*
/*
 * Function: Drand32
 *
 * Description:
 *      Drand32 uses LCGrand32() to generate 32 bit integer pseudo
random
 *      numbers between 1 and (2^31-1).  The result is divided by
(2^31-1)
 *      in order to generate a random double number between 0.0 and
1.0.
 *      NOTE that in doing the division the high order bits become the
most
 *      significant bits of the double mantisa. This is significant since
 *      it is well known that the low order bits of a LCG is not very
random.
 *
 * Parameters:
 *      seed - Pointer to a 32 bit seed value
 *
 * Returns:
 *      Returns a double random number between 0.0 and 1.0.
 */
double
Drand32( INT32 *seed )
{
   return ( (double)LCGrand32( seed )/ (double)M );
}

/*
 * Function: NURand - returns a non-uniform random number
generated according to
 * clause 2.10.5.1:
 *
 *      NURand(A, x, y) = (((random(0, A) | random(x, y)) + C) % (y -
x + 1)) + x
 */
/*
long NURand(int *seed, long ConstA, long x, long y, long ConstC)
{
  return (((Irand32(seed,0,ConstA) | Irand32(seed,x,y)) + ConstC) %
(y-x+1))+x;
}
*/

/*
 * Function: NURand - returns a non-uniform random number
generated according to
 * clause 2.1.13:
 *
 *      NURand(A, x, y) = (((random(0, A) | random(x, y)) % (y - x +
1)) + x)
 */
long NURand(int *seed, long ConstA, long x, long y)
{
  return ((Irand32(seed,0,ConstA) | Irand32(seed,x,y)) % (y-x+1))+x;
}
```

random.h

```
/*
 *  Copyright (c) 1999-2000 Intel Corporation
 */
#ifndef _ARBY_RANDOM_H
#define _ARBY_RANDOM_H

/*              Random.h
 *
 *  Copyright 1999, Intel Corporation
 *
 * Generator copied from:  Random Numbers Generators: Good Ones
Are Hard
 * to Find. Communications of the ACM - October 1988 Volume 31
Number 10.
 */

#define INT32          int

extern INT32  SpinSeed( INT32, INT32 );
extern INT32  LCGrand32( INT32 *seed );
extern INT32  Irand32( INT32 *seed, INT32 low, INT32 hi );
extern double Drand32( INT32 *seed );

extern long   NURand( INT32 *seed, long, long, long );

#endif
```

Session.cpp

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: Session.cpp
 *
 *   implements session state class for TPC-W
 *
 *   Intel TPC-W ISAPI Implementation
 */

#define MAXSHOPITEMS 100
```

```
#include "Session.h"
#include "Windows.h"

// Constructor initializes to innocuous values.
//
CartList::CartList()
{
        ZeroMemory(ID,16);
        QTY=0;
        COST=0.0;
        SRP=0.0;
        ZeroMemory(TITLE,64);
        ZeroMemory(BACKING,64);
        next=NULL;
}

CartList::~CartList()
{
}

Cart::Cart()
{
 SHOPPING_ID=-1;
 C_ID[0]='Z';
 C_FNAME[0]=0;
 C_LNAME[0]=0;
 list = 0;
 items=0;
 dirflag=0;
 buycount=0;
 ZeroMemory(cartfile,40);
 SC_ID=0;
}

// Clever destructor eh?
//
Cart::~Cart()
{

}
```

Session.h

```
/*
 *  Copyright (c) 2000 Intel Corporation
 *
 *  File: Session.h
 *
 *  Defines session state class and shopping cart for TPC-W
 *
 *  Netfinity TPC-W ISAPI Implementation
 */


// A users session variables.  The ISAPI keeps an array of them.  Index
into
// managed via cookie.
//
#include <sys/timeb.h>
#include <time.h>

class CartList
{
public:
        char ID[16];
        int QTY;
        long double COST;
        long double SRP;
        char TITLE[64];
        char BACKING[64];
        CartList *next;
        CartList();
        ~CartList();
};

class Cart {
public:
  int           SHOPPING_ID;     // Key to durable database
backing store of sessions
  char          cartfile[20];
  char          C_ID[16];        // Customer ID
  int           SC_ID;
  struct        _timeb DATE;
  long double   SubTotal;
  long double   Tax;
  double     Shipping;
  long double   Total;
  char      C_FNAME[64];    // customer first name
  char      C_LNAME[64];    // customer last name
  double     Discount;
  bool          dirflag;
  int           buycount;

  int items;
  CartList *list;
  Cart();          // constructor
  ~Cart();         // destructor
};
```

ThreadPool.cpp

```
/*++


Copyright (c) 1997  Microsoft Corporation


Module Name:    ThreadPool.c


Abstract:


   Work queue management functions.


--*/


#include <windows.h>

#include <httpext.h>

#include "threadpool.h"


// Global critical section to control access to ECB queue

extern CRITICAL_SECTION csQueueLock;
```

```
// Semaphore to wait on in worker thread; each time an ECB is added to the
// ECBqueue by HttpExtensionProc, the semaphore must be released once
extern HANDLE hWorkSem;
//
// Structure to create simple linked list
//
extern int WORKER_THREADS;

typedef struct {
        EXTENSION_CONTROL_BLOCK *pECB;
// Data for list entry
        DWORD dwNextEntry;
 // Pointer to next entry
} ECB_QUEUE_ENTRY;


//
// Array that is a simple linked list
//

ECB_QUEUE_ENTRY ECBqueue[WORK_QUEUE_ENTRIES];


//
// Index of next ECBqueue entry to use, and last Entry in use.
//

DWORD dwCurrentEntry, dwLastEntry;


//
// Flag to indicate that there are no other entries in the ECBqueue
//

BOOL fQueueEmpty;

BOOL InitThreadPool( void )
{
        DWORD i;
        DWORD dwThreadID;

   //
   // Create Semaphore in nonsignaled state
   //

   if ( (hWorkSem = CreateSemaphore( NULL, 0, 0x7fffffff, NULL )) == NULL ) {
                return FALSE;
   }

        InitializeCriticalSection( &csQueueLock );

        fQueueEmpty = TRUE;

   //
        // Create Pool Threads
   //

        for ( i = 0; i < WORKER_THREADS; i++ ) {
                if ( CreateThread(
           NULL,
           0,
           WorkerFunction,
           (LPVOID) i,
           0,
           &dwThreadID
           ) == NULL ) {
                        return FALSE;
      }
        }

   //
        // Clear work queue
   //

        ZeroMemory( ECBqueue, WORK_QUEUE_ENTRIES * sizeof (ECB_QUEUE_ENTRY) );
```

```
        return TRUE;
}



BOOL AddWorkQueueEntry( IN EXTENSION_CONTROL_BLOCK
* pECB )
{
        DWORD i;
        for ( i = 0; i < WORK_QUEUE_ENTRIES; i++ ) {
                if ( ECBqueue[i].pECB == NULL ) {
                        if ( fQueueEmpty ) {
                                dwCurrentEntry = i;
                                fQueueEmpty = FALSE;
        } else {

ECBqueue[dwLastEntry].dwNextEntry = i;
        }

                        ECBqueue[i].pECB = pECB;
                        dwLastEntry = i;

                        return TRUE;
                }
        }

        // If no NULL queue entry found, indicate failure
        return FALSE;
}


BOOL GetWorkQueueEntry( OUT
EXTENSION_CONTROL_BLOCK ** ppECB )
{
   if ( (*ppECB = ECBqueue[dwCurrentEntry].pECB) == NULL ) {
                return FALSE;
   } else {
                ECBqueue[dwCurrentEntry].pECB = NULL;
                if (dwCurrentEntry == dwLastEntry)          // If
this is only pending item

                        fQueueEmpty = TRUE;
                else
                                        dwCurrentEntry =
ECBqueue[dwCurrentEntry].dwNextEntry;
        }

        return TRUE;
}
```

ThreadPool.h

```
/*++

Copyright (c) 1997  Microsoft Corporation

Module Name:    ThreadPool.h

--*/

// Number of threads in pool
#define POOL_THREADS 200

// Number of entries in ECBqueue
#define WORK_QUEUE_ENTRIES 2000

// These functions will add/retrieve an ECB to/from the linked list.
// ENTER csQueueLock BEFORE CALLING AND LEAVE
csQueueLock AFTER
//   RETURNING FROM THESE FUNCTIONS!!!
BOOL AddWorkQueueEntry(EXTENSION_CONTROL_BLOCK *);
BOOL GetWorkQueueEntry(EXTENSION_CONTROL_BLOCK **
ppECB);

// This function initializes the thread pool
BOOL InitThreadPool(void);

// Function that threads in pool run
DWORD WINAPI WorkerFunction(LPVOID);
```

timer.h

```
#ifndef _ARBY_TIMER_H
#define _ARBY_TIMER_H

/*
 *   Copyright (c) 1999-2000 Intel Corporation
 *
 *   File: Timer.h
 *
 *   Defines a totally inlined Timer support class for doing timer
operations
 *   in the benchmark.  Times are reported in milliseconds relative to
the
 *   BaseTime parameter passed at construction or reset via a call.
 *
 *   Intel TPC-W Remote Browser Emulator (RBE)
 */

#include <sys/timeb.h>
#include <time.h>

class ArbyTimer {

private:
   _timeb timeBuffer;
```

```
        unsigned int baseTime;

public:
        ArbyTimer(unsigned int base=0) { baseTime=base; } ;

        // milliseconds since baseTime
        unsigned int getTimeStamp() {
          _ftime(&timeBuffer);
          return
(timeBuffer.time*1000+timeBuffer.millitm)-baseTime;
        } ;

        unsigned int operator()() { return getTimeStamp(); } ;

        // set BaseTime from another ArbyTimer for relative times
        void setBaseTime(unsigned int base) { baseTime=base; } ;
} ;

#endif
```

tpcw.cpp

```
/*
 *
 *   File: tpcw.cpp
 *
 *   Implements an ISAPI application extension class to do the TPC-W
workload
 *   as per the TPC-W 1.7 specification.
 *

 *   Copyright IBM
 *                      - allow commercial caching of various
transactions.
 *     - Shopping Cart handled in middle tier
 *                      - shopping cart max limit.
 *                      - ODBC timeout
 *                      - split cachable pages into frames.
 *                      - Error handling at delayed return intervals
 *     - Permanent Caching of PromoProc for Author and Title pages
 *     - 30 Sec caching of promo proc for New Products, Best Sellers,
and Subject Search
 *              10/2001
 *            - Chris Floyd
*/
#define MAXQUERY 512
#define HUGEQUERY 2048
#define MAXSHOPITEMS 100


#include <afx.h>
#include <afxwin.h>
#include <afxmt.h>       // for synchronization objects
#include <afxext.h>
#include <afxisapi.h>
#include <stdio.h>
#include <assert.h>
#include <float.h>

#include "tpcw.h"
#include "Random.h"
#include "Util.h"
#include <sys/timeb.h>
#include <time.h>
#include <direct.h>
#include <Winsock2.h>

#include "dbconnect.h"
#include <sql.h>
#include <odbcss.h>
#include <sqlext.h>
#include <sqltypes.h>

#define TPCW_HOST_SUFFIX ".tpcw.net"
#define MAXHOSTNAME 32

char FullHostName[MAXHOSTNAME];

#define CACHESERVER "volera.tpcw.net"
#define CACHESERVER1 "volera.tpcw.net"

CCriticalSection PARSE_errfile_control; // for exclusive Parsing
errfile access
FILE *PARSE_errfile=0;                  // The parsing errorfile

CCriticalSection DBLOG_errfile_control; // for exclusive Parsing
errfile access
FILE *DBLOG_errfile=0;                  // The parsing errorfile

// Global critical section to control access to ECB queue
CRITICAL_SECTION csQueueLock;

// Semaphore to wait on in worker thread; each time an ECB is added
to the
// ECBqueue by HttpExtensionProc, the semaphore must be released
once
HANDLE hWorkSem;

#define SUCCEED  1
#define FAIL     0

#define NUM_ERRORS 17

#define SC_ERROR -14
#define STORECART_ERROR -15

//get the cache object for the array


static const char *ERRORMSG[NUM_ERRORS] = {
 "NO ERROR",           "Admin Confirm Error", "Admin Request
Error",    "Buy Confirm Error",  "Buy Request Error",
 "Best Seller Error",        "Home Error",      "New Products Error",
"Order Display Error",      "Order Inquiry Error",
 "Product Detail Error",     "Promo Proc Error",     "Serach Request
Error", "Search Results Error", "Shopping Cart Error",
 "Store Cart Error",       "Parse Error"};

 static const int MIN_HTML_LENGTH[16] = {
                        0,                              //Reserved
                1460,               //ADMIN CONFIRM
                        1551,               //ADMIN REQUEST
                        1530,               //BUY CONFIRM
                        3690,               //BUY REQUEST
                        7172,               //HOME
                        1715,               //ORDER DISPLAY
                        1460,               //ORDER INQUIRY
                        1726,               //PRODUCT DETAIL
                        2004,               //SEARCH REQUEST
                        2056,
                        1460,               //FrameSet
                        1460,               //PromoProc
                        6640,               //BEst Sellers
                        8095,               //new products
                                };
```

```
/* ISAPI is really not very friendly with asserts.  If you have a dblib
 * connection you can use ASSERT_DB() instead which logs
 * assertion info to the db connection log file before asserting.  This
 * way, you can track errors down to the offending line number.
 * Parameter AAA is a (DBPROCESS *)
 */
#define ASSERT_DB(AAA) if (!(AAA)){CSingleLock
mylock(&DBLOG_errfile_control); \
        mylock.Lock(); \
        fprintf(DBLOG_errfile,"ASSERT_DB:
%s:%d\n",__FILE__,__LINE__); \
        fflush(DBLOG_errfile); \
        mylock.Unlock(); \
        assert(AAA);}


/* This is a wrapper calls BadRequest() passing the string that the user
offers
 * This improves readability of the code in ParseTPCW.  Example
follows:
 *
 *   PARSE_ERROR("UNKNOWN ERROR #17 OCCURRED");
 */
#define PARSE_ERROR(AAA) { ReturnDescriptiveError(AAA);
return -1; }

CCriticalSection session_control;

Cart Sessions[MAX_SESSIONS];                    // The array of session
variables
int next_session;                   // Which one is next

char ThisWebserverName[128];                    //Used to check to make
sure the user has come back to the right webserver.
/* for exclusive random number generation.  Used to
* (a) insert promo item into empty shopping cart as needed by the
SPEC and
* (b) to generate random astrings for PGE interaction.
*/
CCriticalSection random_control;
INT32 RandSeed;             // Starting Seed

// Mutex helper to guarantee single access to PGE connections
//
CSyncObject *pgeConnect_control[MAX_PGECONN];

// The PGE connections themselves
//
PGEsock pgeConnects[MAX_PGECONN];

// Mutex helper to guarantee single access to ISA connections
//
CSyncObject *isaConnect_control[MAX_ISACONN];
// The ISA connections themselves
//
CMutex ISALock[MAX_ISACONN];

ISAsock isaConnects[MAX_ISACONN][MAX_ISASERVERS];  //the
*SETS* of ISA server connections
// The list of ISA servers
char ISANAME[MAX_ISASERVERS][30];


HENV henv;
HDBC hdbc;   //The connection used for Admin functions (Shopping
Cart stuff).
int WORKER_THREADS;
int PGE_CONNS;
int ISA_CONNS;
int ISA_SERVERS;
CTime Two_Hours_Ago;

        // During an interaction, data is shoved into an ElfStream.
At the end of
        // the interaction, this function is called to flush it to the
ISAPI output
        // stream with the appropriate size header to allow
HTTP1.1/keepalives
//
#include <windows.h>
#include <httpext.h>
#include <stdio.h>
#include "threadpool.h"



BOOL WINAPI DllMain( IN HINSTANCE hinstDll, IN DWORD
fdwReason, IN LPVOID lpvContext)
{
        BOOL fReturn = TRUE;
        switch ( fdwReason ) {

        case DLL_PROCESS_ATTACH:

gethostname(ThisWebserverName,sizeof(ThisWebserverName));
                strcat(ThisWebserverName, ".tpcw.net");

                char cfgfilename[30];
                sprintf(cfgfilename, "c:\\tpcw.cfg");
                CStdioFile cfgfile;
                cfgfile.Open(cfgfilename,CFile::modeRead);
                CString temp;
                cfgfile.ReadString(temp);
                WORKER_THREADS=atoi(temp);
                cfgfile.ReadString(temp);
                PGE_CONNS=atoi(temp);
                cfgfile.ReadString(temp);
                ISA_CONNS=atoi(temp);

                int i=0;
                while(      cfgfile.ReadString(temp))
                {
                        strcpy(ISANAME[i], temp);
                        i++;
                }
                ISA_SERVERS=i;
                cfgfile.Close();
                // Initialize Session State array
                //
                for (i=0;i<MAX_SESSIONS;i++)
                {

ZeroMemory(&Sessions[i],sizeof(Cart));
                        Sessions[i].SHOPPING_ID=-1;
                        Sessions[i].C_ID[0]='Z';
                        Sessions[i].C_FNAME[0]=0;
                        Sessions[i].C_LNAME[0]=0;
                        Sessions[i].list = 0;
                        Sessions[i].items=0;
                        Sessions[i].dirflag=0;
                }
                next_session=0;
                Two_Hours_Ago = CTime::GetCurrentTime() -
CTimeSpan( 0, 2, 0, 0 );
```

```
                        if (SQLAllocHandle(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv) != SQL_SUCCESS)
                        {
                                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                                SQLINTEGER NativeError;
                                SQLSMALLINT i, MsgLen;
                                SQLRETURN rc2;

                                // Get the status records.
                                i = 1;
                                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_ENV, henv, i, SqlState,
&NativeError,           Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                                {
                                        i++;
                                }
                        }
                        if (SQLSetEnvAttr(henv,
SQL_ATTR_ODBC_VERSION, (void*)SQL_OV_ODBC3, 0) !=
SQL_SUCCESS)
                        {
                                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                                SQLINTEGER NativeError;
                                SQLSMALLINT i, MsgLen;
                                SQLRETURN rc2;

                                // Get the status records.
                                i = 1;
                                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_ENV, henv, i, SqlState,
&NativeError,           Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                                {
                                        i++;
                                }
                        }

                        fReturn = InitThreadPool( );

                        break;
                }

                return fReturn;
}

void RecurseForTmpFiles(LPCTSTR pstr)
{
  CFileFind finder;

  // build a string with wildcards
  CString strWildcard(pstr);
  strWildcard += _T("\\*.*");

  // start working for files
  BOOL bWorking = finder.FindFile(strWildcard);

  while (bWorking)
  {
    bWorking = finder.FindNextFile();

    // skip . and .. files; otherwise, we'd
    // recur infinitely!

    if (finder.IsDots())
      continue;

    // if it's a directory, recursively search it

    if (finder.IsDirectory())
    {
      CString str = finder.GetFilePath();
      RecurseForTmpFiles(str);
    }
                else
                {
                        //We've got a file, check it out...
                        char oldfilename[30];
                        char newfilename[30];
                        char title[30];
                        strcpy(title, finder.GetFileName());
                        if (strstr(title, ".tmp"))
                        {
                                strcpy(title, finder.GetFileTitle());
                                sprintf(oldfilename,"%s.tmp",title);
                                sprintf(newfilename,"%s.SC",title);

                                FILE *backup_check =
fopen(newfilename,"r");
                                if (!backup_check)

//Now check to see if this cart has a backup match...
                                {
                                        rename(oldfilename,
newfilename);   // If there is no backup, we know we were in the
process
                                        // of renaming it when
we crashed
                                }
                                else
                                {
                                        remove(oldfilename);
                                // Otherwise, the backup exists, and
since we don't know the
                                        // state of the .tmp file,
we use the backup (".SC" file), and remove the temp.
                                }
                        }
                }
  }

  finder.Close();
}

void RecurseDeleteOldCarts(LPCTSTR pstr)
{
  CFileFind finder;

  // build a string with wildcards
  CString strWildcard(pstr);
  strWildcard += _T("\\*.*");

  // start working for files
  BOOL bWorking = finder.FindFile(strWildcard);

  while (bWorking)
  {
    bWorking = finder.FindNextFile();

    // skip . and .. files; otherwise, we'd
    // recur infinitely!

    if (finder.IsDots())
```

```
      continue;

    // if it's a directory, recursively search it

    if (finder.IsDirectory())
    {
      CString str = finder.GetFilePath();
      RecurseDeleteOldCarts(str);
    }
            else
            {
                    //We've got a file, check it out...
                    CTime file_timestamp;
                    finder.GetLastWriteTime((CTime
&)file_timestamp);
                    char filename[30];
                    strcpy(filename, finder.GetFileName());
                    if (strstr(filename,".SC"))
                    {
                            if (file_timestamp <
Two_Hours_Ago)
                            {
                                    remove(filename);
                            }
                            else
                            {
                                    int session_num;
                                    strcpy(filename,
finder.GetFileTitle());
                                    session_num =
atoi(filename);
                                    if (session_num >=
next_session) next_session = (session_num + 1) % MAX_SESSIONS;
                                    char filepath[256];

strcpy(filepath,finder.GetFilePath());
                                    GetCartGlobal(filepath,
session_num);

                                    HSTMT hstmt;
                                    char query[128];
                                    char latestfile[128];
                                    long resultlen;


sprintf(query,"GetShoppingCartName %d",
Sessions[session_num].SC_ID);

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,latestfile, 128, &resultlen);

SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                    SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                    if
(strcmp(latestfile,filepath)) remove(filepath);

                            }
                    }
            }
  }

  finder.Close();
}

void ProcessLogMessages(SQLSMALLINT plm_handle_type,
                SQLHANDLE plm_handle,
                char *logstring, int ConnInd, char *SQL_errormsg)
{
            #define MAXBUFLEN 128

  RETCODE       plm_retcode = SQL_SUCCESS;
  UCHAR       plm_szSqlState[MAXBUFLEN] = "",
          plm_szErrorMsg[MAXBUFLEN] = "";
  SDWORD       plm_pfNativeError = 0L;
  SWORD       plm_pcbErrorMsg = 0;
  SQLSMALLINT    plm_cRecNmbr = 1;
  SDWORD       plm_SS_MsgState = 0, plm_SS_Severity = 0;
  SQLINTEGER    plm_Rownumber = 0;
  USHORT       plm_SS_Line;
  SQLSMALLINT    plm_cbSS_Procname, plm_cbSS_Srvname;
  SQLCHAR       plm_SS_Procname[MAXNAME],
plm_SS_Srvname[MAXNAME];

  while (plm_retcode != SQL_NO_DATA_FOUND) {
    plm_retcode = SQLGetDiagRec(plm_handle_type, plm_handle,
      plm_cRecNmbr, plm_szSqlState, &plm_pfNativeError,
      plm_szErrorMsg, MAXBUFLEN - 1, &plm_pcbErrorMsg);

    // Note that if the application has not yet made a
    // successful connection, the SQLGetDiagField
    // information has not yet been cached by ODBC
    // Driver Manager and these calls to SQLGetDiagField
    // will fail.
    if (plm_retcode != SQL_NO_DATA_FOUND) {
      if (ConnInd) {
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_ROW_NUMBER, &plm_Rownumber,
          SQL_IS_INTEGER,
          NULL);
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_SS_LINE, &plm_SS_Line,
          SQL_IS_INTEGER,
          NULL);
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_SS_MSGSTATE, &plm_SS_MsgState,
          SQL_IS_INTEGER,
          NULL);
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_SS_SEVERITY, &plm_SS_Severity,
          SQL_IS_INTEGER,
          NULL);
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_SS_PROCNAME, &plm_SS_Procname,
          sizeof(plm_SS_Procname),
          &plm_cbSS_Procname);
        plm_retcode = SQLGetDiagField(
          plm_handle_type, plm_handle, plm_cRecNmbr,
          SQL_DIAG_SS_SRVNAME, &plm_SS_Srvname,
          sizeof(plm_SS_Srvname),
          &plm_cbSS_Srvname);
      }
      sprintf(SQL_errormsg,"szSqlState = %s\npfNativeError =
%d\nszErrorMsg = %s\npcbErrorMsg = %d\n\n"

,plm_szSqlState,plm_pfNativeError,plm_szErrorMsg,plm_pcbErrorMs
g);
    }
    plm_cRecNmbr++; //Increment to next diagnostic record.
  } // End while.
```

```
}



BOOL WINAPI GetExtensionVersion( OUT HSE_VERSION_INFO
* pVer)
{
        BOOL fReturn = TRUE;



PARSE_errfile=fopen(PARSE_ERROR_FILENAME,"a+");
        fprintf(PARSE_errfile, "TPCW_DLL Starting\n");
   fflush(PARSE_errfile);

        pVer->dwExtensionVersion = MAKELONG(
HSE_VERSION_MINOR, HSE_VERSION_MAJOR );
        lstrcpyn( pVer->lpszExtensionDesc, "ISAPI Keep-Alive
with Thread Pool Extension Sample",
HSE_MAX_EXT_DLL_NAME_LEN );

        // Initialize PGE connects
        //

        for(int i=0; i < PGE_CONNS ;i++)
        {
                // the array of mutex pointers should point to the
individual CMutex
                // objects in each of the pgeConnects
                //

pgeConnect_control[i]=&pgeConnects[i].theLock;
                pgeConnects[i].MakeSecure();            // Each
connect is secure
                pgeConnects[i].ConnectTo(PGE_NAME,443);
// Connect each connection
        }
        for(i=0; i < ISA_CONNS ;i++)
        {
                isaConnect_control[i]=&ISALock[i];

                for(int j=0;j< ISA_SERVERS; j++)
                {
                        // the array of mutex pointers should
point to the individual CMutex
                        // objects in each of the pgeConnects
                        //

isaConnects[i][j].ConnectTo(ISANAME[j],81);   // Connect each
connection
                }
        }

   _timeb thetime;
   _ftime(&thetime);
        int bigtime;
        bigtime=(thetime.time*1000) + thetime.millitm;
        //Initialize random seed
   RandSeed=bigtime;

        // Create errorfiles
        //
        fprintf(PARSE_errfile, "TPCW_DLL Started\n");

        fprintf(PARSE_errfile, "TPCW_DLL Checking for any
carts that need to be rolled back. NTFS took care of the
roll-forward.\n");

        if (SQLAllocHandle(SQL_HANDLE_DBC, henv, &hdbc)
!= SQL_SUCCESS)
        {
                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                SQLINTEGER NativeError;
                SQLSMALLINT i, MsgLen;
                SQLRETURN rc2;

                // Get the status records.
                i = 1;
                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_DBC, &hdbc, i, SqlState,
&NativeError,       Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                {
                        i++;
                }
        };

        SQLSetConnectAttr(hdbc, SQL_LOGIN_TIMEOUT, (void
*)5, 0);

        if (SQLConnect(hdbc, (unsigned char *)"tpcwDSN",
(SWORD)8 ,(unsigned char *)"sa", (SWORD)2,(SQLCHAR*) NULL,
SQL_NTS) == SQL_ERROR) {
                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                SQLINTEGER NativeError;
                SQLSMALLINT i, MsgLen;
                SQLRETURN rc2;

                // Get the status records.
                i = 1;
                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_DBC, hdbc, i, SqlState,
&NativeError,       Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                {
                        i++;
                }
        }

        RecurseForTmpFiles(_T("C:\\ShoppingCarts"));
        RecurseDeleteOldCarts(_T("C:\\ShoppingCarts"));

        return fReturn;
}


DWORD WINAPI HttpExtensionProc( IN
EXTENSION_CONTROL_BLOCK * pECB )
{
        DWORD dwSize;
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

        char szHeader[] =
     "Connection: Keep-Alive\r\n"
     "Content-Length: %lu\r\n"
     "Content-type: text/html\r\n\r\n";

        char szBusyMessage[] =
     "<html> <form method=get action=KeepAliveP.dll> <input
type=submit> "
          "<br>pECB->ConnID=%lu  <br>Server was too busy.
</form></html>";

        char szBuffer[4096];
```

```
            char szBuffer2[4096];

            EnterCriticalSection( &csQueueLock );

   if ( !AddWorkQueueEntry( pECB ) ) {

      //
      // if ECB could not be assigned
      //

                        LeaveCriticalSection( &csQueueLock );

                        sprintf( szBuffer2, szBusyMessage,
pECB->ConnID );

      //
                        // Send outgoing header
      //

                        sprintf( szBuffer, szHeader, strlen( szBuffer2 )
);

      HeaderExInfo.pszHeader = szBuffer;
      HeaderExInfo.cchHeader = strlen( szBuffer );
      HeaderExInfo.pszStatus = "200 OK";
      HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
      HeaderExInfo.fKeepConn = TRUE;


                        pECB->ServerSupportFunction(
         pECB->ConnID,
         HSE_REQ_SEND_RESPONSE_HEADER_EX,
         &HeaderExInfo,
         NULL,
                                    NULL
         );

      //
                        // Send content
      //

                        dwSize = strlen( szBuffer2 );
                        pECB->WriteClient( pECB->ConnID,
szBuffer2, &dwSize, 0 );

                        return
HSE_STATUS_SUCCESS_AND_KEEP_CONN;

            } else {

      //
      // release 1 thread from the pool
      //
                        ReleaseSemaphore( hWorkSem, 1, NULL );

                        LeaveCriticalSection( &csQueueLock );
            }

            return HSE_STATUS_PENDING;
}
```

```
BOOL WINAPI TerminateExtension( IN DWORD dwFlags )
{
   return TRUE;
}

DWORD WINAPI WorkerFunction( IN LPVOID pvThreadNum )
{
        DWORD dwRet, dwState, dwThreadNum;
        TPCW tpcw;

        tpcw.seed = (INT32) pvThreadNum;
        //This header will be filled in with the content length
        char szHeader[] =
    "Connection: Keep-Alive\r\nContent-Length: %lu\r\n"
    "Content-type: text/html\r\n\r\n";

        if (SQLAllocHandle(SQL_HANDLE_DBC, henv,
&tpcw.hdbc) != SQL_SUCCESS)
        {
                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                SQLINTEGER NativeError;
                SQLSMALLINT i, MsgLen;
                SQLRETURN rc2;

                // Get the status records.
                i = 1;
                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_DBC, &tpcw.hdbc, i, SqlState,
&NativeError,  Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                {
                        i++;
                }
        };

        SQLSetConnectAttr(tpcw.hdbc, SQL_LOGIN_TIMEOUT,
(void *)5, 0);

        if (SQLConnect(tpcw.hdbc, (unsigned char *)"tpcwDSN",
(SWORD)8 ,(unsigned char *)"sa", (SWORD)2,(SQLCHAR*) NULL,
SQL_NTS) == SQL_ERROR) {
                SQLCHAR  SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
                SQLINTEGER NativeError;
                SQLSMALLINT i, MsgLen;
                SQLRETURN rc2;

                // Get the status records.
                i = 1;
                while ((rc2 =
SQLGetDiagRec(SQL_HANDLE_DBC, tpcw.hdbc, i, SqlState,
&NativeError,  Msg, sizeof(Msg), &MsgLen)) !=
SQL_NO_DATA)
                {
                        i++;
                }
        }

        dwThreadNum = ( DWORD ) pvThreadNum;

        while ( TRUE ) {

                dwRet = WaitForSingleObject( hWorkSem,
INFINITE );
                if ( dwRet == WAIT_OBJECT_0 ) {

                                        EnterCriticalSection(
&csQueueLock );

                if ( GetWorkQueueEntry( &tpcw.pECB ) ) {

                                        LeaveCriticalSection(
&csQueueLock );
                                        // Declare the variables
needed

                                        tpcw.ParseTPCW();    //
Here's where all the processing takes place

                                        dwState =
HSE_STATUS_SUCCESS_AND_KEEP_CONN;


tpcw.pECB->ServerSupportFunction(
                tpcw.pECB->ConnID,
                HSE_REQ_DONE_WITH_SESSION,
                &dwState,
                NULL,
                0
                );

        } else {

           //
           // No item found is unexpected condition - exit thread
           //

                                        LeaveCriticalSection(
&csQueueLock );
                                        ExitThread( 0 );
                                }

      } else {
                                break;
      }
            }

        return 0;
}

void TPCW::ReturnError(int ERROR_NUM)
{
        // Wait some random period of time before returning the
error to the users.
        timeb thetime;
        ftime(&thetime);
        srand(thetime.millitm);
        int rand_wait=rand()%10000;
        Sleep(rand_wait);

        oBuf.ZeroBuf();
        oBuf <<

"<HTML><HEAD><TITLE>TPCW-ERROR</TITLE></HEAD><B
ODY>AN ERROR HAS OCCURED<BR>Description :";
        int index = ERROR_NUM * -1;
        oBuf << ERRORMSG[index];
        oBuf << "</BODY></hTmL>";
}

void TPCW::ReturnDescriptiveError(char *msg)
{
        // Wait some random period of time before returning the
error to the users.
```

```
		timeb thetime;
		ftime(&thetime);
		srand(thetime.millitm);
		int rand_wait=rand()%60000;
		Sleep(rand_wait);

		oBuf.ZeroBuf();
		oBuf << "<HTML><HEAD><TITLE>TPCW-ERROR:
</TITLE></HEAD><BODY>AN ERROR HAS OCCURED!<BR>";
		oBuf << msg << "<BR><BR>" << SQL_errormsg <<
"</BODY></hTmL>";
}
void TPCW::ReturnRedirect(char *msg)
{
		// Wait some random period of time before returning the
error to the users.
		timeb thetime;
		ftime(&thetime);
		srand(thetime.millitm);
		int rand_wait=rand()%60000;
		Sleep(rand_wait);

		oBuf.ZeroBuf();
		oBuf <<

"<HTML><HEAD><TITLE>Redirection</TITLE></HEAD><BOD
Y>You are being redirected the the proper location.<BR>";
		oBuf << msg << "<BR><BR></BODY></hTmL>";
}

void TPCW::FlushCachedInteraction()
{
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

		char szHeader[1024];
   DWORD len = oBuf.getBufSize();
		char lm[200];
		struct tm *tmtime;
		long ltime;
		time(&ltime);
		tmtime = gmtime(&ltime);
		strftime(lm, 200,"%a, %d %b %Y %H:%M:%S GMT"
,tmtime);
		sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %d\r\nContent-Type:
text/html\r\nLast-Modified: %s\r\nCache-Control:
max-age=30\r\n\r\n",len, lm);

   HeaderExInfo.pszHeader = szHeader;
   HeaderExInfo.cchHeader = strlen( szHeader );
   HeaderExInfo.pszStatus = "200 OK";

   HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
   HeaderExInfo.fKeepConn = TRUE;
		pECB->ServerSupportFunction(
			pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
			&HeaderExInfo,
			NULL,
			NULL
			);

		pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
		oBuf.ZeroBuf();
}

void TPCW::FlushEternallyCachedInteraction()
{
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

		char szHeader[1024];
   DWORD len = oBuf.getBufSize();
		char lm[200];
		struct tm *tmtime;
		long ltime;
		time(&ltime);
		tmtime = gmtime(&ltime);
		strftime(lm, 200,"%a, %d %b %Y %H:%M:%S GMT"
,tmtime);
		sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %d\r\nContent-Type:
text/html\r\nLast-Modified: %s\r\nExpires: Sat, 01 Jan 2005 00:00:00
GMT\r\n\r\n",len, lm);

   HeaderExInfo.pszHeader = szHeader;
   HeaderExInfo.cchHeader = strlen( szHeader );
   HeaderExInfo.pszStatus = "200 OK";

   HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
   HeaderExInfo.fKeepConn = TRUE;
		pECB->ServerSupportFunction(
			pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
			&HeaderExInfo,
			NULL,
			NULL
			);

		pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
		oBuf.ZeroBuf();
}


void TPCW::FlushInteraction()
{
 // How big is the ElfStream?
 //

 // Generate Content type and content length HTTP header
 //
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

		char szHeader[1024];
   DWORD len = oBuf.getBufSize();
		sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %lu\r\nContent-type: text/html\r\n",
len);
		strcat(szHeader,cookie); // strcat(szHeader,cookie+"\r\n");
--LM
		strcat(szHeader,"\r\n");

   HeaderExInfo.pszHeader = szHeader;
   HeaderExInfo.cchHeader = strlen( szHeader );
   HeaderExInfo.pszStatus = "200 OK";

   HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus ); //
Replace this with 6 --LM
   HeaderExInfo.fKeepConn = TRUE;
		pECB->ServerSupportFunction(
			pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
```

```
                        &HeaderExInfo,
                        NULL,
                        NULL
                        );

        pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
        oBuf.ZeroBuf();
}
void TPCW::FlushError()
{
 // How big is the ElfStream?
 //

 // Generate Content type and content length HTTP header
 //
  HSE_SEND_HEADER_EX_INFO HeaderExInfo;

        char szHeader[1024];
  DWORD len = oBuf.getBufSize();
        sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %lu\r\nContent-type: text/html\r\n",
len);
        strcat(szHeader,cookie);
        strcat(szHeader,"\r\n");

  HeaderExInfo.pszHeader = szHeader;
  HeaderExInfo.cchHeader = strlen( szHeader );
  HeaderExInfo.pszStatus = "499 ERROR";

  HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
  HeaderExInfo.fKeepConn = TRUE;
        pECB->ServerSupportFunction(
                pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
                &HeaderExInfo,
                NULL,
                NULL
                );

        pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
        oBuf.ZeroBuf();
}

// Helper function to read cookie in request and return session offset.
If
// no cookie exists yet, it assigns new session and cookie.
//

int TPCW::StoreCart(int session)
{

        char filename[30];
        int dir = session % 100;

        sprintf(filename,"C:\\ShoppingCarts\\%d\\%d_%d.tmp",
dir, session, Sessions[session].buycount);

        //MMC (07/16/02) Adding error checking to address Dell
challenge of shop cart durability
        FILE *cartfile;
        if ( (cartfile = fopen(filename, "w")) == NULL)
                return STORECART_ERROR;
        int size_of_write =
fwrite(&Sessions[session],sizeof(Sessions[session]), 1, cartfile);
        if (size_of_write != 1)
                return STORECART_ERROR;
        CartList *list = Sessions[session].list;
        for (int i=0; i < Sessions[session].items; i++)
        {
                //MMC (07/16/02) Adding error checking to
address Dell challenge of shop cart durability
                size_of_write = fwrite(list,sizeof(CartList), 1,
cartfile);
                if (size_of_write != 1)
                        return STORECART_ERROR;

                list = list->next;
        }
        //MMC (07/16/02) Adding error checking to address Dell
challenge of shop cart durability

        if ( fflush(cartfile) != 0)
                return STORECART_ERROR;
        if ( fclose(cartfile) != 0 )
                return STORECART_ERROR;

        char newname[30];
        sprintf(newname,"C:\\ShoppingCarts\\%d\\%d_%d.SC",
dir, session, Sessions[session].buycount);
        int rc = remove(newname);
        rc = rename(filename,newname);
        //if ( remove(newname) != 0 )      // If the server goes down
here, the temp is the one to use.
        //              return STORECART_ERROR;
        //if ( rename(filename,newname) != 0)   // This is
guaranteed by NTFS to be atomic.
        //              return STORECART_ERROR;
        return session;
}

int TPCW::StoreBCCart(int session)
{

        char filename[30];
        int dir = session % 100;

        sprintf(filename,"C:\\ShoppingCarts\\%d\\%d_%d.SC", dir,
session, Sessions[session].buycount + 1);
        //MMC (07/16/02) Adding error checking to address Dell
challenge of shop cart durability
        FILE *cartfile;
        if ( (cartfile = fopen(filename, "w")) == NULL )
                return STORECART_ERROR;
        int size_of_write =
fwrite(&Sessions[session],sizeof(Sessions[session]), 1 , cartfile);
        if ( size_of_write != 1 )
                return STORECART_ERROR;

        CartList *list = Sessions[session].list;
        for (int i=0; i < Sessions[session].items; i++)
        {
                size_of_write =
fwrite(list,sizeof(CartList),1,cartfile);
                if (size_of_write != 1 )
                        return STORECART_ERROR;
                list = list->next;
        }
        if ( fflush(cartfile) != 0)
                return STORECART_ERROR;

        if ( fclose(cartfile) != 0 )
                return STORECART_ERROR;
```

```
	return session;
}

int TPCW::GetCart(int session)
{
	char filename[30];
	FILE *CARTFILE;
	int dir = session % 100;
	sprintf(filename,"C:\\ShoppingCarts\\%d.SC", session);
	//MMC (07/16/02) Adding error checking to address Dell
challenge of shop cart durability
	if ( (CARTFILE = fopen(filename,"r")) == NULL )
		return STORECART_ERROR;
	if
(!fread(&Sessions[session],sizeof(Sessions[session]),1,CARTFILE))
		return STORECART_ERROR;
	CartList *curptr=NULL;
	Sessions[session].list = curptr;
	for (int i=0; i< Sessions[session].items; i++)
	{
		CartList *cartline = new CartList;
		if
(!fread(cartline,sizeof(CartList),1,CARTFILE))
			return STORECART_ERROR;
		curptr = cartline;
		curptr->next = NULL;
		curptr=curptr->next;
	}
	if ( fflush(CARTFILE) != 0)
		return STORECART_ERROR;

	if ( fclose(CARTFILE) != 0 )
		return STORECART_ERROR;
	return session;
}

int GetCartGlobal(char *filename, int session)
{
	FILE *CARTFILE;
	CARTFILE = fopen(filename,"r");
	if (!CARTFILE) return STORECART_ERROR;

	if
(!fread(&Sessions[session],sizeof(Sessions[session]),1,CARTFILE))
		return STORECART_ERROR;
	CartList *newnode=NULL;
	CartList *curptr=NULL;
	for (int i=0; i< Sessions[session].items; i++)
	{
		newnode = new CartList;
		if (!fread(newnode,
sizeof(CartList),1,CARTFILE))
			return STORECART_ERROR;
		if (i==0) {
			Sessions[session].list = newnode;
			curptr=newnode;
			curptr->next = NULL;
		}
		else
		{
			curptr->next=newnode;
			curptr=newnode;
			curptr->next = NULL;
		}
	}
	if ( fflush(CARTFILE) != 0)
		return STORECART_ERROR;
	if ( fclose(CARTFILE) != 0 )
		return STORECART_ERROR;
	return session;
}

int TPCW::getSessionId()
{

	char incoming_cookie[1024]="";	// Space for incoming
cookie
	DWORD len=1023;			// max len of incoming
cookie
	int session=-1;			// the session ID to be returned
	int boo;

	// ISAPI function to fetch the Cookie
	//

boo=pECB->GetServerVariable(pECB->ConnID,"HTTP_COOKIE",i
ncoming_cookie,&len);

	char webserver[128];
	ZeroMemory(webserver,128);
	if(!boo)
	{
    len=0;
	}
	else
	{

sscanf(incoming_cookie,"CSF_COOKIE_SESSION_ID_%d_%s;",&s
ession, webserver);
	}

	incoming_cookie[len]=0;		// null terminate cookie

	if(session==-1)	// If no cookie was there, assign fresh
session & cookie
	{
    if( next_session < MAX_SESSIONS )
    {
				CSingleLock
mylock(&session_control);  // mutex to control sessioning
				mylock.Lock();			// gain
exclusive control
				{
					_timeb now;
					_ftime(&now);
					while ((now.time -
Sessions[next_session].DATE.time) < 7200) {

next_session++;
					}
					session=next_session;
      // assign session
					next_session++;

				}
				mylock.Unlock();		//
release control
    }
    else
    {
				CSingleLock
mylock(&session_control);  // mutex to control sessioning
				mylock.Lock();			// gain
exclusive control
```

```
                                {
                                        session=0;
// assign session
                                        next_session=1;
    // increment global session counter
                                        _timeb now;
                                        _ftime(&now);
                                        while ((now.time -
Sessions[next_session].DATE.time) < 7200) {

next_session++;
                                        }
                                        session=next_session;
       // assign session
                                        next_session++;
                                }
                                mylock.Unlock();                //
release control
                        }
                        CartList *temp;
                while(Sessions[session].list!=NULL)
                {
                                temp = Sessions[session].list;
                                Sessions[session].list =
Sessions[session].list->next;
                                delete temp;
                        }

ZeroMemory(&Sessions[session],sizeof(Sessions[session]));
                        Sessions[session].SHOPPING_ID=-1;
                        Sessions[session].C_ID[0]='Z';
                        Sessions[session].C_FNAME[0]=0;
                        Sessions[session].C_LNAME[0]=0;
                        Sessions[session].list = 0;
                        Sessions[session].items=0;
                        Sessions[session].dirflag=0;

                        char SC_filename[256];
                        int SC_ID;
                        int dir = session % 100;

sprintf(SC_filename,"C:\\ShoppingCarts\\%d\\%d_%d.SC", dir,
session, Sessions[session].buycount);

                        char directory[256];
                        sprintf(directory,"C:\\ShoppingCarts\\%d", dir);
                        int rc = mkdir(directory);
                        //if ( !mkdir(directory) )
                        //              return STORECART_ERROR;

                        sprintf(query,"InsertShoppingCartPtr '%s'",
SC_filename);

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_INTEGER,&SC_ID, 0, &resultlen);
                        if
(SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS) !=
SQL_SUCCESS) return STORECART_ERROR;
                        if (SQLFetch(hstmt) != SQL_SUCCESS) return
STORECART_ERROR;

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                        Sessions[session].SHOPPING_ID = session;
                        Sessions[session].SC_ID = SC_ID;
                        if (StoreCart(session)<0) return
STORECART_ERROR;    //Store a blank cart for this user under this
new session ID
        sprintf(cookie,"Set-Cookie:
CSF_COOKIE_SESSION_ID_%d_%s;Domain=tpcw.net\r\n",session,
ThisWebserverName);

                }
                else
                {
                        if (!strcmp(webserver, ThisWebserverName))
                        {
                                if (Sessions[session].SHOPPING_ID
== -1) // This user has returned to us after we crashed.
                                {
                                        if ( GetCart(session) ==
STORECART_ERROR )
                                                return -98;
                                }
                        }
                        else
                        {
                                oBuf.ZeroBuf();
                                char redirect[1024];
                                sprintf(redirect, "Click <A
HREF=\"http://%s/tpcw/tpcw.dll?%s\">here </A>to be access the
requested information.<BR><BR>You are on - %s, you were on - %s,
Cookie - %s",webserver, pECB->lpszQueryString,
ThisWebserverName,webserver, incoming_cookie);
                                ReturnRedirect(redirect);
                                return -2;
                                // This user has come to the wrong
server. Read the Cart from the other server maybe?? Or send an error
back...hmmn..
                        }
                }
                return session;   // Return incoming cookie or newly
assigned session id.
}

//////////////////////////////////////////////////////////////////////
// TPCW implementation

// Exciting constructor eh?
//
TPCW::TPCW()
{
        query=new char[HUGEQUERY];
}

// Exciting destructor eh?
//
TPCW::~TPCW()
{
}

// Helper function do the PGE authorization in BuyConfirm.  Basically
its a
// separate function to simplify readability.
//
int TPCW::DoPGEauthorization(char *o_id,              // IN
                        const char *CC_NUMBER,  // IN
                        char *auth)             // OUT
{
                int thesize,     // size of incoming response from PGE ==
6000 on success
                        ret,        // response code from PGE
                        i,          // loop control variable
```

```
                pge;        // The pge connection being used
        char *p=NULL;       // pointer loop control variable

        // string form of CC_NUMBER prepadded with zeros if
less than right charcount
        //
        char cc_number[24]="0000000000000000";

        // URL generation for PGE.  Starts with /pge.dll?
        //
        char request[32767]="GET /pge.dll?";

        retcode=1;
        i=strlen(CC_NUMBER);       // copy incoming
CC_NUMBER into buffer.
        if ( i > 16 ) { i=16; }    // In benchmark run should always
be 16 chars
        // This copying is to handle manual typeins
        // in the WWW browser where user may not
        // be as precise as the RBE in character counts
        // so we truncate at 16 chars for user.
        strncpy(&cc_number[16-i],CC_NUMBER,i);

        // generate characters 13->48 of the PGE request.
        // Note that characters 0-12 are generated in the
instantiation of
        // request[] above.  (i.e., GET /pge.dll?")
        //

sprintf(&request[13],"<NUM>%16s</NUM><OID>%010s</OID>",c
c_number,o_id);

        // Get exclusive access to random number generator and
create astring
        // Note that the astring is encoded for WWW transmission
using the utils.cpp
        // function from the Arby RBE.
        //
        CSingleLock mylock(&random_control);
        mylock.Lock();
        {

MakeWWWAlphaString(&RandSeed,&request[13+48],6000-48,6000-
48);
        }
        mylock.Unlock();

        auth[0]=0;          // No authorization yet

        // put trailer on the outgoing PGE request
        //
        strcat(request," HTTP/1.1\r\nHost: pge\r\nConnection:
Keep-Alive\r\nAccept: text/*\r\nUser-Agent: TPCW ISAPI
DLL\r\n\r\n");

        // Lock PGE connection
        //
        CMultiLock
pgeLock(pgeConnect_control,PGE_CONNS,FALSE);

pge=pgeLock.Lock(INFINITE,FALSE)-WAIT_OBJECT_0;
        {
                //
                // make sure connection is less than 200 seconds
old
                //
                pgeConnects[pge].preReplaceAsNeeded( 0 );
                pgeConnects[pge].ReplaceAsNeeded();
                pgeConnects[pge].Inc();                 //
Increment counter.


pgeConnects[pge].WriteNow(request,strlen(request)); // Send request

                // At this point, there will be at least two
seconds before the PGE
                // responds.  Lets use this two seconds wisely

                // Set up new PGE connection if this was the
100th connect on prev connect
                // or the connection will be older than 200
seconds in 2 seconds
                //
                pgeConnects[pge].preReplaceAsNeeded( 2000
);

                // Anything else you wanna do in the two
seconds should go here. because
                // the SnagHeader() call below will block the
thread until the PGE
                // responds.

                ret=pgeConnects[pge].SnagHeader();      //
Wait for PGE to respond
                if(ret!=500)                    // Successful
request?
                {

thesize=pgeConnects[pge].Read(request,6144); // get response packet
                        request[thesize]=0;             //
null terminate it
                        if(thesize==6000)               //
make sure right size.
                        {

p=(char*)memchr(request,'<',thesize);    // find <NUM>
                            if(p)
                            {

p=(char*)memchr(p+1,'<',thesize);     // find </NUM>
                                if(p)
                                {

p=(char*)memchr(p+1,'<',thesize);    // find <OID>

if(p)                                                   {

p=(char*)memchr(p+1,'<',thesize);   // find </OID>

if(p)

{

        p=(char*)memchr(p+1,'<',thesize); // find <CODE>

        if(p)

        {

                memcpy(auth,&p[6],15);        // copy
authorization

                auth[15]=0;             // null terminate
```

```
                        retcode=0;                  // set success tag

                }

}
                                                                        }
                                                                }
                                                        }
                                                }
                        }
                        else
                        {
                                pgeConnects[pge].TossData();  // on
error toss data.  SHOULD NOT OCCUR
                        }

                        // If the preReplaceAsNeeded() call above set up
a new PGE connection,
                        // we now have to close the current connection
and use the new one instead.
                        // The following call copies the variables over.
                        //
                        pgeConnects[pge].ReplaceAsNeeded();
                }
                pgeLock.Unlock();   // Release the PGE connection
                return retcode;     // return success/failure
}

int TPCW::PP_Detail(int randomnum)
{
                char thumb[128];
                sprintf(query, "PP_Det %d", randomnum);

                SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                if (retcode != SQL_SUCCESS)
                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
                }
                oBuf << "<html><head><title>Promo
Detail</title></head><body bgcolor=\"#FFFFFF\">";
                SQLBindCol(hstmt,2,SQL_CHAR,thumb,128, &resultlen);
                SQLFetch(hstmt);
                oBuf  << "<A
HREF=\"http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID="\
                        << randomnum << "\" TARGET=_top><img
SRC=\"http://imgsrv.tpcw.net/tpcw/" << thumb << "\" ALT=\"Book "
<< randomnum\
                        << "\" WIDTH=100 HEIGHT=140></A>";
                oBuf << "</BODY></HTML>";
                SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                return 1;
}
// Implement promotional imaging
//
int TPCW::CachedPromoImages(int randomnum)
{
                char book1[16];
                char book2[16];
                char book3[16];
                char book4[16];
                char book5[16];
                sprintf(query, "GetPromoImages %d", randomnum);

                SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                if (retcode != SQL_SUCCESS)
                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
                }
                oBuf << "<html><head><title>Promo
Items</title></head><BODY>";
                SQLBindCol(hstmt,1,SQL_CHAR,book1, 16, &resultlen);
                SQLBindCol(hstmt,2,SQL_CHAR,book2, 16, &resultlen);
                SQLBindCol(hstmt,3,SQL_CHAR,book3, 16, &resultlen);
                SQLBindCol(hstmt,4,SQL_CHAR,book4, 16, &resultlen);
                SQLBindCol(hstmt,5,SQL_CHAR,book5, 16, &resultlen);
                SQLFetch(hstmt);
                oBuf << "<TABLE BORDER=0
ALIGN=CENTER><TR>";
                oBuf  << "<TD><IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=PP_det&id="
<< book1 << "\" WIDTH=145 HEIGHT=180
FRAMEBORDER=0></IFRAME></TD>";
                oBuf  << "<TD><IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=PP_det&id="
<< book2 << "\" WIDTH=145 HEIGHT=180
FRAMEBORDER=0></IFRAME></TD>";
                oBuf  << "<TD><IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=PP_det&id="
<< book3 << "\" WIDTH=145 HEIGHT=180
FRAMEBORDER=0></IFRAME></TD>";
                oBuf  << "<TD><IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=PP_det&id="
<< book4 << "\" WIDTH=145 HEIGHT=180
FRAMEBORDER=0></IFRAME></TD>";
                oBuf  << "<TD><IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=PP_det&id="
<< book5 << "\" WIDTH=145 HEIGHT=180
FRAMEBORDER=0></IFRAME></TD>";
                oBuf << "</TR></TABLE></BODY></HTML>";
                SQLFreeHandle(SQL_HANDLE_STMT,hstmt);



                return 1;
}

// Implement promotional imaging
//
int TPCW::PromoImages()
{
                char book[16];
                char thumb[128];

                // MMC - 04/02/01 Had not included the random number
generation for selecting the BookId
                int randomnum = Irand32(&seed , 1, ITEM_COUNT);

                // MMC - 02/20/02 Trying to see if there is a contention
problem with the ITEM table
                // as we approach 10K WIPs.  For now, will always send
back ITEM_ID=1 as the Promo Proc
                // for all pages
                // int randomnum = 1;
```

```
	SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

	sprintf(query, "GetPromoImages %d", randomnum);
	retcode = SQLExecDirect( hstmt, (SQLCHAR*)query,
SQL_NTS);
	if (retcode != SQL_SUCCESS)
	{

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
		sprintf(SQL_errormsg, "{call GetPromoImages
(?)}");
		return -99;
	}
	SQLBindCol(hstmt,1,SQL_CHAR,book, 16, &resultlen);
	SQLBindCol(hstmt,2,SQL_CHAR,thumb,128, &resultlen);
	while (SQLFetch(hstmt) != SQL_NO_DATA)
	{
		oBuf  << "<td><a
HREF=\"http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID="
			<< book
			<< "\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/" << thumb << "\" ALT=\"Book "
<< book
			<< "\" WIDTH=100
HEIGHT=150></a></td>\r\n";
	}
	SQLFreeHandle(SQL_HANDLE_STMT,hstmt);


	return 1;
}

int TPCW::TopFrame(char *type, char *Subject)
{
	oBuf << "<html><head><title>TopFrame for " << type <<
"</title></head><body bgcolor=\"#FFFFFF\">\
		<h1 align=\"center\">TPC Web Commerce
Benchmark (TPC-W)</h1><center><img SRC=\

\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" WIDTH=\"288\" \
		HEIGHT=\"67\"><BR><H3>";
	if (type[0] == 'a') oBuf << "Search Results Page - Author: "
<< Subject << "<BR>";
	if (type[0] == 't') oBuf << "Search Results Page - Title: "
<< Subject << "<BR>";
	if (type[0] == 'n') oBuf << "New Products Page - Subject: "
<< Subject << "<BR>";
	if (type[0] == 'b') oBuf << "Best Sellers Page - Subject: "
<< Subject << "<BR>";
	if (type[0] == 's') oBuf << "Search Results Page - Subject: "
<< Subject << "<BR>";
	oBuf << "</H3></BODY><hTmL>";
	return 1;
}

// Because ISAPI intrinsic parsing of URLs was returning bogus
pointers
// occasionally, we implement parsing ourselves.  GetLong reads a
// Long from part of the URL into target.  It returns the number of
bytes
// consumed from the URL
//
int TPCW::GetLong(long *target,	// target pointer to long
	const char *start,  // starting input pointer
	const char *wall,   // don't read here
	// valid pointer range = start[0]->start[wall-start-1]
	char token)	// separator token in URL
{
 *target=0;			// start with zero
 int consumed=0;		// no bytes consumed
 while( (start+consumed) < wall)	// until we hit the wall
 {
  char ch=start[consumed];	// get character
  consumed++;
  if ((ch >= '0') && (ch <= '9'))   // is it a digit?
  {
   *target=(*target)*10+(ch-'0');  // add it to the number we have
  }
  else
  {
   if(ch==token)		// is nondigit the terminator?
   {
    return consumed;		// target has number; return consumed
   }
   else
   {
    return -1;		// nonterminator; return error
   }
  }
 }
 return consumed;		// hit wall. target has number.
}

// Because ISAPI intrinsic parsing of URLs was returning bogus
pointers
// occasionally, we implement parsing ourselves.  GetString reads a
// string from part of the URL into target.  It returns the number of
bytes
// consumed from the URL
//
int TPCW::GetString(char *target,	// target buffer for string
	int maxLen,		// max chars to copy into target
	const char *start,	// starting input pointer
	const char *wall,	// don't read here.
	// valid pointer range = start[0]->start[wall-start-1]
	char token)		// separator token in URL
{
 int i=0;			// initialize
 int consumed=0;
 unsigned char ch;

 while( (start+consumed) < wall )	// until hit wall
 {
  ch=start[consumed];		// get character
  consumed++;
  if (  ((ch >= '0') && (ch <= '9'))	// Normal character
    || ((ch >= 'A') && (ch <= 'Z'))
    || ((ch >= 'a') && (ch <= 'z'))
    || (ch == '@') || (ch == '*') || (ch == '-') || (ch == '_')
    || (ch == '.') || (ch == '/') || (ch == '+'))
  {
   if ( ch == '+' ) { ch=' '; }	// <SP> encoded as '+'
   target[i]=ch;
   i++;
   if ( i >= maxLen ) { return -1; }	// no room for a null. return err
  }
  else
  {
   if( ch == '%' )		// special character.  HTTP hex code encoded
   {
    if( (start+consumed+1) > wall) { return -1; }  // does hex code
exist?
```

```
      ch=start[consumed];                   // Get first hex code digit
      consumed++;
      if ( (ch >= '0') && (ch <= '9') )
        { target[i] = 16 * (ch-'0'); }
      else
      {
        if ( (ch >= 'A') && (ch <= 'F') )
          { target[i] = 16 * (ch-'A'+10); }
        else
          { return -1; }
      }

      ch=start[consumed];                   // Get second hex code digit
      consumed++;
      if ( (ch >= '0') && (ch <= '9') )
        { target[i] += (ch-'0'); }
      else
      {
        if ( (ch >= 'A') && (ch <= 'F') )
          { target[i] += (ch-'A'+10); }
        else
          { return -1; }
      }
      i++;
      if( i >= maxLen ) { return -1; }     // no room for null; return err;
     }
     else
     {
      if(ch==token)       // end of string token found
      {
        target[i]=0;      // null terminate
        return consumed;  // return bytes consumed
      }
      else              // unknown char in string. return error
      {
        return -1;
      }
     }
    }
   }

  // hit the wall.

  target[i]=0;            // null terminate
  return consumed;        // return bytes consumed
}

void TPCW::PadIfNeeded(int txn_type)
{
        int diff=0;
        if ((diff =
MIN_HTML_LENGTH[txn_type]-oBuf.getBufSize()) > 0 )
        {
                oBuf.remove(14);
                oBuf << "<!-- PAD CHARS BEGIN -";
                for (int i=0;i<diff;i++)
                {
                        oBuf << "*";
                }
                oBuf << " - PAD CHARS END
--></body></hTmL>";
        }
}

// Funtion registered with ISAPI extension to be called when DLL is
accessed
// as part of the TPCW benchmark.  This is basically the entry point on
each
// access to the TPC-W dynamic page.
//
// IMPORTANT:  the void* pointer passed to this function is NOT
necessarily
//           null terminated.  It is up to the coder to ENSURE that you
//           dont read more than Lurl characters from this void pointer.
//
int TPCW::ParseTPCW()
{

        ZeroMemory(cookie, sizeof(cookie));
        ZeroMemory(SQL_errormsg,8000);
        Purl=pECB->lpszQueryString;         // cast void* to char*

        Wall=Purl+strlen(Purl);             // set up the wall (end of
URL)

        // Is there a CMD token?
        //
        // Note:  Our syntax is
http://tpcwww/tpcw/tpcw.dll?CMD=XXX...
        //                                  ^
        // this checks for the '^' above.

        int remaining=strlen(Purl);
        if(remaining<4) { PARSE_ERROR("missing CMD="); }
        if(memcmp(Purl, "CMD=", 4)) {
PARSE_ERROR("missing CMD="); }
        Purl+=4; remaining-=4;    // skip past "CMD="

        // Get command token

        ret=GetString(command,32,Purl,Wall);
        if(ret<1) { PARSE_ERROR("bad CMD"); }
        Purl+=ret; remaining-=ret;

        /* At this point, there is a strcmp to check for each of the 14
web
        * interactions.  Each one would then parse and invoke the
underlying
        * interaction.  Note that these are currently in specification
order and
        * should probably be placed in order of frequence so as to
reduce the number
        * of strcmps()
        *
        * The basic idea is to check for a token in the URL then use
GetString() or
        * GetLong() as appropriate to fetch the parameter.  If an
error results,
        * PARSE_ERROR is called which will log the error, stop
the parse, and return.
        *
        * Note there is a lot of very verbose and basic code here
that could be
        * dramatically simplified with some creative #define action.
If you can
        * follow one or two of the following constructs, you'll get
bored reading
        * them all.
        *
        */

        if(!strcmp(command,"Admin_Confirm"))      // is it
admin_confirm?
        {
```

```
                if(remaining<5)                         // parse
I_ID
                { PARSE_ERROR("missing Admin_Confirm
I_ID"); }
                if(memcmp(Purl, "I_ID=", 5))
                { PARSE_ERROR("missing Admin_Confirm
I_ID"); }
                Purl+=5; remaining-=5;
                ret=GetString(I_ID,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad
Admin_Confirm I_ID"); }
                Purl+=ret; remaining-=ret;

                if(remaining<11)                        // parse
I_NEW_COST
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_COST"); }
                if(memcmp(Purl, "I_NEW_COST=", 11))
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_COST"); }
                Purl+=11; remaining-=11;
                ret=GetString(I_NEW_COST,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad
Admin_Confirm I_NEW_COST"); }
                Purl+=ret; remaining-=ret;

                if(remaining<12)                        // parse
I_NEW_IMAGE
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_IMAGE"); }
                if(memcmp(Purl, "I_NEW_IMAGE=", 12))
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_IMAGE"); }
                Purl+=12; remaining-=12;
                ret=GetString(I_NEW_IMAGE,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad
Admin_Confirm I_NEW_IMAGE"); }
                Purl+=ret; remaining-=ret;

                if(remaining<16)                        // parse
I_NEW_THUMBNAIL
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_THUMBNAIL"); }
                if(memcmp(Purl, "I_NEW_THUMBNAIL=",
16))
                { PARSE_ERROR("missing Admin_Confirm
I_NEW_THUMBNAIL"); }
                Purl+=16; remaining-=16;

ret=GetString(I_NEW_THUMBNAIL,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad
Admin_Confirm I_NEW_THUMBNAIL"); }
                Purl+=ret; remaining-=ret;

                // Admin_Confirm may be invoked using the
"submit" button which would
                // put extra parameters on the command line.
Ignore the extras.

                /* if(remaining)
                * { PARSE_ERROR("bad Admin_Confirm --
extra trailing stuff"); }
                */

                // invoke admin_Confirm then flush output

                if (Admin_Confirm(I_ID, I_NEW_COST,
I_NEW_IMAGE, I_NEW_THUMBNAIL) < 1) {
ReturnDescriptiveError("AdminConfirm Failed!");
                        FlushError();
                        return -1;
                }
                PadIfNeeded(1);
                FlushInteraction();
                return 1;
        }
        if(!strcmp(command,"Admin_Request"))    // is it
admin_request
        {

                if(remaining<5)                         // parse
I_ID
                { PARSE_ERROR("missing Admin_Request
I_ID"); }
                if(memcmp(Purl, "I_ID=", 5))
                { PARSE_ERROR("missing Admin_Request
I_ID"); }
                Purl+=5; remaining-=5;
                ret=GetString(I_ID,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad
Admin_Request I_ID"); }
                Purl+=ret; remaining-=ret;

                if(remaining) { PARSE_ERROR("bad
Admin_Request -- extra trailing stuff"); }

                // invoke admin_request then flush output

                if (Admin_Request(I_ID) < 0 )
                {

ReturnDescriptiveError("AdminRequest Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(2);
                FlushInteraction();
                return 1;
        }

        if(!strcmp(command,"CachedPromo"))      // is it
promo_proc?
        {
                if(remaining<5)                         // parse
subject
                { PARSE_ERROR("missing PromoProc
random item"); }
                if(memcmp(Purl, "num=", 4))
                { PARSE_ERROR("missing PromoProc num");
}
                Purl+=4; remaining-=4;
                ret=GetLong(&randomnum,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Promo
random item num"); }
                Purl+=ret; remaining-=ret;
                CachedPromoImages(randomnum);
                FlushEternallyCachedInteraction();
                return 1;
        }
        if(!strcmp(command,"PP_det"))       // is it promo_proc?
        {
                if(remaining<4)                         // parse
subject
```

```
                        { PARSE_ERROR("missing PromoProc
random item"); }
                        if(memcmp(Purl, "id=", 3))
                        { PARSE_ERROR("missing PromoProc num");
}
                        Purl+=3; remaining-=3;
                        ret=GetLong(&randomnum,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Promo Item
Id"); }
                        Purl+=ret; remaining-=ret;
                        PP_Detail(randomnum);
                        FlushEternallyCachedInteraction();
                        return 1;
                }
                if (!strcmp(command,"TopFrame"))
                {
                        if(remaining<5)                         // parse
subject
                                { PARSE_ERROR("missing
TopFrame type"); }
                        if(memcmp(Purl, "Type=", 5))
                                { PARSE_ERROR("missing
TopFrame type"); }
                        Purl+=5; remaining-=5;
                        ret=GetString(type,2,Purl,Wall);
                        Purl+=ret; remaining-=ret;

                        if(remaining < 8)                       //
parse subject
                                { PARSE_ERROR("missing
TopFrame subject"); }
                        if(memcmp(Purl, "subject=", 8))
                                { PARSE_ERROR("missing
TopFrame subject"); }
                        Purl+=8; remaining-=8;
                        ret=GetString(Subject,50,Purl,Wall);

                        TopFrame(type, Subject);
                        FlushInteraction();
                        return 1;
                }

                if(!strcmp(command,"EC_Promo"))       // is it
promo_proc?
                {

                        if(remaining<5)                         // parse
subject
                        { PARSE_ERROR("missing PromoProc item");
}
                        if(memcmp(Purl, "num=", 4))
                        { PARSE_ERROR("missing PromoProc
SUBJECT"); }
                        Purl+=4; remaining-=4;
                        ret=GetLong(&randomnum,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Best_Sellers
SUBJECT"); }
                        Purl+=ret; remaining-=ret;
                        CachedPromoImages(randomnum);
                        FlushEternallyCachedInteraction();
                        return 1;
                }
                if(!strcmp(command,"Best_Sellers"))       // is it
best_sellers?
                {

                        if(remaining<8)                         // parse
subject
                        { PARSE_ERROR("missing Best_Sellers
SUBJECT"); }
                        if(memcmp(Purl, "SUBJECT=", 8))
                        { PARSE_ERROR("missing Best_Sellers
SUBJECT"); }
                        Purl+=8; remaining-=8;
                        ret=GetString(SUBJECT,32,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Best_Sellers
SUBJECT"); }
                        Purl+=ret; remaining-=ret;


                        if(remaining) { PARSE_ERROR("bad
Best_Sellers -- extra trailing stuff"); }

                        // invoke best_sellers and flush output

                        if (Best_Sellers(SUBJECT) < 0)
                        {
                                ReturnDescriptiveError("BestSellers
Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(12);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Buy_Confirm"))       // is it
buy_confirm?
                {

                        if(remaining<9)
                        { PARSE_ERROR("missing Buy_Confirm
STREET_1"); }
                        if(memcmp(Purl, "STREET_1=", 9))
                        { PARSE_ERROR("missing Buy_Confirm
STREET_1"); }
                        Purl+=9; remaining-=9;
                        ret=GetString(STREET_1,48,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Buy_Confirm
STREET_1"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining<9)
                        { PARSE_ERROR("missing Buy_Confirm
STREET_2"); }
                        if(memcmp(Purl, "STREET_2=", 9))
                        { PARSE_ERROR("missing Buy_Confirm
STREET_2"); }
                        Purl+=9; remaining-=9;
                        ret=GetString(STREET_2,48,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Buy_Confirm
STREET_2"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining<5)
                        { PARSE_ERROR("missing Buy_Confirm
CITY"); }
                        if(memcmp(Purl, "CITY=", 5))
                        { PARSE_ERROR("missing Buy_Confirm
CITY"); }
                        Purl+=5; remaining-=5;
                        ret=GetString(CITY,32,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Buy_Confirm
CITY"); }
                        Purl+=ret; remaining-=ret;
```

```
                if(remaining<6)
                { PARSE_ERROR("missing Buy_Confirm
STATE"); }
                if(memcmp(Purl, "STATE=", 6))
                { PARSE_ERROR("missing Buy_Confirm
STATE"); }
                Purl+=6; remaining-=6;
                ret=GetString(STATE,24,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
STATE"); }
                Purl+=ret; remaining-=ret;

                if(remaining<4)
                { PARSE_ERROR("missing Buy_Confirm
ZIP"); }
                if(memcmp(Purl, "zip=", 4))
                { PARSE_ERROR("missing Buy_Confirm
ZIP"); }
                Purl+=4; remaining-=4;
                ret=GetString(ZIP,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
ZIP"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Confirm
COUNTRY"); }
                if(memcmp(Purl, "COUNTRY=", 8))
                { PARSE_ERROR("missing Buy_Confirm
COUNTRY"); }
                Purl+=8; remaining-=8;
                ret=GetString(COUNTRY,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
COUNTRY"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Confirm
CC_TYPE"); }
                if(memcmp(Purl, "CC_TYPE=", 8))
                { PARSE_ERROR("missing Buy_Confirm
CC_TYPE"); }
                Purl+=8; remaining-=8;
                ret=GetString(CC_TYPE,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
CC_TYPE"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Confirm
CC_NAME"); }
                if(memcmp(Purl, "CC_NAME=", 8))
                { PARSE_ERROR("missing Buy_Confirm
CC_NAME"); }
                Purl+=8; remaining-=8;
                ret=GetString(CC_NAME,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
CC_NAME"); }
                Purl+=ret; remaining-=ret;

                if(remaining<10)
                { PARSE_ERROR("missing Buy_Confirm
CC_NUMBER"); }
                if(memcmp(Purl, "CC_NUMBER=", 10))
                { PARSE_ERROR("missing Buy_Confirm
CC_NUMBER"); }
                Purl+=10; remaining-=10;
                ret=GetString(CC_NUMBER,24,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
CC_NUMBER"); }
                Purl+=ret; remaining-=ret;

                if(remaining<10)
                { PARSE_ERROR("missing Buy_Confirm
CC_EXPIRY"); }
                if(memcmp(Purl, "CC_EXPIRY=", 10))
                { PARSE_ERROR("missing Buy_Confirm
CC_EXPIRY"); }
                Purl+=10; remaining-=10;
                ret=GetString(CC_EXPIRY,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
CC_EXPIRY"); }
                Purl+=ret; remaining-=ret;

                if(remaining<9)
                { PARSE_ERROR("missing Buy_Confirm
SHIPPING"); }
                if(memcmp(Purl, "SHIPPING=", 9))
                { PARSE_ERROR("missing Buy_Confirm
SHIPPING"); }
                Purl+=9; remaining-=9;
                ret=GetString(SHIPPING,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Confirm
SHIPPING"); }
                Purl+=ret; remaining-=ret;

                if (Buy_Confirm(STREET_1, STREET_2,
CITY, STATE, ZIP, COUNTRY,
                        CC_TYPE, CC_NAME,
CC_NUMBER, CC_EXPIRY, SHIPPING) < 0)
                {

ReturnDescriptiveError("BuyConfirm Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(3);
                FlushInteraction();
                return 1;


        }
        if(!strcmp(command,"Buy_Request"))      // is it
buy_request
        {

                if(remaining<9)
                { PARSE_ERROR("missing Buy_Request
customer"); }
                if(memcmp(Purl, "customer=", 9))
                { PARSE_ERROR("missing Buy_Request
customer"); }
                Purl+=9; remaining-=9;
                ret=GetString(customer,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
customer"); }
                Purl+=ret; remaining-=ret;

                if(remaining<6)
                { PARSE_ERROR("missing Buy_Request
UNAME"); }
                if(memcmp(Purl, "UNAME=", 6))
                { PARSE_ERROR("missing Buy_Request
UNAME"); }
                Purl+=6; remaining-=6;
```

```
                ret=GetString(UNAME,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
UNAME"); }
                Purl+=ret; remaining-=ret;

                if(remaining<7)
                { PARSE_ERROR("missing Buy_Request
PASSWD"); }
                if(memcmp(Purl, "PASSWD=", 7))
                { PARSE_ERROR("missing Buy_Request
PASSWD"); }
                Purl+=7; remaining-=7;
                ret=GetString(PASSWD,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
PASSWD"); }
                Purl+=ret; remaining-=ret;

                if(remaining<10)
                { PARSE_ERROR("missing Buy_Request
BIRTHDATE"); }
                if(memcmp(Purl, "BIRTHDATE=", 10))
                { PARSE_ERROR("missing Buy_Request
BIRTHDATE"); }
                Purl+=10; remaining-=10;
                ret=GetString(BIRTHDATE,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
BIRTHDATE"); }
                Purl+=ret; remaining-=ret;

                if(remaining<6)
                { PARSE_ERROR("missing Buy_Request
FNAME"); }
                if(memcmp(Purl, "FNAME=", 6))
                { PARSE_ERROR("missing Buy_Request
FNAME"); }
                Purl+=6; remaining-=6;
                ret=GetString(FNAME,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
FNAME"); }
                Purl+=ret; remaining-=ret;

                if(remaining<6)
                { PARSE_ERROR("missing Buy_Request
LNAME"); }
                if(memcmp(Purl, "LNAME=", 6))
                { PARSE_ERROR("missing Buy_Request
LNAME"); }
                Purl+=6; remaining-=6;
                ret=GetString(LNAME,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
LNAME"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Request
STREET1"); }
                if(memcmp(Purl, "STREET1=", 8))
                { PARSE_ERROR("missing Buy_Request
STREET1"); }
                Purl+=8; remaining-=8;
                ret=GetString(STREET1,48,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
STREET1"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Request
STREET2"); }
                if(memcmp(Purl, "STREET2=", 8))
                { PARSE_ERROR("missing Buy_Request
STREET2"); }
                Purl+=8; remaining-=8;
                ret=GetString(STREET2,48,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
STREET2"); }
                Purl+=ret; remaining-=ret;

                if(remaining<5)
                { PARSE_ERROR("missing Buy_Request
CITY"); }
                if(memcmp(Purl, "CITY=", 5))
                { PARSE_ERROR("missing Buy_Request
CITY"); }
                Purl+=5; remaining-=5;
                ret=GetString(CITY,32,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
CITY"); }
                Purl+=ret; remaining-=ret;

                if(remaining<6)
                { PARSE_ERROR("missing Buy_Request
STATE"); }
                if(memcmp(Purl, "STATE=", 6))
                { PARSE_ERROR("missing Buy_Request
STATE"); }
                Purl+=6; remaining-=6;
                ret=GetString(STATE,24,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
STATE"); }
                Purl+=ret; remaining-=ret;

                if(remaining<4)
                { PARSE_ERROR("missing Buy_Request
ZIP"); }
                if(memcmp(Purl, "zip=", 4))
                { PARSE_ERROR("missing Buy_Request
ZIP"); }
                Purl+=4; remaining-=4;
                ret=GetString(ZIP,16,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
ZIP"); }
                Purl+=ret; remaining-=ret;

                if(remaining<8)
                { PARSE_ERROR("missing Buy_Request
COUNTRY"); }
                if(memcmp(Purl, "COUNTRY=", 8))
                { PARSE_ERROR("missing Buy_Request
COUNTRY"); }
                Purl+=8; remaining-=8;
                ret=GetString(COUNTRY,64,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
COUNTRY"); }
                Purl+=ret; remaining-=ret;

                if(remaining<6)
                { PARSE_ERROR("missing Buy_Request
PHONE"); }
                if(memcmp(Purl, "PHONE=", 6))
                { PARSE_ERROR("missing Buy_Request
PHONE"); }
                Purl+=6; remaining-=6;
                ret=GetString(PHONE,24,Purl,Wall);
                if(ret<1) { PARSE_ERROR("bad Buy_Request
PHONE"); }
                Purl+=ret; remaining-=ret;
```

```
                        if(remaining<6)
                        { PARSE_ERROR("missing Buy_Request
EMAIL"); }
                        if(memcmp(Purl, "EMAIL=", 6))
                        { PARSE_ERROR("missing Buy_Request
EMAIL"); }
                        Purl+=6; remaining-=6;
                        ret=GetString(EMAIL,64,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Buy_Request
EMAIL"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining<5)
                        { PARSE_ERROR("missing Buy_Request
DATA"); }
                        if(memcmp(Purl, "DATA=", 5))
                        { PARSE_ERROR("missing Buy_Request
DATA"); }
                        Purl+=5; remaining-=5;
                        ret=GetString(DATA,1500,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad Buy_Request
DATA"); }
                        Purl+=ret; remaining-=ret;

                        if (Buy_Request(customer, UNAME,
PASSWD, BIRTHDATE, FNAME, LNAME,
                                STREET1, STREET2, CITY,
STATE, ZIP, COUNTRY,
                                PHONE, EMAIL, DATA) < 0)
                        {

ReturnDescriptiveError("Buy_Request Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(4);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Home"))             // is it
HOME?
                {
                        C_ID[0]='Z';    // home parameter.  optional
default -1
                        if(remaining)
                        {
                                if(remaining<5)
                                { PARSE_ERROR("bad Home
illformed C_ID"); }
                                if(memcmp(Purl, "C_ID=", 5))
                                { PARSE_ERROR("bad Home
illformed C_ID"); }
                                Purl+=5; remaining-=5;
                                ret=GetString(C_ID,16,Purl,Wall);
                                if(ret<1) { PARSE_ERROR("bad
Home C_ID"); }
                                Purl+=ret; remaining-=ret;

                                if(remaining) {
PARSE_ERROR("bad Home -- extra trailing stuff"); }
                        }

                        // invoke home and flush output

                        if (Home(C_ID) < 0)
                        {
                                ReturnDescriptiveError("Home
Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(5);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"New_Products"))             // is it
New_Products?
                {
                        if(remaining<8)
                        { PARSE_ERROR("missing New_Products
SUBJECT"); }
                        if(memcmp(Purl, "SUBJECT=", 8))
                        { PARSE_ERROR("missing New_Products
SUBJECT"); }
                        Purl+=8; remaining-=8;
                        ret=GetString(SUBJECT,32,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
New_Products SUBJECT"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining) { PARSE_ERROR("bad
New_Products -- extra trailing stuff"); }

                        // invoke new_products and flush output

                        if (New_Products(SUBJECT) < 0)
                        {

ReturnDescriptiveError("NewProducts Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(12);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Order_Display"))            // Is it
order_display?
                {

                        if(remaining<6)
                        { PARSE_ERROR("missing Order_Display
UNAME"); }
                        if(memcmp(Purl, "UNAME=", 6))
                        { PARSE_ERROR("missing Order_Display
UNAME"); }
                        Purl+=6; remaining-=6;
                        ret=GetString(UNAME,64,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
Order_Display UNAME"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining<7)
                        { PARSE_ERROR("missing Order_Display
PASSWD"); }
                        if(memcmp(Purl, "PASSWD=", 7))
                        { PARSE_ERROR("missing Order_Display
PASSWD"); }
                        Purl+=7; remaining-=7;
                        ret=GetString(PASSWD,64,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
Order_Display PASSWD"); }
```

```
                        Purl+=ret; remaining-=ret;

                        if (Order_Display(UNAME, PASSWD) < 0)
                        {

ReturnDescriptiveError("OrderDisplay Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(6);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Order_Inquiry"))            // is it
order_inquiry?
                {
                        if(remaining)                           // no parms
                        { PARSE_ERROR("bad Order_Inquiry -- extra
trailing stuff"); }

                        // invoke order_inquiry and flush output

                        if (Order_Inquiry() < 0)
                        {

ReturnDescriptiveError("OrderInquiry Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(7);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Product_Detail"))           // is it
product detail
                {
                        char BookID[16];                        //
product detail parms

                        if(remaining<7)
                        { PARSE_ERROR("bad Product_Detail
illformed BookID"); }
                        if(memcmp(Purl, "BookID=", 7))
                        {
                                PARSE_ERROR("bad
Product_Detail illformed BookID");
                        }
                        Purl+=7; remaining-=7;
                        ret=GetString(BookID,16,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
Product_Detail BookID"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining)
                        { PARSE_ERROR("bad Product_Detail -- extra
trailing stuff"); }

                        // invoke product_detail and flush output

                        if (Product_Detail(BookID) < 0)
                        {

ReturnDescriptiveError("ProductDetail Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(8);
                        FlushCachedInteraction();

                        return 1;
                }
                if(!strcmp(command,"Search_Request"))           // is it
search request?
                {
                        if(remaining)                           // no parms
                        { PARSE_ERROR("bad Search_Request --
extra trailing stuff"); }

                        // invoke search_request and flush output

                        if (Search_Request() < 0)
                        {

ReturnDescriptiveError("SearchRequest Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(9);
                        FlushInteraction();
                        return 1;
                }
                if(!strcmp(command,"Search_Results"))           // is it
search results
                {
                        char SUBJECT[64];                       //
search results parms
                        char MATCH[64];

                        if(remaining<6)
                        { PARSE_ERROR("missing Search_Results
STYPE"); }
                        if(memcmp(Purl, "STYPE=", 6))
                        { PARSE_ERROR("missing Search_Results
STYPE"); }
                        Purl+=6; remaining-=6;
                        ret=GetString(SUBJECT,64,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
Search_Results STYPE"); }
                        Purl+=ret; remaining-=ret;

                        if(remaining<6)
                        { PARSE_ERROR("missing Search_Results
MATCH"); }
                        if(memcmp(Purl, "MATCH=", 6))
                        { PARSE_ERROR("missing Search_Results
MATCH"); }
                        Purl+=6; remaining-=6;
                        ret=GetString(MATCH,64,Purl,Wall);
                        if(ret<1) { PARSE_ERROR("bad
Search_Results MATCH"); }
                        Purl+=ret; remaining-=ret;

                        if (Search_Results(SUBJECT, MATCH) < 0)
                        {

ReturnDescriptiveError("Search_Results Failed!");
                                FlushError();
                                return -1;
                        }

                        PadIfNeeded(12);
                        FlushInteraction();
```

```
                return 1;
        }
        if(!strcmp(command,"SubjectFrame"))             // is it
subject search results
        {
                char SUBJECT[64];                       //
search results parms
                // -csf : frame for subject search
                // This contains the actual Subject Search result
data.
                Purl+=6; remaining-=6;
                strcpy(SUBJECT, Purl);
                if (SubjectFrame(SUBJECT) < 0)
                {

ReturnDescriptiveError("SubjectFrame Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(10);
                FlushCachedInteraction();
                return 1;
        }
        if(!strcmp(command,"BestSellersFrame"))         // is it
subject search results
        {
                // -csf : frame for Best seller search
                // This contains the actual best seller result data.

                char SUBJECT[64];                       //
search results parms
                Purl+=6; remaining-=6;
                strcpy(SUBJECT, Purl);
                if (BestSellersFrame(SUBJECT) < 0)
                {

ReturnDescriptiveError("BestSellersFrame Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(13);
                FlushCachedInteraction();
                return 1;
        }
        if(!strcmp(command,"NewProductsFrame"))         // is
it subject search results
        {
                char SUBJECT[64];                       //
search results parms
                // -csf : frame for new products search
                // This contains the actual new products result
data.
                Purl+=6; remaining-=6;
                strcpy(SUBJECT, Purl);
                if (NewProductsFrame(SUBJECT) < 0)
                {

ReturnDescriptiveError("NewProductsFrame Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(14);
                FlushCachedInteraction();
                return 1;
        }
        if(!strcmp(command,"Shopping_Cart"))            // is it
shopping_cart?
        {
                if(!remaining) { PARSE_ERROR("bad
Shopping_Cart -- No Parameters"); }

                // The shopping cart is self parsing...  invoke
and flush

                if (Shopping_Cart(Purl, remaining) < 0)
                {

ReturnDescriptiveError("Shopping_Cart Failed!");
                        FlushError();
                        return -1;
                }

                PadIfNeeded(10);
                FlushInteraction();
                return 1;
        }

  // At this point, we've parsed all 14 queries and returned.  If we hit
this
  // point, there is an error somewhere.  Tag it and log it.
        PARSE_ERROR("Websrv 4: TPCWparse:: UNKNOWN
CMD!");
}

int TPCW::Admin_Confirm(char *I_ID, const char *new_cost,
            const char *new_image, const char *new_thumb)
{
        char
I_RELATED1[16],I_RELATED2[16],I_RELATED3[16],I_RELATE
D4[16],I_RELATED5[16];
        SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

    sprintf(query,"AdminUpdate %s", I_ID);

SQLBindCol(hstmt,1,SQL_CHAR,I_RELATED1,sizeof(I_RELATED
1), &resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,I_RELATED2,sizeof(I_RELATED
2), &resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,I_RELATED3,sizeof(I_RELATED
3), &resultlen);

SQLBindCol(hstmt,4,SQL_CHAR,I_RELATED4,sizeof(I_RELATED
4), &resultlen);

SQLBindCol(hstmt,5,SQL_CHAR,I_RELATED5,sizeof(I_RELATED
5), &resultlen);
        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
        if (retcode != SQL_SUCCESS)
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                sprintf(SQL_errormsg, query);
                return -99;
        }
        SQLFetch(hstmt);
        SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

        SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
    sprintf(query,"BEGIN TRANSACTION AC1");
```

```
		retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
		if (retcode != SQL_SUCCESS)
		{

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
			sprintf(SQL_errormsg, query);
			return -99;
		}
		SQLFetch(hstmt);
		SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

		SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
   sprintf(query,"ItemUpdate %s, %s, %s, %s, %s, %s, %s, '%s', '%s'",
I_ID,

I_RELATED1,I_RELATED2,I_RELATED3,I_RELATED4,I_RELA
TED5, new_cost, new_image, new_thumb);
		retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
		if (retcode != SQL_SUCCESS)
		{

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);


SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
			sprintf(query,"ROLLBACK TRANSACTION
AC1");
			retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

			sprintf(SQL_errormsg, "Rolled-back AC1: %s",
query);
			return -99;
		}
		SQLFetch(hstmt);
		SQLFreeHandle(SQL_HANDLE_STMT,hstmt);


		char request[500];
		char response[5000];

		sprintf(request,"GET
/tpcw/update.dll?CMD=UpdateCache&I_ID=%s", I_ID );
		strcat(request," HTTP/1.1\r\nHost: pge\r\nConnection:
Keep-Alive\r\nAccept: text/*\r\nUser-Agent: TPCW ISAPI
DLL\r\n\r\n");

		CMultiLock
isaLock(isaConnect_control,ISA_CONNS,FALSE);
		int
isa=isaLock.Lock(INFINITE,FALSE)-WAIT_OBJECT_0;

		for (int i=0;i<ISA_SERVERS;i++)
		{
			int thesize=0;

isaConnects[isa][i].WriteNow(request,strlen(request)); // Send request
			ret=isaConnects[isa][i].SnagHeader();		//
Wait for ISA to respond
			if(ret!=500)				// Successful
request?
			{
				ZeroMemory(response, 5000);

thesize=isaConnects[isa][i].Read(response,5000); // get response
packet
					response[thesize]=0;
// null terminate it
					if (!strstr(response, "SUCCESS")){
						isaLock.Unlock();

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
						sprintf(query,"rollback
transaction AC1");
						retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
						SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
						return -1;
					}
				}
			}
			isaLock.Unlock();


		SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
   sprintf(query,"COMMIT TRANSACTION AC1");
		retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
		if (retcode != SQL_SUCCESS)
		{

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
			sprintf(SQL_errormsg, query);
			return -99;
		}
		SQLFetch(hstmt);
		SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

		SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
   sprintf(query,"ProductDetailProc %s", I_ID);

SQLBindCol(hstmt,1,SQL_CHAR,I_TITLE,sizeof(I_TITLE),
&resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,I_DESC,sizeof(I_DESC),
&resultlen);
		SQLBindCol(hstmt,4,SQL_DOUBLE,&cost,0, &resultlen);
		SQLBindCol(hstmt,5,SQL_DOUBLE,&srp,0, &resultlen);

SQLBindCol(hstmt,6,SQL_CHAR,I_BACKING,sizeof(I_BACKING)
, &resultlen);
		SQLBindCol(hstmt,7,SQL_INTEGER,&pages,0,
&resultlen);

SQLBindCol(hstmt,8,SQL_CHAR,I_PUBLISHER,sizeof(I_PUBLISH
ER), &resultlen);

SQLBindCol(hstmt,9,SQL_C_TYPE_TIMESTAMP,&sqlTime,0,
&resultlen);

SQLBindCol(hstmt,11,SQL_CHAR,I_DIMENSION,sizeof(I_DIMEN
SION), &resultlen);

SQLBindCol(hstmt,12,SQL_CHAR,I_ISBN,sizeof(I_ISBN),
&resultlen);

SQLBindCol(hstmt,13,SQL_CHAR,I_IMAGE,sizeof(I_IMAGE),
&resultlen);
```

```
SQLBindCol(hstmt,14,SQL_CHAR,I_THUMB,sizeof(I_THUMB),
&resultlen);

SQLBindCol(hstmt,15,SQL_CHAR,A_FNAME,sizeof(A_FNAME),
&resultlen);

SQLBindCol(hstmt,16,SQL_CHAR,A_LNAME,sizeof(A_LNAME),
&resultlen);

        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
        if (retcode != SQL_SUCCESS)
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                sprintf(SQL_errormsg, query);
                return -99;
        }

        SQLFetch(hstmt);

        pubdate.year       = sqlTime.year;
        pubdate.month      = sqlTime.month;
        pubdate.day        = sqlTime.day;
        pubdate.hour       = sqlTime.hour;
        pubdate.minute     = sqlTime.minute;
        pubdate.second     = sqlTime.second;
        SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

        oBuf << "<html><head><title>TPC-W Admin Confirm
Page</title></head><body BGCOLOR=\"#FFFFFF\">\
                <h1 ALIGN=\"CENTER\">TPC Web
Commerce Benchmark (TPC-W)</h1>\
                <h2 ALIGN=\"CENTER\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" BORDER=\"0\" WIDTH=\"288\"
HEIGHT=\"67\">\
                </h2><h2 ALIGN=\"CENTER\">Admin
Confirm Page</h2><h2>Product Updated</h2><h2>\
                Title:      "
                << I_TITLE
                << "</h2><p>Author: "
                << A_FNAME << " " << A_LNAME
                << "<br><p>Description: "
                << I_DESC
                << "</p><p><img
SRC=\"http://imgsrv.tpcw.net/tpcw/"
                << I_IMAGE
                << "\" ALIGN=\"RIGHT\"
BORDER=\"0\"><img SRC=\"http://imgsrv.tpcw.net/tpcw/"
                << I_THUMB
                << "\"
ALIGN=\"RIGHT\"></p><blockquote><p><b>Suggested Retail:
    ";
   sprintf(str,"$%8.2lf",srp);              // print SRP
        oBuf << str
                << "<br>Our Price:<font
COLOR=\"#DD0000\">";
   sprintf(str,"$%8.2lf",cost);             // print COST
        oBuf << str
                << "</b></font><br>You Save: <font
COLOR=\"#DD0000\">";
   sprintf(str,"$%8.2lf",srp - cost);       // print savings
        oBuf << str
                <<
"</b></font><br></blockquote><dl><dt><font size=\"2\">\
                Backing:            "
                << I_BACKING << ", " << long(pages) << "
pages<br>Published by:          "
                << I_PUBLISHER
                << "<br>Publication date:      ";

sprintf(str,"%02d-%02d-%04d",pubdate.month,pubdate.day,pubdate.y
ear);
        oBuf << str
                << "<br>Dimensions (in inches): "
                << I_DIMENSION
                << "<br>ISBN:                "
                << I_ISBN
                << "</font></dt></dl></dl><br clear=\"all\"><p
align=\"center\"><br><a HREF=\"tpcw.dll?CMD=Search_Request\">\
                <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                <a HREF=\"tpcw.dll?CMD=Home\">\
                <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                </p></body></hTmL>";

/*
        FPCLib::FpcFetchURLFlags myflags;

        char deleteURLstring1[100];
        char deleteURLstring2[100];
        sprintf(deleteURLstring1,
"http://192.168.130.2/tpcw/tpcw.dll?CMD=PP_det&id=%s", I_ID);
        sprintf(deleteURLstring2,
"http://192.168.130.2/tpcw/tpcw.dll?CMD=CachedPromo&num=%s",
I_ID);

        //Fetch a NULL.html url that has an immediate expiration
to replace/delete the URLs
        myflags = FPCLib::FpcFetchURLFlags(22);
        hr
=pcache_contents->FetchUrl("http://192.168.130.2/null.html",deleteU
RLstring1,0,myflags);
        hr
=pcache_contents->FetchUrl("http://192.168.130.2/null.html",deleteU
RLstring2,0,myflags);


        myflags = FPCLib::FpcFetchURLFlags(4);
        hr
=pcache_contents->FetchUrl("",deleteURLstring1,0,myflags);
        hr
=pcache_contents->FetchUrl("",deleteURLstring2,0,myflags);
        */

        return 1;
}

int TPCW::Admin_Request(char *I_ID)
{

   sprintf(query,"ProductDetailProc %s", I_ID);
        SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,I_TITLE,sizeof(I_TITLE),
&resultlen);
        SQLBindCol(hstmt,4,SQL_DOUBLE,&cost,0, &resultlen);
        SQLBindCol(hstmt,5,SQL_DOUBLE,&srp,0, &resultlen);

SQLBindCol(hstmt,13,SQL_C_CHAR,I_IMAGE,sizeof(I_IMAGE),
&resultlen);
```

```
SQLBindCol(hstmt,14,SQL_C_CHAR,I_THUMB,sizeof(I_THUMB),
&resultlen);

SQLBindCol(hstmt,15,SQL_C_CHAR,A_FNAME,sizeof(A_FNAME
), &resultlen);

SQLBindCol(hstmt,16,SQL_C_CHAR,A_LNAME,sizeof(A_LNAME
), &resultlen);
        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
        if (retcode != SQL_SUCCESS)
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                sprintf(SQL_errormsg, query);
                return -99;
        }
        SQLFetch(hstmt);
        SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
  // Merge the data returned from the SQL query into the SegFile
template
  // for the response page.  Alternately call PUTSEG and shove stuff
onto
  // the output elfStream.  See the spec for Admin_Request for why
these
  // specific fields and layout are used.

        oBuf << "<html><head><title>TPC-W Product Update
Page</title></head><body BGCOLOR=\"#ffffff\">\
                <h1 ALIGN=\"center\">TPC Web Commerce
Benchmark (TPC-W)</h1><h2 ALIGN=\"center\">\
                <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" BORDER=\"0\" WIDTH=\"288\"
HEIGHT=\"67\"></h2>\
                <h2 ALIGN=\"CENTER\">Admin Request
Page</h2>\
                <h1>Title: "\
                << I_TITLE
                << "</h1> <p>Author: "
                << A_FNAME << " " << A_LNAME
                << "<br><img
SRC=\"http://imgsrv.tpcw.net/tpcw/"
                << I_IMAGE
                << "\" ALIGN=\"RIGHT\"
BORDER=\"0\"><img SRC=\"http://imgsrv.tpcw.net/tpcw/"
                << I_THUMB
                << "\"
ALIGN=\"RIGHT\"></p><blockquote><p><br><form
ACTION=\"http://update.tpcw.net/tpcw/tpcw.dll?\"
METHOD=\"GET\">\
                <input type=hidden Name=CMD
Value=Admin_Confirm><table BORDER=\"0\">\
                <tr><td><b>Suggested Retail:</b></td><td>";
        sprintf(str,"$%8.2lf",srp);                     // put SRP
                oBuf <<    str << "</td></tr><tr><td><b>Our
Current Price:</b></td><td><font COLOR=\"#dd0000\"><b>";
        sprintf(str,"$%8.2lf",cost);                    // put COST
                oBuf << str << "<input TYPE=\"HIDDEN\"
NAME=\"I_ID\" VALUE=\""
                        << I_ID
                        <<
"\"></b></font></td></tr><tr><td><b> Enter New Price</td><td
ALIGN=\"RIGHT\"> $\
                        <input TYPE=\"TEXT\"
NAME=\"I_NEW_COST\">\
                        </b></td></tr><tr><td><b>Enter
New Picture</b></td><td ALIGN=\"CENTER\">\
                        <input TYPE=\"TEXT\"
NAME=\"I_NEW_IMAGE\">\
                        </b></td></tr><td><b>Enter New
Thumbnail</b></td><td ALIGN=\"CENTER\">\
                        <input TYPE=\"TEXT\"
NAME=\"I_NEW_THUMBNAIL\">\
                        </b></td></tr></table><p><br
CLEAR=\"ALL\"><p ALIGN=\"CENTER\"><br><br>\
                        <input TYPE=\"IMAGE\"
NAME=\"Submit\"
SRC=\"http://imgsrv.tpcw.net/tpcw/images/submitchanges.gif\"
HEIGHT=\"30\" WIDTH=\"130\">\
                        <a
HREF=\"tpcw.dll?CMD=Search_Request\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"tpcw.dll?CMD=Home\"><img
SRC=\"http://tpcwww.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        </p></form></body></hTmL>";
        return 1;
}

int TPCW::SubjectFrame(char *Subject)  // stored proc to call
{
    // setup stored proc execution and ensure successful call
    //
  sprintf(query,"SearchSubjectProc_Original_WA '%s'", Subject);
        SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,A_FNAME,sizeof(A_FNAME),
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,A_LNAME,sizeof(A_LNAME),
&resultlen);
        SQLBindCol(hstmt,3,SQL_CHAR,I_ID,16, &resultlen);
        SQLBindCol(hstmt,4,SQL_CHAR,I_TITLE,64,
&resultlen);
        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);

        if (retcode != SQL_SUCCESS)
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                sprintf(SQL_errormsg, query);
                return -99;
        }

        oBuf <<"<HTML><HEAD><TITLE>SEARCH RESULT
PAGE FRAME</TITLE></HEAD><BODY><CENTER>\
                </H2></CENTER><TABLE BORDER=1

ALIGN=CENTER><TR><TD>Author</TD><TD>Title</TD></TR>
";
        while (SQLFetch(hstmt) != SQL_NO_DATA)
        {
                oBuf << "<tr><td>" << A_FNAME << " " <<
A_LNAME
                << "</td><td><a
HREF=\"http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID="
                << I_ID << "\" TARGET=\"_top\">"
<< I_TITLE << "</A></td></tr>\r\n";
```

```
            }
            SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
            oBuf <<"</TABLE><center><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Cart.gif\"
ALT=\"Shopping Cart\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"
TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a></center></BODY></HTML>";
            return 1;
}

int TPCW::BestSellersFrame(char *Subject)  // stored proc to call
{

      // setup stored proc execution and ensure successful call
      //
   sprintf(query,"BestSellersProc '%s'", Subject);
            SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,A_FNAME,sizeof(A_FNAME),
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,A_LNAME,sizeof(A_LNAME),
&resultlen);
            SQLBindCol(hstmt,3,SQL_CHAR,I_ID,16, &resultlen);

SQLBindCol(hstmt,4,SQL_CHAR,I_TITLE,sizeof(I_TITLE),
&resultlen);
            retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
            if (retcode != SQL_SUCCESS)
            {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
            }

            oBuf <<"<HTML><HEAD><TITLE>BEST SELLERS
FRAME</TITLE></HEAD><BODY><TABLE BORDER=1

ALIGN=CENTER><TR><TD>Author</TD><TD>Title</TD></TR>
";
            while (SQLFetch(hstmt) != SQL_NO_DATA)
            {
                        oBuf << "<tr><td>" << A_FNAME << " " <<
A_LNAME
                                    << "</td><td><a
HREF=\"http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID="
                                    << I_ID << "\" TARGET=\"_top\">"
<< I_TITLE << "</A></td></tr>\r\n";
            }
            SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
            oBuf <<"</TABLE><center><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Cart.gif\"
ALT=\"Shopping Cart\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"
TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a></center></BODY></HTML>";
            return 1;
}

int TPCW::NewProductsFrame(char *Subject)  // stored proc to call
{
      // setup stored proc execution and ensure successful call
      //

   sprintf(query,"NewBooksProc_WA '%s'", Subject);
            SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,A_FNAME,sizeof(A_FNAME),
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,A_LNAME,sizeof(A_LNAME),
&resultlen);
            SQLBindCol(hstmt,3,SQL_CHAR,&I_ID,16, &resultlen);

SQLBindCol(hstmt,4,SQL_CHAR,I_TITLE,sizeof(I_TITLE),
&resultlen);
            retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
            if (retcode != SQL_SUCCESS)
            {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
            }

            oBuf <<"<HTML><HEAD><TITLE>NEW PRODUCTS
FRAME</TITLE></HEAD><BODY><CENTER>\
                        </H2></CENTER><BR><TABLE
BORDER=1

ALIGN=CENTER><TR><TD>Author</TD><TD>Title</TD></TR>
";
            while (SQLFetch(hstmt) != SQL_NO_DATA)
            {
                        oBuf << "<tr><td>" << A_FNAME << " " <<
A_LNAME
                                    << "</td><td><a
HREF=\"http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID="
                                    << I_ID << "\" TARGET=\"_top\">"
<< I_TITLE << "</A></td></tr>\r\n";
            }
            SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
            oBuf <<"</TABLE><center><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Cart.gif\"
ALT=\"Shopping Cart\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
```

```
t\" TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"
TARGET=\"_top\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a></center></BODY></HTML>";
                return 1;
}

int TPCW::Best_Sellers(const char *Subject)
{
   // Best_Sellers just invokes Best_New_Search with the appropriate
   // query.  The interesting columns output from
BestSellersBooksProc
   // start at column 2.

                // MMC - 02/20/02 Trying to see if there is a contention
problem with the ITEM table
                // as we approach 10K WIPs.  For now, will always send
back ITEM_ID=1 as the Promo Proc
                // for all pages
                // randomnum = 1;
                randomnum = Irand32(&seed , 1, ITEM_COUNT);

                oBuf << "<HTML><HEAD><TITLE>Best Sellers Page -
Subject: ";
                oBuf << Subject;                        // otherwise, output
token
                oBuf << "</TITLE></HEAD><FRAMESET border=0
frameBorder=0 frameSpacing=0 rows=31%,36%,31%>";
                oBuf << "<FRAME

SRC=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Typ
e=" << "b" <<"&subject=" << Subject << "\">";
                oBuf << "<FRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" FRAMEBORDER=0>";
                oBuf << "<FRAME SRC=\"http://" << CACHESERVER
<< "/tpcw/tpcw.dll?CMD=BestSellersFrame&value=" << Subject <<
"\"></FRAMESET></hTmL>";
                return 1;
}

int TPCW::Buy_Confirm(const char *STREET_1,
                    const char *STREET_2,   const char *CITY,
                    const char *STATE,      const char *ZIP,
                    const char *COUNTRY,    const char *CC_TYPE,
                    const char *CC_NAME,    const char *CC_NUMBER,
                    const char *CC_EXPIRY,  const char *SHIPPING)
{
   session=getSessionId();    // read cookie & get session
                if (session <0) return 1;

                strcpy(ship_addr_id,"0");
                ship_co_id=0;

                sprintf( query, "GetNext_O_ID %s"
,Sessions[session].C_ID);

                SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                SQLBindCol(hstmt,1,SQL_CHAR,o_id,16, &resultlen);
                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);

                if (retcode != SQL_SUCCESS)
                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
                }
                SQLFetch(hstmt);
                SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                if (retcode != SQL_SUCCESS)
                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
                }

                if(STREET_1[0] || STREET_2[0] || CITY[0] || STATE[0] ||
ZIP[0] || COUNTRY[0])
                {

                        // user specified shipping.  Add it as needed.
Setup query and insure success
                        sprintf( query,
                                "InsertAddressAsNeeded '%s', '%s',
'%s', '%s', '%s', '%s'"
                                ,STREET_1, STREET_2, CITY,
STATE, ZIP, COUNTRY);


SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_CHAR,ship_addr_id,16, &resultlen);

SQLBindCol(hstmt,2,SQL_INTEGER,&ship_co_id,0, &resultlen);
                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                sprintf(SQL_errormsg, query);
                                return -99;
                        }
                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                }

                /// GO DO THE CREDIT CARD VERIFICATION
   DoPGEauthorization(o_id,CC_NUMBER,auth);        // invoke PGE
                // MMC - 04/02/01 for no PGE uncomment lines below
                //Sleep (2000);
                //strcpy(auth, "S~H&0Kq~8ZgxRW.");


                // insert order into orders table.  Insure successful call
                SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                sprintf(query,"InsertOrder %s,  %lf, %lf, %lf, '%s', %s, %d,
%lf, %s, '%s', '%s', '%s', '%s', '%s', %lf, %d",
                        Sessions[session].C_ID,
Sessions[session].SubTotal, Sessions[session].Tax,
Sessions[session].Total,
                        SHIPPING, ship_addr_id,
Sessions[session].items, Sessions[session].Discount, o_id, CC_TYPE,
                        CC_NUMBER, CC_NAME, auth,
CC_EXPIRY, Sessions[session].Total, ship_co_id);

                CartList *list=Sessions[session].list;
```

```
        for (list;list!=NULL;list=list->next)
        {
                char temp[100];
                sprintf(temp,", %s, %d", list->ID, list->QTY);
                strcat(query, temp);
        }
        for (int i=0;i<100-Sessions[session].items;i++)
        {
                strcat(query, ",0,0");
        }

        oBuf << "<html><head><title>Order
Confirmation</title></head><body BGCOLOR=\"#FFFFFF\">\
                <h1 ALIGN=\"center\">TPC Web Commerce
Benchmark (TPC-W)</h1><h2 ALIGN=\"CENTER\">Buy Confirm
Page</h2>\
                <blockquote><h2 ALIGN=\"left\">Order
Information:</h2>\
                <table BORDER=\"1\" CELLSPACING=\"0\"
CELLPADDING=\"0\"><tr><td><b>Qty</b></td><td><b>Product</
b></td></tr>";

        list=Sessions[session].list;
   for(list;list!=NULL;list=list->next)
   {
                char cost[16],
                        srp[16];
                sprintf(cost,"$%8.2lf",list->COST);
                sprintf(srp,"$%8.2lf",list->SRP);
                oBuf <<  "<tr><td VALIGN=\"top\">"    <<
long(list->QTY)
                        << "</td><td VALIGN=\"top\"><i>"
<< list->TITLE
                        << "</i> - Backing: "           <<
list->BACKING
                        << "<br>SRP. "                  << srp
                        << ", <font
COLOR=\"#aa0000\"><b>Your Price: " << cost
                        << "</b></font></td></tr>\r\n";
   }

        char New_SC_filename[256];
        char Old_SC_filename[256];

        int dir = session % 100;

sprintf(Old_SC_filename,"C:\\ShoppingCarts\\%d\\%d_%d.SC", dir,
session, Sessions[session].buycount);

sprintf(New_SC_filename,"C:\\ShoppingCarts\\%d\\%d_%d.SC", dir,
session, Sessions[session].buycount + 1);

        // empty the cart
        CartList *temp;
   while(Sessions[session].list!=NULL)
   {
                temp = Sessions[session].list;
                Sessions[session].list =
Sessions[session].list->next;
                delete temp;
   }
   Sessions[session].items=0;
        _ftime(&Sessions[session].DATE);
        if ( StoreBCCart(session) == STORECART_ERROR )
                return -98;

        char sc_ptr[256];
        sprintf(sc_ptr, ", %d, '%s'", Sessions[session].SC_ID,
New_SC_filename);
        strcat(query, sc_ptr);

        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
        if (retcode == SQL_SUCCESS) {
                remove(Old_SC_filename);
                Sessions[session].buycount++;
        }
        else
        {
                sprintf(SQL_errormsg, query);
                char ODBC_errormsg[512];
                ProcessLogMessages(SQL_HANDLE_STMT,
hstmt, "SQLExecuteDirect() Failed\n\n", TRUE, ODBC_errormsg);
                strcat(SQL_errormsg, ODBC_errormsg);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                return -99;
        }

        SQLFetch(hstmt);
        SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

        ////////////////////////////////////////////////////////////////

   // Merge the data returned from the SQL query into the SegFile
template
   // for the response page.  Alternately call PUTSEG and shove stuff
onto
   // the output elfStream.  See the spec for Buy_Confirm for why
these
   // specific fields and layout are used.


   oBuf << "</table><h2 ALIGN=\"left\">Your Order has been
processed.</h2>\
                <table BORDER=\"1\" CELLPADDING=\"5\"
CELLSPACING=\"0\"><tr><td><h4>Subtotal with discount";
        char discount[4];
        sprintf(discount,"%.2f",Sessions[session].Discount*100);

sprintf(junk,"(%s%%):</h4></td><td><h4>$%8.2lf",discount,Session
s[session].SubTotal);    // subtotal
        oBuf << junk;
   sprintf(junk,"$%8.2lf",Sessions[session].Tax);         // tax
        oBuf << "</h4></td></tr><tr><td><h4>Tax
(8.25%):</h4></td><td><h4>" << junk;
   sprintf(junk,"$%8.2lf",Sessions[session].Shipping);    // shipping
        oBuf << "</h4></td></tr><tr><td><h4>Shipping &amp;
Handling:</h4></td><td><h4>" << junk;
        oBuf <<
"</h4></td></tr><tr><td><h4>Total:</h4></td><td><h4>" ;
   sprintf(junk,"$%8.2lf",Sessions[session].Total);       // Total
        oBuf << junk << "</h4></td></tr></table><br><h2>Order
Number:  " << o_id
                << "</h2><h1>Thank you for shopping at
TPC-W</h1><p><center><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\">\
                <img SRC=\"https://";
        oBuf << ThisWebserverName <<
"/tpcw/images/search.gif\" ALT=\"Search Item\" WIDTH=\"120\"
HEIGHT=\"30\">\
                </a><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"><img
SRC=\"https://";
```

```
            oBuf << ThisWebserverName <<
"/tpcw/images/Home.gif\" ALT=\"Home Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a>\

</p></center></blockquote></body></hTmL>";

            return 1;
}

int TPCW::Buy_Request(
                const char *customer,  // "NEW" or "EXISTING"
            const char *UNAME,   const char *PASSWD,  const char
*BIRTHDATE,
            const char *FNAME,   const char *LNAME,   const char
*STREET1,
            const char *STREET2, const char *CITY,    const char
*STATE,
            const char *ZIP,     const char *COUNTRY, const char
*PHONE,
            const char *EMAIL,   const char *DATA)
{
   session=getSessionId();    // read cookie & get session
            if (session <0) return 1;
            int bad=0, rc=0;

            if(!strcmp(customer,"EXISTING"))
            {
                        // Existing customers get user data fields from
the database using
                        // the GetDetailedCustomerInfo stored proc.
Setup the query and
                        // ensure success.
                        //

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                        sprintf(query,"GetDetailedCustomerInfo '%s'",
UNAME);


SQLBindCol(hstmt,1,SQL_CHAR,Sessions[session].C_ID,16,
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,C_PASSWD,sizeof(C_PASSWD),
&resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,Sessions[session].C_FNAME,sizeo
f(Sessions[session].C_FNAME), &resultlen);

SQLBindCol(hstmt,4,SQL_CHAR,Sessions[session].C_LNAME,size
of(Sessions[session].C_LNAME), &resultlen);

SQLBindCol(hstmt,5,SQL_CHAR,C_PHONE,sizeof(C_PHONE),
&resultlen);

SQLBindCol(hstmt,6,SQL_CHAR,C_EMAIL,sizeof(C_EMAIL),
&resultlen);

SQLBindCol(hstmt,9,SQL_DOUBLE,&Sessions[session].Discount,0,
&resultlen);

SQLBindCol(hstmt,11,SQL_CHAR,C_STREET1,sizeof(C_STREET1
), &resultlen);

SQLBindCol(hstmt,12,SQL_CHAR,C_STREET2,sizeof(C_STREET2
), &resultlen);

SQLBindCol(hstmt,13,SQL_CHAR,C_CITY,sizeof(C_CITY),
&resultlen);

SQLBindCol(hstmt,14,SQL_CHAR,C_STATE,sizeof(C_STATE),
&resultlen);

SQLBindCol(hstmt,15,SQL_CHAR,C_ZIP,sizeof(C_ZIP),
&resultlen);

SQLBindCol(hstmt,16,SQL_CHAR,C_COUNTRY,sizeof(C_COUNT
RY), &resultlen);
                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                    sprintf(SQL_errormsg, query);
                                    return -99;
                        }
                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                        if(strcmp(PASSWD,C_PASSWD))
  // password check
                        {
                                    oBuf << "<B><FONT
COLOR=#FF0000>Incorrect password
entered.</FONT></B><BR>\r\n";
                                    bad=1;
                        }
            }
            else
            {
                        // New customers get user data fields from URL
and pass them to
                        // InsertCustomer stored proc.  Setup the query
and ensure success.
                        //
                        sprintf( query,
                                    "InsertCustomer '%s', '%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s', '%s'",
                                    FNAME, LNAME, PHONE,
EMAIL, BIRTHDATE, DATA, STREET1, STREET2,
                                    CITY, STATE, ZIP ,COUNTRY);


SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                    sprintf(SQL_errormsg, query);
                                    return -99;
                        }

SQLBindCol(hstmt,1,SQL_CHAR,Sessions[session].C_ID,16,
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,C_UNAME,sizeof(C_UNAME),
&resultlen);

SQLBindCol(hstmt,3,SQL_DOUBLE,&Sessions[session].Discount,0,
&resultlen);

                        SQLFetch(hstmt);
```

```
                        strcpy(Sessions[session].C_FNAME,FNAME);
// this is now a known user.
                        strcpy(Sessions[session].C_LNAME,LNAME);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                }

                if(!bad)    // if nothing bad happened (bad passwd etc,
continue)
                {
                        Sessions[session].SubTotal=0.0;    // and then
update the subtotal info
                        int NetQty=0;
                        double LatestPrice;

                        // setup latest price proc and ensure success
                        //
                        CartList *list=Sessions[session].list;
                        for( list; list!=NULL;list=list->next)
                        {
                                sprintf( query, "LatestPriceProc %s",
list->ID);

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_DOUBLE,&LatestPrice,0, &resultlen);
                                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                if (retcode != SQL_SUCCESS)
                                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                        sprintf(SQL_errormsg,
query);
                                        return -99;
                                }
                                if (SQLFetch(hstmt) ==
SQL_NO_DATA) {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                        break;
                                }

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                                list->COST=LatestPrice;
                                Sessions[session].SubTotal
+=LatestPrice * list->QTY;
                                NetQty += list->QTY;
                        }

Sessions[session].SubTotal*=(1-Sessions[session].Discount);

Sessions[session].Tax=Sessions[session].SubTotal*0.0825;
                        Sessions[session].Shipping=3.0+NetQty;

Sessions[session].Total=Sessions[session].SubTotal +
Sessions[session].Tax + Sessions[session].Shipping;

                        _ftime(&Sessions[session].DATE);
                        //MMC (07/16/02) Adding error checking to
address Dell challenge of shop cart durability
                        if ( StoreCart(session) ==
STORECART_ERROR)
                                return -98;
                        char junk[24];
                                oBuf << "<html><head><title>TPC-W Buy
Request</title></head><body BGCOLOR=\"FFFFFF\">\
                                <h1 ALIGN=\"CENTER\">TPC
Web Commerce Benchmark (TPC-W)</h1><hr>\
                                <h2 ALIGN=\"CENTER\">Buy
Request Page</h2><TABLE><TR><TD><form Action=\"tpcw.dll?\"
METHOD=\"GET\">\
                                <input TYPE=\"HIDDEN\"
NAME=CMD Value=Buy_Confirm><blockquote><hr><h2>Billing
Information:</h2></blockquote>\
                                <blockquote><font
size=\"+1\"><I>";
                        if(!strcmp(customer,"EXISTING"))
                        {
                        oBuf <<         " Firstname: "     <<
Sessions[session].C_FNAME
                                << "<br>\r\n Lastname: "      <<
Sessions[session].C_LNAME
                                << "<br>\r\n Addr_street_1: " <<
C_STREET1 << "<br>\r\n Addr_street_2: " << C_STREET2
                                << "<br>\r\n City: "          <<
C_CITY    << "<br>\r\n State: "        << C_STATE
                                << "<br>\r\n Zip: "           << C_ZIP
  << "<br>\r\n Country: "       << C_COUNTRY
                                << "<br>\r\n Email: "         <<
C_EMAIL      << "<br>\r\n Phone: "         << C_PHONE
                                << "<br>\r\n UserName: "      <<
UNAME    << "<br>\r\n C_ID: "
                                << Sessions[session].C_ID <<
"<BR>\r\n";
                        }
                        else
                        {
                                oBuf <<         " Firstname: "     <<
Sessions[session].C_FNAME
                                << "<br>\r\n Lastname: "      <<
Sessions[session].C_LNAME
                                << "<br>\r\n Addr_street_1: " <<
STREET1 << "<br>\r\n Addr_street_2: " << STREET2
                                << "<br>\r\n City: "          << CITY
<< "<br>\r\n State: "         << STATE
                                << "<br>\r\n Zip: "           << ZIP
<< "<br>\r\n Country: "       << COUNTRY
                                << "<br>\r\n Email: "         <<
EMAIL      << "<br>\r\n Phone: "         << PHONE
                                << "<br>\r\n UserName: "      <<
C_UNAME    << "<br>\r\n C_ID: "
                                << Sessions[session].C_ID <<
"<BR>\r\n";
                        }
                        oBuf
<<"</TD><TD></font><hr><h2>Shipping Information:</h2>\
                                <table BORDER=\"0\"
CELLSPACING=\"0\" CELLPADDING=\"0\"
WIDTH=\"500\"><tr><td>\
                                Address 1:</td><td><input
NAME=\"STREET_1\" size=\"40\" VALUE=\"\">\
                                </td></tr><tr><td>Address
2:</td><td><input NAME=\"STREET_2\" size=\"40\" VALUE=\"\">\

</td></tr><tr><td>City:</td><td><input NAME=\"CITY\"
size=\"30\" VALUE=\"\">\

</td></tr><tr><td>State:</td><td><input NAME=\"STATE\"
size=\"20\" VALUE=\"\"></td></tr><tr><td>\
                                zip:</td><td><input NAME=\"zip\"
size=\"10\" VALUE=\"\"></td></tr><tr><td>\
```

```
                                Country:</td><td><input
NAME=\"COUNTRY\" size=\"50\"
VALUE=\"\"></TD></TR></TABLE>\
                                </td></tr></table><hr><h2>Order
Information:</h2>\
                                <table BORDER=\"1\"
CELLSPACING=\"0\"
CELLPADDING=\"0\"><tr><td><b>Qty</b></td>\
                                <td><b>Product</b></td></tr>";

                        list=Sessions[session].list;
                        for(list; list!=NULL; list=list->next)
                        {
                                char srp[20], cost[20];

                                sprintf( srp, "$%8.2lf", list->SRP);
                                sprintf( cost, "$%8.2lf", list->COST
);

                                oBuf <<  "<tr><td
VALIGN=\"top\">"              << long(list->QTY)
                                << "</td><td
VALIGN=\"top\"><i>"           << list->TITLE
                                << "</i> - Backing:"
          << list->BACKING
                                << " SRP. "
        << srp
                                << "<font
COLOR=\"#aa0000\"><b> Your Price: " << cost
                                <<
"</font></td></tr>\r\n";
                        }
                        oBuf << "</table><br><b><table
border=\"0\"><tr><td><b>Subtotal with discount(";

sprintf(junk,"%8.2lf",100*Sessions[session].Discount);
                        oBuf << junk;
                        oBuf << "%):</b></td><td align=\"right\">";
      Sessions[session].SubTotal*=(1-Sessions[session].Discount);
      sprintf(junk,"$%8.2lf",Sessions[session].SubTotal);
                        oBuf << junk <<
"</td></tr><tr><td><b>Tax:</b></td><td align=\"right\">";
                        sprintf(junk,"$%8.2lf",Sessions[session].Tax);
                        oBuf << junk <<
"</td></tr><tr><td><b>Shipping &amp Handling:</b></td><td
align=\"right\">";

sprintf(junk,"$%8.2lf",Sessions[session].Shipping);
                        oBuf << junk <<
"</td></tr><tr><td><b>Total:</b></td><td align=\"right\">";
                        sprintf(junk,"$%8.2lf",Sessions[session].Total);
                        oBuf << junk <<
"</td></tr></b></table><hr><table BORDER=\"1\"
CELLPADDING=\"5\" CELLSPACING=\"0\">\
                        <tr><td>Credit Card Type</td><td>\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"Visa\" CHECKED=\"CHECKED\">Visa\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"MasterCard\">MasterCard\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"Discover\">Discover\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"Amex\">American Express\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"Diners\">Diners\
                        <input TYPE=\"radio\" NAME=\"CC_TYPE\"
VALUE=\"Amex\">American Express</td></tr>\
                        <tr><td>Name on Credit Card</td><td><input
NAME=\"CC_NAME\" size=\"30\" VALUE=\"Z\"</td></tr>\
                        <tr><td>Credit Credit Number</td>\
                        <td><input NAME=\"CC_NUMBER\"
size=\"16\" VALUE=\"7777777777777777\"></td></tr>\
                        <tr><td>Credit Credit Expiration Date</td>\
                        <td><input NAME=\"CC_EXPIRY\"
size=\"15\" VALUE=\"12/31/2010\"></td></tr>\
                        <tr><td>Shipping Method</td><td><input
TYPE=\"radio\" CHECKED NAME=\"SHIPPING\"
VALUE=\"AIR\">AIR\
                        <input TYPE=\"radio\" NAME=\"SHIPPING\"
VALUE=\"UPS\">UPS\
                        <input TYPE=\"radio\" NAME=\"SHIPPING\"
VALUE=\"FEDEX\">FEDEX\
                        <input TYPE=\"radio\" NAME=\"SHIPPING\"
VALUE=\"SHIP\">SHIP\
                        <input TYPE=\"radio\" NAME=\"SHIPPING\"
VALUE=\"COURIER\">COURIER\
                        <input TYPE=\"radio\" NAME=\"SHIPPING\"
VALUE=\"MAIL\">MAIL\
                        </td></tr></table><br><br>\
                        <center><input TYPE=image
NAME=\"Submit\" SRC=\"https://";
                        oBuf << ThisWebserverName <<
"/tpcw/images/processorder.gif\" WIDTH=120 HEIGHT=30>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0\"><img SRC=\"https://";
                        oBuf << ThisWebserverName <<
"/tpcw/images/Cart.gif\" ALT=\"Shopping Cart\" BORDER=\"0\"
WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"><img
SRC=\"https://";
                        oBuf << ThisWebserverName <<
"/tpcw/images/Home.gif\" ALT=\"Home Page\" BORDER=\"0\"
WIDTH=\"120\" HEIGHT=\"30\"></a>\

</form></blockquote></center></body></hTmL>";
                }
                return 1;
}

int TPCW::Home(char *C_ID)
{

   // Get session from cookie or assign a new one
   session=getSessionId();    // read cookie & get session
                if (session <0) return 1;

                oBuf <<"<html><head><title>TPC-W Home
Page</title></head>\
                        <body bgcolor=\"#FFFFFF\"><h1
align=\"center\">TPC Web CommerceBenchmark
(TPC-W)</h1><center><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" WIDTH=\"288\" HEIGHT=\"67\">\
                        <h2 ALIGN=\"CENTER\">Home
Page</h2><h2>";

   if((*C_ID != 'Z') && (*Sessions[session].C_ID == 'Z'))   // User is
known but not in cart. (First Access)
   {
                        sprintf(query, "GetCustName %s", C_ID);

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
```

```
SQLBindCol(hstmt,1,SQL_CHAR,&Sessions[session].C_ID,16,
&resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,Sessions[session].C_FNAME,sizeo
f(Sessions[session].C_FNAME), &resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,Sessions[session].C_LNAME,size
of(Sessions[session].C_LNAME), &resultlen);
                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                sprintf(SQL_errormsg, query);
                                return -99;
                        }
                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                }
                if (*Sessions[session].C_ID != 'Z')
                {

                        oBuf << "Welcome back <font
color=#770000>"
                                << Sessions[session].C_FNAME <<
" "
                                << Sessions[session].C_LNAME <<
"</font>\r\n";
                }
                else
                {
                   /* This if clause triggers during the initial access to a
session
                        by an unknown User ID.                  */
                        oBuf << "Welcome to the TPC-W BookStore --
Buy Lots -- Buy Often<BR><BR>";
                }
                randomnum = Irand32(&seed , 1, ITEM_COUNT);
                oBuf << "<IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" WIDTH=900 HEIGHT=200
SCROLLING=\"NO\" ALIGN=\"MIDDLE\"
FRAMEBORDER=0></IFRAME>";

                oBuf << "<table BORDER=\"0\" WIDTH=\"700\"
ALIGN=\"CENTER\" CELLPADDING=\"6\" CELLSPACING=\"0\"
BGCOLOR=\"#C0C0C0\">\
                        <tr ALIGN=\"CENTER\" VALIGN=\"TOP\"
BGCOLOR=\"#ffffff\">\
                        <td COLSPAN=\"2\" VALIGN=\"MIDDLE\"
WIDTH=\"300\"><img
SRC=\"http://tpcwww.tpcw.net/tpcw/images/New.gif\" ALT=\"New
Books\" WIDTH=\"300\"></td>\
                        <td WIDTH=\"100\"
BGCOLOR=\"#FFFFFF\"></td>\
                        <td COLSPAN=\"2\" WIDTH=\"300\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Best.gif\" ALT=\"Best
Sellers\" WIDTH=\"300\"></td></tr>\
                        <tr>\
                        <td WIDTH=\"150\"><p
ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=ARTS\">Arts</a></p></td>\
                        <td WIDTH=\"150\"><p
ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=BIOGRAPHIES\">Biographies</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=ARTS\">Arts</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=BIOGRAPHIES\">Biographies</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=BUSINESS\">Business</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=CHILDREN\">Children</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=BUSINESS\">Business</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=CHILDREN\">Children</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=COMPUTERS\">Computers</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=COOKING\">Cooking</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>";

                oBuf << "<td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=COMPUTERS\">Computers</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=COOKING\">Cooking</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HEALTH\">Health</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HISTORY\">History</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=HEALTH\">Health</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=HISTORY\">History</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HOME\">Home</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HUMOR\">Humor</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=HOME\">Home</a></p></td>\
```

```
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=HUMOR\">Humor</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=LITERATURE\">Literature</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=MYSTERY\">Mystery</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=LITERATURE\">Literature</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=MYSTERY\">Mystery</a></p></td>\
                        </tr>";

                oBuf << "<tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=NON-FICTION\">Non-fiction</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=PARENTING\">Parenting</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=NON-FICTION\">Non-fiction</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=PARENTING\">Parenting</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=POLITICS\">Politics</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=REFERENCE\">Reference</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=POLITICS\">Politics</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=REFERENCE\">Reference</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=RELIGION\">Religion</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=ROMANCE\">Romance</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=RELIGION\">Religion</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=ROMANCE\">Romance</a></p></td>\
                        </tr>\
                        <tr>";

                oBuf << "<td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SELF-HELP\">Self-help</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SCIENCE-NATURE\">Science-nature</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=SELF-HELP\">Self-help</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=SCIENCE-NATURE\">Science-nature</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SCIENCE-FICTION\">Science-Fiction</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SPORTS\">Sports</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=SCIENCE-FICTION\">Science-Fiction</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=SPORTS\">Sports</a></p></td>\
                        </tr>\
                        <tr>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=TRAVEL\">Travel</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=YOUTH\">Youth</a></p></td>\
                        <td bgcolor=\"#ffffff\" WIDTH=\"50\"></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=TRAVEL\">Travel</a></p></td>\
                        <td><p ALIGN=\"CENTER\"><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&
SUBJECT=YOUTH\">Youth</a></p></td>\
                        </tr>\
                        </table>\
                        <p>";

                oBuf << "<a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Cart.gif\"
ALT=\"Shopping Cart\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                         <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\"><img SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\"
ALT=\"Search Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                          <a HREF=\"https://" << ThisWebserverName
<< "/tpcw/tpcw.dll?CMD=Order_Inquiry\"><img
SRC=\"http://tpcwww.tpcw.net/tpcw/images/status.gif\" ALT=\"Order
Status\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        </p>\
                        </center>\
                        </body>\
                        </hTmL>";
                return 1;
}

int TPCW::New_Products(const char *Subject)
```

```
{
 // New_Products just invokes Best_New_Search with the appropriate
 // query.  The interesting columns output from NewBooksProc
 // start at column 1.

        // MMC - 02/20/02 Trying to see if there is a contention
problem with the ITEM table
        // as we approach 10K WIPs.  For now, will always send
back ITEM_ID=1 as the Promo Proc
        // for all pages
        // randomnum = 1;
        randomnum = Irand32(&seed , 1, ITEM_COUNT);

        oBuf << "<HTML><HEAD><TITLE>New Products Page
- Subject: ";
        oBuf << Subject;                    // otherwise, output
token
        oBuf << "</TITLE></HEAD><FRAMESET border=0
frameBorder=0 frameSpacing=0 rows=31%,36%,31%>";
        oBuf << "<FRAME

SRC=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Typ
e=" << "n" <<"&subject=" << Subject << "\">";
        oBuf << "<FRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" FRAMEBORDER=0>";
        oBuf << "<FRAME SRC=\"http://" << CACHESERVER
<< "/tpcw/tpcw.dll?CMD=NewProductsFrame&value=" << Subject
<< "\"></FRAMESET></hTmL>";
        return 1;
}

int TPCW::Order_Display( const char *UNAME,  // username to
search
            const char *PASSWD) // password of user
{
        bad=0;

        SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
        sprintf(query,"GetCustomerInfo '%s'", UNAME);

        SQL_TIMESTAMP_STRUCT OrdDate, ShipDate;
        SQLBindCol(hstmt,1,SQL_CHAR,C_ID,16, &resultlen);

SQLBindCol(hstmt,2,SQL_CHAR,c_PASSWD,sizeof(c_PASSWD),
&resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,c_FNAME,sizeof(c_FNAME),
&resultlen);

SQLBindCol(hstmt,4,SQL_CHAR,c_LNAME,sizeof(c_LNAME),
&resultlen);

SQLBindCol(hstmt,5,SQL_CHAR,c_phone,sizeof(c_phone),
&resultlen);

SQLBindCol(hstmt,6,SQL_CHAR,c_email,sizeof(c_email),
&resultlen);

        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
        if (retcode != SQL_SUCCESS)
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                sprintf(SQL_errormsg, query);
                return -99;
        }
        if(retcode == SQL_NO_DATA)   // Check for user
existance
        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                oBuf << "User doesn't exist.";
        }
        else
        {
                SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                if(strcmp(PASSWD,c_PASSWD) != 0)
    // Password check
                {
                        oBuf << "BAD PASSWORD,
DUDE. Try again...hack away.";
                }
                else
                {
      // Existant user, good password, go get their last order
      //

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                        sprintf(query,"GetLastOrder %s",
C_ID);

SQLBindCol(hstmt,1,SQL_CHAR,o_id,16, &resultlen);

SQLBindCol(hstmt,2,SQL_C_TYPE_TIMESTAMP,&OrdDate,0,
&resultlen);

SQLBindCol(hstmt,3,SQL_CHAR,ship_type,sizeof(ship_type),
&resultlen);

SQLBindCol(hstmt,4,SQL_C_TYPE_TIMESTAMP,&ShipDate,0,
&resultlen);

SQLBindCol(hstmt,5,SQL_DOUBLE,&o_subtot,0, &resultlen);

SQLBindCol(hstmt,6,SQL_DOUBLE,&o_tax,0, &resultlen);
      SQLBindCol(hstmt,7,SQL_DOUBLE,&o_tot,0, &resultlen);
      SQLBindCol(hstmt,8,SQL_CHAR,bill_addr_id,16,
&resultlen);
      SQLBindCol(hstmt,9,SQL_CHAR,ship_addr_id,16,
&resultlen);

SQLBindCol(hstmt,10,SQL_C_CHAR,o_status,sizeof(o_status),
&resultlen);
      SQLBindCol(hstmt,11,SQL_C_CHAR,cxtype,sizeof(cxtype),
&resultlen);

SQLBindCol(hstmt,12,SQL_C_CHAR,cx_auth_id,sizeof(cx_auth_id),
&resultlen);
                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                sprintf(SQL_errormsg,
query);
                                return -99;
                        }

                        if (SQLFetch(hstmt) ==
SQL_NO_DATA)
```

```
                                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                        oBuf <<
"<html><head><title>TPC-W Order Status Display Page</title>\
                                        </head><body
BGCOLOR=\"#FFFFFF\">\
                                        <h1
ALIGN=\"CENTER\">TPC Web Commerce Benchmark
(TPC-W)</h1>\
                                        <h2
ALIGN=\"CENTER\">Order Status
Page</h2><blockquote><hr><p></p>\
                                        <table
BORDER=\"0\" WIDTH=\"80%\"><tr><td><b>Bill To:</b></td>\
                                        <td><b>Ship
To:</b></td></tr><tr><td colspan=\"2\"><h4>
\

</h4></td></tr><tr><td
WIDTH=\"50%\"><address><br><br></address>Email:\

<br>Phone:<br>\
                                        Credit Card
Type: <br>Order Status:     </td><td VALIGN=\"TOP\"
WIDTH=\"50%\"><address>\

<br></address></td></tr></table></blockquote><center>\
                                        <table BORDER=\"1\"
CELLPADDING=\"5\" CELLSPACING=\"0\"><h4><tr><th>Item
#</th>\

<th>Title</th><th>Cost</th><th>Qty</th><th>Discount</th><th>Co
mment</th></tr><tr>\

<BR><BR></h4></table><p><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\">\
                                        <img SRC=\"https://";
                                        oBuf <<
ThisWebserverName << "/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\">\
                                        <img SRC=\"https://";
                                        oBuf <<
ThisWebserverName << "/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                                        </p></body></hTmL>";
                                }
                                else
                                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                        orddate.year      =
OrdDate.year;
                                        orddate.month     =
OrdDate.month;
                                        orddate.day       =
OrdDate.day;
                                        orddate.hour      =
OrdDate.hour;
                                        orddate.minute    =
OrdDate.minute;
                                        orddate.second    =
OrdDate.second;
                                        shipdate.year     =
ShipDate.year;
                                        shipdate.month    =
ShipDate.month;
                                        shipdate.day      =
ShipDate.day;
                                        shipdate.hour     =
ShipDate.hour;
                                        shipdate.minute   =
ShipDate.minute;
                                        shipdate.second   =
ShipDate.second;


                                        int shipoffset=0;  // offset
if shipping and billing address same


sprintf(query,"GetAddressInfo %s", bill_addr_id);  // get address info

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_C_CHAR,street1[0],sizeof(street1[0]),
&resultlen);

SQLBindCol(hstmt,2,SQL_C_CHAR,street2[0],sizeof(street2[0]),
&resultlen);

SQLBindCol(hstmt,3,SQL_C_CHAR,city[0],sizeof(city[0]),
&resultlen);

SQLBindCol(hstmt,4,SQL_C_CHAR,state[0],sizeof(state[0]),
&resultlen);

SQLBindCol(hstmt,5,SQL_C_CHAR,zip[0],sizeof(zip[0]),
&resultlen);

SQLBindCol(hstmt,6,SQL_C_CHAR,country[0],sizeof(country[0]),
&resultlen);
                                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                        if (retcode !=
SQL_SUCCESS)
                                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

sprintf(SQL_errormsg, query);
                                                return -99;
                                        }
                                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);


if(!strcmp(bill_addr_id,ship_addr_id))   // billing and shipping
different?
                                        {
                                                shipoffset=1;
        // change shipping offset

                                                // fetch
shipping address
                                                //

sprintf(query,"GetAddressInfo %s", ship_addr_id);

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
```

```
SQLBindCol(hstmt,1,SQL_C_CHAR,street1[1],sizeof(street1[1]),
&resultlen);

SQLBindCol(hstmt,2,SQL_C_CHAR,street2[1],sizeof(street2[1]),
&resultlen);

SQLBindCol(hstmt,3,SQL_C_CHAR,city[1],sizeof(city[1]),
&resultlen);

SQLBindCol(hstmt,4,SQL_C_CHAR,state[1],sizeof(state[1]),
&resultlen);

SQLBindCol(hstmt,5,SQL_C_CHAR,zip[1],sizeof(zip[1]),
&resultlen);

SQLBindCol(hstmt,6,SQL_C_CHAR,country[1],sizeof(country[1]),
&resultlen);
                                                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                                if (retcode !=
SQL_SUCCESS)
                                                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

sprintf(SQL_errormsg, query);

return -99;
                                                }

SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                        }

                                        oBuf <<
"<html><head><title>TPC-W Order Status Display Page</title>\
                                                </head><body
BGCOLOR=\"#FFFFFF\">\
                                                <h1
ALIGN=\"CENTER\">TPC Web Commerce Benchmark
(TPC-W)</h1>\
                                                <h2
ALIGN=\"CENTER\">Order Status
Page</h2><blockquote><hr><p>";

                                        // OUTPUT Base Order
info


sprintf(csubtot,"$%8.2lf",o_subtot);

sprintf(ctax,"$%8.2lf",o_tax);

sprintf(ctot,"$%8.2lf",o_tot);

sprintf(codate,"%02d/%02d/%04d",

OrdDate.month,OrdDate.day,OrdDate.year);

sprintf(cshipdate,"%02d/%02d/%04d",

ShipDate.month,ShipDate.day,ShipDate.year);
                                        oBuf <<         "Order
ID: " << o_id
                                                <<
"<BR>\r\nAuthorization ID: " << cx_auth_id
                                                <<
"<br>\r\nOrder Placed on: " << orddate.month << "/" << orddate.day
<< "/" << orddate.year
                                                <<
"<br>\r\nShipping Type: " << ship_type
                                                <<
"<br>\r\nShipping Date: " << shipdate.month << "/" << shipdate.day
<< "/" << shipdate.year
                                                <<
"<br>\r\nOrder Subtotal: " << csubtot
                                                <<
"<br>\r\nOrder Tax: " << ctax
                                                <<
"<br>\r\nOrder Total: " << ctot << "\r\n";

                                        oBuf << "</p>\
                                                <table
BORDER=\"0\" WIDTH=\"80%\">\
                                                <tr>\
                                                <td><b>Bill
To:</b></td>\
                                                <td><b>Ship
To:</b></td></tr>\
                                                <tr>\
                                                <td
colspan=\"2\"><h4>";

                                        // Customer name
                                        oBuf << c_FNAME << "
" << c_LNAME << "\r\n";

                                        oBuf <<
"</h4></td></tr><tr><td WIDTH=\"50%\"><address>";

                                        // Billing Info
                                        oBuf << street1[0] <<
"<br>" << street2[0] << "<br>"
                                                <<    city[0]
<< "<br>" <<   state[0]  << "<br>"
                                                <<     zip[0]
<< "<br>" << country[0] << "\r\n";



                                        oBuf <<
"<br><br></address>Email:          ";
                                        oBuf << c_email;   //
email
                                        oBuf << "<br>Phone:
    ";
                                        oBuf << c_phone;   //
phone
                                        oBuf << "<br>Credit
Card Type: ";
                                        oBuf << cxtype;    // CC
Type
                                        oBuf << "<br>Order
Status:     ";
                                        oBuf << o_status;  //
order Status

                                        oBuf << "</td><td
VALIGN=\"TOP\" WIDTH=\"50%\"><address>";
                                        // shipping address
                                        oBuf <<
street1[shipoffset] << "<br>" << street2[shipoffset] << "<br>"
                                                <<
city[shipoffset] << "<br>" <<   state[shipoffset]  << "<br>"
```

```
                                                    <<
zip[shipoffset] << "<br>" << country[shipoffset] << "\r\n";

                                                oBuf <<
"<br></address></td></tr></table></blockquote>\

<center><table BORDER=\"1\" CELLPADDING=\"5\"
CELLSPACING=\"0\"><h4><tr><th>Item #</th>\

<th>Title</th><th>Cost</th><th>Qty</th><th>Discount</th><th>Co
mment</th></tr><tr>";


sprintf(query,"GetOrderInfo %s", o_id);        // get orderline info

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                                                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                                if (retcode !=
SQL_SUCCESS)
                                                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

sprintf(SQL_errormsg, query);
                                                        return -99;
                                                }
                                                // Loop thru orderlines
outputing info


SQLBindCol(hstmt,1,SQL_CHAR,i_id,16, &resultlen);

SQLBindCol(hstmt,2,SQL_DOUBLE,&i_discount,0, &resultlen);

SQLBindCol(hstmt,3,SQL_C_CHAR,i_comments,sizeof(i_comments)
, &resultlen);

SQLBindCol(hstmt,4,SQL_INTEGER,&i_qty,0, &resultlen);

SQLBindCol(hstmt,5,SQL_C_CHAR,i_title,sizeof(i_title),
&resultlen);

SQLBindCol(hstmt,6,SQL_C_CHAR,i_publish,sizeof(i_publish),
&resultlen);

SQLBindCol(hstmt,7,SQL_DOUBLE,&i_cost,0, &resultlen);
                                                while (SQLFetch(hstmt)
!= SQL_NO_DATA)
                                                {

sprintf(ccost,"$%8.2lf",i_cost);
                                                        sprintf(cdis
,"%4.2lf%",i_discount);

                                                        oBuf <<
"<tr><td> "                     << i_id
                                                                <<
"</td><td VALIGN=\"top\"><h4>Title: " << i_title
                                                                <<
    "<br>Publisher: " << i_publish
                                                                <<
     "</h4></td><td>" << ccost
                                                                <<
     "</td><td>"     << long(i_qty)
                                                                <<
     "</td><td>"     << cdis
                                                                <<
    "</td><td>"     << i_comments   << "</tr>\r\n";
                                                }

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                                oBuf <<
"<BR><BR></h4></table><p><a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\">\
                                                        <img
SRC=\"https://";
                                                oBuf <<
ThisWebserverName << "/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                                                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\">\
                                                        <img
SRC=\"https://";
                                                oBuf <<
ThisWebserverName << "/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a></p></body></hTmL>";

                                        }  // only if last order exists

                                } // only if password matches

                } // only if user exists
                return 1;
}


int TPCW::Order_Inquiry()
{
   // NOTE:  The above dblock is only needed in the case that
getSessionId results
   //        in the need to resync with the dbserver the session state.



   int session=getSessionId();    // read cookie & get session
                if (session <0) return 1;
                oBuf << "<html><head><title>TPC-W Order Inquiry
Page</title>\
                        </head><body BGCOLOR=\"#FFFFFF\"><h1
ALIGN=\"CENTER\">TPC Web Commerce Benchmark
(TPC-W)</h1>\
                        <h2 ALIGN=\"CENTER\">Order Inquiry
Page</h2>\
                        <form ACTION=\"https://" <<
ThisWebserverName << "/tpcw/tpcw.dll?\" METHOD=\"GET\">\
                        <input TYPE=\"HIDDEN\" NAME=CMD
VALUE=Order_Display><table align=\"center\">\
                        <tr><td><h4>Username:</h4></td><td><input
NAME=\"UNAME\" size=\"23\" VALUE=\"";

   // if C_ID is KNOWN, we're obliged to output the C_UNAME into
the output
   // as per the specification
   //

   if(Sessions[session].C_ID[0] != 'Z')
   {

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                        sprintf(query,"GetC_UNAME %s",
Sessions[session].C_ID);
```

```
SQLBindCol(hstmt,1,SQL_C_CHAR,C_UNAME,sizeof(C_UNAME)
, &resultlen);
                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                        if (retcode != SQL_SUCCESS)
                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                                sprintf(SQL_errormsg, query);
                                return -99;
                        }
                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        oBuf << C_UNAME;

   }


   oBuf << "\"></td></tr><tr><td><h4>Password:</h4></td><td>\
                        <input TYPE=\"PASSWORD\"
NAME=\"PASSWD\" size=\"14\"></td></tr>\
                        </table><p align=\"center\">\
                        <input NAME=\"Submit\" TYPE=\"image\"
SRC=\"https://" << ThisWebserverName <<
"/tpcw/images/DisplayOrder.gif\" HEIGHT=\"30\" WIDTH=\"120\">\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\"><img SRC=\"https://";
                oBuf << ThisWebserverName <<
"/tpcw/images/search.gif\" ALT=\"Search Item\" WIDTH=\"120\"
HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\"><img
SRC=\"https://";
                oBuf << ThisWebserverName <<
"/tpcw/images/Home.gif\" ALT=\"Home Page\" WIDTH=\"120\"
HEIGHT=\"30\"></a>\
                        </p></form></body></hTmL>";
                return 1;
}

int TPCW::Product_Detail(char *BookID)
{
                bad=0;
                SQL_TIMESTAMP_STRUCT sqlTime;
   SQL_TIMESTAMP_STRUCT sqlTime2;

                // 07/25/01 (MMC)
                int BookID_Len = strlen(BookID);

                SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);
                // 07/25/01 (MMC) Changing the method we call SQL
statements
                sprintf(query,"ProductDetailProc %s", BookID);   // fetch
product detail

SQLBindCol(hstmt,1,SQL_C_CHAR,I_TITLE,sizeof(I_TITLE),
&resultlen);

SQLBindCol(hstmt,2,SQL_C_CHAR,I_SUBJECT,sizeof(I_SUBJECT
), &resultlen);

SQLBindCol(hstmt,3,SQL_C_CHAR,I_DESC,sizeof(I_DESC),
&resultlen);
                SQLBindCol(hstmt,4,SQL_DOUBLE,&cost,0, &resultlen);
                SQLBindCol(hstmt,5,SQL_DOUBLE,&srp,0, &resultlen);

SQLBindCol(hstmt,6,SQL_C_CHAR,I_BACKING,sizeof(I_BACKIN
G), &resultlen);
                SQLBindCol(hstmt,7,SQL_INTEGER,&pages,0,
&resultlen);

SQLBindCol(hstmt,8,SQL_C_CHAR,I_PUBLISHER,sizeof(I_PUBLI
SHER), &resultlen);

SQLBindCol(hstmt,9,SQL_C_TYPE_TIMESTAMP,&sqlTime,0,
&resultlen);

SQLBindCol(hstmt,10,SQL_C_TYPE_TIMESTAMP,&sqlTime2,0,
&resultlen);

SQLBindCol(hstmt,11,SQL_C_CHAR,I_DIMENSION,sizeof(I_DIM
ENSION), &resultlen);

SQLBindCol(hstmt,12,SQL_C_CHAR,I_ISBN,sizeof(I_ISBN),
&resultlen);

SQLBindCol(hstmt,13,SQL_C_CHAR,I_IMAGE,sizeof(I_IMAGE),
&resultlen);

SQLBindCol(hstmt,14,SQL_C_CHAR,I_THUMB,sizeof(I_THUMB),
&resultlen);

SQLBindCol(hstmt,15,SQL_C_CHAR,A_FNAME,sizeof(A_FNAME
), &resultlen);

SQLBindCol(hstmt,16,SQL_C_CHAR,A_LNAME,sizeof(A_LNAME
), &resultlen);

                retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                if (retcode != SQL_SUCCESS)
                {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);
                        sprintf(SQL_errormsg, query);
                        return -99;
                }
                SQLFetch(hstmt);
                SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                pubdate.year       = sqlTime.year;
                pubdate.month      = sqlTime.month;
                pubdate.day        = sqlTime.day;
                pubdate.hour       = sqlTime.hour;
                pubdate.minute     = sqlTime.minute;
                pubdate.second     = sqlTime.second;

                availdate.year     = sqlTime2.year;
                availdate.month    = sqlTime2.month;
                availdate.day      = sqlTime2.day;
                availdate.hour     = sqlTime2.hour;
                availdate.minute   = sqlTime2.minute;
                availdate.second   = sqlTime2.second;


   // Output the product data into the template.

   oBuf << "<html><head><title>TPC-W Product Detail
Page</title></head><body BGCOLOR=\"#FFFFFF\">\
                        <h1 ALIGN=\"CENTER\">TPC Web
Commerce Benchmark (TPC-W)</h1><h2 ALIGN=\"CENTER\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
```

```
ALIGN=\"BOTTOM\" BORDER=\"0\" WIDTH=\"288\"
HEIGHT=\"67\"></h2>\
                        <h2 ALIGN=\"CENTER\">Product Detail
Page</h2><h1>Title:   ";
              oBuf << I_TITLE;
   oBuf << "</h1><p>Author:    ";
              oBuf << A_FNAME << " " << A_LNAME;
              oBuf << "</p><img SRC=\"" ;
              oBuf << "http://imgsrv.tpcw.net/tpcw/" << I_IMAGE;
   oBuf << "\" ALIGN=\"RIGHT\">Description:  ";
              oBuf << I_DESC;
   sprintf(str,"$%8.2lf",srp);
   oBuf << "<blockquote><p><b>Suggested Retail:                ";
              oBuf << str;
   sprintf(str,"$%8.2lf",cost);
   oBuf << "br>Our Price:<font COLOR=\"#DD0000\">  ";
              oBuf << str;
   sprintf(str,"$%8.2lf",srp-cost);
   oBuf << "</font><br>You Save:<font COLOR=\"#DD0000\"> ";
              oBuf << str;
   oBuf << "</font></p></b></blockquote><dl><dl><dt><font
size=\"2\">Backing:               ";
              oBuf << I_BACKING << ", " << long(pages);
   oBuf << " pages<br>Published by            ";
              oBuf << I_PUBLISHER;

sprintf(str,"%02d-%02d-%04d",pubdate.month,pubdate.day,pubdate.y
ear);
   oBuf << "<br>Publication date:       ";
              oBuf << str;

sprintf(str,"%02d-%02d-%04d",availdate.month,availdate.day,availdat
e.year);
   oBuf << "<br>Availablity date:       ";
              oBuf << str;
              oBuf << "<br>Subject:               ";
              oBuf << I_SUBJECT;
              oBuf << "<br>Dimensions (in inches): ";
              oBuf << I_DIMENSION;
   oBuf << "<br>ISBN:                  ";
              oBuf << I_ISBN;
              oBuf << "/font></dt></dl></dl><p align=\"center\">\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=1&iCount=1&I_ID_1=";
              oBuf << BookID;
   oBuf << "&QTY_1=1\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Add.gif\" ALT=\"Add to
Cart\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Reques
t\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/search.gif\" ALT=\"Search
Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" ALT=\"Home
Page\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        <a
HREF=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Admin_Reques
t&I_ID=";
              oBuf << BookID;
   oBuf << "\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Update.gif\"
ALT=\"Update Item\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        </p></body></hTmL>";
              return 1;
}

int TPCW::Search_Request()
{
   oBuf << "<html><head><title>Search Request
Page</title></head>\
                        <body bgcolor=\"#FFFFFF\"><center><h1
ALIGN=\"CENTER\">TPC Web Commerce Benchmark
(TPC-W)</h1>\
                        <h2 ALIGN=\"CENTER\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" BORDER=\"0\" WIDTH=\"288\"
HEIGHT=\"67\"></h2>\
                        <h2 ALIGN=\"CENTER\">Search Request
Page</h2><BR>";
              randomnum = Irand32(&seed , 1, ITEM_COUNT);
              oBuf << "<IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" WIDTH=900 HEIGHT=200
SCROLLING=\"NO\" ALIGN=\"MIDDLE\"
FRAMEBORDER=0></IFRAME>";

   oBuf << "<br><form
ACTION=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?\"
METHOD=\"GET\">\
                        <input type=hidden Name=CMD
Value=Search_Results><table WIDTH=\"50%\"
ALIGN=\"CENTER\">\

<tbody><coldefs><coldef><coldef></coldefs><rows><tr><td
ALIGN=\"RIGHT\" COLSTART=\"1\">\
                        <h3>Search by:</h3></td><td WIDTH=\"100\"
COLSTART=\"2\"></td></tr><tr><td ALIGN=\"RIGHT\"
COLSTART=\"1\">\
                        <select NAME=\"STYPE\" size=\"1\"><option
VALUE=\"Author\" SELECTED=\"SELECTED\">Author</option>\
                        <option
VALUE=\"Title\">Title</option><option
VALUE=\"Subject\">Subject</option></select>\
                        </td><td COLSTART=\"2\"><input
NAME=\"MATCH\"
size=\"30\"></td></tr></rows></tbody></table><br><br>\
                        <input TYPE=image NAME=\"Submit\"
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Submit.gif\" WIDTH=120
HEIGHT=30>\
                        <a HREF=\"tpcw.dll?CMD=Home\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/Home.gif\" WIDTH=120
HEIGHT=30></a>\
                        <a
HREF=\"tpcw.dll?CMD=Shopping_Cart&ADD_FLAG=0\">\
                        <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/cart.gif\" ALT=\"Order
Status\" WIDTH=\"120\" HEIGHT=\"30\"></a>\
                        </form><p></p></center></body></hTmL>";
              return 1;
}

int TPCW::Search_Results(const char *STYPE, const char *MATCH)
{
              sprintf(key,"%s: %s", STYPE, MATCH);

              // MMC - 02/20/02 Trying to see if there is a contention
problem with the ITEM table
              // as we approach 10K WIPs.  For now, will always send
back ITEM_ID=1 as the Promo Proc
```

```
		// for all pages
		// randomnum = 1;
		randomnum = Irand32(&seed , 1, ITEM_COUNT);


		if (STYPE[0] == 'A') {
			oBuf << "<HTML><HEAD><TITLE>Search
Results Page - Author: ";
			oBuf << MATCH;			// otherwise,
output token
			oBuf << "</TITLE></HEAD><FRAMESET
border=0 frameBorder=0 frameSpacing=0 rows=31%,36%,31%>";
			oBuf << "<FRAME

SRC=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Typ
e=" << "a" <<"&subject=" << MATCH << "\">";
			oBuf << "<FRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" FRAMEBORDER=0>";
			oBuf << "<FRAME SRC=\"http://" <<
CACHESERVER <<
"/scripts/search.asp?search=a_lname&CiRestriction=";
			oBuf << MATCH;
			oBuf << "&pd_host=tpcwww.tpcw.net\"
WIDTH=\"750\" HEIGHT=\"600\" SCROLLING=\"auto\"
FRAMEBORDER=\"0\"></FRAMESET></hTmL>";
		}
		if (STYPE[0] == 'T')  {
			oBuf << "<HTML><HEAD><TITLE>Search
Results Page - Title: ";
			oBuf << MATCH;			// otherwise,
output token
			oBuf << "</TITLE></HEAD><FRAMESET
border=0 frameBorder=0 frameSpacing=0 rows=31%,36%,31%>";
			oBuf << "<FRAME

SRC=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Typ
e=" << "t" <<"&subject=" << MATCH << "\">";
			oBuf << "<FRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" FRAMEBORDER=0>";
			oBuf << "<FRAME SRC=\"http://" <<
CACHESERVER <<
"/scripts/search.asp?search=i_title&CiRestriction=";
			oBuf << MATCH;
			oBuf << "&pd_host=tpcwww.tpcw.net\"
WIDTH=\"750\" HEIGHT=\"600\" SCROLLING=\"auto\"
FRAMEBORDER=\"0\"></FRAMESET></hTmL>";
		}
		if (STYPE[0] == 'S')  {
			oBuf << "<HTML><HEAD><TITLE>Search
Results Page - Subject: ";
			oBuf << MATCH;			// otherwise,
output token
			oBuf << "</TITLE></HEAD><FRAMESET
border=0 frameBorder=0 frameSpacing=0 rows=31%,36%,31%>";
		oBuf << "<FRAME

SRC=\"http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Typ
e=" << "s" <<"&subject=" << MATCH << "\">";
			oBuf << "<FRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" FRAMEBORDER=0>";
			oBuf << "<FRAME SRC=\"http://" <<
CACHESERVER << "/tpcw/tpcw.dll?CMD=SubjectFrame&value="
<< MATCH << "\"></FRAMESET></hTmL>";
		}
		return 1;
}

/* This function dates back to our initial technique for ISAPI when we
were
 * under the impression that the PARSE_MAPS in ISAPI worked and
we wouldn't
 * get bogus pointers back from ISAPI.  Unfortunately, the shopping
cart
 * got lots of parameters on shopping cart update.  In essence, for each
 * item in the shopping cart, we get 2 parameters, an i_id and a
quantity.
 * ISAPI isn't really friendly about a large and variable number of
parms.
 * To this end, we allowed the shopping cart to parse itself early on in
the
 * evolution of this dll.  Consequently, all other interactions are parsed
 * in the ParseTPCW method but the parsing of Shopping_Cart is
passed off
 * to this routine.
 *
 * IMPORTANT:  the void* pointer passed to this function is NOT
necessarily
 *		null terminated.  It is up to the coder to ENSURE that you
 *		dont read more than Lurl characters from this void pointer.
 */
int TPCW::Shopping_Cart(void *Purl, DWORD Lurl)
{
  session=getSessionId();    // read cookie & get session
		if (session <0) return 1;
  char *url=new char[Lurl+1];    // copy to a null terminated string
  memcpy(url, Purl, Lurl);        // so that we can use sscanf against
  url[Lurl]=0;                    // it without fear of running into the wall

		int promo=0, rc=0;

  char *p=NULL;                   // where are we in parsing the URL
		i_id[0]='Z';
		int add_flag=0,           // is ADD_FLAG set? (2.4.3.3)
    iCount=0,             // how many items are there?
			//  a_change=0;           // boolean to track if
ANY quantities changed.
    num_changes=0;              // Number of Changed items
		__int64 NewQty[2][MAXSHOPITEMS];  // Changed items
and quantities

  p=strstr(url,"ADD_FLAG=");  // ADD_FLAG MUST EXIST or
theres an error
  if(!p)
  {
			delete[] url;
			oBuf << "ERROR: DLL Called in UNKNOWN
MANNER<br>\r\n\r\n  Request: \"" << url << "\"\r\n";
			return SC_ERROR;
  }
  else
  {
			sscanf(p,"ADD_FLAG=%d",&add_flag);    //
get the ADD_FLAG val (0/1).
  }

#if DIAGMODE==1
		oBuf << "DLL Called in KNOWN MANNER<br>\r\n\r\n
ADD_FLAG="
			<< long(add_flag) << "  Request: \"" << url <<
"\"\r\n";
#endif
```

```
   if(add_flag)           // we're in the first part of 2.4.3.3
   {
                        /* User added one and only one item.  Ensure
this the case. */

                        p=strstr(url,"iCount=");                 // make sure
all is kosher
                        if(p) { sscanf(p,"iCount=%d",&iCount); }
                        p=strstr(url,"I_ID_1=");
                        char *front=strstr(p,"I_ID_1=");
                        front+=7;
                        char *end=strstr(p,"&QTY_1=");
                        ZeroMemory(i_id, 16);
                        if (front != NULL) memcpy(i_id, front,
end-front);
   }
   else
   {
                        /* User refresh or shopping cart check */

                        p=strstr(url,"iCount=");
                        if(p) { sscanf(p,"iCount=%d",&iCount); }
                        if(iCount>0)
                        {
      /* User Refresh Request.  Note that magically,
                        * items are in the same order and count as the
Cart
                                * In fact, iCount MUST equal
session CartSize! */

                                CartList *last=0,

*entry=Sessions[session].list;
                                int index;

                                // loop thru cart looking for changes
to the current values
                                //

for(index=1;index<=iCount;index++)
                                {
                                        int inum,qty;
                                        char str[128];

                                        // we know the I_ID from
the shopping cart so skip right to QTY
                                        //

sprintf(str,"QTY_%d=",index);
                                        p=strstr(url,str);
                                        ASSERT_DB(p);
                                        sscanf(p,"QTY_%d=%d",
&inum, &qty);    // get the quantity
                                        ASSERT_DB(entry);

                                        if ( qty != entry->QTY )
        // is it different?
                                        {
                                                //  Save the
IDs and New Qty.  In the process we count
                                                //  the number
of changed items which is needed at the
                                                //  beginning
of the RefreshShoppingCart query
                                                //

NewQty[0][num_changes] = _atoi64(entry->ID);

NewQty[1][num_changes] = qty;

++num_changes;
                                        }

                                        if( qty )               // new
quantity is nonzero.
                                        {                       //
update data structure

entry->QTY=qty;
                                                last=entry;

entry=entry->next;
                                        }
                                        else                    // new
quantity is zero.  Delete item
                                        {

Sessions[session].items--;
                                                CartList
*tmp=entry;

entry=entry->next;
                                                delete tmp;
                                                if(last)
   // fixup linked list pointers
                                                {

last->next=entry;
                                                }
                                                else
                                                {

Sessions[session].list=entry;
                                                }
                                        }
                                }

                                if (num_changes > 0) {

_ftime(&Sessions[session].DATE);
                                        if (StoreCart(session) ==
STORECART_ERROR)
//StoreCart performs the atomic write to the cart store.
                                                return -98;
                                }
                        }
                        else
                        {
                                /* Generic request to see cart check
for need for promo item */

                                if(!Sessions[session].items)
                                {
                                        /* Add random promo
item if cart empty */
                                        add_flag=1;
        // this way we use
                                        CSingleLock
mylock(&random_control);       // "normal" add code
                                        mylock.Lock();
         // below.

sprintf(i_id,"%I64d",__int64(Irand32(&RandSeed,1,ITEM_COUNT))
);
                                        mylock.Unlock();
```

```
                                        promo = 1;
                                }
                        }
        }
        delete[] url;                   // done parsing.  clean up after selves
                bool cartfull=FALSE;

        if(add_flag)
        {
                /* We came from product detail or promo above.
                * This means that iCount=1 and QTY=1
                        * We got i_id from I_ID_1 from URL or from
promo above */
                        int done=0;
                        CartList *last,*entry=Sessions[session].list;

                        // Check for duplicate I_ID.
                        //
                        for(entry=Sessions[session].list; (!done) &&
entry; entry=entry->next)
                        {
                                if(!strcmp(entry->ID,i_id))  //
duplicate
                                {
                                        entry->QTY++;     // all
we need do is increment QTY

_ftime(&Sessions[session].DATE);
                                        if (StoreCart(session) ==
STORECART_ERROR)
//StoreCart performs the atomic write to the cart store.
                                                return -98;
                                        done=1;
                                }
                                last=entry;
                        }
                        if(!done)           // sigh, its not a duplicate we
gotta do real work
                        {
                                entry=new CartList();          // create
new cart entry.
                                if (Sessions[session].items++ >100)
                                {
                                        Sessions[session].items =
100;
                                        cartfull=TRUE;
                                }
                                else
                                {

                                        strcpy(entry->ID,i_id);
                // fill it in.
                                        entry->QTY=1;

                                        // update durable backing
store with entry stats
                                        //

sprintf(query,"GetItemDetailForCart %s, %d", i_id, promo );
                                        SQLHSTMT hstmt;
                                        long resultlen;
                                        int retcode;

SQLAllocHandle(SQL_HANDLE_STMT,hdbc,&hstmt);

SQLBindCol(hstmt,1,SQL_C_CHAR,entry->TITLE,sizeof(entry->TI
TLE), &resultlen);

SQLBindCol(hstmt,2,SQL_DOUBLE,&entry->COST,0, &resultlen);

SQLBindCol(hstmt,3,SQL_DOUBLE,&entry->SRP,0, &resultlen);

SQLBindCol(hstmt,4,SQL_C_CHAR,entry->BACKING,sizeof(entry-
>BACKING), &resultlen);
                                        retcode =
SQLExecDirect(hstmt,(SQLCHAR*)query,SQL_NTS);
                                        if (retcode !=
SQL_SUCCESS)
                                        {

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

sprintf(SQL_errormsg, query);
                                                return -99;
                                        }
                                        SQLFetch(hstmt);

SQLFreeHandle(SQL_HANDLE_STMT,hstmt);

                                        CartList
*curr=Sessions[session].list;
                                        CartList *prev=NULL;

for(curr=Sessions[session].list; curr; curr=curr->next)
                                        {


if(strcmp(curr->ID,i_id) > 0) //the current node is greater than the new
entry
                                                {

break;
                                                }
                                                prev=curr;

                                        }

                                        if ((curr == NULL) &&
(prev == NULL))
                                        {

entry->next=NULL;

Sessions[session].list = entry;
                                        }
                                        else if (prev == NULL)
                                        {

entry->next=curr;

Sessions[session].list = entry;
                                        }
                                        else
                                        {


entry->next=curr;
                                                prev->next
=entry;
                                        }
                                }
                        }
                        _ftime(&Sessions[session].DATE);
                        if (StoreCart(session) ==
STORECART_ERROR )
                                return -98;
```

```
   }

   oBuf << "<html><head><title>TPC-W Shopping
Cart</title></head><body BGCOLOR=\"#FFFFFF\">\
     <h1 ALIGN=\"center\">TPC Web Commerce Benchmark
(TPC-W)</h1><h2 ALIGN=\"center\">\
               <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif\"
ALIGN=\"BOTTOM\" BORDER=\"0\" WIDTH=\"288\"
HEIGHT=\"67\"></h2>\
               <h2 ALIGN=\"CENTER\">Shopping Cart
Page</h2><table BORDER=\"0\" WIDTH=\"660\"
ALIGN=\"CENTER\">\
               <tr ALIGN=\"CENTER\" VALIGN=\"TOP\"><td
COLSPAN=\"5\"><b>\
               <font size=\"+1\" COLOR=\"#FF0000\">Click on one of
our latest books to      find out more !</font>\
               </b></td></tr><tr ALIGN=\"CENTER\"
VALIGN=\"TOP\">";

               randomnum = Irand32(&seed , 1, ITEM_COUNT);
               oBuf << "<IFRAME
SRC=\"http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=" << randomnum << "\" WIDTH=900 HEIGHT=200
SCROLLING=\"NO\" ALIGN=\"MIDDLE\"
FRAMEBORDER=0></IFRAME>";

               oBuf << "</tr></table><form ACTION=\"tpcw.dll?\"
METHOD=\"GET\">\
                <input TYPE=hidden NAME=CMD
VALUE=Shopping_Cart>\
                <input TYPE=hidden NAME=ADD_FLAG
VALUE=\"0\">\
    <center><p><table
border=\"0\"><tbody><tr><td><b>Qty<b></td><td><b>Product<b><
/td></tr>";



               if (cartfull)
               {    // If 100 Items are in the cart the cart is full.
                        oBuf << "<BR><CENTER>Shopping Cart is
full, item not added</CENTER><BR>";
               }
               // Generate the form code to refresh shopping cart next time
around.
               // this is basically the inverse of the parse code above but a
bit
               // more sophisticated because the specification REQUIRES
certain things
               // to be sent back and forth in the URLs that aren't really
needed because
               // they're in the session state.  (e.g., the count of items in the
cart,
               // the I_IDs of the items in the cart).  In actuality, just a big
list of
               // n QTYs would have sufficed but 2.4.5.1 requires this big
list that
               // this code implements.
               //
               // Complicated but basically the result will be the
following:
               //
               //
http://.../tpcw.dll?CMD=Shopping_Cart&ADD_FLAG=0&iCount=n&
I_ID_0=x0&QTY_0=y0&...&I_ID_(n-1)=x(n-1)&QTY_(n-1)=y(n-1)
               //
               // If The part leading up to &iCount appears in segment 1
of the
               // SHOPPING_CART template.
               //
               oBuf << "<input TYPE=\"HIDDEN\" NAME=\"iCount\"
VALUE=\""
                        << long(Sessions[session].items) << "\">\r\n";
               CartList *entry=Sessions[session].list;
               Sessions[session].SubTotal=0;
               for(int index=1;entry;index++)          // loop thru cart items
               {
                        char srp[32], cost[32];

                        sprintf(srp,"$%8.2lf",entry->SRP);
                        sprintf(cost,"$%8.2lf",entry->COST);

                        // This wacky notation implements response
look in 2.4.4

                        oBuf << "<tr><td valign=\"TOP\"> <input
TYPE=\"HIDDEN\" NAME=\"I_ID_"
                                 << long(index)
                                 << "\" VALUE=\"" << entry->ID
                                 << "\">\r\n<input TYPE=\"TEXT\"
NAME=\"QTY_" << long(index)
                                 << "\" VALUE=\"" <<
long(entry->QTY)
                                 << "\" size=\"2\"
maxlen=\"5\">\r\n</td><td VALIGN=\"TOP\">\r\n Title: " <<
entry->TITLE
                                 << " -\r\n Backing: "   <<
entry->BACKING
                                 << "\r\n<br> SRP: " << srp
                                 << ", <font
COLOR=\"#aa0000\"><b>\r\n Your Price: " << cost
                                 << "</b></font></td></tr>";


Sessions[session].SubTotal+=(entry->QTY*entry->COST);  // update
subtot

                        entry=entry->next;
               }

               oBuf << "<tr><td ALIGN=\"CENTER\"></td><td
ALIGN=\"CENTER\" COLSPAN=\"5\"></td></tr></tbody></table>\
                        <b><i>Subtotal Price: ";

               char subtotal[32];                              // output subtot
               sprintf(subtotal,"$%8.2lf",Sessions[session].SubTotal);
               oBuf << subtotal;
               oBuf << "<CENTER>Last Updated: ";

               timeline = ctime( &Sessions[session].DATE.time);
               sprintf(timebuffer, "%.19s.%hu %s", timeline,
Sessions[session].DATE.millitm, &timeline[20] );
               oBuf << timebuffer << "</CENTER>";
               oBuf <<"</i></b></p><p><br><a
HREF=\"CustomerReg.html\">\
                 <img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/checkout.gif\"
HEIGHT=\"30\" WIDTH=\"120\"></a>\
     <a HREF=\"tpcw.dll?CMD=Home\"><img
SRC=\"http://imgsrv.tpcw.net/tpcw/images/home.gif\"
HEIGHT=\"30\" WIDTH=\"120\"></a>\
                <p>If you have changed the quantities and/or taken
anything out <BR>\
                 of your shopping cart, click here to refresh your shopping
cart:</p>\
```

```
            <input HEIGHT=\"30\" WIDTH=\"120\"
NAME=\"Refresh\"
SRC=\"http://imgsrv.tpcw.net/tpcw/images/refresh.gif\"
TYPE=image>\
             <center></form></p></body></hTmL>";
            return 1;

}
```

tpcw.def

```
; TPCW.def : declares the module parameters for the DLL.

LIBRARY     "TPCW"

EXPORTS
            HttpExtensionProc
            GetExtensionVersion
```

tpcw.h

```
#ifndef __TPCW_ISAPI_DLL_H__
#define __TPCW_ISAPI_DLL_H__

/*
*   Copyright (c) 2000 Intel Corporation
*
*   File: tpcw.h
*
*   Defines an ISAPI application extension class to do the TPC-W
workload
*   as per the specification.
*
*   Intel TPC-W ISAPI Implementation
*
*/

/*   IBM - Netfinity modifications:
*                       - allow commercial caching of various
transactions.
*                       - shopping cart max limit.
*                       - ODBC timeout/sleeps
*                       - split cachable pages into frames.
*                       - error handling at delayed return intervals.
*             5/14/2000
*             - Chris Floyd
*/

#include <afxmt.h>
#include <windows.h>

#include "resource.h"         // required by ISAPI auto wizard
#include "dbConnect.h"        // database connections
#include "elfStream.h"        // Simple memory streams
#include "PGEsock.h"          // SSL connections to PGE
#include "ISASock.h"
#include "Session.h"          // TPCW session state info

#define ITEM_COUNT 10000      // How many items in database
#define RANDOM_SEED 29874987  // Seed for random number
generation
#define DIAGMODE    0         // Diagnostics mode


//#define PGE_NAME  "rbemaster"       // name of PGE
#define PGE_NAME  "pge.tpcw.net"      // name of PGE
#define MAX_PGECONN  40       // How many   PGE connects to use
#define MAX_ISACONN  24       // How many   ISA connection sets
to use
#define MAX_ISASERVERS 30    // How many ISA servers per set

/// The following defines determine the maximum number of session
state
//    entries needed for the session table
#define WEB_SERVERS 4
#define PROJECTED_WIPS 1500
#define MAX_USER_TIME 75      // max duration of a user session
//#define MAX_SESSIONS

((PROJECTED_WIPS*7*(MAX_USER_TIME/15))/WEB_SERVER
S)
#define MAX_SESSIONS 60000    // Sessions before dll dies from
array overrun

// Query numbers.  We have an array of SegFile objects; one for each
query.
// This way we can index the array using a defined name.
//
#define ADMIN_CONFIRM       0
#define ADMIN_REQUEST       1
#define BEST_SELLERS        2
#define BUY_CONFIRM         3
#define BUY_REQUEST         4
#define CUSTOMER_REG        5
#define HOME                6
#define NEW_PRODUCTS        7
#define ORDER_DISPLAY       8
#define ORDER_INQUIRY       9
#define PRODUCT_DETAIL      10
#define SEARCH_REQUEST      11
#define SEARCH_RESULTS      12
#define SHOPPING_CART       13
#define TPCW_FILE_COUNT     14

//Minor QUERY numbers.  This is kept only for diagnostic purposes.
It includes
// queries that are done by several web interactions that we want to
keep
// statistics on
//
#define GET_SESSION_ID      TPCW_FILE_COUNT
#define PROMO_IMAGES        (GET_SESSION_ID + 1)
#define LAST_QUERY          (PROMO_IMAGES + 1)

// The template file locations.  These are in the order of the defines
above.
// These files must exist or initial access to dll will hang.
//
static const char *template_names[]={
            "C:\\tpcw\\ADMIN_CONFIRM",
                        "C:\\tpcw\\ADMIN_REQUEST",
                        "C:\\tpcw\\BEST_SELLERS",
                        "C:\\tpcw\\BUY_CONFIRM",
                        "C:\\tpcw\\BUY_REQUEST",
                        "C:\\tpcw\\CUSTOMER_REG",
                        "C:\\tpcw\\HOME",
                        "C:\\tpcw\\NEW_PRODUCTS",
                        "C:\\tpcw\\ORDER_DISPLAY",
                        "C:\\tpcw\\ORDER_INQUIRY",
                        "C:\\tpcw\\PRODUCT_DETAIL",
                        "C:\\tpcw\\SEARCH_REQUEST",
                        "C:\\tpcw\\SEARCH_RESULTS",
                        "C:\\tpcw\\SHOPPING_CART"
} ;

int GetCartGlobal(char *filename, int session);
```

```
// Count of expected number of segments for each of the interactions.
There
// is an assert to make sure actual number of segments matches this.
Basically,
// the script for each interaction relies on particular numbers of
segments so
// this way we can double check in advance.  If mismatch found, DLL
will hang
// on initial access.
//



        // The ISAPI extension itself
        //

class TPCW
{
protected:
        // Helper function to read cookie in request and return
session offset.  If
        // no cookie exists yet, it assigns new session and cookie.
        //
        int getSessionId();

        // Helper function do the PGE authorization in
BuyConfirm.  Basically its a
        // separate function to simplify readability.
        //
        int DoPGEauthorization(char *o_id,          // The order ID
    -- IN
                const char *ccno,    // The credit card Number --
IN
                char *auth);        // The authorization code --
OUT

        // During an interaction, data is shoved into an ElfStream.
At the end of
        // the interaction, this function is called to flush it to the
ISAPI output
        // stream with the appropriate size header to allow
HTTP1.1/keepalives
        //
        void FlushInteraction();
        void FlushCachedInteraction();
        void FlushEternallyCachedInteraction();
        void FlushError();

        // Because ISAPI intrinsic parsing of URLs was returning
bogus pointers
        // occasionally, we implement parsing ourselves.  GetString
reads a
        // string from part of the URL into target.  It returns the
number of bytes
        // consumed from the URL
        //
        int GetString(char *target,         // target buffer for string
                int maxLen,          // max chars to copy into
target
                const char *start,     // starting input pointer
                const char *wall,      // don't read here.
                // valid pointer range =
start[0]->start[wall-start-1]
                char token='&');      // separator token in URL

        // Because ISAPI intrinsic parsing of URLs was returning
bogus pointers
        // occasionally, we implement parsing ourselves.  GetLong
reads a
        // Long from part of the URL into target.  It returns the
number of bytes
        // consumed from the URL
        //
        int GetLong(long *target,          // target pointer to long
                const char *start,      // starting input pointer
                const char *wall,       // don't read here
                // valid pointer range =
start[0]->start[wall-start-1]
                char token='&');        // separator token in URL

public:
        TPCW();         // Constructor
        ~TPCW();        // Destructor

        HDBC hdbc;
        char *query;
        SQLHSTMT hstmt;
        long resultlen;
        int retcode;
        int ret;
        char *Purl;

        char *Wall;
        char command[32];

        //PROMO PROC VARS
                char type[50];
                char Subject[50];
                long randomnum;

        //ADMIN CONFIRM VARS
                char I_NEW_IMAGE[64];               //
admin_confirm parms
                char I_NEW_THUMBNAIL[64];
                char I_NEW_COST[32];

                char I_TITLE[64],             // Bind result set of
adminConfirm
                I_DESC[512],             // These are product
detail info
                I_PUBLISHER[64],         // for admin confirm
output.
                I_DIMENSION[32],
                I_IMAGE[64],
                I_THUMB[64],
                I_ISBN[16],
                I_BACKING[16],
                str[32],
                A_FNAME[24],
                A_LNAME[24];
        int pages;
        long double cost,srp;
        DBDATEREC  pubdate;      // usable format of date
  SQL_TIMESTAMP_STRUCT    sqlTime;
        ////////////////////
        int session;  ///Tracks user session
        ////////////// SUBJECT
        char SUBJECT[32];                   // best_sellers params
        //////////////

  char I_ID[16];     //ITEM ID
        //// BUY CONFIRM VARIABLES
        char STREET_1[48],                  // buy_confirm
parameters
                                STREET_2[48],
                                CITY[32],
                                STATE[24],
```

```
                                ZIP[16],
                                COUNTRY[64],
                                CC_TYPE[32],
                                CC_NAME[32],
                                CC_NUMBER[24],
                                CC_EXPIRY[32],
                                SHIPPING[16];

        char junk[128];
    char ship_addr_id[16];
        int ship_co_id;
        char o_id[32];
        char auth[32];
        /////BUY REQUEST DATA
                char customer[16],              // buy_request
parameters
                                UNAME[64],
                                PASSWD[64],
                                BIRTHDATE[64],
                                FNAME[16],
                                LNAME[16],
                                STREET1[48],
                                STREET2[48],
                                PHONE[24],
                                EMAIL[64],
                                DATA[1500];

            char            // buy_request parameters
                C_UNAME[64],
                C_PASSWD[64],
                C_STREET1[48],
                C_STREET2[48],
                C_CITY[32],
                C_STATE[24],
                C_ZIP[16],
                C_COUNTRY[64],
                C_PHONE[24],
                C_EMAIL[64];
        ////////////////////
        // ORDER_DISPLAY VARS
            char C_ID[16];          // Temporaty Customer ID
    char c_PASSWD[40],
                c_FNAME[20],
                c_LNAME[20],
                c_phone[20],
                c_email[20],
                street1[2][40],
                street2[2][40],
                city[2][30],
                state[2][20],
                zip[2][10],
                country[2][50];
        double o_subtot,o_tax,o_tot;

        int bad;
    char bill_addr_id[16];
    char ship_type[10], o_status[15],cxtype[10],cx_auth_id[15];
        DBDATEREC  orddate,     shipdate;     // useful date
format
        char
csubtot[16],ctax[16],ctot[16],codate[16],cshipdate[16];
                                char i_id[16];
                                int i_qty;
                                double i_discount, i_cost;
                                char i_comments[128],
i_title[64], i_publish[64], ccost[16], cdis[16];

        //////////////

        char        I_SUBJECT[64];
    DBDATEREC  availdate;     // useful date format

        char key[128];

        char *timeline;
        char timebuffer[100];

    elfStream oBuf;             // make an elfStream output object
        char SQL_errormsg[8000];
    EXTENSION_CONTROL_BLOCK *pECB;
    char cookie[1024];
        INT32 seed;

        void ReturnError(int error_num);
        void ReturnDescriptiveError(char *msg);

        void PadIfNeeded(int txn_type);

        int StoreCart(int session);
        int StoreBCCart(int session);

        int GetCart(int session);

        int PromoImages();
        int CachedPromoImages(int randomnum);
        int TopFrame(char *type, char *Subject);

        int Admin_Confirm(char *I_ID,           // item being
admined
                const char *new_cost,    // new cost
                const char *new_image,   // new image
                const char *new_thumb);  // new thumbnail

        int Admin_Request(char *I_ID);          // item being
admined

        int Best_Sellers(const char *Subject);    // Subject being
sellered

        int Buy_Confirm(const char *STREET_1,
                const char *STREET_2,  const char *CITY,
                const char *STATE,     const char *ZIP,
                const char *COUNTRY,   const char
*CC_TYPE,
                const char *CC_NAME,   const char
*CC_NUMBER,
                const char *CC_EXPIRY, const char
*SHIPPING);

        int Buy_Request(const char *customer,    // "NEW" or
"EXISTING"
                const char *UNAME,     const char *PASSWD,
                const char *BIRTHDATE, const char
*FNAME,
                const char *LNAME,     const char *STREET1,
                const char *STREET2,   const char *CITY,
                const char *STATE,     const char *ZIP,
                const char *COUNTRY,   const char *PHONE,

                const char *EMAIL,     const char *DATA);

        int Home(char *C_ID);           // the Customer ID or -1

        // Implement New_Products interaction
        //
        int New_Products(const char *Subject);    // Subject being
listed
```

```
        // Implement Order_Display interaction
        //
        int Order_Display(const char *UNAME,        // UNAME
to search against
                          const char *PASSWD);      // PASSWD to
search against

        // Implement Order_Inquiry interaction
        //
        int Order_Inquiry();    // the output Stream

        // Implement Product_Detail interaction
        //
        int Product_Detail(char *BookID);           // Book to
Detail

        // Implement Search_Request interaction
        //
        int Search_Request();         // the output Stream

        // Implement Search_Results interaction
        //
        int Search_Results(const char *STYPE,       // search type
"AUTHOR, etc."
                          const char *MATCH);       // string to search for

        // Implement Shopping_Cart interaction.  This interaction
parses its own
        // parameters because there may be up to several hundred of
them (several
        // for each item in the shopping cart.  The Purl parameter is
actually a
        // pointer to only part of the actual URL.  i.e.,
        //
        //
http://tpcwww/tpcw/tpcw.dll?CMD=Shopping_Cart&Add_Flag=0...
        //                                          ^
        //  "^" above indicates where Purl will start.  Similarly, Lurl
is the
        //  length of the URL from the "^" point to the end of the
URL
        //
        int Shopping_Cart(void *Purl,               // pointer to URL
                          DWORD Lurl);              // length of URL
        int SubjectFrame(char *Subject);  // stored proc to call
        int BestSellersFrame(char *Subject);  // stored proc to call
        int NewProductsFrame(char *Subject);  // stored proc to
call
        void ReturnRedirect(char *msg);
        int PP_Detail(int randomnum);

        int ParseTPCW();

};

//{{AFX_INSERT_LOCATION}}
// Microsoft Developer Studio will insert additional declarations
immediately before the previous line.

#endif
```

util.cpp

```
/*
 *  Copyright (c) 1999-2000 Intel Corporation
 *
 *  util.cpp
 */

#include <string.h>
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include <time.h>
#include "util.h"
#include "random.h"


/*****************************************************************
 *
 * Subjects
 *
 *****************************************************************/
static const char *SubjectList[SUBJECT_COUNT] = {
 "ARTS",          "BIOGRAPHIES", "BUSINESS",    "CHILDREN",
"COMPUTERS",
 "COOKING",       "HEALTH",     "HISTORY",     "HOME",
"HUMOR",
 "LITERATURE",    "MYSTERY",    "NON-FICTION",
"PARENTING", "POLITICS",
 "REFERENCE",     "RELIGION",   "ROMANCE",
"SELF-HELP", "SCIENCE-NATURE",
 "SCIENCE-FICTION", "SPORTS",    "YOUTH",      "TRAVEL" };

void
MakeSubject( int *seed, char *Subject )
{
  int index;

  index = LCGrand32( seed ) % SUBJECT_COUNT;
  strcpy( Subject, SubjectList[index] );
}

/*****************************************************************
 *
 * Countries
 *
 *****************************************************************/
char *Countries[COUNTRY_COUNT][COUNTRY_DATA] = {
   "United States",   "1",       "Dollars",   "United Kingdom",
"0.625461", "Pounds",
   "Canada",          "1.46712",  "Dollars",   "Germany",
"1.86125",  "Deutsche Marks",
   "France",          "6.24238",  "Francs",    "Japan",           "121.907",
"Yen",
   "Netherlands",     "2.09715",  "Guilders",  "Italy",           "1842.64",
 "Lira",
   "Switzerland",     "1.51645",  "Francs",    "Australia",
"1.54208",  "Dollars",
   "Algeria",         "65.3851",  "Dinars",    "Argentina",       "0.998",
"Pesos",
   "Armenia",         "540.92",   "Dram",      "Austria",         "13.0949",
"Schillings",
   "Azerbaijan",      "3977",     "Manat",     "Bahamas",         "1",
"Dollars",
   "Bahrain",         "0.3757",   "Dinar",     "Bangla Desh",     "48.65",
 "Taka",
   "Barbados",        "2",        "Dollars",   "Belarus",         "248000",
"Rouble",
   "Belgium",         "38.3892",  "Francs",    "Bermuda",         "1",
"Dollars",
```

```
  "Bolivia",        "5.74",    "Boliviano", "Botswana",        "4.7304",
"Pula",
  "Brazil",         "1.71",    "Real",     "Bulgaria",         "1846",
"Lev",
  "Cayman Islands",  "0.8282",  "Dollars",  "Chad",
"627.1999", "Franc",
  "Chile",          "494.2",   "Pesos",    "China",           "8.278",
"Yuan Renmimbi",
  "Christmas Island", "1.5391",  "Dollars",  "Colombia",
"1677",    "Pesos",
  "Croatia",        "7.3044",  "Kuna",     "Cuba",            "23",
"Pesos",
  "Cyprus",         "0.543",   "Pounds",   "Czech Republic",   "15.8",
 "Pesos",
  "Denmark",        "7.0707",  "Kroner",   "Dominican
Republic","15.8",    "Pesos",
  "Eastern Caribbean","2.7",    "Dollars",  "Ecuador",         "9600",
 "Sucre",
  "Egypt",          "3.33771", "Pounds",   "El Salvador",     "8.7",
"Colon",
  "Estonia",        "14.9912", "Kroon",    "Ethiopia",        "7.7",
"Birr",
  "Falkland Island", "0.6255",  "Pound",    "Faroe Island",
"7.124",   "Krone",
  "Fiji",           "1.9724",  "Dollars",  "Finland",         "5.65822",
"Markka",
  "Gabon",          "627.1999", "Franc",    "Gibraltar",       "0.6255",
"Pound",
  "Greece",         "309.214", "Drachmas", "Guam",            "1",
"Dollars",
  "Hong Kong",      "7.75473", "Dollars",  "Hungary",
"237.23",  "Forint",
  "Iceland",        "74.147",  "Krona",    "India",           "42.75",
"Rupees",
  "Indonesia",      "8100",    "Rupiah",   "Iran",            "3000",
"Rial",
  "Iraq",           "0.3083",  "Dinar",    "Ireland",         "0.749481",
"Punt",
  "Israel",         "4.12",    "Shekels",  "Jamaica",         "37.4",
"Dollars",
  "Jordan",         "0.708",   "Dinar",    "Kazakhstan",      "150",
"Tenge",
  "Kuwait",         "0.3062",  "Dinar",    "Lebanon",         "1502",
"Pounds",
  "Luxembourg",     "38.3892", "Francs ",  "Malaysia",        "3.8",
 "Ringgit",
  "Mexico",         "9.6287",  "Pesos",    "Mauritius",       "25.245",
"Rupees",
  "New Zealand",    "1.87539", "Dollars",  "Norway",
"7.83101", "Kroner",
  "Pakistan",       "52",      "Rupees",   "Philippines",     "37.8501",
"Pesos",
  "Poland",         "3.9525",  "Zloty",    "Portugal",        "190.788",
"Escudo",
  "Romania",        "15180.2", "Leu",      "Russia",          "24.43",
"Rubles",
  "Saudi Arabia",   "3.7501",  "Riyal",    "Singapore",
"1.72929", "Dollars",
  "Slovakia",       "43.9642", "Koruna",   "South Africa",
"6.25845", "Rand",
  "South Korea",    "1190.15", "Won",      "Spain",           "158.34",
 "Pesetas",
  "Sudan",          "5.282",   "Dinar",    "Sweden",          "8.54477",
"Krona",
  "Taiwan",         "32.77",   "Dollars",  "Thailand",        "37.1414",
"Baht",
  "Trinidad",       "6.1764",  "Dollars",  "Turkey",          "401500",
"Lira",
  "Venezuela",      "596",     "Bolivar",  "Zambia",          "2447.7",
"Kwacha"
};


void
MakeCountryName( int *seed, char *Country )
{
 int index;

 index = LCGrand32( seed ) % COUNTRY_COUNT;
 strcpy( Country, Countries[index][COUNTRY_NAME] );
}

static const char *WWWCountryNames[COUNTRY_COUNT] = {
  "United+States",   "United+Kingdom",
  "Canada",          "Germany",
  "France",          "Japan",
  "Netherlands",     "Italy",
  "Switzerland",     "Australia",
  "Algeria",         "Argentina",
  "Armenia",         "Austria",
  "Azerbaijan",      "Bahamas",
  "Bahrain",         "Bangla+Desh",
  "Barbados",        "Belarus",
  "Belgium",         "Bermuda",
  "Bolivia",         "Botswana",
  "Brazil",          "Bulgaria",
  "Cayman+Islands",  "Chad",
  "Chile",           "China",
  "Christmas+Island", "Colombia",
  "Croatia",         "Cuba",
  "Cyprus",          "Czech+Republic",
  "Denmark",         "Dominican+Republic",
  "Eastern+Caribbean","Ecuador",
  "Egypt",           "El+Salvador",
  "Estonia",         "Ethiopia",
  "Falkland+Island", "Faroe+Island",
  "Fiji",            "Finland",
  "Gabon",           "Gibraltar",
  "Greece",          "Guam",
  "Hong+Kong",       "Hungary",
  "Iceland",         "India",
  "Indonesia",       "Iran",
  "Iraq",            "Ireland",
  "Israel",          "Jamaica",
  "Jordan",          "Kazakhstan",
  "Kuwait",          "Lebanon",
  "Luxembourg",      "Malaysia",
  "Mexico",          "Mauritius",
  "New+Zealand",     "Norway",
  "Pakistan",        "Philippines",
  "Poland",          "Portugal",
  "Romania",         "Russia",
  "Saudi+Arabia",    "Singapore",
  "Slovakia",        "South+Africa",
  "South+Korea",     "Spain",
  "Sudan",           "Sweden",
  "Taiwan",          "Thailand",
  "Trinidad",        "Turkey",
  "Venezuela",       "Zambia"
};

void
MakeWWWCountryName( int *seed, char *Country )
{
 int index;
 index = Irand32( seed, 0, COUNTRY_COUNT-1 );
```

```
  strcpy( Country, WWWCountryNames[index] );
}
/*************************************************************
****************
 *
 * Book Backings
 *
 *************************************************************
****************/
static const char *ItemBackings[BACK_COUNT] =
          { "HARDBACK", "PAPERBACK", "USED", "AUDIO",
"LIMITED-EDITION"};

void
MakeItemBacking( int *seed, char *ItemBacking )
{
  int index;

  index = LCGrand32( seed ) % BACK_COUNT;
  strcpy(ItemBacking, ItemBackings[index]);
}

/*************************************************************
****************
 *
 * Shipping Types
 *
 *************************************************************
****************/
static const char *ShippingTypes[SHIP_COUNT] =
          { "AIR", "UPS", "FEDEX", "SHIP", "COURIER", "MAIL" };

void
MakeShippingType( int *seed, char *ShippingType )
{
  int index;

  index = LCGrand32( seed ) % SHIP_COUNT;
  strcpy( ShippingType, ShippingTypes[index] );
}

/*************************************************************
****************
 *
 * Credit Card Types
 *
 *************************************************************
****************/
static const char *CreditCardTypes[CARDTYPE_COUNT] =
          { "VISA", "MASTERCARD", "DISCOVER", "AMEX",
"DINERS" };

void
MakeCreditCardType( int *seed, char *CreditCardType )
{
  int index;

  index = LCGrand32( seed ) % CARDTYPE_COUNT;
  strcpy( CreditCardType, CreditCardTypes[index] );
}

/*************************************************************
****************
 *
 * Order Status Types
 *
 *************************************************************
****************/
static const char *OrderStatusTypes[STATUS_COUNT] =
          { "PROCESSING", "SHIPPED", "PENDING", "DENIED" };

void
MakeOrderStatus( int *seed, char *OrderStatus )
{
  int index;

  index = LCGrand32(seed) % STATUS_COUNT;
  strcpy(OrderStatus, OrderStatusTypes[index]);
}

/*************************************************************
****************
 *  Function:  DigSyl()
 *
 *  Description:
 *      Convert an integer to a synthetic word of given length as
required
 *      by Clause 4.6.2.8.
 *
 *
 *************************************************************
****************/
static char *DigSyllables[DIGSYL_COUNT] =
          {"BA", "OG", "AL", "RI", "RE", "SE", "AT", "UL", "IN",
"NG"};

void
DigSyl( char * str, int D, int N )
{
int  base;
int  i;
int  digits;
char *sp;

   /*
    *  Set local string pointer and initialize NULL string.
    */
   sp = str;
   *sp = 0;

   /*
    *  Check for invalid parameters.
    */
   if ( D < 0 || N < 0 ) {
      return;
   }

   /*
    * Determine the number of decimal digits in D
    */
   for ( digits = 0, base = D; base > 0; base = base / 10 ) {
      ++digits;
   }

   /*
    * Make sure N is large enough to accomidate all D digits.
    */
   if ( digits > N ) {
      N = digits;
   }

   /*
    *  Determine the decimal base value for the number of digits
    */
   for ( base = 1, i = 0; i < (N - 1); ++i ) {
      base *= 10;
```

```
    }

    /*
     *  Generate the string
     */
    for ( i = 0; i < N; ++i ) {
        digits = D / base;
        if ( digits > 9 ) {
            /*  PAD with leading zeros */
                    strcat( sp, DigSyllables[0]);
        }
        else {
            strcat( sp, DigSyllables[digits] );
        }
        sp += DIGSYL_WIDTH;
        D = D % base;
        base = base / 10;
    }

    /*
     *  Terminate the string and return
     */
    *sp = 0;
}

/*****************************************************************
*****************
 *
 * Generate a User name using DigSyl.
 *
 *****************************************************************
*****************/
void
MakeUName( char *Name, int CustomerID )
{

    DigSyl( Name, CustomerID, 0 );
}

/*****************************************************************
*****************
 *
 * Password is the DigSyl( CustomerID ) all in lower case
 *
 *****************************************************************
*****************/
void
MakePassword( char *Password, int CustomerID )
{
int  i;
char p[MAX_PASSWD_NAME];

  DigSyl( p, CustomerID, 0 );
  for ( i = 0; p[i] != 0; ++i ) {
     p[i] = tolower( p[i] );
  }
  strcpy ( Password, p );
}

/*****************************************************************
*****************
 *
 * String -- Make Random Numeric string
 *
 *****************************************************************
*****************/
static const char NumberArray[NUMERIC_COUNT + 1] =
"0123456789";

void
MakeNumberString( int *seed, char *NumStr, int x, int y )
{
int  i;
int  StringLength;

    /*
     * Select a length of the string between x and y.
     */
    StringLength = Irand32( seed, x, y );

    /*
     * Build a numeric string for the above length.
     */
    for ( i = 0; i < StringLength; ++i ) {
                NumStr[i] = NumberArray[LCGrand32( seed ) %
NUMERIC_COUNT];
    }
    NumStr[StringLength] = 0;
}

/*****************************************************************
*****************
 *
 * String -- Make Random Alpha string
 *
 *****************************************************************
*****************/
static const char AlphaArray[] =
"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvw
xyz0123456789!@#$%^&*()_-=+{}[]|:;,.?/~ ";

void
MakeAlphaString( int *seed, char *AlphaString, int x, int y )
{
int  i;
int  StringLength;
int  count;

    /*
     *  Determine length of AlphaArray
     */

    count = strlen( AlphaArray );

    /*
     * Select a length of the string between x and y.
     */
    StringLength = Irand32( seed, x, y );

    /*
     * Build an alpha string for the above length.
     */
    for ( i = 0; i < StringLength; ++i ) {
                AlphaString[i] = AlphaArray[ LCGrand32( seed ) % count
];
    }
    AlphaString[StringLength] = 0;
}


/*
 *  The special characters that need to be escaped before shipping them
across
 *  the WWW.  Note that these are the first characters in
WWWAlphaArray.
 */
```

```
static const char WWWAlphaEscapes[]="!#$%^&()=+{}[]|:;,?/~ ";

/*
 *  Specify the conversion sequences for all characters in the
benchmark.
 *  The hard ones (requiring escapes) are first so that they are in the
same
 *  array positions as their real names in AlphaEscapes above.
 */
static const char *WWWAlphaArray[CHAR_COUNT]={
  "%21", "%23", "%24", "%25", "%5E", "%26", "%28", "%29",
"%2B", "%3D",
  "%7B", "%7D", "%5B", "%5D", "%7C", "%3A", "%3B", "%2C",
"%3F", "%2F",
  "%7E", "+",   "@",   "*",   "-",   "_",   ".",   "A",   "B",   "C",
  "D",   "E",   "F",   "G",   "H",   "I",   "J",   "K",   "L",   "M",
  "N",   "O",   "P",   "Q",   "R",   "S",   "T",   "U",   "V",   "W",
  "X",   "Y",   "Z",   "a",   "b",   "c",   "d",   "e",   "f",   "g",
  "h",   "i",   "j",   "k",   "l",   "m",   "n",   "o",   "p",   "q",
  "r",   "s",   "t",   "u",   "v",   "w",   "x",   "y",   "z",   "0",
  "1",   "2",   "3",   "4",   "5",   "6",   "7",   "8",   "9" };

/*
 *  Take an alpha string and escape the special characters for the
WWW
 *  translation.  This is required for when you use
WebInterface::FindInLast
 *  to fetch a a-string from the last HTML response then want to ship it
back
 *  across in a subsequent transaction (e.g., BuyConfirm
 *  CC_NAME= "F_NAME L_NAME" where F_NAME and
L_NAME come from prev HTML
 *
 *  NOTE: Locally generated a-strings are pre-escaped for
transmission.
 *        (see below)
 */
void EscapeString(char *target, const char *source)
{
  int i, max;
  char *p;
  *target=0;                        // Start off empty
  max=strlen(source);               // how many chars to convert?
  for( i=0; i<max; i++)
  {
    if(p=strchr(WWWAlphaEscapes,source[i]))         // Is this a special
char?
    {
     strcat(target, WWWAlphaArray[p-WWWAlphaEscapes]); // copy
escape sequence
    }
    else
    {
     strncat(target, &source[i], 1);            // copy the character
    }
  }
}

/*
 *  Generate a random escaped alpha string for tranmission across the
WWW
 *  The beginning strings in WWWAlphaArray correspond to the
escape sequences
 *  for the characters in AlphaEscapes (see above)
 */
void MakeWWWAlphaString(int *seed, char *AlphaString, int x, int
y)
{
  int  i, StringLength;

  AlphaString[0]=0;

  // Select a length of the string (between: x and y).
  StringLength = Irand32(seed, x, y);

  // Build an alpha string for the above length.
  for (i=0; i<StringLength; i++) {
    strcat(AlphaString,WWWAlphaArray[Irand32(seed, 0,
CHAR_COUNT-1)]);
  }
}

/*****************************************************
*****************
 *
 *  Title:  Make_Levels( str_p, num, Prefix, Name )
 *
 *  Description:
 *    Make an Image file name based upon the num parameter.  The
level
 *    numbers and "num" number itself is padding with leading zeros
such
 *    that a Dir or ls of the directory will give the correct sort order.
 *    The Prefix and Name parameters specify if this is for an book
image
 *    or thumbnail.
 *
 *  Parameters:
 *    str_p  - Pointer where to place the image file name
 *    num    - Image file number 1 .. NumItems.
 *    Prefix - Character sting of prefix directory
 *    Format - Character string of format for file name
 *
 *  Returns:
 *    File string is returned in the str_p pointer
 *
 *****************************************************
*****************/
int ImageLevels=0;

void
Make_Levels( char *str_p, int num, char *Prefix, char *Format )
{
int  d;
int  i;
int  levels;
int  p;
char LevelString[MAX_STRING];
char slash;


  /*
   *  Copy the Image Prefix directory into the image file name
   */
  strcpy( str_p, Prefix );
  if ( strchr( str_p, '/' ) ) {
     slash = '/';
  }
  else {
     slash = '\\';
  }

  /*
   * Generate the itermediate levels of the file name
   */
  levels = num;
```

```
  for ( i = ImageLevels; i > 0; --i ) {
     p = (int) pow( (double)IMAGE_LEVEL, (double)i );

     if ( levels > 0 ) {
        d = (levels / p) + 1;
        if (  (levels % p) == 0 ) {
           --d;
        }
     }
     else {
        d = IMAGE_LEVEL;
     }
     sprintf( LevelString, "%03d%c", d, slash );
     strcat( str_p, LevelString );

     levels = levels % p;
  }

  /*
   *  Generate the file name
   */
  sprintf( LevelString, Format, num );
  strcat( str_p, LevelString );
}

/*****************************************************************
*****************
 *
 * Determine the number of days in a year (1/1/1800 == day 0 - year 0)
 *
 *****************************************************************
*****************/
int
YearToDays( int year )
{
int days;

  year -= 1800;
  days = 365 * year;
  days += (year - 1)/4;
  if ( year > 100 ) {
    --days;
  }
  return( days );
}


/*****************************************************************
*****************
 *
 * Determine the number of days in a Month
 *
 *****************************************************************
*****************/
int
DaysInMonth( int month, int year )
{
  if ( month == 2 ) {
     if ( (year % 4 == 0) && (year != 1800) && (year != 1900) ) {
        return( 29 );
     }
     return( 28 );
  }
  else if ( month < 8 ) {
    if ( (month % 2) == 0 ) {
      return( 30 );
    }
    else {
      return( 31 );
    }
  }
  else {
    if ( (month % 2) == 0 ) {
      return( 31 );
    }
    else {
      return( 30 );
    }
  }
}

/*****************************************************************
*****************
 *
 *  Convert a day to a date.  Day 0 is 1/1/1800
 *
 *****************************************************************
*****************/
void
MakeDate( char *DateString, int Day )
{
int month;
int days;
int year;

  /*
   *  Over estimate the year and then work backwards taking
   *  into account leap years.
   */
  year = 1800 + Day / 365;
  days = YearToDays( year );
  while ( Day < days ) {
    --year;
    days = YearToDays( year );
  }

  Day = Day - days + 1;

  for ( month = 1; month <= 12; ++month ) {
    days = DaysInMonth( month, year );
    if ( Day <= days ) {
       break;
    }
    Day -= days;
  }

  sprintf( DateString, "%d/%d/%d", month, Day, year );
}

/*****************************************************************
*****************
 *
 *  Convert a month, day, year to a day.  Day 0 is 1/1/1800
 *
 *****************************************************************
*****************/
int
MMDDYYtoDay( int Month, int Day, int Year )
{
int i;

  Day = Day + YearToDays( Year ) - 1;

  for ( i = 1; i < Month; ++i ) {
    Day += DaysInMonth( i, Year );
  }
```

```
  return( Day );
}

/*****************************************************
*****************
 *
 *  Convert a struct tm time to a day where day 0 is 1/1/1800
 *
 *****************************************************
*****************/
int
TimeToDay( struct tm *t )
{
   /*
    *  Struct tm tm_year is relative to 1900 so add 1900
    */
   return( YearToDays(t->tm_year + 1900) + t->tm_yday );
}

/*****************************************************
*****************
 *
 *  Create a Date Time string from a struct tm
 *
 *****************************************************
*****************/
void
MakeDateTime( char *DateTimeString, struct tm *t )
{
char TimeString[MAX_TIME_STRING];

   MakeDate( DateTimeString, TimeToDay( t ) );
   sprintf( TimeString, " %d:%d:%d.000", t->tm_hour, t->tm_min,
t->tm_sec );
   strcat( DateTimeString, TimeString );
}

/*****************************************************
*****************
 *
 *  Create a Date Time string from a day and struct tm
 *
 *****************************************************
*****************/
void
MakeDayTime( char *DateTimeString, int day, struct tm *t )
{
char TimeString[MAX_TIME_STRING];

   MakeDate( DateTimeString, day );
   sprintf( TimeString, " %d:%d:%d.000", t->tm_hour, t->tm_min,
t->tm_sec );
   strcat( DateTimeString, TimeString );
}

#ifdef DIGSYLTEST

void
DigSyltest()
{
char retval[1024];

            DigSyl( retval, -1, 0);
            if ( retval[0] != 0 )
                        printf("Call with D < 0 FAILS (%s)\n", retval);
            else
                        printf("Call with D < 0 ok\n");

            DigSyl( retval, 4, 0);
            if (strcmp(retval, "RE"))
                        printf("DigSyl(4, 0) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(4, 0) ok\n");

            DigSyl( retval, 15, 0);
            if (strcmp(retval, "OGSE"))
                        printf("DigSyl(15, 0) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(15, 0) ok\n");

            DigSyl( retval, 100, 0);
            if (strcmp(retval, "OGBABA"))
                        printf("DigSyl(100, 0) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(100, 0) ok\n");

            DigSyl( retval, 100, 5);
            if (strcmp(retval, "BABAOGBABA"))
                        printf("DigSyl(100, 5) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(100, 5) ok\n");

            DigSyl( retval, 1972, 0);
            if (strcmp(retval, "OGNGULAL"))
                        printf("DigSyl(1972, 0) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(1972, 0) ok\n");

            DigSyl( retval, 1972, 6);
            if (strcmp(retval, "BABAOGNGULAL"))
                        printf("DigSyl(1972, 6) FAILS (%s)\n", retval);
            else
                        printf("DigSyl(1972, 6) ok\n");
}

#endif
```

util.h

```
#ifndef UTIL_H
#define UTIL_H
/*
 *  Copyright (c) 1999-2000 Intel Corporation
 */

#define SUBJECT_COUNT    24
#define COUNTRY_COUNT    92
#define COUNTRY_DATA     3
#define COUNTRY_NAME     0
#define COUNTRY_EXCHANGE 1
#define COUNTRY_CURRENCY 2
#define BACK_COUNT       5
#define SHIP_COUNT       6
#define CARDTYPE_COUNT   5
#define STATUS_COUNT     4
#define DIGSYL_WIDTH           2
#define DIGSYL_COUNT     10
#define NUMERIC_COUNT    10
#define MAX_PASSWD_NAME  32
#define MAX_TIME_STRING  32
#define MAX_STRING       512
#define IMAGE_LEVEL      100
#define ESCAPE_COUNT     22
#define CHAR_COUNT       89
```

```
extern char *Countries[COUNTRY_COUNT][COUNTRY_DATA];

extern void   MakeSubject( int *, char * );
extern void   MakeCountryName( int *, char * );
extern void   MakeWWWCountryName( int *seed, char *Country );
extern void   MakeItemBacking( int *, char * );
extern void   MakeShippingType( int *, char * );
extern void   MakeCreditCardType( int *, char * );
extern void   MakeOrderStatus( int *, char * );

extern void   DigSyl( char *, int, int );
extern void   MakeUName( char *, int);
extern void   MakePassword( char *, int);

extern void   MakeNumberString(int *, char *, int, int );
extern void   MakeAlphaString( int *, char *, int, int );

extern void   EscapeString( char *target, const char *source );
extern void   MakeWWWAlphaString( int *seed, char *AlphaString,
int x, int y);

extern int    ImageLevels;
extern void   Make_Levels( char *str_p, int num, char *Prefix, char
*Format );

extern void   MakeDate( char *, int );
extern int    MMDDYYtoDay( int, int, int );
extern int    TimeToDay( struct tm * );
extern void   MakeDateTime( char *, struct tm * );
extern void   MakeDayTime( char *, int, struct tm * );

#endif
```

Tunable Parameters for Application Source Code

tpc.cfg for AdminConfirm Server

```
8
1
2
spweb21.tpcw.net
spweb24.tpcw.net
spweb25.tpcw.net
spweb26.tpcw.net
spweb27.tpcw.net
spweb28.tpcw.net
spweb29.tpcw.net
spweb30.tpcw.net
spweb31.tpcw.net
spweb33.tpcw.net
spweb34.tpcw.net
Spweb71.tpcw.net
```

tpc.cfg for Application Server

```
48
30
0
spweb21.tpcw.net
spweb24.tpcw.net
spweb25.tpcw.net
spweb26.tpcw.net
spweb27.tpcw.net
spweb28.tpcw.net
spweb29.tpcw.net
spweb30.tpcw.net
spweb31.tpcw.net
spweb33.tpcw.net
spweb34.tpcw.net
Spweb71.tpcw.net
```

tpc.cfg for Application/Index Server

```
30
0
0
spweb21.tpcw.net
spweb24.tpcw.net
spweb25.tpcw.net
spweb26.tpcw.net
spweb27.tpcw.net
spweb28.tpcw.net
spweb29.tpcw.net
spweb30.tpcw.net
spweb31.tpcw.net
spweb33.tpcw.net
Spweb34.tpcw.net
```

tpcw.cfg-tpcw

```
45
30
0
spweb21.tpcw.net
spweb24.tpcw.net
spweb33.tpcw.net
spweb27.tpcw.net
spweb28.tpcw.net
spweb31.tpcw.net
Spweb32.tpcw.net
```

tpcw.cfg-update

```
45
0
1
spweb21.tpcw.net
spweb24.tpcw.net
spweb33.tpcw.net
spweb27.tpcw.net
spweb28.tpcw.net
spweb31.tpcw.net
spweb32.tpcw.net
```

Update.dll

elfStream.cpp

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: elfStream.cpp
 *
 *   Implements a simplest possible memory streaming class.  This is
required
```

```
 *   because the ISAPI DLL must know how long the response is if
HTTP1.1
 *   keepalives are to be used.  So you write everything into an
elfStream then
 *   get the length and write to the actual output stream from the
elfStream.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include <stdio.h>
#include <string.h>

#include "ElfStream.h"

// Push the string into the stream and return the stream.
// Note that this was inlined in elfStream.cpp but anomolous behavior
was
// exhibited possibly due to an ISAPI bug.  May want to try inlining it
again.
//
elfStream &operator<<(elfStream &elf, const char *str)
{
                elf.write(str,strlen(str)); return elf;
};

// Push the textified long into the stream and return the stream.
// Note that this was inlined in elfStream.cpp but anomolous behavior
was
// exhibited possibly due to an ISAPI bug.  May want to try inlining it
again.
//
elfStream &operator<<(elfStream &elf, long l)
   { elf.curLen+=sprintf(&elf.myBuff[elf.curLen],"%ld",l); return elf;
} ;
```

elfStream.h

```
#ifndef __MYSAPI_ELFSTREAM_H_
#define __MYSAPI_ELFSTREAM_H_

/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: elfStream.h
 *
 *   Defines a simplest possible memory streaming class.  This is
required
 *   because the ISAPI DLL must know how long the response is if
HTTP1.1
 *   keepalives are to be used.  So you write everything into an
elfStream then
 *   get the length and write to the actual output stream from the
elfStream.
 *
 *   Intel TPC-W ISAPI Implementation
 */

#include <afxisapi.h>

#define MAX_STREAM_SIZE 32764

class elfStream {
protected:
  int curLen;                   // How long so far?
  char myBuff[MAX_STREAM_SIZE];  // The outgoing buffer
public:

  // Let the member buffer suck in character strings
  //
  friend elfStream & operator<<(elfStream&, const char *);

  // Let the member buffer suck in longs.
  //
  friend elfStream & operator<<(elfStream&, long);

  // Inline function to let the member buffer suck generic buffers and
lengths
  //
  void remove(int bytes)
  { ZeroMemory(&myBuff[curLen-bytes],bytes); curLen-=bytes; };

  void write(const char *buf, int len)
    { if ((curLen + len) < MAX_STREAM_SIZE )
memcpy(&myBuff[curLen],buf,len); curLen+=len;};

  // Inline function to return length of stream.
  //
  int getBufSize()
    { return curLen; };

  void ZeroBuf()
  { ZeroMemory(myBuff,MAX_STREAM_SIZE); curLen=0; };
  // Inline function to return pointer to internal buffer
  //
  const char *getBuf()
     { return myBuff; };

  // Inline constructor sets to innocuous values
  //
  elfStream() { curLen=0; };

  // Inline destructor
  //
  ~elfStream() { };

} ;

#endif
```

Resource.h

```
/*
 *   Copyright (c) 2000 Intel Corporation
 *
 *   File: resource.h
 *
 *   Allows fancy gui file properties and such via the VC++/MFC
interface
 *   for doing this type of thing.
 *
 *   Intel TPC-W ISAPI Implementation
 */

//{{NO_DEPENDENCIES}}
// Microsoft Visual C++ generated include file.
// Used by tpcw.rc
//

#define IDS_SERVER        102

#define _APS_NEXT_RESOURCE_VALUE        103
#define _APS_NEXT_CONTROL_VALUE         103
```

```
#define _APS_NEXT_SYMED_VALUE          103
#define _APS_NEXT_COMMAND_VALUE        32768
```

ThreadPool.cpp

```
/*++

Copyright (c) 1997  Microsoft Corporation

Module Name:    ThreadPool.c

Abstract:

   Work queue management functions.

--*/

#include <windows.h>
#include <httpext.h>
#include "threadpool.h"

// Global critical section to control access to ECB queue
extern CRITICAL_SECTION csQueueLock;

// Semaphore to wait on in worker thread; each time an ECB is added
to the
// ECBqueue by HttpExtensionProc, the semaphore must be released
once
extern HANDLE hWorkSem;
//
// Structure to create simple linked list
//
extern int WORKER_THREADS;

typedef struct {
        EXTENSION_CONTROL_BLOCK *pECB;
// Data for list entry
        DWORD dwNextEntry;
 // Pointer to next entry
} ECB_QUEUE_ENTRY;


//
// Array that is a simple linked list
//

ECB_QUEUE_ENTRY ECBqueue[WORK_QUEUE_ENTRIES];


//
// Index of next ECBqueue entry to use, and last Entry in use.
//

DWORD dwCurrentEntry, dwLastEntry;


//
// Flag to indicate that there are no other entries in the ECBqueue
//

BOOL fQueueEmpty;

BOOL InitThreadPool( void )
{
        DWORD i;
        DWORD dwThreadID;

   //
   // Create Semaphore in nonsignaled state
   //

   if ( (hWorkSem = CreateSemaphore( NULL, 0, 0x7fffffff, NULL ))
== NULL ) {
                return FALSE;
   }

        InitializeCriticalSection( &csQueueLock );

        fQueueEmpty = TRUE;

   //
        // Create Pool Threads
   //

        for ( i = 0; i < WORKER_THREADS; i++ ) {
                if ( CreateThread(
        NULL,
        0,
        WorkerFunction,
        (LPVOID) i,
        0,
        &dwThreadID
        ) == NULL ) {
                        return FALSE;
     }
        }

   //
        // Clear work queue
   //

        ZeroMemory( ECBqueue, WORK_QUEUE_ENTRIES *
sizeof (ECB_QUEUE_ENTRY) );


        return TRUE;
}


BOOL AddWorkQueueEntry( IN EXTENSION_CONTROL_BLOCK
* pECB )
{
        DWORD i;
        for ( i = 0; i < WORK_QUEUE_ENTRIES; i++ ) {
                if ( ECBqueue[i].pECB == NULL ) {
                        if ( fQueueEmpty ) {
                                dwCurrentEntry = i;
                                fQueueEmpty = FALSE;
        } else {

ECBqueue[dwLastEntry].dwNextEntry = i;
        }

                        ECBqueue[i].pECB = pECB;
                        dwLastEntry = i;

                        return TRUE;
                }
        }

        // If no NULL queue entry found, indicate failure
        return FALSE;
}

BOOL GetWorkQueueEntry( OUT
EXTENSION_CONTROL_BLOCK ** ppECB )
```

```
{
   if ( (*ppECB = ECBqueue[dwCurrentEntry].pECB) == NULL ) {
                        return FALSE;
   } else {
                        ECBqueue[dwCurrentEntry].pECB = NULL;
                        if (dwCurrentEntry == dwLastEntry)          // If
this is only pending item

                                fQueueEmpty = TRUE;
                        else
                                dwCurrentEntry =
ECBqueue[dwCurrentEntry].dwNextEntry;
            }

            return TRUE;
}
```

ThreadPool.h

```
/*++

Copyright (c) 1997  Microsoft Corporation

Module Name:    ThreadPool.h

--*/

// Number of threads in pool
#define POOL_THREADS 200

// Number of entries in ECBqueue
#define WORK_QUEUE_ENTRIES 2000

// These functions will add/retrieve an ECB to/from the linked list.
// ENTER csQueueLock BEFORE CALLING AND LEAVE
csQueueLock AFTER
//   RETURNING FROM THESE FUNCTIONS!!!
BOOL AddWorkQueueEntry(EXTENSION_CONTROL_BLOCK *);
BOOL GetWorkQueueEntry(EXTENSION_CONTROL_BLOCK **
ppECB);

// This function initializes the thread pool
BOOL InitThreadPool(void);

// Function that threads in pool run
DWORD WINAPI WorkerFunction(LPVOID);
```

Update.cpp

```
/*
 *
 *   File: Update.cpp
 *
 *   Implements an ISAPI Cache Update API call to Maintain Cache
Consistency for TPC-W workload
 *   as per the TPC-W 1.8 specification.
 *

 *   Copyright IBM
 *              - Chris Floyd
*/

#include <afx.h>
#include <afxwin.h>
#include <afxmt.h>       // for synchronization objects
#include <afxext.h>
#include <afxisapi.h>
#include <stdio.h>
#include <assert.h>
#include <float.h>

#include "Update.h"

#include <Winsock2.h>

// Semaphore to wait on in worker thread; each time an ECB is added
to the
// ECBqueue by HttpExtensionProc, the semaphore must be released
once
HANDLE hWorkSem;

// Global critical section to control access to ECB queue
CRITICAL_SECTION csQueueLock;
int WORKER_THREADS;

#include <windows.h>
#include <httpext.h>
#include <stdio.h>
#include "threadpool.h"

BOOL WINAPI DllMain( IN HINSTANCE hinstDll, IN DWORD
fdwReason, IN LPVOID lpvContext)
{
            BOOL fReturn = TRUE;
            switch ( fdwReason ) {

            case DLL_PROCESS_ATTACH:
                        {
                                    // Connections to ISA from
update.dll
                                    WORKER_THREADS=1;
                                    fReturn = InitThreadPool( );
                                    break;
                        }
            }

            return fReturn;
}


BOOL WINAPI GetExtensionVersion( OUT HSE_VERSION_INFO
* pVer)
{
            BOOL fReturn = TRUE;

            pVer->dwExtensionVersion = MAKELONG(
HSE_VERSION_MINOR, HSE_VERSION_MAJOR );
            lstrcpyn( pVer->lpszExtensionDesc, "ISAPI Keep-Alive
with Thread Pool Extension Sample",
HSE_MAX_EXT_DLL_NAME_LEN );


            return fReturn;
}


DWORD WINAPI HttpExtensionProc( IN
EXTENSION_CONTROL_BLOCK * pECB )
{
            DWORD dwSize;
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

            char szHeader[] =
```

```
    "Connection: Keep-Alive\r\n"
    "Content-Length: %lu\r\n"
    "Content-type: text/html\r\n\r\n";

            char szBusyMessage[] =
    "<html> <form method=get action=KeepAliveP.dll> <input
type=submit> "
              "<br>pECB->ConnID=%lu  <br>Server was too busy.
</form></html>";

            char szBuffer[4096];
            char szBuffer2[4096];

            EnterCriticalSection( &csQueueLock );

  if ( !AddWorkQueueEntry( pECB ) ) {

    //
    // if ECB could not be assigned
    //

                    LeaveCriticalSection( &csQueueLock );

                    sprintf( szBuffer2, szBusyMessage,
pECB->ConnID );

    //
                    // Send outgoing header
    //

                    sprintf( szBuffer, szHeader, strlen( szBuffer2 )
);

    HeaderExInfo.pszHeader = szBuffer;
    HeaderExInfo.cchHeader = strlen( szBuffer );
    HeaderExInfo.pszStatus = "200 OK";
    HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
    HeaderExInfo.fKeepConn = TRUE;


                    pECB->ServerSupportFunction(
      pECB->ConnID,
      HSE_REQ_SEND_RESPONSE_HEADER_EX,
      &HeaderExInfo,
      NULL,
                            NULL
      );

    //
                    // Send content
    //

                    dwSize = strlen( szBuffer2 );
                    pECB->WriteClient( pECB->ConnID,
szBuffer2, &dwSize, 0 );

                    return
HSE_STATUS_SUCCESS_AND_KEEP_CONN;

            } else {

    //
    // release 1 thread from the pool
    //
                    ReleaseSemaphore( hWorkSem, 1, NULL );

                    LeaveCriticalSection( &csQueueLock );
            }

            return HSE_STATUS_PENDING;
}

BOOL WINAPI TerminateExtension( IN DWORD dwFlags )
{
  return TRUE;
}

DWORD WINAPI WorkerFunction( IN LPVOID pvThreadNum )
{
            DWORD dwRet, dwState, dwThreadNum;
            Update updata;

            //This header will be filled in with the content length
            char szHeader[] =
    "Connection: Keep-Alive\r\nContent-Length: %lu\r\n"
    "Content-Type: text/html\r\n\r\n";

            dwThreadNum = ( DWORD ) pvThreadNum;
            updata.InitializeCacheConnection();

            while ( TRUE ) {

                    dwRet = WaitForSingleObject( hWorkSem,
INFINITE );
                    if ( dwRet == WAIT_OBJECT_0 ) {

                            EnterCriticalSection(
&csQueueLock );

        if ( GetWorkQueueEntry( &updata.pECB ) ) {

                                    LeaveCriticalSection(
&csQueueLock );
                                    // Declare the variables
needed

                                    updata.ParseUpdate();    //
Here's where all the processing takes place

                                    dwState =
HSE_STATUS_SUCCESS_AND_KEEP_CONN;


updata.pECB->ServerSupportFunction(
              updata.pECB->ConnID,
              HSE_REQ_DONE_WITH_SESSION,
              &dwState,
              NULL,
              0
              );

        } else {

          //
          // No item found is unexpected condition - exit thread
          //

                                    LeaveCriticalSection(
&csQueueLock );
                                    ExitThread( 0 );
                            }

    } else {
                            break;
    }
            }
```

```
		return 0;
}

void Update::ReturnError(int ERROR_NUM)
{
		// Wait some random period of time before returning the
error to the users.
		oBuf.ZeroBuf();
		oBuf <<

"<HTML><HEAD><TITLE>TPCW-ERROR</TITLE></HEAD><B
ODY>AN ERROR HAS OCCURED<BR>Description :";
		int index = ERROR_NUM * -1;
		oBuf << "</BODY></hTmL>";
}


void Update::FlushInteraction()
{
 // How big is the ElfStream?
 //

 // Generate Content type and content length HTTP header
 //
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

		char szHeader[1024];
   DWORD len = oBuf.getBufSize();
		sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %lu\r\nContent-Type: text/html\r\n",
len);
		strcat(szHeader,"\r\n");

   HeaderExInfo.pszHeader = szHeader;
   HeaderExInfo.cchHeader = strlen( szHeader );
   HeaderExInfo.pszStatus = "200 OK";

   HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus ); //
Replace this with 6 --LM
   HeaderExInfo.fKeepConn = TRUE;
		pECB->ServerSupportFunction(
			pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
			&HeaderExInfo,
			NULL,
			NULL
			);

		pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
		oBuf.ZeroBuf();
}
void Update::FlushError()
{
 // How big is the ElfStream?
 //

 // Generate Content type and content length HTTP header
 //
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;

		char szHeader[1024];
   DWORD len = oBuf.getBufSize();
		sprintf(szHeader,"Connection:
Keep-Alive\r\nContent-Length: %lu\r\nContent-type: text/html\r\n",
len);
		strcat(szHeader,"\r\n");

   HeaderExInfo.pszHeader = szHeader;
   HeaderExInfo.cchHeader = strlen( szHeader );
   HeaderExInfo.pszStatus = "499 ERROR";

   HeaderExInfo.cchStatus = strlen( HeaderExInfo.pszStatus );
   HeaderExInfo.fKeepConn = TRUE;
		pECB->ServerSupportFunction(
			pECB->ConnID,

HSE_REQ_SEND_RESPONSE_HEADER_EX,
			&HeaderExInfo,
			NULL,
			NULL
			);

		pECB->WriteClient(pECB->ConnID, (void
*)oBuf.getBuf(),&len, 0);
		oBuf.ZeroBuf();
}


// Exciting constructor eh?
//
Update::Update()
{
}

// Exciting destructor eh?
//
Update::~Update()
{
}


// Because ISAPI intrinsic parsing of URLs was returning bogus
pointers
// occasionally, we implement parsing ourselves.  GetLong reads a
// Long from part of the URL into target.  It returns the number of
bytes
// consumed from the URL
//
int Update::GetLong(long *target,	// target pointer to long
		const char *start,  // starting input pointer
		const char *wall,   // don't read here
		// valid pointer range = start[0]->start[wall-start-1]
		char token)	// separator token in URL
{
 *target=0;			// start with zero
 int consumed=0;			// no bytes consumed
 while( (start+consumed) < wall)	// until we hit the wall
 {
  char ch=start[consumed];		// get character
  consumed++;
  if ((ch >= '0') && (ch <= '9'))	// is it a digit?
  {
   *target=(*target)*10+(ch-'0');  // add it to the number we have
  }
  else
  {
   if(ch==token)			// is nondigit the terminator?
   {
    return consumed;		// target has number; return consumed
   }
   else
   {
    return -1;			// nonterminator; return error
```

```
    }
   }
  }
  return consumed;                    // hit wall. target has number.
}

// Because ISAPI intrinsic parsing of URLs was returning bogus
pointers
// occasionally, we implement parsing ourselves.  GetString reads a
// string from part of the URL into target.  It returns the number of
bytes
// consumed from the URL
//
int Update::GetString(char *target,          // target buffer for string
                int maxLen,            // max chars to copy into target
                const char *start,     // starting input pointer
                const char *wall,      // don't read here.
                // valid pointer range = start[0]->start[wall-start-1]
                char token)            // separator token in URL
{
  int i=0;                             // initialize
  int consumed=0;
  unsigned char ch;

  while( (start+consumed) < wall )         // until hit wall
  {
   ch=start[consumed];                     // get character
   consumed++;
   if (  ((ch >= '0') && (ch <= '9'))      // Normal character
     || ((ch >= 'A') && (ch <= 'Z'))
     || ((ch >= 'a') && (ch <= 'z'))
     || (ch == '@') || (ch == '*') || (ch == '-') || (ch == '_')
     || (ch == '.') || (ch == '/') || (ch == '+'))
   {
    if ( ch == '+' ) { ch=' '; }          // <SP> encoded as '+'
    target[i]=ch;
    i++;
    if ( i >= maxLen ) { return -1; }     // no room for a null. return err
   }
   else
   {
    if( ch == '%' )          // special character.  HTTP hex code encoded
    {
     if( (start+consumed+1) > wall) { return -1; }  // does hex code
exist?

     ch=start[consumed];                  // Get first hex code digit
     consumed++;
     if ( (ch >= '0') && (ch <= '9') )
       { target[i] = 16 * (ch-'0'); }
     else
     {
      if ( (ch >= 'A') && (ch <= 'F') )
        { target[i] = 16 * (ch-'A'+10); }
      else
        { return -1; }
     }

     ch=start[consumed];                  // Get second hex code digit
     consumed++;
     if ( (ch >= '0') && (ch <= '9') )
       { target[i] += (ch-'0'); }
     else
     {
      if ( (ch >= 'A') && (ch <= 'F') )
        { target[i] += (ch-'A'+10); }
      else
        { return -1; }
     }
     i++;
     if( i >= maxLen ) { return -1; }     // no room for null; return err;
    }
    else
    {
     if(ch==token)       // end of string token found
     {
      target[i]=0;      // null terminate
      return consumed;  // return bytes consumed
     }
     else               // unknown char in string. return error
     {
      return -1;
     }
    }
   }
  }

  // hit the wall.

  target[i]=0;              // null terminate
  return consumed;          // return bytes consumed
}

int Update::ParseUpdate()
{

        Purl=pECB->lpszQueryString;          // cast void* to char*

        Wall=Purl+strlen(Purl);              // set up the wall (end of
URL)

        // Is there a CMD token?
        //
        // Note:  Our syntax is
http://tpcwww/tpcw/tpcw.dll?CMD=XXX...
        //                                          ^
        // this checks for the '^' above.

        int remaining=strlen(Purl);
        // Get command token
        ZeroMemory(command, sizeof(command));
        ret=GetString(command,32,Purl,Wall);
        if (strcmp(command, "CMD") != 0) {
                oBuf << "MISSING CMD";
                FlushError();
        }
        Purl+=4;
        ZeroMemory(command, sizeof(command));
        ret=GetString(command,32,Purl,Wall);

        if(!strcmp(command,"UpdateCache"))      // is it
admin_confirm?
        {
                Purl+=12;
                long I_ID=1;
                if(memcmp(Purl, "I_ID=", 5))
                { oBuf << "MISSING I_ID="; FlushError(); }
                Purl+=5; remaining-=5;
                ret=GetLong(&I_ID,Purl,Wall);
                if(ret<1) { oBuf << "BAD I_ID"; FlushError();
}

                ISAFetchAPI((int)I_ID);
                FlushInteraction();
                return 1;
        }
```

```
	else
		return 0;
}

int Update::InitializeCacheConnection()
{
	hr = CoInitialize( NULL );
	hr = sipFPCRoot.CreateInstance("FPC.Root");
		//Get the array to work with
	parrays = sipFPCRoot->GetArrays();
	parray = parrays->GetContainingArray();
	pcache = parray->GetCache();
	pcache_contents = pcache->GetCacheContents();
	return 1;
}

int Update::ISAFetchAPI(int I_ID)
{
	FPCLib::FpcFetchURLFlags myflags;

	char deleteURLstring1[100];
	char deleteURLstring2[100];
	sprintf(deleteURLstring1,
"http://192.168.1.2/tpcw/tpcw.dll?CMD=PP_det&id=%d", I_ID);
	sprintf(deleteURLstring2,
"http://192.168.1.2/tpcw/tpcw.dll?CMD=CachedPromo&num=%d",
I_ID);

	//Fetch a NULL.html url that has an immediate expiration
to replace/delete the URLs
	myflags = FPCLib::FpcFetchURLFlags(22);
	hr
=pcache_contents->FetchUrl("http://192.168.1.2/null.html",deleteURL
string1,0,myflags);
	if ( hr < 0 )
	{
		oBuf << "Error in cache invalidation!";
		return -1;
	}

	hr
=pcache_contents->FetchUrl("http://192.168.1.2/null.html",deleteURL
string2,0,myflags);
	if ( hr < 0 )
	{
		oBuf << "Error in cache invalidation!";
		return -1;
	}

	oBuf << "SUCCESS";
	for (int i=0;i<20;i++)
	{
		oBuf <<
"12345678901234567890123456789012345678901234567890123456
7890123456789012345678901234567890123456789012345678901234567890";
	}
	return 1;
}
```

Update.def

```
; Update.def : declares the module parameters for the DLL.

LIBRARY     "UPDATE"

EXPORTS
	HttpExtensionProc
	GetExtensionVersion
```

Update.h

```
#ifndef __TPCW_ISAPI_DLL_H__
#define __TPCW_ISAPI_DLL_H__

/*
*   Copyright (c) 2000 Intel Corporation
*
*   File: tpcw.h
*
*   Defines an ISAPI application extension class to do the TPC-W
workload
*   as per the specification.
*
*   Intel TPC-W ISAPI Implementation
*
*/

/*   IBM - Netfinity modifications:
*			- allow commercial caching of various
transactions.
*			- shopping cart max limit.
*			- ODBC timeout/sleeps
*			- split cachable pages into frames.
*			- error handling at delayed return intervals.
*		5/14/2000
*		- Chris Floyd
*/

#include <afxmt.h>
#include <windows.h>

#include "resource.h"		// required by ISAPI auto wizard
#include "elfStream.h"		// Simple memory streams

#import "C:\Program Files\Microsoft ISA Server\msfpccom.dll"
#include <comdef.h>

// The ISAPI extension itself
//

class Update
{
protected:

	void FlushInteraction();
	void FlushError();
	void ReturnError(int error_num);

	int GetString(char *target, int maxLen, const char *start,
const char *wall, char token='&');
	int GetLong(long *target,const char *start, const char
*wall, char token='&');

public:
	Update();		// Constructor
	~Update();		// Destructor


	int retcode;
	int ret;
	char *Purl;
	char *Wall;
	char command[32];
  elfStream oBuf;		// make an elfStream output object
  EXTENSION_CONTROL_BLOCK *pECB;
```

```
        HRESULT hr;

        // Define COM ISA variables.
        FPCLib::IFPCPtr sipFPCRoot;
        FPCLib::IFPCArraysPtr parrays;
        FPCLib::IFPCArrayPtr parray;
        FPCLib::IFPCCachePtr pcache;
        FPCLib::IFPCCacheContentsPtr pcache_contents;

        int InitializeCacheConnection();

        int ParseUpdate();
        int ISAFetchAPI(int I_ID);

};

//{{AFX_INSERT_LOCATION}}
// Microsoft Developer Studio will insert additional declarations
immediately before the previous line.

#endif
```

Appendix B: Database Design

DatabaseDesign.sql

```
CREATE DATABASE [tpcw]  ON (NAME = N'tpcwroot',
FILENAME = N'c:\tpcwroot.mdf' , SIZE = 10, FILEGROWTH = 0)
LOG ON (NAME = N'tpcwlog', FILENAME = N'L:' , SIZE = 225600,
FILEGROWTH = 0)
 COLLATE Latin1_General_BIN
GO
ALTER DATABASE [tpcw] ADD FILEGROUP [ONEBIG_FG]
GO
ALTER DATABASE [tpcw] ADD FILE(NAME = N'tpcwdata1',
FILENAME = N'T:' , SIZE = 851300, FILEGROWTH = 0) TO
FILEGROUP [ONEBIG_FG]
GO
ALTER DATABASE [tpcw] ADD FILE(NAME = N'tpcwdata2',
FILENAME = N'U:' , SIZE = 851300, FILEGROWTH = 0) TO
FILEGROUP [ONEBIG_FG]
GO

exec sp_dboption N'tpcw', N'autoclose', N'false'
GO

exec sp_dboption N'tpcw', N'bulkcopy', N'false'
GO

exec sp_dboption N'tpcw', N'trunc. log', N'false'
GO

exec sp_dboption N'tpcw', N'torn page detection', N'false'
GO

exec sp_dboption N'tpcw', N'read only', N'false'
GO

exec sp_dboption N'tpcw', N'dbo use', N'false'
GO

exec sp_dboption N'tpcw', N'single', N'false'
GO

exec sp_dboption N'tpcw', N'autoshrink', N'false'
GO

exec sp_dboption N'tpcw', N'ANSI null default', N'false'
GO

exec sp_dboption N'tpcw', N'recursive triggers', N'false'
GO

exec sp_dboption N'tpcw', N'ANSI nulls', N'false'
GO

exec sp_dboption N'tpcw', N'concat null yields null', N'false'
GO

exec sp_dboption N'tpcw', N'cursor close on commit', N'false'
GO

exec sp_dboption N'tpcw', N'default to local cursor', N'false'
GO

exec sp_dboption N'tpcw', N'quoted identifier', N'false'
GO

exec sp_dboption N'tpcw', N'ANSI warnings', N'false'
GO

exec sp_dboption N'tpcw', N'auto create statistics', N'false'
GO

exec sp_dboption N'tpcw', N'auto update statistics', N'false'
GO

use [tpcw]
GO

CREATE TABLE [dbo].[ADDRESS] (
        [ADDR_ID] [numeric](10, 0) NOT NULL ,
        [ADDR_STREET1] [varchar] (40) COLLATE
Latin1_General_BIN NULL ,
        [ADDR_STREET2] [varchar] (40) COLLATE
Latin1_General_BIN NULL ,
        [ADDR_CITY] [varchar] (30) COLLATE
Latin1_General_BIN NULL ,
        [ADDR_STATE] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
        [ADDR_ZIP] [varchar] (10) COLLATE
Latin1_General_BIN NULL ,
        [ADDR_CO_ID] [smallint] NOT NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[AUTHOR] (
        [A_ID] [numeric](10, 0) NOT NULL ,
        [A_FNAME] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
        [A_LNAME] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
        [A_MNAME] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
        [A_DOB] [datetime] NULL ,
        [A_BIO] [text] COLLATE Latin1_General_BIN NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[CC_XACTS] (
        [CX_O_ID] [numeric](10, 0) NOT NULL ,
        [CX_TYPE] [varchar] (10) COLLATE
Latin1_General_BIN NULL ,
        [CX_NUM] [numeric](16, 0) NULL ,
        [CX_NAME] [varchar] (31) COLLATE
Latin1_General_BIN NULL ,
        [CX_EXPIRY] [datetime] NULL ,
        [CX_AUTH_ID] [varchar] (15) COLLATE
Latin1_General_BIN NULL ,
        [CX_XACT_AMT] [numeric](17, 2) NULL ,
        [CX_XACT_DATE] [datetime] NULL ,
        [CX_CO_ID] [smallint] NOT NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[COUNTRY] (
        [CO_ID] [smallint] NOT NULL ,
        [CO_NAME] [varchar] (50) COLLATE
Latin1_General_BIN NULL ,
        [CO_EXCHANGE] [numeric](18, 6) NULL ,
        [CO_CURRENCY] [varchar] (18) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[CUSTOMER] (
        [C_ID] [numeric](10, 0) NOT NULL ,
```

```
	[C_UNAME] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
	[C_PASSWD] [varchar] (20) COLLATE
Latin1_General_BIN NULL ,
	[C_FNAME] [varchar] (15) COLLATE
Latin1_General_BIN NULL ,
	[C_LNAME] [varchar] (15) COLLATE
Latin1_General_BIN NULL ,
	[C_ADDR_ID] [numeric](10, 0) NULL ,
	[C_PHONE] [varchar] (16) COLLATE
Latin1_General_BIN NULL ,
	[C_EMAIL] [varchar] (50) COLLATE
Latin1_General_BIN NULL ,
	[C_SINCE] [datetime] NULL ,
	[C_LAST_VISIT] [datetime] NULL ,
	[C_LOGIN] [datetime] NULL ,
	[C_EXPIRATION] [datetime] NULL ,
	[C_DISCOUNT] [numeric](5, 2) NULL ,
	[C_BALANCE] [numeric](17, 2) NULL ,
	[C_YTD_PMT] [numeric](17, 2) NULL ,
	[C_BIRTHDATE] [datetime] NULL ,
	[C_DATA] [text] COLLATE Latin1_General_BIN NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[ITEM] (
	[I_ID] [numeric](10, 0) NOT NULL ,
	[I_TITLE] [varchar] (60) COLLATE Latin1_General_BIN
NULL ,
	[I_A_ID] [numeric](10, 0) NULL ,
	[I_PUB_DATE] [datetime] NULL ,
	[I_PUBLISHER] [varchar] (60) COLLATE
Latin1_General_BIN NULL ,
	[I_SUBJECT] [varchar] (60) COLLATE
Latin1_General_BIN NULL ,
	[I_DESC] [text] COLLATE Latin1_General_BIN NULL ,
	[I_RELATED1] [numeric](10, 0) NOT NULL ,
	[I_RELATED2] [numeric](10, 0) NOT NULL ,
	[I_RELATED3] [numeric](10, 0) NOT NULL ,
	[I_RELATED4] [numeric](10, 0) NOT NULL ,
	[I_RELATED5] [numeric](10, 0) NOT NULL ,
	[I_THUMBNAIL] [varchar] (100) COLLATE
Latin1_General_BIN NULL ,
	[I_IMAGE] [varchar] (100) COLLATE
Latin1_General_BIN NULL ,
	[I_SRP] [numeric](17, 2) NULL ,
	[I_COST] [numeric](17, 2) NULL ,
	[I_AVAIL] [datetime] NULL ,
	[I_STOCK] [smallint] NULL ,
	[I_ISBN] [varchar] (13) COLLATE Latin1_General_BIN
NULL ,
	[I_PAGE] [int] NULL ,
	[I_BACKING] [varchar] (15) COLLATE
Latin1_General_BIN NULL ,
	[I_DIMENSIONS] [varchar] (25) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[NEW_ADDR_ID] (
	[NEXT_ADDR_ID] [numeric](18, 0) IDENTITY (1, 1)
NOT NULL ,
	[NA_MARKER] [varchar] (15) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[NEW_ORDER] (
	[N_O_ID] [numeric](10, 0) IDENTITY (1, 1) NOT NULL ,
	[N_C_ID] [numeric](10, 0) NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[NEXT_C_ID] (
	[NEXT_C_ID] [numeric](18, 0) IDENTITY (1, 1) NOT
NULL ,
	[NC_FNAME] [varchar] (15) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[ORDERS] (
	[O_ID] [numeric](10, 0) NOT NULL ,
	[O_C_ID] [numeric](10, 0) NULL ,
	[O_DATE] [datetime] NULL ,
	[O_SUBTOTAL] [numeric](17, 2) NULL ,
	[O_TAX] [numeric](17, 2) NULL ,
	[O_TOTAL] [numeric](17, 2) NULL ,
	[O_SHIP_TYPE] [varchar] (10) COLLATE
Latin1_General_BIN NULL ,
	[O_SHIP_DATE] [datetime] NULL ,
	[O_BILL_ADDR] [numeric](10, 0) NULL ,
	[O_SHIP_ADDR] [numeric](10, 0) NULL ,
	[O_STATUS] [varchar] (15) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[ORDERS2] (
	[O_ID] [numeric](10, 0) NOT NULL ,
	[O_C_ID] [numeric](10, 0) NULL ,
	[O_DATE] [datetime] NULL ,
	[O_SUBTOTAL] [numeric](17, 2) NULL ,
	[O_TAX] [numeric](17, 2) NULL ,
	[O_TOTAL] [numeric](17, 2) NULL ,
	[O_SHIP_TYPE] [varchar] (10) COLLATE
Latin1_General_BIN NULL ,
	[O_SHIP_DATE] [datetime] NULL ,
	[O_BILL_ADDR] [numeric](10, 0) NULL ,
	[O_SHIP_ADDR] [numeric](10, 0) NULL ,
	[O_STATUS] [varchar] (15) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[ORDER_LINE] (
	[OL_ID] [smallint] NOT NULL ,
	[OL_O_ID] [numeric](10, 0) NOT NULL ,
	[OL_I_ID] [numeric](10, 0) NOT NULL ,
	[OL_QTY] [smallint] NULL ,
	[OL_DISCOUNT] [numeric](5, 2) NULL ,
	[OL_COMMENTS] [varchar] (100) COLLATE
Latin1_General_BIN NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[SC_PTR] (
	[SC_ID] [numeric](10, 0) IDENTITY (1, 1) NOT NULL ,
	[SC_FILE] [varchar] (50) COLLATE Latin1_General_BIN
NULL
) ON [ONEBIG_FG]
GO

CREATE TABLE [dbo].[TPCW_INFO] (
	[TI_ITEMS] [numeric](10, 0) NULL ,
	[TI_BROWSERS] [numeric](10, 0) NULL
```

```
) ON [PRIMARY]
GO

CREATE UNIQUE CLUSTERED INDEX [ADDR_INDEX_1] ON
[dbo].[ADDRESS]([ADDR_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [A_INDEX_1] ON
[dbo].[AUTHOR]([A_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [IX_CC_XACTS] ON
[dbo].[CC_XACTS]([CX_O_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [COUNTRY_Index_1]
ON [dbo].[COUNTRY]([CO_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [C_INDX_1] ON
[dbo].[CUSTOMER]([C_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [ITEM_Index_1] ON
[dbo].[ITEM]([I_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [O_INDX1] ON
[dbo].[ORDERS]([O_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [OL_INDX] ON
[dbo].[ORDER_LINE]([OL_O_ID], [OL_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE CLUSTERED INDEX [sc_ptr_idx] ON
[dbo].[SC_PTR]([SC_ID]) ON [ONEBIG_FG]
GO

CREATE INDEX [ADDR_INDX_2] ON
[dbo].[ADDRESS]([ADDR_CO_ID], [ADDR_ZIP],
[ADDR_STATE]) WITH FILLFACTOR = 97, PAD_INDEX ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [test] ON [dbo].[AUTHOR]([A_ID],
[A_LNAME], [A_FNAME]) ON [ONEBIG_FG]
GO

CREATE INDEX [A_LNAME_INX] ON
[dbo].[AUTHOR]([A_LNAME], [A_FNAME], [A_ID]) ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [COUNTRY_Index_2] ON
[dbo].[COUNTRY]([CO_NAME]) WITH FILLFACTOR = 100 ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [customer_idx] ON
[dbo].[CUSTOMER]([C_ID]) WITH FILLFACTOR = 80 ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [C_INDX_2] ON
[dbo].[CUSTOMER]([C_UNAME], [C_ID]) WITH FILLFACTOR =
97, PAD_INDEX ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [test2] ON [dbo].[ITEM]([I_ID],
[I_A_ID], [I_SUBJECT], [I_TITLE]) WITH FILLFACTOR = 99 ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [test3] ON [dbo].[ITEM]([I_A_ID],
[I_ID], [I_TITLE]) WITH FILLFACTOR = 100 ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [ITEM13] ON
[dbo].[ITEM]([I_TITLE], [I_ID], [I_A_ID]) WITH FILLFACTOR =
99 ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [bysubject] ON
[dbo].[ITEM]([I_TITLE], [I_ID], [I_A_ID], [I_SUBJECT]) WITH
FILLFACTOR = 99 ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [related] ON [dbo].[ITEM]([I_ID],
[I_RELATED1], [I_RELATED2], [I_RELATED3], [I_RELATED4],
[I_RELATED5]) ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [Subject_Inx] ON
[dbo].[ITEM]([I_SUBJECT], [I_A_ID], [I_ID], [I_TITLE]) ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [I_SUBJECT_INX] ON
[dbo].[ITEM]([I_TITLE], [I_SUBJECT], [I_ID], [I_A_ID]) ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [I_TITLE_INX] ON
[dbo].[ITEM]([I_SUBJECT], [I_TITLE], [I_ID], [I_A_ID]) ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [fornewprods] ON
[dbo].[ITEM]([I_SUBJECT], [I_PUB_DATE] DESC , [I_TITLE],
[I_ID], [I_A_ID]) ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [item_thumb] ON [dbo].[ITEM]([I_ID],
[I_THUMBNAIL]) ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [O_C_INDX] ON
[dbo].[ORDERS]([O_C_ID], [O_ID]) WITH FILLFACTOR = 97,
PAD_INDEX ON [ONEBIG_FG]
GO

CREATE UNIQUE INDEX [Orders_3] ON
[dbo].[ORDERS]([O_DATE] DESC , [O_ID], [O_C_ID]) ON
[ONEBIG_FG]
GO

CREATE UNIQUE INDEX [OL_INDX2] ON
[dbo].[ORDER_LINE]([OL_O_ID], [OL_I_ID], [OL_QTY],
[OL_ID]) ON [ONEBIG_FG]
GO

CREATE INDEX [ol3] ON [dbo].[ORDER_LINE]([OL_I_ID])
WITH FILLFACTOR = 97, PAD_INDEX ON [ONEBIG_FG]
GO
```

```
SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.AdminUpdate    Script Date:
12/6/2001 9:22:30 AM ******/
CREATE Procedure AdminUpdate
( @THE_I_ID  numeric(10) )
As
 Declare @Item1     numeric(10)
 Declare @Item2     numeric(10)
 Declare @Item3     numeric(10)
 Declare @Item4     numeric(10)
 Declare @Item5     numeric(10)
 Declare @value     numeric(10)
 Declare @Num_Items numeric(10)

  SET NOCOUNT ON
  set @Num_Items = (select TI_ITEMS from TPCW_INFO (nolock))

  --
  -- Clause 2.16.3.3
  -- Declare cursor local so that it is implicitly deallocated
  -- when the procedure exits.
  --
  --  (Select Top 10000 O_ID From ORDERS With (TABLOCK)
Order By O_DATE Desc)
  --
declare @Min_O_ID numeric(10)
declare @Max_O_ID numeric(10)

begin
set transaction isolation level read uncommitted
--begin tran n
              select top 10000 O_C_ID, O_ID into #temp1
              from ORDERS [nolock]
              order by O_DATE desc
              select @Min_O_ID = min( O_ID), @Max_O_ID = max(
O_ID) from #temp1

              select distinct O_C_ID into #temp2
              from #temp1 join ORDER_LINE [nolock] on O_ID =
OL_O_ID
              where OL_I_ID = @THE_I_ID
              and OL_O_ID between @Min_O_ID and @Max_O_ID

Declare Items_cursor CURSOR LOCAL FORWARD_ONLY
READ_ONLY STATIC FOR
select top 5 OL_I_ID
              from (#temp2 as C join #temp1 as O on C.O_C_ID =
O.O_C_ID)
              join ORDER_LINE [nolock] on O.O_ID = OL_O_ID
              where OL_I_ID != @THE_I_ID
              group by OL_I_ID
              order by sum(OL_QTY) desc


--commit tran n
set transaction isolation level read committed
end


  Open Items_cursor
  FETCH NEXT from Items_cursor INTO @Item1
  FETCH NEXT from Items_cursor INTO @Item2
  FETCH NEXT from Items_cursor INTO @Item3
  FETCH NEXT from Items_cursor INTO @Item4
  FETCH NEXT from Items_cursor INTO @Item5
  Close Items_cursor

  --
  -- Generate new related items per clause 2.16.3.3
  --
  IF @Item1 is NULL
   BEGIN
    SET @value=@THE_I_ID + 7
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item1 OUTPUT
    SET @value=@THE_I_ID + 14
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item2 OUTPUT
    SET @value=@THE_I_ID + 21
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item3 OUTPUT
    SET @value=@THE_I_ID + 28
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item4 OUTPUT
    SET @value=@THE_I_ID + 35
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item5 OUTPUT
   END
  ELSE
   BEGIN
    IF @Item2 is NULL
     BEGIN
      SET @value = @Item1 + 1
      Execute Null_Item @value, @Item1, @Item3, @Item4, @Item5,

                    @Num_Items, @item = @Item2 OUTPUT
     END

    IF @Item3 is NULL
     BEGIN
      SET @value = @Item2 + 1
      Execute Null_Item @value, @Item1, @Item2, @Item4, @Item5,

                    @Num_Items, @item = @Item3 OUTPUT
     END

    IF @Item4 is NULL
     BEGIN
      SET @value = @Item3 + 1
      Execute Null_Item @value, @Item1, @Item2, @Item3, @Item5,

                    @Num_Items, @item = @Item4 OUTPUT
     END

    IF @Item5 is NULL
     BEGIN
      SET @value = @Item4 + 1
      Execute Null_Item @value, @Item1, @Item2, @Item3, @Item4,

                    @Num_Items, @item = @Item5 OUTPUT
     END
   END

select @Item1,@Item2,@Item3,@Item4,@Item5

--if (@THE_COST = 999.99) waitfor delay '000:01:00'
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
```

```
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.BestSellersProc    Script Date:
5/25/2002 12:37:59 PM ******/


/****** Object:  Stored Procedure dbo.BestSellersProc    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.BestSellersProc    Script Date:
3/29/2001 8:16:45 AM ******/


CREATE PROCEDURE BestSellersProc ( @CategoryId varchar(60))
 As
  Declare @StartUpdate    DateTime
  Declare @EndUpdate              DateTime
  Declare @delta          float

  Set @StartUpdate = GetDate()

   set transaction isolation level read uncommitted

   select top 50 A_LNAME, A_FNAME, I_ID, I_TITLE
   from ORDER_LINE join ITEM with (NOLOCK) on OL_I_ID =
I_ID
                join AUTHOR with (NOLOCK) on I_A_ID  = A_ID
   where OL_O_ID in (select top 3333 O_ID from ORDERS with
(NOLOCK) order by O_DATE desc) and I_SUBJECT = @CategoryId
   group by I_ID, I_TITLE, A_FNAME, A_LNAME
   order by sum(OL_QTY) desc

   set transaction isolation level read committed


   Set @EndUpdate = GetDate()
   Set @delta = DATEDIFF(millisecond, @StartUpdate, @EndUpdate)
   Set @delta = (CONVERT (float, (@delta/1000)))

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO
/****** Object:  Stored Procedure dbo.Checkpoint_interval    Script
Date: 5/25/2002 12:37:59 PM ******/


CREATE PROCEDURE Checkpoint_interval  AS

Declare @start_chkpt datetime
Declare @end_chkpt datetime

set @start_chkpt = GetDate()
checkpoint
set @end_chkpt = GetDate()

insert checkpoints values (@start_chkpt, @end_chkpt)




GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO



/****** Object:  Stored Procedure dbo.DIGSYL    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.DIGSYL    Script Date:
12/6/2001 9:22:30 AM ******/



/****** Object:  Stored Procedure dbo.DIGSYL    Script Date:
3/29/2001 8:16:45 AM ******/

CREATE Procedure DIGSYL ( @D int, @N int, @str varchar(64)
OUTPUT)
As
DECLARE @base   int
DECLARE @i      int
DECLARE @digits int
DECLARE @start  int

   set NOCOUNT ON

   --
   --  Initialize NULL string and check for invalid parameters
   --
   SET @str=''
   IF @D < 0 OR @N < 0
     BEGIN
       return( 0 )
     END

   --
   -- Determine the number of decimal digits in D
   --
   SET @digits=0
   SET @base=@D
   WHILE @base > 0
     BEGIN
       SET @digits=@digits + 1
       SET @base=@base / 10
     END

   --
   -- Make sure N is large enough to accomidate all D digits.
   --
   IF  @digits > @N
     BEGIN
       SET @N=@digits;
```

```
    END

  --
  --  Determine the decimal base value for the number of digits
  --
  SET @base=1
  SET @i=0
  WHILE @i < @N - 1
   BEGIN
     SET @base=@base * 10
     SET @i=@i + 1
   END

  --
  --  Generate the string
  --
  SET @i=0
  WHILE @i < @N
   BEGIN
     SET @digits=@D/@base
     IF @digits > 9
       BEGIN
          SET @str=@str + 'BA'
       END
     ELSE
       BEGIN
         SET @start=(@digits * 2) + 1
         SET @str=@str + SUBSTRING(
'BAOGALRIRESEATULINNG', @start, 2 )
       END
     SET @D=@D % @base
     SET @base=@base/10
     SET @i=@i + 1
    END

            return (0)

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GenerateComments    Script
Date: 5/25/2002 12:38:00 PM ******/

/****** Object:  Stored Procedure dbo.GenerateComments    Script
Date: 12/6/2001 9:22:30 AM ******/




/****** Object:  Stored Procedure dbo.GenerateComments    Script
Date: 3/29/2001 8:16:45 AM ******/
CREATE Procedure GenerateComments( @SHOPPING_ID
numeric(10,0) )
As
  Declare @comment  VARCHAR(100)
  Declare @Discount numeric(3,2)
  Declare @OL_ID    numeric(3,0)
  Declare @SCL_ID   numeric(10,0)

  SET NOCOUNT ON

  --
  -- The Customer Discount must be set here since we may not know
  -- who the customer is until Buy_Request
  --
  Select @Discount=SC_C_DISCOUNT from SHOPPING_CART
WITH (READCOMMITTED)
        where SC_SHOPPING_ID = @SHOPPING_ID

  --
  -- Create a Cursor to step through the Shopping Cart Line Items
  --
  Declare SCL_cursor CURSOR LOCAL FORWARD_ONLY
READ_ONLY STATIC FOR
     Select SCL_ID from SHOPPING_CART_LINEITEMS WITH
(READCOMMITTED)
          where SCL_SHOPPING_ID = @SHOPPING_ID
          Order by SCL_ID

  Set @OL_ID = 1

  Open SCL_cursor
  FETCH NEXT FROM SCL_cursor INTO @SCL_ID

  --
  -- For each line item and update the OL_ID, Discount and Comment
  --
  While @@FETCH_STATUS = 0
    BEGIN

     Execute MakeAlphaString 20, 100, @AlphaString = @comment
OUTPUT

     UPDATE SHOPPING_CART_LINEITEMS set
SCL_OL_ID=@OL_ID,
                          SCL_OL_DISCOUNT=@Discount,
                          SCL_OL_COMMENTS=@comment
          where SCL_SHOPPING_ID=@SHOPPING_ID and
SCL_ID=@SCL_ID

     Set @OL_ID = @OL_ID + 1

     FETCH NEXT FROM SCL_cursor INTO @SCL_ID
    END
  Close SCL_cursor

  return( 0 )


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.GetAddressInfo    Script Date:
5/25/2002 12:38:00 PM ******/
```

```
/****** Object:  Stored Procedure dbo.GetAddressInfo    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetAddressInfo    Script Date:
3/29/2001 8:16:45 AM ******/
CREATE Procedure GetAddressInfo( @A_ID numeric(10) )
As
  Select ADDR_STREET1, ADDR_STREET2, ADDR_CITY,
       ADDR_STATE, ADDR_ZIP, CO_NAME from ADDRESS,
COUNTRY
       Where ADDR_ID=@A_ID And ADDR_CO_ID=CO_ID
  return(0)

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO

/****** Object:  Stored Procedure dbo.GetC_UNAME    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetC_UNAME    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetC_UNAME    Script Date:
3/29/2001 8:16:45 AM ******/
CREATE Procedure GetC_UNAME
(@C_ID numeric(10,0) )
As

  set NOCOUNT ON

Select C_UNAME  FROM CUSTOMER where C_ID = @C_ID


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GetCustName    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetCustName    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetCustName    Script Date:
3/29/2001 8:16:46 AM ******/
CREATE Procedure GetCustName
(@C_ID numeric(10,0) )
As
Declare @C_FNAME      varchar(15)
Declare @C_LNAME      varchar(15)

  set NOCOUNT ON

Select @C_ID, C_FNAME, C_LNAME FROM CUSTOMER where
C_ID = @C_ID


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GetCustomerInfo    Script
Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetCustomerInfo    Script
Date: 12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetCustomerInfo    Script
Date: 3/29/2001 8:16:46 AM ******/

CREATE Procedure GetCustomerInfo ( @C_UNAME varchar(23) )
As
Declare @Found       numeric(10,0)
Declare @C_PASSWD    varchar(20)
Declare @C_FNAME     varchar(15)
Declare @C_LNAME     varchar(15)
Declare @C_PHONE     varchar(16)
Declare @C_EMAIL     varchar(50)

   BEGIN
     Select Top 1 C_ID,
              C_PASSWD,
              C_FNAME,
              C_LNAME,
              C_PHONE,
              C_EMAIL
          from CUSTOMER
          where C_UNAME=@C_UNAME
   END

--  select @Found, @C_PASSWD, @C_FNAME, @C_LNAME,
@C_PHONE, @C_EMAIL

  return (0)



GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO
```

```
SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.GetDetailedCustomerInfo
Script Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetDetailedCustomerInfo
Script Date: 12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetDetailedCustomerInfo
Script Date: 3/29/2001 8:16:46 AM ******/

CREATE Procedure GetDetailedCustomerInfo
(@C_UNAME varchar(23) )
As
Declare @Now         DateTime
Declare @NowPlus2h    DateTime
Declare @Found       numeric(10,0)
Declare @C_PASSWD     varchar(20)
Declare @C_FNAME      varchar(15)
Declare @C_LNAME      varchar(15)
Declare @C_PHONE      varchar(16)
Declare @C_EMAIL      varchar(50)
Declare     @C_BIRTHDATE  datetime
Declare     @C_DATA       varchar(500)
Declare @C_DISCOUNT   numeric(3,2)
Declare     @C_ADDR_ID    numeric(10,0)
Declare @CO_ID numeric(10,0)
Declare @ADDR_STREET1 varchar(40), @ADDR_STREET2
varchar(40), @ADDR_CITY varchar(30), @ADDR_STATE
varchar(20), @ADDR_ZIP varchar(10)

 set NOCOUNT ON

 Select @Now=GetDate()
 Select @NowPlus2h=DateAdd(hour,02,@Now)


  BEGIN
   --
   --  This if condition is only for debug to allow a human to
   --  place another known customer name in Buy Request
   --  This is never executed during the benchmark
   --
   Select TOP 1 @Found=C_ID,
            @C_PASSWD=C_PASSWD,
            @C_FNAME=C_FNAME,
            @C_LNAME=C_LNAME,
            @C_PHONE=C_PHONE,
            @C_EMAIL=C_EMAIL,
            @C_BIRTHDATE=C_BIRTHDATE,
            @C_DATA=C_DATA,
            @C_ADDR_ID=C_ADDR_ID,
            @C_DISCOUNT=C_DISCOUNT FROM CUSTOMER
        where C_UNAME=@C_UNAME
  END


 UPDATE CUSTOMER set C_LOGIN=@Now,
C_EXPIRATION=@NowPlus2h where C_ID=@Found

 Select Top 1
      @ADDR_STREET1 = ADDR_STREET1,@ADDR_STREET2
=  ADDR_STREET2, @ADDR_CITY = ADDR_CITY,
      @ADDR_STATE= ADDR_STATE, @ADDR_ZIP=
ADDR_ZIP, @CO_ID = ADDR_CO_ID from ADDRESS
   where ADDR_ID=@C_ADDR_ID

 Select Top 1
      @Found, @C_PASSWD, @C_FNAME, @C_LNAME,
@C_PHONE, @C_EMAIL,
      @C_BIRTHDATE, @C_DATA, @C_DISCOUNT,
@C_ADDR_ID,
      @ADDR_STREET1, @ADDR_STREET2, @ADDR_CITY,
      @ADDR_STATE, @ADDR_ZIP, CO_NAME from COUNTRY
   where CO_ID=@CO_ID
 return (0)


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO



/****** Object:  Stored Procedure dbo.GetItemDetailForCart    Script
Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetItemDetailForCart    Script
Date: 12/6/2001 9:22:30 AM ******/



/****** Object:  Stored Procedure dbo.GetItemDetailForCart    Script
Date: 3/29/2001 8:16:46 AM ******/
CREATE  Procedure GetItemDetailForCart
( @I_ID numeric(10,0), @promo numeric(3,0) )
AS
Declare @Backing  varchar(15)
Declare @Cost     numeric(15,2)
Declare @SRP      numeric(15,2)
Declare @Title    varchar(60)
Declare @PROMO_ID numeric(10,0)

 SET NOCOUNT ON

 if @promo = 1
 BEGIN
            Select @PROMO_ID = I_RELATED1 from ITEM
(rowlock) where I_ID = @I_ID
            Set @I_ID = @PROMO_ID
 END


 Select @Title=I_TITLE, @SRP=I_SRP, @Backing=I_BACKING
      from ITEM (rowlock) where I_ID=@I_ID
 Select @Cost=I_COST from ITEM (rowlock) where I_ID = @I_ID

 Select @Title, @Cost, @SRP, @Backing
 return( 0 )
```

```
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO

/****** Object:  Stored Procedure dbo.GetLastOrder    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetLastOrder    Script Date:
12/6/2001 9:22:30 AM ******/



/****** Object:  Stored Procedure dbo.GetLastOrder    Script Date:
3/29/2001 8:16:46 AM ******/
CREATE Procedure GetLastOrder( @THE_C_ID numeric(10) )
As
  Select Top 1 O_ID, O_DATE, O_SHIP_TYPE, O_SHIP_DATE,
O_SUBTOTAL, O_TAX,
            O_TOTAL, O_BILL_ADDR, O_SHIP_ADDR, O_STATUS,
CX_TYPE, CX_AUTH_ID
       From ORDERS, CC_XACTS
       Where O_C_ID=@THE_C_ID And O_ID=CX_O_ID Order By
O_ID Desc
  return(0)


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GetNext_O_ID    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetNext_O_ID    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetNext_O_ID    Script Date:
3/29/2001 8:16:46 AM ******/

CREATE PROCEDURE GetNext_O_ID (@C_ID numeric(10) )
AS
SET NOCOUNT ON

BEGIN Transaction T1
              insert into NEW_ORDER ( N_C_ID ) values( 1 )
              SELECT @@IDENTITY
Commit Transaction T1

return(0)
```

```
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GetOrderInfo    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetOrderInfo    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.GetOrderInfo    Script Date:
3/29/2001 8:16:46 AM ******/

CREATE Procedure GetOrderInfo( @THE_O_ID numeric(10) )
As
  Select OL_I_ID, OL_DISCOUNT, OL_COMMENTS,OL_QTY,
I_TITLE, I_PUBLISHER, I_COST
        From ORDER_LINE, ITEM
        Where OL_O_ID=@THE_O_ID And OL_I_ID=I_ID
--       ORDER BY OL_ID
--
--  ORDER BY OL_ID used for debugging purposes.  Not required by
Benchmark.
--
  return(0)


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.GetPromoImages    Script
Date: 5/25/2002 12:38:00 PM ******/

CREATE Procedure GetPromoImages( @book numeric(10) )
as

SET NOCOUNT ON

select I_RELATED1, I_RELATED2, I_RELATED3, I_RELATED4,
I_RELATED5 from ITEM [rowlock]
where I_ID = @book


GO
SET QUOTED_IDENTIFIER OFF
GO
```

```
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.GetPromoImages    Script
Date: 12/6/2001 9:22:31 AM ******/


/****** Object:  Stored Procedure dbo.GetPromoImagesOLD    Script
Date: 3/29/2001 8:16:46 AM ******/
CREATE Procedure GetPromoImagesOLD( @book numeric(10) )
as
  declare @r1   int
  declare @r2   int
  declare @r3   int
  declare @r4   int
  declare @r5   int

--Declare @Num_Items int

  SET NOCOUNT ON

PromoProc:

 select @r1 = I_RELATED1, @r2 =  I_RELATED2,  @r3 =
I_RELATED3,  @r4 =  I_RELATED4,  @r5 =  I_RELATED5 from
ITEM [rowlock] where I_ID = @book
 select I_ID, I_THUMBNAIL from ITEM [rowlock] where I_ID in
(@r1,@r2,@r3,@r4,@r5) order by I_ID

 if ( @@error = 1205 )
    BEGIN
      WAITFOR delay '000:00:01'
      GOTO PromoProc
    End

  return (0)


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.GetShoppingCartName
Script Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.GetShoppingCartName
Script Date: 12/6/2001 9:22:31 AM ******/


/****** Object:  Stored Procedure dbo.GetShoppingCartName
Script Date: 3/29/2001 8:16:46 AM ******/
CREATE Procedure GetShoppingCartName
(@SC_ID numeric(10,0))
As

  SET NOCOUNT ON

 select SC_FILE from SC_PTR where SC_ID = @SC_ID


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.InsertAddressAsNeeded
Script Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.InsertAddressAsNeeded
Script Date: 12/6/2001 9:22:31 AM ******/



CREATE Procedure InsertAddressAsNeeded (@ADDR_STREET1
char( 40),
            @ADDR_STREET2 char( 40),
            @ADDR_CITY char( 30),
            @ADDR_STATE char( 20),
            @ADDR_ZIP char( 10),
            @CO_NAME char(50))
As
  declare @AA_ID numeric( 10)
  declare @CO_ID smallint
  declare @ADDR_ID numeric(10)

  select @CO_ID=CO_ID from COUNTRY where CO_NAME =
@CO_NAME
    begin transaction na
            SELECT @AA_ID = ADDR_ID FROM ADDRESS
WHERE
                        ADDR_CO_ID = @CO_ID and
                        ADDR_ZIP=@ADDR_ZIP and
                        ADDR_STATE = @ADDR_STATE and
                        ADDR_CITY = @ADDR_CITY and
                        ADDR_STREET1 = @ADDR_STREET1 and
                        ADDR_STREET2 = @ADDR_STREET2
            if @@rowcount = 0
            begin
                        insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                    select @ADDR_ID = @@IDENTITY

                        Insert into ADDRESS
values(@ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@AD
DR_CITY,@ADDR_STATE,@ADDR_ZIP,@CO_ID)
            end
            else select @ADDR_ID = @AA_ID
  commit transaction na
  SELECT @ADDR_ID


GO
```

```
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure
dbo.InsertAddressAsNeeded_Internal    Script Date: 5/25/2002
12:38:00 PM ******/


/****** Object:  Stored Procedure
dbo.InsertAddressAsNeeded_Internal    Script Date: 12/6/2001
9:22:31 AM ******/

/****** Object:  Stored Procedure
dbo.InsertAddressAsNeeded_Internal    Script Date: 3/29/2001
8:16:46 AM ******/
CREATE Procedure InsertAddressAsNeeded_Internal
(@ADDR_STREET1 varchar(40), @ADDR_STREET2 varchar(40),
 @ADDR_CITY varchar(30), @ADDR_STATE varchar(20),
 @ADDR_ZIP varchar(10), @CO_NAME varchar(50),
 @ADDR_ID numeric(10,0) OUTPUT,
 @CO_ID smallint OUTPUT)
As
  SET NOCOUNT ON

 select @CO_ID=CO_ID from COUNTRY where CO_NAME =
@CO_NAME
    begin transaction na
            SELECT @ADDR_ID = ADDR_ID FROM ADDRESS
WHERE
                        ADDR_CO_ID = @CO_ID and
                        ADDR_ZIP=@ADDR_ZIP and
                        ADDR_STATE = @ADDR_STATE and
                        ADDR_CITY = @ADDR_CITY and
                        ADDR_STREET1 = @ADDR_STREET1 and
                        ADDR_STREET2 = @ADDR_STREET2
            if @@rowcount = 0
            begin
                        insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                    select @ADDR_ID = @@IDENTITY

                        Insert into ADDRESS
values(@ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@AD
DR_CITY,@ADDR_STATE,@ADDR_ZIP,@CO_ID)
            end
  commit transaction na
  SELECT @ADDR_ID, @CO_ID


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO
```

```
/****** Object:  Stored Procedure dbo.InsertCustomer    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.InsertCustomer    Script Date:
12/6/2001 9:22:31 AM ******/


CREATE Procedure InsertCustomer
( @C_FNAME char(15),  @C_LNAME char(15),
  @C_PHONE char(16),  @C_EMAIL char(50),
  @C_BIRTHDATE datetime, @C_DATA varchar(500),
  @ADDR_STREET1 char(40), @ADDR_STREET2 char(40),
  @ADDR_CITY char(30), @ADDR_STATE char(20),
  @ADDR_ZIP char(10), @CO_NAME char(50))
As
  Declare @C_ID numeric(10,0)
  Declare @C_ADDR_ID numeric(10,0)
  Declare @C_UNAME char(20)
  Declare @C_PASSWD char(20)
  Declare @MY_CO_ID smallint
  Declare @Discount float
  Declare @Now DateTime
  Declare @NowPlus2h DateTime

  set NOCOUNT ON

  begin transaction IC
    select @MY_CO_ID=CO_ID from COUNTRY where CO_NAME
= @CO_NAME
    begin transaction na
            SELECT @C_ADDR_ID = ADDR_ID FROM ADDRESS
WHERE
                        ADDR_CO_ID = @MY_CO_ID and
                        ADDR_ZIP= @ADDR_ZIP and
                        ADDR_STATE = @ADDR_STATE and
                        ADDR_CITY = @ADDR_CITY and
                        ADDR_STREET1 = @ADDR_STREET1 and
                        ADDR_STREET2 = @ADDR_STREET2
            if @@rowcount = 0
            begin
                        insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                    select @C_ADDR_ID = @@IDENTITY

                        Insert into ADDRESS
values(@C_ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@
ADDR_CITY,@ADDR_STATE,@ADDR_ZIP,@MY_CO_ID)
            end
   commit transaction na
   --
   -- Choose a discount between 0 and 0.5
   --
   Select @Discount=rand()/2
   --
   -- What time is it on the SUT?
   --
   Select @Now=GetDate()
   Select @NowPlus2h=DateAdd(hour,02,@Now)


    BEGIN Transaction T1
            insert into NEXT_C_ID ( NC_FNAME ) values(
@C_FNAME )
            SELECT @C_ID = @@IDENTITY
    Commit Transaction T1
```

```
    Execute DIGSYL @C_ID, 0, @str = @C_UNAME OUTPUT
    Select @C_PASSWD=LOWER(@C_UNAME)
    Insert CUSTOMER(C_ID, C_UNAME,  C_PASSWD,
C_FNAME,  C_LNAME,  C_EMAIL,
                C_PHONE,  C_DATA,  C_ADDR_ID,
                C_LAST_VISIT, C_SINCE, C_LOGIN,
C_EXPIRATION,
                C_DISCOUNT, C_BALANCE, C_YTD_PMT)
       values (@C_ID, @C_UNAME,@C_PASSWD, @C_FNAME,
@C_LNAME, @C_EMAIL,
                @C_PHONE, @C_DATA, @C_ADDR_ID,
                @Now,       @Now,   @Now,   @NowPlus2h,
                @Discount, 0.0,       0.0)
 commit transaction IC

 Select @C_ID as C_ID, @C_UNAME as C_UNAME, @Discount as
C_DISCOUNT

 return(0)

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.InsertOrder    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.InsertOrder    Script Date:
12/6/2001 9:22:31 AM ******/



CREATE  Procedure InsertOrder (@C_ID numeric(10) ,
@O_SUB_TOTAL numeric(15,2),
@O_TAX numeric(15,2),
@O_TOTAL numeric(15,2),
@O_SHIP_TYPE varchar(10),
@O_SHIP_ADDR_ID numeric(10,0),
@NUMITEMS numeric(10,0),
@C_DISCOUNT numeric(15,2),
@O_ID numeric(10,0), @CX_TYPE varchar(10),
@CX_NUM numeric(16), @CX_NAME varchar(31), @AUTH_ID
char(15),
@CX_EXPIRY DateTime, @CX_XACT_AMT numeric(15,2),
@CX_CO_ID numeric(4),

       @ID1  numeric(10,0), @QTY1  numeric(3,0),       @ID2
numeric(10,0), @QTY2  numeric(3,0),       @ID3  numeric(10,0),
@QTY3  numeric(3,0),
       @ID4  numeric(10,0), @QTY4  numeric(3,0),       @ID5
numeric(10,0), @QTY5  numeric(3,0),       @ID6  numeric(10,0),
@QTY6  numeric(3,0),
       @ID7  numeric(10,0), @QTY7  numeric(3,0),       @ID8
numeric(10,0), @QTY8  numeric(3,0),       @ID9  numeric(10,0),
@QTY9  numeric(3,0),
       @ID10 numeric(10,0), @QTY10 numeric(3,0),       @ID11
numeric(10,0), @QTY11 numeric(3,0),       @ID12 numeric(10,0),
@QTY12 numeric(3,0),
       @ID13 numeric(10,0), @QTY13 numeric(3,0),       @ID14
numeric(10,0), @QTY14 numeric(3,0),       @ID15 numeric(10,0),
@QTY15 numeric(3,0),
       @ID16 numeric(10,0), @QTY16 numeric(3,0),       @ID17
numeric(10,0), @QTY17 numeric(3,0),       @ID18 numeric(10,0),
@QTY18 numeric(3,0),
       @ID19 numeric(10,0), @QTY19 numeric(3,0),       @ID20
numeric(10,0), @QTY20 numeric(3,0),       @ID21 numeric(10,0),
@QTY21 numeric(3,0),
       @ID22 numeric(10,0), @QTY22 numeric(3,0),       @ID23
numeric(10,0), @QTY23 numeric(3,0),       @ID24 numeric(10,0),
@QTY24 numeric(3,0),
       @ID25 numeric(10,0), @QTY25 numeric(3,0),       @ID26
numeric(10,0), @QTY26 numeric(3,0),       @ID27 numeric(10,0),
@QTY27 numeric(3,0),
       @ID28 numeric(10,0), @QTY28 numeric(3,0),       @ID29
numeric(10,0), @QTY29 numeric(3,0),       @ID30 numeric(10,0),
@QTY30 numeric(3,0),
       @ID31 numeric(10,0), @QTY31 numeric(3,0),       @ID32
numeric(10,0), @QTY32 numeric(3,0),       @ID33 numeric(10,0),
@QTY33 numeric(3,0),
       @ID34 numeric(10,0), @QTY34 numeric(3,0),       @ID35
numeric(10,0), @QTY35 numeric(3,0),       @ID36 numeric(10,0),
@QTY36 numeric(3,0),
       @ID37 numeric(10,0), @QTY37 numeric(3,0),       @ID38
numeric(10,0), @QTY38 numeric(3,0),       @ID39 numeric(10,0),
@QTY39 numeric(3,0),
       @ID40 numeric(10,0), @QTY40 numeric(3,0),       @ID41
numeric(10,0), @QTY41 numeric(3,0),       @ID42 numeric(10,0),
@QTY42 numeric(3,0),
       @ID43 numeric(10,0), @QTY43 numeric(3,0),       @ID44
numeric(10,0), @QTY44 numeric(3,0),       @ID45 numeric(10,0),
@QTY45 numeric(3,0),
       @ID46 numeric(10,0), @QTY46 numeric(3,0),       @ID47
numeric(10,0), @QTY47 numeric(3,0),       @ID48 numeric(10,0),
@QTY48 numeric(3,0),
       @ID49 numeric(10,0), @QTY49 numeric(3,0),       @ID50
numeric(10,0), @QTY50 numeric(3,0),       @ID51 numeric(10,0),
@QTY51 numeric(3,0),
       @ID52 numeric(10,0), @QTY52 numeric(3,0),       @ID53
numeric(10,0), @QTY53 numeric(3,0),       @ID54 numeric(10,0),
@QTY54 numeric(3,0),
       @ID55 numeric(10,0), @QTY55 numeric(3,0),       @ID56
numeric(10,0), @QTY56 numeric(3,0),       @ID57 numeric(10,0),
@QTY57 numeric(3,0),
       @ID58 numeric(10,0), @QTY58 numeric(3,0),       @ID59
numeric(10,0), @QTY59 numeric(3,0),       @ID60 numeric(10,0),
@QTY60 numeric(3,0),
       @ID61 numeric(10,0), @QTY61 numeric(3,0),       @ID62
numeric(10,0), @QTY62 numeric(3,0),       @ID63 numeric(10,0),
@QTY63 numeric(3,0),
       @ID64 numeric(10,0), @QTY64 numeric(3,0),       @ID65
numeric(10,0), @QTY65 numeric(3,0),       @ID66 numeric(10,0),
@QTY66 numeric(3,0),
       @ID67 numeric(10,0), @QTY67 numeric(3,0),       @ID68
numeric(10,0), @QTY68 numeric(3,0),       @ID69 numeric(10,0),
@QTY69 numeric(3,0),
       @ID70 numeric(10,0), @QTY70 numeric(3,0),       @ID71
numeric(10,0), @QTY71 numeric(3,0),       @ID72 numeric(10,0),
@QTY72 numeric(3,0),
       @ID73 numeric(10,0), @QTY73 numeric(3,0),       @ID74
numeric(10,0), @QTY74 numeric(3,0),       @ID75 numeric(10,0),
@QTY75 numeric(3,0),
       @ID76 numeric(10,0), @QTY76 numeric(3,0),       @ID77
numeric(10,0), @QTY77 numeric(3,0),       @ID78 numeric(10,0),
@QTY78 numeric(3,0),
```

```
        @ID79 numeric(10,0), @QTY79 numeric(3,0),          @ID80
numeric(10,0), @QTY80 numeric(3,0),          @ID81 numeric(10,0),
@QTY81 numeric(3,0),
        @ID82 numeric(10,0), @QTY82 numeric(3,0),          @ID83
numeric(10,0), @QTY83 numeric(3,0),          @ID84 numeric(10,0),
@QTY84 numeric(3,0),
        @ID85 numeric(10,0), @QTY85 numeric(3,0),          @ID86
numeric(10,0), @QTY86 numeric(3,0),          @ID87 numeric(10,0),
@QTY87 numeric(3,0),
        @ID88 numeric(10,0), @QTY88 numeric(3,0),          @ID89
numeric(10,0), @QTY89 numeric(3,0),          @ID90 numeric(10,0),
@QTY90 numeric(3,0),
        @ID91 numeric(10,0), @QTY91 numeric(3,0),          @ID92
numeric(10,0), @QTY92 numeric(3,0),          @ID93 numeric(10,0),
@QTY93 numeric(3,0),
        @ID94 numeric(10,0), @QTY94 numeric(3,0),          @ID95
numeric(10,0), @QTY95 numeric(3,0),          @ID96 numeric(10,0),
@QTY96 numeric(3,0),
        @ID97 numeric(10,0), @QTY97 numeric(3,0),          @ID98
numeric(10,0), @QTY98 numeric(3,0),          @ID99 numeric(10,0),
@QTY99 numeric(3,0),
        @ID100 numeric(10,0), @QTY100 numeric(3,0),

              @SC_ID numeric(10,0), @SC_FILE varchar(50)
)

AS
Declare @now datetime,
              @now_plus_rnd datetime,
              @C_ADDR_ID numeric(10,0),
              @ranDay numeric(10),
              @i numeric(10),
              @I_ID    numeric(10,0),
              @QTY numeric(3,0)

 SET NOCOUNT ON

CREATE TABLE #CartTemp (OL_ID numeric(3,0), I_ID
numeric(10,0), QTY numeric(3,0))
 Set @i=0
   while ( @i < @NUMITEMS )
   BEGIN
    select @i = @i + 1
    select @I_ID = case @i
              when 1 then @ID1              when 2 then @ID2
  when 3 then @ID3              when 4 then @ID4              when 5
then @ID5
              when 6 then @ID6              when 7 then @ID7
  when 8 then @ID8              when 9 then @ID9              when
10 then @ID10
              when 11 then @ID11              when 12 then @ID12
        when 13 then @ID13              when 14 then @ID14
  when 15 then @ID15
              when 16 then @ID16              when 17 then @ID17
        when 18 then @ID18              when 19 then @ID19
  when 20 then @ID20
              when 21 then @ID21              when 22 then @ID22
        when 23 then @ID23              when 24 then @ID24
  when 25 then @ID25
              when 26 then @ID26              when 27 then @ID27
        when 28 then @ID28              when 29 then @ID29
  when 30 then @ID30
              when 31 then @ID31              when 32 then @ID32
        when 33 then @ID33              when 34 then @ID34
  when 35 then @ID35
              when 36 then @ID36              when 37 then @ID37
        when 38 then @ID38              when 39 then @ID39
  when 40 then @ID40
              when 41 then @ID41              when 42 then @ID42
        when 43 then @ID43              when 44 then @ID44
  when 45 then @ID45
              when 46 then @ID46              when 47 then @ID47
        when 48 then @ID48              when 49 then @ID49
  when 50 then @ID50
              when 51 then @ID51              when 52 then @ID52
        when 53 then @ID53              when 54 then @ID54
  when 55 then @ID55
              when 56 then @ID56              when 57 then @ID57
        when 58 then @ID58              when 59 then @ID59
  when 60 then @ID60
              when 61 then @ID61              when 62 then @ID62
        when 63 then @ID63              when 64 then @ID64
  when 65 then @ID65
              when 66 then @ID66              when 67 then @ID67
        when 68 then @ID68              when 69 then @ID69
  when 70 then @ID70
              when 71 then @ID71              when 72 then @ID72
        when 73 then @ID73              when 74 then @ID74
  when 75 then @ID75
              when 76 then @ID76              when 77 then @ID77
        when 78 then @ID78              when 79 then @ID79
  when 80 then @ID80
              when 81 then @ID81              when 82 then @ID82
        when 83 then @ID83              when 84 then @ID84
  when 85 then @ID85
              when 86 then @ID86              when 87 then @ID87
        when 88 then @ID88              when 89 then @ID89
  when 90 then @ID90
              when 91 then @ID91              when 92 then @ID92
        when 93 then @ID93              when 94 then @ID94
  when 95 then @ID95
              when 96 then @ID96              when 97 then @ID97
        when 98 then @ID98              when 99 then @ID99
  when 100 then @ID100
            end,

        @QTY = case @i
              when 1 then @QTY1              when 2 then @QTY2
        when 3 then @QTY3              when 4 then @QTY4
  when 5 then @QTY5
              when 6 then @QTY6              when 7 then @QTY7
        when 8 then @QTY8              when 9 then @QTY9
  when 10 then @QTY10
              when 11 then @QTY11              when 12 then
@QTY12              when 13 then @QTY13              when 14 then
@QTY14              when 15 then @QTY15
              when 16 then @QTY16              when 17 then
@QTY17              when 18 then @QTY18              when 19 then
@QTY19              when 20 then @QTY20
              when 21 then @QTY21              when 22 then
@QTY22              when 23 then @QTY23              when 24 then
@QTY24              when 25 then @QTY25
              when 26 then @QTY26              when 27 then
@QTY27              when 28 then @QTY28              when 29 then
@QTY29              when 30 then @QTY30
              when 31 then @QTY31              when 32 then
@QTY32              when 33 then @QTY33              when 34 then
@QTY34              when 35 then @QTY35
              when 36 then @QTY36              when 37 then
@QTY37              when 38 then @QTY38              when 39 then
@QTY39              when 40 then @QTY40
              when 41 then @QTY41              when 42 then
@QTY42              when 43 then @QTY43              when 44 then
@QTY44              when 45 then @QTY45
```

```
            when 46 then @QTY46             when 47 then
@QTY47              when 48 then @QTY48             when 49 then
@QTY49              when 50 then @QTY50
            when 51 then @QTY51             when 52 then
@QTY52              when 53 then @QTY53             when 54 then
@QTY54              when 55 then @QTY55             when 56 then
@QTY56              when 57 then @QTY57             when 58 then
@QTY58              when 59 then @QTY59             when 60 then
@QTY60
            when 61 then @QTY61             when 62 then
@QTY62              when 63 then @QTY63             when 64 then
@QTY64              when 65 then @QTY65
            when 66 then @QTY66             when 67 then
@QTY67              when 68 then @QTY68             when 69 then
@QTY69              when 70 then @QTY70
            when 71 then @QTY71             when 72 then
@QTY72              when 73 then @QTY73             when 74 then
@QTY74              when 75 then @QTY75
            when 76 then @QTY76             when 77 then
@QTY77              when 78 then @QTY78             when 79 then
@QTY79              when 80 then @QTY80
            when 81 then @QTY81             when 82 then
@QTY82              when 83 then @QTY83             when 84 then
@QTY84              when 85 then @QTY85
            when 86 then @QTY86             when 87 then
@QTY87              when 88 then @QTY88             when 89 then
@QTY89              when 90 then @QTY90
            when 91 then @QTY91             when 92 then
@QTY92              when 93 then @QTY93             when 94 then
@QTY94              when 95 then @QTY95
            when 96 then @QTY96             when 97 then
@QTY97              when 98 then @QTY98             when 99 then
@QTY99              when 100 then @QTY100
          end
            if (@I_ID != 0) INSERT INTO #CartTemp VALUES (@i,
@I_ID, @QTY)
    END

  Select @now=GetDate()
  Select @ranDay = (6 * rand() + 1)
  Select @now_plus_rnd = DateAdd(day,@ranDay,@now)

  Select @C_ADDR_ID=C_ADDR_ID from  CUSTOMER where
C_ID = @C_ID
  Select @CX_CO_ID = ADDR_CO_ID from ADDRESS where
ADDR_ID = @C_ADDR_ID
  if (@O_SHIP_ADDR_ID = 0) select @O_SHIP_ADDR_ID =
@C_ADDR_ID
  Begin Transaction T2_7_3_3

   insert into ORDERS with (rowlock) (O_ID, O_C_ID, O_DATE,
O_SUBTOTAL, O_TAX, O_TOTAL, O_SHIP_TYPE,
O_SHIP_DATE,
            O_BILL_ADDR, O_SHIP_ADDR, O_STATUS)
                  values (@O_ID, @C_ID, @now,
@O_SUB_TOTAL, @O_TAX, @O_TOTAL, @O_SHIP_TYPE,
@now_plus_rnd,
            @C_ADDR_ID, @O_SHIP_ADDR_ID, 'Pending')
   if @@ERROR <> 0
   BEGIN
            ROLLBACK
            return(-1)
   END
   DECLARE cart_cursor CURSOR FOR SELECT * FROM
#CartTemp WHERE I_ID != 0
   OPEN cart_cursor

   declare @OL_ID numeric(3,0), @OL_I_ID numeric(10,0), @I_QTY
numeric(3,0)
   declare @Comments varchar(100)
   Declare @stock       numeric(4,0)


   -- Perform the first fetch.
     FETCH NEXT FROM cart_cursor into @OL_ID, @OL_I_ID,
@I_QTY

   -- Check @@FETCH_STATUS to see if there are any more rows to
fetch.
   WHILE @@FETCH_STATUS = 0
   BEGIN
     Select @stock = I_STOCK from ITEM with (ROWLOCK) where
I_ID = @OL_I_ID
     If ( @stock > @I_QTY + 10 )
       Update ITEM with (updlock) Set I_STOCK = I_STOCK -
@I_QTY Where I_ID = @OL_I_ID
     Else
       Update ITEM  with (updlock) Set I_STOCK = I_STOCK-
@I_QTY + 21 Where I_ID = @OL_I_ID

   if @@ERROR <> 0
   BEGIN
            ROLLBACK
            return(-1)
   END

     Execute MakeAlphaString 20, 100, @AlphaString = @Comments
OUTPUT
     insert ORDER_LINE values(@OL_ID, @O_ID, @OL_I_ID,
@I_QTY, @C_DISCOUNT, @Comments)
   if @@ERROR <> 0
   BEGIN
            ROLLBACK
            return(-1)
   END

     FETCH NEXT FROM cart_cursor into @OL_ID, @OL_I_ID,
@I_QTY
   END

  -- Return to the WebServer Order ID which is used by the PGE.
  Drop Table #CartTemp

  Select @now=GetDate()
    -- Insert the Credit card information
    --
    Insert CC_XACTS( CX_O_ID,  CX_TYPE,    CX_NUM,
CX_NAME,  CX_EXPIRY,
             CX_AUTH_ID, CX_XACT_AMT,    CX_XACT_DATE,
 CX_CO_ID )
          values ( @O_ID,    @CX_TYPE,   @CX_NUM,
@CX_NAME,  @CX_EXPIRY,
              @AUTH_ID,   @CX_XACT_AMT,   @now,
@CX_CO_ID )
   if @@ERROR <> 0
   BEGIN
            ROLLBACK
            return(-1)
   END

  Update SC_PTR with (rowlock) set SC_FILE = @SC_FILE where
SC_ID = @SC_ID

   if @@ERROR <> 0
   BEGIN
```

```
            ROLLBACK
            return(-1)
  END

-- uncomment for ACI tests
--if @CX_TYPE like 'ZZZZ%'
--BEGIN
--            rollback
--            return (-1)
--END

Commit Transaction T2_7_3_3

return(0)
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.InsertShoppingCartPtr    Script
Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.InsertShoppingCartPtr    Script
Date: 12/6/2001 9:22:31 AM ******/


/****** Object:  Stored Procedure dbo.InsertShoppingCartPtr    Script
Date: 3/29/2001 8:16:46 AM ******/
Create Procedure InsertShoppingCartPtr
(@SC_FILE varchar(50))
As

 SET NOCOUNT ON

 insert into SC_PTR (SC_FILE) values (@SC_FILE)
 select @@identity


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO


/****** Object:  Stored Procedure dbo.ItemUpdate    Script Date:
5/25/2002 12:38:00 PM ******/
CREATE PROCEDURE ItemUpdate ( @THE_I_ID numeric(10),
 @Item1  numeric(10),
 @Item2  numeric(10),
 @Item3  numeric(10),
 @Item4  numeric(10),
 @Item5  numeric(10),
 @THE_COST  numeric(15,2),
 @THE_IMAGE varchar(50),
 @THE_THUMB varchar(50))

As


 Declare @Now  DateTime
 -- Clause 2.16.3.2
 --
 Select @Now = GetDate()

--UpdateItem:
begin transaction t1

 Update ITEM with (rowlock) Set I_RELATED1=@Item1,
            I_RELATED2=@Item2,
            I_RELATED3=@Item3,
            I_RELATED4=@Item4,
            I_RELATED5=@Item5 ,
                I_COST=@THE_COST,
            I_IMAGE=@THE_IMAGE,
            I_THUMBNAIL=@THE_THUMB,
            I_PUB_DATE=@Now
            Where I_ID=@THE_I_ID

-- Uncomment for ACI tests
--if (@THE_COST = 999.99) waitfor delay '000:01:00'

commit transaction t1
/*
 if ( @@error = 1205 )
      BEGIN
            --WAITFOR delay '000:00:01'
        GOTO UpdateItem
       End
*/
return (0)
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.LOCKPROFILE    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.LOCKPROFILE    Script Date:
12/6/2001 9:22:30 AM ******/


CREATE PROCEDURE LOCKPROFILE
AS
DECLARE @MV_PROCESS CHAR(10), @MV_COMMAND2
CHAR(254), @MV_BLK CHAR(10), @MV_OID INT
SET NOCOUNT ON
PRINT 'LOCK PROFILE'
DECLARE CUR_TABLE_LIST CURSOR FOR
 SELECT P.spid, P.blocked
            FROM master..sysprocesses P
            WHERE P.blocked <> 0
```

```
OPEN CUR_TABLE_LIST
FETCH NEXT FROM CUR_TABLE_LIST INTO @MV_PROCESS,
@MV_BLK
WHILE (@@FETCH_STATUS <> -1)
   BEGIN
          IF (@@FETCH_STATUS <> -2)
          BEGIN

          PRINT 'PROCESS BLOCKED: ' + @MV_PROCESS + '
BY PROCESS: ' + @MV_BLK
                    DECLARE LOCK_TABLE_LIST CURSOR
FOR
                              SELECT   rsc_objid
                              FROM     master.dbo.syslockinfo
                              WHERE
master.dbo.syslockinfo.req_status = 3
                                        AND req_spid =
@MV_PROCESS
                    OPEN LOCK_TABLE_LIST
                    FETCH NEXT FROM LOCK_TABLE_LIST
INTO @MV_OID
                    WHILE (@@FETCH_STATUS <> -1)
                    BEGIN
                              IF (@@FETCH_STATUS <> -2)
                              BEGIN
                              SELECT name AS 'TABLE(S)
CAUSING BLOCK' FROM sysobjects WHERE id = @MV_OID
                              END
                    FETCH NEXT FROM LOCK_TABLE_LIST
INTO @MV_OID
                    END
                    DEALLOCATE LOCK_TABLE_LIST
                    PRINT 'STATEMENT BEING BLOCKED'
                    SELECT @MV_COMMAND2 = 'DBCC
INPUTBUFFER ( ' + @MV_PROCESS + ')'

                    EXEC (@MV_COMMAND2)
          END
          FETCH NEXT FROM CUR_TABLE_LIST INTO
@MV_PROCESS, @MV_BLK
   END
DEALLOCATE CUR_TABLE_LIST


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.LatestPriceProc    Script Date:
5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.LatestPriceProc    Script Date:
12/6/2001 9:22:31 AM ******/


/****** Object:  Stored Procedure dbo.LatestPriceProc    Script Date:
3/29/2001 8:16:46 AM ******/
```

```
CREATE Procedure LatestPriceProc( @ITEM_ID numeric(10,0) )
As
 SET NOCOUNT ON

 Select I_COST from ITEM where I_ID = @ITEM_ID


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.MakeAlphaString    Script
Date: 5/25/2002 12:38:00 PM ******/



/****** Object:  Stored Procedure dbo.MakeAlphaString    Script
Date: 12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.MakeAlphaString    Script
Date: 3/29/2001 8:16:46 AM ******/
CREATE Procedure MakeAlphaString
          ( @x int, @y int, @AlphaString varchar(255) OUTPUT)
As
DECLARE @c int
DECLARE @i int
DECLARE @Length int

   set NOCOUNT ON

   --
   --  Initialize NULL string and check for invalid parameters
   --
   SET @AlphaString=''
   IF @x < 0 OR @y <= @x OR @y > 255
     BEGIN
       return( 0 )
     END

   --
   -- Select random length of the string between x and y.
   --
   SET @Length = (@y - @x) * rand() + @x

   --
   -- Build an alpha string for the above length.
   --
   SET @i = 1
   WHILE @i <= @Length
     BEGIN
       SET @c = 89 * rand() + 1
       SET @AlphaString = @AlphaString + SUBSTRING(
'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwx
yz0123456789!@#$%^&*()_-=+{}[]|:;,.?/~ ', @c, 1 )
       SET @i= @i + 1
     END
   return ( 0 )
```

```
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



/****** Object:  Stored Procedure dbo.NewBooksProc_WA    Script
Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.NewBooksProc_WA    Script
Date: 12/6/2001 9:22:31 AM ******/


/****** Object:  Stored Procedure dbo.NewBooksProc_WA    Script
Date: 3/29/2001 8:16:46 AM ******/

CREATE Procedure NewBooksProc_WA ( @CategoryId varchar(60)
)
As

  set transaction isolation level read uncommitted
 Select TOP 50 A_FNAME, A_LNAME, I_ID, I_TITLE from
ITEM[nolock], AUTHOR
            where (A_ID = I_A_ID and I_SUBJECT = @CategoryId)
            order by I_PUB_DATE desc, I_TITLE asc
  set transaction isolation level read committed

return (0)

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.AdminUpdate    Script Date:
5/25/2002 12:37:59 PM ******/

/****** Object:  Stored Procedure dbo.Null_Item    Script Date:
5/25/2002 12:38:00 PM ******/



/****** Object:  Stored Procedure dbo.Null_Item    Script Date:
12/6/2001 9:22:30 AM ******/


/****** Object:  Stored Procedure dbo.Null_Item    Script Date:
3/29/2001 8:16:46 AM ******/

CREATE Procedure Null_Item
 ( @NewValue int, @i1 int, @i2 int, @i3 int, @i4 int, @num_items
int, @item int OUTPUT )
AS

 Set @item=@NewValue;

 IF @item > @num_items
   SET @item = @item % @num_items

 WHILE @item = @i1 OR @item = @i2 OR @item = @i3 OR
@item = @i4
   Set @item = @item + 1

 return( 0 )


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.PP_Det    Script Date:
5/25/2002 12:38:00 PM ******/

CREATE Procedure PP_Det( @book numeric(10))

as

SET NOCOUNT ON

select I_ID, I_THUMBNAIL from ITEM [rowlock] where I_ID =
@book


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure dbo.ProductDetailProc    Script
Date: 5/25/2002 12:38:00 PM ******/


/****** Object:  Stored Procedure dbo.ProductDetailProc    Script
Date: 12/6/2001 9:22:31 AM ******/



/****** Object:  Stored Procedure dbo.ProductDetailProc    Script
Date: 3/29/2001 8:16:46 AM ******/
CREATE Procedure ProductDetailProc ( @BookID numeric(10) )
As

   Select I_TITLE, I_SUBJECT, I_DESC, I_COST, I_SRP,
I_BACKING, I_PAGE,
```

```
     I_PUBLISHER, I_PUB_DATE, I_AVAIL, I_DIMENSIONS,
I_ISBN,
     I_IMAGE, I_THUMBNAIL, A_FNAME, A_LNAME
    From ITEM, AUTHOR
    Where I_ID=@BookID And A_ID = I_A_ID
 return (0)

GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


/****** Object:  Stored Procedure
dbo.SearchSubjectProc_Original_WA    Script Date: 5/25/2002
12:38:00 PM ******/


/****** Object:  Stored Procedure
dbo.SearchSubjectProc_Original_WA    Script Date: 12/6/2001
9:22:31 AM ******/

/****** Object:  Stored Procedure
dbo.SearchSubjectProc_Original_WA    Script Date: 3/29/2001
8:16:46 AM ******/

CREATE Procedure SearchSubjectProc_Original_WA ( @CategoryID
varchar(60) )
As
  Declare @StartUpdate     DateTime
  Declare @EndUpdate                DateTime
  Declare @delta           float

  Set @StartUpdate = GetDate()

   set transaction isolation level read uncommitted
-- select I_ID, I_TITLE, A_FNAME,A_LNAME from ITEM,
AUTHOR
--select A_FNAME, A_LNAME, I_ID, I_TITLE from ITEM,
AUTHOR
--where I_ID in (select top 50 I_ID
 --             from ITEM[nolock]
 --             where I_SUBJECT = @CategoryID
 --             order by I_TITLE ASC) and I_A_ID = A_ID
 --  set transaction isolation level read committed

   select top 50 AUTHOR.A_FNAME, AUTHOR.A_LNAME,
ITEM.I_ID,ITEM.I_TITLE
   from ITEM join AUTHOR on I_A_ID = A_ID
   where  ITEM.I_SUBJECT = @CategoryID
   order by I_TITLE ASC

   Set @EndUpdate = GetDate()
   Set @delta = DATEDIFF(millisecond, @StartUpdate, @EndUpdate)
   Set @delta = (CONVERT (float, (@delta/1000)))

  Return (0)


GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO
```

buildDB.ksh

```
#
#  buildDB_avatar.ksh
#

echo "\n\n********" `date` ": Turn ON Database"
echo "sqlservr -T3502 -x -c -g100" > kapoon.bat
start 'kapoon.bat'
sleep 3

echo "\n\n********" `date` ": Create Database"
isql -Usa -P -i V_CreateDatabase.sql

echo "\n\n********" `date` ": Create File Groups"
isql -Usa -P -i V_CreateFileGroups.sql

echo "\n\n********" `date` ": Create Tables"
isql -Usa -P -i V_CreateTables.sql

echo "\n\n********" `date` ": Create Clustered Indexes"
isql -Usa -P -i V_ClusteredIndexes.sql

echo "\n\n********" `date` ": Set Db Options"
isql -Usa -P -i V_set_db_options.sql

echo "\n\n********" `date` ": Apply Options"
isql -Usa -P -i V_apply.sql
sleep 15

echo "\n\n********" `date` ": Turn ON Database"
echo "sqlservr -T3502 -x -c -g100" > kapoon.bat
start 'kapoon.bat'
sleep 3

echo "\n\n********" `date` ": Generating Data"
echo "\n./tpcwgen -e103000 -i10000 -t8"
./tpcwgen -e103000 -i10000 -t8

echo "\n\n********" `date` ": Displaying SpaceUsed After Load"
isql -Usa -P -i V_spaceused.sql

echo "\n\n********" `date` ": Create Non-Clustered Indexes"
./V_NonClusterIndex.ksh
isql -U sa -P -i V_Thread2.sql

echo "\n\n********" `date` ": Initialize TPCW Info"
isql -Usa -P -i InitTPCWinfo.sql

echo "\n\n********" `date` ": Create Stored Procedures"
isql -Usa -P -i V_StoredProcedures.sql

echo "\n\n********" `date` ": Set Table Locking Options"
isql -Usa -P -iV_SetTableOptions.sql

echo "\n\n********" `date` ": Initialize Orders"
isql -Usa -P -iDeleteOrders.sql

echo "\n\n********" `date` ": Reset DB Options"
isql -Usa -P -i V_reset_db_options.sql

echo "\n\n********" `date` ": Backup Database"
isql -Usa -P -i BackupDB.sql
```

```
echo "\n\n********" `date` ": Displaying Final SpaceUsed"
isql -Usa -P -i V_spaceused.sql

echo "\n\n********" `date` ": Log space used"
isql -Usa -P -i tpcw_logspace.sql

echo "\n\n********" `date` ": Finished\n"
```

sp_configure

```
name                           minimum     maximum     config_value
run_value
---------------------------------- ----------- ----------- ------------ -----------
affinity mask                  -2147483648 2147483647  65535
65535
allow updates                  0           1           1            1
awe enabled                    0           1           1            1
c2 audit mode                  0           1           0            0
cost threshold for parallelism     0           32767       5            5
cursor threshold               -1          2147483647  -1           -1
default full-text language         0           2147483647  1033         1033
default language               0           9999        0            0
fill factor (%)                0           100         0            0
index create memory (KB)           704         2147483647  0            0
lightweight pooling            0           1           1            1
locks                          5000        2147483647  500000       500000
max degree of parallelism          0           32          1            1
max server memory (MB)             4           2147483647  7250
7250
max text repl size (B)             0           2147483647  65536        65536
max worker threads             32          32767       300          300
media retention                0           365         0            0
min memory per query (KB)          512         2147483647  1024
1024
min server memory (MB)             0           2147483647  0            0
nested triggers                0           1           1            1
network packet size (B)            512         65536       4096         4096
open objects                   0           2147483647  0            0
priority boost                 0           1           0            0
query governor cost limit          0           2147483647  0            0
query wait (s)                 -1          2147483647  -1           -1
recovery interval (min)            0           32767       40           40
remote access                  0           1           1            1
remote login timeout (s)           0           2147483647  20           20
remote proc trans              0           1           0            0
remote query timeout (s)           0           2147483647  600          600
scan for startup procs             0           1           0            0
set working set size           0           1           0            0
show advanced options              0           1           1            1
two digit year cutoff              1753        9999        2049         2049
user connections               0           32767       0            0
user options                   0           32767       0            0
```

DeleteOrders.sql

```
use tpcw
go

Declare @NumOrders numeric(10,0)
Declare @NumBrowsers numeric(10,0)

 SET NOCOUNT ON

 Select @NumOrders=TI_BROWSERS from TPCW_INFO
 Select @NumBrowsers=TI_BROWSERS from TPCW_INFO
 Set @NumOrders = @NumOrders * 2880 *.9
 Select @NumOrders

 Delete CC_XACTS where CX_O_ID > @NumOrders

 Delete ORDER_LINE where OL_O_ID > @NumOrders

 Delete ORDERS where O_ID > @NumOrders

 Declare @NumCusts numeric(10,0)
 Select @NumCusts = @NumBrowsers * 2880

--  Delete CUSTOMER where C_ID > @NumCusts

 --
 -- Truncate NEW_ORDER table except for the last one
 --
 declare @MAX_O_ID numeric(10,0)

 select @MAX_O_ID = max(O_ID) from ORDERS
 Truncate table NEW_ORDER
 SET IDENTITY_INSERT NEW_ORDER ON
 insert into NEW_ORDER (N_O_ID, N_C_ID ) values(
@MAX_O_ID, 0 );
 SET IDENTITY_INSERT NEW_ORDER OFF
 GO
 --
 -- Truncate NEXT_C_ID table except for the last one
 --
 declare @MAX_C_ID numeric(10,0)

 select @MAX_C_ID = max(C_ID) from CUSTOMER
 Truncate table NEXT_C_ID
 SET IDENTITY_INSERT NEXT_C_ID ON
 insert into NEXT_C_ID (NEXT_C_ID, NC_FNAME ) values(
@MAX_C_ID, 'START' );
 SET IDENTITY_INSERT NEXT_C_ID OFF
 GO

 --
 -- Truncate NEXT_ADDR_ID table except for the last one
 --
 declare @MAX_ADDR_ID numeric (10,0)
 select @MAX_ADDR_ID = max(ADDR_ID) from ADDRESS
 truncate table NEW_ADDR_ID
 SET IDENTITY_INSERT NEW_ADDR_ID ON
 insert into NEW_ADDR_ID (NEXT_ADDR_ID, NA_MARKER)
values ( @MAX_ADDR_ID, 'FOO');
 SET IDENTITY_INSERT NEW_ADDR_ID OFF
 GO

select * from NEW_ORDER
select * from NEXT_C_ID
select * from NEW_ADDR_ID

checkpoint
Go
```

InitTPCWinfo.sql

```
--
--  Copyright (c) 1999-2000 Intel Corporation
--
use tpcw
go
set NOCOUNT ON
```

```
Declare @num_items    numeric(10,0)
Declare @num_browsers numeric(10,0)

  Set @num_items = (select count(*) from ITEM)
  Set @num_browsers = (select count(*) from CUSTOMER) / 2880

  INSERT into TPCW_INFO values( @num_items, @num_browsers )

checkpoint
go
```

V_apply.sql

```
use tpcw
go

checkpoint
go

Shutdown
```

V_ClusteredIndexes.sql

```
use tpcw
go

 CREATE  UNIQUE  CLUSTERED  INDEX [ADDR_INDEX_1] ON
[dbo].[ADDRESS]([ADDR_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [A_INDEX_1] ON
[dbo].[AUTHOR]([A_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [IX_CC_XACTS] ON
[dbo].[CC_XACTS]([CX_O_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [COUNTRY_Index_1]
ON [dbo].[COUNTRY]([CO_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [C_INDX_1] ON
[dbo].[CUSTOMER]([C_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [ITEM_Index_1] ON
[dbo].[ITEM]([I_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [O_INDX1] ON
[dbo].[ORDERS]([O_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [OL_INDX] ON
[dbo].[ORDER_LINE]([OL_O_ID], [OL_ID]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  CLUSTERED  INDEX [sc_ptr_idx] ON
[dbo].[SC_PTR]([SC_ID]) ON [ONEBIG_FG]
GO

checkpoint
Go
```

V_CreateDatabase.sql

```
-- V_CreateDatabase.sql

USE master
GO

if exists (select name from sysdatabases where name='tpcw')
  DROP DATABASE tpcw
go

create database tpcw on
primary     (name=tpcwroot,
             filename='C:\tpcwroot.mdf',
             size=10MB,
             filegrowth = 0)

log on      (name=tpcwlog,
             filename='L:',
             size=156100MB,
             filegrowth = 0)
go
```

V_CreateFileGroups.sql

```
-- V_CreateFileGroups.sql

alter database tpcw add filegroup ONEBIG_FG

alter database tpcw add file
   (name=tpcwdata1, filename='T:', size=613500MB, filegrowth = 0),
   (name=tpcwdata2, filename='U:', size=613500MB, filegrowth = 0)

to filegroup ONEBIG_FG
```

V_CreateTables.sql

```
use tpcw
go

/****** Object:  Table [dbo].[ADDRESS]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ADDRESS]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[ADDRESS]
GO

/****** Object:  Table [dbo].[AUTHOR]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[AUTHOR]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[AUTHOR]
GO

/****** Object:  Table [dbo].[CC_XACTS]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[CC_XACTS]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[CC_XACTS]
GO
```

```
/****** Object:  Table [dbo].[COUNTRY]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[COUNTRY]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[COUNTRY]
GO

/****** Object:  Table [dbo].[CUSTOMER]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[CUSTOMER]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[CUSTOMER]
GO

/****** Object:  Table [dbo].[ITEM]    Script Date: 12/6/2001 9:22:27
AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ITEM]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[ITEM]
GO

/****** Object:  Table [dbo].[NEW_ADDR_ID]    Script Date:
12/6/2001 9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[NEW_ADDR_ID]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[NEW_ADDR_ID]
GO

/****** Object:  Table [dbo].[NEW_ORDER]    Script Date:
12/6/2001 9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[NEW_ORDER]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[NEW_ORDER]
GO

/****** Object:  Table [dbo].[NEXT_C_ID]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[NEXT_C_ID]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[NEXT_C_ID]
GO

/****** Object:  Table [dbo].[ORDERS]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ORDERS]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[ORDERS]
GO

/****** Object:  Table [dbo].[ORDER_LINE]    Script Date:
12/6/2001 9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ORDER_LINE]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[ORDER_LINE]
GO

/****** Object:  Table [dbo].[SC_PTR]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[SC_PTR]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[SC_PTR]
GO

/****** Object:  Table [dbo].[TPCW_INFO]    Script Date: 12/6/2001
9:22:27 AM ******/
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[TPCW_INFO]') and OBJECTPROPERTY(id,
N'IsUserTable') = 1)
drop table [dbo].[TPCW_INFO]
GO

/****** Object:  Table [dbo].[ADDRESS]    Script Date: 12/6/2001
9:22:28 AM ******/
CREATE TABLE [dbo].[ADDRESS] (
        [ADDR_ID] [numeric](10, 0) NOT NULL ,
        [ADDR_STREET1] [varchar] (40)  NULL ,
        [ADDR_STREET2] [varchar] (40)  NULL ,
        [ADDR_CITY] [varchar] (30)  NULL ,
        [ADDR_STATE] [varchar] (20)  NULL ,
        [ADDR_ZIP] [varchar] (10)  NULL ,
        [ADDR_CO_ID] [smallint] NOT NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[AUTHOR]    Script Date: 12/6/2001
9:22:29 AM ******/
CREATE TABLE [dbo].[AUTHOR] (
        [A_ID] [numeric](10, 0) NOT NULL ,
        [A_FNAME] [varchar] (20)  NULL ,
        [A_LNAME] [varchar] (20)  NULL ,
        [A_MNAME] [varchar] (20)  NULL ,
        [A_DOB] [datetime] NULL ,
        [A_BIO] [text]  NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[CC_XACTS]    Script Date: 12/6/2001
9:22:29 AM ******/
CREATE TABLE [dbo].[CC_XACTS] (
        [CX_O_ID] [numeric](10, 0) NOT NULL ,
        [CX_TYPE] [varchar] (10)  NULL ,
        [CX_NUM] [numeric](16, 0) NULL ,
        [CX_NAME] [varchar] (31)  NULL ,
        [CX_EXPIRY] [datetime] NULL ,
        [CX_AUTH_ID] [varchar] (15)  NULL ,
        [CX_XACT_AMT] [numeric](17, 2) NULL ,
        [CX_XACT_DATE] [datetime] NULL ,
        [CX_CO_ID] [smallint] NOT NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[COUNTRY]    Script Date: 12/6/2001
9:22:29 AM ******/
CREATE TABLE [dbo].[COUNTRY] (
        [CO_ID] [smallint] NOT NULL ,
        [CO_NAME] [varchar] (50)  NULL ,
        [CO_EXCHANGE] [numeric](18, 6) NULL ,
        [CO_CURRENCY] [varchar] (18)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[CUSTOMER]    Script Date: 12/6/2001
9:22:29 AM ******/
CREATE TABLE [dbo].[CUSTOMER] (
        [C_ID] [numeric](10, 0) NOT NULL ,
```

```
	[C_UNAME] [varchar] (20)  NULL ,
	[C_PASSWD] [varchar] (20)  NULL ,
	[C_FNAME] [varchar] (15)  NULL ,
	[C_LNAME] [varchar] (15)  NULL ,
	[C_ADDR_ID] [numeric](10, 0) NULL ,
	[C_PHONE] [varchar] (16)  NULL ,
	[C_EMAIL] [varchar] (50)  NULL ,
	[C_SINCE] [datetime] NULL ,
	[C_LAST_VISIT] [datetime] NULL ,
	[C_LOGIN] [datetime] NULL ,
	[C_EXPIRATION] [datetime] NULL ,
	[C_DISCOUNT] [numeric](5, 2) NULL ,
	[C_BALANCE] [numeric](17, 2) NULL ,
	[C_YTD_PMT] [numeric](17, 2) NULL ,
	[C_BIRTHDATE] [datetime] NULL ,
	[C_DATA] [text]  NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[ITEM]    Script Date: 12/6/2001 9:22:29
AM ******/
CREATE TABLE [dbo].[ITEM] (
	[I_ID] [numeric](10, 0) NOT NULL ,
	[I_TITLE] [varchar] (60)  NULL ,
	[I_A_ID] [numeric](10, 0) NULL ,
	[I_PUB_DATE] [datetime] NULL ,
	[I_PUBLISHER] [varchar] (60)  NULL ,
	[I_SUBJECT] [varchar] (60)  NULL ,
	[I_DESC] [text]  NULL ,
	[I_RELATED1] [numeric](10, 0) NOT NULL ,
	[I_RELATED2] [numeric](10, 0) NOT NULL ,
	[I_RELATED3] [numeric](10, 0) NOT NULL ,
	[I_RELATED4] [numeric](10, 0) NOT NULL ,
	[I_RELATED5] [numeric](10, 0) NOT NULL ,
	[I_THUMBNAIL] [varchar] (100)  NULL ,
	[I_IMAGE] [varchar] (100)  NULL ,
	[I_SRP] [numeric](17, 2) NULL ,
	[I_COST] [numeric](17, 2) NULL ,
	[I_AVAIL] [datetime] NULL ,
	[I_STOCK] [smallint] NULL ,
	[I_ISBN] [varchar] (13)  NULL ,
	[I_PAGE] [int] NULL ,
	[I_BACKING] [varchar] (15)  NULL ,
	[I_DIMENSIONS] [varchar] (25)  NULL
) ON [ONEBIG_FG] TEXTIMAGE_ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[NEW_ADDR_ID]    Script Date:
12/6/2001 9:22:30 AM ******/
CREATE TABLE [dbo].[NEW_ADDR_ID] (
	[NEXT_ADDR_ID] [numeric](18, 0) IDENTITY (1, 1)
NOT NULL ,
	[NA_MARKER] [varchar] (15)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[NEW_ORDER]    Script Date:
12/6/2001 9:22:30 AM ******/
CREATE TABLE [dbo].[NEW_ORDER] (
	[N_O_ID] [numeric](10, 0) IDENTITY (1, 1) NOT NULL ,
	[N_C_ID] [numeric](10, 0) NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[NEXT_C_ID]    Script Date: 12/6/2001
9:22:30 AM ******/
CREATE TABLE [dbo].[NEXT_C_ID] (
	[NEXT_C_ID] [numeric](18, 0) IDENTITY (1, 1) NOT
NULL ,
	[NC_FNAME] [varchar] (15)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[ORDERS]    Script Date: 12/6/2001
9:22:30 AM ******/
CREATE TABLE [dbo].[ORDERS] (
	[O_ID] [numeric](10, 0) NOT NULL ,
	[O_C_ID] [numeric](10, 0) NULL ,
	[O_DATE] [datetime] NULL ,
	[O_SUBTOTAL] [numeric](17, 2) NULL ,
	[O_TAX] [numeric](17, 2) NULL ,
	[O_TOTAL] [numeric](17, 2) NULL ,
	[O_SHIP_TYPE] [varchar] (10)  NULL ,
	[O_SHIP_DATE] [datetime] NULL ,
	[O_BILL_ADDR] [numeric](10, 0) NULL ,
	[O_SHIP_ADDR] [numeric](10, 0) NULL ,
	[O_STATUS] [varchar] (15)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[ORDER_LINE]    Script Date:
12/6/2001 9:22:30 AM ******/
CREATE TABLE [dbo].[ORDER_LINE] (
	[OL_ID] [smallint] NOT NULL ,
	[OL_O_ID] [numeric](10, 0) NOT NULL ,
	[OL_I_ID] [numeric](10, 0) NOT NULL ,
	[OL_QTY] [smallint] NULL ,
	[OL_DISCOUNT] [numeric](5, 2) NULL ,
	[OL_COMMENTS] [varchar] (100)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[SC_PTR]    Script Date: 12/6/2001
9:22:30 AM ******/
CREATE TABLE [dbo].[SC_PTR] (
	[SC_ID] [numeric](10, 0) IDENTITY (1, 1) NOT NULL ,
	[SC_FILE] [varchar] (50)  NULL
) ON [ONEBIG_FG]
GO

/****** Object:  Table [dbo].[TPCW_INFO]    Script Date: 12/6/2001
9:22:30 AM ******/
CREATE TABLE [dbo].[TPCW_INFO] (
	[TI_ITEMS] [numeric](10, 0) NULL ,
	[TI_BROWSERS] [numeric](10, 0) NULL
) ON [PRIMARY]
GO

checkpoint
Go
```

V_NonClusterIndex.ksh

```
#
# V_CreateNonClusterIndex.ksh (4 proc)
#

T="V_Thread1.sql V_Thread3.sql V_Thread4.sql"

for i in $T; do

    echo "isql -U sa -P -i $i -e" > makeIndex.bat
    start 'makeIndex.bat'
    sleep 7
```

Done

V_reset_db_options.sql

```
use master
go

select databasepropertyex('tpcw','Recovery')
go

ALTER DATABASE tpcw
set RECOVERY  FULL
go

select databasepropertyex('tpcw','Recovery')
go

checkpoint
go

use tpcw
go
exec sp_dboption 'tpcw'
go
exec sp_configure
Go
```

V_set_db_options.sql

```
use master
go

select databasepropertyex('tpcw','Recovery')
go

ALTER DATABASE tpcw
set RECOVERY  BULK_LOGGED
go

select databasepropertyex('tpcw','Recovery')
go

checkpoint
go

USE tpcw
GO

--These are the default options
exec sp_dboption 'tpcw'
go

exec sp_dboption tpcw, 'select into/bulkcopy', true
go
exec sp_dboption tpcw, 'trunc. log on chkpt.', true
go
exec sp_dboption tpcw, 'torn page detection', false
go
exec sp_dboption tpcw, 'auto create statistics', false
go
exec sp_dboption tpcw, 'auto update statistics', false
go

--These are the SET options
exec sp_dboption 'tpcw'
go

--Setting 'Table Lock'
exec sp_tableoption 'ADDRESS',    'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'CUSTOMER',   'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'ORDERS',     'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'ORDER_LINE', 'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'CC_XACTS',   'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'ITEM',       'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'AUTHOR',     'table lock on bulk load', 'true'
checkpoint
go
exec sp_tableoption 'COUNTRY',    'table lock on bulk load', 'true'
checkpoint
go

--SP_CONFIGURE before applying changes
sp_configure
go

sp_configure affinity_mask, 255
go
sp_configure allow_updates, 1
go
sp_configure lightweight_pooling, 1
go
sp_configure locks, 100000
go
sp_configure max_worker_thread, 225
go
sp_configure show_advanced_options, 1
go
sp_configure recovery_interval, 40

reconfigure with override
go
```

V_SetTableOptions.sql

```
use tpcw
go

checkpoint
go

sp_indexoption 'ITEM.test2',         'AllowRowLocks', true
go
sp_indexoption 'ITEM.test3',         'AllowRowLocks', true
go
sp_indexoption 'ITEM.I_SUBJECT_INX', 'AllowRowLocks', true
go
sp_indexoption 'ITEM.I_TITLE_INX',   'AllowRowLocks', true
go
sp_indexoption 'ITEM.fornewprods',   'AllowRowLocks', true
go

checkpoint
go
```

V_spaceused.sql

```
use tpcw
go
checkpoint
go
sp_spaceused @updateusage = 'TRUE'
go
sp_spaceused 'ADDRESS'
go
sp_spaceused 'CUSTOMER'
go
sp_spaceused 'ORDERS'
go
sp_spaceused 'ORDER_LINE'
go
sp_spaceused 'CC_XACTS'
go
sp_spaceused 'ITEM'
go
sp_spaceused 'AUTHOR'
go
sp_spaceused 'COUNTRY'
go
checkpoint
go
```

V_StoredProcedures.sql

```
use tpcw
go

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[AdminUpdate]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[AdminUpdate]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[BestSellersProc]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[BestSellersProc]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[Checkpoint_interval]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[Checkpoint_interval]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[DIGSYL]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[DIGSYL]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GenerateComments]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[GenerateComments]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetAddressInfo]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetAddressInfo]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetC_UNAME]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetC_UNAME]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetCustName]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetCustName]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetCustomerInfo]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetCustomerInfo]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetDetailedCustomerInfo]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[GetDetailedCustomerInfo]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetItemDetailForCart]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[GetItemDetailForCart]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetLastOrder]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetLastOrder]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetNext_O_ID]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetNext_O_ID]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetOrderInfo]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetOrderInfo]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetPromoImages]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[GetPromoImages]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetPromoImagesOLD]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[GetPromoImagesOLD]
GO
```

```
if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[GetShoppingCartName]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[GetShoppingCartName]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[InsertAddressAsNeeded]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[InsertAddressAsNeeded]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[InsertAddressAsNeeded_Internal]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[InsertAddressAsNeeded_Internal]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[InsertCustomer]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[InsertCustomer]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[InsertOrder]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[InsertOrder]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[InsertShoppingCartPtr]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[InsertShoppingCartPtr]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ItemUpdate]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[ItemUpdate]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[LOCKPROFILE]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[LOCKPROFILE]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[LatestPriceProc]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[LatestPriceProc]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[MakeAlphaString]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[MakeAlphaString]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[NewBooksProc_WA]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[NewBooksProc_WA]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[Null_Item]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[Null_Item]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[PP_Det]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[PP_Det]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[ProductDetailProc]') and OBJECTPROPERTY(id,
N'IsProcedure') = 1)
drop procedure [dbo].[ProductDetailProc]
GO

if exists (select * from dbo.sysobjects where id =
object_id(N'[dbo].[SearchSubjectProc_Original_WA]') and
OBJECTPROPERTY(id, N'IsProcedure') = 1)
drop procedure [dbo].[SearchSubjectProc_Original_WA]
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure AdminUpdate
( @THE_I_ID  numeric(10) )
As
 Declare @Item1     numeric(10)
 Declare @Item2     numeric(10)
 Declare @Item3     numeric(10)
 Declare @Item4     numeric(10)
 Declare @Item5     numeric(10)
 Declare @value     numeric(10)
 Declare @Num_Items numeric(10)

  SET NOCOUNT ON
  set @Num_Items = (select TI_ITEMS from TPCW_INFO (nolock))

  --
  -- Clause 2.16.3.3
  -- Declare cursor local so that it is implicitly deallocated
  -- when the procedure exits.
  --
  --  (Select Top 10000 O_ID From ORDERS With (TABLOCK)
Order By O_DATE Desc)
  --
declare @Min_O_ID numeric(10)
declare @Max_O_ID numeric(10)

begin
set transaction isolation level read uncommitted
--begin tran n
            select top 10000 O_C_ID, O_ID into #temp1
            from ORDERS [nolock]
            order by O_DATE desc
            select @Min_O_ID = min( O_ID), @Max_O_ID = max(
O_ID) from #temp1

            select distinct O_C_ID into #temp2
            from #temp1 join ORDER_LINE [nolock] on O_ID =
OL_O_ID
            where OL_I_ID = @THE_I_ID
```

```
            and OL_O_ID between @Min_O_ID and @Max_O_ID

Declare Items_cursor CURSOR LOCAL FORWARD_ONLY
READ_ONLY STATIC FOR
select top 5 OL_I_ID
            from (#temp2 as C join #temp1 as O on C.O_C_ID =
O.O_C_ID)
            join ORDER_LINE [nolock] on O.O_ID = OL_O_ID
            where OL_I_ID != @THE_I_ID
            group by OL_I_ID
            order by sum(OL_QTY) desc


--commit tran n
set transaction isolation level read committed
end


 Open Items_cursor
 FETCH NEXT from Items_cursor INTO @Item1
 FETCH NEXT from Items_cursor INTO @Item2
 FETCH NEXT from Items_cursor INTO @Item3
 FETCH NEXT from Items_cursor INTO @Item4
 FETCH NEXT from Items_cursor INTO @Item5
 Close Items_cursor

 --
 -- Generate new related items per clause 2.16.3.3
 --
 IF @Item1 is NULL
  BEGIN
    SET @value=@THE_I_ID + 7
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item1 OUTPUT
    SET @value=@THE_I_ID + 14
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item2 OUTPUT
    SET @value=@THE_I_ID + 21
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item3 OUTPUT
    SET @value=@THE_I_ID + 28
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item4 OUTPUT
    SET @value=@THE_I_ID + 35
    Execute Null_Item @value, NULL, NULL, NULL, NULL,
                    @Num_Items, @item = @Item5 OUTPUT
  END
 ELSE
  BEGIN
    IF @Item2 is NULL
      BEGIN
        SET @value = @Item1 + 1
        Execute Null_Item @value, @Item1, @Item3, @Item4, @Item5,

                    @Num_Items, @item = @Item2 OUTPUT
      END

    IF @Item3 is NULL
      BEGIN
        SET @value = @Item2 + 1
        Execute Null_Item @value, @Item1, @Item2, @Item4, @Item5,

                    @Num_Items, @item = @Item3 OUTPUT
      END

    IF @Item4 is NULL
      BEGIN
        SET @value = @Item3 + 1
        Execute Null_Item @value, @Item1, @Item2, @Item3, @Item5,

                    @Num_Items, @item = @Item4 OUTPUT
      END

    IF @Item5 is NULL
      BEGIN
        SET @value = @Item4 + 1
        Execute Null_Item @value, @Item1, @Item2, @Item3, @Item4,

                    @Num_Items, @item = @Item5 OUTPUT
      END
  END

select @Item1,@Item2,@Item3,@Item4,@Item5

--if (@THE_COST = 999.99) waitfor delay '000:01:00'
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE PROCEDURE BestSellersProc ( @CategoryId varchar(60))
 As
  Declare @StartUpdate    DateTime
  Declare @EndUpdate              DateTime
  Declare @delta          float

  Set @StartUpdate = GetDate()

   set transaction isolation level read uncommitted

   select top 50 A_LNAME, A_FNAME, I_ID, I_TITLE
   from ORDER_LINE join ITEM with (NOLOCK) on OL_I_ID =
I_ID
              join AUTHOR with (NOLOCK) on I_A_ID  = A_ID
   where OL_O_ID in (select top 3333 O_ID from ORDERS with
(NOLOCK) order by O_DATE desc) and I_SUBJECT = @CategoryId
   group by I_ID, I_TITLE, A_FNAME, A_LNAME
   order by sum(OL_QTY) desc

   set transaction isolation level read committed


   Set @EndUpdate = GetDate()
   Set @delta = DATEDIFF(millisecond, @StartUpdate, @EndUpdate)
   Set @delta = (CONVERT (float, (@delta/1000)))


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO
```

```
CREATE PROCEDURE Checkpoint_interval  AS

Declare @start_chkpt datetime
Declare @end_chkpt datetime

set @start_chkpt = GetDate()
checkpoint
set @end_chkpt = GetDate()

insert checkpoints values (@start_chkpt, @end_chkpt)



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO



CREATE Procedure DIGSYL ( @D int, @N int, @str varchar(64)
OUTPUT)
As
DECLARE @base   int
DECLARE @i      int
DECLARE @digits int
DECLARE @start  int

   set NOCOUNT ON

   --
   --  Initialize NULL string and check for invalid parameters
   --
   SET @str=''
   IF @D < 0 OR @N < 0
     BEGIN
       return( 0 )
     END

   --
   -- Determine the number of decimal digits in D
   --
   SET @digits=0
   SET @base=@D
   WHILE @base > 0
     BEGIN
       SET @digits=@digits + 1
       SET @base=@base / 10
     END

   --
   -- Make sure N is large enough to accomidate all D digits.
   --
   IF  @digits > @N
     BEGIN
       SET @N=@digits;
     END

   --
   --  Determine the decimal base value for the number of digits
   --
   SET @base=1
   SET @i=0
   WHILE @i < @N - 1
    BEGIN
      SET @base=@base * 10
      SET @i=@i + 1
    END

   --
   --  Generate the string
   --
   SET @i=0
   WHILE @i < @N
    BEGIN
      SET @digits=@D/@base
      IF @digits > 9
       BEGIN
          SET @str=@str + 'BA'
       END
      ELSE
       BEGIN
         SET @start=(@digits * 2) + 1
         SET @str=@str + SUBSTRING(
'BAOGALRIRESEATULINNG', @start, 2 )
       END
      SET @D=@D % @base
      SET @base=@base/10
      SET @i=@i + 1
    END

              return (0)



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GenerateComments( @SHOPPING_ID
numeric(10,0) )
As
  Declare @comment  VARCHAR(100)
  Declare @Discount numeric(3,2)
  Declare @OL_ID    numeric(3,0)
  Declare @SCL_ID   numeric(10,0)

  SET NOCOUNT ON

  --
  -- The Customer Discount must be set here since we may not know
  -- who the customer is until Buy_Request
  --
  Select @Discount=SC_C_DISCOUNT from SHOPPING_CART
WITH (READCOMMITTED)
        where SC_SHOPPING_ID = @SHOPPING_ID
```

```
 --
 -- Create a Cursor to step through the Shopping Cart Line Items
 --
 Declare SCL_cursor CURSOR LOCAL FORWARD_ONLY
READ_ONLY STATIC FOR
    Select SCL_ID from SHOPPING_CART_LINEITEMS WITH
(READCOMMITTED)
          where SCL_SHOPPING_ID = @SHOPPING_ID
          Order by SCL_ID

 Set @OL_ID = 1

 Open SCL_cursor
 FETCH NEXT FROM SCL_cursor INTO @SCL_ID

 --
 -- For each line item and update the OL_ID, Discount and Comment
 --
 While @@FETCH_STATUS = 0
  BEGIN

    Execute MakeAlphaString 20, 100, @AlphaString = @comment
OUTPUT

    UPDATE SHOPPING_CART_LINEITEMS set
SCL_OL_ID=@OL_ID,
                          SCL_OL_DISCOUNT=@Discount,
                          SCL_OL_COMMENTS=@comment
         where SCL_SHOPPING_ID=@SHOPPING_ID and
SCL_ID=@SCL_ID

    Set @OL_ID = @OL_ID + 1

    FETCH NEXT FROM SCL_cursor INTO @SCL_ID
  END
 Close SCL_cursor

 return( 0 )


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetAddressInfo( @A_ID numeric(10) )
As
 Select ADDR_STREET1, ADDR_STREET2, ADDR_CITY,
       ADDR_STATE, ADDR_ZIP, CO_NAME from ADDRESS,
COUNTRY
       Where ADDR_ID=@A_ID And ADDR_CO_ID=CO_ID
 return(0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetC_UNAME
(@C_ID numeric(10,0) )
As

 set NOCOUNT ON

Select C_UNAME  FROM CUSTOMER where C_ID = @C_ID


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO

CREATE Procedure GetCustName
(@C_ID numeric(10,0) )
As
Declare @C_FNAME     varchar(15)
Declare @C_LNAME     varchar(15)

 set NOCOUNT ON

Select @C_ID, C_FNAME, C_LNAME FROM CUSTOMER where
C_ID = @C_ID


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetCustomerInfo ( @C_UNAME varchar(23) )
As
Declare @Found      numeric(10,0)
Declare @C_PASSWD   varchar(20)
Declare @C_FNAME    varchar(15)
Declare @C_LNAME    varchar(15)
Declare @C_PHONE    varchar(16)
Declare @C_EMAIL    varchar(50)

  BEGIN
   Select Top 1 C_ID,
          C_PASSWD,
          C_FNAME,
          C_LNAME,
          C_PHONE,
```

```
            C_EMAIL
        from CUSTOMER
        where C_UNAME=@C_UNAME
  END

-- select @Found, @C_PASSWD, @C_FNAME, @C_LNAME,
@C_PHONE, @C_EMAIL

 return (0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetDetailedCustomerInfo
(@C_UNAME varchar(23) )
As
Declare @Now          DateTime
Declare @NowPlus2h    DateTime
Declare @Found        numeric(10,0)
Declare @C_PASSWD     varchar(20)
Declare @C_FNAME      varchar(15)
Declare @C_LNAME      varchar(15)
Declare @C_PHONE      varchar(16)
Declare @C_EMAIL      varchar(50)
Declare     @C_BIRTHDATE  datetime
Declare     @C_DATA       varchar(500)
Declare @C_DISCOUNT   numeric(3,2)
Declare     @C_ADDR_ID    numeric(10,0)
Declare @CO_ID numeric(10,0)
Declare @ADDR_STREET1 varchar(40), @ADDR_STREET2
varchar(40), @ADDR_CITY varchar(30), @ADDR_STATE
varchar(20), @ADDR_ZIP varchar(10)

 set NOCOUNT ON

 Select @Now=GetDate()
 Select @NowPlus2h=DateAdd(hour,02,@Now)


  BEGIN
    --
    -- This if condition is only for debug to allow a human to
    -- place another known customer name in Buy Request
    -- This is never executed during the benchmark
    --
    Select TOP 1 @Found=C_ID,
            @C_PASSWD=C_PASSWD,
            @C_FNAME=C_FNAME,
            @C_LNAME=C_LNAME,
            @C_PHONE=C_PHONE,
            @C_EMAIL=C_EMAIL,
            @C_BIRTHDATE=C_BIRTHDATE,
            @C_DATA=C_DATA,
            @C_ADDR_ID=C_ADDR_ID,
            @C_DISCOUNT=C_DISCOUNT FROM CUSTOMER
        where C_UNAME=@C_UNAME
  END


 UPDATE CUSTOMER set C_LOGIN=@Now,
C_EXPIRATION=@NowPlus2h where C_ID=@Found

 Select Top 1
       @ADDR_STREET1 = ADDR_STREET1,@ADDR_STREET2
=  ADDR_STREET2, @ADDR_CITY = ADDR_CITY,
       @ADDR_STATE= ADDR_STATE, @ADDR_ZIP=
ADDR_ZIP, @CO_ID = ADDR_CO_ID from ADDRESS
   where ADDR_ID=@C_ADDR_ID

 Select Top 1
       @Found, @C_PASSWD, @C_FNAME, @C_LNAME,
@C_PHONE, @C_EMAIL,
       @C_BIRTHDATE, @C_DATA, @C_DISCOUNT,
@C_ADDR_ID,
       @ADDR_STREET1, @ADDR_STREET2, @ADDR_CITY,
       @ADDR_STATE, @ADDR_ZIP, CO_NAME from COUNTRY
   where CO_ID=@CO_ID
 return (0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO


CREATE  Procedure GetItemDetailForCart
( @I_ID numeric(10,0), @promo numeric(3,0) )
AS
Declare @Backing  varchar(15)
Declare @Cost     numeric(15,2)
Declare @SRP      numeric(15,2)
Declare @Title    varchar(60)
Declare @PROMO_ID numeric(10,0)

 SET NOCOUNT ON

 if @promo = 1
 BEGIN
            Select @PROMO_ID = I_RELATED1 from ITEM
(rowlock) where I_ID = @I_ID
            Set @I_ID = @PROMO_ID
 END


 Select @Title=I_TITLE, @SRP=I_SRP, @Backing=I_BACKING
       from ITEM (rowlock) where I_ID=@I_ID
 Select @Cost=I_COST from ITEM (rowlock) where I_ID = @I_ID

 Select @Title, @Cost, @SRP, @Backing
 return( 0 )


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
```

```
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetLastOrder( @THE_C_ID numeric(10) )
As
  Select Top 1 O_ID, O_DATE, O_SHIP_TYPE, O_SHIP_DATE,
O_SUBTOTAL, O_TAX,
            O_TOTAL, O_BILL_ADDR, O_SHIP_ADDR, O_STATUS,
CX_TYPE, CX_AUTH_ID
        From ORDERS, CC_XACTS
        Where O_C_ID=@THE_C_ID And O_ID=CX_O_ID Order By
O_ID Desc
  return(0)

GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE PROCEDURE GetNext_O_ID (@C_ID numeric(10) )
AS
SET NOCOUNT ON

BEGIN Transaction T1
              insert into NEW_ORDER ( N_C_ID ) values( 1 )
              SELECT @@IDENTITY
Commit Transaction T1

Return(0)

GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetOrderInfo( @THE_O_ID numeric(10) )
As
  Select OL_I_ID, OL_DISCOUNT, OL_COMMENTS,OL_QTY,
I_TITLE, I_PUBLISHER, I_COST
        From ORDER_LINE, ITEM
        Where OL_O_ID=@THE_O_ID And OL_I_ID=I_ID
--       ORDER BY OL_ID
--
--  ORDER BY OL_ID used for debugging purposes.  Not required by
Benchmark.
--
  return(0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetPromoImages( @book numeric(10) )
as

SET NOCOUNT ON

select I_RELATED1, I_RELATED2, I_RELATED3, I_RELATED4,
I_RELATED5 from ITEM [rowlock]
where I_ID = @book



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetPromoImagesOLD( @book numeric(10) )
as
  declare @r1   int
  declare @r2   int
  declare @r3   int
  declare @r4   int
  declare @r5   int

--Declare @Num_Items int

  SET NOCOUNT ON

PromoProc:

 select @r1 = I_RELATED1, @r2 =  I_RELATED2,  @r3 =
I_RELATED3,  @r4 =  I_RELATED4,  @r5 =  I_RELATED5 from
ITEM [rowlock] where I_ID = @book
 select I_ID, I_THUMBNAIL from ITEM [rowlock] where I_ID in
(@r1,@r2,@r3,@r4,@r5) order by I_ID
```

```
if ( @@error = 1205 )
   BEGIN
    WAITFOR delay '000:00:01'
    GOTO PromoProc
   End

 return (0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure GetShoppingCartName
(@SC_ID numeric(10,0))
As

 SET NOCOUNT ON

 select SC_FILE from SC_PTR where SC_ID = @SC_ID



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO



CREATE Procedure InsertAddressAsNeeded (@ADDR_STREET1
char( 40),
            @ADDR_STREET2 char( 40),
            @ADDR_CITY char( 30),
            @ADDR_STATE char( 20),
            @ADDR_ZIP char( 10),
            @CO_NAME char(50))
As
 declare @AA_ID numeric( 10)
 declare @CO_ID smallint
 declare @ADDR_ID numeric(10)

 select @CO_ID=CO_ID from COUNTRY where CO_NAME =
@CO_NAME
   begin transaction na
          SELECT @AA_ID = ADDR_ID FROM ADDRESS
WHERE
                  ADDR_CO_ID = @CO_ID and
                  ADDR_ZIP=@ADDR_ZIP and
                  ADDR_STATE = @ADDR_STATE and
                  ADDR_CITY = @ADDR_CITY and
                  ADDR_STREET1 = @ADDR_STREET1 and
                  ADDR_STREET2 = @ADDR_STREET2
          if @@rowcount = 0
          begin
                  insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                select @ADDR_ID = @@IDENTITY

                  Insert into ADDRESS
values(@ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@AD
DR_CITY,@ADDR_STATE,@ADDR_ZIP,@CO_ID)
          end
          else select @ADDR_ID = @AA_ID
 commit transaction na
 SELECT @ADDR_ID


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO


CREATE Procedure InsertAddressAsNeeded_Internal
(@ADDR_STREET1 varchar(40), @ADDR_STREET2 varchar(40),
 @ADDR_CITY varchar(30), @ADDR_STATE varchar(20),
 @ADDR_ZIP varchar(10), @CO_NAME varchar(50),
 @ADDR_ID numeric(10,0) OUTPUT,
 @CO_ID smallint OUTPUT)
As
 SET NOCOUNT ON

 select @CO_ID=CO_ID from COUNTRY where CO_NAME =
@CO_NAME
   begin transaction na
          SELECT @ADDR_ID = ADDR_ID FROM ADDRESS
WHERE
                  ADDR_CO_ID = @CO_ID and
                  ADDR_ZIP=@ADDR_ZIP and
                  ADDR_STATE = @ADDR_STATE and
                  ADDR_CITY = @ADDR_CITY and
                  ADDR_STREET1 = @ADDR_STREET1 and
                  ADDR_STREET2 = @ADDR_STREET2
          if @@rowcount = 0
          begin
                  insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                select @ADDR_ID = @@IDENTITY

                  Insert into ADDRESS
values(@ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@AD
DR_CITY,@ADDR_STATE,@ADDR_ZIP,@CO_ID)
          end
 commit transaction na
 SELECT @ADDR_ID, @CO_ID


GO

SET QUOTED_IDENTIFIER OFF
GO
```

```
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO



CREATE Procedure InsertCustomer
( @C_FNAME char(15),  @C_LNAME char(15),
  @C_PHONE char(16),  @C_EMAIL char(50),
  @C_BIRTHDATE datetime, @C_DATA varchar(500),
  @ADDR_STREET1 char(40), @ADDR_STREET2 char(40),
  @ADDR_CITY char(30), @ADDR_STATE char(20),
  @ADDR_ZIP char(10), @CO_NAME char(50))
As
  Declare @C_ID numeric(10,0)
  Declare @C_ADDR_ID numeric(10,0)
  Declare @C_UNAME char(20)
  Declare @C_PASSWD char(20)
  Declare @MY_CO_ID smallint
  Declare @Discount float
  Declare @Now DateTime
  Declare @NowPlus2h DateTime

  set NOCOUNT ON

  begin transaction IC
    select @MY_CO_ID=CO_ID from COUNTRY where CO_NAME
= @CO_NAME
    begin transaction na
            SELECT @C_ADDR_ID = ADDR_ID FROM ADDRESS
WHERE
                        ADDR_CO_ID = @MY_CO_ID and
                        ADDR_ZIP= @ADDR_ZIP and
                        ADDR_STATE = @ADDR_STATE and
                        ADDR_CITY = @ADDR_CITY and
                        ADDR_STREET1 = @ADDR_STREET1 and
                        ADDR_STREET2 = @ADDR_STREET2
            if @@rowcount = 0
            begin
                        insert into NEW_ADDR_ID ( NA_MARKER)
values( 'FOOBAR' )
                    select @C_ADDR_ID = @@IDENTITY

                        Insert into ADDRESS
values(@C_ADDR_ID,@ADDR_STREET1,@ADDR_STREET2,@
ADDR_CITY,@ADDR_STATE,@ADDR_ZIP,@MY_CO_ID)
            end
   commit transaction na
   --
   -- Choose a discount between 0 and 0.5
   --
   Select @Discount=rand()/2
   --
   -- What time is it on the SUT?
   --
   Select @Now=GetDate()
   Select @NowPlus2h=DateAdd(hour,02,@Now)


    BEGIN Transaction T1
            insert into NEXT_C_ID ( NC_FNAME ) values(
@C_FNAME )
            SELECT @C_ID = @@IDENTITY
    Commit Transaction T1

    Execute DIGSYL @C_ID, 0, @str = @C_UNAME OUTPUT
    Select @C_PASSWD=LOWER(@C_UNAME)
    Insert CUSTOMER(C_ID, C_UNAME,  C_PASSWD,
C_FNAME,  C_LNAME,  C_EMAIL,
            C_PHONE,  C_DATA,  C_ADDR_ID,
            C_LAST_VISIT, C_SINCE, C_LOGIN,
C_EXPIRATION,
            C_DISCOUNT, C_BALANCE, C_YTD_PMT)
      values (@C_ID, @C_UNAME,@C_PASSWD, @C_FNAME,
@C_LNAME, @C_EMAIL,
            @C_PHONE, @C_DATA, @C_ADDR_ID,
            @Now,       @Now,   @Now,   @NowPlus2h,
            @Discount, 0.0,       0.0)
 commit transaction IC

  Select @C_ID as C_ID, @C_UNAME as C_UNAME, @Discount as
C_DISCOUNT

  return(0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO



CREATE  Procedure InsertOrder (@C_ID numeric(10) ,
@O_SUB_TOTAL numeric(15,2),
@O_TAX numeric(15,2),
@O_TOTAL numeric(15,2),
@O_SHIP_TYPE varchar(10),
@O_SHIP_ADDR_ID numeric(10,0),
@NUMITEMS numeric(10,0),
@C_DISCOUNT numeric(15,2),
@O_ID numeric(10,0), @CX_TYPE varchar(10),
@CX_NUM numeric(16), @CX_NAME varchar(31), @AUTH_ID
char(15),
@CX_EXPIRY DateTime, @CX_XACT_AMT numeric(15,2),
@CX_CO_ID numeric(4),

        @ID1  numeric(10,0), @QTY1  numeric(3,0),          @ID2
numeric(10,0), @QTY2  numeric(3,0),          @ID3  numeric(10,0),
@QTY3  numeric(3,0),
        @ID4  numeric(10,0), @QTY4  numeric(3,0),          @ID5
numeric(10,0), @QTY5  numeric(3,0),          @ID6  numeric(10,0),
@QTY6  numeric(3,0),
        @ID7  numeric(10,0), @QTY7  numeric(3,0),          @ID8
numeric(10,0), @QTY8  numeric(3,0),          @ID9  numeric(10,0),
@QTY9  numeric(3,0),
        @ID10 numeric(10,0), @QTY10 numeric(3,0),          @ID11
numeric(10,0), @QTY11 numeric(3,0),          @ID12 numeric(10,0),
@QTY12 numeric(3,0),
        @ID13 numeric(10,0), @QTY13 numeric(3,0),          @ID14
numeric(10,0), @QTY14 numeric(3,0),          @ID15 numeric(10,0),
@QTY15 numeric(3,0),
        @ID16 numeric(10,0), @QTY16 numeric(3,0),          @ID17
numeric(10,0), @QTY17 numeric(3,0),          @ID18 numeric(10,0),
@QTY18 numeric(3,0),
```

```
        @ID19 numeric(10,0), @QTY19 numeric(3,0),       @ID20
numeric(10,0), @QTY20 numeric(3,0),       @ID21 numeric(10,0),
@QTY21 numeric(3,0),
        @ID22 numeric(10,0), @QTY22 numeric(3,0),       @ID23
numeric(10,0), @QTY23 numeric(3,0),       @ID24 numeric(10,0),
@QTY24 numeric(3,0),
        @ID25 numeric(10,0), @QTY25 numeric(3,0),       @ID26
numeric(10,0), @QTY26 numeric(3,0),       @ID27 numeric(10,0),
@QTY27 numeric(3,0),
        @ID28 numeric(10,0), @QTY28 numeric(3,0),       @ID29
numeric(10,0), @QTY29 numeric(3,0),       @ID30 numeric(10,0),
@QTY30 numeric(3,0),
        @ID31 numeric(10,0), @QTY31 numeric(3,0),       @ID32
numeric(10,0), @QTY32 numeric(3,0),       @ID33 numeric(10,0),
@QTY33 numeric(3,0),
        @ID34 numeric(10,0), @QTY34 numeric(3,0),       @ID35
numeric(10,0), @QTY35 numeric(3,0),       @ID36 numeric(10,0),
@QTY36 numeric(3,0),
        @ID37 numeric(10,0), @QTY37 numeric(3,0),       @ID38
numeric(10,0), @QTY38 numeric(3,0),       @ID39 numeric(10,0),
@QTY39 numeric(3,0),
        @ID40 numeric(10,0), @QTY40 numeric(3,0),       @ID41
numeric(10,0), @QTY41 numeric(3,0),       @ID42 numeric(10,0),
@QTY42 numeric(3,0),
        @ID43 numeric(10,0), @QTY43 numeric(3,0),       @ID44
numeric(10,0), @QTY44 numeric(3,0),       @ID45 numeric(10,0),
@QTY45 numeric(3,0),
        @ID46 numeric(10,0), @QTY46 numeric(3,0),       @ID47
numeric(10,0), @QTY47 numeric(3,0),       @ID48 numeric(10,0),
@QTY48 numeric(3,0),
        @ID49 numeric(10,0), @QTY49 numeric(3,0),       @ID50
numeric(10,0), @QTY50 numeric(3,0),       @ID51 numeric(10,0),
@QTY51 numeric(3,0),
        @ID52 numeric(10,0), @QTY52 numeric(3,0),       @ID53
numeric(10,0), @QTY53 numeric(3,0),       @ID54 numeric(10,0),
@QTY54 numeric(3,0),
        @ID55 numeric(10,0), @QTY55 numeric(3,0),       @ID56
numeric(10,0), @QTY56 numeric(3,0),       @ID57 numeric(10,0),
@QTY57 numeric(3,0),
        @ID58 numeric(10,0), @QTY58 numeric(3,0),       @ID59
numeric(10,0), @QTY59 numeric(3,0),       @ID60 numeric(10,0),
@QTY60 numeric(3,0),
        @ID61 numeric(10,0), @QTY61 numeric(3,0),       @ID62
numeric(10,0), @QTY62 numeric(3,0),       @ID63 numeric(10,0),
@QTY63 numeric(3,0),
        @ID64 numeric(10,0), @QTY64 numeric(3,0),       @ID65
numeric(10,0), @QTY65 numeric(3,0),       @ID66 numeric(10,0),
@QTY66 numeric(3,0),
        @ID67 numeric(10,0), @QTY67 numeric(3,0),       @ID68
numeric(10,0), @QTY68 numeric(3,0),       @ID69 numeric(10,0),
@QTY69 numeric(3,0),
        @ID70 numeric(10,0), @QTY70 numeric(3,0),       @ID71
numeric(10,0), @QTY71 numeric(3,0),       @ID72 numeric(10,0),
@QTY72 numeric(3,0),
        @ID73 numeric(10,0), @QTY73 numeric(3,0),       @ID74
numeric(10,0), @QTY74 numeric(3,0),       @ID75 numeric(10,0),
@QTY75 numeric(3,0),
        @ID76 numeric(10,0), @QTY76 numeric(3,0),       @ID77
numeric(10,0), @QTY77 numeric(3,0),       @ID78 numeric(10,0),
@QTY78 numeric(3,0),
        @ID79 numeric(10,0), @QTY79 numeric(3,0),       @ID80
numeric(10,0), @QTY80 numeric(3,0),       @ID81 numeric(10,0),
@QTY81 numeric(3,0),
        @ID82 numeric(10,0), @QTY82 numeric(3,0),       @ID83
numeric(10,0), @QTY83 numeric(3,0),       @ID84 numeric(10,0),
@QTY84 numeric(3,0),
        @ID85 numeric(10,0), @QTY85 numeric(3,0),       @ID86
numeric(10,0), @QTY86 numeric(3,0),       @ID87 numeric(10,0),
@QTY87 numeric(3,0),
        @ID88 numeric(10,0), @QTY88 numeric(3,0),       @ID89
numeric(10,0), @QTY89 numeric(3,0),       @ID90 numeric(10,0),
@QTY90 numeric(3,0),
        @ID91 numeric(10,0), @QTY91 numeric(3,0),       @ID92
numeric(10,0), @QTY92 numeric(3,0),       @ID93 numeric(10,0),
@QTY93 numeric(3,0),
        @ID94 numeric(10,0), @QTY94 numeric(3,0),       @ID95
numeric(10,0), @QTY95 numeric(3,0),       @ID96 numeric(10,0),
@QTY96 numeric(3,0),
        @ID97 numeric(10,0), @QTY97 numeric(3,0),       @ID98
numeric(10,0), @QTY98 numeric(3,0),       @ID99 numeric(10,0),
@QTY99 numeric(3,0),
        @ID100 numeric(10,0), @QTY100 numeric(3,0),

                @SC_ID numeric(10,0), @SC_FILE varchar(50)
)

AS
Declare @now datetime,
                @now_plus_rnd datetime,
                @C_ADDR_ID numeric(10,0),
                @ranDay numeric(10),
                @i numeric(10),
                @I_ID    numeric(10,0),
                @QTY numeric(3,0)

 SET NOCOUNT ON

CREATE TABLE #CartTemp (OL_ID numeric(3,0), I_ID
numeric(10,0), QTY numeric(3,0))
 Set @i=0
  while ( @i < @NUMITEMS )
  BEGIN
    select @i = @i + 1
    select @I_ID = case @i
                when 1 then @ID1                when 2 then @ID2
  when 3 then @ID3              when 4 then @ID4                when 5
then @ID5
                when 6 then @ID6                when 7 then @ID7
  when 8 then @ID8              when 9 then @ID9                when
10 then @ID10
                when 11 then @ID11              when 12 then @ID12
        when 13 then @ID13              when 14 then @ID14
  when 15 then @ID15
                when 16 then @ID16              when 17 then @ID17
        when 18 then @ID18              when 19 then @ID19
  when 20 then @ID20
                when 21 then @ID21              when 22 then @ID22
        when 23 then @ID23              when 24 then @ID24
  when 25 then @ID25
                when 26 then @ID26              when 27 then @ID27
        when 28 then @ID28              when 29 then @ID29
  when 30 then @ID30
                when 31 then @ID31              when 32 then @ID32
        when 33 then @ID33              when 34 then @ID34
  when 35 then @ID35
                when 36 then @ID36              when 37 then @ID37
        when 38 then @ID38              when 39 then @ID39
  when 40 then @ID40
                when 41 then @ID41              when 42 then @ID42
        when 43 then @ID43              when 44 then @ID44
  when 45 then @ID45
                when 46 then @ID46              when 47 then @ID47
        when 48 then @ID48              when 49 then @ID49
  when 50 then @ID50
```

```
            when 51 then @ID51              when 52 then @ID52
        when 53 then @ID53              when 54 then @ID54
  when 55 then @ID55
            when 56 then @ID56              when 57 then @ID57
        when 58 then @ID58              when 59 then @ID59
  when 60 then @ID60
            when 61 then @ID61              when 62 then @ID62
        when 63 then @ID63              when 64 then @ID64
  when 65 then @ID65
            when 66 then @ID66              when 67 then @ID67
        when 68 then @ID68              when 69 then @ID69
  when 70 then @ID70
            when 71 then @ID71              when 72 then @ID72
        when 73 then @ID73              when 74 then @ID74
  when 75 then @ID75
            when 76 then @ID76              when 77 then @ID77
        when 78 then @ID78              when 79 then @ID79
  when 80 then @ID80
            when 81 then @ID81              when 82 then @ID82
        when 83 then @ID83              when 84 then @ID84
  when 85 then @ID85
            when 86 then @ID86              when 87 then @ID87
        when 88 then @ID88              when 89 then @ID89
  when 90 then @ID90
            when 91 then @ID91              when 92 then @ID92
        when 93 then @ID93              when 94 then @ID94
  when 95 then @ID95
            when 96 then @ID96              when 97 then @ID97
        when 98 then @ID98              when 99 then @ID99
  when 100 then @ID100
          end,

        @QTY = case @i
            when 1 then @QTY1               when 2 then @QTY2
        when 3 then @QTY3               when 4 then @QTY4
  when 5 then @QTY5
            when 6 then @QTY6               when 7 then @QTY7
        when 8 then @QTY8               when 9 then @QTY9
  when 10 then @QTY10
            when 11 then @QTY11             when 12 then
@QTY12              when 13 then @QTY13             when 14 then
@QTY14              when 15 then @QTY15
            when 16 then @QTY16             when 17 then
@QTY17              when 18 then @QTY18             when 19 then
@QTY19              when 20 then @QTY20
            when 21 then @QTY21             when 22 then
@QTY22              when 23 then @QTY23             when 24 then
@QTY24              when 25 then @QTY25
            when 26 then @QTY26             when 27 then
@QTY27              when 28 then @QTY28             when 29 then
@QTY29              when 30 then @QTY30
            when 31 then @QTY31             when 32 then
@QTY32              when 33 then @QTY33             when 34 then
@QTY34              when 35 then @QTY35
            when 36 then @QTY36             when 37 then
@QTY37              when 38 then @QTY38             when 39 then
@QTY39              when 40 then @QTY40
            when 41 then @QTY41             when 42 then
@QTY42              when 43 then @QTY43             when 44 then
@QTY44              when 45 then @QTY45
            when 46 then @QTY46             when 47 then
@QTY47              when 48 then @QTY48             when 49 then
@QTY49              when 50 then @QTY50
            when 51 then @QTY51             when 52 then
@QTY52              when 53 then @QTY53             when 54 then
@QTY54              when 55 then @QTY55             when 56 then
@QTY56              when 57 then @QTY57             when 58 then
@QTY58              when 59 then @QTY59             when 60 then
@QTY60
            when 61 then @QTY61             when 62 then
@QTY62              when 63 then @QTY63             when 64 then
@QTY64              when 65 then @QTY65
            when 66 then @QTY66             when 67 then
@QTY67              when 68 then @QTY68             when 69 then
@QTY69              when 70 then @QTY70
            when 71 then @QTY71             when 72 then
@QTY72              when 73 then @QTY73             when 74 then
@QTY74              when 75 then @QTY75
            when 76 then @QTY76             when 77 then
@QTY77              when 78 then @QTY78             when 79 then
@QTY79              when 80 then @QTY80
            when 81 then @QTY81             when 82 then
@QTY82              when 83 then @QTY83             when 84 then
@QTY84              when 85 then @QTY85
            when 86 then @QTY86             when 87 then
@QTY87              when 88 then @QTY88             when 89 then
@QTY89              when 90 then @QTY90
            when 91 then @QTY91             when 92 then
@QTY92              when 93 then @QTY93             when 94 then
@QTY94              when 95 then @QTY95
            when 96 then @QTY96             when 97 then
@QTY97              when 98 then @QTY98             when 99 then
@QTY99              when 100 then @QTY100
          end
          if (@I_ID != 0) INSERT INTO #CartTemp VALUES (@i,
@I_ID, @QTY)
    END

  Select @now=GetDate()
  Select @ranDay = (6 * rand() + 1)
  Select @now_plus_rnd = DateAdd(day,@ranDay,@now)

  Select @C_ADDR_ID=C_ADDR_ID from  CUSTOMER where
C_ID = @C_ID
  Select @CX_CO_ID = ADDR_CO_ID from ADDRESS where
ADDR_ID = @C_ADDR_ID
  if (@O_SHIP_ADDR_ID = 0) select @O_SHIP_ADDR_ID =
@C_ADDR_ID
  Begin Transaction T2_7_3_3

   insert into ORDERS with (rowlock) (O_ID, O_C_ID, O_DATE,
O_SUBTOTAL, O_TAX, O_TOTAL, O_SHIP_TYPE,
O_SHIP_DATE,
            O_BILL_ADDR, O_SHIP_ADDR, O_STATUS)
                  values (@O_ID, @C_ID, @now,
@O_SUB_TOTAL, @O_TAX, @O_TOTAL, @O_SHIP_TYPE,
@now_plus_rnd,
            @C_ADDR_ID, @O_SHIP_ADDR_ID, 'Pending')
  if @@ERROR <> 0
  BEGIN
            ROLLBACK
            return(-1)
  END
  DECLARE cart_cursor CURSOR FOR SELECT * FROM
#CartTemp WHERE I_ID != 0
  OPEN cart_cursor

  declare @OL_ID numeric(3,0), @OL_I_ID numeric(10,0), @I_QTY
numeric(3,0)
  declare @Comments varchar(100)
  Declare @stock       numeric(4,0)


  -- Perform the first fetch.
```

```
    FETCH NEXT FROM cart_cursor into @OL_ID, @OL_I_ID,
@I_QTY

  -- Check @@FETCH_STATUS to see if there are any more rows to
fetch.
  WHILE @@FETCH_STATUS = 0
  BEGIN
    Select @stock = I_STOCK from ITEM with (ROWLOCK) where
I_ID = @OL_I_ID
    If ( @stock > @I_QTY + 10 )
      Update ITEM with (updlock) Set I_STOCK = I_STOCK -
@I_QTY Where I_ID = @OL_I_ID
    Else
      Update ITEM  with (updlock) Set I_STOCK = I_STOCK-
@I_QTY + 21 Where I_ID = @OL_I_ID

  if @@ERROR <> 0
  BEGIN
            ROLLBACK
            return(-1)
  END

    Execute MakeAlphaString 20, 100, @AlphaString = @Comments
OUTPUT
    insert ORDER_LINE values(@OL_ID, @O_ID, @OL_I_ID,
@I_QTY, @C_DISCOUNT, @Comments)
  if @@ERROR <> 0
  BEGIN
            ROLLBACK
            return(-1)
  END

    FETCH NEXT FROM cart_cursor into @OL_ID, @OL_I_ID,
@I_QTY
  END

 -- Return to the WebServer Order ID which is used by the PGE.
 Drop Table #CartTemp

 Select @now=GetDate()
   -- Insert the Credit card information
   --
   Insert CC_XACTS( CX_O_ID,  CX_TYPE,    CX_NUM,
CX_NAME,  CX_EXPIRY,
              CX_AUTH_ID, CX_XACT_AMT,    CX_XACT_DATE,
 CX_CO_ID )
         values ( @O_ID,   @CX_TYPE,   @CX_NUM,
@CX_NAME,  @CX_EXPIRY,
             @AUTH_ID,   @CX_XACT_AMT,   @now,
@CX_CO_ID )
  if @@ERROR <> 0
  BEGIN
            ROLLBACK
            return(-1)
  END

 Update SC_PTR with (rowlock) set SC_FILE = @SC_FILE where
SC_ID = @SC_ID

  if @@ERROR <> 0
  BEGIN
            ROLLBACK
            return(-1)
  END

Commit Transaction T2_7_3_3

return(0)

GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


Create Procedure InsertShoppingCartPtr
(@SC_FILE varchar(50))
As

 SET NOCOUNT ON

 insert into SC_PTR (SC_FILE) values (@SC_FILE)
 select @@identity


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO


CREATE PROCEDURE ItemUpdate ( @THE_I_ID numeric(10),
 @Item1  numeric(10),
  @Item2  numeric(10),
  @Item3  numeric(10),
  @Item4  numeric(10),
  @Item5  numeric(10),
  @THE_COST  numeric(15,2),
  @THE_IMAGE varchar(50),
  @THE_THUMB varchar(50))

As


  Declare @Now  DateTime
 -- Clause 2.16.3.2
 --
  Select @Now = GetDate()

UpdateItem:

  Update ITEM Set I_RELATED1=@Item1,
             I_RELATED2=@Item2,
             I_RELATED3=@Item3,
             I_RELATED4=@Item4,
             I_RELATED5=@Item5 ,
                 I_COST=@THE_COST,
             I_IMAGE=@THE_IMAGE,
             I_THUMBNAIL=@THE_THUMB,
             I_PUB_DATE=@Now
             Where I_ID=@THE_I_ID
```

```
 if ( @@error = 1205 )
       BEGIN
            --WAITFOR delay '000:00:01'
         GOTO UpdateItem
        End

return (0)
GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



CREATE PROCEDURE LOCKPROFILE
AS
DECLARE @MV_PROCESS CHAR(10), @MV_COMMAND2
CHAR(254), @MV_BLK CHAR(10), @MV_OID INT
SET NOCOUNT ON
PRINT 'LOCK PROFILE'
DECLARE CUR_TABLE_LIST CURSOR FOR
  SELECT P.spid, P.blocked
            FROM master..sysprocesses P
            WHERE P.blocked <> 0
OPEN CUR_TABLE_LIST
FETCH NEXT FROM CUR_TABLE_LIST INTO @MV_PROCESS,
@MV_BLK
WHILE (@@FETCH_STATUS <> -1)
    BEGIN
            IF (@@FETCH_STATUS <> -2)
            BEGIN

            PRINT 'PROCESS BLOCKED: ' + @MV_PROCESS + '
BY PROCESS: ' + @MV_BLK
                        DECLARE LOCK_TABLE_LIST CURSOR
FOR
                                    SELECT   rsc_objid
                                    FROM     master.dbo.syslockinfo
                                    WHERE
master.dbo.syslockinfo.req_status = 3
                                                AND req_spid =
@MV_PROCESS
                        OPEN LOCK_TABLE_LIST
                        FETCH NEXT FROM LOCK_TABLE_LIST
INTO @MV_OID
                        WHILE (@@FETCH_STATUS <> -1)
                        BEGIN
                                    IF (@@FETCH_STATUS <> -2)
                                    BEGIN
                                    SELECT name AS 'TABLE(S)
CAUSING BLOCK' FROM sysobjects WHERE id = @MV_OID
                                    END
                        FETCH NEXT FROM LOCK_TABLE_LIST
INTO @MV_OID
                        END
                        DEALLOCATE LOCK_TABLE_LIST
                        PRINT 'STATEMENT BEING BLOCKED'
                        SELECT @MV_COMMAND2 = 'DBCC
INPUTBUFFER ( ' + @MV_PROCESS + ')'
                                    EXEC (@MV_COMMAND2)
            END
            FETCH NEXT FROM CUR_TABLE_LIST INTO
@MV_PROCESS, @MV_BLK
    END
DEALLOCATE CUR_TABLE_LIST


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



CREATE Procedure LatestPriceProc( @ITEM_ID numeric(10,0) )
As
  SET NOCOUNT ON

  Select I_COST from ITEM where I_ID = @ITEM_ID

GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure MakeAlphaString
            ( @x int, @y int, @AlphaString varchar(255) OUTPUT)
As
DECLARE @c int
DECLARE @i int
DECLARE @Length int

   set NOCOUNT ON

   --
   --  Initialize NULL string and check for invalid parameters
   --
   SET @AlphaString=''
   IF @x < 0 OR @y <= @x OR @y > 255
     BEGIN
       return( 0 )
     END

   --
   -- Select random length of the string between x and y.
   --
   SET @Length = (@y - @x) * rand() + @x

   --
   -- Build an alpha string for the above length.
   --
   SET @i = 1
```

```
   WHILE @i <= @Length
    BEGIN
      SET @c = 89 * rand() + 1
      SET @AlphaString = @AlphaString + SUBSTRING(
'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwx
yz0123456789!@#$%^&*()_-=+{}[]|:;,.?/~ ', @c, 1 )
      SET @i= @i + 1
    END
   return ( 0 )



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO




CREATE Procedure NewBooksProc_WA ( @CategoryId varchar(60)
)
As

  set transaction isolation level read uncommitted
 Select TOP 50 A_FNAME, A_LNAME, I_ID, I_TITLE from
ITEM[nolock], AUTHOR
            where (A_ID = I_A_ID and I_SUBJECT = @CategoryId)
            order by I_PUB_DATE desc, I_TITLE asc
  set transaction isolation level read committed

return (0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



CREATE Procedure Null_Item
 ( @NewValue int, @i1 int, @i2 int, @i3 int, @i4 int, @num_items
int, @item int OUTPUT )
AS

 Set @item=@NewValue;

 IF @item > @num_items
   SET @item = @item % @num_items

 WHILE @item = @i1 OR @item = @i2 OR @item = @i3 OR
@item = @i4
   Set @item = @item + 1
 return( 0 )



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO



CREATE Procedure PP_Det( @book numeric(10))

as

SET NOCOUNT ON

select I_ID, I_THUMBNAIL from ITEM [rowlock] where I_ID =
@book



GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO


CREATE Procedure ProductDetailProc ( @BookID numeric(10) )
As

   Select I_TITLE, I_SUBJECT, I_DESC, I_COST, I_SRP,
I_BACKING, I_PAGE,
     I_PUBLISHER, I_PUB_DATE, I_AVAIL, I_DIMENSIONS,
I_ISBN,
     I_IMAGE, I_THUMBNAIL, A_FNAME, A_LNAME
   From ITEM, AUTHOR
   Where I_ID=@BookID And A_ID = I_A_ID
 return (0)


GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO
```

```
CREATE Procedure SearchSubjectProc_Original_WA ( @CategoryID
varchar(60) )
As
  Declare @StartUpdate     DateTime
  Declare @EndUpdate                DateTime
  Declare @delta           float

  Set @StartUpdate = GetDate()

   set transaction isolation level read uncommitted
-- select I_ID, I_TITLE, A_FNAME,A_LNAME from ITEM,
AUTHOR
--select A_FNAME, A_LNAME, I_ID, I_TITLE from ITEM,
AUTHOR
--where I_ID in (select top 50 I_ID
 --             from ITEM[nolock]
 --             where I_SUBJECT = @CategoryID
 --             order by I_TITLE ASC) and I_A_ID = A_ID
 --  set transaction isolation level read committed

   select top 50 AUTHOR.A_FNAME, AUTHOR.A_LNAME,
ITEM.I_ID,ITEM.I_TITLE
   from ITEM join AUTHOR on I_A_ID = A_ID
   where  ITEM.I_SUBJECT = @CategoryID
   order by I_TITLE ASC

   Set @EndUpdate = GetDate()
   Set @delta = DATEDIFF(millisecond, @StartUpdate, @EndUpdate)
   Set @delta = (CONVERT (float, (@delta/1000)))

  Return (0)




GO

SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO
```

V_Thread1.sql

```
use tpcw
go

 CREATE  INDEX [ADDR_INDX_2] ON
[dbo].[ADDRESS]([ADDR_CO_ID], [ADDR_ZIP],
[ADDR_STATE]) WITH  FILLFACTOR = 97,  PAD_INDEX  ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [test] ON [dbo].[AUTHOR]([A_ID],
[A_LNAME], [A_FNAME]) ON [ONEBIG_FG]
GO

 CREATE  INDEX [A_LNAME_INX] ON
[dbo].[AUTHOR]([A_LNAME], [A_FNAME], [A_ID]) ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [COUNTRY_Index_2] ON
[dbo].[COUNTRY]([CO_NAME]) WITH  FILLFACTOR = 100 ON
[ONEBIG_FG]
GO

checkpoint
go
```

V_Thread2.sql

```
use tpcw
go

 CREATE  UNIQUE  INDEX [customer_idx] ON
[dbo].[CUSTOMER]([C_ID]) WITH  FILLFACTOR = 80 ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [C_INDX_2] ON
[dbo].[CUSTOMER]([C_UNAME], [C_ID]) WITH  FILLFACTOR =
97,  PAD_INDEX  ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [test2] ON [dbo].[ITEM]([I_ID],
[I_A_ID], [I_SUBJECT], [I_TITLE]) WITH  FILLFACTOR = 99 ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [test3] ON [dbo].[ITEM]([I_A_ID],
[I_ID], [I_TITLE]) WITH  FILLFACTOR = 100 ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [ITEM13] ON
[dbo].[ITEM]([I_TITLE], [I_ID], [I_A_ID]) WITH  FILLFACTOR =
99 ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [bysubject] ON
[dbo].[ITEM]([I_TITLE], [I_ID], [I_A_ID], [I_SUBJECT]) WITH
FILLFACTOR = 99 ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [related] ON [dbo].[ITEM]([I_ID],
[I_RELATED1], [I_RELATED2], [I_RELATED3], [I_RELATED4],
[I_RELATED5]) ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [Subject_Inx] ON
[dbo].[ITEM]([I_SUBJECT], [I_A_ID], [I_ID], [I_TITLE]) ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [I_SUBJECT_INX] ON
[dbo].[ITEM]([I_TITLE], [I_SUBJECT], [I_ID], [I_A_ID]) ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [I_TITLE_INX] ON
[dbo].[ITEM]([I_SUBJECT], [I_TITLE], [I_ID], [I_A_ID]) ON
[ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [fornewprods] ON
[dbo].[ITEM]([I_SUBJECT], [I_PUB_DATE] DESC , [I_TITLE],
[I_ID], [I_A_ID]) ON [ONEBIG_FG]
GO
```

```
 CREATE  UNIQUE  INDEX [item_thumb] ON [dbo].[ITEM]([I_ID],
[I_THUMBNAIL]) ON [ONEBIG_FG]
GO

checkpoint
Go
```

V_Thread3.sql

```
use tpcw
go

 CREATE  UNIQUE  INDEX [O_C_INDX] ON
[dbo].[ORDERS]([O_C_ID], [O_ID]) WITH  FILLFACTOR = 97,
PAD_INDEX  ON [ONEBIG_FG]
GO

 CREATE  UNIQUE  INDEX [Orders_3] ON
[dbo].[ORDERS]([O_DATE] DESC , [O_ID], [O_C_ID]) ON
[ONEBIG_FG]
GO

 CREATE  INDEX [ol3] ON [dbo].[ORDER_LINE]([OL_I_ID])
WITH  FILLFACTOR = 97,  PAD_INDEX  ON [ONEBIG_FG]
GO

checkpoint
Go
```

V_Thread4.sql

```
use tpcw
go

 CREATE  UNIQUE  INDEX [OL_INDX2] ON
[dbo].[ORDER_LINE]([OL_O_ID], [OL_I_ID], [OL_QTY],
[OL_ID]) ON [ONEBIG_FG]
GO

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO

checkpoint
go
```

Appendix C: HTML Code

AdminConfirm.html

```
<html><head><title>TPC-W Admin Confirm
Page</title></head><body BGCOLOR="#FFFFFF">
<h1 ALIGN="CENTER">TPC Web Commerce Benchmark
(TPC-W)</h1>                    <h2 ALIGN="CENTER"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288" HEIGHT="67">
          </h2><h2 ALIGN="CENTER">Admin Confirm
Page</h2><h2>Product Updated</h2><h2>          Title:
Standards must BABABAOGRIBAUL offer. Lines
can</h2><p>Author: lt-!)K ^0yw@k!GqT
BABABABAALRERI0dv<br><p>Description:
~~XiaJw?kO&9so1%R14~$oc.8)X@nFH#u]
FmX0~p.PwY$[WC(byA$8bevlst%5pYu}u0szdSNg1BhE(^J-T@Y_=
]%r|,h@7#d%MH4,[/u_|b+qXTiUs&$J@P0I]Kw8+m6ijz|TcD*hg|elP
k~2HQUA6bE!qxW[8cjRLo1MhV1%Bb^J}!GdIR0KhseLIWTN=T
WP2u2O1)Q&SnX2(12JZ=?/5&@{6,zr1VvBx0x.P~!#PR</p><p><i
mg SRC="http://imgsrv.tpcw.net/tpcw/images/001/00010.jpg"
ALIGN="RIGHT" BORDER="0"><img
SRC="http://imgsrv.tpcw.net/tpcw/thumb/001/00009.jpg"
ALIGN="RIGHT"></p><blockquote><p><b>Suggested Retail:
   $  711.01<br>Our Price:<font COLOR="#DD0000">$
123.00</b></font><br>You Save: <font COLOR="#DD0000">$
588.01</b></font><br></blockquote><dl><dl><dt><font size="2">
          Backing:          LIMITED-EDITION, 3779
pages<br>Published by:          ;P+1Mq1@mEA
EHdBer?UPoAnKW5cGa3hl!0J+S!3=zMiihm<br>Publication date:
  06-06-2002<br>Dimensions (in inches): 34.79 x 24.20 x
48.15<br>ISBN:
d!NLG[w-M!pll</font></dt></dl></dl><br clear="all"><p
align="center"><br><a HREF="tpcw.dll?CMD=Search_Request">
          <img SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif"
ALT="Search Item" WIDTH="120" HEIGHT="30"></a>
<a HREF="tpcw.dll?CMD=Home">                    <img
SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120" HEIGHT="30"></a>
</p></body></hTmL>
```

AdminRequest.html

```
<html><head><title>TPC-W Product Update
Page</title></head><body BGCOLOR="#ffffff">
<h1 ALIGN="center">TPC Web Commerce Benchmark
(TPC-W)</h1><h2 ALIGN="center">                    <img
SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288"
HEIGHT="67"></h2>                    <h2
ALIGN="CENTER">Admin Request Page</h2>
<h1>Title: Standards must BABABAOGRIBAUL offer. Lines
can</h1> <p>Author: lt-!)K ^0yw@k!GqT
BABABABAALRERI0dv<br><img
SRC="http://imgsrv.tpcw.net/tpcw/images/051/05013.jpg"
ALIGN="RIGHT" BORDER="0"><img
SRC="http://imgsrv.tpcw.net/tpcw/thumb/012/01139.jpg"
ALIGN="RIGHT"></p><blockquote><p><br><form
ACTION="http://update.tpcw.net/tpcw/tpcw.dll?" METHOD="GET">
          <input type=hidden Name=CMD
Value=Admin_Confirm><table BORDER="0">
<tr><td><b>Suggested Retail:</b></td><td>$
711.01</td></tr><tr><td><b>Our Current Price:</b></td><td><font
COLOR="#dd0000"><b>$  568.81<input TYPE="HIDDEN"
NAME="I_ID" VALUE="2473"></b></font></td></tr><tr><td><b>
Enter New Price</td><td ALIGN="RIGHT"> $
<input TYPE="TEXT" NAME="I_NEW_COST">
</b></td></tr><tr><td><b>Enter New Picture</b></td><td
ALIGN="CENTER">                    <input TYPE="TEXT"
NAME="I_NEW_IMAGE">
</b></td></tr><td><b>Enter New Thumbnail</b></td><td
ALIGN="CENTER">                    <input TYPE="TEXT"
NAME="I_NEW_THUMBNAIL">
</b></td></tr></table><p><br CLEAR="ALL"><p
ALIGN="CENTER"><br><br>                    <input
TYPE="IMAGE" NAME="Submit"
SRC="http://imgsrv.tpcw.net/tpcw/images/submitchanges.gif"
HEIGHT="30" WIDTH="130">                    <a
HREF="tpcw.dll?CMD=Search_Request">
<img SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif"
ALT="Search Item" WIDTH="120" HEIGHT="30"></a>
          <a HREF="tpcw.dll?CMD=Home"><img
SRC="http://tpcwww.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120" HEIGHT="30"></a>
</p></form></body></hTmL>
```

BestSellersPage.html

```
<HTML><HEAD><TITLE>Best Sellers Page - Subject:
BIOGRAPHIES</TITLE></HEAD><FRAMESET border=0
frameBorder=0 frameSpacing=0 rows=31%,36%,31%><FRAME
SRC="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Type
=b&subject=BIOGRAPHIES"><FRAME
SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=7229" FRAMEBORDER=0><FRAME
SRC="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=BestSellersFrame&
value=BIOGRAPHIES"></FR<!-- PAD CHARS BEGIN
-**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
********** - PAD CHARS END
--></body></hTmL>
```

Best Sellers_BottomFrame.html

```
<HTML><HEAD><TITLE>BEST SELLERS
FRAME</TITLE></HEAD><BODY><TABLE BORDER=1
ALIGN=CENTER><TR><TD>Author</TD><TD>Title</TD></TR>
<tr><td>BABABABABAULRE ronBazWsWD/I{};}5I</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8413" TARGET="_top">BABABAOGBAINRI Right,
current examples</A></td></tr>
<tr><td>BABABABARIRIRIhjk *[6UA21</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
```

BookID=5885" TARGET="_top">Happy, BABABAOGATBAIN overseas</A></td></tr>
<tr><td>BABABABANGREIN u/Dwg+Z_O*</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6631" TARGET="_top">Good, sorry sales avoid. BABABAOGNGULSE Able walls must</A></td></tr>
<tr><td>BABABABAULREAL cR}LC5H-Oz3;(!5</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6944" TARGET="_top">Places increase in BABABAOGREULRI the small</A></td></tr>
<tr><td>BABABABAALINRIhW yTy;(PO(|[ohUX</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=5958" TARGET="_top">BABABABASEREBA Italian teachers reach. Managers</A></td></tr>
<tr><td>BABABABABAALRENoF agzD2TjhF[A1=sX1URPM</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6975" TARGET="_top">Good, typical years try-- BABABABABAULUL Separate, little</A></td></tr>
<tr><td>BABABABANGRIRI gd|WPd}}YzK&i</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4488" TARGET="_top">BABABABABAOGAL Wrong, dead factors</A></td></tr>
<tr><td>BABABABARIOGALjgql1 W4STYr!O8Ls</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6930" TARGET="_top">Criminal, hot views BABABAOGBAREOGenforce</A></td></tr>
<tr><td>BABABABABANGIN gx7Z_=Qn98JEMvDHpf$</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=5381" TARGET="_top">Strong, essential BABABAOGALOGIN interests do express on the</A></td></tr>
<tr><td>BABABABAALULUL h1t@u/;]Rcc!{28)msK</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4700"

TARGET="_top">BABABABAULBABAContemporary,</A></td></tr>
<tr><td>BABABABAOGATRE NvMsgp,5+#Oa,ac</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7618" TARGET="_top">BABABAOGNGOGRESerious, new</A></td></tr>
<tr><td>BABABABAALBAULkYD DZ*gKdZ;r#n</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=8800" TARGET="_top">Rare troops BABABAOGBARIRE do make. Other,</A></td></tr>
<tr><td>BABABABAULBAAL Ih9wtG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2177" TARGET="_top">BABABAOGRENGNG Services will have</A></td></tr>
<tr><td>BABABABASESEAT eI4(fFzpL5~EW</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=556" TARGET="_top">Underlying, pink developments could have to BABABABASESEAT</A></td></tr>
<tr><td>BABABABAINALIN 2Ij)EGshG 5</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7972" TARGET="_top">BABABAOGULINALAppropriate, growing waves ask into the other,</A></td></tr>
<tr><td>BABABABAULULAT Se3-,Q{_Y3t)</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6754" TARGET="_top">BABABABAATNGULDecisions could have</A></td></tr>
<tr><td>BABABABANGULAT 7Wf8cAY</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2991" TARGET="_top">Black BABABABAULNGSE questions may pay.</A></td></tr>
<tr><td>BABABABAATBASE W,pil,@+AhK</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=605" TARGET="_top">Small, BABABABAATBASE particular</A></td></tr>
<tr><td>BABABABAINNGREU9ji fZyx1+d.]</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2225" TARGET="_top">BABABAOGNGRIAL Resources write. Feet should</A></td></tr>
<tr><td>BABABABANGATSEysG :5]K-</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3181" TARGET="_top">Labour, major others BABABAOGRERESE check. Video-taped,</A></td></tr>
<tr><td>BABABABAULNGRE Rg=;Y;2I5</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9745" TARGET="_top">Serious, permanent police must speed in the BABABAOGNGREUL</A></td></tr>
<tr><td>BABABABANGREATk0Se51 oWle{:f2qG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4395" TARGET="_top">Strong, democratic details BABABAOGBAINRI will present in</A></td></tr>
<tr><td>BABABABABABAIN rE/?Enms+g~$1G:</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3663" TARGET="_top">Only, private BABABAOGULALUL plants to the areas would</A></td></tr>
<tr><td>BABABABARESERIIy nLP1doW=:zUaPK*1o,</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=1701" TARGET="_top">Common, old windows defend political, clear BABABAOGULBAOG</A></td></tr>
<tr><td>BABABABAREULBA Gg_l3loZA@+[</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4870" TARGET="_top">Other, important issues describe. Dogs BABABAOGBAALSEto the</A></td></tr>
<tr><td>BABABABAATNGNGx8 DJek</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2352" TARGET="_top">Patients BABABABAOGULBA tell by the statistical, existing</A></td></tr>
<tr><td>BABABABAALATRI u .+$^&x)_ E4l,Ox</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7035" TARGET="_top">BABABABARIBARE Men treat. Prime theories should</A></td></tr>
<tr><td>BABABABARERIIN WibiuOq@={i.A</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3866" TARGET="_top">Capital, key scientists BABABABAINOGIN will have to explain</A></td></tr>
<tr><td>BABABABAINNGOG Kd{x|gRRN</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2578" TARGET="_top">Small BABABABARISEAL faces</A></td></tr>
<tr><td>BABABABAINNGOG Kd{x|gRRN</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9001" TARGET="_top">BABABABAINRERI Relevant, rapid</A></td></tr>
<tr><td>BABABABAULINNG 2u2JCUWa/+</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6571" TARGET="_top">Active, royal structures could BABABABARIBASE have to buy;</A></td></tr>
<tr><td>BABABABAINSERE !FEyyR@P]kfi-</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6578" TARGET="_top">BABABABARESEOG Operations</A></td></tr>
<tr><td>BABABABAALATAL hO!_ydAX[</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=262" TARGET="_top">Professional, key dogs from the BABABABAALATAL efficient</A></td></tr>
<tr><td>BABABABAATREOGg @KkC9Tc2M[58^*i60</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9959" TARGET="_top">BABABAOGSESEALProperties will watch</A></td></tr>
<tr><td>BABABABAALOGBA a.,h4:oxaiO=AG.|</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&

BookID=8416" TARGET="_top">Ready, BABABAOGATSEAT healthy shares play</A></td></tr>
<tr><td>BABABABAALATOG E{-</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=5174" TARGET="_top">BABABABAOGINAT True, other residents could have</A></td></tr>
<tr><td>BABABABAALNGBA f^@0py</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=290" TARGET="_top">BABABABAALNGBAInternational, pink units to the able,</A></td></tr>
<tr><td>BABABABARENGBA Kg$[6{pF}Hr</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=8067" TARGET="_top">Years at BABABABABASENG the classes do go</A></td></tr>
<tr><td>BABABABANGNGNG qfMxDGBqY:w,P3z7</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=5009" TARGET="_top">Able, full others BABABAOGBAINAT ought to cost-- Plans</A></td></tr>
<tr><td>BABABABAULOGOGI01 cKqJJg3M@J|</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3936" TARGET="_top">Independent, statutory markets in the BABABAOGNGREUL other,</A></td></tr>
<tr><td>BABABABAINULAL mA)#uL+WK^eb</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=872" TARGET="_top">Local, BABABABAINULAL nuclear friends to</A></td></tr>
<tr><td>BABABABAOGRIBAJN8N d2!uY{|gj^3%R</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=5197" TARGET="_top">BABABAOGULINBABritish,</A></td></tr>
<tr><td>BABABABAOGULOGq6I XiOx@Bb7N,S!</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3256" TARGET="_top">Farmers BABABABABAATSE enjoy via the good whole terms.</A></td></tr>
<tr><td>BABABABAATBABA y#3vE(</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=600" TARGET="_top">Important, BABABABAATBABA old pages</A></td></tr>
<tr><td>BABABABANGSEBAXWS eCpgNbwKAN(Wd;CED6</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7299" TARGET="_top">BABABAOGOGOGIN Customers could</A></td></tr>
<tr><td>BABABABAOGINUL dlBM8vq?SJo}SlmpyHE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6521" TARGET="_top">BABABABAINRERI Remarkable,</A></td></tr>
<tr><td>BABABABAREOGUL 29# O&kZjk%WIjq.;</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4122" TARGET="_top">Other, BABABAOGINATINwild subjects can love; Companies into</A></td></tr>
<tr><td>BABABABABAALAL 6bvv8(C</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7552" TARGET="_top">Subjects pay old, hot BABABABAINSERE tables. Cases may</A></td></tr>
<tr><td>BABABABARERESE X{}M#1R(</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=445" TARGET="_top">Towns BABABABARERESE with the</A></td></tr>
<tr><td>BABABABAALOGAL @ OFi=kLP{t0X</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=212" TARGET="_top">Empty, BABABABAALOGAL local</A></td></tr>
</TABLE> <a HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart&ADD_FLAG=0" TARGET="_top"><img SRC="http://imgsrv.tpcw.net/tpcw/images/Cart.gif" ALT="Shopping Cart" WIDTH="120" HEIGHT="30"> <a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request" TARGET="_top"><img SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif" ALT="Search Item" WIDTH="120" HEIGHT="30"> <a HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home" TARGET="_top"><img SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" ALT="Home Page" WIDTH="120" HEIGHT="30"> </BODY></HTML>

Best SellersFrameSet.html

<HTML><HEAD><TITLE>Best Sellers Page - Subject: ARTS</TITLE></HEAD><FRAMESET border=0 frameBorder=0 frameSpacing=0 rows=31%,36%,31%><FRAME SRC="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Type=b&subject=ARTS"><FRAME SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo&num=5695" FRAMEBORDER=0><FRAME SRC="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=BestSellersFrame&value=ARTS"></FR<!-- PAD CHARS BEGIN
-********** - PAD CHARS END --></body></hTmL>

BestSellersTopFrame.html

<html><head><title>TopFrame for b</title></head><body bgcolor="#FFFFFF"> <h1 align="center">TPC Web Commerce Benchmark (TPC-W)</h1> <img SRC= "http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif" ALIGN="BOTTOM" WIDTH="288" HEIGHT="67">
<H3>Best Sellers Page - Subject: BUSINESS
</H3></BODY><hTmL>

Note: *For the promotional processing frame and associated content see the Promotional Processing HTML code samples. The format for including promotional processing content is the same for all pages with promotional processing requirements.*

BuyConfirm.html

```
<html><head><title>Order Confirmation</title></head><body
BGCOLOR="#FFFFFF">                    <h1
ALIGN="center">TPC Web Commerce Benchmark
(TPC-W)</h1><h2 ALIGN="CENTER">Buy Confirm Page</h2>
<blockquote><h2 ALIGN="left">Order Information:</h2>
<table BORDER="1" CELLSPACING="0"
CELLPADDING="0"><tr><td><b>Qty</b></td><td><b>Product</b
></td></tr><tr><td VALIGN="top">1</td><td
VALIGN="top"><i>BABABABAINULOG Far circumstances will
have to see in the</i> - Backing: HARDBACK<br>SRP. $ 2919.90,
<font COLOR="#aa0000"><b>Your Price: $
3156.03</b></font></td></tr>
</table><h2 ALIGN="left">Your Order has been processed.</h2>
<table BORDER="1" CELLPADDING="5"
CELLSPACING="0"><tr><td><h4>Subtotal with
discount(14.00%):</h4></td><td><h4>$
2334.20</h4></td></tr><tr><td><h4>Tax
(8.25%):</h4></td><td><h4>$
223.92</h4></td></tr><tr><td><h4>Shipping &amp;amp;
Handling:</h4></td><td><h4>$
4.00</h4></td></tr><tr><td><h4>Total:</h4></td><td><h4>$
2942.11</h4></td></tr></table><br><h2>Order Number:
292848281</h2><h1>Thank you for shopping at
TPC-W</h1><p><center><a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
">                    <img
SRC="https://spweb19.tpcw.net/tpcw/images/search.gif"
ALT="Search Item" WIDTH="120" HEIGHT="30">
</a><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home"><img
SRC="https://spweb19.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120" HEIGHT="30"></a>
</p></center></blockquote><!-- PAD CHARS BEGIN
-**********************************************************
********************************************************** -
PAD CHARS END --></body></hTmL>
```

BuyRequest.html

```
<html><head><title>TPC-W Buy Request</title></head><body
BGCOLOR="FFFFFF">                    <h1
ALIGN="CENTER">TPC Web Commerce Benchmark
(TPC-W)</h1><hr>                    <h2
ALIGN="CENTER">Buy Request
Page</h2><TABLE><TR><TD><form Action="tpcw.dll?"
METHOD="GET">                    <input
TYPE="HIDDEN" NAME=CMD
Value=Buy_Confirm><blockquote><hr><h2>Billing
Information:</h2></blockquote>
<blockquote><font size="+1"><I> Firstname: tnhw0=39*O~y1;<br>
 Lastname: wgQ;[X(ltCs1!]<br>
 Addr_street_1: jHL-USErlbS#vF_$sQoK^^z49~]<br>
 Addr_street_2: ]E#^7~m85Tp0Lr7Y<br>
 City: 7gVmPTyH(G}uSr=j<br>
 State: zo#<br>
 Zip: 5642485613<br>
 Country: Iraq<br>
 Email: OG@AZR7-.com<br>
 Phone: 052158497<br>
 UserName: OG<br>
 C_ID: 1<BR>
</TD><TD></font><hr><h2>Shipping Information:</h2>
            <table BORDER="0" CELLSPACING="0"
CELLPADDING="0" WIDTH="500"><tr><td>
Address 1:</td><td><input NAME="STREET_1" size="40"
VALUE="">
</td></tr><tr><td>Address 2:</td><td><input NAME="STREET_2"
size="40" VALUE="">
</td></tr><tr><td>City:</td><td><input NAME="CITY" size="30"
VALUE="">
</td></tr><tr><td>State:</td><td><input NAME="STATE"
size="20" VALUE=""></td></tr><tr><td>
zip:</td><td><input NAME="zip" size="10"
VALUE=""></td></tr><tr><td>
Country:</td><td><input NAME="COUNTRY" size="50"
VALUE=""></TD></TR></TABLE>
</td></tr></table><hr><h2>Order Information:</h2>
<table BORDER="1" CELLSPACING="0"
CELLPADDING="0"><tr><td><b>Qty</b></td>
<td><b>Product</b></td></tr><tr><td VALIGN="top">1</td><td
VALIGN="top"><i>BABABABAINULOG Far circumstances will
have to see in the</i> - Backing:HARDBACK SRP. $ 2919.90<font
COLOR="#aa0000"><b> Your Price: $ 3156.03</font></td></tr>
</table><br><b><table border="0"><tr><td><b>Subtotal with
discount(   14.00%):</b></td><td align="right">$
2334.20</td></tr><tr><td><b>Tax:</b></td><td align="right">$
223.92</td></tr><tr><td><b>Shipping &amp;amp Handling:</b></td><td
align="right">$    4.00</td></tr><tr><td><b>Total:</b></td><td
align="right">$ 2942.11</td></tr></b></table><hr><table
BORDER="1" CELLPADDING="5" CELLSPACING="0">
<tr><td>Credit Card Type</td><td>                    <input
TYPE="radio" NAME="CC_TYPE" VALUE="Visa"
CHECKED="CHECKED">Visa                <input TYPE="radio"
NAME="CC_TYPE" VALUE="MasterCard">MasterCard
<input TYPE="radio" NAME="CC_TYPE"
VALUE="Discover">Discover                <input TYPE="radio"
NAME="CC_TYPE" VALUE="Amex">American Express
<input TYPE="radio" NAME="CC_TYPE"
VALUE="Diners">Diners                <input TYPE="radio"
NAME="CC_TYPE" VALUE="Amex">American Express</td></tr>
            <tr><td>Name on Credit Card</td><td><input
NAME="CC_NAME" size="30" VALUE="Z"</td></tr>
<tr><td>Credit Credit Number</td>                    <td><input
NAME="CC_NUMBER" size="16"
VALUE="7777777777777777"></td></tr>
<tr><td>Credit Credit Expiration Date</td>                <td><input
NAME="CC_EXPIRY" size="15" VALUE="12/31/2010"></td></tr>
            <tr><td>Shipping Method</td><td><input TYPE="radio"
CHECKED NAME="SHIPPING" VALUE="AIR">AIR
<input TYPE="radio" NAME="SHIPPING" VALUE="UPS">UPS
            <input TYPE="radio" NAME="SHIPPING"
VALUE="FEDEX">FEDEX                <input TYPE="radio"
NAME="SHIPPING" VALUE="SHIP">SHIP
<input TYPE="radio" NAME="SHIPPING"
VALUE="COURIER">COURIER                <input
TYPE="radio" NAME="SHIPPING" VALUE="MAIL">MAIL
</td></tr></table><br><br>                <center><input
TYPE=image NAME="Submit"
SRC="https://spweb19.tpcw.net/tpcw/images/processorder.gif"
WIDTH=120 HEIGHT=30>                <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0"><img
SRC="https://spweb19.tpcw.net/tpcw/images/Cart.gif"
ALT="Shopping Cart" BORDER="0" WIDTH="120"
HEIGHT="30"></a>            <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home"><img
SRC="https://spweb19.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" BORDER="0" WIDTH="120" HEIGHT="30"></a>
</form></blockquote></center></body></hTmL>
```

Customer Registration

```
<html>
```

```
<head>
<title>Customer Registration</title></head>
<body BGCOLOR="#FFFFFF">
<h1 ALIGN="CENTER">TPC Web Commerce Benchmark
(TPC-W)</h1>
<h2 ALIGN="CENTER">
<img SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288"
HEIGHT="67"></h2>
<h2 ALIGN="CENTER">Customer Registration Page</h2>

<form Action="https://spweb19.tpcw.net/tpcw/tpcw.dll?"
METHOD="GET" id="form1" name="form1">
<input TYPE="HIDDEN" NAME=CMD VALUE=Buy_Request>
<blockquote><hr><table BORDER="0"><tr><td>

<input TYPE="RADIO" NAME="customer" VALUE="EXISTING"
Checked="Checked">
I am an existing customer
</td></tr><tr><td>

<input TYPE="RADIO" NAME="customer" VALUE="NEW">
I am a first time customer

</td></tr></table><hr>
<b>If you're an existing customer, enter your Username and
Password:</b>
<br><br><table><tr ALIGN="right"><td>

UserName: <input type="text" NAME="UNAME" VALUE="OG"
SIZE="15">

</td></tr><tr><td>

Password: <input TYPE="PASSWORD" NAME="PASSWD"
VALUE="og" SIZE="15">

</td></tr></table><hr>
<b>If you're a first time customer, enter the details below:</b>
<br><br><table><tr><td>

Enter your birth date (mm/dd/yy):</td><td>
<input type="text" name="BIRTHDATE" size="10">

</td></tr><tr><td>

Enter your First Name:</td><td>
<input type="text" name="FNAME">

</td></tr><tr><td>

Enter your Last Name:</td><td>
<input type="text" name="LNAME">

</td></tr><tr><td>

Enter your Address 1:</td><td>
<input type="text" name="STREET1" size="40">

</td></tr><tr><td>

Enter your Address 2:</td><td>
<input type="text" name="STREET2" size="40">

</td></tr><tr><td>

Enter your City, State, Zip:</td><td>
<input type="text" name="CITY"  size="10">
<input type="text" name="STATE" size="2">
<input type="text" name="zip"   size="10">

</td></tr><tr><td>

Enter your Country:</td><td>
<input type="text" name="COUNTRY">

</td></tr><tr><td>

Enter your Phone:</td><td>
<input type="text" name="PHONE">

</td></tr><tr><td>
Enter your E-mail:</td><td>
<input type="text" name="EMAIL">

</td></tr></table><hr><table><tr><td COLSPAN="2">

Special Instructions:
<textarea NAME="DATA" ROWS="4" COLS="65"></textarea>

</td></tr></table><hr>

<center>
<input TYPE="image" NAME="Submit"
SRC="http://imgsrv.tpcw.net/tpcw/images/submit.gif" WIDTH="120"
HEIGHT="30">
<a HREF="tpcw.dll?CMD=Search_Request">
  <img SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif"
ALT="Search Item" WIDTH="120" HEIGHT="30">
</a>
<a HREF="tpcw.dll?CMD=Home">
  <img SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif"
ALT="Home Page" WIDTH="120" HEIGHT="30">
</a>
</blockquote>
</form>
</center>
</body>
</hTmL>
```

Home.html

```
<html><head><title>TPC-W Home Page</title></head>
<body bgcolor="#FFFFFF"><h1 align="center">TPC Web
CommerceBenchmark (TPC-W)</h1><center><img
SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" WIDTH="288" HEIGHT="67">
<h2 ALIGN="CENTER">Home Page</h2><h2>Welcome to the
TPC-W BookStore -- Buy Lots -- Buy Often<BR><BR><IFRAME
SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=1018" WIDTH=900 HEIGHT=200 SCROLLING="NO"
ALIGN="MIDDLE" FRAMEBORDER=0></IFRAME><table
BORDER="0" WIDTH="700" ALIGN="CENTER"
CELLPADDING="6" CELLSPACING="0"
BGCOLOR="#C0C0C0">                    <tr ALIGN="CENTER"
VALIGN="TOP" BGCOLOR="#ffffff">                    <td
COLSPAN="2" VALIGN="MIDDLE" WIDTH="300"><img
SRC="http://tpcwww.tpcw.net/tpcw/images/New.gif" ALT="New
Books" WIDTH="300"></td>                    <td WIDTH="100"
BGCOLOR="#FFFFFF"></td>                    <td COLSPAN="2"
WIDTH="300"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Best.gif" ALT="Best
Sellers" WIDTH="300"></td></tr>                    <tr>
<td WIDTH="150"><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
```

```
&SUBJECT=ARTS">Arts</a></p></td>                <td
WIDTH="150"><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=BIOGRAPHIES">Biographies</a></p></td>
<td bgcolor="#ffffff" WIDTH="50"></td>          <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=ARTS">Arts</a></p></td>                  <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=BIOGRAPHIES">Biographies</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=BUSINESS">Business</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=CHILDREN">Children</a></p></td>        <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=BUSINESS">Business</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=CHILDREN">Children</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=COMPUTERS">Computers</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=COOKING">Cooking</a></p></td>          <td
bgcolor="#ffffff" WIDTH="50"></td><td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=COMPUTERS">Computers</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=COOKING">Cooking</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HEALTH">Health</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HISTORY">History</a></p></td>          <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=HEALTH">Health</a></p></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=HISTORY">History</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HOME">Home</a></p></td>                <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=HUMOR">Humor</a></p></td>              <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=HOME">Home</a></p></td>                  <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=HUMOR">Humor</a></p></td>                </tr>
<tr>                    <td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=LITERATURE">Literature</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=MYSTERY">Mystery</a></p></td>          <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=LITERATURE">Literature</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=MYSTERY">Mystery</a></p></td>
</tr><tr>               <td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=NON-FICTION">Non-fiction</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=PARENTING">Parenting</a></p></td>      <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=NON-FICTION">Non-fiction</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=PARENTING">Parenting</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=POLITICS">Politics</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=REFERENCE">Reference</a></p></td>      <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=POLITICS">Politics</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=REFERENCE">Reference</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=RELIGION">Religion</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=ROMANCE">Romance</a></p></td>          <td
bgcolor="#ffffff" WIDTH="50"></td>              <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=RELIGION">Religion</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=ROMANCE">Romance</a></p></td>
</tr>                   <tr><td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SELF-HELP">Self-help</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SCIENCE-NATURE">Science-nature</a></p></td>
<td bgcolor="#ffffff" WIDTH="50"></td>          <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=SELF-HELP">Self-help</a></p></td>
<td><p ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=SCIENCE-NATURE">Science-nature</a></p></td>
</tr>                   <tr>                    <td><p
ALIGN="CENTER"><a
```

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SCIENCE-FICTION">Science-Fiction </td>
<td> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=SPORTS">Sports </td> <td
bgcolor="#ffffff" WIDTH="50"></td> <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=SCIENCE-FICTION">Science-Fiction </td>
<td> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=SPORTS">Sports </td> </tr>
<tr> <td> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=TRAVEL">Travel </td>
<td> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=New_Products
&SUBJECT=YOUTH">Youth </td> <td
bgcolor="#ffffff" WIDTH="50"></td> <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=TRAVEL">Travel </td> <td><p
ALIGN="CENTER"><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Best_Sellers&S
UBJECT=YOUTH">Youth </td> </tr>
</table> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Cart.gif" ALT="Shopping
Cart" WIDTH="120" HEIGHT="30"> <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
"><img SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif"
ALT="Search Item" WIDTH="120" HEIGHT="30">
<a
HREF="https://spweb8.tpcw.net/tpcw/tpcw.dll?CMD=Order_Inquiry"
><img SRC="http://tpcwww.tpcw.net/tpcw/images/status.gif"
ALT="Order Status" WIDTH="120" HEIGHT="30">
  </body>
</hTmL>

NewProductsBottomFrame.html

<HTML><HEAD><TITLE>NEW PRODUCTS
FRAME</TITLE></HEAD><BODY><CENTER>
</H2></CENTER>
<TABLE BORDER=1

ALIGN=CENTER><TR><TD>Author</TD><TD>Title</TD></TR>
<tr><td>E{- BABABABAALATOG</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5174" TARGET="_top">BABABABAOGINAT True, other
residents could have</A></td></tr>

<tr><td>K_3XuEVYb[?M BABABABAOGALAT</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8749" TARGET="_top">Children with
BABABAOGOGSEAT the democratic, old standards</A></td></tr>

<tr><td>1Rz Zk(wM?WG0hU_vrbB
BABABABASEBABA</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3902" TARGET="_top">BABABABANGSEAL Types sign
for the concerned, little</A></td></tr>

<tr><td>#DcBZT5 Sr5)oE$4/^| BABABABAALALSE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2023" TARGET="_top">Necessary cases
BABABABAOGSESEcould have</A></td></tr>

<tr><td>PFB0cP6l*gn?wE: BABABABARIINBA</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=1019" TARGET="_top">Short, perfect officials
BABABAOGBAOGNG include features.</A></td></tr>

<tr><td>5ch BABABABAULSERE8nMO</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3841" TARGET="_top">BABABABAOGNGNGProblems
would relate</A></td></tr>

<tr><td>~_vm]ubPXz~ BABABABAATSEOGW6Eb4O</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2599" TARGET="_top">Documents for
BABABAOGSERING the male,</A></td></tr>

<tr><td>_9O00wTs{qohiSU~/FbK
BABABABABARIRE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=7446" TARGET="_top">Rural, large areas can
BABABABAINATOG look. Matters get.</A></td></tr>

<tr><td>O#0xC036$ BABABABAATOGSE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9714" TARGET="_top">BABABABARERIRI Girls shall
get! Thoughts put! Large,</A></td></tr>

<tr><td>2*%v[GL{(r,B BABABABANGOGRE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6875" TARGET="_top">Names among the excellent, real
plans BABABABARIOGRI shall</A></td></tr>

<tr><td>K3y@HZn*H,/n(BABABABASEULUL</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3212" TARGET="_top">Available, british children know!
BABABAOGBAOGSE Problems</A></td></tr>

<tr><td>7Wf8cAY BABABABANGULAT</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2991" TARGET="_top">Black BABABABAULNGSE
questions may pay.</A></td></tr>

<tr><td>N,vT BABABABARIATNG</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3620" TARGET="_top">Long, various stories
BABABAOGBABABA encourage in</A></td></tr>

<tr><td>f^@0py BABABABAALNGBA</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=290"
TARGET="_top">BABABABAALNGBAInternational, pink units to
the able,</A></td></tr>

<tr><td>qfMxDGBqY:w,P3z7 BABABABANGNGNG</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5009" TARGET="_top">Able, full others
BABABAOGBAINAT ought to cost-- Plans</A></td></tr>

<tr><td>.1RO9z8p #0c^5t~k BABABABARINGOG</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5172" TARGET="_top">Weeks BABABABAININNG into
the towns explain human,</A></td></tr>

<tr><td>Vz4 BABABABAINULULcnrb</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=7997" TARGET="_top">BABABAOGNGSEOG Weapons
by the</A></td></tr>

<tr><td>aRu+UQ5 BABABABASEATULvmnh6</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6893" TARGET="_top">BABABABAINALNG Right boys
could have to observe.</A></td></tr>

<tr><td>zmgv/$pV BABABABAALSEOG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9197" TARGET="_top">BABABABAATATNG Central, poor prices will</A></td></tr>

<tr><td>/jEan;&dvRZ*c63 BABABABABAINAT</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=8387" TARGET="_top">BABABAOGSEBAREOpposite, foreign units shall answer to the</A></td></tr>

<tr><td>*p^{ti]Zvntrqg+0PX& BABABABABAATSE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=8850" TARGET="_top">Customers BABABAOGSERIBA must</A></td></tr>

<tr><td>@KkC9Tc2M[58^*i60 BABABABAATREOGg</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9959" TARGET="_top">BABABAOGSESEALProperties will watch</A></td></tr>

<tr><td>e #vH^FRb]l.s&V]D BABABABAALOGUL</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=7980" TARGET="_top">BABABABABABANG Rural relations</A></td></tr>

<tr><td>b^zgj? Zpz@v+?8@ BABABABANGINRI</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9184" TARGET="_top">BABABABANGSENGRevolutionary, white developments shall</A></td></tr>

<tr><td>][5qKI_A[b#la BABABABANGALRE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9922" TARGET="_top">Lips must help by the prime BABABAOGSEATSE students.</A></td></tr>

<tr><td>bW;^N!9bz78uN)Ncc8X BABABABANGULNG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=979" TARGET="_top">True, BABABABANGULNG agricultural</A></td></tr>

<tr><td>^M*B3tzVq6v~R/MkdI-v BABABABAULATRE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=764" TARGET="_top">BABABABAULATRE Real, english cars hear in the</A></td></tr>

<tr><td>D6Sb BABABABAININRE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3867" TARGET="_top">BABABABARERIOGPictures meet. Considerable, true problems can</A></td></tr>

<tr><td>[FsHAVCAeL5TAPA BABABABAINRIOG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4464" TARGET="_top">BABABABAREULUL Young, careful</A></td></tr>

<tr><td>Kd{x|gRRN BABABABAINNGOG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9001" TARGET="_top">BABABABAINRERI Relevant, rapid</A></td></tr>

<tr><td>7=hOw,3.,l.a0 BABABABABAULRI</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4274" TARGET="_top">BABABABAINOGAL Spirits</A></td></tr>

<tr><td>Se3-,Q{_Y3t) BABABABAULULAT</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6754" TARGET="_top">BABABABAATNGULDecisions could have</A></td></tr>

<tr><td>r:{Zogu;N&g6 BABABABASEALRE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2603" TARGET="_top">Figures for the BABABABAATATOG procedures consult</A></td></tr>

<tr><td>HF_Sl:(.u*ZF BABABABAALULIN</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3016" TARGET="_top">Other BABABAOGATATULdetails might see. Readers with</A></td></tr>

<tr><td>gd|WPd}}YzK&i BABABABANGRIRI</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4488" TARGET="_top">BABABABABAOGAL Wrong, dead factors</A></td></tr>

<tr><td>^Um BABABABAINALOG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2306" TARGET="_top">Other BABABABAALRERElls make. Members could have to</A></td></tr>

<tr><td>Gg_l3loZA@+[BABABABAREULBA</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4870" TARGET="_top">Other, important issues describe. Dogs BABABAOGBAALSEto the</A></td></tr>

<tr><td>a.,h4:oxaiO=AG.| BABABABAALOGBA</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=8416" TARGET="_top">Ready, BABABAOGATSEAT healthy shares play</A></td></tr>

<tr><td>n~-/VI]Azc/@ah BABABABARIINOGb5y</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=381" TARGET="_top">BABABABARIINOGSkills should come.</A></td></tr>

<tr><td>u/Dwg+Z_O* BABABABANGREIN</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6948" TARGET="_top">BABABAOGREININLeft, black</A></td></tr>

<tr><td>:5]K- BABABABANGATSEysG</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=3181" TARGET="_top">Labour, major others BABABAOGRERESE check. Video-taped,</A></td></tr>

<tr><td>dlBM8vq?SJo}SlmpyHE BABABABAOGINUL</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=6521" TARGET="_top">BABABABAINRERI Remarkable,</A></td></tr>

<tr><td>^9ng.WoE tif6z BABABABAULRING</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=2047" TARGET="_top">BABABABAATATUL Schools should destroy</A></td></tr>

<tr><td>DPEJ/b|_~X BABABABAREINBA</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=480" TARGET="_top">Long-term, BABABABAREINBAhuman studies perform at the</A></td></tr>

<tr><td>_9O00wTs{qohiSU~/FbK BABABABABARIRE</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=9670" TARGET="_top">Reasonable, BABABABASERENG necessary scientists explain.</A></td></tr>

<tr><td>2~1EYVxpwb BABABABASEINAT</td><td><a HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&

```
BookID=7655" TARGET="_top">BABABABAALULOG Activities
might leave private,</A></td></tr>

<tr><td>jEz}@)mT^:1i+-m.qjE BABABABASEALSE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3588"
TARGET="_top">BABABABAALREATOutstanding,
spanish</A></td></tr>

<tr><td>Rg=;Y;2I5 BABABABAULNGRE</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9858" TARGET="_top">Areas BABABABAULOGRIseem
against the interesting, similar</A></td></tr>

<tr><td>2u2JCUWa/+ BABABABAULINNG</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6571" TARGET="_top">Active, royal structures could
BABABABARIBASE have to buy;</A></td></tr>

<tr><td>mA)#uL+WK^eb BABABABAINULAL</td><td><a
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=872" TARGET="_top">Local, BABABABAINULAL
nuclear friends to</A></td></tr>

</TABLE><center><a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0" TARGET="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Cart.gif" ALT="Shopping
Cart" WIDTH="120" HEIGHT="30"></a>                    <a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
" TARGET="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif" ALT="Search
Item" WIDTH="120" HEIGHT="30"></a>                    <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home"
TARGET="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120"
HEIGHT="30"></a></center></BODY></HTML>
```

NewProductsFrameSet.html

```
<HTML><HEAD><TITLE>New Products Page - Subject:
ARTS</TITLE></HEAD><FRAMESET border=0 frameBorder=0
frameSpacing=0 rows=31%,36%,31%><FRAME
SRC="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Type
=n&subject=ARTS"><FRAME
SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=3648" FRAMEBORDER=0><FRAME
SRC="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=NewProductsFrame
&value=ARTS"></FR<!-- PAD CHARS BEGIN
-*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*******************************************************
*********************************************** - PAD
CHARS END --></body></hTmL>
```

NewProductsTopFrame.html

```
<html><head><title>TopFrame for n</title></head><body
bgcolor="#FFFFFF">                 <h1 align="center">TPC Web
Commerce Benchmark (TPC-W)</h1><center><img SRC=
"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" WIDTH="288"
HEIGHT="67"><BR><H3>New Products Page - Subject:
BUSINESS<BR></H3></BODY><hTmL>
```

Note: *For the promotional processing frame and associated content see the Promotional Processing HTML code samples. The format for including promotional processing content is the same for all pages with promotional processing requirements.*

ProductDetail.html

```
<html><head><title>TPC-W Product Detail
Page</title></head><body BGCOLOR="#FFFFFF">
<h1 ALIGN="CENTER">TPC Web Commerce Benchmark
(TPC-W)</h1><h2 ALIGN="CENTER">                    <img
SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288"
HEIGHT="67"></h2>                    <h2
ALIGN="CENTER">Product Detail Page</h2><h1>Title:
Commercial, fundamental BABABABAINRIAL policies in the
also</h1><p>Author:    zT:j:)w=X18/
BABABABABAALATa5cE07</p><img
SRC="http://imgsrv.tpcw.net/tpcw/images/037/03652.jpg"
ALIGN="RIGHT">Description:
3l4!9jEAVnxAZ3VjF[ln5:4)Pyj^ap*OrW*7;#zKIqW;bx01$t{qs%=jJ
#vo=*WbJ!}Csu=T{#&zWLKA&-n-Q9L}+Udo=?|+$3V}@83K5&V
4-23d;uWl[YQYePjnB/Pnl:WlU]jaNg!Uk* ~m
iksSxA0?W}Sozl0/MqrZASdS=8pZ&U?*iRI9T(0XwS{_79vtjU)Q.B
oZ6==.-I5aG$%+Pj.+EZ5R1d^Qf1rCUT3nZ4of&.j(#5F[4tH%K$Chy
67iBPOO%uqFn{yEcF%1k#vh{cb]B~cK,byTFuAB6&dy*Xr6BRTti
81,gXK6g/.0[PgtSY%?6|E@q]VW7FWp.NgfiB#d#|Aa!^~~gEd8?tF:J
}8Pw[<blockquote><p><b>Suggested Retail:           $
1840.59br>Our Price:<font COLOR="#DD0000">  $
1656.53</font><br>You Save:<font COLOR="#DD0000"> $
184.06</font></p></b></blockquote><dl><dl><dt><font
size="2">Backing:            HARDBACK, 8635 pages<br>Published
by          ~X0WSb38CJ4,,n5?<br>Publication date:
06-05-2002<br>Availablity date:      03-01-1965<br>Subject:
 SCIENCE-NATURE<br>Dimensions (in inches): 11.13 x 89.87 x
99.08<br>ISBN:                X2Q[_fL]]d6Dl/font></dt></dl></dl><p
align="center">                    <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=1&iCount=1&I_ID_1=5716&QTY_1=1">
<img SRC="http://imgsrv.tpcw.net/tpcw/images/Add.gif" ALT="Add
to Cart" WIDTH="120" HEIGHT="30"></a>                    <a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
">                    <img
SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif" ALT="Search
Item" WIDTH="120" HEIGHT="30"></a>                    <a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home">
```

<img SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif"
ALT="Home Page" WIDTH="120" HEIGHT="30">
<a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Admin_Request
&I_ID=5716"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Update.gif" ALT="Update
Item" WIDTH="120" HEIGHT="30">
</body></hTmL>

SearchRequestPage.html

<html><head><title>Search Request Page</title></head>
<body bgcolor="#FFFFFF"> <h1 ALIGN="CENTER">TPC
Web Commerce Benchmark (TPC-W)</h1> <h2
ALIGN="CENTER"> <img
SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288"
HEIGHT="67"></h2> <h2
ALIGN="CENTER">Search Request Page</h2>
<IFRAME
SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=3346" WIDTH=900 HEIGHT=200 SCROLLING="NO"
ALIGN="MIDDLE" FRAMEBORDER=0></IFRAME>
<form
ACTION="http://tpcwww.tpcw.net/tpcw/tpcw.dll?"
METHOD="GET"> <input type=hidden Name=CMD
Value=Search_Results><table WIDTH="50%" ALIGN="CENTER">

<tbody><coldefs><coldef><coldef></coldefs><rows><tr><td
ALIGN="RIGHT" COLSTART="1"> <h3>Search
by:</h3></td><td WIDTH="100"
COLSTART="2"></td></tr><tr><td ALIGN="RIGHT"
COLSTART="1"> <select NAME="STYPE"
size="1"><option VALUE="Author"
SELECTED="SELECTED">Author</option>
<option VALUE="Title">Title</option><option
VALUE="Subject">Subject</option></select>
</td><td COLSTART="2"><input NAME="MATCH"
size="30"></td></tr></rows></tbody></table>

<input TYPE=image NAME="Submit"
SRC="http://imgsrv.tpcw.net/tpcw/images/Submit.gif" WIDTH=120
HEIGHT=30> <a
HREF="tpcw.dll?CMD=Home"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" WIDTH=120
HEIGHT=30> <a
HREF="tpcw.dll?CMD=Shopping_Cart&ADD_FLAG=0">
<img SRC="http://imgsrv.tpcw.net/tpcw/images/cart.gif" ALT="Order
Status" WIDTH="120" HEIGHT="30">
</form> <!-- PAD CHARS BEGIN
-**********
****
****
****
****
****
****
****
********** -
PAD CHARS END --></body></hTmL>

Note: *For the promotional processing frame and associated content see the Promotional Processing HTML code samples. The format for including promotional processing content is the same for all pages with promotional processing requirements.*

SearchResults_BottomFrame.html

<HTML>

<HEAD><TITLE>SEARCH RESULT PAGE
FRAME</TITLE></HEAD>

<BODY>

<TABLE BORDER=1 ALIGN=CENTER>

<TH>Author</TH><TH>Title</TH>

<TR><TD>/Z$Lr6dWZOgkGA9-gp1H
BABABABAATALAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5258" TARGET=_top>Able
BABABAOGOGALREmanagers shall have
to</A></TD><TR><TD>qnode
BABABABASEOGAL3b</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=7929" TARGET=_top>Able banks

BABABAOGRINGOGfill.</A></TD><TR><TD>?:@}t1A_6&ZMU
c@ BABABABAOGATNG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6364" TARGET=_top>Able objects compete open
BABABAOGREOGBA patients.
Good,</A></TD><TR><TD>_GkX%2oDMx
BABABABAREBAAT</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3180" TARGET=_top>Able terms BABABABAINATRI
justify by the</A></TD><TR><TD>/Y@
BABABABAALREIN</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2757" TARGET=_top>Able terms
BABABAOGBAATRIcould have to move in
the</A></TD><TR><TD>sLBcejaViS|}h|u!
BABABABAULSEBA</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2105" TARGET=_top>Able, BABABABAALALUL
japanese claims into the great,</A></TD><TR><TD>mT;ucHlsVU)
BABABABANGSEOG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=2685" TARGET=_top>Able,
BABABABAALREULprevious authorities add at the
flowers.</A></TD><TR><TD>(*^PC(qWJA6ENxga!A
BABABABAATRERI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=643" TARGET=_top>Able, BABABABAATRERI mental
employees</A></TD><TR><TD>goiN?*oc(6D.
BABABABAREININ</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3952" TARGET=_top>Able, BABABABAATULULnational
houses see</A></TD><TR><TD>o]0q^xv%t0}@_+ll,U_&
BABABABARIRENG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5982" TARGET=_top>Able, BABABABABABARE
organic problems</A></TD><TR><TD>A1h~LLf(cgJF3V{
BABABABAOGALOG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4377" TARGET=_top>Able, BABABABAINBANGnew
facts dare</A></TD><TR><TD>n;TQCAVV#k.fT72n!
BABABABARIBANGi</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9957" TARGET=_top>Able, BABABABAINSERIempty
resources</A></TD><TR><TD>svd[(QRxbTU{uRlpFE$d

BABABABANGINUL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9743" TARGET=_top>Able, BABABABAOGINOG
leading</A></TD><TR><TD>k(WhH#$X
BABABABANGALAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8981" TARGET=_top>Able, BABABABAOGREBAlikely
years</A></TD><TR><TD>.@KL/XWHu?X~zGuP2pK
BABABABAULALNG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9217" TARGET=_top>Able, BABABABAREINNG
reliable</A></TD><TR><TD>HhPt59}w=_oX:$l
BABABABAULRIBA</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5073" TARGET=_top>Able, BABABABASEATRE labour
months persuade. Senior,
strong</A></TD><TR><TD>9]5[J8G#SzMb+ezt
BABABABAATNGNGnFtM</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8487" TARGET=_top>Able, BABABAOGBAALNGrare
women say</A></TD><TR><TD>{P19d/(E}Gf
BABABABARIINBA</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=1826" TARGET=_top>Able, BABABAOGINALAT
additional eyes in the
healthy</A></TD><TR><TD>XCo&aE!%5q+&_J
BABABABABAOGSENBif71</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8563" TARGET=_top>Able, BABABAOGRERIRI available
mothers could read. Papers</A></TD><TR><TD>dzMgg_$sObZk
BABABABAULULBAjxiJ6p</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3298" TARGET=_top>Able, BABABAOGRIATSE
vulnerable points try to the white,</A></TD><TR><TD>;*Ic$h3)vx
BABABABAINRIAT</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5429" TARGET=_top>Able, different
BABABAOGNGNGNG needs try.
Sad</A></TD><TR><TD>dJFPdZj/:c,;roc7=zp
BABABABABAALRI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=1472" TARGET=_top>Able, different
BABABAOGREULALrules might write
groups.</A></TD><TR><TD>j)j!oS--H
BABABABANGBAINrhK</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4699" TARGET=_top>Able, elderly BABABABARIRIUL
fingers</A></TD><TR><TD>/[=~
BABABABAULRENG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9337" TARGET=_top>Able, foreign
BABABABANGBAALpatients will have to
see</A></TD><TR><TD>qfMxDGBqY:w,P3z7
BABABABANGNGNG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5009" TARGET=_top>Able, full others
BABABAOGBAINAT ought to cost--
Plans</A></TD><TR><TD>}LBD.});
BABABABAREULAT</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5945" TARGET=_top>Able, important
BABABABASESERI thanks display in
the</A></TD><TR><TD>}lxA}6@;B:!:]C-.M
BABABABAALSEAT</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8118" TARGET=_top>Able, large BABABABARINGUL
women could have to</A></TD><TR><TD>E]ZXi+xgHMEh_;2r2
BABABABARIRIRI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4015" TARGET=_top>Able, local months
BABABAOGALINNG will
see.</A></TD><TR><TD>5l63SJp0ecCMx6
BABABABABAATRI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=5189" TARGET=_top>Able, national
BABABAOGOGBARI women learn from
the</A></TD><TR><TD>4LL5#3iRWm.|;z:ku/
BABABABAREINREmWYr3q</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9308" TARGET=_top>Able, old results might
BABABABAINBAAL call. Other</A></TD><TR><TD>B^Rni1W
BABABABABANGSE</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=95" TARGET=_top>Able, political BABABABABANGSE
purposes</A></TD><TR><TD>j~j}b/F}svV@m
BABABABAALOGOGdIIS0N</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4563" TARGET=_top>Able, rural methods shall suit. Happy,
BABABABAREBAOGcivil</A></TD><TR><TD>JnuU=;ENZ[l
BABABABABABAULAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8223" TARGET=_top>Able, severe
BABABAOGSENGSEconsequences may</A></TD><TR><TD>r*7
BABABABABARIRI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=1201" TARGET=_top>Able, young words can
BABABAOGALBAOG ensure</A></TD><TR><TD>-AIV,d(c}!a[G
BABABABABAININAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6123" TARGET=_top>Absolute arts consult
BABABAOGRIRERE with</A></TD><TR><TD>2]vGP
BABABABABAINRIBA</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4251" TARGET=_top>Absolute trees say.
BABABABABAULALOG Occasions
remove</A></TD><TR><TD>_K*Yl&fYFOE1@0c
BABABABABAALOGSE</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3534" TARGET=_top>Absolute, national
BABABABABANGNGUL types would take.
Stores</A></TD><TR><TD>.^-
BABABABABAALALNG</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=9319" TARGET=_top>Absolute, supreme patients might
result BABABAOGOGSEIN just</A></TD><TR><TD>T1vUT,l7]
BABABABABABAULAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4977" TARGET=_top>Absolute, young problems play.
BABABABABANGINSE Strange,</A></TD><TR><TD>rt{X:lRC!Mx
BABABABABANGULUL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6014" TARGET=_top>Academic applications in the legal,
BABABABAOGATOGAT
future</A></TD><TR><TD>%0*[.,OvU#@sySHOhuS[
BABABABABARESEBA</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4712" TARGET=_top>Academic cars prevent-- Pale,
BABABABAOGULOGINbritish
lines</A></TD><TR><TD>m7^gi2[oBEfAx
BABABABABARIULAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3018" TARGET=_top>Academic, available parents
BABABABAOGRIRERI with the
wrong,</A></TD><TR><TD>hre6-RE}HK
BABABABABANGREUL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&

```
BookID=7230" TARGET=_top>Academic, close authorities see for
BABABABAOGRIBA the</A></TD><TR><TD>|&Y-mdk{Qv)
BABABABASEULRE</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6038" TARGET=_top>Academic, widespread
BABABABAALALUL functions do put for
the</A></TD><TR><TD>2DYKzvElK_7
BABABABAREALRE</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=424" TARGET=_top>Acceptable cases
BABABABAREALREcan help! Parts in the
towns</A></TD><TR><TD>p&*mUeXFA1m8X4[
BABABABAOGOGRIrU8X3S</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=4459" TARGET=_top>Acceptable, essential
BABABAOGALINALobjects see in the</A></TD><TR><TD>n20
BABABABARESERE</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=3849" TARGET=_top>Acceptable, new users do take
BABABABAALBAUL in the</A></TD><TR><TD>7=hOw,3.,l.a0
BABABABABAULRI</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=6968" TARGET=_top>Acceptable, pale
BABABAOGBAATUL
opportunities</A></TD><TR><TD>$Q72RpS:!L@
BABABABANGULAL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=8751" TARGET=_top>Accounts
BABABABARINGATcould have to tend clear,
new</A></TD><TR><TD>j.=h@a3y87iTW6kN@
BABABABARISEUL</TD><TD><A
HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=7092" TARGET=_top>Accounts could write in the
BABABABAINSENG other,</A></TD>

</TABLE>



<center>

<p>

<a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0" target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Cart.gif" ALT="Shopping
Cart" WIDTH="120" HEIGHT="30"></a>

<a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
" target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif" ALT="Search
Item" WIDTH="120" HEIGHT="30"></a>

<a HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home"
target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120" HEIGHT="30"></a>

</p>

</center>

</body>

</hTmL>
```

SearchResults_FrameSet.html

```
<HTML><HEAD><TITLE>Search Results Page - Author:
BABABABA</TITLE></HEAD><FRAMESET border=0
frameBorder=0 frameSpacing=0 rows=31%,36%,31%><FRAME
SRC="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=TopFrame&Type
=a&subject=BABABABA"><FRAME
SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo
&num=9812" FRAMEBORDER=0><FRAME
SRC="http://volera.tpcw.net/scripts/search.asp?search=a_lname&CiRe
striction=BABABABA&pd_host=tpcwww.tpcw.net" WIDTH="750"
HEIGHT="600" SCROLLING="auto"
FRAMEBORDER="0"></FR<!-- PAD CHARS BEGIN
-**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
**********************************************************
********************************************************** -
PAD CHARS END --></body></hTmL>
```

SearchResults_TopFrame.html

```
<html><head><title>TopFrame for a</title></head><body
bgcolor="#FFFFFF">                <h1 align="center">TPC Web
Commerce Benchmark (TPC-W)</h1><center><img SRC=
"http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" WIDTH="288"
HEIGHT="67"><BR><H3>Search Results Page - Author:
BABABABA<BR></H3></BODY><hTmL>
```

Note: *For the promotional processing frame and associated content see the Promotional Processing HTML code samples. The format for including promotional processing content is the same for all pages with promotional processing requirements.*

ShoppingCart

```
<html><head><title>TPC-W Shopping Cart</title></head><body
BGCOLOR="#FFFFFF">      <h1 ALIGN="center">TPC Web
Commerce Benchmark (TPC-W)</h1><h2 ALIGN="center">
<img SRC="http://imgsrv.tpcw.net/tpcw/images/tpclogo.gif"
ALIGN="BOTTOM" BORDER="0" WIDTH="288"
HEIGHT="67"></h2>                <h2
ALIGN="CENTER">Shopping Cart Page</h2><table BORDER="0"
WIDTH="660" ALIGN="CENTER">            <tr
ALIGN="CENTER" VALIGN="TOP"><td COLSPAN="5"><b>
<font size="+1" COLOR="#FF0000">Click on one of our latest books
to            find out more !</font>                </b></td></tr><tr
ALIGN="CENTER" VALIGN="TOP"><IFRAME
```

SRC="http://tpcwcache.tpcw.net/tpcw/tpcw.dll?CMD=CachedPromo&num=7834" WIDTH=900 HEIGHT=200 SCROLLING="NO" ALIGN="MIDDLE" FRAMEBORDER=0></IFRAME></tr></table><form ACTION="tpcw.dll?" METHOD="GET"> <input TYPE=hidden NAME=CMD VALUE=Shopping_Cart> <input TYPE=hidden NAME=ADD_FLAG VALUE="0"> <table border="0"><tbody><tr><td>Qty</td><td>Product</td></tr><input TYPE="HIDDEN" NAME="iCount" VALUE="1">

<tr><td valign="TOP"> <input TYPE="HIDDEN" NAME="I_ID_1" VALUE="7893">

<input TYPE="TEXT" NAME="QTY_1" VALUE="1" size="2" maxlen="5">

</td><td VALIGN="TOP">

Title: BABABABAINULOG Far circumstances will have to see in the -

Backing: HARDBACK

 SRP: $ 2919.90,

Your Price: $ 1751.94</td></tr><tr><td ALIGN="CENTER"></td><td ALIGN="CENTER" COLSPAN="5"></td></tr></tbody></table>
Subtotal Price: $ 1751.94<CENTER>Last Updated: Thu Jun 06 09:13:34.234 2002

</CENTER>
<a HREF="CustomerReg.html"> <img SRC="http://imgsrv.tpcw.net/tpcw/images/checkout.gif" HEIGHT="30" WIDTH="120"> <a HREF="tpcw.dll?CMD=Home"><img SRC="http://imgsrv.tpcw.net/tpcw/images/home.gif" HEIGHT="30" WIDTH="120"> If you have changed the quantities and/or taken anything out
 of your shopping cart, click here to refresh your shopping cart: <input HEIGHT="30" WIDTH="120" NAME="Refresh" SRC="http://imgsrv.tpcw.net/tpcw/images/refresh.gif" TYPE=image> </form> </body></hTmL>

Note: *For the promotional processing frame and associated content see the Promotional Processing HTML code samples. The format for including promotional processing content is the same for all pages with promotional processing requirements.*

Promotional Processing Code HTML

PromoProcInnerFrame1

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4174" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/022/02126.jpg" ALT="Book 4174" WIDTH=100 HEIGHT=140></A></BODY></HTML>

PromoProcInnerFrame2

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4175" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/084/08306.jpg" ALT="Book 4175" WIDTH=100 HEIGHT=140></A></BODY></HTML>

PromoProcInnerFrame3

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4176" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/079/07814.jpg" ALT="Book 4176" WIDTH=100 HEIGHT=140></A></BODY></HTML>

PromoProcInnerFrame4

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4177" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/073/07212.jpg" ALT="Book 4177" WIDTH=100 HEIGHT=140></A></BODY></HTML>

PromoProcInnerFrame5

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4178" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/077/07675.jpg" ALT="Book 4178" WIDTH=100 HEIGHT=140></A></BODY></HTML>

PromoProcOuterFrame

<html><head><title>Promo Detail</title></head><body bgcolor="#FFFFFF"><A HREF="http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&BookID=4178" TARGET=_top><img SRC="http://imgsrv.tpcw.net/tpcw/thumb/077/07675.jpg" ALT="Book 4178" WIDTH=100 HEIGHT=140></A></BODY></HTML>

Appendix D: Tunable Parameters

Changes to the SUT

Disabled Services

The following services were disabled:

- Alerter
- Computer Browser
- DHCP Client
- Distributed File System
- Distributed Link Tracking Client
- IPSEC Policy Agent
- License Logging Service
- Messenger
- Print Spooler
- Removable Storage
- Run as Service
- Task Scheduler
- Indexing Services (except INDEX Server)
- Scheduled Download for ISA (for ISA Servers)

VoleraA22_config

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0
Transitional//EN">
<!-- saved from
url=(0060)http://192.168.130.22:1959/appliance/config/user/c
urrent.nas -->
<HTML><HEAD>
<META content="text/html; charset=windows-1252"
http-equiv=Content-Type>
<META content="MSHTML 5.00.3315.2870"
name=GENERATOR></HEAD>
<BODY><XMP>clear dns server
set dns domain=tpcw.net
set dns alias=tpcwcache
set dns enablemonitor=yes
clear dhcp address
set dnsproxy enable=No
set eth0 name=eth0
set eth0 speed=default
set eth0 duplex=default
set eth0 nat=Disabled
clear eth0 address
add eth0 address =192.168.1.22,mask=255.255.255.0
set eth1 name=eth1
set eth1 speed=default
set eth1 duplex=default
set eth1 nat=Disabled
clear eth1 address
set eth2 name=eth2
set eth2 speed=default
set eth2 duplex=default
set eth2 nat=Disabled
clear eth2 address
add eth2 address =192.168.130.22,mask=255.255.255.0
clear authentication
set gateway router=no
set gateway rip=no
set gateway enablemonitor=yes
clear gateway
add gateway nexthop=192.168.200.9,metric=1,active=no
set vcdn enable=yes
set vcdn managementaddress=10.1.1.1
set vcdn managementport=443
set vcdn managementid=Excelerator
set vcdn monitoringfrequency=0
set vcdn healthfrequency=0
set vcdn usessl=yes
set dsoffset=1:00
set serverpersistence enable=no
set dsstart month=4,hour=2:00,which=first,day=1
set cluster name=Cluster
set cluster interval=5
set cluster heartbeat=18
set cluster alert=6
set cluster jointimeout=90
set cluster suspectedfailure=45
set cluster confirmedfailure=90
set cluster subnet=
set cluster enable=no
clear cluster server
clear cluster service
set snmp name=Excelerator
set snmp hardware=null
set snmp location=null
set snmp contact=null
set snmp monitor=public
set snmp control=No
set snmp trap=
set snmp trapcommunity=No
set logpush enable=no
set logpush address=
set logpush host=
set logpush login=
set logpush password=
set logpush dir=
set logpush onrollover=no
set logpush days=sunday
set logpush time=12AM
set logpush timezone=local
set logpush logtypes=all
set logpush delete=no
set ipaclist enable=NO
set ipaclist source defaultaction=ALLOW
set ipaclist dest defaultaction=ALLOW
set ftpforward separator=$
set ftpforward emailuser=ExceleratorProxyCache@
clear ftpforward address
set forward port=8080
clear forward address
clear forward accesscontrol policy
set forward accesscontrol enable=No
set forward wpadenable=No
set forward customcacheheaderenable=No
clear forward customcacheheader
set forward customcacheheaderonobjexpiry=CheckModified
set forward sslport=443
set forward sslkeyid=AUTO
set forward allowconnect=Yes
set forward connectallowonlyssl=Yes
```

clear forward authentication profile
set forward authentication sslmaxidletime=3
set forward authentication whenaclfails=No
set forward authentication requiredonpost=No
set forward authentication requiredonput=No
set forward authentication requiredondelete=No
set forward authentication requiredontrace=No
set forward authentication requiredonoptions=No
set forward authentication requiredonconnect=No
set forward authentication requiredonnonhttp=Yes
set forward authentication requiredonother=No
set forward authentication enable=No
set forward sendxforwardedforheader=No
set forward initialtcpreceivewindowsize=65535
set forward limitfillbandwidth=Yes
set forward fillbandwidthlimit=16383
set forward cacheobjectswithnovalidatororexpirationdate=No
set forward browsernocacherequests=Revalidate
set forward enable=No
set forward comlog=No
set forward comlogrolloption=BySize
set forward comlogrollsize=10
set forward comlogrollperiod=24
set forward comlogrollday=Monday
set forward comlogrolltime=12AM
set forward comlogrolltimezone=Local
set forward comlogdeleteoption=ByFiles
set forward comlogdeletemaxtime=168
set forward comlogdeletemaxfiles=7
set forward extlog=No
set forward extlogrolloption=BySize
set forward extlogrollperiod=24
set forward extlogrollday=Monday
set forward extlogrolltime=12AM
set forward extlogrolltimezone=Local
set forward extlogrollsize=10
set forward extlogdeleteoption=ByFiles
set forward extlogdeletemaxtime=168
set forward extlogdeletemaxfiles=7
set forward extlogusername=No
set forward extlogserverip=No
set forward extlogsitename=No
set forward extlogmethod=No
set forward extloguri=No
set forward extloguristem=No
set forward extloguriquery=No
set forward extloghttpversion=No
set forward extloghttpstatus=No
set forward extlogbytessent=No
set forward extlogbytesreceived=No
set forward extlogtimetaken=No
set forward extloguseragent=No
set forward extlogcookie=No
set forward extlogreferer=No
set forward extlogcachedstatus=No
set forward extlogfillproxyip=No
set forward extlogoriginip=No
set forward extlogxfwdfor=No
set transparent errorhandling=SendCacheError
clear transparent port
add transparent port=80
clear transparent ipaddress
clear transparent exceptionaddress
set transparent sslport=443
set transparent sslkeyid=AUTO
set transparent allowconnect=No
set transparent connectallowonlyssl=Yes
clear transparent authentication profile
set transparent authentication sslmaxidletime=3
set transparent authentication whenaclfails=No
set transparent authentication requiredonpost=No
set transparent authentication requiredonput=No
set transparent authentication requiredondelete=No
set transparent authentication requiredontrace=No
set transparent authentication requiredonoptions=No
set transparent authentication requiredonconnect=No
set transparent authentication requiredonnonhttp=Yes
set transparent authentication requiredonother=No
set transparent authentication enable=No
clear transparent accesscontrol policy
set transparent accesscontrol enable=No
set transparent sendxforwardedforheader=Yes
set transparent initialtcpreceivewindowsize=65535
set transparent limitfillbandwidth=Yes
set transparent fillbandwidthlimit=16383
set transparent
cacheobjectswithnovalidatororexpirationdate=No
set transparent browsernocacherequests=Revalidate
clear transparent customcacheheader
set transparent customcacheheaderenable=No
set transparent
customcacheheaderonobjexpiry=CheckModified
set transparent enable=No
set socks enable=No
set socks port=1080
set socks authenticationmethod=No
clear socks bypasslist
clear miniftpserver address
set miniwebserver errorport=1959
set miniwebserver errorpagelanguage=English
set cache ignorerefresh=No
set cache filtercookies=No
set cache tooriginservers=Yes
set cache tobrowsers=Yes
set cache splashscreen=No
set cache readahead=No
set cache maxreadaheadrequest=100
set cache private=No
set cache continueacceleratorfilltime=1
set cache continueforwardfilltime=1
set cache httpretries=4
set cache httpmaxtime=360
set cache httpmintime=0
set cache httpdefaulttime=120
set cache ftprevalidatetime=360
set cache gopherrevalidatetime=360
set cache dnsnegativelookup=120
set cache dnsmaxentryttl=168
set cache dnsminentryttl=120
set cache dnsmaxentrythreshold=5000
set cache dnstransport=Udp
set cache tcpconnectiontimeout=30

```
set cache tcpkeepaliveinterval=5
set cache tcpdatareadtimeout=120
set cache tcpidleservertimeout=30
set cache tcpidleclienttimeout=600
set cache objnocacheforquestionmark=No
set cache objnocacheforcgi=No
set edgix address=0.0.0.0
set edgix enabled=no
set wccp enable=no
set wccp version=1
set wccp proxyname=
set wccp farmname=
set wccp router=0.0.0.0
set qos mode=6bit
set qos requests=0
set qos replies=0
set qos errors=0
set icpserver enable=No
set icpserver port=3130
set icpserver enablesrtt=Yes
set icpclient enable=No
set icpclient mustusehierarchy=No
set icpclient neighbortimeout=2
clear icpneighbor
clear icprouting localdomain
clear icprouting stoplist
clear icpmulticastgroup
set icpmulticast enable=No
set icptrustedlist onserverrequest=No
set icptrustedlist onclientreply=No
clear icptrustedlist address
clear ntp server
add ntp server=192.168.130.60
set ntp enable=yes
set smc idletimeout=60
set smc keepalivetimeout=45
set smc maxbwperstream=0
set smc maxupstreambw=0
set smc maxdownstreambw=0
set smc maxsessions=10000
set smc maxdiskusage=0
set smc maxobjectsize=0
set smc maxobjectduration=0
set smc maxliveobjectduration=5
set smc qthttptunnelenable=Yes
set smc continuestreamingfilltime=1
set smc maxttl=48
set smc minttl=3600
set smc defaultttl=24
set smc upstreamproxyenable=No
clear smc upstreamproxyaddress
set smc upstreamproxyport=9090
clear smcservice
clear mmsservice
set downloadsequentially enable=No
clear download
set pinlist enable=no
set pinlist frequency=immediate
set pinlist time=4:00
set pinlist dbpenable=no
set pinlist dbpduration=0:05
set pinlist dbpcomlog=no
set pinlist dbpcomlogrolloption=bysize
set pinlist dbpcomlogrollsize=10
set pinlist dbpcomlogdeletemaxtime=168
set pinlist dbpcomlogdeletemaxfiles=7
set pinlist dbpcomlogrollperiod=24
set pinlist dbpcomlogrolltime=12 mid
set pinlist dbpcomlogrollday=monday
set pinlist dbpcomlogrolltimezone=local
set pinlist dbpcomlogdeleteoption=byfiles
clear pinlist dbperrorcode
clear pinlist urlmask
set purgelist keeppinned=no
clear purgelist urlmask
set adminacl clientlistenable=No
clear adminacl clientaddress
clear adminacl serveraddress
add adminacl serveraddress=192.168.130.22
add adminacl serveraddress=192.168.1.22
clear ftpaccelerator
set floppy poll=yes
set floppy interval=30
set floppy saveonapply=yes
clear accelerator
add accelerator=wcache22
set accelerator wcache22 dnsname=volera.tpcw.net
set accelerator wcache22 port=80
clear accelerator wcache22 webserver
add accelerator wcache22 webserver=192.168.1.23
clear accelerator wcache22 address
add accelerator wcache22 address=192.168.130.22
set accelerator wcache22 webserverport=80
set accelerator wcache22 sendxforwardedforheader=No
set accelerator wcache22 initialtcpreceivewindowsize=65535
set accelerator wcache22 limitfillbandwidth=No
set accelerator wcache22 fillbandwidthlimit=16383
set accelerator wcache22
cacheobjectswithnovalidatororexpirationdate=No
set accelerator wcache22 browsernocacherequests=Revalidate
set accelerator wcache22
fillhostheadertype=ForwardReceivedHost
set accelerator wcache22 hostmismatcherror=No
set accelerator wcache22 sslport=443
set accelerator wcache22 sslkeyid=AUTO
set accelerator wcache22 tunneltraffic=no
set accelerator wcache22 tunnelonlyssl=No
clear accelerator wcache22 authentication profile
set accelerator wcache22 authentication sslmaxidletime=3
set accelerator wcache22 authentication profilerule=Or
set accelerator wcache22 authentication whenaclfails=No
set accelerator wcache22 authentication requiredonpost=No
set accelerator wcache22 authentication requiredonput=No
set accelerator wcache22 authentication requiredondelete=No
set accelerator wcache22 authentication requiredontrace=No
set accelerator wcache22 authentication requiredonoptions=No
set accelerator wcache22 authentication
requiredonconnect=No
set accelerator wcache22 authentication
requiredonnonhttp=Yes
set accelerator wcache22 authentication requiredonother=No
set accelerator wcache22 authentication enable=no
```

```
set accelerator wcache22 pathrule type=StartsWith
set accelerator wcache22 pathrule strip=No
set accelerator wcache22 pathrule multihomemaster=
set accelerator wcache22 pathrule enable=no
clear accelerator wcache22 accesscontrol policy
set accelerator wcache22 accesscontrol enable=No
set accelerator wcache22 customcacheheaderenable=No
clear accelerator wcache22 customcacheheader
set accelerator wcache22
customcacheheaderonobjexpiry=CheckModified
set accelerator wcache22 enable=yes
set accelerator wcache22 comlog=No
set accelerator wcache22 comlogrolloption=BySize
set accelerator wcache22 comlogrollsize=10
set accelerator wcache22 comlogrollperiod=24
set accelerator wcache22 comlogrollday=Sunday
set accelerator wcache22 comlogrolltime=12AM
set accelerator wcache22 comlogrolltimezone=Local
set accelerator wcache22 comlogdeleteoption=ByFiles
set accelerator wcache22 comlogdeletemaxtime=168
set accelerator wcache22 comlogdeletemaxfiles=7
set accelerator wcache22 extlog=No
set accelerator wcache22 extlogrolloption=BySize
set accelerator wcache22 extlogrollperiod=24
set accelerator wcache22 extlogrollday=Sunday
set accelerator wcache22 extlogrolltime=12AM
set accelerator wcache22 extlogrolltimezone=Local
set accelerator wcache22 extlogrollsize=10
set accelerator wcache22 extlogdeleteoption=ByFiles
set accelerator wcache22 extlogdeletemaxtime=168
set accelerator wcache22 extlogdeletemaxfiles=7
set accelerator wcache22 extlogusername=No
set accelerator wcache22 extlogserverip=No
set accelerator wcache22 extlogsitename=No
set accelerator wcache22 extlogmethod=No
set accelerator wcache22 extloguri=No
set accelerator wcache22 extloguristem=No
set accelerator wcache22 extloguriquery=No
set accelerator wcache22 extloghttpversion=No
set accelerator wcache22 extloghttpstatus=No
set accelerator wcache22 extlogbytessent=No
set accelerator wcache22 extlogbytesreceived=No
set accelerator wcache22 extlogtimetaken=No
set accelerator wcache22 extloguseragent=No
set accelerator wcache22 extlogcookie=No
set accelerator wcache22 extlogreferer=No
set accelerator wcache22 extlogcachedstatus=No
set accelerator wcache22 extlogfillproxyip=No
set accelerator wcache22 extlogoriginip=No
set accelerator wcache22 extlogxfwdfor=No
clear filter service
clear filter override
clear filter bypass
set filter comlog=No
set filter comlogrolloption=BySize
set filter comlogrollsize=10
set filter comlogrollperiod=24
set filter comlogrollday=Monday
set filter comlogrolltime=12am
set filter comlogrolltimezone=Local
set filter comlogdeleteoption=ByFiles
set filter comlogdeletemaxtime=168
set filter comlogdeletemaxfiles=7
set websense address=
set websense port=15868
set websense serverdown=
set websense enable=no
clear alert syslogserver
clear alert emailserver
clear alert emailreceipt
set alert name=
set alert syslogport=514
set alert syslog=No
set alert email=No
set alert diskspaceshortage=No
set alert ecbshortage=No
set alert pingflooding=No
set alert synflooding=No
set alert udpflooding=No
set alert icpparentdown=No
set alert socksserverdown=No
set alert systemup=No
set alert systemdown=No
set alert loginfailure=No
set alert configchange=No
set timezone offset=-5:00,name=EST,dsname=EDT
set dsend month=10,hour=2:00,which=last,day=1
restore initialize
restore begin \etc\izer\annot.cfg
[Files]
Access_Control.html=on
restore initialize
restore begin \etc\izer\rewriter.cfg
[Rewriters]
Installed=UrlOverride

[UrlOverride]
nlm=urlovrid.nlm
objects=no

[Filters]
Installed=Access_Control

restore end
restore begin \etc\izer\REWRITER.CFG
restore end
restore begin \system\rmproxy.cfg


<!-- Please read the configuration section of the manual -->
<!-- before adding any new entries to this file.        -->


<!-- S Y S T E M -->
<Var ProcessorCount="0"/>

<!-- P A T H S -->
<Var

LogPath="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Rea
l\proxy.log"/>
```

```
<Var
ErrorLogPath="LOG:ETC\PROXY\DATA\logs\Smc\Extende
d\Real\proxyerr.log"/>
<Var
PidPath="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Real
\rmproxy.pid"/>
<Var PluginDirectory="SYS:Real\RealProxy\Plugins"/>
<Var SupportPluginDirectory="SYS:Real\RealProxy\Lib"/>
<Var LicenseDirectory="SYS:Real\RealProxy\License"/>

<!-- P O R T S -->
<!--UNIX customers must have root privileges to execute the
server  -->
<!--with the RTSP port set to 554.                    -->
<!--The following are the default ports that RealPlayer and
 -->
<!--RealPlayer Plus clients will connect to for an URL that has
   -->
<!--no port specified:                                -->
<!--  RTSP:  6060                                     -->
<!--  PNA:   7070                                     -->
<!--  HTTP:  80 (...then 8080 if 80 is unavailable)
-->
<Var RTSPPort="6060"/>
<Var PNAPort="7070"/>
<Var AdminPort="23633"/>

<!-- P A S S W O R D S -->
<Var MonitorPassword="realproxy"/>

<!-- L O G G I N G -->
<Var LoggingStyle="3"/>

<!-- H T T P  S U P P O R T -->
<List Name="HTTPDeliverable">
   <Var Path_0="/admin"/>
</List>

<!-- M I M E  T Y P E S -->
<List Name="MimeTypes">
   <List Name="text/html">
      <Var Ext_1="html"/>
      <Var Ext_2="htm"/>
   </List>
   <List Name="text/plain">
      <Var Ext_1="txt"/>
   </List>
   <List Name="audio/x-pn-realaudio">
      <Var Ext_1="ram"/>
   </List>
   <List Name="image/gif">
      <Var Ext_1="gif"/>
   </List>
   <List Name="image/jpg">
      <Var Ext_1="jpg"/>
      <Var Ext_2="jpeg"/>
   </List>
</List>

<!-- A U T H E N T I C A T I O N -->
<List Name="AuthenticationRealms">
   <List Name="SecureAdmin">
      <Var Realm="admin.AdminRealm"/>
      <List Name="BasicAuthenticator">
         <Var PluginID="rn-auth-basic"/>
         <Var DatabaseID="Admin_Basic"/>
      </List>
   </List>
   <List Name="ConnectRealm">
      <Var Realm="user.ConnectRealm"/>
      <List Name="BasicAuthenticator">
         <Var PluginID="rn-auth-basic"/>
         <Var DatabaseID="Connect_RN5"/>
      </List>
   </List>
</List>

<!-- D A T A B A S E S -->
<List Name="Databases">
   <List Name="Admin_Basic">
      <Var PluginID="rn-db-flatfile"/>
      <Var Path="SYS:Real\RealProxy\adm_b_db"/>
   </List>
   <List Name="Connect_RN5">
      <Var PluginID="rn-db-flatfile"/>
      <Var Path="SYS:Real\RealProxy\con_r_db"/>
   </List>
</List>

<!--          F I L E  S Y S T E M S          -->
<!--          ----------------------          -->
<List Name="FSMount">
   <!-- Local File System; Media -->
   <List Name="RealSystem Content">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/"/>
      <Var BasePath="SYS:Real\RealProxy\Content"/>
   </List>
   <!-- Local File System; HTML -->
   <List Name="RealSystem Administrator HTML">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/html/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator"/>
   </List>
   <!-- Local File System; DOCS -->
   <List Name="RealSystem Administrator DOCS">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/Docs/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator\Docs"/>
   </List>
   <!-- Local File System; IMAGES -->
   <List Name="RealSystem Administrator IMAGES">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/images/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator\images"/>
   </List>
   <!-- XML Tag Handler File System -->
   <List Name="Real System Administrator SSI">
      <Var ShortName="pn-xmltag"/>
```

```
      <Var MountPoint="/admin/includes/"/>
      <Var BaseMountPoint="/admin/html/"/>
      <List Name="TagHandlers">
        <Var h1="pn-includer"/>
      </List>
    </List>
    <!-- Admin File System -->
    <List Name="RealSystem Administrator Files">
      <Var ShortName="pn-admin"/>
      <Var MountPoint="/admin/"/>
      <Var BaseMountPoint="/admin/includes/"/>
      <Var Realm="admin.AdminRealm"/>
    </List>
    <!-- Splitter Broadcast -->
    <List Name="Splitter_DoubleURL">
      <Var ShortName="pn-splitter"/>
      <Var MountPoint="/split/"/>
      <Var Port="3030"/>
    </List>
    <!-- Local File System; Cache Media -->
    <List Name="RealSystem Cache Filesystem">
      <Var ShortName="pn-mii-mgr"/>
      <Var MountPoint="/cachemgr/"/>
      <Var CacheShortName="rn-cache"/>
    </List>
    <List Name="RNCache Local File System">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/fsforcache/"/>
      <Var BasePath="SYS:Real\RealProxy\Cache"/>
    </List>
  </List>

  <!--  P R O X Y  S E R V E R  -->
  <!--  ======================  -->
  <List Name="Proxy">
     <Var RTSPPort="554"/>
     <Var PNAPort="1090"/>
     <Var BitsaveEnable="1"/>
     <Var CacheEnable="1"/>
     <Var CacheMountPoint="/cachemgr/"/>
     <Var BitsaveMountPoint="/split/"/>
     <Var BitsavePort="3030"/>
     <Var MaxProxyConnections="0"/>
     <Var MaxGatewayBandwidth="0"/>
     <Var MaxProxyBandwidth="0"/>
     </List>

  <!-- P R O X Y  A U T H E N T I C A T I O N -->
  <!-- ===================================== -->
  <List Name="ProxyAuthentication">
    <Var Enabled="0"/>
    <List Name="Authority">
       <Var DatabaseID="Connect_RN5"/>
       <Var Realm="user.ConnectRealm"/>
       <Var AllowDuplicateIDs="0"/>
    </List>
    <List Name="RuleList">
       <List Name="Rule1">
          <Var NoAuthenticateHost="*.realserver.com"/>
       </List>
    </List>
  </List>

  <!--  M E D I A  C A C H E  -->
  <!--  ======================  -->
  <List Name="RNCache">
     <Var Enabled="1"/>
     <Var MaxCacheSizeMB="1000"/>
     <Var CacheMountPoint="/fsforcache/"/>
     </List>

  <!--  M E D I A  C A C H E  P R O X Y  -->
  <!--  ================================  -->
  <List Name="MediaExportInterface">
     <Var Enabled="1"/>
     <Var ListenPort="7878"/>
    <Var Timeout="120"/>
    <Var LogFormat="MEI1"/>
    <Var Tracemask="0x0"/>
    <Var ChainingID="01bf57eb"/>
    <Var TransferSize="2048"/>
    <Var LoggingEnabled="1"/>
    <Var
LogFile="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Real
\proxyerr.log"/>
    <Var MinMIIVersionAllowed="1.0"/>
  </List>

  <!--  N O  C A C H E  E X T E N S I O N S  -->
  <!--  ====================================  -->
  <List Name="NoCacheExtensions">
     <Var mov="500000"/>
     <Var qt="500000"/>
  </List>

  <!--  M U L T I C A S T  S U P P O R T  -->
  <!--  ================================  -->
  <List Name="Multicast">
     <List Name="ControlList">
        <List Name="100">
           <Var Allow="Any"/>
        </List>
     </List>
    <Var RTSPPort="554"/>
    <Var PNAPort="7070"/>
    <Var DeliveryOnly="0"/>
    <Var Resend="1"/>
    <Var TTL="16"/>
  </List>

  <List Name="AccessControl">
   <List Name="0">
    <Var Access="Allow"/>
    <Var From="localhost"/>
    <Var To="any"/>
    <List Name="Ports">
       <Var Port_1="any"/>
    </List>
   </List>
   <List Name="1">
    <Var Access="Deny"/>
    <Var From="any"/>
```

```
   <Var To="any"/>
   <List Name="Ports">
      <Var Port_1="6060"/>
      <Var Port_2="7070"/>
   </List>
  </List>
  <List Name="2">
   <Var Access="Allow"/>
   <Var From="any"/>
   <Var To="any"/>
   <List Name="Ports">
      <Var Port_1="any"/>
   </List>
  </List>
</List>

<!--  IP ADDRESS BINDINGS   -->
<!--  ====================   -->
<List Name="IPBindings">
   <Var Address_1="0.0.0.0"/>
</List>
restore end
apply
</XMP></BODY></HTML>
```

VoleraA23_config

```
set dns domain=
set dns alias=
set dns enablemonitor=yes
clear dns server
add dns server=192.168.130.1
clear dhcp address
set dnsproxy enable=No
set eth0 name=eth0
set eth0 speed=default
set eth0 duplex=default
set eth0 nat=Disabled
clear eth0 address
add eth0 address =192.168.1.23,mask=255.255.255.0
set eth1 name=eth1
set eth1 speed=default
set eth1 duplex=default
set eth1 nat=Disabled
clear eth1 address
set eth2 name=eth2
set eth2 speed=default
set eth2 duplex=default
set eth2 nat=Disabled
clear eth2 address
add eth2 address =192.168.130.23,mask=255.255.255.0
clear authentication
set gateway router=no
set gateway rip=no
set gateway enablemonitor=yes
clear gateway
add gateway nexthop=192.168.130.1,metric=1,active=no
set vcdn enable=yes
set vcdn managementaddress=10.1.1.1
set vcdn managementport=443
set vcdn managementid=Excelerator
set vcdn monitoringfrequency=0
set vcdn healthfrequency=0
set vcdn usessl=yes
set dsoffset=1:00
set serverpersistence enable=no
set dsstart month=4,hour=2:00,which=first,day=1
set cluster name=Cluster
set cluster interval=5
set cluster heartbeat=18
set cluster alert=6
set cluster jointimeout=90
set cluster suspectedfailure=45
set cluster confirmedfailure=90
set cluster subnet=
set cluster enable=no
clear cluster server
clear cluster service
set snmp name=Excelerator
set snmp hardware=null
set snmp location=null
set snmp contact=null
set snmp monitor=public
set snmp control=No
set snmp trap=
set snmp trapcommunity=No
set logpush enable=no
set logpush address=
set logpush host=
set logpush login=
set logpush password=
set logpush dir=
set logpush onrollover=no
set logpush days=sunday
set logpush time=12AM
set logpush timezone=local
set logpush logtypes=all
set logpush delete=no
set ipaclist enable=NO
set ipaclist source defaultaction=ALLOW
set ipaclist dest defaultaction=ALLOW
set ftpforward separator=$
set ftpforward emailuser=ExceleratorProxyCache@
clear ftpforward address
set forward port=8080
clear forward address
clear forward accesscontrol policy
set forward accesscontrol enable=No
set forward wpadenable=No
set forward customcacheheaderenable=No
clear forward customcacheheader
set forward customcacheheaderonobjexpiry=CheckModified
set forward sslport=443
set forward sslkeyid=AUTO
set forward allowconnect=Yes
set forward connectallowonlyssl=Yes
clear forward authentication profile
set forward authentication sslmaxidletime=3
set forward authentication whenaclfails=No
set forward authentication requiredonpost=No
set forward authentication requiredonput=No
```

```
set forward authentication requiredondelete=No
set forward authentication requiredontrace=No
set forward authentication requiredonoptions=No
set forward authentication requiredonconnect=No
set forward authentication requiredonnonhttp=Yes
set forward authentication requiredonother=No
set forward authentication enable=No
set forward sendxforwardedforheader=No
set forward initialtcpreceivewindowsize=65535
set forward limitfillbandwidth=Yes
set forward fillbandwidthlimit=16383
set forward cacheobjectswithnovalidatororexpirationdate=No
set forward browsernocacherequests=Revalidate
set forward enable=No
set forward comlog=No
set forward comlogrolloption=BySize
set forward comlogrollsize=10
set forward comlogrollperiod=24
set forward comlogrollday=Monday
set forward comlogrolltime=12AM
set forward comlogrolltimezone=Local
set forward comlogdeleteoption=ByFiles
set forward comlogdeletemaxtime=168
set forward comlogdeletemaxfiles=7
set forward extlog=No
set forward extlogrolloption=BySize
set forward extlogrollperiod=24
set forward extlogrollday=Monday
set forward extlogrolltime=12AM
set forward extlogrolltimezone=Local
set forward extlogrollsize=10
set forward extlogdeleteoption=ByFiles
set forward extlogdeletemaxtime=168
set forward extlogdeletemaxfiles=7
set forward extlogusername=No
set forward extlogserverip=No
set forward extlogsitename=No
set forward extlogmethod=No
set forward extloguri=No
set forward extloguristem=No
set forward extloguriquery=No
set forward extloghttpversion=No
set forward extloghttpstatus=No
set forward extlogbytessent=No
set forward extlogbytesreceived=No
set forward extlogtimetaken=No
set forward extloguseragent=No
set forward extlogcookie=No
set forward extlogreferer=No
set forward extlogcachedstatus=No
set forward extlogfillproxyip=No
set forward extlogoriginip=No
set forward extlogxfwdfor=No
set transparent errorhandling=SendCacheError
clear transparent port
add transparent port=80
clear transparent ipaddress
clear transparent exceptionaddress
set transparent sslport=443
set transparent sslkeyid=AUTO
set transparent allowconnect=No
set transparent connectallowonlyssl=Yes
clear transparent authentication profile
set transparent authentication sslmaxidletime=3
set transparent authentication whenaclfails=No
set transparent authentication requiredonpost=No
set transparent authentication requiredonput=No
set transparent authentication requiredondelete=No
set transparent authentication requiredontrace=No
set transparent authentication requiredonoptions=No
set transparent authentication requiredonconnect=No
set transparent authentication requiredonnonhttp=Yes
set transparent authentication requiredonother=No
set transparent authentication enable=No
clear transparent accesscontrol policy
set transparent accesscontrol enable=No
set transparent sendxforwardedforheader=Yes
set transparent initialtcpreceivewindowsize=65535
set transparent limitfillbandwidth=Yes
set transparent fillbandwidthlimit=16383
set transparent
cacheobjectswithnovalidatororexpirationdate=No
set transparent browsernocacherequests=Revalidate
clear transparent customcacheheader
set transparent customcacheheaderenable=No
set transparent
customcacheheaderonobjexpiry=CheckModified
set transparent enable=No
set socks enable=No
set socks port=1080
set socks authenticationmethod=No
clear socks bypasslist
clear miniftpserver address
set miniwebserver errorport=1959
set miniwebserver errorpagelanguage=English
set cache ignorerefresh=No
set cache filtercookies=No
set cache tooriginservers=Yes
set cache tobrowsers=Yes
set cache splashscreen=No
set cache readahead=No
set cache maxreadaheadrequest=100
set cache private=No
set cache continueacceleratorfilltime=1
set cache continueforwardfilltime=1
set cache httpretries=4
set cache httpmaxtime=360
set cache httpmintime=0
set cache httpdefaulttime=120
set cache ftprevalidatetime=360
set cache gopherrevalidatetime=360
set cache dnsnegativelookup=120
set cache dnsmaxentryttl=168
set cache dnsminentryttl=120
set cache dnsmaxentrythreshold=5000
set cache dnstransport=Udp
set cache tcpconnectiontimeout=30
set cache tcpkeepaliveinterval=900
set cache tcpdatareadtimeout=120
set cache tcpidleservertimeout=30
set cache tcpidleclienttimeout=600
set cache objnocacheforquestionmark=No
```

```
set cache objnocacheforcgi=No
set edgix address=0.0.0.0
set edgix enabled=no
set wccp enable=no
set wccp version=1
set wccp proxyname=
set wccp farmname=
set wccp router=0.0.0.0
set qos mode=6bit
set qos requests=0
set qos replies=0
set qos errors=0
set icpserver enable=No
set icpserver port=3130
set icpserver enablesrtt=Yes
set icpclient enable=No
set icpclient mustusehierarchy=No
set icpclient neighbortimeout=2
clear icpneighbor
clear icprouting localdomain
clear icprouting stoplist
clear icpmulticastgroup
set icpmulticast enable=No
set icptrustedlist onserverrequest=No
set icptrustedlist onclientreply=No
clear icptrustedlist address
clear ntp server
add ntp server=192.168.130.60
set ntp enable=yes
set smc idletimeout=60
set smc keepalivetimeout=45
set smc maxbwperstream=0
set smc maxupstreambw=0
set smc maxdownstreambw=0
set smc maxsessions=10000
set smc maxdiskusage=0
set smc maxobjectsize=0
set smc maxobjectduration=0
set smc maxliveobjectduration=5
set smc qthttptunnelenable=Yes
set smc continuestreamingfilltime=1
set smc maxttl=48
set smc minttl=3600
set smc defaultttl=24
set smc upstreamproxyenable=No
clear smc upstreamproxyaddress
set smc upstreamproxyport=9090
clear smcservice
clear mmsservice
set downloadsequentially enable=No
clear download
set pinlist enable=no
set pinlist frequency=immediate
set pinlist time=4:00
set pinlist dbpenable=no
set pinlist dbpduration=0:05
set pinlist dbpcomlog=no
set pinlist dbpcomlogrolloption=bysize
set pinlist dbpcomlogrollsize=10
set pinlist dbpcomlogdeletemaxtime=168
set pinlist dbpcomlogdeletemaxfiles=7
set pinlist dbpcomlogrollperiod=24
set pinlist dbpcomlogrolltime=12 mid
set pinlist dbpcomlogrollday=monday
set pinlist dbpcomlogrolltimezone=local
set pinlist dbpcomlogdeleteoption=byfiles
clear pinlist dbperrorcode
clear pinlist urlmask
set purgelist keeppinned=no
clear purgelist urlmask
set adminacl clientlistenable=No
clear adminacl clientaddress
clear adminacl serveraddress
add adminacl serveraddress=192.168.130.23
add adminacl serveraddress=192.168.1.23
clear ftpaccelerator
set floppy poll=yes
set floppy interval=30
set floppy saveonapply=yes
clear accelerator
add accelerator=wcache23
set accelerator wcache23 dnsname=volera.tpcw.net
set accelerator wcache23 port=80
clear accelerator wcache23 webserver
add accelerator wcache23 webserver=192.168.1.2
clear accelerator wcache23 address
add accelerator wcache23 address=192.168.130.23
add accelerator wcache23 address=192.168.1.23
set accelerator wcache23 webserverport=80
set accelerator wcache23 sendxforwardedforheader=No
set accelerator wcache23 initialtcpreceivewindowsize=65535
set accelerator wcache23 limitfillbandwidth=No
set accelerator wcache23 fillbandwidthlimit=16383
set accelerator wcache23
cacheobjectswithnovalidatororexpirationdate=No
set accelerator wcache23 browsernocacherequests=Revalidate
set accelerator wcache23
fillhostheadertype=ForwardReceivedHost
set accelerator wcache23 althostname=volera
set accelerator wcache23 hostmismatcherror=No
set accelerator wcache23 sslport=443
set accelerator wcache23 sslkeyid=AUTO
set accelerator wcache23 tunneltraffic=no
set accelerator wcache23 tunnelonlyssl=No
clear accelerator wcache23 authentication profile
set accelerator wcache23 authentication sslmaxidletime=3
set accelerator wcache23 authentication profilerule=Or
set accelerator wcache23 authentication whenaclfails=No
set accelerator wcache23 authentication requiredonpost=No
set accelerator wcache23 authentication requiredonput=No
set accelerator wcache23 authentication requiredondelete=No
set accelerator wcache23 authentication requiredontrace=No
set accelerator wcache23 authentication requiredonoptions=No
set accelerator wcache23 authentication
requiredonconnect=No
set accelerator wcache23 authentication
requiredonnonhttp=Yes
set accelerator wcache23 authentication requiredonother=No
set accelerator wcache23 authentication enable=no
set accelerator wcache23 pathrule type=StartsWith
set accelerator wcache23 pathrule strip=No
set accelerator wcache23 pathrule multihomemaster=
```

```
set accelerator wcache23 pathrule enable=no
clear accelerator wcache23 accesscontrol policy
set accelerator wcache23 accesscontrol enable=No
set accelerator wcache23 customcacheheaderenable=No
clear accelerator wcache23 customcacheheader
set accelerator wcache23
customcacheheaderonobjexpiry=CheckModified
set accelerator wcache23 enable=yes
set accelerator wcache23 comlog=No
set accelerator wcache23 comlogrolloption=BySize
set accelerator wcache23 comlogrollsize=10
set accelerator wcache23 comlogrollperiod=24
set accelerator wcache23 comlogrollday=Sunday
set accelerator wcache23 comlogrolltime=12AM
set accelerator wcache23 comlogrolltimezone=Local
set accelerator wcache23 comlogdeleteoption=ByFiles
set accelerator wcache23 comlogdeletemaxtime=168
set accelerator wcache23 comlogdeletemaxfiles=7
set accelerator wcache23 extlog=No
set accelerator wcache23 extlogrolloption=BySize
set accelerator wcache23 extlogrollperiod=24
set accelerator wcache23 extlogrollday=Sunday
set accelerator wcache23 extlogrolltime=12AM
set accelerator wcache23 extlogrolltimezone=Local
set accelerator wcache23 extlogrollsize=10
set accelerator wcache23 extlogdeleteoption=ByFiles
set accelerator wcache23 extlogdeletemaxtime=168
set accelerator wcache23 extlogdeletemaxfiles=7
set accelerator wcache23 extlogusername=No
set accelerator wcache23 extlogserverip=No
set accelerator wcache23 extlogsitename=No
set accelerator wcache23 extlogmethod=No
set accelerator wcache23 extloguri=No
set accelerator wcache23 extloguristem=No
set accelerator wcache23 extloguriquery=Yes
set accelerator wcache23 extloghttpversion=No
set accelerator wcache23 extloghttpstatus=No
set accelerator wcache23 extlogbytessent=No
set accelerator wcache23 extlogbytesreceived=No
set accelerator wcache23 extlogtimetaken=Yes
set accelerator wcache23 extloguseragent=No
set accelerator wcache23 extlogcookie=No
set accelerator wcache23 extlogreferer=No
set accelerator wcache23 extlogcachedstatus=Yes
set accelerator wcache23 extlogfillproxyip=No
set accelerator wcache23 extlogoriginip=No
set accelerator wcache23 extlogxfwdfor=No
clear filter service
clear filter override
clear filter bypass
set filter comlog=No
set filter comlogrolloption=BySize
set filter comlogrollsize=10
set filter comlogrollperiod=24
set filter comlogrollday=Monday
set filter comlogrolltime=12am
set filter comlogrolltimezone=Local
set filter comlogdeleteoption=ByFiles
set filter comlogdeletemaxtime=168
set filter comlogdeletemaxfiles=7
set websense address=
set websense port=15868
set websense serverdown=
set websense enable=no
clear alert syslogserver
add alert syslogserver=192.168.130.23
add alert syslogserver=192.168.130.22
clear alert emailserver
clear alert emailreceipt
set alert name=alert1
set alert syslogport=514
set alert syslog=Yes
set alert email=No
set alert diskspaceshortage=No
set alert ecbshortage=No
set alert pingflooding=No
set alert synflooding=No
set alert udpflooding=No
set alert icpparentdown=No
set alert socksserverdown=No
set alert systemup=No
set alert systemdown=No
set alert loginfailure=No
set alert configchange=No
set timezone offset=-5:00,name=EST,dsname=EDT
set dsend month=10,hour=2:00,which=last,day=1
restore initialize
restore begin \etc\izer\annot.cfg
[Files]
Access_Control.html=on
restore initialize
restore begin \etc\izer\rewriter.cfg
[Rewriters]
Installed=UrlOverride

[UrlOverride]
nlm=urlovrid.nlm
objects=no

[Filters]
Installed=Access_Control

restore end
restore begin \etc\izer\REWRITER.CFG
restore end
restore begin \system\rmproxy.cfg


<!-- Please read the configuration section of the manual -->
<!-- before adding any new entries to this file.        -->


<!-- S Y S T E M -->
<Var ProcessorCount="0"/>

<!-- P A T H S -->
<Var

LogPath="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Rea
l\proxy.log"/>
```

```
<Var
ErrorLogPath="LOG:ETC\PROXY\DATA\logs\Smc\Extende
d\Real\proxyerr.log"/>
<Var
PidPath="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Real
\rmproxy.pid"/>
<Var PluginDirectory="SYS:Real\RealProxy\Plugins"/>
<Var SupportPluginDirectory="SYS:Real\RealProxy\Lib"/>
<Var LicenseDirectory="SYS:Real\RealProxy\License"/>

<!-- P O R T S -->
<!--UNIX customers must have root privileges to execute the
server  -->
<!--with the RTSP port set to 554.                    -->
<!--The following are the default ports that RealPlayer and
 -->
<!--RealPlayer Plus clients will connect to for an URL that has
   -->
<!--no port specified:                                -->
<!--  RTSP:  6060                                    -->
<!--  PNA:   7070                                    -->
<!--  HTTP:  80 (...then 8080 if 80 is unavailable)
-->
<Var RTSPPort="6060"/>
<Var PNAPort="7070"/>
<Var AdminPort="23633"/>

<!-- P A S S W O R D S -->
<Var MonitorPassword="realproxy"/>

<!-- L O G G I N G -->
<Var LoggingStyle="3"/>

<!-- H T T P  S U P P O R T -->
<List Name="HTTPDeliverable">
   <Var Path_0="/admin"/>
</List>

<!-- M I M E  T Y P E S -->
<List Name="MimeTypes">
   <List Name="text/html">
      <Var Ext_1="html"/>
      <Var Ext_2="htm"/>
   </List>
   <List Name="text/plain">
      <Var Ext_1="txt"/>
   </List>
   <List Name="audio/x-pn-realaudio">
      <Var Ext_1="ram"/>
   </List>
   <List Name="image/gif">
      <Var Ext_1="gif"/>
   </List>
   <List Name="image/jpg">
      <Var Ext_1="jpg"/>
      <Var Ext_2="jpeg"/>
   </List>
</List>

<!-- A U T H E N T I C A T I O N -->
<List Name="AuthenticationRealms">
   <List Name="SecureAdmin">
      <Var Realm="admin.AdminRealm"/>
      <List Name="BasicAuthenticator">
         <Var PluginID="rn-auth-basic"/>
         <Var DatabaseID="Admin_Basic"/>
      </List>
   </List>
   <List Name="ConnectRealm">
      <Var Realm="user.ConnectRealm"/>
      <List Name="BasicAuthenticator">
         <Var PluginID="rn-auth-basic"/>
         <Var DatabaseID="Connect_RN5"/>
      </List>
   </List>
</List>

<!-- D A T A B A S E S -->
<List Name="Databases">
   <List Name="Admin_Basic">
      <Var PluginID="rn-db-flatfile"/>
      <Var Path="SYS:Real\RealProxy\adm_b_db"/>
   </List>
   <List Name="Connect_RN5">
      <Var PluginID="rn-db-flatfile"/>
      <Var Path="SYS:Real\RealProxy\con_r_db"/>
   </List>
</List>

<!--          F I L E  S Y S T E M S        -->
<!--          ----------------------        -->
<List Name="FSMount">
   <!-- Local File System; Media -->
   <List Name="RealSystem Content">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/"/>
      <Var BasePath="SYS:Real\RealProxy\Content"/>
   </List>
   <!-- Local File System; HTML -->
   <List Name="RealSystem Administrator HTML">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/html/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator"/>
   </List>
   <!-- Local File System; DOCS -->
   <List Name="RealSystem Administrator DOCS">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/Docs/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator\Docs"/>
   </List>
   <!-- Local File System; IMAGES -->
   <List Name="RealSystem Administrator IMAGES">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/admin/images/"/>
      <Var
BasePath="SYS:Real\RealProxy\RealAdministrator\images"/>
   </List>
   <!-- XML Tag Handler File System -->
   <List Name="Real System Administrator SSI">
      <Var ShortName="pn-xmltag"/>
```

```
      <Var MountPoint="/admin/includes/"/>
      <Var BaseMountPoint="/admin/html/"/>
      <List Name="TagHandlers">
        <Var h1="pn-includer"/>
      </List>
    </List>
    <!-- Admin File System -->
    <List Name="RealSystem Administrator Files">
      <Var ShortName="pn-admin"/>
      <Var MountPoint="/admin/"/>
      <Var BaseMountPoint="/admin/includes/"/>
      <Var Realm="admin.AdminRealm"/>
    </List>
    <!-- Splitter Broadcast -->
    <List Name="Splitter_DoubleURL">
      <Var ShortName="pn-splitter"/>
      <Var MountPoint="/split/"/>
      <Var Port="3030"/>
    </List>
    <!-- Local File System; Cache Media -->
    <List Name="RealSystem Cache Filesystem">
      <Var ShortName="pn-mii-mgr"/>
      <Var MountPoint="/cachemgr/"/>
      <Var CacheShortName="rn-cache"/>
    </List>
    <List Name="RNCache Local File System">
      <Var ShortName="pn-local"/>
      <Var MountPoint="/fsforcache/"/>
      <Var BasePath="SYS:Real\RealProxy\Cache"/>
    </List>
  </List>

  <!--  P R O X Y  S E R V E R  -->
  <!--  ======================  -->
  <List Name="Proxy">
     <Var RTSPPort="554"/>
     <Var PNAPort="1090"/>
     <Var BitsaveEnable="1"/>
     <Var CacheEnable="1"/>
     <Var CacheMountPoint="/cachemgr/"/>
     <Var BitsaveMountPoint="/split/"/>
     <Var BitsavePort="3030"/>
     <Var MaxProxyConnections="0"/>
     <Var MaxGatewayBandwidth="0"/>
     <Var MaxProxyBandwidth="0"/>
     </List>

  <!-- P R O X Y  A U T H E N T I C A T I O N -->
  <!-- ===================================== -->
  <List Name="ProxyAuthentication">
    <Var Enabled="0"/>
    <List Name="Authority">
       <Var DatabaseID="Connect_RN5"/>
       <Var Realm="user.ConnectRealm"/>
       <Var AllowDuplicateIDs="0"/>
    </List>
    <List Name="RuleList">
       <List Name="Rule1">
          <Var NoAuthenticateHost="*.realserver.com"/>
       </List>
    </List>
  </List>

  <!--  M E D I A  C A C H E  -->
  <!--  ======================  -->
  <List Name="RNCache">
     <Var Enabled="1"/>
     <Var MaxCacheSizeMB="1000"/>
     <Var CacheMountPoint="/fsforcache/"/>
     </List>

  <!--  M E D I A  C A C H E  P R O X Y  -->
  <!--  ================================  -->
  <List Name="MediaExportInterface">
     <Var Enabled="1"/>
     <Var ListenPort="7878"/>
    <Var Timeout="120"/>
    <Var LogFormat="MEI1"/>
    <Var Tracemask="0x0"/>
    <Var ChainingID="01bf57eb"/>
    <Var TransferSize="2048"/>
    <Var LoggingEnabled="1"/>
    <Var
LogFile="LOG:ETC\PROXY\DATA\logs\Smc\Extended\Real
\proxyerr.log"/>
    <Var MinMIIVersionAllowed="1.0"/>
  </List>

  <!--  N O  C A C H E  E X T E N S I O N S  -->
  <!--  ====================================  -->
  <List Name="NoCacheExtensions">
     <Var mov="500000"/>
     <Var qt="500000"/>
  </List>

  <!--  M U L T I C A S T  S U P P O R T  -->
  <!--  ================================  -->
  <List Name="Multicast">
     <List Name="ControlList">
        <List Name="100">
           <Var Allow="Any"/>
        </List>
     </List>
    <Var RTSPPort="554"/>
    <Var PNAPort="7070"/>
    <Var DeliveryOnly="0"/>
    <Var Resend="1"/>
    <Var TTL="16"/>
  </List>

  <List Name="AccessControl">
   <List Name="0">
    <Var Access="Allow"/>
    <Var From="localhost"/>
    <Var To="any"/>
    <List Name="Ports">
       <Var Port_1="any"/>
    </List>
   </List>
   <List Name="1">
    <Var Access="Deny"/>
    <Var From="any"/>
```

```
   <Var To="any"/>
   <List Name="Ports">
      <Var Port_1="6060"/>
      <Var Port_2="7070"/>
   </List>
  </List>
  <List Name="2">
   <Var Access="Allow"/>
   <Var From="any"/>
   <Var To="any"/>
   <List Name="Ports">
      <Var Port_1="any"/>
   </List>
  </List>
</List>

<!--  IP ADDRESS BINDINGS   -->
<!--  ==================   -->
<List Name="IPBindings">
   <Var Address_1="0.0.0.0"/>
</List>
restore end
apply
```

Database Server

SQLServer_Startup

```
sqlservr -T3502 -c -x
```

SQLServer_Version

```
select @@version as SQL_Version

 SQL_Version

 ------------------------------------------------------------------------------
---


------------------------------------------------------------------------

------------------------------------------------------------------------

            -----------------------------------

 Microsoft SQL Server  2000 - 8.00.534 (Intel X86)

            Nov 19 2001 13:23:50

            Cop

            yright (c) 1988-2000 Microsoft Corporation

            Enterprise Edition on Windo

            ws NT 5.0 (Build 2195: Service Pack 2)

(1 row affected)
```

SystemBootParameters

c:\boot.ini added /PAE /HAL=fixperf.dll

Hyper-threading was active on the x440 during the Test Runs.

Web Application Server

InetInfo Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\I
netInfo\Parameters]
"ListenBackLog"=dword:0000012c
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,00,43,00,
00,00,53,00,\
  4d,00,54,00,50,00,53,00,56,00,43,00,00,00,00,00
"MaxPoolThreads"=dword:00000014
"PoolThreadLimit"=dword:0000012c
```

NDIS Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
NDIS\Parameters]
"ProcessorAffinityMask"=dword:00000000
```

ODBC

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\ODB
C Data Sources]
"tpcwDSN"="SQL Server"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\ODB
C File DSN]
"DefaultDSNDir"="C:\\Program Files\\Common Files\\ODBC\\Data
Sources"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\tpcwD
SN]
"Driver"="C:\\WINNT\\System32\\SQLSRV32.dll"
"Description"="TPC-W Database"
"Server"="tpcwdb1"
"LastUser"="sa"
"Database"="tpcw"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Conversor de página de código MS]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
```

```
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000003

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver da Microsoft para arquivos texto (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Access (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft dBase (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Excel(*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Paradox (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver para o Microsoft Visual FoxPro]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Access Driver (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Access-Treiber (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase VFP Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase-Treiber (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Excel Driver (*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Excel-Treiber (*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft FoxPro VFP Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft ODBC for Oracle]
"UsageCount"=dword:00000002
"Driver"="C:\\WINNT\\System32\\msorcl32.dll"
"Setup"="C:\\WINNT\\System32\\msorcl32.dll"
"SQLLevel"="1"
"FileUsage"="0"
"DriverODBCVer"="02.50"
"ConnectFunctions"="YYY"
"APILevel"="1"
"CpTimeout"="60"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Paradox Driver (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Paradox-Treiber (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Text Driver (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Text-Treiber (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Visual FoxPro Driver]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Visual FoxPro-Treiber]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
MS Code Page Translator]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000004

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
MS Code Page-Übersetzer]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000003

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Core]
"UsageCount"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Drivers]
"SQL Server"="Installed"
"Microsoft Access Driver (*.mdb)"="Installed"
"Microsoft Text Driver (*.txt; *.csv)"="Installed"
"Microsoft Excel Driver (*.xls)"="Installed"
"Microsoft dBase Driver (*.dbf)"="Installed"
"Microsoft Paradox Driver (*.db )"="Installed"
"Microsoft Visual FoxPro Driver"="Installed"
"Microsoft FoxPro VFP Driver (*.dbf)"="Installed"
"Microsoft dBase VFP Driver (*.dbf)"="Installed"
"Microsoft Access-Treiber (*.mdb)"="Installed"
"Microsoft Text-Treiber (*.txt; *.csv)"="Installed"
"Microsoft Excel-Treiber (*.xls)"="Installed"
"Microsoft dBase-Treiber (*.dbf)"="Installed"
"Microsoft Paradox-Treiber (*.db )"="Installed"
"Microsoft Visual FoxPro-Treiber"="Installed"
"Driver do Microsoft Access (*.mdb)"="Installed"
"Driver da Microsoft para arquivos texto (*.txt; *.csv)"="Installed"
"Driver do Microsoft Excel(*.xls)"="Installed"
"Driver do Microsoft dBase (*.dbf)"="Installed"
"Driver do Microsoft Paradox (*.db )"="Installed"
"Driver para o Microsoft Visual FoxPro"="Installed"
"Microsoft ODBC for Oracle"="Installed"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Translators]
"MS Code Page Translator"="Installed"
"MS Code Page-Übersetzer"="Installed"
"Conversor de página de código MS"="Installed"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
SQL Server]
"UsageCount"=dword:00000004
"Driver"="C:\\WINNT\\System32\\SQLSRV32.dll"
"Setup"="C:\\WINNT\\System32\\SQLSRV32.dll"
"SQLLevel"="1"
"FileUsage"="0"
"DriverODBCVer"="03.50"
"ConnectFunctions"="YYY"
"APILevel"="2"
"CPTimeout"="60"
```

TCPIP Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters]
"NV Hostname"="spweb10"
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52
,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,0
0,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,0
0,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"="tpcw.net"
"Hostname"="spweb10"
"SearchList"=""
"UseDomainNameDevolution"=dword:00000001
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"NV Domain"="tpcw.net"
"MaxUserPort"=dword:0000fffe
"TcpTimedWaitDelay"=dword:0000003c
"TcpWindowSize"=dword:0000ffff
"MaxHashTableSize"=dword:00010000
"MaxFreeTcbs"=dword:0000c350

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\NdisWanIp]
"LLInterface"="WANARP"
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,45,00,38,00,36,00,35,00,33,0
0,44,00,\

38,00,45,00,2d,00,33,00,31,00,39,00,44,00,2d,00,34,00,39,00,44,00,3
0,00,2d,\

00,38,00,39,00,36,00,35,00,2d,00,45,00,42,00,39,00,43,00,34,00,41,0
0,34,00,\

46,00,44,00,41,00,43,00,37,00,7d,00,00,00,54,00,63,00,70,00,69,00,7
0,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73,00,5c,0
0,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00,7b,00,43
,00,32,\

00,31,00,31,00,39,00,39,00,41,00,31,00,2d,00,44,00,35,00,38,00,39,0
0,2d,00,\

34,00,30,00,44,00,30,00,2d,00,39,00,44,00,46,00,38,00,2d,00,46,00,4
5,00,39,\

00,44,00,33,00,43,00,35,00,36,00,35,00,34,00,41,00,31,00,7d,00,00,0
0,00,00
"NumInterfaces"=dword:00000002
"IpInterfaces"=hex:8e,3d,65,e8,9d,31,d0,49,89,65,eb,9c,4a,4f,da,c7,a1
,99,11,c2,\
  89,d5,d0,40,9d,f8,fe,9d,3c,56,54,a1

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{6C9CB8FD-25F5-4F0B-8D38-A566077
6ECA3}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,36,00,43,00,39,00,43,00,42,0
0,38,00,\
```

```
46,00,44,00,2d,00,32,00,35,00,46,00,35,00,2d,00,34,00,46,00,30,00,4
2,00,2d,\

00,38,00,44,00,33,00,38,00,2d,00,41,00,35,00,36,00,36,00,30,00,37,0
0,37,00,\
  36,00,45,00,43,00,41,00,33,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{DB0FD817-494D-414B-A1EC-78AB0A
95AADA}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,44,00,42,00,30,00,46,00,44,0
0,38,00,\

31,00,37,00,2d,00,34,00,39,00,34,00,44,00,2d,00,34,00,31,00,34,00,4
2,00,2d,\

00,41,00,31,00,45,00,43,00,2d,00,37,00,38,00,41,00,42,00,30,00,41,0
0,39,00,\
  35,00,41,00,41,00,44,00,41,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{F9076485-4EC0-4514-BCF7-E482A176
23D8}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,46,00,39,00,30,00,37,00,36,0
0,34,00,\

38,00,35,00,2d,00,34,00,45,00,43,00,30,00,2d,00,34,00,35,00,31,00,3
4,00,2d,\

00,42,00,43,00,46,00,37,00,2d,00,45,00,34,00,38,00,32,00,41,00,31,0
0,37,00,\
  36,00,32,00,33,00,44,00,38,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\DNSRegisteredAdapters\{DB0FD817-494D-414B-
A1EC-78AB0A95AADA}]
"HostName"="spweb10"
"DomainName"=""
"PrimaryDomainName"=""
"SentUpdateToIp"=dword:0182a8c0
"SentPriUpdateToIp"=dword:00000000
"RegisteredTTL"=dword:000004b0
"RegisteredFlags"=dword:00000000
"RegisteredAddresses"=hex:c0,a8,82,0a,00,00,00,00,00,00,00,00,00,0
0,00,00,03,\
  00,00,00
"RegisteredAddressCount"=dword:00000001
"RegisteredSinceBoot"=dword:00000000
"DNSServerAddresses"=hex:c0,a8,82,01
"DNSServerAddressCount"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{6C9CB8FD-25F5-4F0B-8D38-A566077
6ECA3}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,33,00,\
  30,00,2e,00,31,00,30,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3c4449ac
"T1"=dword:3c4450b4
"T2"=dword:3c4455fa
"LeaseTerminatesTime"=dword:3c4457bc
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{C21199A1-D589-40D0-9DF8-FE9D3C
5654A1}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{DB0FD817-494D-414B-A1EC-78AB0
A95AADA}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,33,00,\
  30,00,2e,00,31,00,30,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
```

```
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  32,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{E8653D8E-319D-49D0-8965-EB9C4A4
FDAC7}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{F9076485-4EC0-4514-BCF7-E482A176
23D8}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,2e,00,\
  31,00,30,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  33,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3c43f040
"T1"=dword:3c43f748
"T2"=dword:3c43fc8e
"LeaseTerminatesTime"=dword:3c43fe50
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Winsock]
"UseDelayedAcceptance"=dword:00000000
"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,
52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32
,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00
,6c,00,\
  00,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,
00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,06,00,00,0
0,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,0
2,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,0
0,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,0
0,00,02,\
  00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00,00
```

DNS Image Server

tpw.net.dns

```
;
;  Database file tpcw.net.dns for tpcw.net zone.
;      Zone version:  1370
;

@                   IN  SOA spweb1.tpcw.net.  administrator.tpcw.net. (
                            1370        ; serial number
                            900         ; refresh
                            600         ; retry
                            86400       ; expire
                            3600      ) ; minimum TTL

;
;  Zone NS records
;

@                   NS    spweb1.tpcw.net.

;
;  Zone records
;

imgsrv              0     A           192.168.130.62
                    0     A           192.168.130.63
                    0     A           192.168.130.64
                    0     A           192.168.130.65
                    0     A           192.168.130.66
                    0     A           192.168.130.67
                    0     A           192.168.130.68
                    0     A           192.168.130.69
                    0     A           192.168.130.70
                    0     A           192.168.130.51
                    0     A           192.168.130.52
                    0     A           192.168.130.53
                    0     A           192.168.130.54
                    0     A           192.168.130.55
                    0     A           192.168.130.56
```

```
                0       A       192.168.130.57
                0       A       192.168.130.58
                0       A       192.168.130.1
                0       A       192.168.130.59
                0       A       192.168.130.60
                0       A       192.168.130.61
pge               0     A       192.168.130.230
                0       A       192.168.130.100
spweb1            A     192.168.130.1
spweb10           A     192.168.130.10
spweb11           A     192.168.130.11
spweb12           A     192.168.130.12
spweb13           A     192.168.130.13
spweb14           A     192.168.130.14
spweb15           A     192.168.130.15
spweb16           A     192.168.130.16
spweb17           A     192.168.130.17
spweb18           A     192.168.130.18
spweb19           A     192.168.130.19
spweb2            A     192.168.130.2
spweb20           A     192.168.130.20
spweb21           A     192.168.1.21
spweb23           A     192.168.130.23
spweb24           A     192.168.1.24
spweb25           A     192.168.1.25
spweb26           A     192.168.1.26
spweb27           A     192.168.1.27
spweb28           A     192.168.1.28
spweb29           A     192.168.1.29
spweb3            A     192.168.130.3
spweb30           A     192.168.1.30
spweb31           A     192.168.1.31
spweb32           A     192.168.130.32
spweb33           A     192.168.1.33
spweb34           A     192.168.1.34
spweb35           A     192.168.130.35
spweb36           A     192.168.130.36
spweb37           A     192.168.130.37
spweb38           A     192.168.130.38
spweb39           A     192.168.130.39
spweb4            A     192.168.130.4
spweb40           A     192.168.130.40
spweb41           A     192.168.130.41
spweb42           A     192.168.130.42
spweb43           A     192.168.130.43
spweb44           A     192.168.130.44
spweb45           A     192.168.130.45
spweb46           A     192.168.130.46
spweb47           A     192.168.130.47
spweb48           A     192.168.130.48
spweb49           A     192.168.130.49
spweb5            A     192.168.130.5
spweb50           A     192.168.130.50
spweb6            A     192.168.130.6
spweb7            A     192.168.130.7
spweb71           A     192.168.1.71
spweb8            A     192.168.130.8
spweb9            A     192.168.130.9
tpcwcache       0 A     192.168.130.71
                0       A       192.168.130.21
                0       A       192.168.130.24
                0       A       192.168.130.25
                0       A       192.168.130.26
                0       A       192.168.130.27
                0       A       192.168.130.28
                0       A       192.168.130.29
                0       A       192.168.130.30
                0       A       192.168.130.31
                0       A       192.168.130.33
                0       A       192.168.130.34
tpcwdb1         A       192.168.1.201
tpcwww          0       A       192.168.130.36
                0       A       192.168.130.37
                0       A       192.168.130.38
                0       A       192.168.130.39
                0       A       192.168.130.40
                0       A       192.168.130.41
                0       A       192.168.130.42
                0       A       192.168.130.3
                0       A       192.168.130.5
                0       A       192.168.130.6
                0       A       192.168.130.8
                0       A       192.168.130.7
                0       A       192.168.130.9
                0       A       192.168.130.10
                0       A       192.168.130.11
                0       A       192.168.130.12
                0       A       192.168.130.13
                0       A       192.168.130.14
                0       A       192.168.130.15
                0       A       192.168.130.16
                0       A       192.168.130.17
                0       A       192.168.130.18
                0       A       192.168.130.19
                0       A       192.168.130.20
                0       A       192.168.130.35
update          A       192.168.130.4
volera          0       A       192.168.130.22
                0       A       192.168.130.23
```

InetInfoParameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Parameters]
"ListenBackLog"=dword:0000012c
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,00,43,00,00,00,53,00,\

4d,00,54,00,50,00,53,00,56,00,43,00,00,00,4c,00,44,00,41,00,50,00,53,00,56,\
  00,43,00,58,00,00,00,00,00
"ObjectCacheTTL"=dword:ffffffff
"MemCacheSize"=dword:00000190
"MaxCachedFileSize"=dword:000493e0
```

NDIS Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\Parameters]
"ProcessorAffinityMask"=dword:00000000
```

TCPIP Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"NV Hostname"="spweb1"
```

```
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52
,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,0
0,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,0
0,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"="tpcw.net"
"Hostname"="spweb1"
"SearchList"=""
"UseDomainNameDevolution"=dword:00000001
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"NV Domain"="tpcw.net"
"MaxUserPort"=dword:0000fffe
"TcpTimedWaitDelay"=dword:0000003c
"TcpWindowSize"=dword:0000ffff
"MaxHashTableSize"=dword:00010000
"MaxFreeTcbs"=dword:0000c350

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\NdisWanIp]
"LLInterface"="WANARP"
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,30,00,42,00,34,00,31,00,41,0
0,42,00,\

32,00,36,00,2d,00,36,00,44,00,33,00,34,00,2d,00,34,00,36,00,43,00,3
8,00,2d,\

00,39,00,37,00,41,00,46,00,2d,00,44,00,42,00,46,00,41,00,42,00,43,0
0,34,00,\

39,00,41,00,41,00,41,00,44,00,7d,00,00,00,54,00,63,00,70,00,69,00,7
0,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73,00,5c,0
0,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00,7b,00,38
,00,44,\

00,38,00,30,00,43,00,33,00,30,00,35,00,2d,00,33,00,31,00,46,00,37,0
0,2d,00,\

34,00,46,00,33,00,33,00,2d,00,42,00,42,00,46,00,37,00,2d,00,36,00,3
8,00,42,\

00,46,00,41,00,37,00,43,00,44,00,30,00,32,00,30,00,46,00,7d,00,00,0
0,00,00
"NumInterfaces"=dword:00000002
"IpInterfaces"=hex:26,ab,41,0b,34,6d,c8,46,97,af,db,fa,bc,49,aa,ad,05,
c3,80,8d,\
  f7,31,33,4f,bb,f7,68,bf,a7,cd,02,0f

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{1D3E761B-EDA9-4322-8A01-47FAD22
AA93D}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,31,00,44,00,33,00,45,00,37,0
0,36,00,\

31,00,42,00,2d,00,45,00,44,00,41,00,39,00,2d,00,34,00,33,00,32,00,3
2,00,2d,\

00,38,00,41,00,30,00,31,00,2d,00,34,00,37,00,46,00,41,00,44,00,32,0
0,32,00,\
  41,00,41,00,39,00,33,00,44,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{3723BD23-89BB-432F-B87E-BAA0521
A5E2E}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,33,00,37,00,32,00,33,00,42,0
0,44,00,\

32,00,33,00,2d,00,38,00,39,00,42,00,42,00,2d,00,34,00,33,00,32,00,4
6,00,2d,\

00,42,00,38,00,37,00,45,00,2d,00,42,00,41,00,41,00,30,00,35,00,32,0
0,31,00,\
  41,00,35,00,45,00,32,00,45,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{A4B55E73-12AD-4944-B545-83D50DD
55B04}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,41,00,34,00,42,00,35,00,35,0
0,45,00,\

37,00,33,00,2d,00,31,00,32,00,41,00,44,00,2d,00,34,00,39,00,34,00,3
4,00,2d,\

00,42,00,35,00,34,00,35,00,2d,00,38,00,33,00,44,00,35,00,30,00,44,0
0,44,00,\
  35,00,35,00,42,00,30,00,34,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{B1931450-4415-495F-86FF-7B313DDA
7962}]
"LLInterface"=""
```

```
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,42,00,31,00,39,00,33,00,31,00,34,00,\

35,00,30,00,2d,00,34,00,34,00,31,00,35,00,2d,00,34,00,39,00,35,00,46,00,2d,\

00,38,00,36,00,46,00,46,00,2d,00,37,00,42,00,33,00,31,00,33,00,44,00,44,00,\
  41,00,37,00,39,00,36,00,32,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{0B41AB26-6D34-46C8-97AF-DBFABC49AAAD}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{1D3E761B-EDA9-4322-8A01-47FAD22AA93D}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{3723BD23-89BB-432F-B87E-BAA0521A5E2E}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,31,00,33,00,\
  30,00,2e,00,31,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="127.0.0.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  32,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3bccb1ac
"T1"=dword:3bccb8b4
"T2"=dword:3bccbdfa
"LeaseTerminatesTime"=dword:3bccbfbc
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{8D80C305-31F7-4F33-BBF7-68BFA7CD020F}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{A4B55E73-12AD-4944-B545-83D50DDD55B04}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  33,00,00,00,00,00
"DhcpIPAddress"="169.254.156.10"
"DhcpSubnetMask"="255.255.0.0"
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000000
"LeaseObtainedTime"=dword:3bc729f6
"T1"=dword:3bc729f6
"T2"=dword:3bc729f6
```

```
"LeaseTerminatesTime"=dword:7fffffff
"IPAutoconfigurationAddress"="169.254.156.10"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{B1931450-4415-495F-86FF-7B313DD
A7962}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,2e,00,\
  31,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="127.0.0.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  33,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3a96c615
"T1"=dword:3a96cd1d
"T2"=dword:3a96d263
"LeaseTerminatesTime"=dword:3a96d425
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Winsock]
"UseDelayedAcceptance"=dword:00000000
"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,
52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32
,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00
,6c,00,\
  00,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,
00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,00,06,00,00,0
0,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,0
2,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,0
0,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,0
0,00,02,\
  00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00
```

Application Index Server

Sample Index File

```
<HTML><HEAD><META NAME="i_id"
CONTENT="1000"><META NAME="i_title" CONTENT="Trees
might enable. American, BABABAOGBABABA central"><META
NAME="i_subject" CONTENT="TRAVEL"><META
NAME="a_fname" CONTENT="hwk|#M"><META
NAME="a_lname"

CONTENT="BABABAOGBABABAfre"></HEAD><BODY></BO
DY></HTML>
```

*This is a sample of the meta tagged files which were generated via a SQL query which stored the I_ID, I_TITLE, A_FNAME, and A_LNAME contents of the initial database ITEM table population in individual files to be queried by the Microsoft Index Search product.

Index Server Configuration

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Contro
l\ContentIndex\Catalogs\ItemCatalog]
"Location"="c:\\ItemFiles"
"IsIndexingW3Svc"=dword:00000000
"IsIndexingNNTPSvc"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Contro
l\ContentIndex\Catalogs\ItemCatalog\Properties]
"D1B5D3F0-C0B3-11CF-9A92-00A0C908DBF1
a_fname"="31,20,0,1"
"D1B5D3F0-C0B3-11CF-9A92-00A0C908DBF1
i_subject"="31,20,0,1"
"D1B5D3F0-C0B3-11CF-9A92-00A0C908DBF1
i_title"="31,60,0,1"
"D1B5D3F0-C0B3-11CF-9A92-00A0C908DBF1
a_lname"="31,20,0,1"
"D1B5D3F0-C0B3-11CF-9A92-00A0C908DBF1
i_id"="31,10,1,1"

[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Contro
l\ContentIndex\Catalogs\ItemCatalog\Scopes]
"c:\\ItemFIle"=",,5"
```

Search

```
<%
   pd_host = Request.QueryString("pd_host")
   search_type = Request.QueryString("search")
   restriction = Request.QueryString("CiRestriction")

   Response.CacheControl = True

   Set Conn = Server.CreateObject("ADODB.Connection")
   Conn.ConnectionString =  "provider=msidxs;"
   Conn.Open
   Set AdoCommand = Server.CreateObject("ADODB.Command")
```

```
   Set AdoCommand.ActiveConnection = Conn

   Set Q = Server.CreateObject("IXSSO.Query")
   Q.DefineColumn "a_fname   (DBTYPE_WSTR) =
d1b5d3f0-c0b3-11cf-9a92-00a0c908dbf1 a_fname"
   Q.DefineColumn "a_lname   (DBTYPE_WSTR) =
d1b5d3f0-c0b3-11cf-9a92-00a0c908dbf1 a_lname"
   Q.DefineColumn "i_id      (DBTYPE_WSTR) =
d1b5d3f0-c0b3-11cf-9a92-00a0c908dbf1 i_id"
   Q.DefineColumn "i_title   (DBTYPE_WSTR) =
d1b5d3f0-c0b3-11cf-9a92-00a0c908dbf1 i_title"
   Q.Catalog = "ItemCatalog"
   Q.Query = "@" + search_type + " " + restriction + "*"
   Q.Columns = "a_fname, a_lname, i_id, i_title"
   Q.SortBy = "i_title[a]"
   Q.MaxRecords = 50
   Set RS = Q.CreateRecordSet("sequential")
%>

<HTML>
<HEAD><TITLE>SEARCH RESULT PAGE
FRAME</TITLE></HEAD>
<BODY><BR>
<TABLE BORDER=1 ALIGN=CENTER>
<TH>Author</TH><TH>Title</TH>

<%
   Do While Not(RS.EOF)
      Response.Write("<TR><TD>" + RS(0) + " " + RS(1) + "</TD>")
      Response.Write("<TD><A
HREF=""http://volera.tpcw.net/tpcw/tpcw.dll?CMD=Product_Detail&
BookID=" + RS(2) + """ TARGET=_top>" + RS(3) + "</A></TD>")
      RS.MoveNext
   Loop
   RS.Close
   Conn.Close
%>
</TABLE>

<center>
<p>
<a
HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Shopping_Cart
&ADD_FLAG=0" target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Cart.gif" ALT="Shopping
Cart" WIDTH="120" HEIGHT="30"></a>
<a

HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Search_Request
" target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/search.gif" ALT="Search
Item" WIDTH="120" HEIGHT="30"></a>
<a HREF="http://tpcwww.tpcw.net/tpcw/tpcw.dll?CMD=Home"
target="_top"><img
SRC="http://imgsrv.tpcw.net/tpcw/images/Home.gif" ALT="Home
Page" WIDTH="120" HEIGHT="30"></a>
</p>
</center>
</body>
</hTmL>
```

InetInfo

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\I
netInfo]
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\I
netInfo\Parameters]
"ListenBackLog"=dword:0000012c
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,00,43,00,
00,00,53,00,\
  4d,00,54,00,50,00,53,00,56,00,43,00,00,00,00,00
"MaxPoolThreads"=dword:00000014
"PoolThreadLimit"=dword:0000012c

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\I
netInfo\Performance]
"Library"="infoctrs.dll"
"Open"="OpenINFOPerformanceData"
"Close"="CloseINFOPerformanceData"
"Collect"="CollectINFOPerformanceData"
"Last Counter"=dword:00000842
"Last Help"=dword:00000843
"First Counter"=dword:00000802
"First Help"=dword:00000803
"Library Validation
Code"=hex:3e,d4,37,ac,46,97,c0,01,10,25,00,00,00,00,00,00
"WbemAdapFileTime"=hex:00,0b,b5,f9,b3,d4,c0,01
"WbemAdapFileSize"=dword:00002510
"WbemAdapStatus"=dword:00000000
```

NDIS Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
NDIS\Parameters]
"ProcessorAffinityMask"=dword:00000000
```

ODBC

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\ODB
C Data Sources]
"tpcwDSN"="SQL Server"
"tpcw"="SQL Server"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\ODB
C File DSN]
"DefaultDSNDir"="C:\\Program Files\\Common Files\\ODBC\\Data
Sources"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\tpcw]
"Driver"="C:\\WINNT\\System32\\SQLSRV32.dll"
"Description"="TPC-W DB Connection for DumpItems"
"Server"="tpcwdb1"
"Database"="tpcw"
"LastUser"="sa"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\tpcwD
SN]
"Driver"="C:\\WINNT\\System32\\SQLSRV32.dll"
"Description"="TPC-W DB Connections"
"Server"="TPCWDB1"
"Database"="tpcw"
"LastUser"="sa"
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI]

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Conversor de página de código MS]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000003

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver da Microsoft para arquivos texto (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Access (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft dBase (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Excel(*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver do Microsoft Paradox (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Driver para o Microsoft Visual FoxPro]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Access Driver (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Access-Treiber (*.mdb)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odbcjt32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="2"
"FileExtns"="*.mdb"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase VFP Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft dBase-Treiber (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\oddbse32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
```

```
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.ndx,*.mdx"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Excel Driver (*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Excel-Treiber (*.xls)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odexl32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.xls"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft FoxPro VFP Driver (*.dbf)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft ODBC for Oracle]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\msorcl32.dll"
"Setup"="C:\\WINNT\\System32\\msorcl32.dll"
"SQLLevel"="1"
"FileUsage"="0"
"DriverODBCVer"="02.50"
"ConnectFunctions"="YYY"
"APILevel"="1"
"CpTimeout"="60"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Paradox Driver (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Paradox-Treiber (*.db )]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odpdx32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.db"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Text Driver (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Text-Treiber (*.txt; *.csv)]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\odbcjt32.dll"
"Setup"="C:\\WINNT\\System32\\odtext32.dll"
"APILevel"="1"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.,*.asc,*.csv,*.tab,*.txt,*.csv"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Visual FoxPro Driver]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
Microsoft Visual FoxPro-Treiber]
"UsageCount"=dword:00000003
"Driver"="C:\\WINNT\\System32\\vfpodbc.dll"
"Setup"="C:\\WINNT\\System32\\vfpodbc.dll"
"APILevel"="0"
"ConnectFunctions"="YYN"
"DriverODBCVer"="02.50"
"FileUsage"="1"
"FileExtns"="*.dbf,*.cdx,*.idx,*.fpt"
"SQLLevel"="0"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
MS Code Page Translator]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000005

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
MS Code Page-Übersetzer]
"Translator"="C:\\WINNT\\System32\\MSCPXL32.dll"
"Setup"="C:\\WINNT\\System32\\MSCPXL32.dll"
"UsageCount"=dword:00000003
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Core]
"UsageCount"=dword:00000002

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Drivers]
"SQL Server"="Installed"
"Microsoft Access Driver (*.mdb)"="Installed"
"Microsoft Text Driver (*.txt; *.csv)"="Installed"
"Microsoft Excel Driver (*.xls)"="Installed"
"Microsoft dBase Driver (*.dbf)"="Installed"
"Microsoft Paradox Driver (*.db )"="Installed"
"Microsoft Visual FoxPro Driver"="Installed"
"Microsoft FoxPro VFP Driver (*.dbf)"="Installed"
"Microsoft dBase VFP Driver (*.dbf)"="Installed"
"Microsoft Access-Treiber (*.mdb)"="Installed"
"Microsoft Text-Treiber (*.txt; *.csv)"="Installed"
"Microsoft Excel-Treiber (*.xls)"="Installed"
"Microsoft dBase-Treiber (*.dbf)"="Installed"
"Microsoft Paradox-Treiber (*.db )"="Installed"
"Microsoft Visual FoxPro-Treiber"="Installed"
"Driver do Microsoft Access (*.mdb)"="Installed"
"Driver da Microsoft para arquivos texto (*.txt; *.csv)"="Installed"
"Driver do Microsoft Excel(*.xls)"="Installed"
"Driver do Microsoft dBase (*.dbf)"="Installed"
"Driver do Microsoft Paradox (*.db )"="Installed"
"Driver para o Microsoft Visual FoxPro"="Installed"
"Microsoft ODBC for Oracle"="Installed"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
ODBC Translators]
"MS Code Page Translator"="Installed"
"MS Code Page-Übersetzer"="Installed"
"Conversor de página de código MS"="Installed"

[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\
SQL Server]
"UsageCount"=dword:00000005
"Driver"="C:\\WINNT\\System32\\SQLSRV32.dll"
"Setup"="C:\\WINNT\\System32\\SQLSRV32.dll"
"SQLLevel"="1"
"FileUsage"="0"
"DriverODBCVer"="03.50"
"ConnectFunctions"="YYY"
"APILevel"="2"
"CPTimeout"="60"
```

TCPIP Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters]
"NV Hostname"="spweb2"
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52
,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,0
0,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,0
0,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"="tpcw.net"
"Hostname"="spweb2"
"SearchList"=""
"UseDomainNameDevolution"=dword:00000001
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"NV Domain"="tpcw.net"
"MaxUserport"=dword:0000fffe
"TcpTimedWaitDelay"=dword:0000003c
"TcpWindowSize"=dword:0000ffff
"MaxHashTableSize"=dword:00010000
"MaxFreeTcbs"=dword:0000c350

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\NdisWanIp]
"LLInterface"="WANARP"
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,34,00,39,00,36,00,34,00,44,0
0,36,00,\

33,00,31,00,2d,00,39,00,43,00,42,00,38,00,2d,00,34,00,45,00,39,00,3
9,00,2d,\

00,42,00,33,00,45,00,39,00,2d,00,32,00,45,00,30,00,35,00,39,00,39,0
0,38,00,\

45,00,33,00,33,00,41,00,45,00,7d,00,00,00,54,00,63,00,70,00,69,00,7
0,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73,00,5c,0
0,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00,7b,00,34
,00,33,\

00,30,00,38,00,36,00,42,00,42,00,46,00,2d,00,36,00,43,00,45,00,43,0
0,2d,00,\

34,00,31,00,35,00,46,00,2d,00,39,00,35,00,32,00,36,00,2d,00,37,00,3
5,00,42,\

00,34,00,33,00,39,00,30,00,37,00,32,00,36,00,34,00,43,00,7d,00,00,0
0,00,00
"NumInterfaces"=dword:00000002
"IpInterfaces"=hex:31,d6,64,49,b8,9c,99,4e,b3,e9,2e,05,99,8e,33,ae,bf
,6b,08,43,\
  ec,6c,5f,41,95,26,75,b4,39,07,26,4c

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{085671EE-A5B4-4C2E-B1F0-6B58561F
8459}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\
```

```
00,61,00,63,00,65,00,73,00,5c,00,7b,00,30,00,38,00,35,00,36,00,37,0
0,31,00,\

45,00,45,00,2d,00,41,00,35,00,42,00,34,00,2d,00,34,00,43,00,32,00,4
5,00,2d,\

00,42,00,31,00,46,00,30,00,2d,00,36,00,42,00,35,00,38,00,35,00,36,0
0,31,00,\
  46,00,38,00,34,00,35,00,39,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{26C5D209-4161-4678-BC98-49661D58
FA4F}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,32,00,36,00,43,00,35,00,44,0
0,32,00,\

30,00,39,00,2d,00,34,00,31,00,36,00,31,00,2d,00,34,00,36,00,37,00,3
8,00,2d,\

00,42,00,43,00,39,00,38,00,2d,00,34,00,39,00,36,00,36,00,31,00,44,0
0,35,00,\
  38,00,46,00,41,00,34,00,46,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{BD270F2D-2B85-4B7A-BB57-77EA5D
A4ECAE}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,42,00,44,00,32,00,37,00,30,0
0,46,00,\

32,00,44,00,2d,00,32,00,42,00,38,00,35,00,2d,00,34,00,42,00,37,00,4
1,00,2d,\

00,42,00,42,00,35,00,37,00,2d,00,37,00,37,00,45,00,41,00,35,00,44,0
0,41,00,\
  34,00,45,00,43,00,41,00,45,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{C4626BD9-D65D-4FAE-9B42-F543084
7C14B}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,43,00,34,00,36,00,32,00,36,0
0,42,00,\

44,00,39,00,2d,00,44,00,36,00,35,00,44,00,2d,00,34,00,46,00,41,00,4
5,00,2d,\

00,39,00,42,00,34,00,32,00,2d,00,46,00,35,00,34,00,33,00,30,00,38,0
0,34,00,\
  37,00,43,00,31,00,34,00,42,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{085671EE-A5B4-4C2E-B1F0-6B58561
F8459}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,33,00,\
  30,00,2e,00,32,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  32,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{26C5D209-4161-4678-BC98-49661D58
FA4F}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,2e,00,\
  32,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  33,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3a96c635
"T1"=dword:3a96cd3d
"T2"=dword:3a96d283
"LeaseTerminatesTime"=dword:3a96d445
```

```
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{43086BBF-6CEC-415F-9526-75B43907
264C}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{4964D631-9CB8-4E99-B3E9-2E05998
E33AE}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{BD270F2D-2B85-4B7A-BB57-77EA5D
A4ECAE}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,33,00,\
  30,00,2e,00,32,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3bcc9cf8
"T1"=dword:3bcca400
"T2"=dword:3bcca946
"LeaseTerminatesTime"=dword:3bccab08
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:a5af9572
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{C4626BD9-D65D-4FAE-9B42-F543084
7C14B}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  33,00,00,00,00,00
"DhcpIPAddress"="169.254.224.103"
"DhcpSubnetMask"="255.255.0.0"
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000000
"LeaseObtainedTime"=dword:3bc7264b
"T1"=dword:3bc7264b
"T2"=dword:3bc7264b
"LeaseTerminatesTime"=dword:7fffffff
"IPAutoconfigurationAddress"="169.254.224.103"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Winsock]
"UseDelayedAcceptance"=dword:00000000
"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,
52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32
,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00
,6c,00,\
  00,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,
00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,06,00,00,0
0,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,0
2,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,0
0,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,0
0,00,02,\
  00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00
```

Image Server

InetInfo Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Parameters]
"ListenBackLog"=dword:00000019
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,00,43,00,00,00,53,00,\
  4d,00,54,00,50,00,53,00,56,00,43,00,00,00,00,00
"ObjectCacheTTL"=dword:ffffffff
"MemCacheSize"=dword:00000190
"MaxCachedFileSize"=dword:000493e0
```

NDIS Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\Parameters]
"ProcessorAffinityMask"=dword:00000000
```

TCPIP Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"NV Hostname"="spweb15"
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,00,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"=""
"Hostname"="spweb15"
"SearchList"=""
"UseDomainNameDevolution"=dword:00000001
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"MaxUserPort"=dword:0000fffe
"TcpTimedWaitDelay"=dword:0000003c
"TcpWindowSize"=dword:00004470
"MaxHashTableSize"=dword:00010000
"MaxFreeTcbs"=dword:0000c350

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\NdisWanIp]
"LLInterface"="WANARP"
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,46,00,35,00,38,00,39,00,39,00,37,00,\

39,00,38,00,2d,00,33,00,39,00,36,00,36,00,2d,00,34,00,34,00,32,00,33,00,2d,\

00,38,00,33,00,38,00,37,00,2d,00,46,00,37,00,37,00,39,00,37,00,33,00,33,00,\

46,00,30,00,46,00,35,00,37,00,7d,00,00,00,54,00,63,00,70,00,69,00,70,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00,7b,00,44,00,34,\

00,39,00,34,00,33,00,37,00,42,00,38,00,2d,00,31,00,43,00,46,00,37,00,2d,00,\

34,00,31,00,38,00,41,00,2d,00,39,00,37,00,45,00,39,00,2d,00,46,00,43,00,37,\

00,31,00,41,00,44,00,43,00,44,00,30,00,35,00,45,00,43,00,7d,00,00,00,00,00
"NumInterfaces"=dword:00000002
"IpInterfaces"=hex:98,97,89,f5,66,39,23,44,83,87,f7,79,73,3f,0f,57,b8,37,94,d4,\
  f7,1c,8a,41,97,e9,fc,71,ad,cd,05,ec

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{8A3ADEF4-2299-450E-8B73-36A0916E4751}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,38,00,41,00,33,00,41,00,44,00,45,00,\

46,00,34,00,2d,00,32,00,32,00,39,00,39,00,2d,00,34,00,35,00,30,00,45,00,2d,\

00,38,00,42,00,37,00,33,00,2d,00,33,00,36,00,41,00,30,00,39,00,31,00,36,00,\
  45,00,34,00,37,00,35,00,31,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{B1201081-652E-4143-9B1D-7C17C5EC1915}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,42,00,31,00,32,00,30,00,31,00,30,00,\
```

```
38,00,31,00,2d,00,36,00,35,00,32,00,45,00,2d,00,34,00,31,00,34,00,33,00,2d,\

00,39,00,42,00,31,00,44,00,2d,00,37,00,43,00,31,00,37,00,43,00,35,00,45,00,\
  43,00,31,00,39,00,31,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{C34B5B87-851C-489C-BDA6-4B3FB0D0FA15}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,43,00,33,00,34,00,42,00,35,00,42,00,\

38,00,37,00,2d,00,38,00,35,00,31,00,43,00,2d,00,34,00,38,00,39,00,43,00,2d,\

00,42,00,44,00,41,00,36,00,2d,00,34,00,42,00,33,00,46,00,42,00,30,00,44,00,\
  30,00,46,00,41,00,31,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{8A3ADEF4-2299-450E-8B73-36A0916E4751}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3922b
"T1"=dword:3cf39933
"T2"=dword:3cf39e79
"LeaseTerminatesTime"=dword:3cf3a03b
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{B1201081-652E-4143-9B1D-7C17C5EC1915}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,31,00,33,00,\
  30,00,2e,00,31,00,35,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  32,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3924b
"T1"=dword:3cf39953
"T2"=dword:3cf39e99
"LeaseTerminatesTime"=dword:3cf3a05b
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{C34B5B87-851C-489C-BDA6-4B3FB0D0FA15}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3922c
"T1"=dword:3cf39934
"T2"=dword:3cf39e7a
"LeaseTerminatesTime"=dword:3cf3a03c
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{D49437B8-1CF7-418A-97E9-FC71AD
CD05EC}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{F5899798-3966-4423-8387-F779733F0
F57}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Winsock]
"UseDelayedAcceptance"=dword:00000000
"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,
52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32
,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00
,6c,00,\
  00,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,
00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,06,00,00,0
0,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,0
2,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,0
0,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,0
0,00,02,\
  00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00,00
```

ISA Server

Null.html

```
<HTML>
<HEAD>
<TITLE>
</TITLE>
</HEAD>
<BODY>
NULL
</BODY>
</HTML>
```

*Note the IIS settings for this file were modified to include an immediate content expiration header.

InetInfo Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\I
netInfo\Parameters]
"ListenBackLog"=dword:00000019
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,00,43,00,
00,00,53,00,\
  4d,00,54,00,50,00,53,00,56,00,43,00,00,00,00,00
"ObjectCacheTTL"=dword:ffffffff
"MemCacheSize"=dword:00000190
"MaxCachedFileSize"=dword:000493e0
```

NDIS Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
NDIS\Parameters]
"ProcessorAffinityMask"=dword:00000000
```

TCPIP Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters]
"NV Hostname"="spweb15"
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52
,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,0
0,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,0
0,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"=""
"Hostname"="spweb15"
"SearchList"=""
"UseDomainNameDevolution"=dword:00000001
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"MaxUserPort"=dword:0000fffe
"TcpTimedWaitDelay"=dword:0000003c
"TcpWindowSize"=dword:00004470
"MaxHashTableSize"=dword:00010000
"MaxFreeTcbs"=dword:0000c350
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\NdisWanIp]
"LLInterface"="WANARP"
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,46,00,35,00,38,00,39,00,39,0
0,37,00,\

39,00,38,00,2d,00,33,00,39,00,36,00,36,00,2d,00,34,00,34,00,32,00,3
3,00,2d,\

00,38,00,33,00,38,00,37,00,2d,00,46,00,37,00,37,00,39,00,37,00,33,0
0,33,00,\

46,00,30,00,46,00,35,00,37,00,7d,00,00,00,54,00,63,00,70,00,69,00,7
0,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73,00,5c,0
0,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00,7b,00,44
,00,34,\

00,39,00,34,00,33,00,37,00,42,00,38,00,2d,00,31,00,43,00,46,00,37,0
0,2d,00,\

34,00,31,00,38,00,41,00,2d,00,39,00,37,00,45,00,39,00,2d,00,46,00,4
3,00,37,\

00,31,00,41,00,44,00,43,00,44,00,30,00,35,00,45,00,43,00,7d,00,00,0
0,00,00
"NumInterfaces"=dword:00000002
"IpInterfaces"=hex:98,97,89,f5,66,39,23,44,83,87,f7,79,73,3f,0f,57,b8
,37,94,d4,\
  f7,1c,8a,41,97,e9,fc,71,ad,cd,05,ec

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{8A3ADEF4-2299-450E-8B73-36A0916E
4751}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,38,00,41,00,33,00,41,00,44,0
0,45,00,\

46,00,34,00,2d,00,32,00,32,00,39,00,39,00,2d,00,34,00,35,00,30,00,4
5,00,2d,\

00,38,00,42,00,37,00,33,00,2d,00,33,00,36,00,41,00,30,00,39,00,31,0
0,36,00,\
  45,00,34,00,37,00,35,00,31,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{B1201081-652E-4143-9B1D-7C17C5EC
1915}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,42,00,31,00,32,00,30,00,31,0
0,30,00,\

38,00,31,00,2d,00,36,00,35,00,32,00,45,00,2d,00,34,00,31,00,34,00,3
3,00,2d,\

00,39,00,42,00,31,00,44,00,2d,00,37,00,43,00,31,00,37,00,43,00,35,0
0,45,00,\
  43,00,31,00,39,00,31,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Adapters\{C34B5B87-851C-489C-BDA6-4B3FB0
D0FA15}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,7
2,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72
,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,43,00,33,00,34,00,42,00,35,0
0,42,00,\

38,00,37,00,2d,00,38,00,35,00,31,00,43,00,2d,00,34,00,38,00,39,00,4
3,00,2d,\

00,42,00,44,00,41,00,36,00,2d,00,34,00,42,00,33,00,46,00,42,00,30,0
0,44,00,\
  30,00,46,00,41,00,31,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{8A3ADEF4-2299-450E-8B73-36A0916
E4751}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3922b
"T1"=dword:3cf39933
"T2"=dword:3cf39e79
```

```
"LeaseTerminatesTime"=dword:3cf3a03b
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{B1201081-652E-4143-9B1D-7C17C5E
C1915}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,
31,00,33,00,\
  30,00,2e,00,31,00,35,00,00,00,00,00
"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,0
0,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"="192.168.130.1"
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,
30,00,30,00,\
  32,00,00,00,00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3924b
"T1"=dword:3cf39953
"T2"=dword:3cf39e99
"LeaseTerminatesTime"=dword:3cf3a05b
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{C34B5B87-851C-489C-BDA6-4B3FB0
D0FA15}]
"UseZeroBroadcast"=dword:00000000
"EnableDeadGWDetect"=dword:00000001
"EnableDHCP"=dword:00000001
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"DefaultGatewayMetric"=hex(7):00,00
"NameServer"=""
"Domain"=""
"DisableDynamicUpdate"=dword:00000000
"EnableAdapterDomainNameRegistration"=dword:00000000
"InterfaceMetric"=dword:00000001
"TCPAllowedPorts"=hex(7):30,00,00,00,00,00
"UDPAllowedPorts"=hex(7):30,00,00,00,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00
"NTEContextList"=hex(7):00,00
"DhcpServer"="255.255.255.255"
"Lease"=dword:00000e10
"LeaseObtainedTime"=dword:3cf3922c
"T1"=dword:3cf39934
"T2"=dword:3cf39e7a
"LeaseTerminatesTime"=dword:3cf3a03c
"IPAutoconfigurationAddress"="0.0.0.0"
"IPAutoconfigurationMask"="255.255.0.0"
"IPAutoconfigurationSeed"=dword:00000000
"AddressType"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{D49437B8-1CF7-418A-97E9-FC71AD
CD05EC}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Interfaces\{F5899798-3966-4423-8387-F779733F0
F57}]
"UseZeroBroadcast"=dword:00000000
"EnableDHCP"=dword:00000000
"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,
00,00
"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,0
0,00,00
"DefaultGateway"=hex(7):00,00
"EnableDeadGWDetect"=dword:00000001
"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Tcpip\Parameters\Winsock]
"UseDelayedAcceptance"=dword:00000000
"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,
52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32
,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00
,6c,00,\
  00,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,
00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,06,00,00,0
0,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,0
2,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,0
0,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,0
0,00,02,\
  00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00
```

ISA Parameters

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc]
"msFPCSchemaVersion"=dword:01640100
"InstallDirectory"="C:\\Program Files\\Microsoft ISA Server\\"
"DefaultCometStorage"=dword:00000002
"msFpcValid"="ok"
"ClassName"="msFPCEnterpriseRoot"
"HelpPath"="C:\\Program Files\\Microsoft ISA Server\\isa.chm"
"CurrentArrayGUID"="{DFF7CD83-C077-4499-85D4-F19C42B0E7
E5}"
"CurrentServerGUID"="{904F2BE2-557D-4CC9-A23B-59BDF94BD
C3B}"
"SmtpDisconnectBadCommand"=dword:00000000
"AcmeComonents"=dword:00000003
"ImagePath"="\"C:\\Program Files\\Microsoft ISA Server\\setup.stf\""
"Edition"="{5933b383-0f51-46de-a54c-e9838062ecaf}"
"LoadSize"=dword:00000002
"msFPCComponents"=dword:00000004
"LocalSecurityLevel"=dword:00000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCArrays"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCStatus"="visible"
"msFpcValid"="ok"
"msFPCName"="SPWEB24"
"msFPCArrayName"="SPWEB24"
"msFPCSiteName"=""
"msFPCVersion"="v=1.0"
"msFPCArrayVersion"="v=1.0"
"msFPCComponents"=dword:00000004
"msFPCArrayComponents"=dword:00000004
"msFPCSecurityLevel"=dword:00000000
"ClassName"="msFPCArray"



[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\ArrayPolicy]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCArrayPolicy"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\ArrayPolicy\Proxy-Ac
cess-Rules]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyAccessRules"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\ArrayPolicy\Proxy-Ac
cess-Rules\{4cf0f1c2-b10b-11d2-9a1d-006094eb634c}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCName"="Allow rule"
"msFpcValid"="ok"
"msFPCAppliesToContentMethod"=dword:00000000
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFPCAppliesToDestination"=dword:00000000
"msFPCAppliesToMethod"=dword:00000000
"msFPCAppliesAlways"=hex(5):ff,ff,ff,ff
"msFPCSCRuleInfo"=hex:02,00,00,00,0e,00,00,00,41,00,63,00,74,00,
69,00,6f,00,6e,\
00,00,00,03,00,00,00,00,00,18,00,00,00,52,00,65,00,64,00,69,00,72,0
0,65,00,\
  63,00,74,00,55,00,72,00,6c,00,00,00,08,00,02,00,00,00,00,00
"ClassName"="msFPCProxyAccessRule"
"msFPCDescription"=""
"msFPCAccess"=hex:01,00,04,80,1c,00,00,00,2c,00,00,00,00,00,00,0
0,14,00,00,00,\

02,00,08,00,00,00,00,00,01,02,00,00,00,00,00,05,20,00,00,00,20,02,0
0,00,01,\
  02,00,00,00,00,00,05,20,00,00,00,20,02,00,00



[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCCache"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache\Prefetcher]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCPrefetcher"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache\Proxy-Cache-C
onfiguration]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFpcValid"="ok"
"msFPCServerProtectFactor"=dword:00000032
"msFPCServerProtectionEnable"=hex(5):00,00,00,00
"msFPCSizeLimitEnable"=hex(5):00,00,00,00
"msFPCCacheEnableTTL"=dword:ffffffff
"msFPCFreshnessInterval"=dword:00015180
"msFPCObjectSizeLimit"=dword:00000001
"msFPCCacheQuestionUrls"=hex(5):ff,ff,ff,ff
"msFPCMemoryCacheUsagePercent"=dword:00000032
"msFPCMemoryCacheMaxURLSize"=dword:0000c350
"msFPCMaxProtectionTime"=dword:0000003c
"ClassName"="msFPCProxyCacheConfiguration"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache\Proxy-Cache-C
onfiguration\Proxy-Active-Cache-Config]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCActiveCaching"=hex:02,00,00,00,1e,00,00,00,41,00,43,00,61,
00,63,00,68,00,\

69,00,6e,00,67,00,45,00,6e,00,61,00,62,00,6c,00,65,00,00,00,0b,00,00
,00,1e,\

00,00,00,41,00,43,00,61,00,63,00,68,00,69,00,6e,00,67,00,50,00,6f,00
,6c,00,\
  69,00,63,00,79,00,00,00,03,00,02,00,00,00
"msFpcValid"="ok"
"ClassName"="msFPCProxyActiveCacheConfig"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache\Proxy-Cache-C
onfiguration\Proxy-FTP-Cache-Config]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCFTPCacheEnable"=hex(5):ff,ff,ff,ff
"msFpcValid"="ok"
"msFPCFTPTTLValue"=dword:000005a0
```

```
"ClassName"="msFPCProxyFTPCacheConfig"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Cache\Proxy-Cache-Configuration\Proxy-HTTP-Cache-Config]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCAgeFactor"=dword:00000014
"msFpcValid"="ok"
"msFPCHTTPCacheEnable"=hex(5):ff,ff,ff,ff
"msFPCInterval"=hex:04,00,00,00,2c,00,00,00,6d,00,73,00,46,00,50,00,43,00,4d,\

00,69,00,6e,00,49,00,6e,00,74,00,65,00,72,00,76,00,61,00,6c,00,55,00,6e,00,\

69,00,74,00,73,00,00,00,03,00,02,00,00,00,18,00,00,00,4d,00,69,00,6e,00,49,\

00,6e,00,74,00,65,00,72,00,76,00,61,00,6c,00,00,00,03,00,0f,00,00,00,12,00,\

00,00,4d,00,61,00,78,00,55,00,6e,00,69,00,74,00,73,00,00,00,03,00,04,00,00,\

00,12,00,00,00,4d,00,61,00,78,00,56,00,61,00,6c,00,75,00,65,00,00,00,03,00,\
  01,00,00,00
"msFPCCacheWithNoLastModDate"=hex(5):ff,ff,ff,ff
"msFPCCacheNon200Responses"=hex(5):00,00,00,00
"ClassName"="msFPCProxyHTTPCacheConfig"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Extensions]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCExtensions"
"msFpcValid"="ok"


[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCNetConfig"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-LAT]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyLAT"
"msFpcValid"="ok"
"msFPCParameter1"=hex:01,00,00,00,08,00,00,00,4c,00,41,00,54,00,00,00,11,20,8e,\

00,00,00,01,00,00,00,86,00,00,00,7b,00,46,00,36,00,31,00,42,00,39,00,44,00,\

34,00,45,00,2d,00,38,00,46,00,32,00,36,00,2d,00,34,00,37,00,34,00,30,00,2d,\

00,41,00,37,00,30,00,37,00,2d,00,36,00,46,00,38,00,38,00,45,00,36,00,43,00,\

35,00,39,00,44,00,42,00,36,00,7d,00,09,00,30,00,2e,00,30,00,2e,00,30,00,2e,\

00,31,00,09,00,32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,00,\
  35,00,2e,00,32,00,35,00,34,00,09,00,05,00,06,00,07,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-LDT]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyLDT"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Routing-Rules]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyRoutingRules"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Routing-Rules\{642fdf42-b10b-11d2-9a1d-006094eb634c}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFpcValid"="ok"
"msFPCAppliesToDestination"=dword:00000000
"msFPCOrder"=hex:ff,ff,ff,ff,00,00,00,00
"msFPCName"="Default rule"
"msFPCIsDefaultRule"=hex(5):ff,ff,ff,ff
"msFPCNeverCacheResponse"=hex(5):00,00,00,00
"msFPCRoutingCacheAction"=dword:00000000
"msFPCSSLRequireSecureChannel"=dword:00000000
"msFPCSecurePublishProtocolRedirection"=dword:00000000
"msFPCNonSecurePublishProtocolRedirection"=dword:00000000
"msFPCParameter1"=hex:01,00,00,00,2e,00,00,00,43,00,61,00,63,00,68,00,65,00,52,\

00,65,00,73,00,70,00,6f,00,6e,00,73,00,65,00,43,00,6f,00,6e,00,64,00,69,00,\
  74,00,69,00,6f,00,6e,00,00,00,03,00,01,00,00,00
"ClassName"="msFPCProxyRoutingRule"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Routing-Rules\{642fdf42-b10b-11d2-9a1d-006094eb634c}\PrimaryRoute]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCRouteInfo"=hex:04,00,00,00,14,00,00,00,52,00,6f,00,75,00,74,00,65,00,54,\

00,79,00,70,00,65,00,00,00,03,00,00,00,00,00,1a,00,00,00,52,00,65,00,64,00,\

69,00,72,00,65,00,63,00,74,00,48,00,6f,00,73,00,74,00,00,00,08,00,02,00,00,\

00,00,00,22,00,00,00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,48,00,\

6f,00,73,00,74,00,50,00,6f,00,72,00,74,00,00,00,03,00,50,00,00,00,28,00,00,\

00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,48,00,6f,00,73,00,74,00,\
  53,00,53,00,4c,00,50,00,6f,00,72,00,74,00,00,00,03,00,bb,01,00,00
"msFpcValid"="ok"
"msFPCPollInfo"=hex:01,00,00,00,28,00,00,00,41,00,75,00,74,00,6f,00,6d,00,61,\

00,74,00,69,00,63,00,50,00,6f,00,6c,00,6c,00,43,00,6f,00,6e,00,66,00,69,00,\
  67,00,00,00,0b,00,00,00
```

```
"msFPCAuthenticationInfo"=hex:02,00,00,00,36,00,00,00,6d,00,73,00
,46,00,50,00,\

43,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,61,00,7
4,00,69,\

00,6f,00,6e,00,45,00,6e,00,61,00,62,00,6c,00,65,00,64,00,00,00,0b,00,
00,00,\

26,00,00,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,6
1,00,74,\

00,69,00,6f,00,6e,00,54,00,79,00,70,00,65,00,00,00,03,00,00,00,00,00
"ClassName"="msFPCPrimaryRoute"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{642fdf42-b10b-11d2-9a1d-006094eb634c}\PrimaryRoute\
AutoDial]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCEnableAutoDial"=hex(5):00,00,00,00
"msFpcValid"="ok"
"ClassName"="msFPCAutoDial"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{642fdf42-b10b-11d2-9a1d-006094eb634c}\PrimaryRoute\
BackupRoute]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCRouteInfo"=hex:01,00,00,00,20,00,00,00,42,00,61,00,63,00,6
b,00,75,00,70,\

00,52,00,6f,00,75,00,74,00,65,00,54,00,79,00,70,00,65,00,00,00,03,00
,00,00,\
  00,00
"msFpcValid"="ok"
"msFPCAuthenticationInfo"=hex:03,00,00,00,36,00,00,00,6d,00,73,00
,46,00,50,00,\

43,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,61,00,7
4,00,69,\

00,6f,00,6e,00,45,00,6e,00,61,00,62,00,6c,00,65,00,64,00,00,00,0b,00,
00,00,\

26,00,00,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,6
1,00,74,\

00,69,00,6f,00,6e,00,54,00,79,00,70,00,65,00,00,00,03,00,00,00,00,00
,28,00,\

00,00,41,00,75,00,74,00,6f,00,6d,00,61,00,74,00,69,00,63,00,50,00,6f,
00,6c,\
  00,6c,00,43,00,6f,00,6e,00,66,00,69,00,67,00,00,00,0b,00,00,00
"msFPCPollInfo"=hex:01,00,00,00,28,00,00,00,41,00,75,00,74,00,6f,0
0,6d,00,61,\

00,74,00,69,00,63,00,50,00,6f,00,6c,00,6c,00,43,00,6f,00,6e,00,66,00,
69,00,\
  67,00,00,00,0b,00,00,00
"ClassName"="msFPCBackupRoute"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{642fdf42-b10b-11d2-9a1d-006094eb634c}\PrimaryRoute\
BackupRoute\AutoDial]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCEnableAutoDial"=hex(5):00,00,00,00
"msFpcValid"="ok"
"ClassName"="msFPCAutoDial"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{AFBBB275-3EA2-4342-B596-C2C42E4FA2AD}]
"msFpcCreatedTime"=hex:8f,cd,b6,8a,dc,3c,e2,40
"msFPCParameter1"=hex:01,00,00,00,2e,00,00,00,43,00,61,00,63,00,
68,00,65,00,52,\

00,65,00,73,00,70,00,6f,00,6e,00,73,00,65,00,43,00,6f,00,6e,00,64,00,
69,00,\
  74,00,69,00,6f,00,6e,00,00,00,03,00,00,00,00,00
"msFpcValid"="ok"
"msFPCIsDefaultRule"=hex(5):00,00,00,00
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFPCAppliesToDestination"=dword:00000003
"msFPCRoutingCacheAction"=dword:00000000
"msFPCNeverCacheResponse"=hex(5):00,00,00,00
"msFPCName"="Cache Rule"
"msFPCSSLRequireSecureChannel"=dword:00000000
"msFPCNonSecurePublishProtocolRedirection"=dword:00000000
"msFPCSecurePublishProtocolRedirection"=dword:00000002
"msFPCDescription"=""
"msFPCOrder"=hex:fe,ff,ff,ff,01,00,00,00,70,b1,58,17,1f,dc,c1,01
"msFPCSSLCertificateHash"=hex:
"ClassName"="msFPCProxyRoutingRule"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{AFBBB275-3EA2-4342-B596-C2C42E4FA2AD}\DestSet
Used]
"msFpcCreatedTime"=hex:8f,cd,b6,8a,dc,3c,e2,40
"msFPCRefInfo"=hex:04,00,00,00,14,00,00,00,6d,00,73,00,46,00,50,0
0,43,00,4e,00,\

61,00,6d,00,65,00,00,00,08,00,4e,00,00,00,7b,00,32,00,37,00,30,00,3
7,00,33,\

00,32,00,38,00,34,00,2d,00,38,00,30,00,45,00,31,00,2d,00,34,00,46,0
0,44,00,\

41,00,2d,00,41,00,30,00,45,00,45,00,2d,00,35,00,32,00,44,00,46,00,4
4,00,37,\

00,39,00,30,00,37,00,46,00,31,00,46,00,7d,00,00,00,16,00,00,00,50,0
0,6c,00,\

75,00,67,00,69,00,6e,00,47,00,75,00,69,00,64,00,00,00,08,00,02,00,0
0,00,00,\

00,12,00,00,00,4c,00,69,00,6e,00,6b,00,54,00,79,00,70,00,65,00,00,00
,03,00,\

00,00,00,00,0c,00,00,00,53,00,63,00,6f,00,70,00,65,00,00,00,03,00,00
,00,00,\
  00
"msFpcValid"="ok"
"ClassName"="msFPCRef"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{AFBBB275-3EA2-4342-B596-C2C42E4FA2AD}\Primary
Route]
"msFpcCreatedTime"=hex:8f,cd,b6,8a,dc,3c,e2,40
"msFPCRouteInfo"=hex:07,00,00,00,20,00,00,00,52,00,6f,00,75,00,74
,00,65,00,53,\
```

```
00,65,00,72,00,76,00,65,00,72,00,4e,00,61,00,6d,00,65,00,00,00,08,0
0,02,00,\

00,00,00,00,20,00,00,00,52,00,6f,00,75,00,74,00,65,00,53,00,65,00,72
,00,76,\

00,65,00,72,00,50,00,6f,00,72,00,74,00,00,00,03,00,90,1f,00,00,14,00,
00,00,\

52,00,6f,00,75,00,74,00,65,00,54,00,79,00,70,00,65,00,00,00,03,00,00
,00,00,\

00,22,00,00,00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,48,0
0,6f,00,\

73,00,74,00,50,00,6f,00,72,00,74,00,00,00,03,00,50,00,00,00,28,00,00
,00,52,\

00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,48,00,6f,00,73,00,74,00
,53,00,\

53,00,4c,00,50,00,6f,00,72,00,74,00,00,00,03,00,bb,01,00,00,1a,00,00
,00,52,\

00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,48,00,6f,00,73,00,74,00
,00,00,\

08,00,02,00,00,00,00,00,26,00,00,00,52,00,6f,00,75,00,74,00,65,00,53
,00,65,\

00,72,00,76,00,65,00,72,00,53,00,53,00,4c,00,50,00,6f,00,72,00,74,00
,00,00,\
  03,00,fb,20,00,00
"msFpcValid"="ok"
"msFPCPollInfo"=hex:02,00,00,00,28,00,00,00,41,00,75,00,74,00,6f,0
0,6d,00,61,\

00,74,00,69,00,63,00,50,00,6f,00,6c,00,6c,00,43,00,6f,00,6e,00,66,00,
69,00,\

67,00,00,00,0b,00,00,00,14,00,00,00,50,00,6f,00,6c,00,6c,00,41,00,74
,00,55,\
  00,52,00,4c,00,00,00,08,00,02,00,00,00,00,00
"msFPCAuthenticationInfo"=hex:02,00,00,00,36,00,00,00,6d,00,73,00
,46,00,50,00,\

43,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,61,00,7
4,00,69,\

00,6f,00,6e,00,45,00,6e,00,61,00,62,00,6c,00,65,00,64,00,00,00,0b,00,
00,00,\

26,00,00,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,6
1,00,74,\

00,69,00,6f,00,6e,00,54,00,79,00,70,00,65,00,00,00,03,00,00,00,00,00
"ClassName"="msFPCPrimaryRoute"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{AFBBB275-3EA2-4342-B596-C2C42E4FA2AD}\Primary
Route\AutoDial]
"msFpcCreatedTime"=hex:8f,cd,b6,8a,dc,3c,e2,40
"msFPCEnableAutoDial"=hex(5):00,00,00,00
"msFpcValid"="ok"
"ClassName"="msFPCAutoDial"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Proxy-Rout
ing-Rules\{AFBBB275-3EA2-4342-B596-C2C42E4FA2AD}\Primary
Route\BackupRoute]
"msFpcCreatedTime"=hex:8f,cd,b6,8a,dc,3c,e2,40
"msFPCRouteInfo"=hex:04,00,00,00,20,00,00,00,52,00,6f,00,75,00,74
,00,65,00,53,\

00,65,00,72,00,76,00,65,00,72,00,50,00,6f,00,72,00,74,00,00,00,03,00
,90,1f,\

00,00,20,00,00,00,52,00,6f,00,75,00,74,00,65,00,53,00,65,00,72,00,76
,00,65,\

00,72,00,4e,00,61,00,6d,00,65,00,00,00,08,00,02,00,00,00,00,00,20,0
0,00,00,\

42,00,61,00,63,00,6b,00,75,00,70,00,52,00,6f,00,75,00,74,00,65,00,54
,00,79,\

00,70,00,65,00,00,00,03,00,01,00,00,00,26,00,00,00,52,00,6f,00,75,00
,74,00,\

65,00,53,00,65,00,72,00,76,00,65,00,72,00,53,00,53,00,4c,00,50,00,6f
,00,72,\
  00,74,00,00,00,03,00,fb,20,00,00
"msFpcValid"="ok"
"msFPCPollInfo"=hex:02,00,00,00,14,00,00,00,50,00,6f,00,6c,00,6c,0
0,41,00,74,\

00,55,00,52,00,4c,00,00,00,08,00,02,00,00,00,00,00,28,00,00,00,41,0
0,75,00,\

74,00,6f,00,6d,00,61,00,74,00,69,00,63,00,50,00,6f,00,6c,00,6c,00,43,
00,6f,\
  00,6e,00,66,00,69,00,67,00,00,00,0b,00,00,00
"msFPCAuthenticationInfo"=hex:02,00,00,00,36,00,00,00,6d,00,73,00
,46,00,50,00,\

43,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,61,00,7
4,00,69,\

00,6f,00,6e,00,45,00,6e,00,61,00,62,00,6c,00,65,00,64,00,00,00,0b,00,
00,00,\

26,00,00,00,41,00,75,00,74,00,68,00,65,00,6e,00,74,00,69,00,63,00,6
1,00,74,\

00,69,00,6f,00,6e,00,54,00,79,00,70,00,65,00,00,00,03,00,00,00,00,00
"ClassName"="msFPCBackupRoute"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\NetConfig\Wsp-Chainin
g]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCChainInfo"=hex:02,00,00,00,10,00,00,00,43,00,68,00,61,00,6
9,00,6e,00,54,\

00,6f,00,00,00,08,00,02,00,00,00,00,00,18,00,00,00,46,00,6f,00,72,00,
77,00,\
  61,00,72,00,64,00,54,00,79,00,70,00,65,00,00,00,03,00,00,00,00,00
"msFpcValid"="ok"
"msFPCAuthenticationEnabled"=hex(5):00,00,00,00
"ClassName"="msFPCWspChaining"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
```

```
"ClassName"="msFPCPolicyElements"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Client-Sets]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCClientSets"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\ContentGroups]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCContentGroups"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\ContentGroups\{18d59ae5-5064-4b66-9f05-3cd3ea180788}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCName"="VRML"
"msFpcValid"="ok"
"msFPCDescription"="VRML"
"msFPCContentStrings"=hex(7):78,00,2d,00,77,00,6f,00,72,00,6c,00,64,00,2f,00,\

78,00,2d,00,76,00,72,00,6d,00,6c,00,00,00,2e,00,66,00,6c,00,72,00,00,00,2e,\

00,77,00,72,00,6c,00,00,00,2e,00,77,00,72,00,7a,00,00,00,2e,00,78,00,61,00,\
  66,00,00,00,2e,00,78,00,6f,00,66,00,00,00,00,00
"ClassName"="msFPCContentGroup"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\ContentGroups\{23b0dfe2-c9e1-4426-b74d-09cf1e34f0f5}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCName"="Text"
"msFpcValid"="ok"
"msFPCDescription"="Text content"
"msFPCContentStrings"=hex(7):2e,00,74,00,78,00,74,00,00,00,2e,00,68,00,00,00,\

2e,00,63,00,00,00,2e,00,68,00,74,00,63,00,00,00,2e,00,76,00,63,00,66,00,00,\

00,2e,00,65,00,74,00,78,00,00,00,2e,00,75,00,6c,00,73,00,00,00,2e,00,63,00,\

73,00,73,00,00,00,2e,00,62,00,61,00,73,00,00,00,2e,00,72,00,74,00,78,00,00,\

00,74,00,65,00,78,00,74,00,2f,00,70,00,6c,00,61,00,69,00,6e,00,00,00,74,00,\

65,00,78,00,74,00,2f,00,78,00,2d,00,63,00,6f,00,6d,00,70,00,6f,00,6e,00,65,\

00,6e,00,74,00,00,00,74,00,65,00,78,00,74,00,2f,00,78,00,2d,00,76,00,63,00,\

61,00,72,00,64,00,00,00,74,00,65,00,78,00,74,00,2f,00,78,00,2d,00,73,00,65,\
  00,74,00,65,00,78,00,74,00,00,00,00,00
"ClassName"="msFPCContentGroup"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Bandwidth-Classes]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyBandwidthClasses"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Bandwidth-Classes\{9C1D4AB8-3464-40b1-BC56-1EE39064E3D9}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCName"="Default bandwidth priority"
"msFpcValid"="ok"
"msFPCBandwidthExternalWeight"=dword:00000064
"msFPCBandwidthInternalWeight"=dword:00000064
"ClassName"="msFPCProxyBandwidthClass"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Destination-Sets]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyDestinationSets"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Destination-Sets\{27073284-80E1-4FDA-A0EE-52DFD7907F1F}]
"msFpcCreatedTime"=hex:05,66,71,27,dc,3c,e2,40
"msFPCName"="ISAcache"
"msFpcValid"="ok"
"msFPCDescription"=""
"msFPCDestSetData"=hex:00,00,00,00
"ClassName"="msFPCProxyDestinationSet"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Schedule-Templates]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyScheduleTemplates"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Schedule-Templates\{47B968A1-AF84-11d2-9514-0008C7BCEFD3}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCScheduleTemplate"=hex:00,00,00,00,00,00,00,00,3e,3e,3e,3e,3e,3e,3e,3e,\
  00,00,00,00,00,00,00
"msFpcValid"="ok"
"msFPCName"="Work hours"
"ClassName"="msFPCProxyScheduleTemplate"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\PolicyElements\Proxy-Schedule-Templates\{47B968A2-AF84-11d2-9514-0008C7BCEFD3}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCScheduleTemplate"=hex:41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,\
  41,41,41,41,41,41,41
"msFpcValid"="ok"
"msFPCName"="Weekends"
"ClassName"="msFPCProxyScheduleTemplate"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\ProxyClientConfig]
```

```
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyClientConfig"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\ProxyClientConfig\BrowserClientConfig]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCBrowserConfigEnabled"=hex(5):ff,ff,ff,ff
"msFpcValid"="ok"
"msFPCBrowserConfigAutoDetect"=hex(5):00,00,00,00
"msFPCBrowserConfigScriptEnabled"=hex(5):00,00,00,00
"msFPCBrowserConfigScriptFlag"=dword:00000000
"msFPCBrowserConfigScriptAddress"="http://SPWEB24:8080/array.dll?Get.Routing.Script"
"msFPCServerOrArrayName"="SPWEB24"
"ClassName"="msFPCBrowserClientConfig"


[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCPublishing"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing\PNATServerMappings]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCPNATServerMappings"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing\Proxy-Web Pub-Rules]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyWebPubRules"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing\Proxy-Web Pub-Rules\{588ba3ce-b10b-11d2-9a1d-006094eb634c}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFpcValid"="ok"
"msFPCAppliesToDestination"=dword:00000000
"msFPCPubRuleInfo"=hex:05,00,00,00,18,00,00,00,52,00,65,00,64,00
,69,00,72,00,\

65,00,63,00,74,00,55,00,72,00,6c,00,00,00,08,00,02,00,00,00,00,00,22,00,00,\

00,48,00,54,00,54,00,50,00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,\

50,00,6f,00,72,00,74,00,00,00,03,00,50,00,00,00,20,00,00,00,46,00,54,00,50,\

00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,50,00,6f,00,72,00,74,00,\

00,00,03,00,15,00,00,00,20,00,00,00,53,00,53,00,4c,00,52,00,65,00,64,00,69,\

00,72,00,65,00,63,00,74,00,50,00,6f,00,72,00,74,00,00,00,03,00,bb,01,00,00,\

0e,00,00,00,41,00,63,00,74,00,69,00,6f,00,6e,00,00,00,03,00,00,00,00,00,00
"msFPCOrder"=hex:ff,ff,ff,ff,00,00,00,00
"msFPCName"="Default rule"
"msFPCIsDefaultRule"=hex(5):ff,ff,ff,ff
"msFPCAppliesToMethod"=dword:00000000
"msFPCSSLRequireSecureChannel"=dword:00000000
"msFPCSecurePublishProtocolRedirection"=dword:00000000
"msFPCNonSecurePublishProtocolRedirection"=dword:00000000
"ClassName"="msFPCProxyWebPubRule"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing\Proxy-Web Pub-Rules\{6C5A3911-BBDB-4E51-AD64-E8A44D35B9FA}]
"msFpcCreatedTime"=hex:7d,d2,27,3d,dc,3c,e2,40
"msFPCParameter1"=hex:01,00,00,00,2e,00,00,00,53,00,65,00,6e,00,64,00,4f,00,72,\

00,69,00,67,00,69,00,6e,00,61,00,6c,00,48,00,6f,00,73,00,74,00,48,00,65,00,\
  61,00,64,00,65,00,72,00,00,00,0b,00,00,00
"msFpcValid"="ok"
"msFPCPubRuleInfo"=hex:05,00,00,00,18,00,00,00,52,00,65,00,64,00
,69,00,72,00,\

65,00,63,00,74,00,55,00,72,00,6c,00,00,00,08,00,18,00,00,00,31,00,39,00,32,\

00,2e,00,31,00,36,00,38,00,2e,00,31,00,2e,00,32,00,00,00,22,00,00,00,48,00,\

54,00,54,00,50,00,52,00,65,00,64,00,69,00,72,00,65,00,63,00,74,00,50,00,6f,\

00,72,00,74,00,00,00,03,00,50,00,00,00,20,00,00,00,46,00,54,00,50,00,52,00,\

65,00,64,00,69,00,72,00,65,00,63,00,74,00,50,00,6f,00,72,00,74,00,00,00,03,\

00,15,00,00,00,20,00,00,00,53,00,53,00,4c,00,52,00,65,00,64,00,69,00,72,00,\

65,00,63,00,74,00,50,00,6f,00,72,00,74,00,00,00,03,00,bb,01,00,00,0e,00,00,\
  00,41,00,63,00,74,00,69,00,6f,00,6e,00,00,00,03,00,01,00,00,00
"msFPCSSLRequireSecureChannel"=dword:00000000
"msFPCDescription"=""
"msFPCEnabled"=hex(5):ff,ff,ff,ff
"msFPCOrder"=hex:fe,ff,ff,ff,01,00,00,00,20,37,e9,2f,1d,dc,c1,01
"msFPCName"="Cache Rule"
"msFPCAppliesToMethod"=dword:00000000
"msFPCNonSecurePublishProtocolRedirection"=dword:00000000
"msFPCSecurePublishProtocolRedirection"=dword:00000002
"msFPCAppliesToDestination"=dword:00000003
"msFPCIsDefaultRule"=hex(5):00,00,00,00
"msFPCSSLCertificateHash"=hex:
"ClassName"="msFPCProxyWebPubRule"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Publishing\Proxy-Web Pub-Rules\{6C5A3911-BBDB-4E51-AD64-E8A44D35B9FA}\DestSetUsed]
"msFpcCreatedTime"=hex:7d,d2,27,3d,dc,3c,e2,40
"msFPCRefInfo"=hex:04,00,00,00,14,00,00,00,6d,00,73,00,46,00,50,00,43,00,4e,00,\
```

```
61,00,6d,00,65,00,00,00,08,00,4e,00,00,00,7b,00,32,00,37,00,30,00,37,00,33,\

00,32,00,38,00,34,00,2d,00,38,00,30,00,45,00,31,00,2d,00,34,00,46,00,44,00,\

41,00,2d,00,41,00,30,00,45,00,45,00,2d,00,35,00,32,00,44,00,46,00,44,00,37,\

00,39,00,30,00,37,00,46,00,31,00,46,00,7d,00,00,00,16,00,00,00,50,00,6c,00,\

75,00,67,00,69,00,6e,00,47,00,75,00,69,00,64,00,00,00,08,00,02,00,00,00,00,\

00,12,00,00,00,4c,00,69,00,6e,00,6b,00,54,00,79,00,70,00,65,00,00,00,03,00,\

00,00,00,00,0c,00,00,00,53,00,63,00,6f,00,70,00,65,00,00,00,03,00,00,00,\
  00
"msFpcValid"="ok"
"ClassName"="msFPCRef"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCServers"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-557D-4CC9-A23B-59BDF94BDC3B}]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCName"="SPWEB24"
"msFpcValid"="ok"
"msFPCProductID"="53941-270-0000007-00000"
"msFPCVersion"="3.0.1200.50"
"msFPCFQDN"="spweb24.tpcw.net"
"msFPCLoadFactor"=dword:00000064
"ClassName"="msFPCServer"
"msFPCParameter1"=hex:01,00,00,00,2c,00,00,00,49,00,6e,00,73,00,74,00,61,00,6c,\

00,6c,00,61,00,74,00,69,00,6f,00,6e,00,44,00,69,00,72,00,65,00,63,00,74,00,\

6f,00,72,00,79,00,00,00,08,00,4c,00,00,00,43,00,3a,00,5c,00,50,00,72,00,6f,\

00,67,00,72,00,61,00,6d,00,20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,\

69,00,63,00,72,00,6f,00,73,00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,\
  00,53,00,65,00,72,00,76,00,65,00,72,00,00,00
"msFPCPublicKey"=hex:06,02,00,00,00,a4,00,00,52,53,41,31,00,02,00,00,01,00,01,\

00,db,17,57,d5,02,bb,95,5d,4d,79,9b,ce,4c,5c,13,68,9b,06,64,1a,6e,fe,12,95,\

98,2d,b3,d8,18,5f,51,38,01,b9,91,fb,a4,7b,da,5c,ea,58,b4,88,22,5c,a5,b6,b1,\
  21,4a,07,49,fd,a9,3d,01,56,c3,4e,29,b2,e3,97
"msFPCIntraArrayAddress"="192.168.130.24"
"msFPCHttpViaHeaderAlias"=""

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-557D-4CC9-A23B-59BDF94BDC3B}\ForwardListen]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCBasicAuthentication"=hex(5):00,00,00,00
"msFpcValid"="ok"
"msFPCDigestAuthentication"=hex(5):00,00,00,00
"msFPCIntegratedWindowsAuthentication"=hex(5):ff,ff,ff,ff
"msFPCSSLCertificateAuthentication"=hex(5):00,00,00,00
"msFPCDomain"=""
"msFPCParameter1"=hex:01,00,00,00,3c,00,00,00,44,00,6f,00,6d,00,61,00,69,00,6e,\

00,46,00,6f,00,72,00,44,00,69,00,67,00,65,00,73,00,74,00,41,00,75,00,74,00,\

68,00,65,00,6e,00,74,00,69,00,63,00,61,00,74,00,69,00,6f,00,6e,00,00,00,08,\
  00,02,00,00,00,00,00
"ClassName"="msFPCProxyListenEntries"
"msFPCDescription"=""
"msFPCSSLCertificateHash"=hex:

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-557D-4CC9-A23B-59BDF94BDC3B}\ForwardListen\{04FF85F7-BD90-4475-911F-22DB16F23FFB}]
"msFpcCreatedTime"=hex:68,3a,62,9f,b2,3d,e2,40
"msFPCParameter1"=hex:01,00,00,00,3c,00,00,00,44,00,6f,00,6d,00,61,00,69,00,6e,\

00,46,00,6f,00,72,00,44,00,69,00,67,00,65,00,73,00,74,00,41,00,75,00,74,00,\

68,00,65,00,6e,00,74,00,69,00,63,00,61,00,74,00,69,00,6f,00,6e,00,00,00,08,\
  00,02,00,00,00,00,00
"msFpcValid"="ok"
"msFPCDescription"=""
"msFPCIP"="192.168.1.24"
"msFPCBasicAuthentication"=hex(5):00,00,00,00
"msFPCDigestAuthentication"=hex(5):00,00,00,00
"msFPCIntegratedWindowsAuthentication"=hex(5):ff,ff,ff,ff
"msFPCSSLCertificateAuthentication"=hex(5):00,00,00,00
"msFPCDomain"=""
"msFPCSSLCertificateHash"=hex:
"ClassName"="msFPCProxyListenEntry"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-557D-4CC9-A23B-59BDF94BDC3B}\PrefetcherFlags]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCServiceRestartID"="{d8c82f0f-0011-4596-ab4a-6069253857e9}"
"msFpcValid"="ok"
"ClassName"="msFPCServiceFlags"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-557D-4CC9-A23B-59BDF94BDC3B}\Proxy-Cache-Directories]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCProxyCacheDirectories"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{DFF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-5
```

```
57D-4CC9-A23B-59BDF94BDC3B}\Proxy-Cache-Directories\Proxy-
Cache-Directory1]
"msFpcCreatedTime"=hex:2c,04,87,f4,11,43,e2,40
"msFPCCacheDirectoryInfo"=hex:02,00,00,00,1c,00,00,00,44,00,69,0
0,72,00,65,00,\

63,00,74,00,6f,00,72,00,79,00,4e,00,61,00,6d,00,65,00,00,00,08,00,22
,00,00,\

00,43,00,3a,00,5c,00,75,00,72,00,6c,00,63,00,61,00,63,00,68,00,65,00
,5c,00,\

44,00,69,00,72,00,31,00,00,00,22,00,00,00,43,00,61,00,63,00,68,00,6
5,00,4c,\

00,69,00,6d,00,69,00,74,00,49,00,6e,00,4d,00,65,00,67,00,73,00,00,0
0,03,00,\
  e8,03,00,00
"msFpcValid"="ok"
"ClassName"="msFPCProxyCacheDirectory"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-5
57D-4CC9-A23B-59BDF94BDC3B}\ReverseListen]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCBasicAuthentication"=hex(5):00,00,00,00
"msFpcValid"="ok"
"msFPCDigestAuthentication"=hex(5):00,00,00,00
"msFPCIntegratedWindowsAuthentication"=hex(5):ff,ff,ff,ff
"msFPCSSLCertificateAuthentication"=hex(5):00,00,00,00
"msFPCDomain"=""
"msFPCParameter1"=hex:01,00,00,00,3c,00,00,00,44,00,6f,00,6d,00,6
1,00,69,00,6e,\

00,46,00,6f,00,72,00,44,00,69,00,67,00,65,00,73,00,74,00,41,00,75,00
,74,00,\

68,00,65,00,6e,00,74,00,69,00,63,00,61,00,74,00,69,00,6f,00,6e,00,00
,00,08,\
  00,02,00,00,00,00,00
"ClassName"="msFPCProxyListenEntries"
"msFPCDescription"=""

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-5
57D-4CC9-A23B-59BDF94BDC3B}\ReverseListen\{1AB31C8C-65
A2-45E3-8A33-49A9EE67726A}]
"msFpcCreatedTime"=hex:68,3a,62,9f,b2,3d,e2,40
"msFPCParameter1"=hex:01,00,00,00,3c,00,00,00,44,00,6f,00,6d,00,6
1,00,69,00,6e,\

00,46,00,6f,00,72,00,44,00,69,00,67,00,65,00,73,00,74,00,41,00,75,00
,74,00,\

68,00,65,00,6e,00,74,00,69,00,63,00,61,00,74,00,69,00,6f,00,6e,00,00
,00,08,\
  00,02,00,00,00,00,00
"msFpcValid"="ok"
"msFPCDescription"=""
"msFPCIP"="192.168.130.24"
"msFPCBasicAuthentication"=hex(5):00,00,00,00
"msFPCDigestAuthentication"=hex(5):00,00,00,00
"msFPCIntegratedWindowsAuthentication"=hex(5):ff,ff,ff,ff
"msFPCSSLCertificateAuthentication"=hex(5):00,00,00,00
"msFPCDomain"=""
"msFPCSSLCertificateHash"=hex:
"ClassName"="msFPCProxyListenEntry"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-5
57D-4CC9-A23B-59BDF94BDC3B}\WebServiceFlags]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCServiceRestartID"="{F019D1F4-400A-4294-AE51-7553B94
B4A6D}"
"msFpcValid"="ok"
"ClassName"="msFPCServiceFlags"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Servers\{904F2BE2-5
57D-4CC9-A23B-59BDF94BDC3B}\WinsockServiceFlags]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"msFPCServiceRestartID"="{d8c82f0f-0011-4596-ab4a-6069253857e
9}"
"msFpcValid"="ok"
"ClassName"="msFPCServiceFlags"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\Sessions]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCDummy"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Arrays\{D
FF7CD83-C077-4499-85D4-F19C42B0E7E5}\SignaledAlerts]
"msFpcCreatedTime"=hex:33,3e,f4,d4,db,3c,e2,40
"ClassName"="msFPCDummy"
"msFpcValid"="ok"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion]

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\BwcPerf]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\

20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,62,00,77,00,63,00,6d,00,69,00,62,00,2e,00,64,00,6c
,00,6c,\
  00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\Cache]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\

20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,63,00,61,00,63,00,68,00,6d,00,69,00,62,00,2e,00,64
,00,6c,\
  00,6c,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\fwsrv]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\
```

```
20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,77,00,73,00,70,00,6d,00,69,00,62,00,2e,00,64,00,6c
,00,6c,\
  00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\H323FLTR]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\

20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,68,00,66,00,6d,00,69,00,62,00,2e,00,64,00,6c,00,6c
,00,00,\
  00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\isactrl]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\

20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,70,00,66,00,6d,00,69,00,62,00,2e,00,64,00,6c,00,6c
,00,00,\
  00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\CurrentVe
rsion\w3proxy]
"Pathname"=hex(2):43,00,3a,00,5c,00,50,00,72,00,6f,00,67,00,72,00,6
1,00,6d,00,\

20,00,46,00,69,00,6c,00,65,00,73,00,5c,00,4d,00,69,00,63,00,72,00,6f
,00,73,\

00,6f,00,66,00,74,00,20,00,49,00,53,00,41,00,20,00,53,00,65,00,72,00
,76,00,\

65,00,72,00,5c,00,77,00,33,00,70,00,6d,00,69,00,62,00,2e,00,64,00,6c
,00,6c,\
  00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Notificatio
n Parameters]
"NotifyAfterIdlePeriod"=dword:00001388
"NotifyIfNotIdlePeriod"=dword:0000ea60
"msFPCDefaultPollingRate"=dword:00000005

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Fpc\Reports]
"LastDailySummaryDate"=hex:00,00,00,00,00,49,e2,40
"LastMonthlySummaryDate"=hex:00,00,00,00,00,44,e2,40
```

Appendix E: Space Calculations

Clause 4.4 180-Day Space Computation

180-Day-Space = Initial Space + ((G/TI) * WIPS * 3600 * 8 * 180)

	I.S initial (kbytes)	End end(kbytes)	G end - initial (kbytes	TI total interactions	WIPS	180-Day-Space = Initial Space + ((G/TI) * WIPS * 3600 * 8 * 180) in kbytes	in GB
Database	885797184	887816320	2019136	138733812	21139.77	2480752437	2365.829884

Growth/TI = 0.01455403 KB

Clause 4.5 - Web Server Access Log

8-hour-web-log-space = (L/TI) * Wips * 3600 * 8

	end - initial (Kb)	L end - initial (kbytes)	TI total interactions	WIPS	8-hour-web-log-space = (L/TI) * Wips * 3600 * 8 in kbytes	in MB	in GB
Websrver (Cache Miss ONLY)	613,444,184	599067	138733812	21139.77	2628969.349	2567.352880	2.507180547
Websrver (Cache Miss ONLY)	644,853,410	629740	138733812	21139.77	2763576.367	2698.805046	2.635551803
Websrver (Admin Confirms)	25,146,536	24557	138733812	21139.77	107767.706	105.241900	0.102775293
ISA Cacher Server	10,432,118	10188	138733812	21139.77	44707.765	43.659927	0.042636647

Clause 4.5.2 : Database logging

7-Day-Space = Initial Space + ((G/TI) * WIPS * 3600 * 8 * 7)

	I.S (zero ?) initial (bytes)	End end(bytes)	G end - initial (bytes)	TI total interactions	WIPS	7-Day-Space = Initial Space + ((G/TI) * WIPS * 3600 * 8 * 7) in bytes	in MB	in GB
DB Log	10267127171	17278380176	7011253005	138733812	21139.77	225646498635.93	215193.2703	210.1496781

Growth/TI = 50.53744941 bytes

	MB	%used	MB	bytes
initial	225600	4.3402019	9791.495486	10267127171
end	225600	7.3040547	16477.9474	17278380176

Clause 6.7.1 - 14 Day Growth

	IR in bytes	end in bytes	**G**	**TI**	**G/TI**	**WIPS**	**Resource Requirement:**	Required GB
DB Server Log (7-day Req)	10267127171	17278380176	7011253005	138733812	50.53744941	21139.77	225646498636	210
DB Server Data	907056316416	909123911680	2067595264	138733812	14.90332626	21139.77	1034085641439	963
Totals	917323443587	926402291856	9078848269	138733812	65.44077567	21139.77	1475111511540	1374

Total DB system Growth in Bytes	RG=IR + ((G/TI) *WIPS*3600*8*14)	1475111511540
Total DB system Growth in GB		1373.804651

Appendix F: Price Quotations

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
http://www.microsoft.com/

Microsoft

September 6, 2002

IBM Corporation
Chris King
3039 Cornwallis Road
Research Triangle Park,
NC 27709

Ms. King:

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-W benchmark testing.

All pricing shown is in US Dollars ($).

Part Number	Description	Unit Price	Quantity	Price
810-00846	**SQL Server 2000 Enterprise Edition 32-bit** *Per processor licensing* *Discount Schedule: Open Program Level C* *Unit Price reflects a 17% discount from the retail unit price of $19,999.*	$16,541	8	$132,328
C11-00821	**Windows 2000 Server 32-bit** *Server license only - No CALs* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 8% discount from the retail unit price of $799.*	$738	61	$45,018
N/A	**.Net Enteprise Server 32-bit** *Server license only - No CALs* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 18% discount from the retail unit price of $3,299.*	$2,699	1	$2,699
E48-00042	**ISA Server Standard Edition** *Per processor licensing* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 14% discount from the retail unit price of $1,509.*	$1,295	24	$31,080
048-00317	**Visual C++ Professional 6.0 Win32** *No discounts applied*	$549	1	$549
PRO-PRORS-16U-01	**Database Server Support Package** *1 Year Term*	$1,950	3	$5,850

Some products may not be currently orderable but will be available through Microsoft's normal distribution channels by December 31, 2002.

2211 North First Street
San Jose, CA 95131

September 10, 2002

Quote # **Q-0910020948**

Valid until: 11/9/2002

IBM eServer xSeries Performance

0
0
0

On behalf of Volera I am pleased to present the attached proposal. We look forward to working with you and your team on this project.

Below are a few key points that differentiate our solution:

- Volera's Velocity CDN™ management suite is the most advanced set of content management software tools on the market today. Velocity CDN customers have extraordinary capabilities to control and monitor the distribution of content.

- Volera Velocity CDN™ technology has won major public tests and continues to beat the competition in many customer accounts. Volera leads the market in price/performance, scalability, and feature set.

- Volera's technology runs on industry standard hardware allowing customers to deploy new servers or upgrade existing ones to efficiently leverage their ever-growing network. This gives customers the flexibility to choose a hardware provider or leverage existing hardware purchasing and support agreements.

- Volera's Professional Services staff offers extensive service packages to design and implement your Velocity CDN™ solution.

- Volera is 100% committed to the Content Delivery Networking market. We have quickly established a leadership position and continue to advance it through new partnerships that extend and enhance your capabilities.

Again, we are very excited to present you with this proposal and look forward to hearing from you.

Sincerely,

Volera

2211 North First Street
San Jose, CA 95131

Date: 9/10/2002

Customer: **IBM eServer xSeries Performance**

Quote # Q-0910020948

Valid Until: 11/9/2002

Quote valid for 60 Days

Address: _____

_____

_____

Licenses

Part #	Description		Quantity		Price	Total
993-000077-001	Excelerator 2.2: 2Gb		2		$17,995	$ 35,990.00

TERMS: Country of Origin of Goods: USA Payment Terms Net 30 Days. US Shipments: FOB Shipping Point International Shipments: FOB Destination. Delivery shall be according ot the INCOTERM 1990 Deliver Duty Unpaid Port of Entry. Customer is responsible for all applicable import duties, fees, taxes, of any kind imposed by any governmental authority, and such duties, fees and taxes shall not be considered a part of, a deduction from, or an offset against fees owed to Volera.

Total License	$ 35,990.00
	-
Net License	$ 35,990.00

Support and Maintenance

051-001259-001	Technical Support: Platinum Service				25% of License($8,998) per year	$ 26,994.00

For more information on our Support programs, please visi **http://www.volera.com/support/global/index.html**

Total Support & Maintenance $ 26,994.00

Services and Training

					$ -	$ -
					$ -	$ -
					$ -	$ -

Total Services $ -

Grand Total excluding tax and shipping) $ 62,984.00

Wire Transer Info:
Beneficiary: Volera Inc.
Bank: Wells Fargo Acct# 4496887118
ABA# 121000248, Swift #WFBIUS6S

Remit to:
Volera
1537 Solutions Center
Chicago, IL 60677-1005

Cisco Systems, Inc.
2300 Rexwoods Drive
Suite 300
Raleigh, NC 27607 USA
Ph: Ph: 919-788-1208
Fax: Fax: 919-788-1299

Price Quotation

Date: 9/9/2002
To: Chris King
IBM
4205 S. Miami Blvd
RTP NC
27709
Ph:
Fax:

Quote Number: 4Z2-2TE3
Total Price: **$1,889.21**

Product Number	Product Description	Qty	Unit List Price	Disc Price	Disc %	Extended Price
WS-C3524-XL-EN	Catalyst 3524 XL Enterprise Edition	1	$2,995.00		49.000%	$1,527.45
CON-OSP-WS-C3524	24x7x4 Onsite Svc,WS-C3524	1	$532.00		32.000%	$361.76

FOB Point: Origin
Ship Date:
Quote Valid Until: 11/10/2002

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Signed:
Bob Blum

Notes:

This price quotation does not constitute an offer by Cisco to sell products, but is instead an invitation to issue a purchase order to Cisco until the Quotation Valid date specified on this Price Quotation. Such a purchase order will be subject to Cisco's standard procedures, terms, and conditions for the acceptance of purchase orders. This order may be subject to sales tax, VAT, duty and freight charges even if not noted on this quote.