TPC Benchmark™ C Full Disclosure Report Using Sun Microsystems Enterprise 450 Server and Fujitsu SymfoWARE Server for Workgroup 2.0 RDBMS

Sun Microsystems, Inc
901 San Antonio Road
Palo Alto, CA 94303
U.S.A.

Revision 1,January 2000
Submitted for review
Compliant with Revision 3.5 of the TPC-C specification

Abstract

Overview

This report documents the methodology and results of the TPC Benchmark C™ test conducted on the Sun Enterprise 450 Server system, running Fujitsu SymfoWARE Server for Workgroup 2.0 RDBMS and BEA Systems, Inc. Tuxedo 6.3.

TPC Benchmark C Metrics

The standard TPC Benchmark^{TM}C metrics, tpmC (transactions per minute), price per tpmC (five year capital cost per measured tpmC), and the availability date are reported as required by the benchmark specification.

Executive Summary Statements

Pages v-vii contain the executive summary of the benchmark result for the Sun Microsystems Enterprise Server 450 .

First Printing

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Sun
FUJITSU

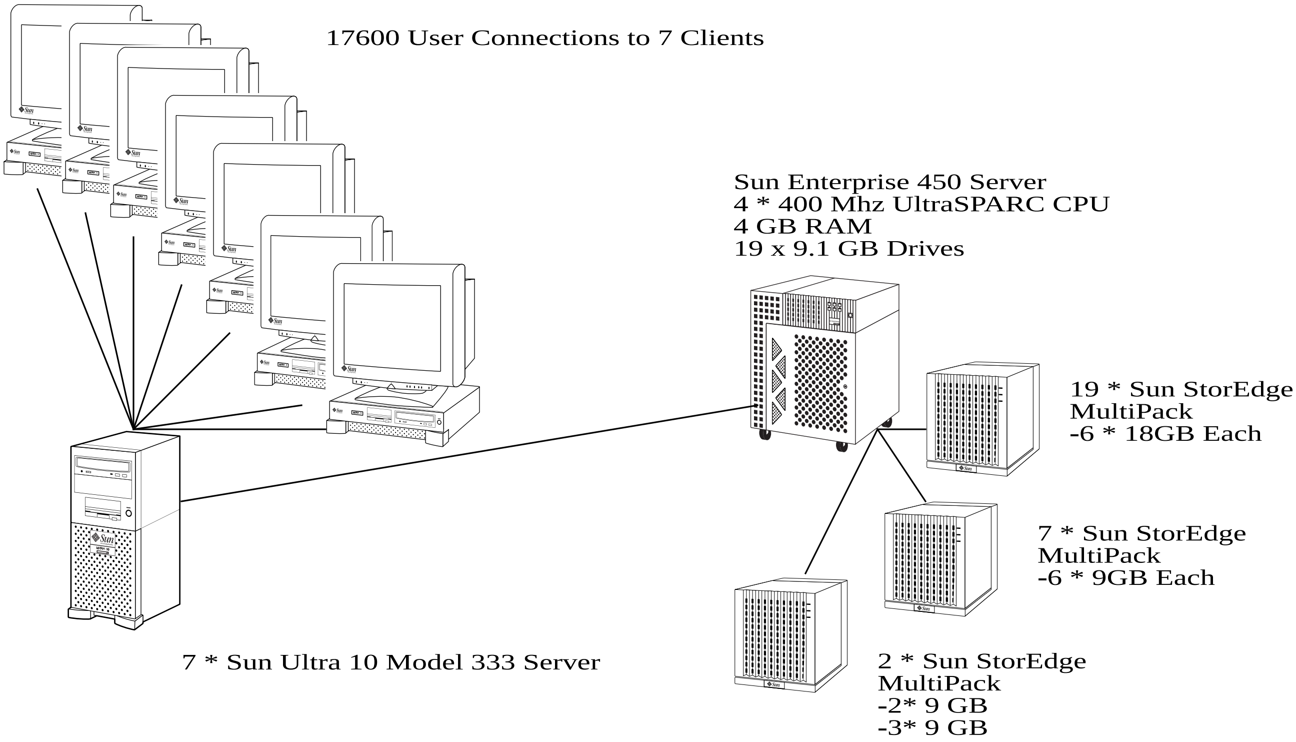
Sun Enterprise 450 C/S w/7 Front-Ends

TPC-C 3.5

Report Date:
January 28, 2000

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
$557,377	**20,123.7** **tpmC**	**$27.70**	**July 28, 2000**

Processors	Database Manager	Operating System	Other Software	Number of Users
4 * 400MHz **UltraSPARC II**	**SymfoWARE Server for Workgroup 2.0**	**Solaris 7**	**BEA Tuxedo 6.3**	**17600**

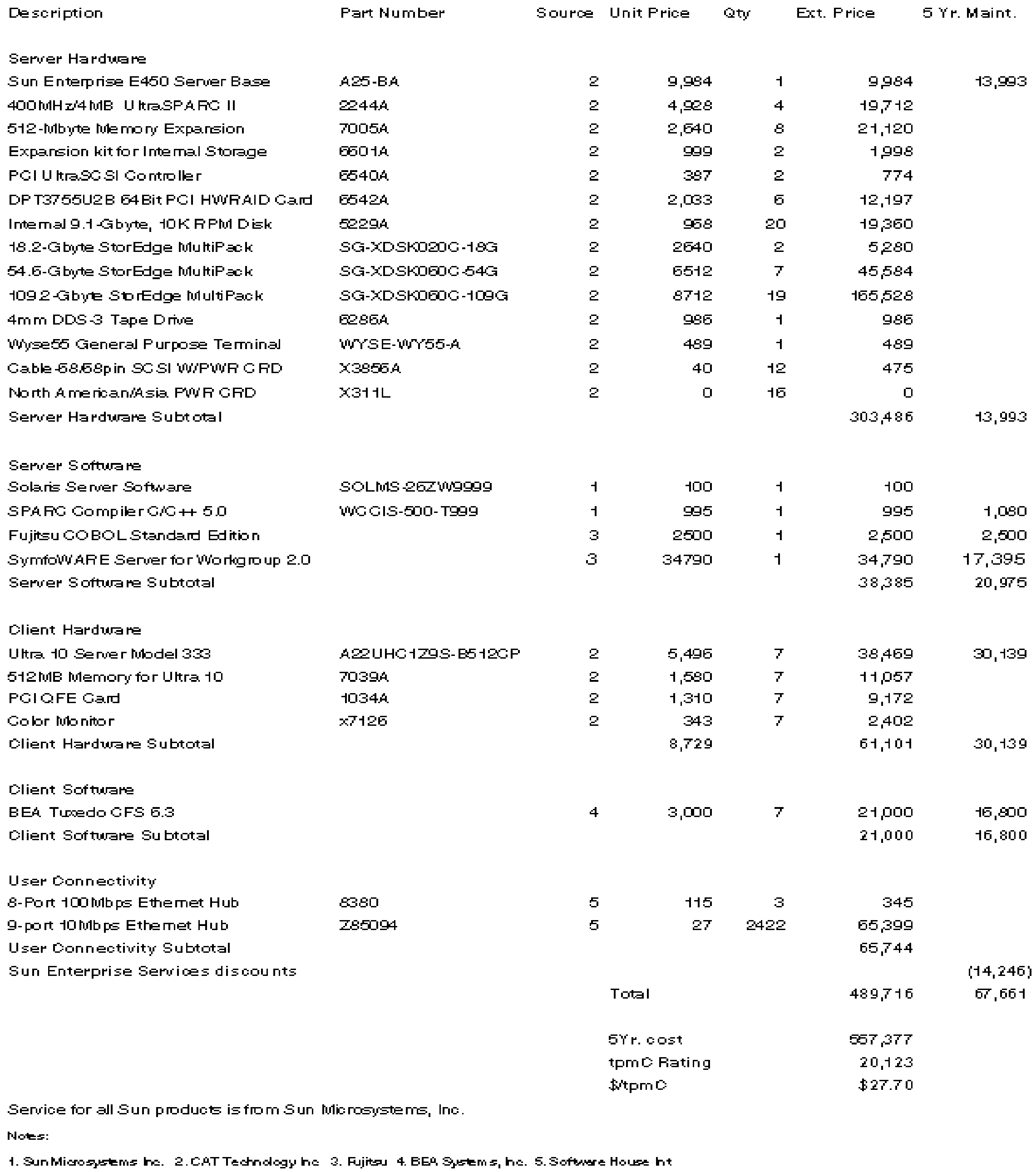


Configuration

	Server System	Front End Systems
Database Nodes:	1 Sun Enterprise E450 Server	7 * Ultra 10 Model 333
Processors	4* 400 MHz UltraSPARC II	1 * 333 MHz UltraSPARC II each
Cache memory	32KB (D+I), 4MB external	32KB (D+I), 512KB external, each
Main memory	4 GB	1 GB each
Disk controllers	6 x DPT RAID Controllers 4 x PCI UltraSCSI Controllers	1 * SCSI-2 each
Disk Drives	66* 9.1GB 10K RPM SCSI 114 * 18.2 GB 10K RPM SCSI	1 * 9.1 GB 10K RPM SCSI
Total Disk Storage	2646 GB	9.1 GB each
10 BaseT Hub	None	2202 * 9-Port Hubs
100 Base T Hub	1 x 8-port Hub	None

Sun FUJITSU	**Sun Enterprise 450** **C/S w/7 Front-Ends**	TPC-C 3.5 **Report Date:** **January 28, 2000**

Pricing Summary



Description	Part Number	Source	Unit Price	Qty	Ext. Price	5 Yr. Maint.
Server Hardware						
Sun Enterprise E450 Server Base	A25-BA	2	9,984	1	9,984	13,993
400MHz/4MB UltraSPARC II	2244A	2	4,928	4	19,712	
512-Mbyte Memory Expansion	7005A	2	2,640	8	21,120	
Expansion kit for Internal Storage	6601A	2	999	2	1,998	
PCI UltraSCSI Controller	6540A	2	387	2	774	
DPT3755U2B 64Bit PCI HWRAID Card	6542A	2	2,033	6	12,197	
Internal 9.1-Gbyte, 10K RPM Disk	5229A	2	968	20	19,360	
18.2-Gbyte StorEdge MultiPack	SG-XDSK020C-18G	2	2640	2	5,280	
54.6-Gbyte StorEdge MultiPack	SG-XDSK060C-54G	2	6512	7	45,584	
109.2-Gbyte StorEdge MultiPack	SG-XDSK060C-109G	2	8712	19	165,528	
4mm DDS-3 Tape Drive	6285A	2	986	1	986	
Wyse55 General Purpose Terminal	WYSE-WY55-A	2	489	1	489	
Cable-68/68pin SCSI W/PWR CRD	X3856A	2	40	12	475	
North American/Asia PWR CRD	X311L	2	0	16	0	
Server Hardware Subtotal					303,486	13,993
Server Software						
Solaris Server Software	SOLMS-26ZW9999	1	100	1	100	
SPARC Compiler C/C++ 5.0	WCCIS-500-T999	1	995	1	995	1,080
Fujitsu COBOL Standard Edition		3	2500	1	2,500	2,500
SymfoWARE Server for Workgroup 2.0		3	34790	1	34,790	17,395
Server Software Subtotal					38,385	20,975
Client Hardware						
Ultra 10 Server Model 333	A22UHC1Z9S-B512CP	2	5,496	7	38,469	30,139
512MB Memory for Ultra 10	7039A	2	1,580	7	11,057	
PCI QFE Card	1034A	2	1,310	7	9,172	
Color Monitor	x7126	2	343	7	2,402	
Client Hardware Subtotal			8,729		61,101	30,139
Client Software						
BEA Tuxedo CFS 6.3		4	3,000	7	21,000	16,800
Client Software Subtotal					21,000	16,800
User Connectivity						
8-Port 100Mbps Ethernet Hub	8380	5	115	3	345	
9-port 10Mbps Ethernet Hub	Z85094	5	27	2422	65,399	
User Connectivity Subtotal					65,744	
Sun Enterprise Services discounts						(14,246)
			Total		489,716	67,661
			5Yr. cost		557,377	
			tpmC Rating		20,123	
			$/tpmC		$27.70	

Service for all Sun products is from Sun Microsystems, Inc.

Notes:

1. Sun Microsystems Inc. 2. CAT Technology Inc 3. Fujitsu 4. BEA Systems, Inc. 5. Software House Int

Audited by: Bradley J. Askins, Infosizing Inc.

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchase are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specifications. If you find the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.

Numerical Quantity Summary

MQTH, Computed Maximum Qualified Throughput	**= 20,123.7 tpmC**
% throughput difference, reported & reproducibility runs	= < 0.1%

Response Times (in secs)	90th Percentile	Average	Maximum
Menu	0.50	0.25	0.70
New-Order	4.00	2.17	81.94
Payment	4.20	2.19	82.69
Order-Status	2.80	1.61	59.11
Delivery(interactive)	0.54	0.40	46.44
Delivery(deferred)	3.00	1.44	48.00
Stock-level	3.00	1.30	48.67

Transaction Mix, in percent of total transactions

New-Order	44.79%
Payment	43.08%
Order-Status	4.04%
Delivery	4.02%
Stock-level	4.07%

Keying/Think Times (in secs)	Average.	Min.	Maximum
New-Order	18.02 / 12.23	18.01 / 0	18.08 / 122.00
Payment	3.02 / 12.18	3.01 / 0	3.08 / 122.00
Order-Status	2.02 / 10.28	2.01 / 0	2.07 / 102.50
Delivery	2.02 / 5.24	2.01 / 0	2.07 / 52.00
Stock-level	2.02 / 5.25	2.01 / 0	2.07 / 52.00

Test Duration	
Ramp-up time	25 minutes
Measurement Interval	30 minutes
Number of checkpoints	1
Checkpoint Interval	30 minutes
Number of transactions (all types) completed in measurement interval	1347926

Contents

Preface

This report documents the compliance of the Sun Microsystems TPC Benchmark ™C testing on the Enterprise 450 Server running Fujitsu SymfoWARE Server for Workgroup 2.0 with the *TPC Benchmark ™C Standard Revision 3.5.*

These tests were run using the Fujitsu SymfoWARE Server for Workgroup 2.0 running with Solaris 7 on the Enterprise 450 Server and BEA Tuxedo 6.3 on the Ultra 10 Model 333 clients.

Document Structure

The *TPC Benchmark ™C Full Disclosure Report* is organized as follows:

- The main body of the document lists each item in Clause 8 of the TPC Benchmark ™C Standard and explains how each specification is satisfied.
- Appendix A contains the application source code that implements the transactions and forms modules.
- Appendix B contains the code used to create and load the database.
- Appendix C contains the configuration information for the operating system, the RDBMS and Tuxedo.
- Appendix D contains the 180-day space calculations.
- Appendix E contains the code used to generate transactions and measure response times.
- Appendix F contains the screen layouts of all the forms.
- Appendix G contains the price quotes.

Additional Copies

To request additional copies of this report, write to the following address:

Shanley P.R.
777 N First Street, Suite 600
San Jose, CA 95112-6311
(408) 295-8894
FAX (408) 295-2613

Enterprise 450 TPC Benchmark ™C Full Disclosure

Introduction

The *TPC Benchmark ™C Standard Specification* requires test sponsors to publish, and make available to the public, a full disclosure report for the results to be considered compliant with the Standard. The required contents of the full disclosure report are specified in Clause 8.

This report is intended to satisfy the Standard's requirement for full disclosure. It documents the compliance of the benchmark tests reported in the *TPC Benchmark ™C* results for the Sun Microsystems Enterprise 450 Server running Fujitsu SymfoWARE Server for Workgroup 2.0.

In the *Standard Specification*, the main headings in Clause 8 are keyed to the other clauses. The headings in this report use the same sequence, so that they correspond to the titles or subjects referred to in Clause 8.

Each section in this report begins with the text of the corresponding item from Clause 8 of the *Standard Specification*, printed in italic type. The plain type text that follows explains how the tests comply with the TPC C™ Benchmark requirement. In sections where Clause 8 requires extensive listings, the section refers to the appropriate appendix at the end of this report.

1- General Items

1.1 Application Code and Definition Statements

The application program (as defined in Clause 2.1.7) must be disclosed. This includes, but is not limited to, the code implementing the five transactions and the terminal input and output functions.

Appendix A and B contains the application source code that implements the transactions and forms modules.

1.2 Sponsor

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

This benchmark test was sponsored by Sun Microsystems, Inc. and Fujitsu, Inc.

1.3 Parameter Settings

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

- *Database tuning options*
- *Recovery/commit options*
- *Consistency/locking options*
- *Operating system and application configuration parameters*
- *Compilation and linkage options and run-time optimizations used to create/install applications, OS, and/or databases.*

This requirement can be satisfied by providing a full list of all parameters and options.

Appendix C contains all the required parameter settings.

1.4 Configuration Diagrams

Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences.

The measured configuration was the same as the priced configuration, with the exception that 108 18.2GB disks were priced in place of 108 9.1GB disks. Figure 1 is a diagram of the configuration.

Configuration Items for the Enterprise 450

For the configuration, the server machine was a Sun Enterprise 450 which consisted of the following:

- Sun Enterprise E450 Server Base
- 4 UltraSPARC-II 400 MHz Processors with 4MB External Cache each
- 4 GB of main memory
- 2 Expansion kits for Internal Storage. (Each include a PCI UltraSCSI controller.)
- 19 Internal 9.1-GByte, 10K RPM disks
- 2 PCI UltraSCSI controllers
- 6 64Bit PCI HW Raid controllers
- 19 Sun StorEdge 54.6-GByte MultiPacks (6 x 9 GB SCSI disks in each)*
- 7 Sun StorEdge 54.6-GByte MultiPacks (6 x 9 GB SCSI disks in each)
- 2 Sun StorEdge 18.2-GByte MultiPacks (2 x 9 GB SCSI disk in one, and 3 x 9 GB SCSI disk in the other.)
- Internal CD-ROM
- 4mm DDS-3 Backup Tape Device

* In the priced configuration, 19 109.2-GByte Multipacks were used.

The seven client machines were Ultra 10 Model 333's and each contained:

- One UltraSPARC-II 333 MHz Processor.
- 1024 MB of Main Memory.

- One Internal SCSI-2 controller.
- One Internal 9 GB SCSI disk.
- Internal CD-ROM.
- Quad FastEthernet Controller

The benchmark configuration used a Remote Terminal Emulator (RTE) to emulate TPC-C user sessions. The driver systems were directly connected through ethernet to the clients which emulated the database client sessions.

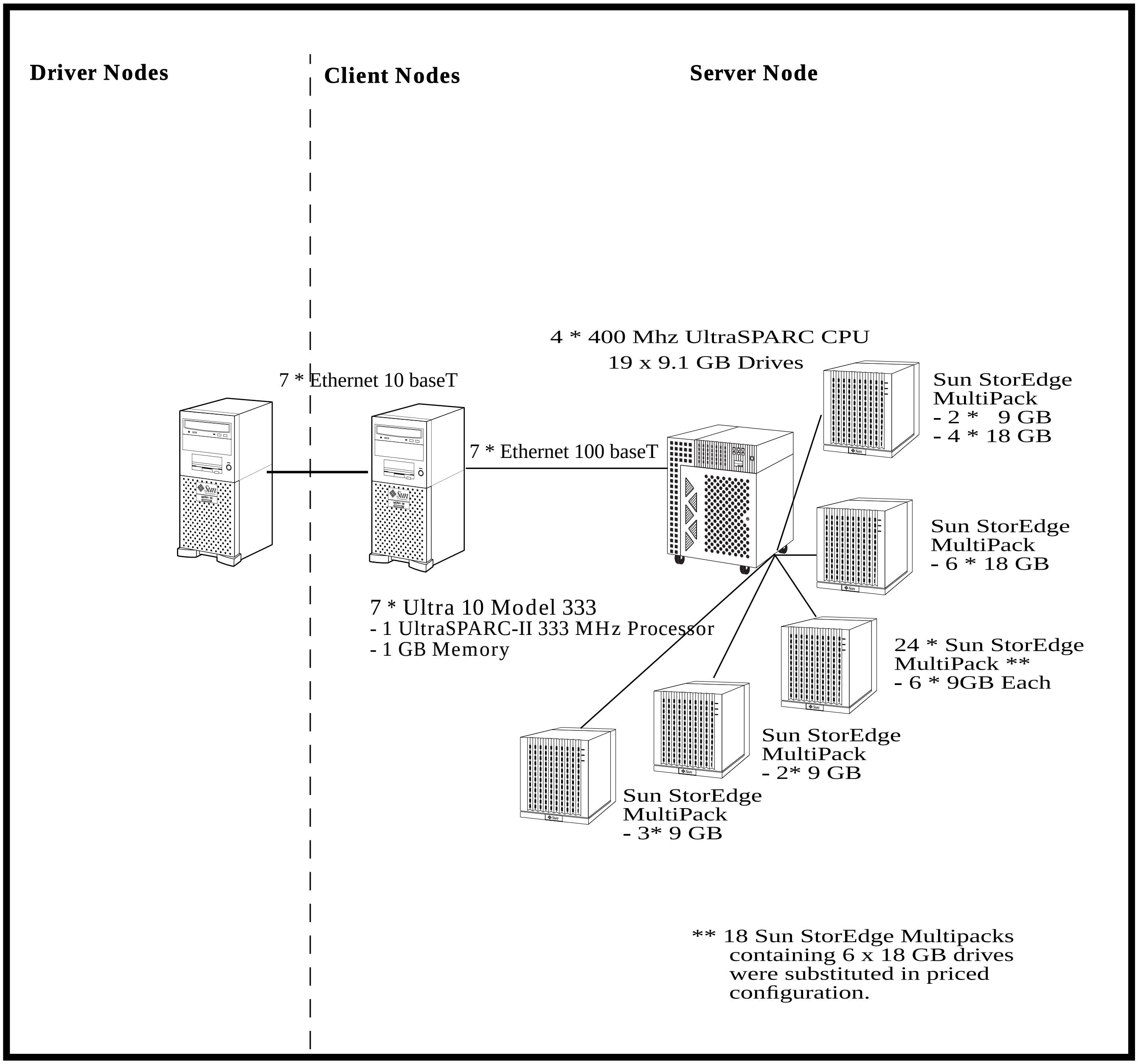


Figure 1: The Sun Enterprise 450 Benchmark Configuration

2 - Clause 1 Related Items

2.1 Table Definitions

Listing must be provided for all table definition statements and all other statements used to set up the database.

Appendix B describes the programs that define, create, and populate a Fujitsu SymfoWARE database for TPC-C testing.

2.2 Physical Organization of Database

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

Appendix B discloses the organization of tables and indices on the disks.

2.3 Insert and Delete Operations

It must be ascertained that insert and/or delete operations to any of the tables can occur concurrently with the TPC-C transaction mix. Furthermore, any restrictions in the SUT database implementation that precludes inserts beyond the limits defined in Clause 1.4.11 must be disclosed. This includes the maximum number of rows that can be inserted and the maximum key value for these new rows.

All insert and delete functions were verified and fully operational during the entire benchmark.

2.4 Partitioning

While there are a few restrictions placed upon horizontal or vertical partitioning of tables and rows in the TPC-C benchmark (see Clause 1.6), any such partitioning must be disclosed.

All tables were horizontally partitioned except for Items. Each table was horizontally partitioned following the w-id values given below:

Table 1: DSI (Data Structure Instance)

Table	w-id
Warehouse	88
District	88
Customer	22
History	22
Orders	22
New order	22
Order line	11
Stock	44

2.5 Table Replication

Replication of tables, if used, must be disclosed (see Clause 1.4.6).

No tables were replicated in this implementation.

2.6 Table Attributes

Additional and/or duplicated attributes in any table must be disclosed along with a statement on the impact on performance (see Clause 1.4.7).

No additional or duplicate attributes were added to any of the tables.

3 - Clause 2 Related Items

3.1 Random Number Generation

The method of verification for the random number generation must be described.

The Random Number Generator used was the one that appeared in the article titled “Random Number Generators: Good Ones Are Hard To Find” in the communications of the ACM - October 1988, Volume 31, Number 10. The properties of this random number generator are well-known and are documented in the article as producing a uniformly distributed pseudo-random sequence. To generate a random number, the driver programs first use a seed based on the host address, current time and the process-id of the respective session. This guarantees that each emulated user on all the RTE machines is mathematically independent of others.

3.2 Input/Output Screen Layouts

The actual layout of the terminal input/output screens must be disclosed.

The screen layouts are shown in Appendix F.

3.3 Terminal Feature Verification

The method used to verify that the emulated terminals provide all the features described in Clause 2.2.2.4 must be explained.

The terminal attributes were verified by the auditor manually exercising each specification during the onsite audit portion of this benchmark.

3.4 Presentation Manager or Intelligent Terminal

Any usage of presentation managers or intelligent terminals must be explained.

The TPC-C forms module was implemented using the capabilities of an xterm terminal emulator.

3.5 Transaction Statistics

Table 1 lists the numerical quantities that Clauses 8.1.3.5 to 8.1.3.11 requires.

Table 1: Transaction Statistics

Transaction Type	Statistics	Percentage
New Order	Home warehouse	99.00
	Remote warehouse	1.00
	Rolled back transactions	0.98
	Average items per order	10.00
Payment	Home warehouse	84.97
	Remote warehouse	15.03
	Non-primary key access	59.92
Order Status	Non-primary key access	59.91
Delivery	Skipped transactions	0.00
Transaction Mix	New order	44.79
	Payment	43.08
	Order status	4.04
	Delivery	4.02
	Stock level	4.07

3.6 Queueing Mechanism

The queueing mechanism used to defer the execution of the Delivery transaction must be disclosed.

Delivery transactions were submitted to servers using the same Tuxedo call mechanism that other transactions used. The only difference was that the call was asynchronous - i.e., control returned to the client process immediately and the deferred delivery completed asynchronously.

4 - Clause 3 Related Items

4.1 Transaction System Properties (ACID)

The results of the ACID tests must be disclosed along with a description of how the ACID requirements were met. This includes disclosing which case was followed for the execution of Isolation Test 7.

The TPC Benchmark C Standard Specification defines a set of transaction processing system properties that a system under test (SUT) must support during the execution of the benchmark. Those properties are Atomicity, Consistency, Isolation, and Durability (ACID).

This section defines each of these properties, describes the steps taken to ensure that they were present during the test and describes a series of tests done to demonstrate compliance with the standard.

4.2 Atomicity

The System under test must guarantee that transactions are atomic; the system will either perform all individual operations on the data, or will assure that no partially-completed operations leave any effects on the data.

4.2.1 Completed Transaction

Perform the Payment transaction for a randomly selected warehouse, district, and customer (by customer number as specified in Clause 2.5.1.2) and verify that the records in the CUSTOMER, DISTRICT, and WAREHOUSE tables have been changed appropriately.

A row was randomly selected from the warehouse, district and customer tables, and the balances noted. A payment transaction was started with the same warehouse, district and customer identifiers and a known amount. The payment transaction was committed and the rows were verified to contain correctly updated balances.

4.2.2 Aborted Transaction

Perform the Payment transaction for a randomly selected warehouse, district, and customer (by customer number as specified in Clause 2.5.1.2) and substitute a ROLLBACK of the transaction for the COMMIT of the transaction. Verify that the records in the CUSTOMER, DISTRICT, and WAREHOUSE tables have NOT been changed.

A row was randomly selected from the warehouse, district and customer tables, and the balances noted. A payment transaction was started with the same warehouse, district and customer identifiers and a known amount. The payment transaction was rolled back and the rows were verified to contain the original balances.

4.3 Consistency

Consistency is the property of the application that requires any execution of a database transaction to take the database from one consistent state to another, assuming that the database is initially in a consistent state.

The benchmark specification requires explicit demonstration of the following four consistency conditions:

- The sum of the district balances in a warehouse is equal to the warehouse balance;
- For each district, the next order id minus one is equal to the maximum order id in the ORDER table and equal to the maximum new order id in the NEW-ORDER table;
- For each district, the maximum order id minus minimum order id in the ORDER table plus one equals the number of rows in the NEW-ORDER table for that district;
- For each district, the sum of the order line counts in the ORDER table equals the number of rows in the ORDER-LINE table for that district;

These consistency conditions were tested using a shell script to issue queries to the database. The results of the queries verified that the database was consistent for all four tests.

A performance run was completed including a full 30 minutes of steady state and checkpoints.

The shell script was executed again. The result of the same queries verified that the database remained consistent after the run.

4.4 Isolation

Isolation can be defined in terms of phenomena that can occur during the execution of concurrent transactions. These phenomena are P0 ("Dirty Write"), P1 ("Dirty Read"), P2 ("Non-repeatable Read") and P3 ("Phantom"). The table in Clause 3.4.1 of

the TPC-C specifications defines the isolation requirements which must be met by the TPC-C transactions. Sufficient conditions must be enabled at either the system or application level to ensure the required isolation is maintained.

Isolation tests one through nine were executed using shell scripts to issue queries to the database. Each script included timestamps to demonstrate the concurrency of operations. The results of the queries were captured to files. The captured files were verified by the auditor to demonstrate the required isolation had been met.

For Isolation test seven, case A was followed.

4.5 Durability

The tested system must guarantee durability: the ability to preserve the effects of committed transactions and insure database consistency after recovery from any one of the failures listed in Clause 3.5.3.

List of single failures:

> *Permanent irrecoverable failure of any single durable medium containing TPC-C database tables or recovery log data.*
>
> *Instantaneous interruption (system crash/system hang) in processing which requires system reboot to recover.*
>
> *Failure of all or part of memory (loss of contents).*

4.5.1 Durable Media Failure

To demonstrate recovery from a permanent failure of durable medial containing the SymfoWARE recovery log data and TPC-C tables, the following steps were executed on a database of 1,760 warehouses:

1. The database was backed up to extra disks.

2. The total number of orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table giving the beginning count.

3. The RTEs were started with 17,600 users.

4. The test was allowed to run for a minimum of 5 minutes.

5. One of the log disks was powered off by removing it from the cabinet. Since the log was mirrored, the transactions continued to run without interruption.

6. The test was allowed to run for another 5 minutes and a disk array failure was caused by removing a disk from the disk array cabinet.

7. The RTEs were shut down.

8. A new disk was inserted into the disk cabinet and the data disk was reformatted to simulate a complete loss of data.

9. SymfoWARE was restarted.

10. Data from the backup disk was copied to the new disk and SymfoWARE used the transaction logs to roll forward the recovery data from committed transactions.

11. Step 2 was repeated and the difference between the first and second counts noted.

12. The success file was used to determine the number of NEW_ORDERS successfully returned to the RTEs.

13. The counts in step 11 and 12 were compared, and the results verified that all committed transactions were successfully recovered.

14. Data from the success file was used to query the database to demonstrate that successful transactions had corresponding rows in the ORDER table and that rolled back transactions did not.

4.5.2 Instantaneous Interruption and Loss of Memory

Because loss of power erases the contents of memory, the instantaneous interruption and the loss of memory tests were combined into a single test. This test was executed on a fully scaled database of 1,760 warehouses under a full load of 17,600 users. The following steps were executed:

1. The total number of orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table giving the beginning count.

2. The RTE was started with 17,600 users.

3. The test was allowed to run for a minimum of 25 minutes.

4. A checkpoint was enforced.

5. The test was allowed to run for another minute.

6. The primary power to the processor was shutdown.

7. The RTE was shutdown.

8. Power was restored and the system performed an automatic recovery.

9. SymfoWARE was restarted and performed an automatic recovery.

10. Step 1 was repeated and the difference between the first and second countswas noted.

11. The success file was used to determine the number of NEW-ORDERS successfully returned to the RTE.

12. The counts in step 10 and 11 were compared and the results verified that all committed transactions had been successfully recovered.

13. Data from the success file was used to query the database to demonstrate successful transactions had corresponding rows in the ORDER table, and rolled back transactions did not.

5 - Clause 4 Related Items

5.1 Initial Cardinality of Tables

The Cardinality (e.g. number of rows) of each table, as it existed at the start of the benchmark run (see Clause 4.2), must be disclosed. If the database was over-scaled and inactive rows of the WAREHOUSE table were deleted (see Clause 4.2.2) the cardinality of the WAREHOUSE table as initially configured and the number of rows deleted must be disclosed.

The TPC-C database for this test was initially configured with 1848 warehouses. We then deleted 88 warehouses leaving 1760 active.

Table 2: Initial Cardinality of Tables

Table	Occurrences
Warehouse	1848
District	18,480
Customer	55,440,000
History	55,440,000
Orders	55,440,000
New order	16,632,00
Order line	554,413,252
Stock	184800000
Item	100,000

5.2 Database Layout

The distribution of tables and logs across all media must be explicitly depicted for the tested and priced systems.

The distribution of database tables over the 168 disks, and the logs across 10 disks of the system is the same distribution of the tested system, 180 day storage growth requirements are made with the substitution of 18 GB drives for some of the 9 GB drives. Figure 1 shows the configuration of the system disks.

5.2.1 Database Layout of Benchmark System.

Table 3: Disk Layout

Device Name	No. of Devices/ Structures	Physical Disks
Log Devices / Mirrors (8 hr)	7	10 disks
warehouse	21	21 disks
district	21	21 disks
customer	84	168 disks
history	84	168 disks
order	84	168 disks
new-order	84	168 disks
order-line	168	168 disks
stock	42	168 disks
item	1	10 disks

The data was striped across a total of 168 disks, 6 of which were 18GB.. All of these were either internal to the E450 or located in 28 Sun StorEdge MultiPacks. An additional 2x 9GB disks were used for the Operating System, swap disks and Fujitsu binaries.

The logs were located on 10 physical disks, 4 of which were 18 GB.

5.3 Type of Database

A statement must be provided that describes:

1. The data model implemented by the DBMS used (e.g., relational, network hierarchical).

2. The database interface (e.g., embedded, call level) and access language (e.g., SQL, DL/1, COBOL read/write) used to implement the TPC-C transactions. If more than one interface/access language is used to implement TPC-C, each interface/access language must be described and a list of which interface/access language is used with which transaction type must be disclosed.

SymfoWARE is a relational database management system.The interface used was SymfoWARE stored procedures embedded in C code.

5.4 Mapping of Database

The mapping of database partitions/replications must be explicitly described.

The database, with the exception of the Item table, was horizontally partitioned. This partitioning is fully described in Section1.4..

5.5 180 Day Space Computation

Details of the 180 day space computations along with proof that the database is configured to sustain 8 hours of growth for the dynamic tables (Order, Order-Line, and History) must be disclosed (see Clause 4.2.3).

The 180 day space computation is shown in Appendix D.

The archive log grows at the rate of 5.5544KB per New-Order transaction, which was measured from the steady state. The 8 hours log space was 51.17GB at the measured rate and 67.44GB of log space was prepared for the measurement.

For dynamic tables the following steps were followed:

1. The number of rows and number of used blocks were counted on a freshly loaded database.

2. The number of rows was divided by the number of blocks, giving rows per block.

3. The number of rows inserted in 8 hours was estimated equal to tpmC for HISTORY and ORDER, and ten times tpmC for ORDERLINE.

4. The number of rows in step 3 was divided by the number derived in step 2.

5. The number in step 4 was added to the number of used blocks from step 1.

6. The database was queried to show the space allocated exceeded the number in step 5.

6 - Clause 5 Related Items

6.1 Measured tpmC

Measured tpmC must be reported.

The measured tpmC was *20123.7*

6.2 Response Times

Ninetieth percentile, maximum and average response times must reported for all transaction types as well as for the menu response time.

Table 4: Response Times

Type	Average	Maximum	90% percentile
New-Order	2.170	81.943	4.000
Payment	2.190	82.685	4.200
Order-Status	1.611	59.112	2.800
Interactive Delivery	0.396	46.443	0.540
Deferred Delivery	1.436	48.000	3.00
Stock-Level	1.303	48.671	3.00
Menu	0.245	0.699	0.500

6.3 Keying and Think Times

The minimum, the average, and the maximum keying and think times must be reported for all transaction types.

Table 5: Keying Times

Type	Average	Minimum	Maximum
New-Order	18.02	18.01	18.08
Payment	3.02	3.01	3.08
Order-Status	2.02	2.01	2.07
Interactive Delivery	2.02	2.01	2.07
Stock-Level	2.02	2.01	2.07

Table 6: Think Times

Type	Average	Minimum	Maximum
New-Order	12.23	0.00	122.0
Payment	12.18	0.00	122.0
Order-Status	10.28	0.00	102.5
Interactive Delivery	5.24	0.00	52.00
Stock-Level	5.25	0.00	52.00

6.4 Response Time Frequency Distribution Curves

Response Time frequency distribution curves (see Clause 5.6.1) must be reported for each transaction type.

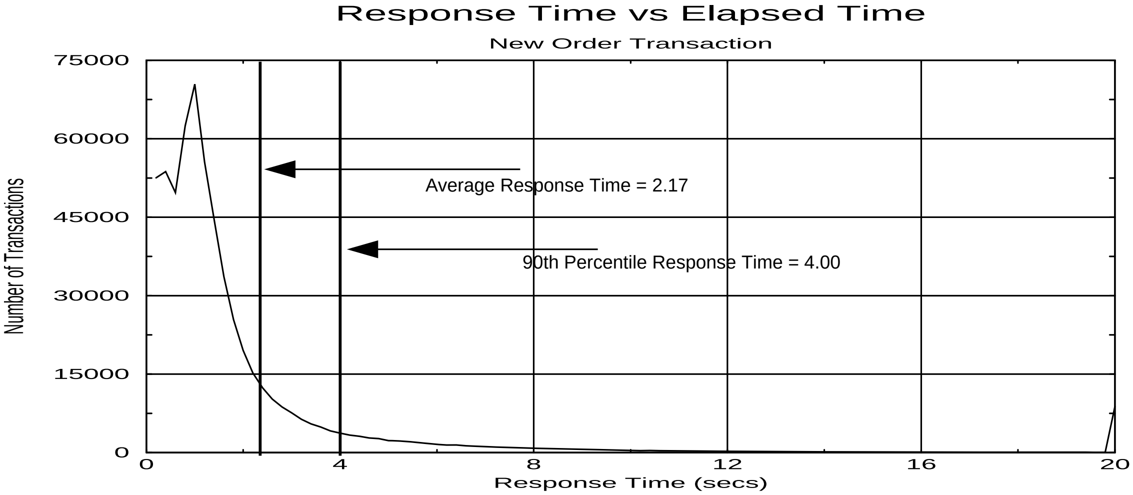


Figure 5: New Order Response Time Distribution

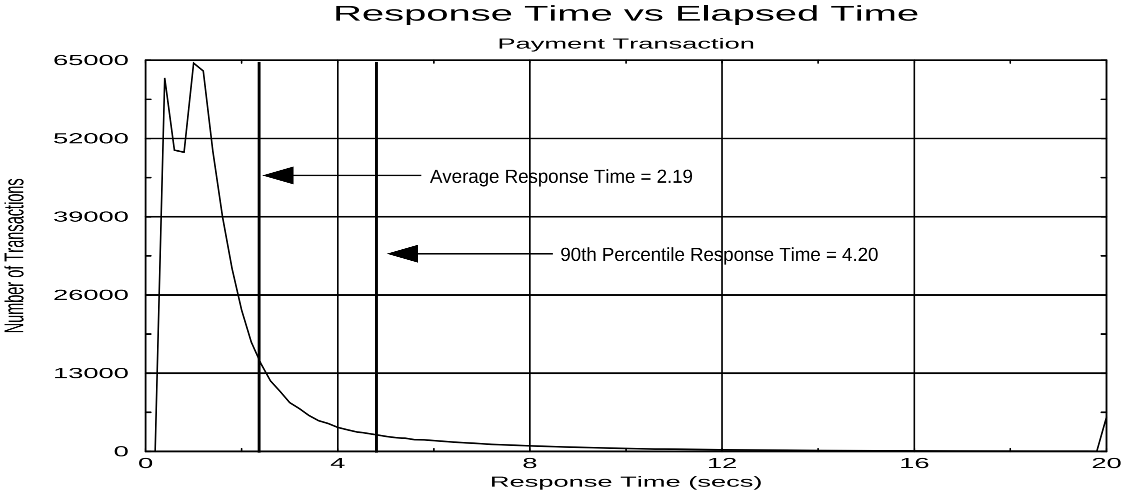


Figure 6: Payment Response Time Distribution

90th Percentile Response Time = 1.00

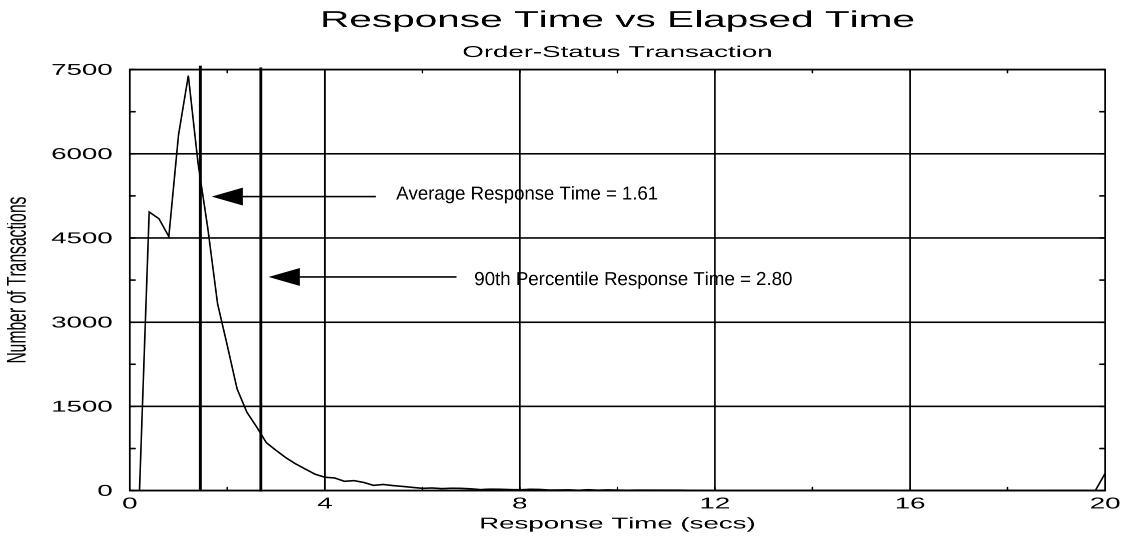


Figure 7: Order Status Response Time Distribution

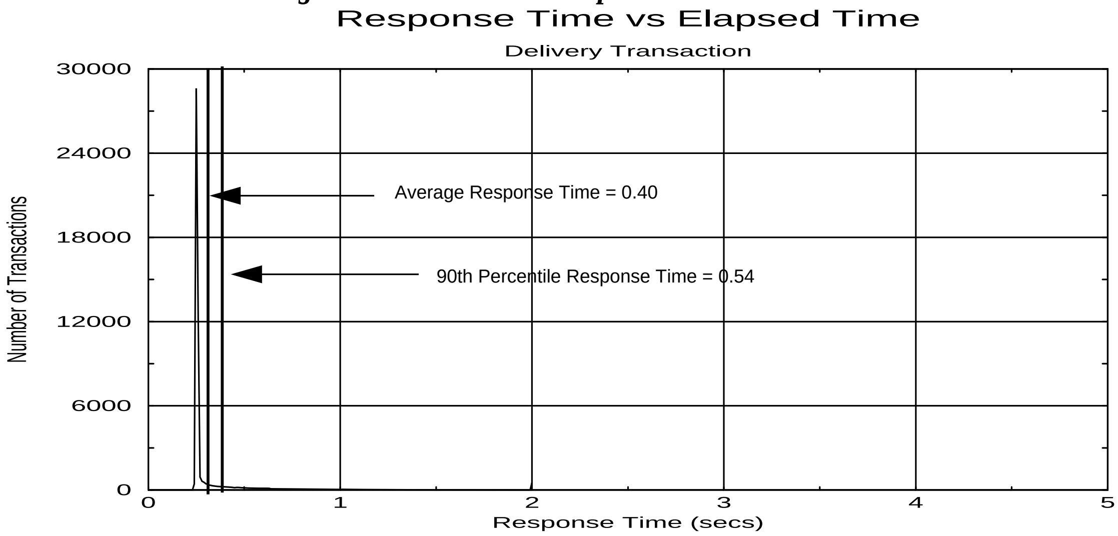


Figure 8: Delivery Response Time Distribution

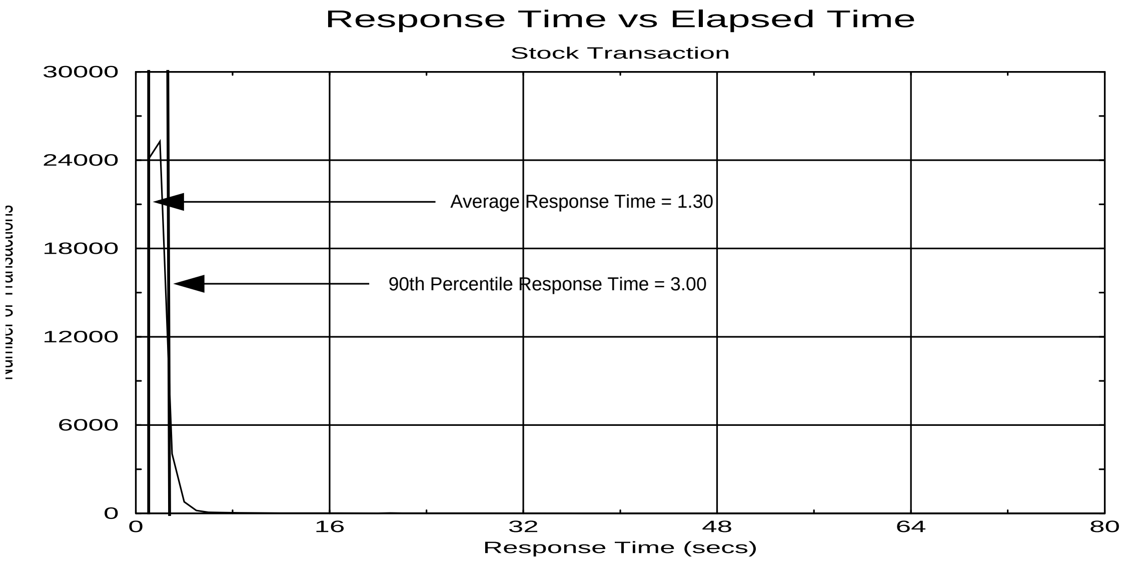


Figure 9: Stock Level Response Time Distribution

6.5 Response time versus throughput

The performance curve for response times versus throughput (see Clause 5.6.2) must be reported for the New Order transaction.

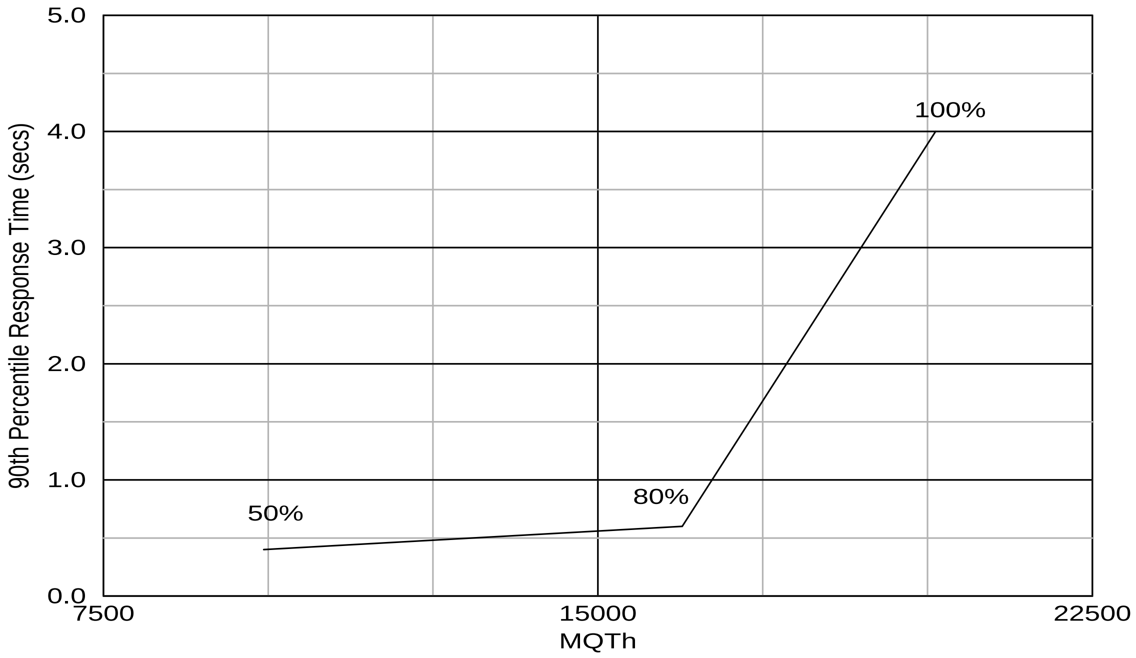


Figure 10: Response Time versus Throughput

6.6 Think Time distribution curves

Think Time frequency distribution curves (see Clause 5.6.3) must be reported for each transaction type.

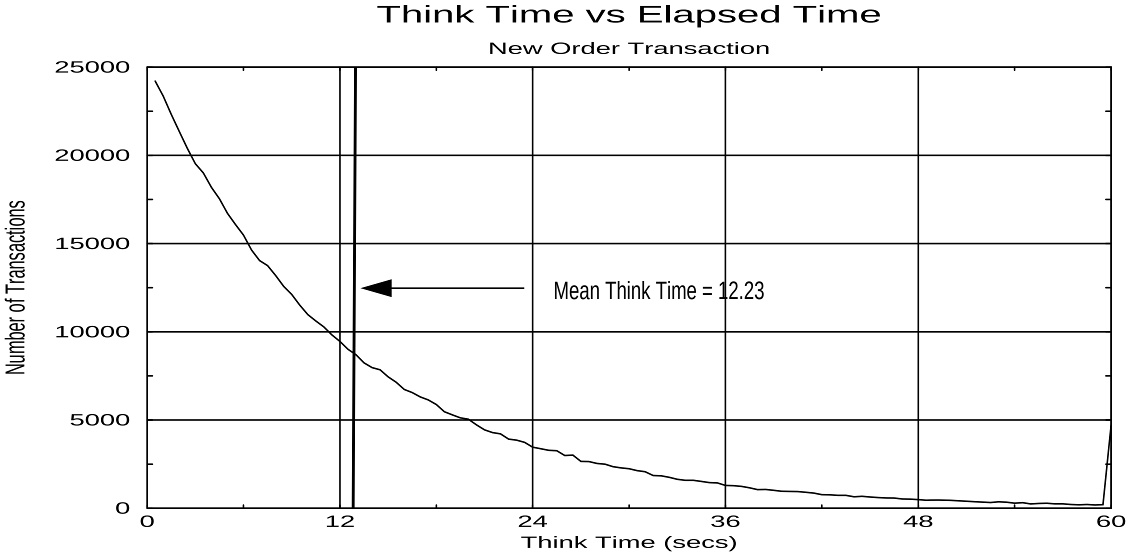


Figure 11: New Order Think Time Distribution

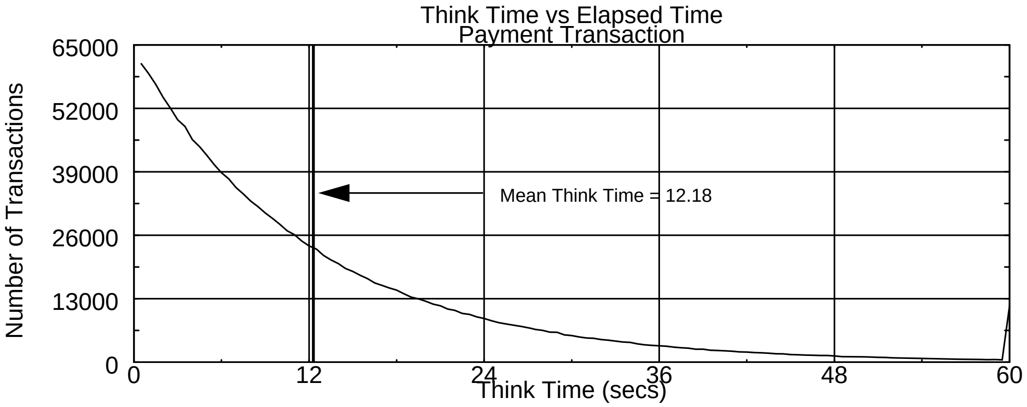


Figure 12: Payment Think Time Distribution

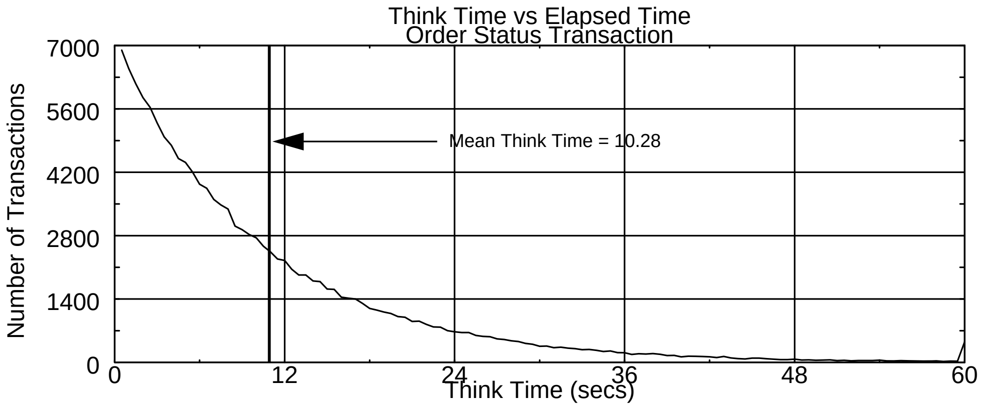


Figure 13: Order Status Think Time Distribution

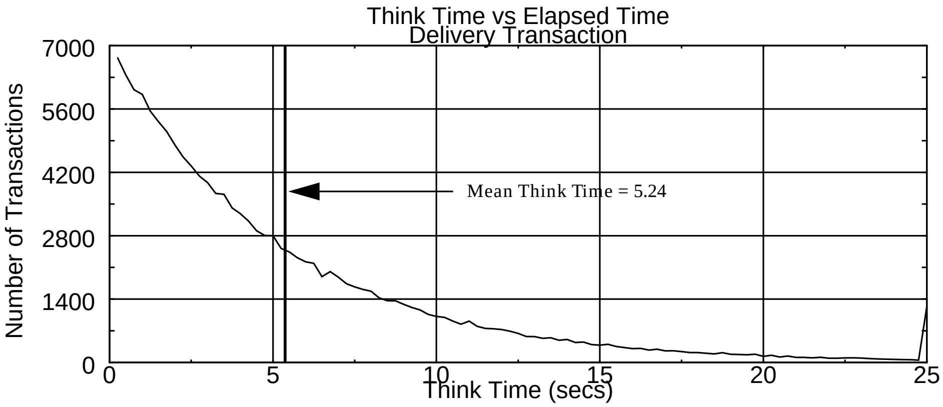


Figure 14: Delivery Think Time Distribution

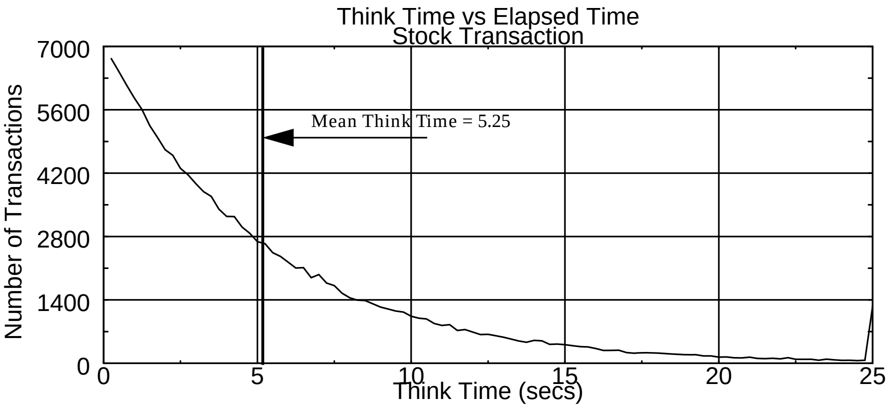


Figure 15: Stock Level Think Time Distribution

6.8 Throughput versus Elapsed Time

A graph of throughput versus elapsed time (see Clause 6.6.5) must be reported for the New-Order transaction.

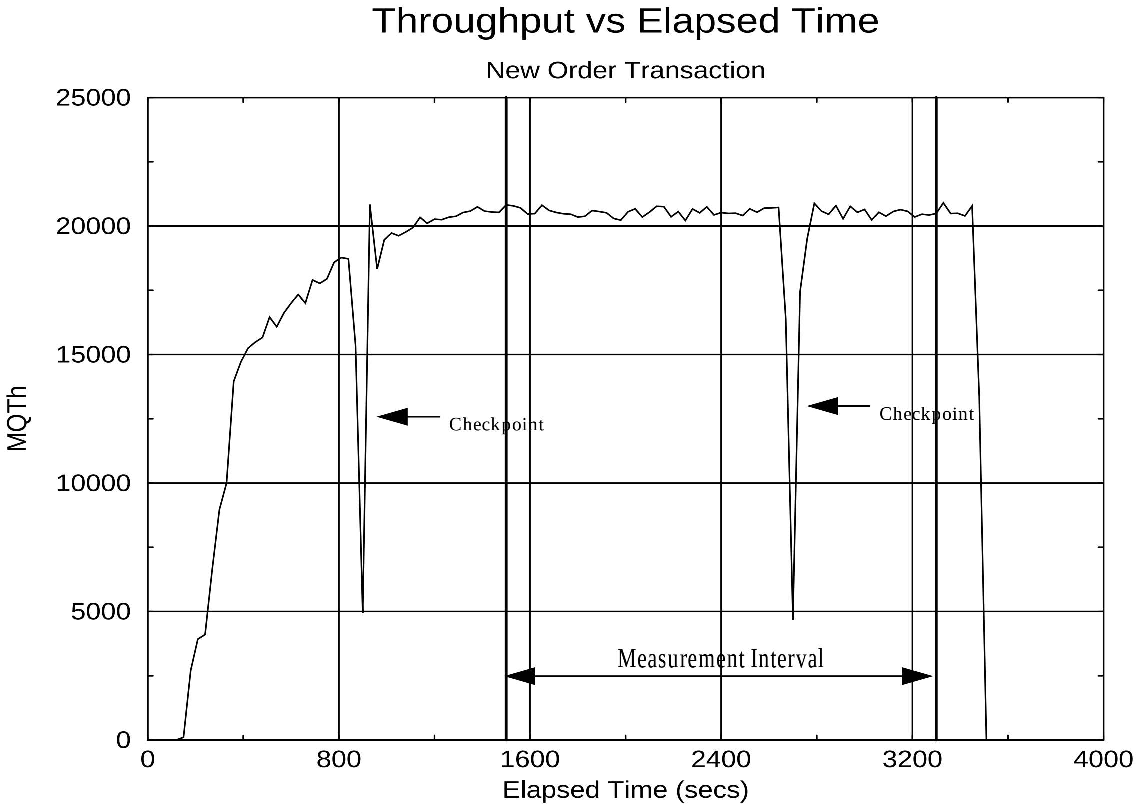


Figure 16: Throughput vs Elapsed Time

6.9 Steady State Determination

The method used to determine that the SUT had reached a steady state prior to commencing the measurement interval (see Clause 5.5) must be described.

The transaction throughput rate (tpmC) and response times were relatively constant after the initial 'ramp up' period. The throughput and response time were verified by examining the throughput (tpmC) graph reported at 30 second intervals for the duration of the benchmark. Ramp up, steady state, and ramp down are clearly discernible in the graph, Figure 16.

6.10 Work Performed During Steady State

A description of how the work normally performed during a sustained test (for example checkpointing, writing redo/undo log records, etc.), actually occurred during the measurement interval must be reported.

6.10.1 Checkpoint

A SymfoWARE checkpoint forces all "dirty" pages (pages that have been updated since they were last written) to be physically written to the durable disks. SymfoWARE executes a checkpoint for the following conditions:

1. The amount of recovery data reaches the value specified at the creation of the temporary log, which contains the before images and after images of each transaction. The interval the recovery data takes to reach the specified value depends upon workload. The temporary log is configured by the rdblog command.

2. Upon an explicit rdbrcp request.

For each benchmark measurement, after all users are active, the script that issues rdbrcp is started manually on the server. The script sleeps and performs another checkpoint every 30 minutes, which is equal to the measurement interval. Rdbrcp notifies the time upon the completion of the checkpoint and the start time and end time of all checkpoints are captured to a flat file. The recovery log is configured to be large enough that no other checkpoint will occur during the measurement. The recovery log is marked as reusable after the checkpoint completes. The positioning of the checkpoint is verified to be clear of the guard zones and is depicted on the graph in Figure 16.

6.11 Reproducibility

A description of the method used to determine the reproducibility of the measurement results must be reported.

The measurement procedure was repeated and the throughput verified to be within less than 2% of the reported measurement.

6.12 Measurement Period Duration

A statement of the duration of the measurement interval for the reported Maximum Qualified Throughput (tpmC) must be included.

The reported measured interval was exactly 30 minutes long.

6.13 Transaction Mix Regulation

The method of regulation of the transaction mix (e.g., card decks or weighted random distribution) must be described. If weighted distribution is used and the RTE adjusts the weights associated with each transaction type, the maximum adjustments to the weight from the initial value must be disclosed.

The weighted distribution algorithm as described in Clause 5.2.4.1 of the TPC-C specification was used to regulate the transaction mix. Weights for the various transactions were statically assigned.

6.14 Numerical Results

The percentage of the total mix for each transaction type must be disclosed.

See Table 1 for results.

6.15 New-Orders Rolled-Back

The percentage of New-Order transactions rolled back as a result of invalid item number must be disclosed.

See Table 1 for results.

6.16 Order-Line Average

The average number of order-lines entered per New-Order transaction must be disclosed.

See Table 1 for results.

6.17 Remote Order-Lines

The percentage of remote order-lines entered per New-Order transaction must be disclosed.

See Table 1 for results.

6.18 Remote Payments

The percentage of remote payment transactions must be disclosed.

See Table 1 for results.

6.19 Customer Lastname

The percentage of customer selections by customer last name in the Payment and Order-Status transactions must be disclosed.

See Table 1 for results.

6.20 Deliverys Skipped

The percentage of Delivery transactions skipped due to there being fewer than necessary orders in the New-Order table must be disclosed.

See Table 1 for results.

6.21 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.

One checkpoint was recorded before the measured window opened and another checkpoint was started 1200 seconds inside the measured window. Both checkpoints were clear of the guard zone. Checkpoints were started exactly 30 minutes apart.

7 - Clause 6 Related Items

7.1 RTE Description

If the RTE is commercially available, then its inputs must be specified. Otherwise, a description must be supplied of what inputs (e.g. scripts) to the RTE had been used.

The RTE used was developed by Sun Microsystems and is proprietary. It consists of a *master_rte* program which forks off the individual RTE processes and controls the run. After the run completes, a separate report generator program collects all the log files and generates the final statistics of a run.

Inputs to the RTE include the names of the RTE machines to run on, client machines to attach to, the database scale, the ramp-up, measurement and ramp-down times. The script used to set these values is shown below:

```
setenv  ramp_up         1500    # ramp_up interval (secs)
setenv stdy_state      1800    # steady-state/measurement interval
(secs)
setenv  ramp_down       180     # ramp_down interval (secs)
setenv  trigger_time    1500    # Trigger time for users to login
setenv  scale           1760    # of warehouses
setenv  comment         ""
set users = ( 2640 2640 2640 2420 2420 2420 2420 ) # Number of users
on each machine
set rte_machines = ( r1 r2 r3 r4 r5 r6 r7 )# Names of rte machines
set clnt_machines = ( c1 c2 c3 c4 c5 c6 c7 )  # Names of client
machines (same # as #rtes)
set mix = ( 404 807 1209 5514 10000 )   # %Mix of transactions
(stock,del,ords,paym,newo)
set think = ( 5200 5200 10250 12200 12200 ) # Think times in ms for
above tx
```

The code used to generate the transactions and record response times is shown in Appendix E.

7.2 Emulated Components

It must be demonstrated that the functionality and performance of the components being emulated in the Driver System are equivalent to that of the priced system. The results of the test described in Clause 6.6.3.4 must be disclosed.

In the configuration, workstations are connected to the clients via telnet in the same way as the emulated system. The driver system emulates the workstations by making a direct connection to the SUT for each terminal.

7.3 Configuration Diagrams

A complete funcitional diagram of both the benchmark configuration and the configuration of the proposed (target) system 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).

Figure 1 is a diagram of the benchmarked configuration and shows the substitutions of the priced configuration. Section 1.4 of this Full Disclosure Report gives details on both configurations.

7.4 Network Configuration

The network configurations of both the tested services and the proposed (target) services which are being represented and a thorough explanation of exactly which parts of the proposed configuration are being replaced with the Driver System must be disclosed (see Clause 6.6.4).

The configuration used one 10BaseT LAN for each driver system, connecting the driver system to the corresponding client and one 100BaseT LAN connecting all the 7 client systems to the server. There were 2420 or 2640 workstations “terminals” on each.

7.6 Operator Intervention

If the configuration requires operator intervention, the mechanism and the frequency of this intervention must be disclosed.

The Enterprise 450 Server configuration reported does not require any operator intervention to sustain the reported throughput.

8 - Clause 7 Related Items

8.1 System Pricing

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

A detailed price list is included in the abstract at the beginning of this report.

8.2 Support Pricing

The total 5-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 used must be disclosed.

8.2.1 Sun Hardware and Software Support

The Silver Program of the SunService Support Program was used in all Sun pricing calculations. This program provides complete service with both on-site and telephone assistance. Features of this program include telephone assistance from 8:00 am to 5:00 pm, Monday - Friday; and on-site service assistance from 8:00 am to 5:00 pm, Monday - Friday; and Solaris maintenance releases. This service provides live telephone transfer of software fixes and 4 hour on-site response for urgent problems.

Most Sun hardware has a one year warranty. During the warranty period, the monthly price for the Silver Program is 60% of the usual monthly price. The Sun Enterprise 450 has a 3 year warranty. A warranty upgrade option was used to bring the E450 support up to the Silver Program level.

8.3 Discounts

The following generally available discounts to any buyer with like conditions were applied to the priced configurations:

- a 10% Sun support 3 year contract discount

- a 5% Sun support pre-payment discount

8.4 Availability

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, the reported availability date for the priced system must be the date at which all components are committed to be available.

All products will be available by July 31, 2000.

8.5 TpmC, Price/TpmC

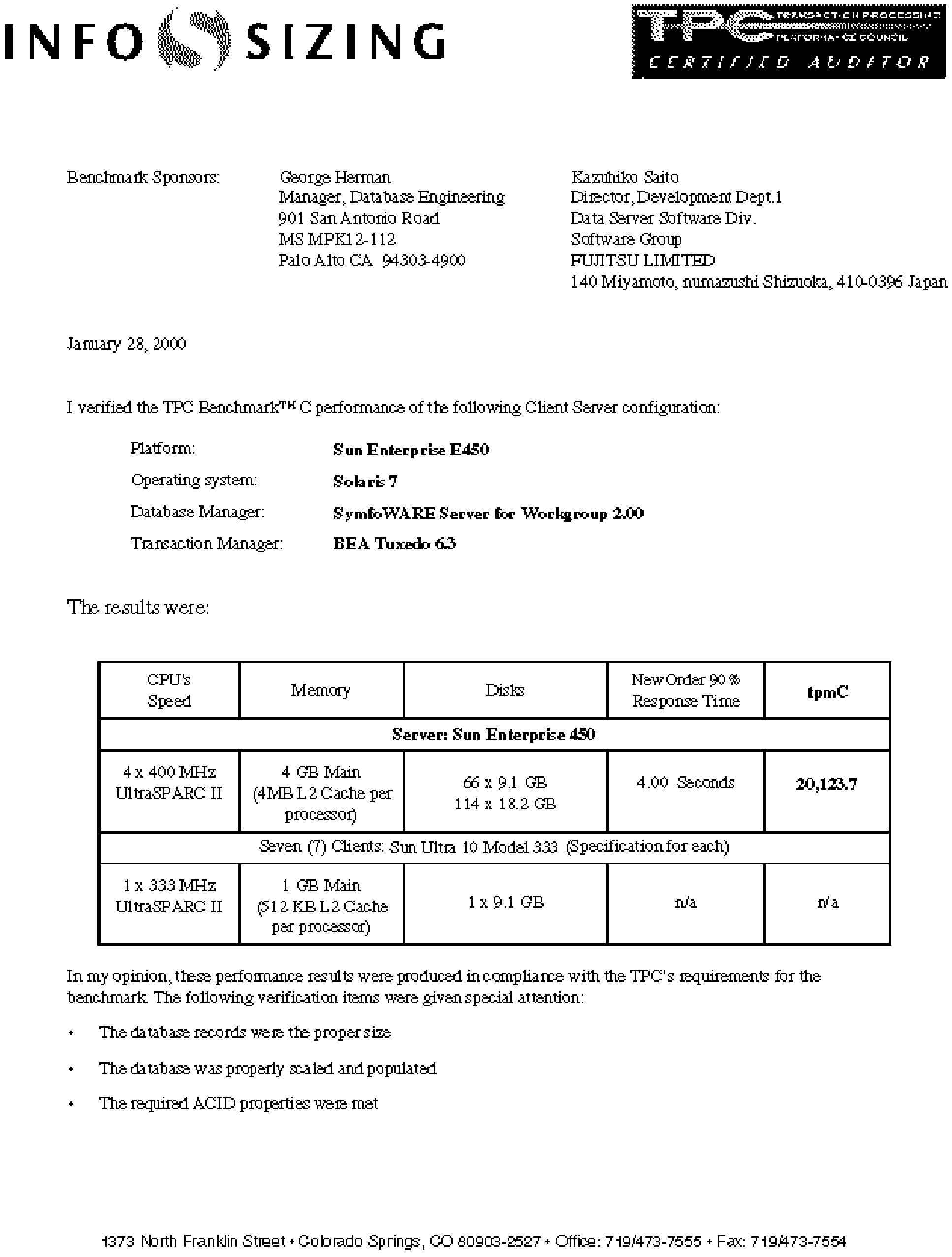
A statement of the measured tpmC, as well as the respective calculations for 5-year pricing, price/performance (price/tpmC), and the availability date must be included.

The Maximum Qualified Throughput for the Enterprise 450 was 20123.7 tpmC at $27.70 per tpmC.

9 - Clause 8 Related Items

9.1 Auditor's Report

The auditor's name, address, phone number, and a copy of the auditor's attestation let letter indicating compliance must be included in the Full Disclosure Report.



INFO SIZING

TPC TRANSACTION PROCESSING PERFORMANCE COUNCIL CERTIFIED AUDITOR

Benchmark Sponsors:	George Herman Manager, Database Engineering 901 San Antonio Road MS MPK12-112 Palo Alto CA 94303-4900	Kazuhiko Saito Director, Development Dept.1 Data Server Software Div. Software Group FUJITSU LIMITED 140 Miyamoto, numazushi Shizuoka, 410-0396 Japan

January 28, 2000

I verified the TPC Benchmark™ C performance of the following Client Server configuration:

Platform:	**Sun Enterprise E450**
Operating system:	**Solaris 7**
Database Manager:	**SymfoWARE Server for Workgroup 2.00**
Transaction Manager:	**BEA Tuxedo 6.3**

The results were:

CPU's Speed	Memory	Disks	New Order 90% Response Time	**tpmC**
		Server: Sun Enterprise 450		
4 x 400 MHz UltraSPARC II	4 GB Main (4MB L2 Cache per processor)	66 x 9.1 GB 114 x 18.2 GB	4.00 Seconds	**20,123.7**
		Seven (7) Clients: Sun Ultra 10 Model 333 (Specification for each)		
1 x 333 MHz UltraSPARC II	1 GB Main (512 KB L2 Cache per processor)	1 x 9.1 GB	n/a	n/a

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
- The required ACID properties were met

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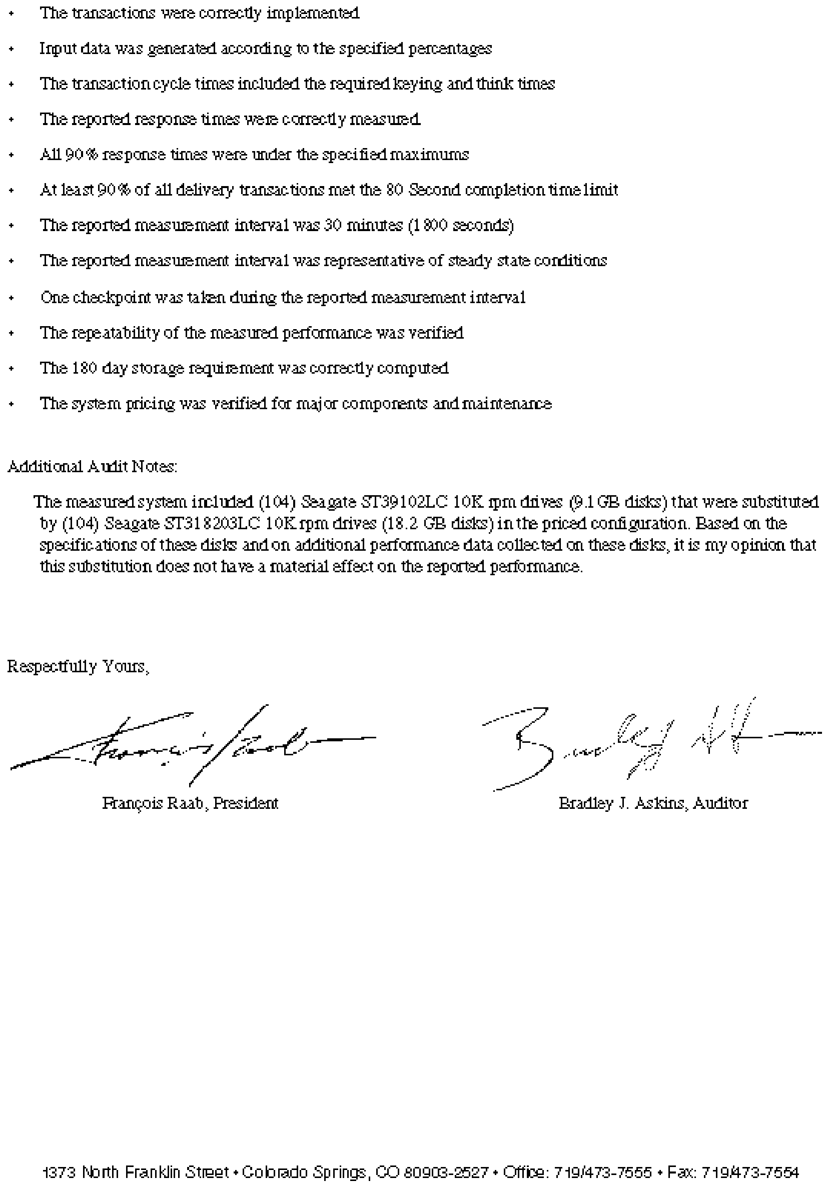

- The transactions were correctly implemented
- Input data was generated according to the specified percentages
- The transaction cycle times included the required keying and think times
- The reported response times were correctly measured
- All 90% response times were under the specified maximums
- At least 90% of all delivery transactions met the 80 Second completion time limit
- The reported measurement interval was 30 minutes (1800 seconds)
- The reported measurement interval was representative of steady state conditions
- One checkpoint was taken during the reported measurement interval
- The repeatability of the measured performance was verified
- The 180 day storage requirement was correctly computed
- The system pricing was verified for major components and maintenance

Additional Audit Notes:

The measured system included (104) Seagate ST39102LC 10K rpm drives (9.1 GB disks) that were substituted by (104) Seagate ST318203LC 10K rpm drives (18.2 GB disks) in the priced configuration. Based on the specifications of these disks and on additional performance data collected on these disks, it is my opinion that this substitution does not have a material effect on the reported performance.

Respectfully Yours,

François Raab, President

Bradley J. Askins, Auditor

Appendix A: Application Code

This Appendix contains the application source code that implements the transactions and Forms modules.

```
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#include <time.h>
#include <sys/types.h>
#include <time.h>
#define BOOLEAN int
#define LINEMAX 256
#define FALSE 0
#define TRUE 1
#define NEWORDER 0
#define PAYMENT 1
#define ORDSTAT 2
#define DELIVERY 3
#define STOCKLEV 4
#define WD 5
#define MAX_OL 15
#define TPM_ERROR 1
char            date_field[80];
char            tty_name[11];
int             w_id;
int             d_id;
int             xact_type;
struct no_itm_struct {
        int             ol_supply_w_id;
        int             ol_i_id;
        char            i_name[25];
        int             ol_quantity;
        int             s_quantity;
        char            brand[2];
        double          i_price;
        double          ol_amount;
};
struct no_struct {
        int             w_id;
        int             d_id;
        int             c_id;
        int             o_id;
        int             o_ol_cnt;
        double          c_discount;
        double          w_tax;
        double          d_tax;
        char            o_entry_d[20];
        char            c_credit[3];
        char            c_last[17];
        struct          no_itm_struct o_ol[15];
        char    status[26];
        double          total;
};
struct pay_struct {
        int             w_id;
        int             d_id;
        int             c_id;
        int             c_w_id;
        int             c_d_id;
        double          h_amount;
        double          c_credit_lim;
        double          c_balance;
        double          c_discount;
        char            h_date[20];
        char            w_street_1[21];
        char            w_street_2[21];
        char            w_city[21];
        char            w_state[3];
        char            w_zip[11];
        char            d_street_1[21];
        char            d_street_2[21];
        char            d_city[21];
        char            d_state[3];
        char            d_zip[11];
        char            c_first[17];
        char            c_middle[3];
        char    c_last[17];
        char            c_street_1[21];
        char            c_street_2[21];
        char            c_city[21];
        char            c_state[3];
        char            c_zip[11];
        char            c_phone[17];
        char            c_since[11];
        char            c_credit[3];
        char c_data_1[51];
        char c_data_2[51];
        char c_data_3[51];
        char c_data_4[51];
};
struct ord_itm_struct {
        int             ol_supply_w_id;
        int             ol_i_id;
        int             ol_quantity;
        double          ol_amount;
        char            ol_delivery_d[11];
};
struct ord_struct {
        int             ol_cnt;
        int             w_id;
        int             d_id;
        int             c_id;
        int             o_id;
        int             o_carrier_id;
        double          c_balance;
        char            c_first[17];
        char            c_middle[3];
        char            c_last[17];
        char            o_entry_d[20];
        struct ord_itm_struct s_ol[MAX_OL];
};
struct del_struct {
        int             w_id;
        int             o_carrier_id;
        time_t          queue_time;
};
struct stock_struct {
        int             w_id;
        int             d_id;
        int             threshold;
        int             low_stock;
};
struct menu_struct {
        int     w_id;
        int     d_id;
};
typedef union info {
                struct no_struct neworder;
                struct pay_struct payment;
                struct ord_struct ordstat;
                struct del_struct delivery;
                struct stock_struct stocklev;
                struct menu_struct wd;
        }       info_t;
struct io_tpcc {
        int             type;
        info_t          info;
};
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#pragma ident "@(#)tpcc_client.c1.197/03/13SMI"
```

```
#include<stdio.h>
#include<string.h>
#include<unistd.h>
#include<sys/types.h>
#include<sys/time.h>
#include<sys/procset.h>
#include<sys/param.h>
#include<limits.h>
#include<errno.h>
#include <stdlib.h>
#include <errno.h>
#include "tpcc_client.h"
#include "tpcc_tux.h"
main()
{
        int             menu_selection;
        void            do_transaction(int);
        initialize();
        Send_Menu();
#ifdef USE_FML
        set_service_name();
#endif
        while ((menu_selection = sel_trans()) != 9) {
                if ((menu_selection < 1) || (menu_selection > 5))
                        continue;
                do_transaction(menu_selection - 1);
                Send_Menu();
        }
        rundown();
}
initialize()
{
        int             menu_selection, start, m, n;
        char list[] =
"0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXY
Z";
        tty_in = 0;
        tty_out = 1;
        if (Init_Monitor()) {
        fprintf(stderr, "\033[24;1H\033[mUnable to connect to TP Monitor\n\01");
        exit(1);
        }
        get_wd();
        set_display();
}
rundown()
{
        restore_terminal();
        Rundown_Monitor();
}
get_wd(int num)
{
        num = 5 ;
        setup_wd();
        display_screen(num);
        get_inputs(num);
}
void
do_transaction(int num)
{
        int             status;
        char c;
        display_screen(num);
        status = get_inputs(num);
        if (status == 3)
                return;
        if ( Snd_Txn_To_Monitor(num) ){
         cleanup("\033[24;1H\033[mTransaction error occured");
        }
        else
                display_output(num);
}
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#include <sys/termio.h>
extern int      tty_in;
extern int      tty_out;
#define MAX_FORMS 6
#define MESSAGE_ROW 24
#define MESSAGE_COL 1
#define RTE_SYNCH_CHARACTER '\1'
#define SCRBUF_LEN 1536
#define FIRST_OL_ROW 7
#define CLRSCN(buf) sprintf(buf,"\033[H\033[2J")
#define DISPLAY_INT(buf,wid,x,y,ip) sprintf(buf,"\033[%d;%dH%*.1d", y,
x,wid,ip)
#define DISPLAY_MONEY(buf,wid,x,y,fp)
sprintf(buf,"\033[%d;%dH$%#*.2f",y,x,wid,fp)
#define DISPLAY_FLOAT(buf,wid,x,y,fp)
sprintf(buf,"\033[%d;%dH%#*.2f", y, x,wid,fp)
#define DISPLAY(buf,x,y,txt) sprintf(buf,"\033[%d;%dH%s", y, x,txt)
#define DISPLAY50(buf,x,y,txt) sprintf(buf,"\033[%d;%dH%50.50s", y,
x,txt)
#define PAINTSCR(buf) write(tty_out,buf,strlen(buf))
#define PAINTSCRLEN(buf, len) write(tty_out,buf,len)
#define SWITCH_TO_NORMAL(buf) sprintf(buf,"\033[m")
#define SWITCH_TO_UNDERL(buf) sprintf(buf,"\033[4m")
#define GOTOXY(buf,x,y) sprintf(buf,"\033[%d;%dH", y, x)
#define BEEP(buf) sprintf(buf,"\007")
#define BLANK_UNDERLINE(buf,x,y,txt)
sprintf(buf,"\033[4m;\033[%d;%dH%s",y,x,txt);
#define CLRSCN_STR "'\033[H\033[2J'
#define DISPLAY_STR(x,y,txt) '\033[y;xHtxt'
#define CANCELLED 3
#define PREVIOUS_FIELD 4
#define BACKTAB 2
#define DELETE 8
#define ESCAPE 27
#define LF 10
#define QUIT 3
#define SPACE 32
#define SUBMIT 13
#define TAB 9
#define UNDERLINE 95
#define LEAVE_SCREEN_MIN 300
#define LEAVE_SCREEN_TIMEOUT 2
static int      curbuf_consumed = 0;
static int      curbuf_read = 0;
static int      read_count = 0;
#defineCURBUFLEN300
static char     curbuf[CURBUFLEN];
static BOOLEAN  OVERFLOW = FALSE;
static BOOLEAN  message;
BOOLEAN         payment_input = FALSE;
static struct termio tbufsave;
extern void     syserr();
void            Init_Screen();
void            display_screen_array(int);
void            Send_Menu();
int             Get_Menu_Input();
typedef struct {
        int             y;
        int             x;
        int             len;
        int             flags;
        int            *dptr;
        int             (*fptr) ();
}               io_elem;
int             int_h_amount;
const static char     MANDATORY_MSG[] =
"\033[24;1H\033[mMandatory data field! Please enter data.";
const static char     INVALID_MSG[] =
"\007\033[24;1HAn invalid character was entered. Please enter again.";
const static char     ERASE_MSG[] = "\033[24;1H\033[K\033[4m";
const static char     MIN1DIGIT_MSG[] = "\033[24;1H\033[mYou must enter
atleast 1 digit. Please reenter.\033[4m\1";
const static char     BAD_INPUTS[] = " #### Bad input data was entered --
Select again #### \1";
const static char     INCOMPLINE_MSG[] = "\033[24;1H\033[mOrder line is
incomplete. Please complete the whole line.\033[4m\1";
const static char    ID_OR_LAST_MSG[] = "\033[24;1H\033[mYou must enter
either the Last Name or the Customer Number.\033[4m\1";
const static char     EXC_MAX_LFT_DEC_DGT_MSG[] =
"\033[24;1H\033[mMaximum digits left of decimal point already entered. '.'
expected\033[4m\1";
const static char     EXC_FLD_LIM_MSG[] =
"\007\033[24;1H\033[mMaximum digits already entered. Tab or <CR>
expected\033[4m\1";
const static char    EXECUTION_STATUS_MSG[] = "\033[m\033[22;18HItem
number is not valid";
const static char     INVALID_DIST_MSG[] = "\033[m\033[22;18HDist
number is not valid";
const static char     DELIVERY_QUEUED_MSG[] =
"\033[m\033[6;19HDelivery has been queued";
int             read_integer(int, int, int, int, int *);
int             read_money(int, int, int, int, float *);
int             read_string(int, int, int, int, char *);
char             menu_buf[] = "\033[H\033[J\033[mNew-Order(n)  Payment(p)
Order-Status(o)  Delivery(d)  Stock-Level(s)  Exit(e)";
int             menu_buflen = sizeof (menu_buf);
io_elem         neworder_inputs[] = {
        2, 29, 2, 0, 0, &read_integer,
        3, 12, 4, 0, 0, &read_integer,
        7, 3, 4, 0, 0, &read_integer,
        7, 10, 6, 0, 0, &read_integer,
        7, 45, 2, 0, 0, &read_integer,
        8, 3, 4, 0, 0, &read_integer,
        8, 10, 6, 0, 0, &read_integer,
        8, 45, 2, 0, 0, &read_integer,
        9, 3, 4, 0, 0, &read_integer,
        9, 10, 6, 0, 0, &read_integer,
        9, 45, 2, 0, 0, &read_integer,
        10, 3, 4, 0, 0, &read_integer,
        10, 10, 6, 0, 0, &read_integer,
        10, 45, 2, 0, 0, &read_integer,
        11, 3, 4, 0, 0, &read_integer,
        11, 10, 6, 0, 0, &read_integer,
        11, 45, 2, 0, 0, &read_integer,
        12, 3, 4, 0, 0, &read_integer,
        12, 10, 6, 0, 0, &read_integer,
        12, 45, 2, 0, 0, &read_integer,
        13, 3, 4, 0, 0, &read_integer,
        13, 10, 6, 0, 0, &read_integer,
        13, 45, 2, 0, 0, &read_integer,
        14, 3, 4, 0, 0, &read_integer,
        14, 10, 6, 0, 0, &read_integer,
        14, 45, 2, 0, 0, &read_integer,
        15, 3, 4, 0, 0, &read_integer,
        15, 10, 6, 0, 0, &read_integer,
        15, 45, 2, 0, 0, &read_integer,
        16, 3, 4, 0, 0, &read_integer,
        16, 10, 6, 0, 0, &read_integer,
        16, 45, 2, 0, 0, &read_integer,
        17, 3, 4, 0, 0, &read_integer,
        17, 10, 6, 0, 0, &read_integer,
        17, 45, 2, 0, 0, &read_integer,
        18, 3, 4, 0, 0, &read_integer,
        18, 10, 6, 0, 0, &read_integer,
        18, 45, 2, 0, 0, &read_integer,
        19, 3, 4, 0, 0, &read_integer,
        19, 10, 6, 0, 0, &read_integer,
        19, 45, 2, 0, 0, &read_integer,
        20, 3, 4, 0, 0, &read_integer,
        20, 10, 6, 0, 0, &read_integer,
        20, 45, 2, 0, 0, &read_integer,
        21, 3, 4, 0, 0, &read_integer,
        21, 10, 6, 0, 0, &read_integer,
        21, 45, 2, 0, 0, &read_integer,
        999
};
io_elem         payment_inputs[] = {
        4, 52, 2, 0, 0, &read_integer,
        9, 11, 4, 0, 0, &read_integer,
        9, 33, 4, 0, 0, &read_integer,
        9, 54, 2, 0, 0, &read_integer,
        10, 29, 16, 0, 0, &read_string,
        15, 24, 7, 0, 0, &read_integer,
        999
};
io_elem         ordstat_inputs[] = {
        2, 29, 2, 0, 0, &read_integer,
        3, 11, 4, 0, 0, &read_integer,
        3, 44, 16, 0, 0, &read_string,
        999
};
io_elem         delivery_inputs[] = {
        4, 17, 2, 0, 0, &read_integer,
        999
};
io_elem         stocklev_inputs[] = {
        4, 24, 2, 0, 0, &read_integer,
        999
};
io_elem         wd_inputs[] = {
        2, 16, 4, 0, 0, &read_integer,
        2, 43, 4, 0, 0, &read_integer,
        999
};
typedef struct {
        int             x;
        int             y;
```

```
        char            *text;
}               text_elem;
const text_elem         NO_text_elem[] = {
        1, 36, “New Order”,
        2, 1, “Warehouse:”,
        2, 19, “District:”,
        2, 55, “Date:”,
        3, 1, “Customer:”,
        3, 19, “Name:”,
        3, 44, “Credit:”,
        3, 57, “%Disc:”,
        4, 1, “Order Number:”,
        4, 25, “Number of Lines:”,
        4, 52, “W_tax:”,
        4, 67, “D_tax:”,
        6, 2, “Supp_W Item_Id Item Name”,
        6, 45, “Qty Stock B/G Price Amount”,
        22, 1, “Execution Status:”,
        22, 62, “Total:”,
        0
};
const text_elem         PT_text_elem[] = {
        1, 38, “Payment”,
        2, 1, “Date:”,
        4, 1, “Warehouse:”,
        4, 42, “District:”,
        9, 1, “Customer:”,
        9, 17, “Cust-Warehouse:”,
        9, 39, “Cust-District:”,
        10, 1, “Name:”,
        10, 50, “Since:”,
        11, 50, “Credit:”,
        12, 50, “%Disc:”,
        13, 50, “Phone:”,
        15, 1, “Amount Paid:”,
        15, 23, “$”,
        15, 37, “New Cust-Balance:”,
        16, 1, “Credit Limit:”,
        18, 1, “Cust-Data:”,
        0
};
const text_elem         OS_text_elem[] = {
        1, 35, “Order-Status”,
        2, 1, “Warehouse:”,
        2, 19, “District:”,
        3, 1, “Customer:”,
        3, 18, “Name:”,
        4, 1, “Cust-Balance:”,
        6, 1, “Order-Number:”,
        6, 26, “Entry-Date:”,
        6, 60, “Carrier_Number:”,
        7, 1, “Supply-W”,
        7, 14, “Item-Id”,
        7, 25, “Qty”,
        7, 33, “Amount”,
        7, 45, “Delivery-Date”,
        0
};
const text_elem         DY_text_elem[] = {
        1, 38, “Delivery”,
        2, 1, “Warehouse:”,
        4, 1, “Carrier Number:”,
        6, 1, “Execution Status:”,
        0
};
const text_elem        SL_text_elem[] = {
        1, 38, “Stock-Level”,
        2, 1, “Warehouse:”,
        2, 19, “District:”,
        4, 1, “Stock Level Threshold:”,
        6, 1, “low stock:”,
        0
};
const text_elem        WD_text_elem[] = {
        2, 1, “Warehouse:”,
        2, 26, “District:”,
        0
};
#ifdefMultiple_blank_form
const char WD_blank_form[SCRBUF_LEN] =
CLRSCN_STRDISPLAY_STR(2,1,’Warehouse:’)DISPLAY_STR(2,26,’District:
’)”;
#endif
struct form_info {
        const text_elem       *tp;
        char              *blank_form;
        int               blank_formlen;
        io_elem           *input_elems;
        int               num_input_elems;
};
char            output_screen[SCRBUF_LEN];
struct form_info Forms[MAX_FORMS] = {
        {NO_text_elem, 0, 0, neworder_inputs, 0},
        {PT_text_elem, 0, 0, payment_inputs, 0},
        {OS_text_elem, 0, 0, ordstat_inputs, 0},
        {DY_text_elem, 0, 0, delivery_inputs, 0},
        {SL_text_elem, 0, 0, stocklev_inputs, 0},
        {WD_text_elem, 0, 0, wd_inputs, 0}
};
 /*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#pragma ident “@(#)tpcc_forms.c1.297/07/15SMI”
#include <stdio.h>
#include <sys/termio.h>
#include <stdlib.h>
#include <sys/time.h>
#include <time.h>
#include “tpcc_client.h”
#include “tpcc_forms.h”
#include “tpcc_tux.h”
static intscreen_bufindex;
static char     screen_buf[SCRBUF_LEN];
extern void     Clog(char *,...);
extern void     SCREENlog(int, char *);
const charblanks[1802] = “                                        “;
void
setraw()
{
        extern struct tbufsave;
        struct termio   tbuf;
        int             status;
        if (ioctl(tty_in, TCGETA, &tbuf) == -1)
                return;
        tbufsave = tbuf;
        tbuf.c_iflag &= ~(INLCR | ICRNL | IUCLC | ISTRIP | IXON |
BRKINT);
        tbuf.c_oflag &= ~OPOST;
        tbuf.c_lflag &= ~(ICANON | ISIG | ECHO);
        tbuf.c_cc[VMIN] = LEAVE_SCREEN_MIN;
        tbuf.c_cc[VTIME] = LEAVE_SCREEN_TIMEOUT;
        if (ioctl(tty_out, TCSETAF, &tbuf) == -2)
                syserr(“ioctl_ERROR#2 - setting raw mode for STDIN error”);
}
void
restore_terminal()
{
        extern struct tbufsave;
        struct termio   tbuf;
        int             status;
        if (ioctl(tty_out, TCSETAF, &tbufsave) == -1)
                syserr(“ioctl_ERROR#3 - restoring original input terminal settings
error”);
        tbuf = tbufsave;
        if (ioctl(tty_out, TCSETAF, &tbuf) == -1)
                syserr(“ioctl_ERROR#4 - Forcing the original settings back for
STDIN error”);
}
int
sel_trans()
{
        int             c, read_count;
        static char     inbuf[2] = “\0\0”;
        int             i = 0;
        read_count = read(tty_in, inbuf, 1);
        if (read_count == 0)
                syserr(“TTY lost connection”);
        if (inbuf[0] == QUIT)
                return 9;
        switch (inbuf[0]) {
        case ‘n’:
                c = 1; break;
        case ‘p’:
                c = 2; break;
        case ‘o’:
                c = 3; break;
        case ‘d’:
                c = 4; break;
        case ‘s’:
                c = 5; break;
        case ‘e’:
                c = 9; break;
        }
        return c;
}
int         newo_val(int *);
int         paym_val(int *);
int         ords_val(int *);
int         del_val(int *);
int         stock_val(int *);
int         wd_val(int *);
int(*p_check_function[]) () = {
                &newo_val,
                &paym_val,
                &ords_val,
                &del_val,
                &stock_val,
                &wd_val
```

```
};
int
get_inputs(int txn_type)
{
        int         done = FALSE;
        int             i, returned_key;
        io_elem         *ioptr;
        int             last_input;
        float           float_h_amount = 0.0;
        memset(tuxibuf, ‘\0’, sizeof(info_t ));
        int_h_amount = 0;
        last_input = Forms[txn_type].num_input_elems - 1;
        i = 0;
        while (done == FALSE) {
                ioptr = &Forms[txn_type].input_elems[i];
                if (txn_type == PAYMENT){
                        if (i == 5)
                                payment_input = TRUE;
                        else
                                payment_input = FALSE;
                }
                returned_key = (ioptr->fptr) (ioptr->x, ioptr->y, ioptr-
>len,ioptr->flags, ioptr->dptr);
                switch (returned_key) {
                case BACKTAB:
                        if (i == 0)
                                i = last_input;
                        else
                                i--;
                        break;
                case TAB:
                        if (i == last_input)
                                i = 0;
                        else
                                i++;
                        break;
                case QUIT:
                        done = TRUE;
                        break;
                case SUBMIT:
                case LF:
                        if (screen_bufindex) {
                                PAINTSCRLEN(screen_buf, screen_bufindex);
                                screen_bufindex = 0;
                        }
                        payment_input = FALSE;
                        done = (p_check_function[txn_type]) (&i);
                        break;
                }
        }
        return returned_key;
}
int
newo_val(int *pos)
{
        int         done = FALSE;
        struct no_itm_struct *ol_ptr;
        int     blank_line = 0, i;
        iNO->w_id = w_id;
        if (iNO->d_id <= 0) {
                *pos = 0;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else if (iNO->c_id <= 0) {
                *pos = 1;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else {
                ol_ptr = iNO->o_ol;
                for (i = 0; i < MAX_OL; i++, ol_ptr++) {
                        if (ol_ptr->ol_i_id || ol_ptr->ol_supply_w_id
                            || ol_ptr->ol_quantity)
                        {
                                if (ol_ptr->ol_i_id && ol_ptr->ol_supply_w_id
                                    && ol_ptr->ol_quantity)
                                {
                                        if (blank_line == 0){
                                                iNO->o_ol_cnt++;
                                        }else{
                                                *pos = 2;
                        PAINTSCR(INCOMPLINE_MSG);
                        message = TRUE;
                        iNO->o_ol_cnt = 0;
                        return FALSE;
                                        }
                                } else {
                                        *pos = 2 + 3 * i;
                                        PAINTSCR(INCOMPLINE_MSG);
                                        message = TRUE;
                                        iNO->o_ol_cnt = 0;
                                        return FALSE;
                                }
                        } else blank_line=1;
                }
                if (!iNO->o_ol_cnt) {
                        *pos = 2;
                        PAINTSCR(MANDATORY_MSG);
                        message = TRUE;
                        iNO->o_ol_cnt = 0;
                        return FALSE;
                }
                done = TRUE;
        }
        return done;
}
int paym_val(int *pos)
{
        int         done = FALSE;
        iPT->w_id = w_id;
        if (iPT->d_id <= 0) {
                *pos = 0;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else if (iPT->c_w_id <= 0) {
                *pos = 2;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else if (iPT->c_d_id <= 0) {
                *pos = 3;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else if (int_h_amount <= 0) {
                *pos = 5;
                message = TRUE;
                PAINTSCR(MANDATORY_MSG);
        } else if (iPT->c_id <= 0) {
```

```
        if (iPT->c_last[0] == ‘\0’) {
            message = TRUE;
            PAINTSCR(ID_OR_LAST_MSG);
            *pos = 1;
        } else {
            done = TRUE;
        }
    } else
        done = TRUE;
    iPT->h_amount = ((float)int_h_amount)/100.0 ;
    return done;
}
int ords_val(int *pos)
{
    int       done = FALSE;
    iOS->w_id = w_id;
    if (iOS->d_id <= 0) {
        *pos = 0;
        message = TRUE;
        PAINTSCR(MANDATORY_MSG);
    } else if (iOS->c_id <= 0) {
        if (iOS->c_last[0] == ‘\0’) {
            message = TRUE;
            PAINTSCR(ID_OR_LAST_MSG);
            *pos = 1;
        } else {
            done = TRUE;
        }
    } else
        done = TRUE;
    return done;
}
int del_val(int *pos)
{
    int       done = FALSE;
    iDY->w_id = w_id;
    if (iDY->o_carrier_id <= 0) {
        message = TRUE;
        PAINTSCR(MANDATORY_MSG);
    } else {
        time(&iDY->queue_time);
        done = TRUE;
    }
    return done;
}
int stock_val(int *pos)
{
    int       done = FALSE;
    iSL->w_id = w_id;
    iSL->d_id = d_id;
    if (iSL->threshold <= 0) {
        message = TRUE;
        PAINTSCR(MANDATORY_MSG);
    } else
        done = TRUE;
    return done;
}
int wd_val(int *pos)
{
    int       done = FALSE;
    if (iWD->w_id == 0 || iWD->d_id == 0) {
        message = TRUE;
        PAINTSCR(MANDATORY_MSG);
```

```
    } else {
        w_id = iWD->w_id ;
        d_id = iWD->d_id;
        done = TRUE;
    }
    return done;
}
void setup_wd()
{
    io_elem        *p;
    char           buf[128];
    void           setup_io_elems();
    setraw();
    setup_screen_buffer(&Forms[5], 5);
    p = Forms[WD].input_elems;
    p++->dptr = &iWD->w_id;
    p++->dptr = &iWD->d_id;
    CLRSCN(buf);
    PAINTSCR(buf);
}
void set_display()
{
    int            i;
    char           buf[128];
    void           setup_io_elems();
    for (i = 0; i < MAX_FORMS; i++)
        setup_screen_buffer(&Forms[i], i);
    setup_io_elems();
    CLRSCN(buf);
    PAINTSCR(buf);
}
void display_screen(int screen_num)
{
    if (PAINTSCRLEN(Forms[screen_num].blank_form,
       Forms[screen_num].blank_formlen) == -1)
        syserr(“Can’t write out form”);
}
void Send_Menu()
{
    if (PAINTSCRLEN(menu_buf, menu_buflen) == -1)
        syserr(“Can’t send menu”);
}
void setup_io_elems()
{
    io_elem        *p;
    int            i;
    p = Forms[NEWORDER].input_elems;
    p++->dptr = &iNO->d_id;
    p++->dptr = &iNO->c_id;
    for (i = 0; i < 15; i++) {
        p++->dptr = &iNO->o_ol[i].ol_supply_w_id;
        p++->dptr = &iNO->o_ol[i].ol_i_id;
        p++->dptr = &iNO->o_ol[i].ol_quantity;
    }
    p = Forms[PAYMENT].input_elems;
    p++->dptr = &iPT->d_id;
    p++->dptr = &iPT->c_id;
    p++->dptr = &iPT->c_w_id;
    p++->dptr = &iPT->c_d_id;
    p++->dptr = (int *) &iPT->c_last[0];
    p->dptr = &int_h_amount;
    p = Forms[ORDSTAT].input_elems;
    p++->dptr = &iOS->d_id;
```

```
        p++->dptr = &iOS->c_id;
        p->dptr = (int *) &iOS->c_last[0];
        p = Forms[DELIVERY].input_elems;
        p->dptr = &iDY->o_carrier_id;
        p = Forms[STOCKLEV].input_elems;
        p->dptr = &iSL->threshold;
}
int
setup_screen_buffer(struct form_info * form_ptr, int txn_type)
{
        FILE            *ifile;
        const text_elem         *tbuf;
        char            *bufp;
        int             ct;
        char            input_display_buf[64];
        io_elem         *io_ptr;
        bufp = screen_buf;
        bufp += CLRSCN(bufp);
        tbuf = form_ptr->tp;
        while (tbuf->text) {
                bufp += DISPLAY(bufp, tbuf->y, tbuf->x, tbuf->text);
                tbuf++;
        }
        bufp += SWITCH_TO_UNDERL(bufp);
        ct = 0;
        for (io_ptr = form_ptr->input_elems; io_ptr->y != 999; io_ptr++) {
                strncpy(input_display_buf, blanks, io_ptr->len);
                input_display_buf[io_ptr->len] = ‘\0’;
                bufp += DISPLAY(bufp, io_ptr->x, io_ptr->y,
input_display_buf);
                ct++;
        }
        form_ptr->num_input_elems = ct;
        bufp += SWITCH_TO_NORMAL(bufp);
        if (txn_type == PAYMENT)
                bufp += DISPLAY_INT(bufp, 4, 12, 4, w_id);
        else if (txn_type != 5)
                bufp += DISPLAY_INT(bufp, 4, 12, 2, w_id);
        if (txn_type == STOCKLEV)
                bufp += DISPLAY_INT(bufp, 2, 29, 2, d_id);
        bufp += SWITCH_TO_UNDERL(bufp);
        *bufp++ = ‘\1’;
        *bufp = ‘\0’;
        form_ptr->blank_formlen = bufp - screen_buf + 1;
        if (!form_ptr->blank_form &&
            ((form_ptr->blank_form = malloc(form_ptr->blank_formlen))
== NULL)) {
                Clog(“setup_screen_buffer: malloc failed\n”);
                exit(1);
        }
        memcpy(form_ptr->blank_form, screen_buf, form_ptr-
>blank_formlen);
        memset(screen_buf, ‘\0’, form_ptr->blank_formlen);
}
int
read_integer(col, row, size, flags, data)
        int             col, row, size, flags, *data;
{
        int         exit_read_function = FALSE, previous_data_exists =
FALSE;
        int             return_status = TAB, bytes_read = 0, i = 0, j = 0, k = 0,
                        size1 = 0, cur_col = col;
        char            *bufp, temp[50];
        float           q;
        char            erase_field[20];
        strncpy(temp, “ “ , 1);
        bufp = screen_buf + screen_bufindex;
        if (curbuf_read == read_count || curbuf_read == 0) {
                screen_buf[0] = ‘\0’;
                bufp += GOTOXY(bufp, col + size - 1, row);
                PAINTSCRLEN(screen_buf, bufp - screen_buf);
                bufp = screen_buf;
        }
        size1 = size;
        if (*data > 0)
                previous_data_exists = TRUE;
        while (exit_read_function == FALSE) {
                if (curbuf_read == read_count || curbuf_read == 0) {
                        curbuf_read = 0;
                        read_count = read(tty_in, curbuf, sizeof(curbuf));
                        if (read_count == 0)
                                syserr(“TTY lost connection”);
                }
                if (message == TRUE) {
                        bufp += DISPLAY(bufp, MESSAGE_COL, MESSAGE_ROW,
ERASE_MSG);
                        message = FALSE;
                }
                if (previous_data_exists == TRUE) {
                        if (curbuf[curbuf_read] == DELETE) {
                                previous_data_exists = FALSE;
                                strncpy(erase_field, blanks, size);
                                erase_field[size] = ‘\0’;
                                bufp += DISPLAY(bufp, col, row, erase_field);
                                bufp += GOTOXY(bufp, col + size - 1, row);
                        } else {
                                if (curbuf[curbuf_read] < ‘0’ || curbuf[curbuf_read] > ‘9’)
{
                                        exit_read_function = TRUE;
                                        previous_data_exists = FALSE;
                                        return_status = curbuf[curbuf_read];
                                        curbuf[curbuf_read] = ‘\0’;
                                } else {
                                        previous_data_exists = FALSE;
                                        strncpy(erase_field, blanks, size);
                                        erase_field[size] = ‘\0’;
                                        bufp += DISPLAY(bufp, col, row, erase_field);
                                }
                        }
                }
                while ((curbuf_read < read_count) && (exit_read_function == FALSE))
{
                        if (payment_input == TRUE)
                                size1 = size - 1;
                        if ((curbuf[curbuf_read] >= ‘0’ && curbuf[curbuf_read] <= ‘9’)
|| (curbuf[curbuf_read] == ‘.’)) {
                                for (; curbuf_read < read_count &&
                                    ((curbuf[curbuf_read] >= ‘0’
                                    && curbuf[curbuf_read] <= ‘9’) || curbuf[curbuf_read]
== ‘.’); curbuf_read++) {
                                        if (curbuf_consumed < size1) {
                                                temp[curbuf_consumed] =
curbuf[curbuf_read];
                                                curbuf_consumed++;
                                        }
                                        else
                        OVERFLOW = TRUE;
                    curbuf[curbuf_read] = '\0';
                }
                temp[curbuf_consumed] = '\0';
                if (payment_input == TRUE) {
                    q = (atof(temp)) ;
                        bufp += DISPLAY_FLOAT(bufp, 2, (col +
size - 4), row, q);
                } else {
                    if (curbuf_consumed < size + 1)
                        bufp += DISPLAY(bufp, (col + size -
                           curbuf_consumed), row,
                                temp);
                    return_status = curbuf[curbuf_read];
                    cur_col++;
                }
            }
            else if (curbuf[curbuf_read] == TAB
                  || curbuf[curbuf_read] == LF
                  || curbuf[curbuf_read] == BACKTAB
                  || curbuf[curbuf_read] == SUBMIT) {
                if (message == TRUE) {
                    bufp += DISPLAY(bufp, MESSAGE_COL,
MESSAGE_ROW, ERASE_MSG);
                    message = FALSE;
                }
                temp[curbuf_consumed] = '\0';
                if (payment_input == TRUE) {
                    q = atof(temp);
                    *data = q*100;
                }
                else {
                    *data = atoi(temp);
                }
                exit_read_function = TRUE;
                return_status = curbuf[curbuf_read];
                curbuf[curbuf_read] = '\0';
                curbuf_read++;
                curbuf_consumed = 0;
            }
            else if (curbuf[curbuf_read] == DELETE) {
                if (payment_input == TRUE) {
                    if (curbuf_consumed != 0)
                        curbuf_consumed--;
                    if (message == TRUE) {
                        bufp += DISPLAY(bufp,
MESSAGE_COL,
                                MESSAGE_ROW,
                                ERASE_MSG);
                        message = FALSE;
                    }
                    OVERFLOW = FALSE;
                    PAINTSCR(screen_buf);
                    temp[curbuf_consumed] = '\0';
                    q = atof(temp);
                    curbuf[curbuf_read] = '\0';
                    strncpy(erase_field, blanks, size);
                    erase_field[size] = '\0';
                    bufp = screen_buf;
                    screen_bufindex = 0;
                    bufp += DISPLAY(bufp, col, row, erase_field);
                    if (curbuf_consumed < 3)
                        bufp += DISPLAY_FLOAT(bufp, 2,
                          (col + size - 4), row, q);
                    else
                        bufp += DISPLAY_FLOAT(bufp, 2,
                                  (col + size -
curbuf_consumed - 1), row, q);
                    if (cur_col != 0)
                        cur_col--;
                    if (curbuf_read < 40)
                        curbuf_read++;
                    bufp += GOTOXY(bufp, col + size, row);
                } else {
                    if (curbuf_consumed != 0)
                        curbuf_consumed--;
                    curbuf[curbuf_read] = '\0';
                    curbuf_read++;
                    if (message == TRUE) {
                        bufp += DISPLAY(bufp, MESSAGE_COL,
                                MESSAGE_ROW,
                                ERASE_MSG);
                        message = FALSE;
                    }
                    OVERFLOW = FALSE;
                    PAINTSCR(screen_buf);
                    temp[curbuf_consumed] = '\0';
                    strncpy(erase_field, blanks, size);
                    erase_field[size] = '\0';
                    bufp = screen_buf;
                    screen_bufindex = 0;
                    bufp += DISPLAY(bufp, col, row, erase_field);
                    bufp += DISPLAY(bufp, (col + size -
                       curbuf_consumed), row, temp);
                    if (cur_col != 0)
                        cur_col--;
                    bufp += GOTOXY(bufp, col + size, row);
                }
            }
            else if (curbuf[curbuf_read] == QUIT) {
                temp[0] = '\0';
                return_status = QUIT;
                curbuf[curbuf_read] = '\0';
                exit_read_function = TRUE;
            } else {
                if (message == FALSE) {
                    bufp += DISPLAY(bufp, MESSAGE_COL,
MESSAGE_ROW, INVALID_MSG);
                    bufp += GOTOXY(bufp, col + size, row);
                    PAINTSCR(screen_buf);
                    bufp = screen_buf;
                    screen_bufindex = 0;
                    message = TRUE;
                }
                curbuf_read++;
            }
        }
        if (OVERFLOW == TRUE && exit_read_function == FALSE) {
            if (message == FALSE) {
                bufp += DISPLAY(bufp, MESSAGE_COL,
                       MESSAGE_ROW, EXC_FLD_LIM_MSG);
                PAINTSCR(screen_buf);
                bufp = screen_buf;
                screen_bufindex = 0;
                message = TRUE;
            }
            *data = atoi(temp);
            return_status = curbuf[curbuf_read];
            curbuf[curbuf_read] = ‘\0’;
            curbuf_read = 0;
            OVERFLOW = FALSE;
        } else {
            screen_bufindex = bufp - screen_buf;
            if ((curbuf_read == read_count) | | (curbuf_read == 0)
              | | (screen_bufindex > SCRBUF_LEN -
CURBUFLEN)) {
                PAINTSCRLEN(screen_buf, screen_bufindex);
                screen_bufindex = 0;
                bufp = screen_buf;
            }
        }
    }
    if (message == TRUE) {
        bufp += DISPLAY(bufp, MESSAGE_COL,
                MESSAGE_ROW, ERASE_MSG);
        message = FALSE;
        PAINTSCR(screen_buf);
        bufp = screen_buf;
        screen_bufindex = 0;
    }
    return (return_status);
}
int
read_string(col, row, size, flags, data)
    int         col, row, size, flags;
    char        *data;
{
    int     exit_read_function = FALSE, previous_data_exists =
FALSE, data_full = FALSE;
    int         return_status = TAB, bytes_read = 0, i = 0, j = 0,
                size_tot = 0;
    char        *bufp, temp[80];
    char         erase_field[20];
    strncpy(temp, “\0”, 1);
    curbuf_consumed = 0;
    bufp = screen_buf + screen_bufindex;
    if (curbuf_read == read_count | | curbuf_read == 0) {
        screen_buf[0] = ‘\0’;
        bufp += GOTOXY(bufp, col, row);
        PAINTSCRLEN(screen_buf, bufp - screen_buf);
        bufp = screen_buf;
    }
    if ((*(char *) data) != ‘\0’)
        previous_data_exists = TRUE;
    while (exit_read_function == FALSE) {
        if (curbuf_read == read_count) {
            curbuf_read = 0;
            read_count = read(tty_in, curbuf, size - size_tot);
            if (read_count == 0)
                syserr(“TTY lost connection”);
        }
        if (message == TRUE) {
            bufp += DISPLAY(bufp, MESSAGE_COL,
                    MESSAGE_ROW, ERASE_MSG);
            message = FALSE;
        }
        if (previous_data_exists == TRUE) {
            if (curbuf[curbuf_read] == DELETE) {
                previous_data_exists = FALSE;
                strncpy(erase_field, blanks, size);
                erase_field[size] = ‘\0’;
                bufp += DISPLAY(bufp, col, row, erase_field);
                bufp += GOTOXY(bufp, col, row);
            } else {
                if (curbuf[curbuf_read] < ‘ ‘ | | curbuf[curbuf_read] > ‘~’) {
                    exit_read_function = TRUE;
                    previous_data_exists = FALSE;
                    return_status = curbuf[curbuf_read];
                    curbuf[curbuf_read] = ‘\0’;
                } else {
                    previous_data_exists = FALSE;
                    strncpy(erase_field, blanks, size);
                    erase_field[size] = ‘\0’;
                    bufp += DISPLAY(bufp, col, row, erase_field);
                    bufp += GOTOXY(bufp, col, row);
                }
            }
        }
        while ((curbuf_read < read_count) && (exit_read_function == FALSE))
{
            if (curbuf[curbuf_read] >= ‘ ‘ && curbuf[curbuf_read] <= ‘~’) {
                for (; curbuf[curbuf_read] >= ‘ ‘
                  && curbuf[curbuf_read] <= ‘~’; curbuf_read++) {
                    if (curbuf_consumed < size) {
                        temp[curbuf_consumed] =
curbuf[curbuf_read];
                        curbuf_consumed++;
                    }
                    else
                        OVERFLOW = TRUE;
                    curbuf[curbuf_read] = ‘\0’;
                }
                temp[curbuf_consumed] = ‘\0’;
                bufp += DISPLAY(bufp, col, row, temp);
                return_status = curbuf[curbuf_read];
            } else if (curbuf[curbuf_read] == TAB
                   | | curbuf[curbuf_read] == LF
                   | | curbuf[curbuf_read] == BACKTAB
                   | | curbuf[curbuf_read] == SUBMIT) {
                if (curbuf_consumed > 0) {
                    if (message == TRUE) {
                        bufp += DISPLAY(bufp, MESSAGE_COL,
                                MESSAGE_ROW,
                                ERASE_MSG);
                        message = FALSE;
                    }
                    temp[curbuf_consumed] = ‘\0’;
                    strcpy(data, temp);
                    exit_read_function = TRUE;
                    return_status = curbuf[curbuf_read];
                    curbuf[curbuf_read] = ‘\0’;
                    curbuf_read++;
                    curbuf_consumed = 0;
                } else {
                    if (message == TRUE) {
                        bufp += DISPLAY(bufp, MESSAGE_COL,
                                MESSAGE_ROW,
                                ERASE_MSG);
                        message = FALSE;
                    }
                    temp[curbuf_consumed] = ‘\0’;
                    strcpy(data, temp);
                    exit_read_function = TRUE;
                    return_status = curbuf[curbuf_read];
                    curbuf[curbuf_read] = ‘\0’;
                    curbuf_read++;
                }
            } else if (curbuf[curbuf_read] == DELETE) {
                for (curbuf_read = curbuf_read;
curbuf[curbuf_read] ==
                  DELETE
                  ; curbuf_read++) {
                    curbuf[curbuf_read] = ‘\0’;
                    temp[curbuf_consumed - 1] = ‘\0’;
                    if (curbuf_consumed != 0)
                        curbuf_consumed--;
                }
                if (curbuf_consumed >= 0) {
                    bufp += BLANK_UNDERLINE(bufp, col, row,
“ “);
                    bufp += DISPLAY(bufp, col, row, temp);
                    PAINTSCR(screen_buf);
                    bufp = screen_buf;
                    screen_bufindex = 0;
                } else {
                    if (message == FALSE) {
                        bufp += DISPLAY(bufp,
MESSAGE_COL,
                                MESSAGE_ROW,
                             EXC_FLD_LIM_MSG);
                        bufp += BEEP(bufp);
                        PAINTSCR(screen_buf);
                        bufp = screen_buf;
                        screen_bufindex = 0;
                        message = TRUE;
                    }
                    curbuf[curbuf_read] = ‘\0’;
                    curbuf_read = 0;
                }
            } else if (curbuf[curbuf_read] == QUIT) {
                temp[0] = ‘\0’;
                return_status = QUIT;
                curbuf[curbuf_read] = ‘\0’;
                exit_read_function = TRUE;
            } else {
                if (message == FALSE) {
                    bufp += DISPLAY(bufp, MESSAGE_COL,
MESSAGE_ROW, INVALID_MSG);
                    bufp += GOTOXY(bufp, col, row);
                    message = TRUE;
                }
                curbuf_read++;
            }
        }
        if (OVERFLOW == TRUE && exit_read_function == FALSE)
        {
            if (message == FALSE) {
                bufp += DISPLAY(bufp, MESSAGE_COL,
                       MESSAGE_ROW, EXC_FLD_LIM_MSG);
                PAINTSCR(screen_buf);
                bufp = screen_buf;
                screen_bufindex = 0;
                message = TRUE;
            }
            OVERFLOW = FALSE;
```

```
            temp[curbuf_consumed] = ‘\0’;
            strcpy(data, temp);
            curbuf_consumed--;
            return_status = curbuf[curbuf_read];
        } else {
            screen_bufindex = bufp - screen_buf;
            if ((curbuf_read == read_count) | | (curbuf_read == 0)
              | | (screen_bufindex > SCRBUF_LEN - CURBUFLEN)) {
                PAINTSCRLEN(screen_buf, screen_bufindex);
                screen_bufindex = 0;
                bufp = screen_buf;
            }
        }
    }
    if (message == TRUE) {
        bufp += DISPLAY(bufp, MESSAGE_COL, MESSAGE_ROW,
                ERASE_MSG);
        message = FALSE;
        PAINTSCR(screen_buf);
        screen_bufindex = 0;
    }
    return (return_status);
}
void display_newo();
void display_paym();
void display_ords();
void display_del();
void display_stock();
void (*p_print_function[]) () = {
        &display_newo,
        &display_paym,
        &display_ords,
        &display_del,
        &display_stock
};
display_output(int txn_type)
{
    char        c;
    (p_print_function[txn_type]) ();
    read(tty_in, &c, 1);
}
void
display_newo()
{
    struct no_itm_struct *ol_ptr, *ool;
    char        *bufp;
    int         i, r;
    bufp = output_screen;
    if (oNO->status == ‘\0’) {
        PAINTSCR(EXECUTION_STATUS_MSG);
        return;
    } else {
        bufp += SWITCH_TO_NORMAL(bufp);
        bufp += DISPLAY(bufp, 61, 2, oNO->o_entry_d);
        bufp += DISPLAY(bufp, 25, 3, oNO->c_last);
        bufp += DISPLAY(bufp, 52, 3, oNO->c_credit);
        bufp += DISPLAY_FLOAT(bufp, 5, 64, 3, oNO->c_discount);
        bufp += DISPLAY_INT(bufp, 8, 15, 4, oNO->o_id);
        bufp += DISPLAY_INT(bufp, 2, 42, 4, oNO->o_ol_cnt);
        bufp += DISPLAY_FLOAT(bufp, 5, 59, 4, oNO->w_tax);
        bufp += DISPLAY_FLOAT(bufp, 5, 74, 4, oNO->d_tax);
        ol_ptr = iNO->o_ol;
        ool = oNO->o_ol;
```

```
            for (i = 0, r = FIRST_OL_ROW; i < iNO->o_ol_cnt;
                r++, i++, ol_ptr++, ool++) {
                    bufp += DISPLAY(bufp, 19, r, ool->i_name);
                    bufp += DISPLAY_INT(bufp, 3, 51, r, ool-
>s_quantity);
                    bufp += DISPLAY(bufp, 58, r, ool->brand);
                    bufp += DISPLAY_MONEY(bufp, 6, 62, r, ool-
>i_price);
                    bufp += DISPLAY_MONEY(bufp, 7, 71, r, ool-
>ol_amount);
            }
            bufp += DISPLAY_MONEY(bufp, 8, 70, 22, oNO->total);
            bufp += DISPLAY(bufp, 19, 22, oNO->status);
            bufp += DISPLAY(bufp, 23, 75, “**((“);
            *bufp++ = ‘\0’;
            PAINTSCRLEN(output_screen, bufp - output_screen);
      }
#ifdef DEBUG
      Clog(“DBG: Screen output chars = %d\n”, (bufp -
&output_screen[0]));
#endif
}
void
display_paym()
{
      char        *bufp, temp[51], tempbuf2[201];
      char        *make_phone(char *), *make_zip(char *);
      bufp = output_screen;
      bufp += SWITCH_TO_NORMAL(bufp);
      bufp += DISPLAY(bufp, 7, 2, oPT->h_date);
      bufp += DISPLAY(bufp, 1, 5, oPT->w_street_1);
      bufp += DISPLAY(bufp, 1, 6, oPT->w_street_2);
      bufp += DISPLAY(bufp, 1, 7, oPT->w_city);
      bufp += DISPLAY(bufp, 22, 7, oPT->w_state);
      bufp += DISPLAY(bufp, 25, 7, make_zip(oPT->w_zip));
      bufp += DISPLAY(bufp, 42, 5, oPT->d_street_1);
      bufp += DISPLAY(bufp, 42, 6, oPT->d_street_2);
      bufp += DISPLAY(bufp, 42, 7, oPT->d_city);
      bufp += DISPLAY(bufp, 63, 7, oPT->d_state);
      bufp += DISPLAY(bufp, 66, 7, make_zip(oPT->d_zip));
      bufp += DISPLAY_INT(bufp, 4, 11, 9, oPT->c_id);
      bufp += DISPLAY(bufp, 29, 10, oPT->c_last);
      bufp += DISPLAY(bufp, 9, 10, oPT->c_first);
      bufp += DISPLAY(bufp, 26, 10, oPT->c_middle);
      bufp += DISPLAY(bufp, 9, 11, oPT->c_street_1);
      bufp += DISPLAY(bufp, 9, 12, oPT->c_street_2);
      bufp += DISPLAY(bufp, 9, 13, oPT->c_city);
      bufp += DISPLAY(bufp, 30, 13, oPT->c_state);
      bufp += DISPLAY(bufp, 33, 13, make_zip(oPT->c_zip));
      bufp += DISPLAY(bufp, 58, 10, oPT->c_since);
      bufp += DISPLAY(bufp, 58, 11, oPT->c_credit);
      bufp += DISPLAY_FLOAT(bufp, 5, 58, 12, oPT->c_discount);
      bufp += DISPLAY(bufp, 58, 13, make_phone(oPT->c_phone));
      bufp += DISPLAY_MONEY(bufp, 14, 55, 15, oPT->c_balance);
      bufp += DISPLAY_MONEY(bufp, 13, 17, 16, oPT->c_credit_lim);
      if (oPT->c_data_1[0] != ‘ ‘ | | oPT->c_data_1[0] != ‘\0’) {
            bufp += DISPLAY50(bufp, 12, 18, oPT->c_data_1);
            bufp += DISPLAY50(bufp, 12, 19, oPT->c_data_2);
            bufp += DISPLAY50(bufp, 12, 20, oPT->c_data_3);
            bufp += DISPLAY50(bufp, 12, 21, oPT->c_data_4);
      }
      if (!oPT->h_date)
```

```
            bufp += DISPLAY(bufp, MESSAGE_COL, MESSAGE_ROW - 2,
BAD_INPUTS);
      bufp += DISPLAY(bufp, 23, 75, “**((“);
      *bufp++ = ‘\0’;
      PAINTSCRLEN(output_screen, bufp - output_screen);
#ifdef DEBUG
      Clog(“DBG: Screen output chars = %d\n”, (bufp - &output_screen[0]));
#endif
}
void
display_ords()
{
      struct ord_itm_struct *sol;
      char        *bufp;
      int         i = 0, r = 8;
      bufp = output_screen;
      bufp += SWITCH_TO_NORMAL(bufp);
      bufp += DISPLAY_INT(bufp, 4, 11, 3, oOS->c_id);
      bufp += DISPLAY(bufp, 44, 3, oOS->c_last);
      bufp += DISPLAY(bufp, 24, 3, oOS->c_first);
      bufp += DISPLAY(bufp, 41, 3, oOS->c_middle);
      bufp += DISPLAY_MONEY(bufp, 9, 15, 4, oOS->c_balance);
      bufp += DISPLAY_INT(bufp, 8, 15, 6, oOS->o_id);
      bufp += DISPLAY(bufp, 38, 6, oOS->o_entry_d);
      bufp += DISPLAY_INT(bufp, 2, 76, 6, oOS->o_carrier_id);
      for (i = 0; i < oOS->ol_cnt; i++) {
            sol = &oOS->s_ol[i];
            if (sol->ol_supply_w_id > 0) {
                  bufp += DISPLAY_INT(bufp, 4, 3, r, sol->ol_supply_w_id);
                  bufp += DISPLAY_INT(bufp, 6, 14, r, sol->ol_i_id);
                  bufp += DISPLAY_INT(bufp, 2, 25, r, sol->ol_quantity);
                  bufp += DISPLAY_MONEY(bufp, 8, 32, r, sol->ol_amount);
                  bufp += DISPLAY(bufp, 47, r, sol->ol_delivery_d);
                  r++;
            }
      }
      if (!oOS->ol_cnt)
            bufp += DISPLAY(bufp, MESSAGE_COL, MESSAGE_ROW - 2,
BAD_INPUTS);
      bufp += DISPLAY(bufp, 23, 75, “**((“);
      *bufp++ = ‘\0’;
      PAINTSCRLEN(output_screen, bufp - output_screen);
#ifdef DEBUG
      Clog(“DBG: Screen output chars = %d\n”, (bufp - &output_screen[0]));
#endif
}
void
display_del()
{
      char        *bufp;
      bufp = output_screen;
      bufp += sprintf(bufp,”%s”,DELIVERY_QUEUED_MSG);
      bufp += DISPLAY(bufp, 23, 75, “**((“);
      *bufp++ = ‘\0’;
      PAINTSCRLEN(output_screen, bufp - output_screen);
#ifdef DEBUG
      Clog(“DBG: Screen output chars = %d\n”, (bufp -
                                      &output_screen[0]));
#endif
}
void
display_stock()
{
        char            *bufp;
        bufp = output_screen;
        bufp += SWITCH_TO_NORMAL(bufp);
        bufp += DISPLAY_INT(bufp, 3, 12, 6, oSL->low_stock);
        bufp += DISPLAY(bufp, 23, 75, “**((“);
        *bufp++ = ‘\0’;
        PAINTSCRLEN(output_screen, bufp - output_screen);
#ifdef DEBUG
        Clog(“DBG: low stock:%d\n”, oSL->low_stock);
        Clog(“DBG: Screen output chars = %d\n”, (bufp -
                                            &output_screen[0]));
#endif
}
char            *
make_phone(char *data)
{
        static char     tempphone[20];
        strncpy(tempphone, data, 6);
        tempphone[6] = ‘-’;
        strncpy(&tempphone[7], &data[6], 3);
        tempphone[10] = ‘-’;
        strncpy(&tempphone[11], &data[9], 3);
        tempphone[14] = ‘-’;
        strncpy(&tempphone[15], &data[12], 4);
        tempphone[19] = ‘\0’;
        return tempphone;
}
char            *
make_zip(char *data)
{
        static char     temp[10];
        strncpy(temp, data, 5);
        temp[5] = ‘-’;
        strncpy(&temp[6], &data[5], 4);
        temp[10] = ‘\0’;
        return temp;
}
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
long            ilen;
long            olen;
int tty_in;
int tty_out;
char            *tuxibuf;
char            *tuxobuf;
extern void     Clog(char *,...);
#define oNO (&((info_t *) tuxobuf)->neworder)
#define oPT (&((info_t *) tuxobuf)->payment)
#define oOS (&((info_t *) tuxobuf)->ordstat)
#define oDY (&((info_t *) tuxobuf)->delivery)
#define oSL (&((info_t *) tuxobuf)->stocklev)
#define iNO (&((info_t *) tuxibuf)->neworder)
#define iPT (&((info_t *) tuxibuf)->payment)
#define iOS (&((info_t *) tuxibuf)->ordstat)
#define iDY (&((info_t *) tuxibuf)->delivery)
#define iSL (&((info_t *) tuxibuf)->stocklev)
#define iWD (&((info_t *) tuxibuf)->wd)
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#include <stdio.h>
#include <stdarg.h>
```

```
#include “tpcc_client.h”
#include <atmi.h>
#include “tpcc_tux.h”
#ifdef USE_FML
#include “symfo.h”
#endif
const char              *svc_names[] = {“NEWO”, “PAYM”, “ORDS”, “DEL”,
“STOCK”};
int
Snd_Txn_To_Monitor(int txn_type)
{
#ifdef USE_FML
long flen;
int rtnno=0;
flen = sizeof(payment_trans);
#endif
#if DEBUG
        Clog(“DBG: In Snd_Txn_To_Monitor\n”);
        print_input_data(txn_type);
#endif
        if (txn_type == DELIVERY) {
#ifdef USE_FML
                tput_delivery();
#endif
#ifdef USE_FML
                if ( tpacall(ServiceName[txn_type+1], trans_b, 0, TPNOREPLY |
TPNOTIME) == -1){
#else
                if ( tpacall((char *)svc_names[txn_type], tuxibuf, ilen,
TPNOREPLY) == -1){
#endif
                        Clog(“ERR: Tuxedo tpcall(%s) failed \n\t%s”,
                           svc_names[txn_type], tpstrerror(tperrno));
                        return (-100);
                }
                return(0);
        } else {
#ifdef USE_FML
                if( txn_type == NEWORDER ){
                        tput_neworder();
                }else if( txn_type == PAYMENT ){
                        tput_payment();
                }else if( txn_type == ORDSTAT ){
                        tput_orderstatus();
                }else{
                        tput_stocklevel();
                }
#endif
#ifdef USE_FML
                if (tpcall(ServiceName[txn_type+1],
                        (char *)trans_b, 0,
                                &trans_b, &flen, TPNOTIME) == -1){
#else
                if (tpcall((char *)svc_names[txn_type],
                        (char *)tuxibuf, ilen,
                                &tuxobuf, &olen, 0) == -1){
#endif
                        Clog(“ERR: Tuxedo tpcall(%s) failed \n\t%s”,
                                svc_names[txn_type], tpstrerror(tperrno));
#ifdef NOP
                        if( txn_type == NEWORDER ){
                                tget_neworder_err();
                        }else if( txn_type == PAYMENT ){
                                tget_payment_err();
                        }else if( txn_type == ORDSTAT ){
                                tget_orderstatus_err();
                        }else{
                                tget_stocklevel_err();
                        }
#endif
                        return(-100);
                }
#ifdef USE_FML
                if( txn_type == NEWORDER ){
                        rtnno = tget_neworder();
            if ( rtnno == 1 ){
                return(-100);
            }
                }else if( txn_type == PAYMENT ){
                        tget_payment();
                }else if( txn_type == ORDSTAT ){
                        tget_orderstatus();
                }else{
                        tget_stocklevel();
                }
#endif
                return(0);
        }
}
int Init_Monitor()
{
        char            *text;
        ilen = sizeof(struct io_tpcc);
        olen = sizeof(struct io_tpcc);
        if (tpinit(NULL) == -1) {
                tpmerror(“tpinit”, tperrno);
                return -1;
        }
#ifdef USE_FML
        return( FML_init(ilen,olen) );
#else
        if ((tuxibuf = tpalloc(“CARRAY”, NULL, ilen)) == NULL) {
                tpmerror(“tpalloc”, tperrno);
                return (-1);
        }
        if ((tuxobuf = tpalloc(“CARRAY”, NULL, ilen)) == NULL) {
                tpmerror(“tpalloc”, tperrno);
                return (-1);
        }
        return (NULL);
#endif
}
Rundown_Monitor()
{
        int             status;
#ifdef USE_FML
        FML_term();
#else
        tpfree(tuxibuf);
#endif
        status = tpterm();
#ifdef DEBUG
        Clog(“terminated Tuxedo connection with status %d\n”, status);
#endif
}
tpmerror(char *service_called, int errnum)
{
        char            errmsg[256];
        fprintf(stderr, “\033[24;1H\033[mTUXEDO: Failed %s with error: %s\n”,
                service_called, tpstrerror(errnum));
        fprintf(stderr, “\n”);
}
#ifdef DEBUG
print_input_data(int type)
{
        int             i;
        time_t          the_time;
        the_time = time(&the_time);
        Clog(“DBG:=============TIME: %s == == == == == ==
==\n”,ctime(&the_time));
            switch (type) {
        case NEWORDER:
                Clog(“DBG: NEWORDER INPUTS at %s\n”, ctime(&the_time));
                Clog(“DBG: w_id: %d, d_id: %d, c_id: %d o_ol_cnt: %d\n”,
                    iNO->w_id, iNO->d_id, iNO->c_id, iNO->o_ol_cnt);
                for (i = 0; i < iNO->o_ol_cnt; i++)
                Clog(“DBG: ol_i_id: %d, ol_supply_w_id: %d, ol_quantity: %d \n
“,iNO->o_ol[i].ol_i_id, iNO->o_ol[i].ol_supply_w_id,iNO->o_ol[i].ol_quantity);
                break;
        case PAYMENT:
                Clog(“DBG: PAYMENT INPUTS at %s \n “,ctime(&the_time));
                    Clog(“DBG: w_id: %d, d_id: %d\n”, iPT->w_id, iPT->d_id);
                Clog(“DBG: c_last: %s “, iPT->c_last);
                Clog(“ c_id: %d”, iPT->c_id);
                Clog(“ c_w_id: %d, c_d_id: %d\n”, iPT->c_w_id, iPT->c_d_id);
                Clog(“DBG: h_amount: %f\n”, iPT->h_amount);
                break;
        case ORDSTAT:
                Clog(“DBG: ORDER STATUS INPUTS at %s \n “,ctime(&the_time));
                    Clog(“DBG: w_id: %d, d_id: %d\n”, iOS->w_id, iOS->d_id);
                Clog(“DBG: c_id: %d, c_last: %s\n”,
                    iOS->c_id, iOS->c_last);
                break;
        case DELIVERY:
                Clog(“DBG: DELIVERY INPUTS at %s\n”, ctime(&the_time));
                Clog(“DBG: w_id: %d, o_carrier_id: %d\n”, iDY->w_id, iDY -
>o_carrier_id);
                break;
        case STOCKLEV:
                Clog(“DBG: STOCK LEVEL INPUTS at %s \n “,ctime(&the_time));
                Clog(“DBG: w_id: %d, d_id: %d, threshold: %d\n”, iSL ->w_id, iSL-
>d_id,iSL->threshold);
                break;
other:
                Clog(“DBG: Txn_type = %d is illegal at %s
\n”,type,ctime(&the_time));
                    }
        return;
}
#endif
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#include <stdio.h>
#include <stdarg.h>
#define BACKTAB 2
#define DELETE 127
#define ESCAPE 27
#define LF 10
```

```
#define QUIT 3
#define SPACE 32
#define SUBMIT 13
#define TAB 9
#define RTE_SYNCH_CHARACTER ‘\1’
static FILE    *clientlog;
static int     Clog_open = 0;
void
Clog(char *fmt,...)
{
    char        tmpfname[256];
    char        fname[100] ;
    va_list     argp;
    if (!Clog_open) {
    sprintf(fname,”%s/%s”,getenv(“TMPDIR”),”CLIENTLOG”);
        clientlog = fopen(fname, “w”);
        Clog_open = 1;
    }
    va_start(argp, fmt);
    vfprintf(clientlog, fmt, argp);
    va_end(argp);
    fflush(clientlog);
}
void
SCREENlog(int *flag, char *screen)
{
    char        fname[100];
    int         i, char_ct;
    if (!Clog_open) {
        sprintf(fname, “%s/%s.%d”, getenv(“TMPDIR”),
“CLIENTLOG”,
                getpid());
        clientlog = fopen(fname, “w”);
        Clog_open = 1;
    }
    fprintf(clientlog, “** %d **\n”, flag);
    char_ct = 0;
    fprintf(clientlog, “SCR: “);
    for (i = 0; screen[i] != 0; char_ct++, i++) {
        switch (screen[i]) {
        case BACKTAB:
            fprintf(clientlog, “<BACKTAB>”);
            break;
        case DELETE:
            fprintf(clientlog, “<DEL>”);
            break;
        case ESCAPE:
            fprintf(clientlog, “<ESC>”);
            break;
        case LF:
            fprintf(clientlog, “<LF>”);
            break;
        case QUIT:
            fprintf(clientlog, “<^C>”);
            break;
        case SUBMIT:
            fprintf(clientlog, “<CR>”);
            break;
        case TAB:
            fprintf(clientlog, “<TAB>”);
            break;
        case RTE_SYNCH_CHARACTER:
            fprintf(clientlog, “<^A>”);
            break;
        default:
            fprintf(clientlog, “%c”, screen[i]);
        }
        if (char_ct > 192) {
            char_ct = 0;
        }
    }
    fprintf(clientlog, “\n”);
    fflush(clientlog);
}
void
syserr(msg)
    char        *msg;
{
    extern int      errno, sys_nerr;
    extern char     *sys_errlist[];
    extern char     tty_name[];
    fprintf(stderr, “\007ERROR: (%s) %s (%d”, tty_name, msg, errno);
    if (errno > 0 && errno < sys_nerr)
        fprintf(stderr, “;%s)\n”, sys_errlist[errno]);
    else
        fprintf(stderr, “)\n”);
    exit(1);
}
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#ifdef KARI_OZA
typedef struct Fbfr32_tag{int a;}Fbfr32;
typedef struct Fbfr_tag{int a;}Fbfr;
#define FML_TERM 1
#define FML_TRAN 2
#define FML_DATA 3
#endif
#ifdef USE_FML
#include “fml32.h”
#include “fml.h”
#include “fldtbl.h”
#include <errno.h>
#endif
#ifdef FML_MAIN
char            *twbuf;
char            *trans_b;
#else
extern char*twbuf;
extern char*trans_b;
#endif
#define HcpyI_I(ap, bp) (\
*((short *)(ap)) = *((short *)(bp)),\
*((short *)(ap)+1) = *((short *)(bp)+1)\
)
#define HcpyI_H(ap, bp) (\
*((short *)(ap)) = 0, \
*((short *)(ap)+1) = *((short *)(bp))\
)
#define HcpyH_I(ap, bp) (\
*(ap) = *((short *)(bp)+1)\
)
#define HcpyD_DCENT(ap, bp) (\
*((short *)(ap)) = *((short *)(bp)),\
*((short *)(ap)+1) = *((short *)(bp)+1),\
*((short *)(ap)+2) = *((short *)(bp)+2),\
   \
  \
*((short *)(ap)+3) = *((short *)(bp)+3) \
)
#define INTNULL -32768
#ifndef_TC_H_
#define_TC_H_
#defineINTNULL-32768
#defineTX_NEWORDER1
#defineTX_PAYMENT2
#defineTX_ORDERSTATUS3
#defineTX_DELIVERY4
#defineTX_STOCKLEVEL5
#defineTX_NUM(5+1)
#defineSVC_LEN16
#defineTRANS_SIZE1264
#defineRETRY_INTERVAL2
#defineRETRY_COUNT0x7FFFFFFF
#defineCHECKOK0x80000000
#defineNOERR   1
#ifdef SVC_NAME_MAIN
char ServiceName[TX_NUM][SVC_LEN];
#else
extern charServiceName[TX_NUM][SVC_LEN];
#endif
#endif
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short w_id;
        short d_id;
        short o_carrier_id;
        long  startsec;
        long  startusec;
} delivery_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        long  threshold;
        long  low_stock;
        short w_id;
        short d_id;
} stocklvl_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short w_id;
        char  w_street_1[21];
        char  w_street_2[21];
        char  w_city[21];
        char  w_state[3];
        char  w_zip[10];
        short d_id;
        char  d_street_1[21];
        char  d_street_2[21];
        char  d_city[21];
        char  d_state[3];
```

```
        char  d_zip[10];
        int     c_id;
        short c_d_id;
        short c_w_id;
        char  c_first[17];
        char  c_middle[3];
        char  c_last[17];
        char  c_street_1[21];
        char  c_street_2[21];
        char  c_city[21];
        char  c_state[3];
        char  c_zip[10];
        char  c_phone[17];
        doublec_since;
        char  c_credit[3];
        doublec_credit_lim;
        long  c_discount;
        doublec_balance;
        char  c_data[501];
        doubleh_date;
        long  h_amount;
} payment_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short w_id;
        short d_id;
        int     c_id;
        char  c_first[17];
        char  c_middle[3];
        char  c_last[17];
        doublec_balance;
        long  o_id;
        doubleo_entry_d;
        short o_carrier_id;
        short o_ol_cnt;
        long  ol_i_id[15];
        short ol_supply_w_id[15];
        doubleol_delivery_d[15];
        short ol_quantity[15];
        long  ol_amount[15];
} orderstat_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        char  brand_generic[15];
        long  i_price[15];
        char  i_name[15][25];
        long  total_amount;
        short w_id;
        long  w_tax;
        short d_id;
        long  d_tax;
        int     c_id;
        char  c_last[17];
        char  c_credit[3];
        long  c_discount;
        long  o_id;
        doubleo_entry_d;
        short o_ol_cnt;
        long  ol_i_id[15];
        short ol_supply_w_id[15];
        short ol_quantity[15];
        long  ol_amount[15];
        long  s_quantity[15];
} neworder_trans;
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#define SVC_NAME_MAIN
#define FML_MAIN
#include <stdio.h>
#include <stdarg.h>
#include <stdlib.h>
#include <errno.h>
#include <time.h>
extern int errno;
#include “tpcc_client.h”
#include <atmi.h>
#include “tpcc_tux.h”
#include “userlog.h”
#include “symfo.h”
char blank_mesg[25] = “                         “;
#define SVC_NAME_MAIN
void set_service_name()
{
#ifndef USE_FML
int num;
int svrnum;
int svrnum_dl;
int svrnum_sl;
int T_id;
#endif
char *envptr;
#ifdef USE_FML
sprintf( ServiceName[TX_NEWORDER], “TPCC” );
sprintf( ServiceName[TX_PAYMENT], “TPCC” );
sprintf( ServiceName[TX_ORDERSTATUS], “TPCC” );
sprintf( ServiceName[TX_DELIVERY], “TPCC” );
sprintf( ServiceName[TX_STOCKLEVEL], “TPCC” );
if ( ( envptr = getenv( “DEL_SVC” ) ) != NULL ) {
sprintf( ServiceName[TX_DELIVERY], envptr );
}
if ( ( envptr = getenv( “STOCK_SVC” ) ) != NULL ) {
sprintf( ServiceName[TX_STOCKLEVEL], envptr );
}
#else
num = ( T_id - 1 ) % 3200 + 1;
svrnum    = ( num - 1 ) / 100 + 1;
svrnum_dl = ( num - 1 ) / 800 + 1;
svrnum_sl = 1;
debug4( ( stderr, “num: %d, svrnum: %d, svrnum_dl: %d, svrnum_sl:
%d\n”,
num, svrnum, svrnum_dl, svrnum_sl ) );
sprintf( ServiceName[TX_NEWORDER], “TPCC%d”, svrnum );
sprintf( ServiceName[TX_PAYMENT], “TPCC%d”, svrnum );
sprintf( ServiceName[TX_ORDERSTATUS], “TPCC%d”, svrnum );
sprintf( ServiceName[TX_DELIVERY], “TPCCd%d”, svrnum );
sprintf( ServiceName[TX_STOCKLEVEL], “TPCCs%d”, svrnum );
#endif
}
void sqlerror( int tx_type, char *bp )
```

```
{
const char *sqlfunc[] = {
“SQLERROR occurred”,
“Failure on insert of a new record”,
“Failure on select of an existing record”,
“Failure on update of an existing record”,
“Failure to delete an existing record”,
};
int errorpos = *( ( int * )( bp + 8 ) );
int sqlstate = *( ( int * )( bp + 12 ) );
int pos;
pos = errorpos / 100;
if ( pos < 0 || pos > 4 ) {
pos = 0;
}
userlog(“%s ... ( SQLSTATE : %05d )\n”,sqlfunc[pos],sqlstate);
}
int FML_init(int wilen, int wolen)
{
tuxibuf = malloc(wilen);
if( tuxibuf == 0 ){
fprintf( stderr, “malloc(%d)for ilen failed. errno=%d\n”,wilen,errno );
return (-1);
}
tuxobuf = malloc(wilen);
if( tuxobuf == 0 ){
fprintf( stderr, “malloc(%d)for olen failed. errno=%d\n”,wilen,errno );
return (-1);
}
twbuf = malloc(sizeof(payment_trans));
if( twbuf == 0 ){
fprintf( stderr, “malloc(%d)for olen failed. errno=%d\n”,ilen,errno );
return (-1);
}
trans_b = (char *)tpalloc( “FML”, NULL, sizeof(payment_trans) );
if ( trans_b == NULL ) {
fprintf( stderr, “tpalloc() failed. errno=%d\n”,errno );
exit( 1 );
}
return(NULL);
}
void FML_term()
{
free(tuxibuf);
free(tuxobuf);
free(twbuf);
tpfree(trans_b);
}
HcpyD_ICENT(double *ap, long *bp)
{
long wk;
int i;
for(i=0; i<2; i++) {
*((short *)&wk+i) = *((short *)bp+i);
}
*ap = ((double)wk) / 100;
}
HcpyICENT_D(long *ap, double *bp)
{
long wk;
int i;
wk = (long)(*bp * 100);
for(i=0; i<2; i++) {
```

```
*((short*)ap+i) = *((short*)&wk+i);
}
}
        typedef struct  tmx{
        int     tm_sec;
        int     tm_min;
        int     tm_hour;
        int     tm_mday;
        int     tm_mon;
        int     tm_year;
        int     tm_wday;
        int     tm_yday;
        int     tm_isdst;
        }tmx_t;
HcpyC_TIME(char *ap, double *bp)
{
double wk;
time_t wk2;
 tmx_t tim, *tim_p;
int i;
for(i=0; i<4; i++) {
*((short*)&wk+i) = *((short*)bp+i);
}
wk2 = (time_t)wk;
tim_p =  localtime(&wk2) ;
memcpy(&tim,tim_p,sizeof(tmx_t));
sprintf( ap, “%02d-%02d-%04d %02d:%02d:%02d”,
tim.tm_mday, tim.tm_mon+1, tim.tm_year + 1900,
tim.tm_hour, tim.tm_min, tim.tm_sec );
}
HcpyCDATE_D(char *ap, double *bp)
{
double wk;
time_t wk2;
 tmx_t tim, *tim_p;
int i;
for(i=0; i<4; i++) {
*((short*)&wk+i) = *((short*)bp+i);
}
wk2 = (time_t)wk;
   tim_p =  localtime(&wk2) ;
        memcpy(&tim,tim_p,sizeof(tmx_t));
sprintf( ap, “%02d-%02d-%04d”,
tim.tm_mday, tim.tm_mon+1, tim.tm_year + 1900 );
}
HcpyDRATE_I(double *ap, long *bp)
{
long wk;
int i;
for(i=0; i<2; i++) {
*((short*)&wk+i) = *((short*)bp+i);
}
*ap = ((double)wk)  /  100;
}
tput_orderstatus()
{
orderstat_trans *tiOS;
int rtn;
int w_id;
int tx_type;
w_id = iOS->w_id;
tx_type = TX_ORDERSTATUS;
tiOS = ( orderstat_trans *)twbuf;
```

```
tiOS->tx_type = TX_ORDERSTATUS;
tiOS->C_R = 0;
HcpyH_I(&tiOS->w_id,    &iOS->w_id);
HcpyH_I(&tiOS->d_id,    &iOS->d_id);
HcpyI_I(&tiOS->c_id,    &iOS->c_id);
strcpy(  tiOS->c_last, iOS->c_last);
rtn = Fchg( (struct Fbfr *)trans_b, FML_TERM, 0, (char *)&w_id, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_TRAN, 0, (char *)&tx_type, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_DATA, 0, (char *)tiOS,
( FLDLEN )sizeof(
orderstat_trans ) );
}
tget_orderstatus()
{
orderstat_trans *toOS;
struct ord_itm_struct *sol;
int i;
toOS = ( orderstat_trans *)Ffind( (struct Fbfr *)trans_b, FML_DATA, 0, NULL );
if( toOS->C_R != 1 ){
sqlerror( TX_ORDERSTATUS, ( char * )toOS );
}
;;;i++;;
HcpyI_I(&oOS->c_id,           &toOS->c_id);
strcpy(  oOS->c_last,         toOS->c_last);
strcpy(  oOS->c_first,        toOS->c_first);
strcpy(  oOS->c_middle,       toOS->c_middle);
HcpyD_DCENT(&oOS->c_balance, &toOS->c_balance);
HcpyI_I(&oOS->o_id,           &toOS->o_id);
HcpyC_TIME( oOS->o_entry_d,  &toOS->o_entry_d);
if( toOS->o_carrier_id == INTNULL ) {
oOS->o_carrier_id = 0;
} else {
HcpyI_H(&oOS->o_carrier_id,  &toOS->o_carrier_id);
}
HcpyI_H(&oOS->ol_cnt,        &toOS->o_ol_cnt);
for (i = 0; i < oOS->ol_cnt; i++) {
sol = &oOS->s_ol[i];
if (toOS->ol_supply_w_id[i] > 0) {
HcpyI_H(&sol->ol_supply_w_id, &toOS->ol_supply_w_id[i]);
HcpyI_I(&sol->ol_i_id,        &toOS->ol_i_id[i]);
HcpyI_H(&sol->ol_quantity,    &toOS->ol_quantity[i]);
HcpyD_ICENT(&sol->ol_amount,  &toOS->ol_amount[i]);
if( oOS->o_carrier_id == 0 ) {
strcpy(sol->ol_delivery_d,”99-99-9999”);
} else {
HcpyCDATE_D( sol->ol_delivery_d,  &toOS->ol_delivery_d[i]);
}
}
}
}
tput_neworder()
{
neworder_trans *tiNO;
struct no_itm_struct *ol_ptr;
int rtn;
int w_id;
int tx_type;
int i;
w_id = iNO->w_id;
tx_type = TX_NEWORDER;
tiNO = (neworder_trans *)twbuf;
tiNO->tx_type = TX_NEWORDER;
tiNO->C_R = 0;
```

```
HcpyH_I(&tiNO->w_id,     &iNO->w_id);
HcpyH_I(&tiNO->d_id,     &iNO->d_id);
HcpyI_I(&tiNO->c_id,     &iNO->c_id);
for (i = 0; i < iNO->o_ol_cnt; i++) {
ol_ptr = &iNO->o_ol[i];
HcpyH_I(&tiNO->ol_supply_w_id[i],    &ol_ptr->ol_supply_w_id);
HcpyI_I(&tiNO->ol_i_id[i],           &ol_ptr->ol_i_id);
HcpyH_I(&tiNO->ol_quantity[i],       &ol_ptr->ol_quantity);
}
HcpyH_I(&tiNO->o_ol_cnt, &iNO->o_ol_cnt);
rtn = Fchg( (struct Fbfr *)trans_b, FML_TERM, 0, (char *)&w_id, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_TRAN, 0, (char *)&tx_type, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_DATA, 0, (char *)tiNO,
( FLDLEN )sizeof(
neworder_trans ) );
}
tget_neworder()
{
neworder_trans *toNO;
struct no_itm_struct *ool;
int i;
toNO = ( neworder_trans *)Ffind( (struct Fbfr *)trans_b, FML_DATA, 0,
NULL );
if( toNO->C_R == 0 ) {
  strcpy(oNO->status, “Transaction error occured”);
sqlerror( TX_NEWORDER, ( char * )toNO );
    return(1);
} else if ( toNO->C_R == 2 ) {
strcpy(oNO->status, “Item number is not valid”);
} else
{
  strcpy(oNO->status, blank_mesg);
}
HcpyC_TIME( oNO->o_entry_d,   &toNO->o_entry_d);
strcpy(  oNO->c_last,          toNO->c_last);
strcpy(  oNO->c_credit,        toNO->c_credit);
HcpyDRATE_I(&oNO->c_discount, &toNO->c_discount);
HcpyI_I(&oNO->o_id,            &toNO->o_id);
HcpyI_H(&oNO->o_ol_cnt,        &toNO->o_ol_cnt);
HcpyDRATE_I(&oNO->w_tax,       &toNO->w_tax);
HcpyDRATE_I(&oNO->d_tax,       &toNO->d_tax);
for (i = 0; i < oNO->o_ol_cnt; i++) {
ool = &oNO->o_ol[i];
HcpyD_ICENT(&ool->i_price, &toNO->i_price[i]);
strcpy(  ool->i_name,      &toNO->i_name[i]);
HcpyI_H(&ool->ol_quantity, &toNO->ol_quantity[i]);
HcpyI_I(&ool->s_quantity,  &toNO->s_quantity[i]);
memcpy(  ool->brand,       &toNO->brand_generic[i],1);
ool->brand[1] = ‘\0’;
HcpyD_ICENT(&ool->ol_amount,  &toNO->ol_amount[i]);
}
HcpyD_ICENT(&oNO->total,&toNO->total_amount);
return(0);
}
tput_payment()
{
payment_trans *tiPT;
int rtn;
int w_id;
int tx_type;
w_id = iPT->w_id;
tx_type = TX_PAYMENT;
tiPT = (payment_trans *)twbuf;
```

```
tiPT->tx_type = TX_PAYMENT;
tiPT->C_R = 0;
HcpyH_I(&tiPT->w_id,        &iPT->w_id);
HcpyH_I(&tiPT->d_id,        &iPT->d_id);
HcpyH_I(&tiPT->c_w_id,      &iPT->c_w_id);
HcpyH_I(&tiPT->c_d_id,      &iPT->c_d_id);
HcpyICENT_D(&tiPT->h_amount, &iPT->h_amount);
HcpyI_I(&tiPT->c_id,        &iPT->c_id);
strcpy(  tiPT->c_last,       iPT->c_last);
rtn = Fchg( (struct Fbfr *)trans_b, FML_TERM, 0, (char *)&w_id, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_TRAN, 0, (char *)&tx_type, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_DATA, 0, (char *)tiPT,
( FLDLEN )sizeof(
payment_trans ) );
}
tget_payment()
{
payment_trans *toPT;
int i;
toPT = ( payment_trans *)Ffind( (struct Fbfr *)trans_b, FML_DATA, 0, NULL
);
if( toPT->C_R != 1 ) {
sqlerror( TX_PAYMENT, ( char * )toPT );
}
HcpyC_TIME( oPT->h_date,       &toPT->h_date);
strcpy(  oPT->w_street_1,       toPT->w_street_1);
strcpy(  oPT->w_street_2,       toPT->w_street_2);
strcpy(  oPT->w_city,           toPT->w_city);
strcpy(  oPT->w_state,          toPT->w_state);
strncpy(  oPT->w_zip,           toPT->w_zip,10);
strcpy(  oPT->d_street_1,       toPT->d_street_1);
strcpy(  oPT->d_street_2,       toPT->d_street_2);
strcpy(  oPT->d_city,           toPT->d_city);
strcpy(  oPT->d_state,          toPT->d_state);
strncpy(  oPT->d_zip,           toPT->d_zip,10);
HcpyI_I(&oPT->c_id,             &toPT->c_id);
strcpy(  oPT->c_last,           toPT->c_last);
strcpy(  oPT->c_first,          toPT->c_first);
strcpy(  oPT->c_middle,         toPT->c_middle);
strcpy(  oPT->c_street_1,       toPT->c_street_1);
strcpy(  oPT->c_street_2,       toPT->c_street_2);
strcpy(  oPT->c_city,           toPT->c_city);
strcpy(  oPT->c_state,          toPT->c_state);
strcpy(  oPT->c_zip,            toPT->c_zip);
HcpyCDATE_D( oPT->c_since,      &toPT->c_since);
strcpy(  oPT->c_credit,         toPT->c_credit);
HcpyDRATE_I(&oPT->c_discount,   &toPT->c_discount);
strcpy(  oPT->c_phone,          toPT->c_phone);
HcpyD_DCENT(&oPT->c_balance,    &toPT->c_balance);
HcpyD_DCENT(&oPT->c_credit_lim, &toPT->c_credit_lim);
if( toPT->c_data[0] == NULL ) {
oPT->c_data_1[0] = ‘\0’;
oPT->c_data_2[0] = ‘\0’;
oPT->c_data_3[0] = ‘\0’;
oPT->c_data_4[0] = ‘\0’;
} else {
i = strlen(&toPT->c_data);
if( i > 0 ) {
oPT->c_data_1[0] = ‘\0’;
strncpy( oPT->c_data_1, &toPT->c_data,50);
oPT->c_data_1[50] = ‘\0’;
oPT->c_data_2[0] = ‘\0’;
if( i > 50 ) {
```

```
strncpy( oPT->c_data_2, &toPT->c_data[50],50);
oPT->c_data_2[50] = ‘\0’;
oPT->c_data_3[0] = ‘\0’;
if( i > 100 ) {
strncpy( oPT->c_data_3, &toPT->c_data[100],50);
oPT->c_data_3[50] = ‘\0’;
oPT->c_data_4[0] = ‘\0’;
if( i > 150 ) {
memcpy( oPT->c_data_4, &toPT->c_data[150],50);
oPT->c_data_4[50] = ‘\0’;
}
}
}
}
}
}
tput_delivery()
{
delivery_trans *tiDY;
int rtn;
int w_id;
int tx_type;
w_id = iDY->w_id;
tx_type = TX_DELIVERY;
tiDY = (delivery_trans *)twbuf;
tiDY->tx_type = TX_DELIVERY;
tiDY->C_R = 0;
HcpyH_I(&tiDY->w_id,          &iDY->w_id);
HcpyH_I(&tiDY->o_carrier_id, &iDY->o_carrier_id);
HcpyI_I(&tiDY->startsec,     &iDY->queue_time);
tiDY->startusec = 0;
rtn = Fchg( (struct Fbfr *)trans_b, FML_TERM, 0, (char *)&w_id, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_TRAN, 0, (char *)&tx_type, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_DATA, 0, (char *)tiDY,
( FLDLEN )sizeof(
delivery_trans ) );
}
tput_stocklevel()
{
stocklvl_trans *tiSL;
int rtn;
int w_id;
int tx_type;
w_id = iSL->w_id;
tx_type = TX_STOCKLEVEL;
tiSL = (stocklvl_trans *)twbuf;
tiSL->tx_type = TX_STOCKLEVEL;
tiSL->C_R = 0;
HcpyH_I(&tiSL->w_id,      &iSL->w_id);
HcpyH_I(&tiSL->d_id,      &iSL->d_id);
HcpyI_I(&tiSL->threshold, &iSL->threshold);
rtn = Fchg( (struct Fbfr *)trans_b, FML_TERM, 0, (char *)&w_id, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_TRAN, 0, (char *)&tx_type, 0 );
rtn = Fchg( (struct Fbfr *)trans_b, FML_DATA, 0, (char *)tiSL,
( FLDLEN )sizeof(
stocklvl_trans ) );
}
tget_stocklevel()
{
stocklvl_trans *toSL;
toSL = ( stocklvl_trans *)Ffind( (struct Fbfr *)trans_b, FML_DATA, 0,
NULL );
if( toSL->C_R != 1 ) {
```

```
sqlerror( TX_STOCKLEVEL, ( char * )toSL );
}
HcpyI_I(&oSL->low_stock,         &toSL->low_stock);
}
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#defineFML_TERM((FLDID)8193)
#defineFML_TRAN((FLDID)8194)
#defineFML_DATA((FLDID)49155)
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
#define  DIST_PER_WARE 10
EXEC SQL BEGIN DECLARE SECTION;
short w_id;
char w_name[11];
char w_street_1[21];
char w_street_2[21];
char w_city[21];
char w_state[3];
char w_zip[10];
long w_tax;
double w_ytd;
short d_id;
char d_name[11];
char d_street_1[21];
char d_street_2[21];
char d_city[21];
char d_state[3];
char d_zip[10];
long d_tax;
long d_ytd;
long d_next_o_id;
long c_id;
short c_d_id;
short c_w_id;
char c_first[17];
char c_middle[3];
char c_last[17];
char c_street_1[21];
char c_street_2[21];
char c_city[21];
char c_state[3];
char c_zip[10];
char c_phone[17];
char c_since[15];
char c_credit[3];
double c_credit_lim;
long c_discount;
double c_balance;
double c_ytd_payment;
short c_payment_cnt;
char c_data[501];
char h_date[15];
long h_amount;
char h_data[25];
long no_o_id;
long o_id;
char o_entry_d[15];
short o_carrier_id;
short o_ol_cnt;
short o_all_local;
```

```
long ol_number;
long ol_i_id;
short ol_supply_w_id;
char ol_delivery_d[15];
short ol_quantity;
long ol_amount;
char ol_dist_info[25];
long s_quantity;
char s_dist_01[25];
char s_dist_02[25];
char s_dist_03[25];
char s_dist_04[25];
char s_dist_05[25];
char s_dist_06[25];
char s_dist_07[25];
char s_dist_08[25];
char s_dist_09[25];
char s_dist_10[25];
double s_ytd;
long s_order_cnt;
long s_remote_cnt;
char s_data[51];
long i_priceh;
char i_datah[51];
char i_nameh[25];
EXEC SQL END DECLARE SECTION;
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short   w_id;
        short   d_id;
        short   o_carrier_id;
        long    startsec;
        long    startusec;
} delivery_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        long    threshold;
        long    low_stock;
        short   w_id;
        short   d_id;
} stocklvl_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short   w_id;
        char    w_street_1[21];
        char    w_street_2[21];
        char    w_city[21];
        char    w_state[3];
        char    w_zip[10];
        short   d_id;
        char    d_street_1[21];
        char    d_street_2[21];
        char    d_city[21];
        char    d_state[3];
        char    d_zip[10];
        int     c_id;
        short   c_d_id;
        short   c_w_id;
        char    c_first[17];
        char    c_middle[3];
        char    c_last[17];
        char    c_street_1[21];
        char    c_street_2[21];
        char    c_city[21];
        char    c_state[3];
        char    c_zip[10];
        char    c_phone[17];
        double  c_since;
        char    c_credit[3];
        double  c_credit_lim;
        long    c_discount;
        double  c_balance;
        char    c_data[501];
        double  h_date;
        long    h_amount;
} payment_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        short   w_id;
        short   d_id;
        int     c_id;
        char    c_first[17];
        char    c_middle[3];
        char    c_last[17];
        double  c_balance;
        long    o_id;
        double  o_entry_d;
        short   o_carrier_id;
        short   o_ol_cnt;
        long    ol_i_id[15];
        short   ol_supply_w_id[15];
        double  ol_delivery_d[15];
        short   ol_quantity[15];
        long    ol_amount[15];
} orderstat_trans;
typedef struct {
        int     tx_type;
        int     C_R;
        int     errorpos;
        int     sqlstate;
        char    brand_generic[15];
        long    i_price[15];
        char    i_name[15][25];
        long    total_amount;
        short   w_id;
        long    w_tax;
        short   d_id;
        long    d_tax;
        int     c_id;
        char    c_last[17];
        char    c_credit[3];
        long    c_discount;
        long    o_id;
        double  o_entry_d;
        short   o_ol_cnt;
        long    ol_i_id[15];
        short   ol_supply_w_id[15];
        short   ol_quantity[15];
        long    ol_amount[15];
        long    s_quantity[15];
} neworder_trans;
#if 0
typedef struct {
        int     tx_type;
        int     C_R;
        long    threshold;
        long    low_stock;
        char    brand_generic[15];
        long    i_price[15];
        char    i_name[15][25];
        long    total_amount;
        double  pl_delivery_d[15];
        short   w_id;
        char    w_name[11];
        char    w_street_1[21];
        char    w_street_2[21];
        char    w_city[21];
        char    w_state[3];
        char    w_zip[10];
        long    w_tax;
        double  w_ytd;
        short   d_id;
        char    d_name[11];
        char    d_street_1[21];
        char    d_street_2[21];
        char    d_city[21];
        char    d_state[3];
        char    d_zip[10];
        long    d_tax;
        long    d_next_o_id;
        int     c_id;
        short   c_d_id;
        short   c_w_id;
        char    c_first[17];
        char    c_middle[3];
        char    c_last[17];
        char    c_street_1[21];
        char    c_street_2[21];
        char    c_city[21];
        char    c_state[3];
        char    c_zip[10];
        char    c_phone[17];
        double  c_since;
        char    c_credit[3];
        double  c_credit_lim;
        long    c_discount;
        double  c_balance;
        double  c_ytd_payment;
        short   c_payment_cnt;
        char    c_data[501];
        double  h_date;
        long    h_amount;
        char    h_data[25];
        long    no_o_id;
        long    o_id;
        double  o_entry_d;
        short   o_carrier_id;
        short   o_ol_cnt;
        short   o_all_local;
        long    ol_number;
        long    ol_i_id[15];
        short   ol_supply_w_id[15];
        double  ol_delivery_d[15];
        short   ol_quantity[15];
        long    ol_amount[15];
        char    ol_dist_info[24];
        long    s_quantity[15];
        char    s_dist_01[24];
        char    s_dist_02[24];
        char    s_dist_03[24];
        char    s_dist_04[24];
        char    s_dist_05[24];
        char    s_dist_06[24];
        char    s_dist_07[24];
        char    s_dist_08[24];
        char    s_dist_09[24];
        char    s_dist_10[24];
        double  s_ytd;
        long    s_order_cnt;
        long    s_remote_cnt;
        char    s_data[51];
} trans_buf;
main()
{
        printf( “%d %d %d %d %d %d\n”,
                sizeof( delivery_trans ),
                sizeof( stocklvl_trans ),
                sizeof( payment_trans ),
                sizeof( orderstat_trans ),
                sizeof( neworder_trans ),
                sizeof( trans_buf ) );
        return 0;
}
#endif
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
    typedef struct{
        long   ol_o_id;
        short  ol_d_id;
        short  ol_w_id;
        long   ol_number;
        long   ol_i_id;
        short  ol_supply_w_id;
        short  ol_quantity;
        long   ol_amount;
        char   ol_dist_info[25];
        char   dummy2[3];
    }lnk_ol;
/*
 * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
 */
EXEC SQL BEGIN DECLARE SECTION;
char            state[6];
char            sqlmsg[257];
short           sqlmsg_ind;
int             errorpos;
```

```
short       w_name_ind;
short       w_street_1_ind;
short       w_street_2_ind;
short       w_city_ind;
short       w_state_ind;
short       w_zip_ind;
short       w_tax_ind;
short       d_id_ind;
short       d_name_ind;
short       d_street_1_ind;
short       d_street_2_ind;
short       d_city_ind;
short       d_state_ind;
short       d_zip_ind;
short       d_tax_ind;
short       c_id_ind;
short       c_first_ind;
short       c_middle_ind;
short       c_last_ind;
short       c_street_1_ind;
short       c_street_2_ind;
short       c_city_ind;
short       c_state_ind;
short       c_zip_ind;
short       c_phone_ind;
short       c_credit_ind;
short       c_credit_lim_ind;
short       c_discount_ind;
short       c_balance_ind;
short       c_ytd_payment_ind;
short       c_payment_cnt_ind;
short       c_since_ind;
varchar      c_datax[501];
short       c_data_ind  ;
short       o_id_ind;
short       o_entry_d_ind;
short       o_carrier_id_ind;
short       o_all_local_ind;
short       no_o_id_ind;
long        ol_i_id1;
long        ol_i_id2;
long        ol_i_id3;
long        ol_i_id4;
long        ol_i_id5;
long        ol_i_id6;
long        ol_i_id7;
long        ol_i_id8;
long        ol_i_id9;
long        ol_i_id10;
long        ol_i_id11;
long        ol_i_id12;
long        ol_i_id13;
long        ol_i_id14;
long        ol_i_id15;
short       ol_i_id1_ind;
short       ol_i_id2_ind;
short       ol_i_id3_ind;
short       ol_i_id4_ind;
short       ol_i_id5_ind;
short       ol_i_id6_ind;
short       ol_i_id7_ind;
short       ol_i_id8_ind;
short       ol_i_id9_ind;
short       ol_i_id10_ind;
short       ol_i_id11_ind;
short       ol_i_id12_ind;
short       ol_i_id13_ind;
short       ol_i_id14_ind;
short       ol_i_id15_ind;
short       ol_supply_w_id1;
short       ol_supply_w_id2;
short       ol_supply_w_id3;
short       ol_supply_w_id4;
short       ol_supply_w_id5;
short       ol_supply_w_id6;
short       ol_supply_w_id7;
short       ol_supply_w_id8;
short       ol_supply_w_id9;
short       ol_supply_w_id10;
short       ol_supply_w_id11;
short       ol_supply_w_id12;
short       ol_supply_w_id13;
short       ol_supply_w_id14;
short       ol_supply_w_id15;
short       ol_supply_w_id1_ind;
short       ol_supply_w_id2_ind;
short       ol_supply_w_id3_ind;
short       ol_supply_w_id4_ind;
short       ol_supply_w_id5_ind;
short       ol_supply_w_id6_ind;
short       ol_supply_w_id7_ind;
short       ol_supply_w_id8_ind;
short       ol_supply_w_id9_ind;
short       ol_supply_w_id10_ind;
short       ol_supply_w_id11_ind;
short       ol_supply_w_id12_ind;
short       ol_supply_w_id13_ind;
short       ol_supply_w_id14_ind;
short       ol_supply_w_id15_ind;
short       ol_quantity1;
short       ol_quantity2;
short       ol_quantity3;
short       ol_quantity4;
short       ol_quantity5;
short       ol_quantity6;
short       ol_quantity7;
short       ol_quantity8;
short       ol_quantity9;
short       ol_quantity10;
short       ol_quantity11;
short       ol_quantity12;
short       ol_quantity13;
short       ol_quantity14;
short       ol_quantity15;
short       ol_quantity1_ind;
short       ol_quantity2_ind;
short       ol_quantity3_ind;
short       ol_quantity4_ind;
short       ol_quantity5_ind;
short       ol_quantity6_ind;
short       ol_quantity7_ind;
short       ol_quantity8_ind;
short       ol_quantity9_ind;
short       ol_quantity10_ind;
short       ol_quantity11_ind;
short       ol_quantity12_ind;
short       ol_quantity13_ind;
short       ol_quantity14_ind;
short       ol_quantity15_ind;
int         ol_amount1;
int         ol_amount2;
int         ol_amount3;
int         ol_amount4;
int         ol_amount5;
int         ol_amount6;
int         ol_amount7;
int         ol_amount8;
int         ol_amount9;
int         ol_amount10;
int         ol_amount11;
int         ol_amount12;
int         ol_amount13;
int         ol_amount14;
int         ol_amount15;
short       ol_amount1_ind;
short       ol_amount2_ind;
short       ol_amount3_ind;
short       ol_amount4_ind;
short       ol_amount5_ind;
short       ol_amount6_ind;
short       ol_amount7_ind;
short       ol_amount8_ind;
short       ol_amount9_ind;
short       ol_amount10_ind;
short       ol_amount11_ind;
short       ol_amount12_ind;
short       ol_amount13_ind;
short       ol_amount14_ind;
short       ol_amount15_ind;
char        ol_delivery_d1[14];
char        ol_delivery_d2[14];
char        ol_delivery_d3[14];
char        ol_delivery_d4[14];
char        ol_delivery_d5[14];
char        ol_delivery_d6[14];
char        ol_delivery_d7[14];
char        ol_delivery_d8[14];
char        ol_delivery_d9[14];
char        ol_delivery_d10[14];
char        ol_delivery_d11[14];
char        ol_delivery_d12[14];
char        ol_delivery_d13[14];
char        ol_delivery_d14[14];
char        ol_delivery_d15[14];
short       ol_delivery_d1_ind;
short       ol_delivery_d2_ind;
short       ol_delivery_d3_ind;
short       ol_delivery_d4_ind;
short       ol_delivery_d5_ind;
short       ol_delivery_d6_ind;
short       ol_delivery_d7_ind;
short       ol_delivery_d8_ind;
short       ol_delivery_d9_ind;
short       ol_delivery_d10_ind;
short       ol_delivery_d11_ind;
short       ol_delivery_d12_ind;
short       ol_delivery_d13_ind;
short       ol_delivery_d14_ind;
short       ol_delivery_d15_ind;
```

```
long        s_quantity1;
long        s_quantity2;
long        s_quantity3;
long        s_quantity4;
long        s_quantity5;
long        s_quantity6;
long        s_quantity7;
long        s_quantity8;
long        s_quantity9;
long        s_quantity10;
long        s_quantity11;
long        s_quantity12;
long        s_quantity13;
long        s_quantity14;
long        s_quantity15;
short       s_quantity1_ind;
short       s_quantity2_ind;
short       s_quantity3_ind;
short       s_quantity4_ind;
short       s_quantity5_ind;
short       s_quantity6_ind;
short       s_quantity7_ind;
short       s_quantity8_ind;
short       s_quantity9_ind;
short       s_quantity10_ind;
short       s_quantity11_ind;
short       s_quantity12_ind;
short       s_quantity13_ind;
short       s_quantity14_ind;
short       s_quantity15_ind;
char        s_dist1[25];
char        s_dist2[25];
char        s_dist3[25];
char        s_dist4[25];
char        s_dist5[25];
char        s_dist6[25];
char        s_dist7[25];
char        s_dist8[25];
char        s_dist9[25];
char        s_dist10[25];
char        s_dist11[25];
char        s_dist12[25];
char        s_dist13[25];
char        s_dist14[25];
char        s_dist15[25];
short       s_dist1_ind;
short       s_dist2_ind;
short       s_dist3_ind;
short       s_dist4_ind;
short       s_dist5_ind;
short       s_dist6_ind;
short       s_dist7_ind;
short       s_dist8_ind;
short       s_dist9_ind;
short       s_dist10_ind;
short       s_dist11_ind;
short       s_dist12_ind;
short       s_dist13_ind;
short       s_dist14_ind;
short       s_dist15_ind;
long        i_priceh1;
long        i_priceh2;
long        i_priceh3;
long        i_priceh4;
long        i_priceh5;
long        i_priceh6;
long        i_priceh7;
long        i_priceh8;
long        i_priceh9;
long        i_priceh10;
long        i_priceh11;
long        i_priceh12;
long        i_priceh13;
long        i_priceh14;
long        i_priceh15;
short       i_priceh1_ind;
short       i_priceh2_ind;
short       i_priceh3_ind;
short       i_priceh4_ind;
short       i_priceh5_ind;
short       i_priceh6_ind;
short       i_priceh7_ind;
short       i_priceh8_ind;
short       i_priceh9_ind;
short       i_priceh10_ind;
short       i_priceh11_ind;
short       i_priceh12_ind;
short       i_priceh13_ind;
short       i_priceh14_ind;
short       i_priceh15_ind;
char        i_nameh1[25];
char        i_nameh2[25];
char        i_nameh3[25];
char        i_nameh4[25];
char        i_nameh5[25];
char        i_nameh6[25];
char        i_nameh7[25];
char        i_nameh8[25];
char        i_nameh9[25];
char        i_nameh10[25];
char        i_nameh11[25];
char        i_nameh12[25];
char        i_nameh13[25];
char        i_nameh14[25];
char        i_nameh15[25];
short       i_nameh1_ind;
short       i_nameh2_ind;
short       i_nameh3_ind;
short       i_nameh4_ind;
short       i_nameh5_ind;
short       i_nameh6_ind;
short       i_nameh7_ind;
short       i_nameh8_ind;
short       i_nameh9_ind;
short       i_nameh10_ind;
short       i_nameh11_ind;
short       i_nameh12_ind;
short       i_nameh13_ind;
short       i_nameh14_ind;
short       i_nameh15_ind;
char        i_datah1[51];
char        i_datah2[51];
char        i_datah3[51];
char        i_datah4[51];
char        i_datah5[51];
char        i_datah6[51];
char        i_datah7[51];
char        i_datah8[51];
char        i_datah9[51];
char        i_datah10[51];
char        i_datah11[51];
char        i_datah12[51];
char        i_datah13[51];
char        i_datah14[51];
char        i_datah15[51];
short       i_datah1_ind;
short       i_datah2_ind;
short       i_datah3_ind;
short       i_datah4_ind;
short       i_datah5_ind;
short       i_datah6_ind;
short       i_datah7_ind;
short       i_datah8_ind;
short       i_datah9_ind;
short       i_datah10_ind;
short       i_datah11_ind;
short       i_datah12_ind;
short       i_datah13_ind;
short       i_datah14_ind;
short       i_datah15_ind;
int         result_o_id1;
int         result_o_id2;
int         result_o_id3;
int         result_o_id4;
int         result_o_id5;
int         result_o_id6;
int         result_o_id7;
int         result_o_id8;
int         result_o_id9;
int         result_o_id10;
int         result_o_id11;
int         result_o_id12;
int         result_o_id13;
int         result_o_id14;
int         result_o_id15;
short       result_o_id1_ind;
short       result_o_id2_ind;
short       result_o_id3_ind;
short       result_o_id4_ind;
short       result_o_id5_ind;
short       result_o_id6_ind;
short       result_o_id7_ind;
short       result_o_id8_ind;
short       result_o_id9_ind;
short       result_o_id10_ind;
short       result_o_id11_ind;
short       result_o_id12_ind;
short       result_o_id13_ind;
short       result_o_id14_ind;
short       result_o_id15_ind;
short       notfound;
short       notfound_ind;
short       item_notfound;
short       item_notfound_ind;
short       low_stock_ind;
EXEC SQL END DECLARE SECTION;
long    *ol_i_id_str[]      = { (long  *)&ol_i_id1      ,
                                (long  *)&ol_i_id2      ,
                                (long  *)&ol_i_id3      ,
                              (long  *)&ol_i_id4       ,
                              (long  *)&ol_i_id5       ,
                              (long  *)&ol_i_id6       ,
                              (long  *)&ol_i_id7       ,
                              (long  *)&ol_i_id8       ,
                              (long  *)&ol_i_id9       ,
                              (long  *)&ol_i_id10      ,
                              (long  *)&ol_i_id11      ,
                              (long  *)&ol_i_id12      ,
                              (long  *)&ol_i_id13      ,
                              (long  *)&ol_i_id14      ,
                              (long  *)&ol_i_id15      ,
                              NULL};
short    *ol_supply_w_id_str[] = { (short *)&ol_supply_w_id1 ,
                              (short *)&ol_supply_w_id2 ,
                              (short *)&ol_supply_w_id3 ,
                              (short *)&ol_supply_w_id4 ,
                              (short *)&ol_supply_w_id5 ,
                              (short *)&ol_supply_w_id6 ,
                              (short *)&ol_supply_w_id7 ,
                              (short *)&ol_supply_w_id8 ,
                              (short *)&ol_supply_w_id9 ,
                              (short *)&ol_supply_w_id10,
                              (short *)&ol_supply_w_id11,
                              (short *)&ol_supply_w_id12,
                              (short *)&ol_supply_w_id13,
                              (short *)&ol_supply_w_id14,
                              (short *)&ol_supply_w_id15,
                              NULL};
short    *ol_quantity_str[]    = { (short *)&ol_quantity1    ,
                              (short *)&ol_quantity2    ,
                              (short *)&ol_quantity3    ,
                              (short *)&ol_quantity4    ,
                              (short *)&ol_quantity5    ,
                              (short *)&ol_quantity6    ,
                              (short *)&ol_quantity7    ,
                              (short *)&ol_quantity8    ,
                              (short *)&ol_quantity9    ,
                              (short *)&ol_quantity10   ,
                              (short *)&ol_quantity11   ,
                              (short *)&ol_quantity12   ,
                              (short *)&ol_quantity13   ,
                              (short *)&ol_quantity14   ,
                              (short *)&ol_quantity15   ,
                              NULL};
int      *ol_amount_str[]      = { (int   *)&ol_amount1      ,
                              (int   *)&ol_amount2      ,
                              (int   *)&ol_amount3      ,
                              (int   *)&ol_amount4      ,
                              (int   *)&ol_amount5      ,
                              (int   *)&ol_amount6      ,
                              (int   *)&ol_amount7      ,
                              (int   *)&ol_amount8      ,
                              (int   *)&ol_amount9      ,
                              (int   *)&ol_amount10     ,
                              (int   *)&ol_amount11     ,
                              (int   *)&ol_amount12     ,
                              (int   *)&ol_amount13     ,
                              (int   *)&ol_amount14     ,
                              (int   *)&ol_amount15     ,
                              NULL};
char     *ol_delivery_d_str[]  = { (char  *)&(ol_delivery_d1[0]),
                              (char  *)&ol_delivery_d2     ,
                              (char  *)&ol_delivery_d3     ,
                              (char  *)&ol_delivery_d4     ,
                              (char  *)&ol_delivery_d5     ,
                              (char  *)&ol_delivery_d6     ,
                              (char  *)&ol_delivery_d7     ,
                              (char  *)&ol_delivery_d8     ,
                              (char  *)&ol_delivery_d9     ,
                              (char  *)&ol_delivery_d10    ,
                              (char  *)&ol_delivery_d11    ,
                              (char  *)&ol_delivery_d12    ,
                              (char  *)&ol_delivery_d13    ,
                              (char  *)&ol_delivery_d14    ,
                              (char  *)&ol_delivery_d15    ,
                              NULL};
long     *s_quantity_str[]     = { (long  *)&s_quantity1     ,
                              (long  *)&s_quantity2     ,
                              (long  *)&s_quantity3     ,
                              (long  *)&s_quantity4     ,
                              (long  *)&s_quantity5     ,
                              (long  *)&s_quantity6     ,
                              (long  *)&s_quantity7     ,
                              (long  *)&s_quantity8     ,
                              (long  *)&s_quantity9     ,
                              (long  *)&s_quantity10    ,
                              (long  *)&s_quantity11    ,
                              (long  *)&s_quantity12    ,
                              (long  *)&s_quantity13    ,
                              (long  *)&s_quantity14    ,
                              (long  *)&s_quantity15    ,
                              NULL};
char     *s_dist_str[]         = { (char  *)&(s_dist1[0])    ,
                              (char  *)&s_dist2         ,
                              (char  *)&s_dist3         ,
                              (char  *)&s_dist4         ,
                              (char  *)&s_dist5         ,
                              (char  *)&s_dist6         ,
                              (char  *)&s_dist7         ,
                              (char  *)&s_dist8         ,
                              (char  *)&s_dist9         ,
                              (char  *)&s_dist10        ,
                              (char  *)&s_dist11        ,
                              (char  *)&s_dist12        ,
                              (char  *)&s_dist13        ,
                              (char  *)&s_dist14        ,
                              (char  *)&s_dist15        ,
                              NULL};
long     *i_priceh_str[]       = { (long  *)&i_priceh1       ,
                              (long  *)&i_priceh2       ,
                              (long  *)&i_priceh3       ,
                              (long  *)&i_priceh4       ,
                              (long  *)&i_priceh5       ,
                              (long  *)&i_priceh6       ,
                              (long  *)&i_priceh7       ,
                              (long  *)&i_priceh8       ,
                              (long  *)&i_priceh9       ,
                              (long  *)&i_priceh10      ,
                              (long  *)&i_priceh11      ,
                              (long  *)&i_priceh12      ,
                              (long  *)&i_priceh13      ,
                              (long  *)&i_priceh14      ,
                              (long  *)&i_priceh15      ,
                              NULL};
char     *i_nameh_str[]        = { (char  *)&(i_nameh1[0])   ,
                            (char  *)&i_nameh2       ,
                            (char  *)&i_nameh3       ,
                            (char  *)&i_nameh4       ,
                            (char  *)&i_nameh5       ,
                            (char  *)&i_nameh6       ,
                            (char  *)&i_nameh7       ,
                            (char  *)&i_nameh8       ,
                            (char  *)&i_nameh9       ,
                            (char  *)&i_nameh10      ,
                            (char  *)&i_nameh11      ,
                            (char  *)&i_nameh12      ,
                            (char  *)&i_nameh13      ,
                            (char  *)&i_nameh14      ,
                            (char  *)&i_nameh15      ,
                            NULL};
char     *i_datah_str[]       = { (char  *)&(i_datah1[0])   ,
                            (char  *)&i_datah2       ,
                            (char  *)&i_datah3       ,
                            (char  *)&i_datah4       ,
                            (char  *)&i_datah5       ,
                            (char  *)&i_datah6       ,
                            (char  *)&i_datah7       ,
                            (char  *)&i_datah8       ,
                            (char  *)&i_datah9       ,
                            (char  *)&i_datah10      ,
                            (char  *)&i_datah11      ,
                            (char  *)&i_datah12      ,
                            (char  *)&i_datah13      ,
                            (char  *)&i_datah14      ,
                            (char  *)&i_datah15      ,
                            NULL};
int      *result_o_id_str[]    = { (int   *)&result_o_id1    ,
                            (int   *)&result_o_id2    ,
                            (int   *)&result_o_id3    ,
                            (int   *)&result_o_id4    ,
                            (int   *)&result_o_id5    ,
                            (int   *)&result_o_id6    ,
                            (int   *)&result_o_id7    ,
                            (int   *)&result_o_id8    ,
                            (int   *)&result_o_id9    ,
                            (int   *)&result_o_id10   ,
                            (int   *)&result_o_id11   ,
                            (int   *)&result_o_id12   ,
                            (int   *)&result_o_id13   ,
                            (int   *)&result_o_id14   ,
                            (int   *)&result_o_id15   ,
                            NULL};
EXEC SQL BEGIN DECLARE SECTION      ;
varchar          s_join[1216]    ;
short            s_join_ind      ;
varchar          i_join[1216]    ;
short            i_join_ind      ;
varchar          ol_join[571]     ;
short            ol_join_ind      ;
varchar          ol_q_join[61]    ;
short            ol_q_join_ind    ;
varchar          ol_s_join[61]    ;
short            ol_s_join_ind    ;
varchar          ol_i_join[106]   ;
short            ol_i_join_ind    ;
varchar          result_join[101] ;
short            result_join_ind  ;
EXEC SQL END DECLARE SECTION        ;
```

```
typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     s_quantity[6]     ;
      char     s_dist[24]        ;
      char     s_data[50]        ;
      char     sapstop[1]        ;
    } sqlvar[15]               ;
 } s_join_str                  ;
typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     i_price[6]        ;
      char     i_name[24]        ;
      char     i_data[50]        ;
      char     sapstop[1]        ;
    } sqlvar[15]               ;
 } i_join_str                  ;
typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     ol_i_id[7]        ;
      char     ol_amount[8]      ;
      char     ol_supply_w_id[4] ;
      char     ol_quantity[4]    ;
      char     ol_delivery_d[14] ;
      char     sapstop[1]        ;
    } sqlvar[15]               ;
 } ol_join_str                 ;
 typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     ol_quantity[4]    ;
    } sqlvar[15]               ;
 } ol_q_join_str                ;
typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     ol_supply_w_id[4] ;
    } sqlvar[15]               ;
 } ol_s_join_str                ;
typedef struct
 {
   short       sqllen          ;
   struct
    {
      char     ol_i_id[7]        ;
    } sqlvar[15]               ;
 } ol_i_join_str                ;
typedef struct
 {
   short       sqllen          ;
   struct
```

```
        {
          char      result_o_id[9]    ;
          char      sapstop[1]         ;
        } sqlvar[10]                   ;
    } result_join_str                  ;
  /*
   * Copyright(c) 1995, 1996, 1997, 1998, 1999 by Sun Microsystems, Inc
   */
#define FFLUSH_OUT
#ifdef NO_SQL
#else
#define USE_SQL_MODE
#endif
#ifdef TAMESHI_OZA
short  o_ol_cnt_kari;
#endif
#ifdef NT
#include <windows.h>
#endif
#include <sys/types.h>
#include <time.h>
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#ifndef NT
#include <unistd.h>
#endif
#include <string.h>
#include "atmi.h"
#include "tmenv.h"
#include "bench2.h"
#ifdefUSE_FML
# include"fml.h"
# include"fldtbl.h"
#endif
#include "bench3.h"
#ifdef NT
#include <WTYPES.H>
#endif
#include <stdio.h>
extern void JMPCINT2(),JMPCINT3();
extern long OLINSETT(lnk_ol *a,short *b,char *c);
EXEC SQL INCLUDE bench1.h;
EXEC SQL INCLUDE stored.h;
#define INTNULL -32768
#define DP userlog
#define RDB_NORMAL 0
#ifdef NT
file://#define TIMES GetSystemTime(&systemtime);\
//                      tp.tv_sec = ((systemtime.wYear - 1970) *365*24*3600)
\
//                                          + ((systemtime.wMonth - 1)
*30*24*3600      \
//                                          + ((systemtime.wDay - 1) *24*3600
\
//                                          + (systemtime.wHour * 3600
\
//                                          + (systemtime.wMinute * 60
\
//                                          + (systemtime.wSecond );\
//                      tp.tv_usec = systemtime.wMilliseconds * 1000;\
//                      tv_st_sec=tp.tv_sec; tv_st_usec=tp.tv_usec;
#define TIMES GetSystemTime(&systemtime);\
```

```
                             yDay = 0;\
                             switch(systemtime.wMonth - 1){\
                             case 11:yDay += 30;\
                             case 10:yDay += 31;\
                             case 9:       yDay += 30;\
                             case 8:       yDay += 31;\
                             case 7:       yDay += 31;\
                             case 6:       yDay += 30;\
                             case 5:       yDay += 31;\
                             case 4:       yDay += 30;\
                             case 3:       yDay += 31;\
                             case 2:       \
                                    (((systemtime.wYear % 4 == 0) &&
(systemtime.wYear % 100 != 0)) || \
                                     ((systemtime.wYear % 4 == 0) &&
(systemtime.wYear % 400 == 0)))\
                                                  ?(yDay += 29): (yDay += 28);\
                             case 1:       yDay += 31;\
                             default:break;\
                             }\
                             \
                             tp.tv_sec = systemtime.wSecond +\
                                                  (systemtime.wMinute * 60) +\
                                                  ((systemtime.wHour) * 3600) +\
                                                  ((systemtime.wDay - 1) * 3600 * 24);\
                             tp.tv_sec += (yDay * 3600 * 24);     \
                             \
                             yDiff = systemtime.wYear - 1970;\
                             work_day = (yDiff / 4);\
                             tp.tv_sec += ((yDiff * 365) + work_day) * 24 * 3600;\
                             tp.tv_usec = systemtime.wMilliseconds;\
                             tv_st_sec=tp.tv_sec; tv_st_usec=tp.tv_usec;
#else
#define TIMES Gettimeofday(&tp); tv_st_sec=tp.tv_sec; tv_st_usec=tp.tv_usec;
#endif
#ifdef NT
#define TIMEE(NUM) \
//         GetSystemTime(&systemtime);\
//            tp.tv_sec = ((systemtime.wYear - 1970) *365*24*3600) \
//                           + ((systemtime.wMonth - 1) *30*24*3600      \
//                           + ((systemtime.wDay - 1) *24*3600           \
//                           + (systemtime.wHour * 3600                  \
//                           + (systemtime.wMinute * 60                  \
//                           + (systemtime.wSecond );\
              GetSystemTime(&systemtime);\
              yDay = 0;\
              switch(systemtime.wMonth - 1){\
              case 11:yDay += 30;\
              case 10:yDay += 31;\
              case 9:       yDay += 30;\
              case 8:       yDay += 31;\
              case 7:       yDay += 31;\
              case 6:       yDay += 30;\
              case 5:       yDay += 31;\
              case 4:       yDay += 30;\
              case 3:       yDay += 31;\
              case 2:       \
                     (((systemtime.wYear % 4 == 0) && (systemtime.wYear % 100 !=
0)) || \
                      ((systemtime.wYear % 4 == 0) && (systemtime.wYear % 400 ==
0)))\
                                   ?(yDay += 29): (yDay += 28);\
              case 1:       yDay += 31;\
            default:break;\
            }\
            \
            tp.tv_sec = systemtime.wSecond +        \
                        (systemtime.wMinute * 60) +\
                        ((systemtime.wHour) * 3600) +\
                        ((systemtime.wDay - 1) * 3600 * 24);\
            tp.tv_sec += (yDay * 3600 * 24);    \
            \
            yDiff = systemtime.wYear - 1970;\
            work_day = (yDiff / 4);\
            tp.tv_sec += ((yDiff * 365) + work_day) * 24 * 3600;\
            tp.tv_usec = systemtime.wMilliseconds;\
      time_sec=tp.tv_sec-tv_st_sec;\
      if(tp.tv_usec < tv_st_usec) \
      {     time_usec=1000-tv_st_usec+tp.tv_usec; time_sec=time_sec-1; } \
      else \
      time_usec=tp.tv_usec-tv_st_usec; \
      time_usec=time_sec*1000+time_usec; \
      if(NUM!=999) \
      {     fprintf(time_fd,"SQL_NUM = %d EACH_TIME=
%d\n",NUM,time_usec); \
            all_time(NUM,time_sec,time_usec); \
      } \
      else \
     {     fprintf(time_fd,"ALL_NUM = %d EACH_TIME= %d.%06d\n", \
                                             NUM, time_sec, time_usec ); \
      }
#else
#define TIMEE(NUM) \
      Gettimeofday(&tp);\
      time_sec=tp.tv_sec-tv_st_sec;\
      if(tp.tv_usec < tv_st_usec) \
     {     time_usec=1000000-tv_st_usec+tp.tv_usec; time_sec=time_sec-1;
} \
      else \
      time_usec=tp.tv_usec-tv_st_usec; \
      time_usec=time_sec*1000000+time_usec; \
      if(NUM!=999) \
      {     fprintf(time_fd,"SQL_NUM = %d EACH_TIME=
%d\n",NUM,time_usec); \
            all_time(NUM,time_sec,time_usec); \
      } \
      else \
     {     fprintf(time_fd,"ALL_NUM = %d EACH_TIME= %d.%06d\n", \
                                             NUM, time_sec, time_usec ); \
      }
#endif
#ifdef UXP_DS
#define Gettimeofday(a) gettimeofday(a)
#elif defined NT
file://#define Gettimeofday(a) GetSystemTime(&systemtime);\
//                            *a.tv_sec = ((systemtime.wYear - 1970)
*365*24*3600) \
//                                           + ((systemtime.wMonth - 1)
*30*24*3600)    \
//                                           + ((systemtime.wDay - 1)
*24*3600)        \
//                                           + (systemtime.wHour *
3600)               \
//                                           + (systemtime.wMinute *
60)                \
//                                           + (systemtime.wSecond );\
```

```
//                                *a.tv_usec = systemtime.wMilliseconds *
1000;
#define Gettimeofday(a) GetSystemTime(&systemtime);\
                                  yDay = 0;\
                                  switch(systemtime.wMonth - 1){\
                                  case 11:yDay += 30;\
                                  case 10:yDay += 31;\
                                  case 9:      yDay += 30;\
                                  case 8:      yDay += 31;\
                                  case 7:      yDay += 31;\
                                  case 6:      yDay += 30;\
                                  case 5:      yDay += 31;\
                                  case 4:      yDay += 30;\
                                  case 3:      yDay += 31;\
                                  case 2:\
                                       \
                                       (((systemtime.wYear % 4 == 0) &&
(systemtime.wYear % 100 != 0)) ||\
                                        ((systemtime.wYear % 4 == 0) &&
(systemtime.wYear % 400 == 0)))\
                                                     ?(yDay += 29): (yDay +=
28);\
                                  case 1:      yDay += 31;\
                                  default:break;\
                                  }\
                                  *a.tv_sec = systemtime.wSecond +\
                                                     (systemtime.wMinute * 60)
+                              \
                                                     ((systemtime.wHour) *
3600) +                        \
                                                     ((systemtime.wDay - 1) *
3600 * 24);          \
                                  *a.tv_sec += (yDay * 3600 * 24);\
                                  \
                                  \
                                  yDiff = systemtime.wYear - 1970;\
                                  work_day = (yDiff / 4);\
                                  *a.tv_sec += ((yDiff * 365) + work_day) * 24
* 3600;\
                                  *a.tv_usec = systemtime.wMilliseconds;
#else
#define Gettimeofday(a) gettimeofday(a,0)
#endif
extern int  scanstring();
time_t  tttt;
time_t  t_wk;
char    tc_wk[26];
char    tc_s[15];
#ifdefUSE_SQL_MODE
EXEC SQL BEGIN DECLARE SECTION;
short errorpos_ind;
#endif
int tmp_s_i_id;
int tmp_w_id;
int tmp_d_id;
long namecount;
long ol_total;
long low_stock;
long threshold;
int  tmp_o_id;
char SQLSTATE[6];
int   t19,t18,t17,t16,t15,t14,t13,t12,t11,t10,t09,t08,t07,t06,t05,t04,t03,t02;
#ifdefUSE_SQL_MODE
```

```
EXEC SQL END DECLARE SECTION;
#else
#define OLINSERT OLINSERT_nop
#define JMPCINT2 JMPCINT2_nop
#define JMPCINT3 JMPCINT3_nop
OLINSERT_nop(){}
JMPCINT2_nop(){}
JMPCINT3_nop(){}
#ifdef NT
#defineSQLWAIT_O   Sleep( 1 );
#defineSQLWAIT_N   Sleep( 1 );
#defineSQLWAIT_N_C Sleep( 1 );
#defineSQLWAIT_N_R Sleep( 2 );
#defineSQLWAIT_P   Sleep( 1 );
#defineSQLWAIT_D   Sleep( 5 );
#defineSQLWAIT_S   Sleep( 2 );
#else
#define SLEEP_MIN 10
#defineSQLWAIT_O   usleep(    10 * SLEEP_MIN);
#defineSQLWAIT_N   usleep(   100 * SLEEP_MIN);
#defineSQLWAIT_N_C usleep(    10 * SLEEP_MIN);
#defineSQLWAIT_N_R usleep(   200 * SLEEP_MIN);
#defineSQLWAIT_P   usleep(    20 * SLEEP_MIN);
#defineSQLWAIT_D   usleep(   500 * SLEEP_MIN);
#defineSQLWAIT_S   usleep(   200 * SLEEP_MIN);
#endif
#endif
neworder_trans  *bpn;
payment_trans   *bpp;
orderstat_trans *bpo;
delivery_trans  *bpd;
stocklvl_trans  *bps;
#ifdefUSE_FML
neworder_trans  nbuf;
payment_trans   pbuf;
orderstat_trans obuf;
delivery_trans  dbuf;
stocklvl_trans  sbuf;
#endif
#ifdef NT
struct _SYSTEMTIME systemtime;
struct tp_tag{
        longtv_sec       ;
        long  tv_usec      ;
      } ;
struct tp_tag tp,tp_e;
#else
struct timeval tp,tp_e;
#endif
long tv_st_sec,tv_st_usec;
long time_sec,time_usec;
long result_o_id[10];
int number;
int douitu;
FILE *fd = 0;
FILE *t_fd = 0;
FILE *time_fd ;
FILE    *delivery_handle = NULL;
FILE    *fp;
      static FILE *tpsvrinit_fp = 0;
      static ctr = 0;
void    s_ymdhms()
{
      struct tm       tim;
      time(&t_wk)                   ;
      tim = *( localtime( &t_wk ) ) ;
      sprintf( tc_s, “%04d%02d%02d%02d%02d%02d”,
            tim.tm_year + 1900, tim.tm_mon+1, tim.tm_mday,
            tim.tm_hour, tim.tm_min, tim.tm_sec ) ;
      tc_s[14] = 0 ;
}
long    c_ymdhms( char *time )
{
      struct  tm  itm             ;
      long        otm             ;
      int         ymdhms          ;
      char        ctm[3]          ;
      ctm[2]      = ‘\0’          ;
      strncpy( ctm , &time[2] , 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_year  =  ymdhms      ;
      strncpy( ctm , &time[4] , 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_mon   =  ymdhms - 1  ;
      strncpy( ctm , &time[6] , 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_mday  =  ymdhms      ;
      strncpy( ctm , &time[8] , 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_hour  =  ymdhms      ;
      strncpy( ctm , &time[10], 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_min   =  ymdhms      ;
      strncpy( ctm , &time[12], 2 ) ;
      ymdhms      =  atoi( ctm )  ;
      itm.tm_sec   =  ymdhms      ;
      itm.tm_isdst = -1           ;
      otm = mktime( &itm )        ;
      return( otm )               ;
}
int TPCC(info,num)
TPSVCINFO  *info;
int  num;
{
      int     mix;
      int     k;
      char    logname[80];
      FILE *fp;
      int  rtnsize;
#ifdef NT
            DWORD    work,yDay,yDiff,work_day;
#else
long int     work,yDay,yDiff,work_day;
#endif
#ifdefUSE_FML
      mix = Fvall( ( FBFR * )info->data, FML_TRAN, 0 );
#else
      mix = *((int *)info->data);
#endif
#ifdef  TRACE
      DP(“TPCC-call mix=%d \n”,mix);
#endif
      if( mix == 1 )
      {
#ifdefUSE_FML
         nbuf = *( ( neworder_trans * )Ffind( ( FBFR * )info->data,
            FML_DATA, 0, NULL ) );
        bpn = &nbuf;
#else
        bpn = (neworder_trans *)info->data;
#endif
        rtnsize = sizeof(neworder_trans);
        w_id = bpn->w_id ;
        d_id = bpn->d_id ;
        bpn->C_R = 0;
        tmp_d_id = bpn->d_id;
        c_id = bpn->c_id;
        o_ol_cnt = bpn->o_ol_cnt;
        bpn->C_R = NewOrder();
#ifdef TAMESHI_OZA
                if(bpn->C_R==2){
                        FILE *fpoza;
                        printf(“C_R==2\n”);
                        fpoza=fopen(“/tmp/svrout.oza”,”a+”);
                        fprintf(fpoza,”C_R==2 p=%d \n”,getpid);
                        fflush(fpoza);
                }
#endif
#ifdefUSE_FML
        Fchg( ( FBFR * )info->data, FML_DATA, 0, ( char * )bpn,
            sizeof( neworder_trans ) );
#endif
    }
    else if( mix == 2 )
    {
#ifdefUSE_FML
        pbuf = *( ( payment_trans * )Ffind( ( FBFR * )info->data,
            FML_DATA, 0, NULL ) );
        bpp = &pbuf;
#else
        bpp = (payment_trans *)info->data;
#endif
        rtnsize = sizeof(payment_trans);
        w_id = bpp->w_id ;
        d_id = bpp->d_id ;
        c_d_id = bpp->c_d_id;
        c_w_id = bpp->c_w_id;
        strncpy(c_last,” “,sizeof(c_last));
        strcpy(c_last,bpp->c_last);
        for(k=0 ; k<16; k++)
        {
            if (c_last[k] == 0x00)
                        {
                                c_last[k] = 0x20;
                        }
                }
        c_id = bpp->c_id;
        h_amount = bpp->h_amount;
        bpp->C_R = Payment();
#ifdefUSE_FML
        Fchg( ( FBFR * )info->data, FML_DATA, 0, ( char * )bpp,
            sizeof( payment_trans ) );
#endif
    }
    else if( mix == 3 )
    {
#ifdefUSE_FML
        obuf = *( ( orderstat_trans * )Ffind( ( FBFR * )info->data,
            FML_DATA, 0, NULL ) );
```

```
        bpo = &obuf;
#else
        bpo = (orderstat_trans*)info->data;
#endif
        rtnsize = sizeof(orderstat_trans);
        w_id = bpo->w_id ;
        d_id = bpo->d_id ;
        c_id = bpo->c_id;
        bpo->C_R = 0;
        c_w_id = bpo->w_id;
        c_d_id =bpo->d_id;
        strncpy(c_last,” “,sizeof(c_last));
        strcpy(c_last,bpo->c_last);
        for(k=0 ; k<16; k++)
        {
            if (c_last[k] == 0x00)
                            {
                                    c_last[k] = 0x20;
                            }
                    }
        if(OrderStatus())
        {               bpo->C_R = 1; }
        else
        {               bpo->C_R = 0; }
#ifdefUSE_FML
        Fchg( ( FBFR * )info->data, FML_DATA, 0, ( char * )bpo,
            sizeof( orderstat_trans ) );
#endif
    }
    else if( mix == 4 )
    {
#ifdefUSE_FML
        dbuf = *( ( delivery_trans * )Ffind( ( FBFR * )info->data,
            FML_DATA, 0, NULL ) );
        bpd = &dbuf;
#else
        bpd = (delivery_trans*)info->data;
#endif
        w_id = bpd->w_id ;
        d_id = bpd->d_id ;
        bpd->C_R = 0;
        if ( delivery_handle == NULL )
        {
#ifdefUSE_FML
                num = getpid();
#endif
                sprintf(logname,”/tpcrt/tpcc/delivery_log%d”,num);
                delivery_handle = fopen(logname,”w+”);
                if ( delivery_handle == NULL )
                {       delivery_handle = stderr;
#ifdef  TRACE
                        DP(“delivery_log1 cannot write\n”);
#endif
                        printf(“delivery_log cannot write\n”);
                        fflush(stdout);
                }
        }
        o_carrier_id = bpd->o_carrier_id;
        for(d_id = 0; d_id < 10; d_id++)
        {       result_o_id[d_id ] = 0;         }
        bpd->C_R = Delivery();
        Gettimeofday(&tp_e);
#ifdef  TRACE
```

```
            DP(“A-deli_handle= %x C_R=%d \n”,delivery_handle,bpd-
>C_R);
#endif
            if(bpd->C_R)
            {
#ifdef NT
                fprintf(delivery_handle,”%09d%03d %09d%03d %d %d”,
                        bpd->startsec,
                        bpd->startusec,
                        tp_e.tv_sec,
                        tp_e.tv_usec,
                        w_id,
                        o_carrier_id);
#else
                fprintf(delivery_handle,”%09d%03d %09d%03d %d %d”,
                        bpd->startsec,
                        bpd->startusec/1000,
                        tp_e.tv_sec,
                        tp_e.tv_usec/1000,
                        w_id,
                        o_carrier_id);
#endif
                for(d_id = 0; d_id < 10; d_id++)
                {
                    fprintf(delivery_handle,” %d
%d”,d_id+1,result_o_id[d_id]);
                }
                fprintf(delivery_handle, “\n”);
            }
            else
            {
#ifdef NT
                fprintf(delivery_handle,”%09d%03d %09d%03d %d %d”,
                        bpd->startsec,
                        bpd->startusec,
                        0,
                        0,
                        w_id,
                        o_carrier_id);
#else
                fprintf(delivery_handle,”%09d%03d %09d%03d %d %d”,
                        bpd->startsec,
                        bpd->startusec/1000,
                        0,
                        0,
                        w_id,
                        o_carrier_id);
#endif
                fprintf(delivery_handle,” errpos:%04d SQLSTATE:%05d\n”,
                                bpd->errorpos,bpd->sqlstate);
            }
#ifdef FFLUSH_OUT
                fflush(delivery_handle);
#endif
#ifdef  TRACE
        DP(“Out-deli_handle= %x C_R=%d \n”,delivery_handle,bpd-
>C_R);
#endif
#ifdef  TRACE
    DP(“tpreturn-called MIX =%d TPNOREPLY \n”,mix);
#endif
#ifdefUSE_FML
            tpreturn( TPSUCCESS, 0, (char *)NULL, 0, 0 );
```

```
#else
    tpreturn(TPSUCCESS,0,(char *)bpd,sizeof(delivery_trans),0          );
#endif
    }
    else if( mix == 5 )
    {
#ifdefUSE_FML
            sbuf = *( ( stocklvl_trans * )Ffind( ( FBFR * )info->data,
                FML_DATA, 0, NULL ) );
            bps = &sbuf;
#else
        bps = (stocklvl_trans *)info->data;
#endif
        rtnsize = sizeof(stocklvl_trans);
        w_id = bps->w_id ;
        d_id = bps->d_id ;
        threshold = bps->threshold;
        if(StockLevel())
        {
            bps->C_R = 1;
            bps->low_stock = low_stock;
         }
         else
         {
            bps->C_R = 0;
         }
#ifdefUSE_FML
        Fchg( ( FBFR * )info->data, FML_DATA, 0, ( char * )bps,
            sizeof( stocklvl_trans ) );
#endif
    }
        if( mix != 4 )
        {
#ifdef  TRACE
    DP(“tpreturn-called mix=%d \n”,mix);
#endif
#ifdefUSE_FML
        tpreturn( TPSUCCESS, 0, info->data, 0L, 0 );
#else
        tpreturn(TPSUCCESS,0,info->data,rtnsize,0);
#endif
        }
}
void tpsvrdone()
{
#ifdef  TRACE
        DP(“tpsvrdone called pid=%d\n”,getpid());
#endif
        JMPCINT3()              ;
        fflush(delivery_handle);
        fclose(delivery_handle);
#ifdefUSE_SQL_MODE
        EXEC SQL COMMIT WORK   ;
#endif
            EXEC SQL DISCONNECT CURRENT ;
            DP(“DISCONNECT(SQLSTATE) = %s\n”, SQLSTATE) ;
        return;
}
int Error()
{
        char msg[1024];
        long errno;
        FILE *handle;
        SQLSTATE[5] = 0 ;
        if (0 != strcmp(SQLSTATE,”00000”) )
          {
            if (0 == strcmp(SQLSTATE,”40001”))
              {
                return(1);
              }
#ifdef NT
                        system(“date /T>>tpccerr”);
#else
            system(“date >>/tmp/tpccerr”);
#endif
#ifdef NT
            handle = fopen(“tpccerr”,”ab”);
#else
            handle = fopen(“/tmp/tpccerr”,”ab”);
#endif
            if ( handle == NULL )
              {
                handle = stderr;
              }
            fprintf(handle,” SQL ERROR:SQLSTATE= %s\n”,SQLSTATE);
            fflush(handle);
        }
        return(0);
}
tpsvrinit(argc,argv)
int argc;
char **argv;
{
        int i = 0;
        char *fname;
#ifdef suzuki
        if(tpsvrinit_fp == 0){
                sprintf(fname,”tpsvrinit_test%d.txt”,getpid());
                tpsvrinit_fp = fopen(fname,”w”);
        }
        fprintf(tpsvrinit_fp,”tpsvrinit start\n”);
        fflush(tpsvrinit_fp);
#endif
        DP(“tpsvrinit start  called pid=%d\n”,getpid());
#ifdefUSE_SQL_MODE
        EXEC SQL WHENEVER SQLERROR CONTINUE;
#endif
#ifdefUSE_SQL_MODE
            EXEC SQL CONNECT TO ‘SV1’;
#endif
            DP(“CONNECT(SQLSTATE) = %s\n”, SQLSTATE) ;
#ifdefUSE_SQL_MODE
        EXEC SQL COMMIT WORK ;
#endif
        JMPCINT2();
        if(! preNewOrder() ) ++i;
        if(! prePayment() ) ++i;
        if(! preOrderStatus() ) ++i;
        if(! preDelivery() ) ++i;
        if(! preStockLevel() ) ++i;
        if(i)
        {
                printf(“%d errors in SQL prepares.quitting.\n”,i);
                fflush(stdout);
                exit(1);
        }
```

```
        DP(“tpsvrinit end  called pid=%d\n”,getpid());
#ifdef suzuki
        if(tpsvrinit_fp == 0){
                tpsvrinit_fp = fopen(“tpsvrinit_test.txt”,”w”);
        }
        fprintf(tpsvrinit_fp,”tpsvrinit end\n”);
        fflush(tpsvrinit_fp);
#endif
}
int scanstring(target,search,length)
char *target,*search;
int length;
{
        int search_length,iter;
        if((search_length = strlen(search)) > length)
        {
                return(-1);
        }
        for (iter= length -search_length;iter;--iter,++target)
        {
                if(strncmp(target,search,search_length) == 0)
                {
                        return(1);
                }
        }
        return(0);
}
preNewOrder()
{
    return(1);
}
NewOrder()
{
    long i_price[15];
    char i_name[15][25];
    char i_data[15][51];
    char s_datax[15][51];
         lnk_ol lnk_buf[15];
    int  j  ;
    int  i  ;
    long total_amount = 0;
    int  pos = 0;
    int  in_ol_i_id              ;
    int  in_ol_number              ;
         s_join_str     *sjp    ;
         i_join_str     *ijp    ;
         ol_i_join_str  *olijp  ;
         ol_s_join_str  *olsjp  ;
         ol_q_join_str  *olqjp  ;
    int  item_notfound_cnt       ;
    FILE *fp;
    FILE *handle;
    int  retry_flag = 0 ;
short     *ol_i_id_ind_str[]   = { (short *)&ol_i_id1_ind    ,
                                   (short *)&ol_i_id2_ind    ,
                                   (short *)&ol_i_id3_ind    ,
                                   (short *)&ol_i_id4_ind    ,
                                   (short *)&ol_i_id5_ind    ,
                                   (short *)&ol_i_id6_ind    ,
                                   (short *)&ol_i_id7_ind    ,
                                   (short *)&ol_i_id8_ind    ,
                                   (short *)&ol_i_id9_ind    ,
                                   (short *)&ol_i_id10_ind   ,
                              (short *)&ol_i_id11_ind   ,
                              (short *)&ol_i_id12_ind   ,
                              (short *)&ol_i_id13_ind   ,
                              (short *)&ol_i_id14_ind   ,
                              (short *)&ol_i_id15_ind   ,
                              NULL};
 struct {
         int    num         ;
         long   ol_i_id     ;
       } sort_id[15]        ;
 struct {
         int    num         ;
         long   ol_i_id     ;
       } r_id[15]           ;
         int    sort_num    ;
         long   sort_ol_i_id ;
#ifdefUSE_SQL_MODE
EXEC SQL BEGIN DECLARE SECTION;
#endif
         short  h_cnt       ;
         short  r_cnt       ;
#ifdefUSE_SQL_MODE
EXEC SQL END   DECLARE SECTION;
#endif
begin_tran:
#ifdefUSE_SQL_MODE
   EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr    ;
   EXEC SQL WHENEVER NOT FOUND GOTO :not_found ;
#endif
       errorpos         = 0                          ;
       item_notfound     = -1                         ;
       s_join.sqllen     = 0                          ;
       i_join.sqllen     = 0                          ;
       sjp              = (s_join_str *)&s_join       ;
       ijp              = (i_join_str *)&i_join       ;
       olijp            = (ol_i_join_str *)&ol_i_join ;
       olsjp            = (ol_s_join_str *)&ol_s_join ;
       olqjp            = (ol_q_join_str *)&ol_q_join ;
       h_cnt = 0 ;
       r_cnt = 0 ;
       for (ol_number = 0; ol_number < o_ol_cnt ;++ol_number)
       {
          if ( w_id == bpn->ol_supply_w_id[ol_number] )
            {
             for ( i=0 ; i < h_cnt ; i++ )
               {
                 if ( sort_id[i].ol_i_id == bpn->ol_i_id[ol_number] )
                   {
                     break ;
                   }
               }
             if ( i == h_cnt )
               {
                 sort_id[h_cnt].num      = ol_number                 ;
                 sort_id[h_cnt].ol_i_id = bpn->ol_i_id[ol_number]  ;
                 h_cnt = h_cnt + 1                                  ;
               }
             else
               {
                 r_id[r_cnt].num         = ol_number                 ;
                 r_id[r_cnt].ol_i_id     = bpn->ol_i_id[ol_number]  ;
                 r_cnt = r_cnt + 1                                  ;
               }
```

```
            }
          else
            {
                 r_id[r_cnt].num         = ol_number                 ;
                 r_id[r_cnt].ol_i_id     = bpn->ol_i_id[ol_number]  ;
                 r_cnt = r_cnt + 1                                  ;
            }
       }
retry_neworder:
       if ( ( h_cnt < 5 ) | | ( retry_flag == 1 ) )
         {
           h_cnt = 0 ;
           r_cnt = 0 ;
           for (ol_number = 0; ol_number < o_ol_cnt ;++ol_number)
           {
                 r_id[r_cnt].num         = ol_number                 ;
                 r_id[r_cnt].ol_i_id     = bpn->ol_i_id[ol_number]  ;
                 r_cnt = r_cnt + 1                                  ;
           }
         }
       for ( i=0 ; i < r_cnt ; i++ )
       {
                 sort_id[h_cnt+i].num      = r_id[i].num             ;
                 sort_id[h_cnt+i].ol_i_id = r_id[i].ol_i_id         ;
       }
       for (ol_number = 0; ol_number < h_cnt ;++ol_number)
       {
          for (in_ol_number = ol_number + 1  ;
               in_ol_number < h_cnt          ;++in_ol_number)
          {
             if (sort_id[in_ol_number].ol_i_id > sort_id[ol_number].ol_i_id)
               {
               sort_num                     = sort_id[ol_number].num       ;
               sort_ol_i_id                 = sort_id[ol_number].ol_i_id   ;
               sort_id[ol_number].num         = sort_id[in_ol_number].num    ;
               sort_id[ol_number].ol_i_id    = sort_id[in_ol_number].ol_i_id;
               sort_id[in_ol_number].num      = sort_num                     ;
               sort_id[in_ol_number].ol_i_id = sort_ol_i_id                 ;
               }
          }
       }
       for (i=0,ol_number = 0; ol_number < 15 ;++ol_number)
       {
         if (ol_number < h_cnt)
           {
             *((short *)(ol_i_id_ind_str[ol_number])) = 0           ;
             *((long  *)(ol_i_id_str[ol_number]))
                   = bpn->ol_i_id[sort_id[ol_number].num]           ;
             sprintf(olqjp->sqlvar[ol_number].ol_quantity,"%-4d",
                     bpn->ol_quantity[sort_id[ol_number].num] )    ;
           }
         else
           {
             *((short *)(ol_i_id_ind_str[ol_number])) = -1          ;
             *((long  *)(ol_i_id_str[ol_number]))      = 0          ;
             if ( ol_number < o_ol_cnt )
               {
                 sprintf(olqjp->sqlvar[ol_number].ol_quantity,"%-4d",
                     bpn->ol_quantity[sort_id[ol_number].num] )    ;
                 sprintf(olijp->sqlvar[i].ol_i_id,"%-7d",
                     bpn->ol_i_id[sort_id[ol_number].num] )        ;
                 sprintf(olsjp->sqlvar[i].ol_supply_w_id,"%-4d",
                     bpn->ol_supply_w_id[sort_id[ol_number].num] ) ;
```

```
                i++ ;
              }
          }
      }
      ol_q_join.sqllen = o_ol_cnt * 4              ;
      ol_i_join.sqllen = r_cnt    * 7              ;
      ol_s_join.sqllen = r_cnt    * 4              ;
      s_ymdhms()                                   ;
      strncpy(o_entry_d, tc_s,14)                  ;
      bpn->o_entry_d = t_wk                        ;
neworder_proc:
#ifdefUSE_SQL_MODE
 EXEC SQL WHENEVER SQLERROR CONTINUE ;
 EXEC SQL WHENEVER NOT FOUND CONTINUE;
         EXEC SQL
             CALL TPCC_SCHEMA.Y_NORDER5(:state                        ,
                   :errorpos          INDICATOR :errorpos_ind       ,
                   :w_id                                        ,
                   :tmp_d_id                                    ,
                   :c_id                                        ,
                   :o_all_local       INDICATOR :o_all_local_ind    ,
                   :w_tax             INDICATOR :w_tax_ind          ,
                   :d_tax             INDICATOR :d_tax_ind          ,
                   :o_id              INDICATOR :o_id_ind           ,
                   :o_entry_d                                   ,
                   :c_discount        INDICATOR :c_discount_ind     ,
                   :c_last            INDICATOR :c_last_ind         ,
                   :c_credit          INDICATOR :c_credit_ind       ,
                   :item_notfound     INDICATOR :item_notfound_ind ,
                   :h_cnt                                       ,
                   :r_cnt                                       ,
                    :ol_i_id1                                   ,
                    :ol_i_id2                                   ,
                    :ol_i_id3                                   ,
                    :ol_i_id4                                   ,
                    :ol_i_id5                                   ,
                    :ol_i_id6         INDICATOR :ol_i_id6_ind       ,
                    :ol_i_id7         INDICATOR :ol_i_id7_ind       ,
                    :ol_i_id8         INDICATOR :ol_i_id8_ind       ,
                    :ol_i_id9         INDICATOR :ol_i_id9_ind       ,
                    :ol_i_id10        INDICATOR :ol_i_id10_ind      ,
                    :ol_i_id11        INDICATOR :ol_i_id11_ind      ,
                    :ol_i_id12        INDICATOR :ol_i_id12_ind      ,
                    :ol_i_id13        INDICATOR :ol_i_id13_ind      ,
                    :ol_i_id14        INDICATOR :ol_i_id14_ind      ,
                    :ol_i_id15        INDICATOR :ol_i_id15_ind      ,
                    :ol_i_join                                  ,
                    :ol_q_join                                  ,
                    :s_join                                     ,
                    :i_join                                     ,
                    :ol_s_join
                              );
    EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr    ;
#ifdef  TAMESHI_OZA
{
            FILE *fpoza;
               fpoza=fopen(“/tmp/svrout.oza”,”a+”);
            fprintf(fpoza,”%d endNOstored  state(%s) SQLST=(%s) p=%d
\n”,
                            item_notfound,state,SQLSTATE,getpid());
            fflush(fpoza);
                         fclose(fpoza);
        }
#endif
#else
            SQLWAIT_N;
      strcpy(state,”00000”);
      o_id = 3001;
      bpn->w_tax = rand()%2001;
      bpn->d_tax = rand()%2001;
      strcpy( bpn->c_last, “BAROUGHTABLE” );
      strcpy( bpn->c_credit, “GC” );
      bpn->c_discount = rand()%101;
#endif
      if( SQLSTATE[0]== ‘4’ || SQLSTATE[0] == ‘7’ ){
            goto  sqlerr;
      }
      if ( memcmp(state,”00000”,5) != 0 )
        {
         strncpy(SQLSTATE,state,5) ;
         SQLSTATE[5] = 0           ;
         if ( memcmp(state,”02000”,5) == 0 )
           {
            goto not_found;
           }
         else
           {
            goto sqlerr;
           }
        }
      if ( item_notfound == -2 )
        {
            FILE *fpoza;
               retry_flag = 1;
            item_notfound = -1   ;
            i_join.sqllen = 0  ;
#ifdef  TAMESHI_OZA
            printf(“retry  st  \n”);
            fpoza=fopen(“/tmp/svrout.oza”,”a+”);
            fprintf(fpoza,”retry st    p=%d \n”,getpid());
            fflush(fpoza);
                         fclose(fpoza);
#endif
         goto retry_neworder ;
        }
#ifdef  TAMESHI_OZA
        {
            FILE *fpoza;
               fpoza=fopen(“/tmp/svrout.oza”,”a+”);
            fprintf(fpoza,”%d  SQLST=(%s) p=%d \n”,
                              item_notfound,SQLSTATE,getpid());
            fflush(fpoza);
                         fclose(fpoza);
        }
#endif
#ifdef  DP_IJ
             DP(“IJ: item_notfound=%d \n”, item_notfound);
#endif
      bpn->o_id       = o_id          ;
#ifdef TAMESHI_OZA
            if( retry_flag != 0 ){
                  o_ol_cnt_kari  =  o_ol_cnt - 1;
            }else{
                  o_ol_cnt_kari  =  o_ol_cnt;
            }
#endif
```

```
     for ( ol_number = 0;ol_number < o_ol_cnt;++ol_number )
     {
       ol_i_id = bpn->ol_i_id[ol_number] ;
      for ( in_ol_number = 0;in_ol_number < o_ol_cnt;++in_ol_number
)
       {
         if ( ol_number == sort_id[in_ol_number].num )
           {
             i_price[ol_number]
                     = atoi(ijp->sqlvar[in_ol_number].i_price)    ;
             if ( i_price[ol_number] == 0 )
               {
                 bpn->i_price[ol_number]     = 0              ;
                 bpn->s_quantity[ol_number] = 0               ;
                 ol_dist_info[0]            = '\0'            ;
                 bpn->i_name[ol_number][0]  = '\0'            ;
                 break ;
               }
             else
               {
                 bpn->i_price[ol_number] = i_price[ol_number]           ;
                 strncpy(bpn->i_name[ol_number],
                          ijp->sqlvar[in_ol_number].i_name,24)       ;
                 bpn->i_name[ol_number][24] = '\0'                   ;
                 strncpy(i_data[ol_number],
                          ijp->sqlvar[in_ol_number].i_data,50)       ;
                 i_data[ol_number][50]  = '\0'                       ;
                 bpn->s_quantity[ol_number]
                        = atoi(sjp->sqlvar[in_ol_number].s_quantity) ;
                 strncpy(ol_dist_info,
                          sjp->sqlvar[in_ol_number].s_dist,24)       ;
                 ol_dist_info[24] = '\0'                             ;
                 strncpy(s_datax[ol_number],
                          sjp->sqlvar[in_ol_number].s_data,50)       ;
                 s_datax[ol_number][50]        = '\0'                ;
                 break ;
               }
#ifdef  DP_IJ
             DP("IJ: ol_num=%d,", ol_number);
             DP("    price =%d,", i_price[ol_number]);
             DP("    name  =%s \n", &(bpn->i_name[ol_number][0]) );
#endif
           }
       }
       ol_amount                = bpn->ol_quantity[ol_number]
                              * i_price[ol_number]          ;
       bpn->ol_amount[ol_number] = ol_amount                  ;
       total_amount             += ol_amount                ;
       if ( scanstring(i_data[ol_number],"ORIGINAL",50)
         && scanstring(s_datax[ol_number],"ORIGINAL",50) )
         {
           bpn->brand_generic[ol_number] = 'B';
         }
       else
         {
           bpn->brand_generic[ol_number] = 'G';
         }
        lnk_buf[ol_number].ol_o_id        = o_id               ;
        lnk_buf[ol_number].ol_d_id        = tmp_d_id            ;
        lnk_buf[ol_number].ol_w_id        = w_id               ;
        lnk_buf[ol_number].ol_number      = ol_number + 1       ;
        lnk_buf[ol_number].ol_i_id        = ol_i_id             ;
        lnk_buf[ol_number].ol_supply_w_id
```

```
                           = bpn->ol_supply_w_id[ol_number] ;
         lnk_buf[ol_number].ol_quantity
                           = bpn->ol_quantity[ol_number]    ;
         lnk_buf[ol_number].ol_amount      = ol_amount            ;
         strncpy(lnk_buf[ol_number].ol_dist_info,ol_dist_info,25) ;
       }
#ifdefUSE_SQL_MODE
     errorpos = 108 ;
     j = OLINSERT(&lnk_buf[0],&o_ol_cnt,&SQLSTATE);
#ifdef  TAMESHI_OZA
             {
             FILE *fpoza;
             fpoza=fopen("/tmp/svrout.oza","a+");
             fprintf(fpoza,"%d %d=olins   SQLST=(%s) p=%d \n",
                 item_notfound,j,SQLSTATE,getpid());
             fflush(fpoza);
             fclose(fpoza);
       }
#endif
     if ( j != 0)
       {
         DP(" NewOrder ERRPOS=%d SQLSTATE=%s\n",errorpos, SQLSTATE );
         goto sqlerr;
       }
      if ( item_notfound == -1)
       {
         EXEC SQL COMMIT WORK                          ;
         strncpy(bpn->c_last,c_last,17)                ;
         strncpy(bpn->c_credit,c_credit,3)               ;
         bpn->d_tax       = d_tax                     ;
         bpn->w_tax       = w_tax                      ;
         bpn->c_discount = c_discount                   ;
         total_amount *= (1 + (w_tax + d_tax)/10000.0)
                    * (1 - (c_discount     /10000.0)) ;
         bpn->total_amount = total_amount               ;
         bpn->errorpos      = 0                       ;
         bpn->sqlstate      = 0                      ;
         return(1)                                 ;
       }
      else
       {
         strncpy(bpn->c_last,c_last,17)                ;
         strncpy(bpn->c_credit,c_credit,3)               ;
         bpn->errorpos      = 201                     ;
         bpn->sqlstate      = 02000                   ;
         EXEC SQL ROLLBACK WORK                          ;
         return(2)                                 ;
       }
#else
             SQLWAIT_N_C;
             SQLWAIT_N_R;
      bpn->total_amount = 0;
      for ( i = 0; i < 15; ++i )
      {
        if ( bpn->ol_supply_w_id[i] == 0 ) {
          break;
        }
        strcpy( bpn->i_name[i], "NAMESNAMESNAMESNAME" );
        bpn->s_quantity[i] = ( rand()%10 ) + 1;
        bpn->brand_generic[i] = 'G';
        bpn->i_price[i] = ( rand()%9901 )+100;
        bpn->ol_amount[i] = bpn->i_price[i]*bpn->ol_quantity[i];
        bpn->total_amount += bpn->ol_amount[i];
        }
        bpn->o_ol_cnt = i;
                return(1)                              ;
#endif
not_found:
    DP(“NOT FOUND IN NewOrder AT %d\n”,errorpos);
    fflush(stdout);
    bpn->errorpos      = errorpos                  ;
    bpn->sqlstate      = atoi(SQLSTATE)            ;
#ifdefUSE_SQL_MODE
    EXEC SQL ROLLBACK WORK;
#else
        SQLWAIT_N_R;
#endif
    return(0);
sqlerr:
#ifdef  DP_SQLERR
    DP(“Neworder ERRPOS=%d SQLSTATE=%s\n”,errorpos,SQLSTATE);
#endif
#ifdefUSE_SQL_MODE
    EXEC SQL WHENEVER SQLERROR  CONTINUE ;
#endif
    if(Error())
        {
#ifdefUSE_SQL_MODE
                EXEC SQL ROLLBACK WORK;
#else
        SQLWAIT_N_R;
#endif
                goto begin_tran;
        }
    bpn->errorpos      = errorpos                  ;
    bpn->sqlstate      = atoi(SQLSTATE)            ;
#ifdefUSE_SQL_MODE
    EXEC SQL ROLLBACK WORK;
#else
        SQLWAIT_N_R;
#endif
    return(0);
}
prePayment()
{
    return(1);
}
Payment()
{
begin_tran:
#ifdefUSE_SQL_MODE
    EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr     ;
    EXEC SQL WHENEVER NOT FOUND GOTO :not_found ;
#endif
    s_ymdhms()                          ;
    strncpy(h_date, tc_s,14)            ;
    c_datax.sqllen       = 0;
    c_datax.sqlvar[0]    = 0;
    c_datax.sqlvar[500] = 0;
            errorpos = 0                ;
#ifdefUSE_SQL_MODE
            EXEC SQL
               CALL TPCC_SCHEMA.Y_PAYMENT_H10_OUT4(:state              ,
                       :errpos           INDICATOR :errorpos_ind        ,
                       :w_id                                            ,
                       :d_id                                            ,
```

```
                       :c_id                                          ,
                       :c_d_id                                         ,
                       :c_w_id                                         ,
                       :h_amount                                        ,
                       :h_date                                         ,
                       :w_name                                          ,
                       :w_street_1        INDICATOR :w_street_1_ind     ,
                       :w_street_2        INDICATOR :w_street_2_ind     ,
                       :w_city            INDICATOR :w_city_ind         ,
                       :w_state           INDICATOR :w_state_ind        ,
                       :w_zip             INDICATOR :w_zip_ind          ,
                       :d_name                                          ,
                       :d_street_1        INDICATOR :d_street_1_ind     ,
                       :d_street_2        INDICATOR :d_street_2_ind     ,
                       :d_city            INDICATOR :d_city_ind         ,
                       :d_state           INDICATOR :d_state_ind        ,
                       :d_zip             INDICATOR :d_zip_ind          ,
                       :c_first           INDICATOR :c_first_ind        ,
                       :c_middle          INDICATOR :c_middle_ind       ,
                       :c_last                                          ,
                       :c_street_1        INDICATOR :c_street_1_ind     ,
                       :c_street_2        INDICATOR :c_street_2_ind     ,
                       :c_city            INDICATOR :c_city_ind         ,
                       :c_state           INDICATOR :c_state_ind        ,
                       :c_zip             INDICATOR :c_zip_ind          ,
                       :c_phone           INDICATOR :c_phone_ind        ,
                       :c_credit                                        ,
                       :c_credit_lim      INDICATOR :c_credit_lim_ind  ,
                       :c_discount        INDICATOR :c_discount_ind     ,
                       :c_balance         INDICATOR :c_balance_ind      ,
                       :c_ytd_payment     INDICATOR :c_ytd_payment_ind ,
                       :c_payment_cnt     INDICATOR :c_payment_cnt_ind ,
                       :c_since           INDICATOR :c_since_ind ,
                       :c_datax           INDICATOR :c_data_ind
                                          );
#else
            SQLWAIT_P;
    strcpy(state,”00000”);
    c_discount = rand()%5001;
    strcpy( c_first, “ABCDEFGHIJKL” );
    strcpy( c_middle, “OE” );
    strcpy( c_last, “BAROUGHTABLE” );
    strcpy( c_phone, “0123456789012345” );
    c_id = rand()%3000 + 1;
    strcpy( c_street_1, “PQRSTUVWXYZABCD” );
    strcpy( c_street_2, “EFGHIJKOLMNOPQR” );
    strcpy( c_city, “STUVWXYZABCDEFG” );
    strcpy( c_state, “RE” );
    sprintf( c_zip, “%04d11111”, rand()%10000 );
    strcpy( d_street_1, “PQRSTUVWXYZABCD” );
    strcpy( d_street_2, “EFGHIJKOLMNOPQR” );
    strcpy( d_city, “STUVWXYZABCDEFG” );
    strcpy( d_state, “RE” );
    sprintf( d_zip, “%04d11111”, rand()%10000 );
    strcpy( w_street_1, “PQRSTUVWXYZABCD” );
    strcpy( w_street_2, “EFGHIJKOLMNOPQR” );
    strcpy( w_city, “STUVWXYZABCDEFG” );
    strcpy( w_state, “RE” );
    sprintf( w_zip, “%04d11111”, rand()%10000 );
    c_balance = ( ( rand()*rand()%19999999 )-9999999 )  /  100.0;
    c_credit_lim = 5000000;
    strcpy( c_since, “19980212121212” );
    strcpy( c_credit, “GC” );
```

```
#endif
        if ( memcmp(state,"00000",5) != 0 )
          {
            strncpy(SQLSTATE,state,5) ;
            SQLSTATE[5] = 0          ;
            if ( memcmp(state,"02000",5) == 0 )
              {
                goto not_found;
              }
            else
              {
                goto sqlerr;
              }
          }
    bpp->c_discount = c_discount      ;
    bpp->h_date     = t_wk            ;
    strcpy(bpp->c_first,c_first)      ;
    strcpy(bpp->c_middle,c_middle)    ;
    strcpy(bpp->c_last,c_last)        ;
    strcpy(bpp->c_phone,c_phone)      ;
    bpp->c_id= c_id                   ;
    strcpy(bpp->c_street_1,c_street_1) ;
    strcpy(bpp->c_street_2,c_street_2) ;
    strcpy(bpp->c_city,c_city)        ;
    strcpy(bpp->c_state,c_state)      ;
    strcpy(bpp->c_zip,c_zip)          ;
    strcpy(bpp->d_street_1,d_street_1) ;
    strcpy(bpp->d_street_2,d_street_2) ;
    strcpy(bpp->d_city,d_city)        ;
    strcpy(bpp->d_state,d_state)      ;
    strcpy(bpp->d_zip,d_zip)          ;
    strcpy(bpp->w_street_1,w_street_1) ;
    strcpy(bpp->w_street_2,w_street_2) ;
    strcpy(bpp->w_city,w_city)        ;
    strcpy(bpp->w_state,w_state)      ;
    strcpy(bpp->w_zip,w_zip)          ;
    bpp->c_balance = c_balance  /  100.0 ;
    bpp->c_credit_lim = c_credit_lim  /  100.0 ;
    bpp->c_since = c_ymdhms(c_since)   ;
    strcpy(bpp->c_credit,c_credit)     ;
#ifdefUSE_SQL_MODE
 if ( strcmp(c_credit,"BC") == 0 )
   {
      strncpy(bpp->c_data,c_datax.sqlvar,c_datax.sqllen);
   }
 else
   {
      bpp->c_data[0] = 0 ;
   }
#else
  if ( rand()%10 == 1 ) {
#define _STR50"0123456789abcdefghijklmnopqrstuvwxyz!#$&'()=-
~[]:;"
    strcpy( bpp->c_credit, "BC" );
    strcpy( bpp->c_data,
      _STR50 _STR50 _STR50 _STR50 _STR50 _STR50 _STR50 _STR50 );
  } else {
    bpp->c_data[0] = '\0';
  }
#endif
  bpp->errorpos     = 0 ;
  bpp->sqlstate     = 0 ;
  return(1);
```

```
not_found:
        DP("NOT FOUND IN Payment AT %d\n",errorpos);
        fflush(stdout);
        bpp->errorpos     = errorpos          ;
        bpp->sqlstate     = atoi(SQLSTATE)    ;
        return(0);
sqlerr:
#ifdef  DP_SQLERR
    DP("Payment  ERRPOS=%d SQLSTATE=%s\n",errorpos,SQLSTATE);
#endif
    if(Error())
    {
        goto begin_tran;
     }
    bpp->errorpos     = errorpos          ;
    bpp->sqlstate     = atoi(SQLSTATE)    ;
    return(0);
}
preOrderStatus()
{
    return(1);
}
OrderStatus()
{
        ol_join_str  *oljp                 ;
        int l;
        char ol_supply_w_id_5[5] = {0,0,0,0,0};
begin_tran:
#ifdefUSE_SQL_MODE
    EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr    ;
    EXEC SQL WHENEVER NOT FOUND GOTO :not_found ;
#endif
           ol_join.sqllen = 0                ;
           oljp          = (ol_join_str *)&ol_join ;
           errorpos = 0        ;
#ifdefUSE_SQL_MODE
           EXEC SQL
               CALL TPCC_SCHEMA.Y_ODERSTAT(:state                  ,
                      :errorpos         INDICATOR :errorpos_ind      ,
                      :w_id                                          ,
                      :d_id                                          ,
                      :c_id                                          ,
                      :c_first          INDICATOR :c_first_ind       ,
                      :c_middle         INDICATOR :c_middle_ind      ,
                      :c_last           INDICATOR :c_last_ind        ,
                      :c_balance        INDICATOR :c_balance_ind     ,
                      :o_id             INDICATOR :o_id_ind          ,
                      :o_entry_d        INDICATOR :o_entry_d_ind     ,
                      :o_carrier_id     INDICATOR :o_carrier_id_ind  ,
                      :o_ol_cnt                                      ,
                      :ol_join          INDICATOR :ol_join_ind
                                 );
#else
                SQLWAIT_O;
        strcpy(state,"00000");
        c_id = rand()%3000 + 1;
        strcpy( c_first, "ABCDEFGHIJKL" );
        strcpy( c_middle, "OE" );
        strcpy( c_last, "BAROUGHTABLE" );
        c_balance = ( ( rand()*rand()%19999999 )-9999999 )  /  100.0;
        o_id = rand()%99999999+1;
        strcpy( o_entry_d, "19980123123456" );
        o_ol_cnt = rand()%11 + 5;
```

```
#endif
        if ( memcmp(state,"00000",5) != 0 )
          {
            strncpy(SQLSTATE,state,5) ;
            SQLSTATE[5] = 0            ;
            if ( memcmp(state,"02000",5) == 0 )
              {
                goto not_found;
              }
            else
              {
                goto sqlerr;
              }
          }
#ifdefUSE_SQL_MODE
        for ( ol_number = 0;ol_number < o_ol_cnt;++ol_number )
        {
          bpo->ol_i_id[ol_number]   = atoi(oljp->sqlvar[ol_number].ol_i_id)  ;
          bpo->ol_amount[ol_number] = atoi(oljp-
>sqlvar[ol_number].ol_amount);
                  for(l = 0;l < 4;l++){
                         ol_supply_w_id_5[l] = oljp-
>sqlvar[ol_number].ol_supply_w_id[l];
                  }
          bpo->ol_supply_w_id[ol_number]
                       = atoi(ol_supply_w_id_5)   ;
          bpo->ol_quantity[ol_number]
                            = atoi(oljp->sqlvar[ol_number].ol_quantity)      ;
        if(memcmp(oljp->sqlvar[ol_number].ol_delivery_d,"777777777",9) !=
0)
            {
              bpo->ol_delivery_d[ol_number]
                            = c_ymdhms(oljp->sqlvar[ol_number].ol_delivery_d);
            }
          else
            {
              bpo->ol_delivery_d[ol_number] = 777777777                     ;
            }
        }
#else
        for ( ol_number = 0; ol_number < o_ol_cnt; ++ol_number )
        {
          bpo->ol_i_id[ol_number] = ( rand()%100000 )+1;
          bpo->ol_amount[ol_number] = rand()%1000000;
          bpo->ol_supply_w_id[ol_number] = ( rand()%10 )+1;
          bpo->ol_quantity[ol_number] = ( rand()%99 )+1;
          bpo->ol_delivery_d[ol_number] = c_ymdhms( "19980321054321" );
        }
#endif
        if ( o_carrier_id_ind == -1 )
          {
              bpo->o_carrier_id = INTNULL         ;
          }
        else
          {
              bpo->o_carrier_id = o_carrier_id    ;
          }
        bpo->c_id          = c_id             ;
        bpo->o_ol_cnt      = o_ol_cnt         ;
        strcpy(bpo->c_first,c_first)         ;
        strcpy(bpo->c_middle,c_middle)      ;
        strcpy(bpo->c_last,c_last)           ;
        bpo->c_balance     = c_balance / 100.0 ;
        bpo->o_id          = o_id             ;
        bpo->o_entry_d     = c_ymdhms(o_entry_d) ;
        bpo->errorpos      = 0                ;
        bpo->sqlstate      = 0                ;
    return (1);
not_found:
        DP("NOT FOUND IN OrderStatus AT %d\n",errorpos);
        fflush(stdout);
        bpo->errorpos      = errorpos         ;
        bpo->sqlstate      = atoi(SQLSTATE)        ;
        return(0);
sqlerr:
#ifdef  DP_SQLERR
    DP("OrderStatus ERRPOS=%d SQLSTATE=%s\n",errorpos,SQLSTATE);
#endif
    if(Error())
    {
        goto begin_tran;
    }
    bpo->errorpos      = errorpos         ;
    bpo->sqlstate      = atoi(SQLSTATE)        ;
    return(0);
}
preDelivery()
{
        return(1);
}
Delivery()
{
        int      temp_d_id                    ;
                result_join_str  *rjp              ;
begin_tran:
#ifdefUSE_SQL_MODE
        EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr    ;
        EXEC SQL WHENEVER NOT FOUND GOTO :not_found ;
#endif
           result_join.sqllen = 0                ;
           rjp = (result_join_str *)&result_join    ;
           s_ymdhms()                            ;
           strncpy(ol_delivery_d, tc_s,14)          ;
           o_carrier_id  = bpd->o_carrier_id        ;
           errorpos      = 0                     ;
#ifdefUSE_SQL_MODE
           EXEC SQL
               CALL TPCC_SCHEMA.Y_DELIVERY(:state                    ,
                      :errorpos          INDICATOR :errorpos_ind     ,
                      :w_id                                    ,
                      :c_id                                    ,
                      :o_carrier_id                                ,
                      :ol_delivery_d                               ,
                      :result_join       INDICATOR :result_join_ind
                                      );
#else
                SQLWAIT_D;
        strcpy(state,"00000");
#endif
        if ( memcmp(state,"00000",5) != 0 )
          {
            strncpy(SQLSTATE,state,5) ;
            SQLSTATE[5] = 0            ;
            if ( memcmp(state,"02000",5) == 0 )
              {
                goto not_found;
            }
          else
            {
              goto sqlerr;
            }
        }
        for ( temp_d_id = 0 ; temp_d_id < 10 ; temp_d_id++ )
          {
             result_o_id[temp_d_id] = atoi(rjp-
>sqlvar[temp_d_id].result_o_id);
          }
        bpd->errorpos     = 0 ;
        bpd->sqlstate     = 0 ;
        return(1);
not_found:
        DP("NOT FOUND IN DELIVERY AT %d\n",errorpos);
        fflush(stdout);
        bpd->errorpos     = errorpos               ;
        bpd->sqlstate     = atoi(SQLSTATE)         ;
        return(0);
sqlerr:
#ifdef  DP_SQLERR
    DP("Delivery ERRPOS=%d SQLSTATE=%s\n",errorpos,SQLSTATE);
#endif
        if(Error())
        {
                goto begin_tran;
        }
        bpd->errorpos     = errorpos               ;
        bpd->sqlstate     = atoi(SQLSTATE)         ;
        return(0);
}
preStockLevel()
{
        return(1);
}
StockLevel()
{
begin_tran:
#ifdefUSE_SQL_MODE
        EXEC SQL WHENEVER SQLERROR  GOTO :sqlerr    ;
        EXEC SQL WHENEVER NOT FOUND GOTO :not_found ;
#endif
           errorpos = 0                            ;
#ifdef STOCK_STORED
#ifdefUSE_SQL_MODE
           EXEC SQL
               CALL TPCC_SCHEMA.Y_STOCKLV(:state                  ,
                      :errorpos          INDICATOR :errorpos_ind ,
                      :w_id                                      ,
                      :d_id                                      ,
                      :threshold                                 ,
                      :low_stock         INDICATOR :low_stock_ind
                                   );
#else
        SQLWAIT_S;
        strcpy(state,"00000");
        low_stock = rand()%201;
#endif
        if ( memcmp(state,"00000",5) != 0 )
          {
            strncpy(SQLSTATE,state,5) ;
            SQLSTATE[5] = 0           ;
```

```
            if ( memcmp(state,"02000",5) == 0 )
              {
                goto not_found;
              }
            else
              {
                goto sqlerr;
              }
          }
#else
                            EXEC SQL WHENEVER SQLERROR  GOTO :ERR_S_DI;
                            EXEC SQL WHENEVER NOT FOUND GOTO :ERR_S_DI;
        EXEC SQL SELECT D_NEXT_O_ID
                INTO :o_id
                FROM TPCC_SCHEMA.DISTRICT
                WHERE D_W_ID = :w_id
                  AND D_ID   = :d_id;
                            EXEC SQL WHENEVER SQLERROR  CONTINUE;
                            EXEC SQL WHENEVER NOT FOUND CONTINUE;
        tmp_o_id = o_id - 20;
        o_id = o_id - 1 ;
        t19  = o_id - 1;
        t18  = o_id - 2;
        t17  = o_id - 3;
        t16  = o_id - 4;
        t15  = o_id - 5;
        t14  = o_id - 6;
        t13  = o_id - 7;
        t12  = o_id - 8;
        t11  = o_id - 9;
        t10  = o_id - 10;
        t09  = o_id - 11;
        t08  = o_id - 12;
        t07  = o_id - 13;
        t06  = o_id - 14;
        t05  = o_id - 15;
        t04  = o_id - 16;
        t03  = o_id - 17;
        t02  = o_id - 18;
                               EXEC SQL WHENEVER SQLERROR  GOTO :ERR_S_STOL;
                              EXEC SQL WHENEVER NOT FOUND GOTO :ERR_S_STOL;
    EXEC SQL SELECT COUNT(DISTINCT S_I_ID)
                INTO  :low_stock
                FROM  TPCC_SCHEMA.ORDERLINE,
                      TPCC_SCHEMA.STOCK
                WHERE OL_W_ID    = :w_id
                  AND OL_D_ID    = :d_id
                  AND OL_O_ID
                      IN(:tmp_o_id,
                             :t02,:t03,:t04,:t05,:t06,:t07,:t08,:t09,:t10,
                         :t11,:t12,:t13,:t14,:t15,:t16,:t17,:t18,:t19,
                         :o_id )
                  AND OL_NUMBER IN(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15)
--$
--$               AND OL_O_ID
--$                         BETWEEN @TMP_O_ID
--$                             AND @O_ID
                  AND S_I_ID     = OL_I_ID
                  AND S_W_ID     = OL_W_ID
                  AND S_W_ID     = :w_id
                  AND S_QUANTITY < :threshold;
                                   EXEC SQL WHENEVER SQLERROR  CONTINUE;
                                   EXEC SQL WHENEVER NOT FOUND CONTINUE;
                EXEC SQL COMMIT WORK;
#endif
        bps->errorpos     = 0 ;
        bps->sqlstate     = 0 ;
        return(1);
ERR_S_DI:
        bps->errorpos  = 203;
                goto sqlerr;
ERR_S_STOL:
        bps->errorpos  = 248;
                goto sqlerr;
not_found:
        DP(“NOT FOUND IN STOCKLEVEL AT %d\n”,errorpos);
        fflush(stdout);
        bps->errorpos     = errorpos              ;
        bps->sqlstate     = atoi(SQLSTATE)        ;
        EXEC SQL ROLLBACK WORK;
        return(0);
sqlerr:
#ifdef  DP_SQLERR
    DP(“Stocklevel ERRPOS=%d SQLSTATE=%s\n”,errorpos,SQLSTATE);
#endif
        if(Error())
        {
                EXEC SQL ROLLBACK WORK;
                goto begin_tran;
        }
        bps->errorpos     = errorpos              ;
        bps->sqlstate     = atoi(SQLSTATE)        ;
        EXEC SQL ROLLBACK WORK;
        return(0);
}
#ifndefUSE_FML
TPCC1(info)
TPSVCINFO       *info;
        {
#ifdef  TRACE
        DP(“TPCC-1 called\n”);
#endif
        number = 1;
        return(TPCC(info,number));
        }
TPCC2(info)
TPSVCINFO       *info;
        {
        number = 2;
        return(TPCC(info,number));
        }
TPCC3(info)
TPSVCINFO       *info;
        {
        number = 3;
        return(TPCC(info,number));
        }
TPCC4(info)
TPSVCINFO       *info;
        {
        number = 4;
        return(TPCC(info,number));
        }
TPCC5(info)
TPSVCINFO       *info;
        {
        number = 5;
        return(TPCC(info,number));
        }
TPCC6(info)
TPSVCINFO       *info;
        {
        number = 6;
        return(TPCC(info,number));
        }
TPCC7(info)
TPSVCINFO       *info;
        {
        number = 7;
        return(TPCC(info,number));
        }
TPCC8(info)
TPSVCINFO       *info;
        {
        number = 8;
        return(TPCC(info,number));
        }
TPCC9(info)
TPSVCINFO       *info;
        {
        number = 9;
        return(TPCC(info,number));
        }
TPCC10(info)
TPSVCINFO       *info;
        {
        number = 10;
        return(TPCC(info,number));
        }
TPCCd1(info)
TPSVCINFO       *info;
        {
        number = 11;
        return(TPCC(info,number));
        }
TPCCd2(info)
TPSVCINFO       *info;
        {
        number = 12;
        return(TPCC(info,number));
        }
TPCCd3(info)
TPSVCINFO       *info;
        {
        number = 13;
        return(TPCC(info,number));
        }
TPCCs1(info)
TPSVCINFO       *info;
        {
        number = 14;
        return(TPCC(info,number));
        }
TPCCs2(info)
TPSVCINFO       *info;
        {
        number = 15;
        return(TPCC(info,number));
        }
```

```
TPCCs3(info)
TPSVCINFO        *info;
        {
        number = 16;
        return(TPCC(info,number));
        }
#endif
```

Appendix B: Database Design B

This Appendix contains the scripts used to create the database and the load program used to load the database initially.

```
::::::::::::::
ALLMK.NEW
::::::::::::::
:
touch $0
set -x
rdbstop
CRDIC
date
rdbstart
rdbddlex ddl_db.mak
rdbddlex -d TPCC crta.def.cent
rdbddlex -d TPCC ddl.dbsp.dat
rdbddlex -d TPCC ddl.dat.WH
rdbddlex -d TPCC ddl.dat.DI
rdbddlex -d TPCC ddl.dat.ST
rdbddlex -d TPCC ddl.dat.NO
rdbddlex -d TPCC ddl.dat.NI
rdbddlex -d TPCC ddl.dat.OS
rdbddlex -d TPCC ddl.dat.OI
rdbddlex -d TPCC ddl.dat.HI
rdbddlex -d TPCC ddl.dat.CU
rdbddlex -d TPCC ddl.dat.CI
rdbddlex -d TPCC ddl.dat.OL
rdbddlex -d TPCC ddl.dat.IT
rdbrcp
sleep 5
rdbstop
date
rdbstart
sh.stored
rdbrcp
sleep 5
rdbstop
rdbstart
cd stored / Y_stored.PS
sh Y_stored_cent.sh.h10.out4
rdbrcp
cd .. / ..
rdbstop
exit
rdbstart
timex csh -x LOAD.sh
rdbrcp
rdbstop
rdbstart
sh.rdbups
rdbrcp
rdbstop
sleep 5
sh mktmplog.sh
::::::::::::::
ALLMK2.NEW
::::::::::::::
:
touch $0
touch $0.started
set -x
rdbstart
timex csh -x LOAD.sh
rdbrcp
rdbstop
rdbstart
sh.rdbups.saved.mks
rdbrcp
rdbstop
sleep 5
sh mktmplog.sh
sh mkarc.sh
eche “please do sh.bkup”
touch $0.finished
::::::::::::::
CRDIC
::::::::::::::
:
```

```
set -x
SYS=/rdbptc/tpcc80/SYS
LOG_AI=/DEV/rdsk/AI_LOG
LOG_BI=/DEV/rdsk/BI_LOG
LOG_IX=/DEV/rdsk/IX_LOG
DIC_PL=/DEV/rdsk/DIC
BISZ=64M
AISZ=64M
TRN=100
RCV=32M
date
rm -f $SYS/rdblogmanage
rdblog -I
timex rdblog -G -t -c $RCV -io 2048 $LOG_IX $LOG_BI $LOG_AI
$BISZ $AISZ $TRN
timex rdbcrdic -du 37M -r $DIC_PL
date
rdbstart
rdbstop
::::::::::::::
LOAD.sh
::::::::::::::
setenv RDBDB TPCC
set LOAD1_D = /rdb/loaddata/1
set LOAD2_D = /rdb/loaddata/2
set LOAD3_D = /rdb/loaddata/3
set LOAD4_D = /rdb/loaddata/4
set LOAD5_D = /rdb/loaddata/5
set LOAD6_D = /rdb/loaddata/6
set LOAD7_D = /rdb/loaddata/7
set LOAD8_D = /rdb/loaddata/8
set WK1_D = /rdb/sortwk1
set WK2_D = /rdb/sortwk2
set WK3_D = /rdb/sortwk3
set WK4_D = /rdb/sortwk4
set WK5_D = /rdb/sortwk5
set WK6_D = /rdb/sortwk6
set WK7_D = /rdb/sortwk7
set WK8_D = /rdb/sortwk8
rm /rdb/loaddata
SRT*
        wttpccd1 $LOAD1_D 1 1 I
        timex rdbsloader -mi -i $RDBDB.ITEM_1_DSI \
                                                        -s $WK1_D \
                                                        -s $WK2_D \
                                                        -s $WK3_D \
                                                        -s $WK4_D \
                                                        -n $LOAD1_D/data
rm $LOAD1_D/data
        @ make_s1 = 1
        @ make_e1 = 88
        @ make_s2 = 89
        @ make_e2 = 176
        @ make_s3 = 177
        @ make_e3 = 264
        @ make_s4 = 265
        @ make_e4 = 352
        wttpccd1 $LOAD1_D $make_s1 $make_e1 W &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 W &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 W &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 W &
        wait
foreach num ( 0 1 2 3 4 5 )
```

```
        @ dsi_num1 = $num * 4 + 1
        @ dsi_num2 = $num * 4 + 2
        @ dsi_num3 = $num * 4 + 3
        @ dsi_num4 = $num * 4 + 4
        timex rdbsloader -mi -i $RDBDB.WAREHOUSE_$dsi_num1\_DSI \
                                                        -s $WK1_D \
                                                        -s $WK2_D \
                                                        -n
$LOAD1_D/WH$make_s1\_$make_e1 &
        timex rdbsloader -mi -i $RDBDB.WAREHOUSE_$dsi_num2\_DSI \
                                                        -s $WK3_D \
                                                        -s $WK4_D \
                                                        -n
$LOAD2_D/WH$make_s2\_$make_e2 &
        timex rdbsloader -mi -i $RDBDB.WAREHOUSE_$dsi_num3\_DSI \
                                                        -s $WK5_D \
                                                        -s $WK6_D \
                                                        -n
$LOAD3_D/WH$make_s3\_$make_e3 &
        timex rdbsloader -mi -i $RDBDB.WAREHOUSE_$dsi_num4\_DSI \
                                                        -s $WK7_D \
                                                        -s $WK8_D \
                                                        -n
$LOAD4_D/WH$make_s4\_$make_e4 &
        @ rm_make_s1 = $make_s1
        @ rm_make_e1 = $make_e1
        @ rm_make_s2 = $make_s2
        @ rm_make_e2 = $make_e2
        @ rm_make_s3 = $make_s3
        @ rm_make_e3 = $make_e3
        @ rm_make_s4 = $make_s4
        @ rm_make_e4 = $make_e4
        @ make_s1 = $num * 352 + 352 + 1
        @ make_e1 = $num * 352 + 352 + 88
        @ make_s2 = $num * 352 + 352 + 89
        @ make_e2 = $num * 352 + 352 + 176
        @ make_s3 = $num * 352 + 352 + 177
        @ make_e3 = $num * 352 + 352 + 264
        @ make_s4 = $num * 352 + 352 + 265
        @ make_e4 = $num * 352 + 352 + 352
        wttpccd1 $LOAD1_D $make_s1 $make_e1 W &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 W &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 W &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 W &
        wait
        rm $LOAD1_D/WH$rm_make_s1\_$rm_make_e1
        rm $LOAD2_D/WH$rm_make_s2\_$rm_make_e2
        rm $LOAD3_D/WH$rm_make_s3\_$rm_make_e3
        rm $LOAD4_D/WH$rm_make_s4\_$rm_make_e4
end
        rm $LOAD1_D/WH$make_s1\_$make_e1
        rm $LOAD2_D/WH$make_s2\_$make_e2
        rm $LOAD3_D/WH$make_s3\_$make_e3
        rm $LOAD4_D/WH$make_s4\_$make_e4
        @ make_s1 = 1
        @ make_e1 = 88
        @ make_s2 = 89
        @ make_e2 = 176
        @ make_s3 = 177
        @ make_e3 = 264
        @ make_s4 = 265
        @ make_e4 = 352
        wttpccd1 $LOAD1_D $make_s1 $make_e1 D &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 D &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 D &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 D &
    wait
foreach num ( 0 1 2 3 4 5 )
        @ dsi_num1 = $num * 4 + 1
        @ dsi_num2 = $num * 4 + 2
        @ dsi_num3 = $num * 4 + 3
        @ dsi_num4 = $num * 4 + 4
        timex rdbsloader -mi -i $RDBDB.DISTRICT_$dsi_num1\_DSI \
                                        -s $WK1_D \
                                        -s $WK2_D \
                                        -n
$LOAD1_D/DI$make_s1\_$make_e1 &
        timex rdbsloader -mi -i $RDBDB.DISTRICT_$dsi_num2\_DSI \
                                        -s $WK3_D \
                                        -s $WK4_D \
                                        -n
$LOAD2_D/DI$make_s2\_$make_e2 &
        timex rdbsloader -mi -i $RDBDB.DISTRICT_$dsi_num3\_DSI \
                                        -s $WK5_D \
                                        -s $WK6_D \
                                        -n
$LOAD3_D/DI$make_s3\_$make_e3 &
        timex rdbsloader -mi -i $RDBDB.DISTRICT_$dsi_num4\_DSI \
                                        -s $WK7_D \
                                        -s $WK8_D \
                                        -n
$LOAD4_D/DI$make_s4\_$make_e4 &
        @ rm_make_s1 = $make_s1
        @ rm_make_e1 = $make_e1
        @ rm_make_s2 = $make_s2
        @ rm_make_e2 = $make_e2
        @ rm_make_s3 = $make_s3
        @ rm_make_e3 = $make_e3
        @ rm_make_s4 = $make_s4
        @ rm_make_e4 = $make_e4
        @ make_s1 = $num * 352 + 352 + 1
        @ make_e1 = $num * 352 + 352 + 88
        @ make_s2 = $num * 352 + 352 + 89
        @ make_e2 = $num * 352 + 352 + 176
        @ make_s3 = $num * 352 + 352 + 177
        @ make_e3 = $num * 352 + 352 + 264
        @ make_s4 = $num * 352 + 352 + 265
        @ make_e4 = $num * 352 + 352 + 352
        wttpccd1 $LOAD1_D $make_s1 $make_e1 D &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 D &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 D &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 D &
        wait
        rm $LOAD1_D/DI$rm_make_s1\_$rm_make_e1
        rm $LOAD2_D/DI$rm_make_s2\_$rm_make_e2
        rm $LOAD3_D/DI$rm_make_s3\_$rm_make_e3
        rm $LOAD4_D/DI$rm_make_s4\_$rm_make_e4
end
        rm $LOAD1_D/DI$make_s1\_$make_e1
        rm $LOAD2_D/DI$make_s2\_$make_e2
        rm $LOAD3_D/DI$make_s3\_$make_e3
        rm $LOAD4_D/DI$make_s4\_$make_e4
        @ make_s1 = 1
        @ make_e1 = 22
        @ make_s2 = 23
        @ make_e2 = 44
```

```
        @ make_s3 = 45
        @ make_e3 = 66
        @ make_s4 = 67
        @ make_e4 = 88
        wttpccd1 $LOAD1_D $make_s1 $make_e1 C &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 C &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 C &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 C &
        wait
foreach num ( 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 )
        @ dsi_num1 = $num * 4 + 1
        @ dsi_num2 = $num * 4 + 2
        @ dsi_num3 = $num * 4 + 3
        @ dsi_num4 = $num * 4 + 4
        timex rdbsloader -mi -i $RDBDB.CUSTOMER_$dsi_num1\_DSI -h \
                                        -s $WK1_D \
                                        -s $WK2_D \
                                        -n
$LOAD1_D/CU$make_s1\_$make_e1 &
        timex rdbsloader -mi -i $RDBDB.CUSTOMER_$dsi_num2\_DSI -h \
                                        -s $WK3_D \
                                        -s $WK4_D \
                                        -n
$LOAD2_D/CU$make_s2\_$make_e2 &
        timex rdbsloader -mi -i $RDBDB.CUSTOMER_$dsi_num3\_DSI -h \
                                        -s $WK5_D \
                                        -s $WK6_D \
                                        -n
$LOAD3_D/CU$make_s3\_$make_e3 &
        timex rdbsloader -mi -i $RDBDB.CUSTOMER_$dsi_num4\_DSI -h \
                                        -s $WK7_D \
                                        -s $WK8_D \
                                        -n
$LOAD4_D/CU$make_s4\_$make_e4 &
        @ rm_make_s1 = $make_s1
        @ rm_make_e1 = $make_e1
        @ rm_make_s2 = $make_s2
        @ rm_make_e2 = $make_e2
        @ rm_make_s3 = $make_s3
        @ rm_make_e3 = $make_e3
        @ rm_make_s4 = $make_s4
        @ rm_make_e4 = $make_e4
        @ make_s1 = $num * 88 + 88 + 1
        @ make_e1 = $num * 88 + 88 + 22
        @ make_s2 = $num * 88 + 88 + 23
        @ make_e2 = $num * 88 + 88 + 44
        @ make_s3 = $num * 88 + 88 + 45
        @ make_e3 = $num * 88 + 88 + 66
        @ make_s4 = $num * 88 + 88 + 67
        @ make_e4 = $num * 88 + 88 + 88
        wttpccd1 $LOAD1_D $make_s1 $make_e1 C &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 C &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 C &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 C &
        wait
    rm $LOAD1_D/CU$rm_make_s1\_$rm_make_e1
    rm $LOAD2_D/CU$rm_make_s2\_$rm_make_e2
    rm $LOAD3_D/CU$rm_make_s3\_$rm_make_e3
    rm $LOAD4_D/CU$rm_make_s4\_$rm_make_e4
end
    rm $LOAD1_D/CU$make_s1\_$make_e1
    rm $LOAD2_D/CU$make_s2\_$make_e2
    rm $LOAD3_D/CU$make_s3\_$make_e3
```

```
   rm $LOAD4_D/CU$make_s4\_$make_e4
        @ make_s1 = 1
        @ make_e1 = 22
        @ make_s2 = 23
        @ make_e2 = 44
        @ make_s3 = 45
        @ make_e3 = 66
        @ make_s4 = 67
        @ make_e4 = 88
        wttpccd1 $LOAD1_D $make_s1 $make_e1 H &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 H &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 H &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 H &
        wait
foreach num ( 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 )
        @ dsi_num1 = $num * 4 + 1
        @ dsi_num2 = $num * 4 + 2
        @ dsi_num3 = $num * 4 + 3
        @ dsi_num4 = $num * 4 + 4
        timex rdbsloader -mi -i $RDBDB.HISTORY_$dsi_num1\_DSI \
                                        -s $WK1_D \
                                        -s $WK2_D \
                                        -n
$LOAD1_D/HI$make_s1\_$make_e1 &
        timex rdbsloader -mi -i $RDBDB.HISTORY_$dsi_num2\_DSI \
                                        -s $WK3_D \
                                        -s $WK4_D \
                                        -n
$LOAD2_D/HI$make_s2\_$make_e2 &
        timex rdbsloader -mi -i $RDBDB.HISTORY_$dsi_num3\_DSI \
                                        -s $WK5_D \
                                        -s $WK6_D \
                                        -n
$LOAD3_D/HI$make_s3\_$make_e3 &
        timex rdbsloader -mi -i $RDBDB.HISTORY_$dsi_num4\_DSI \
                                        -s $WK7_D \
                                        -s $WK8_D \
                                        -n
$LOAD4_D/HI$make_s4\_$make_e4 &
        @ rm_make_s1 = $make_s1
        @ rm_make_e1 = $make_e1
        @ rm_make_s2 = $make_s2
        @ rm_make_e2 = $make_e2
        @ rm_make_s3 = $make_s3
        @ rm_make_e3 = $make_e3
        @ rm_make_s4 = $make_s4
        @ rm_make_e4 = $make_e4
        @ make_s1 = $num * 88 + 88 + 1
        @ make_e1 = $num * 88 + 88 + 22
        @ make_s2 = $num * 88 + 88 + 23
        @ make_e2 = $num * 88 + 88 + 44
        @ make_s3 = $num * 88 + 88 + 45
        @ make_e3 = $num * 88 + 88 + 66
        @ make_s4 = $num * 88 + 88 + 67
        @ make_e4 = $num * 88 + 88 + 88
        wttpccd1 $LOAD1_D $make_s1 $make_e1 H &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 H &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 H &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 H &
        wait
   rm $LOAD1_D/HI$rm_make_s1\_$rm_make_e1
   rm $LOAD2_D/HI$rm_make_s2\_$rm_make_e2
   rm $LOAD3_D/HI$rm_make_s3\_$rm_make_e3
```

```
   rm $LOAD4_D/HI$rm_make_s4\_$rm_make_e4
end
   rm $LOAD1_D/HI$make_s1\_$make_e1
   rm $LOAD2_D/HI$make_s2\_$make_e2
   rm $LOAD3_D/HI$make_s3\_$make_e3
   rm $LOAD4_D/HI$make_s4\_$make_e4
        @ make_s1  = 1
        @ make_e1  = 22
        @ make_s11 = 23
        @ make_e11 = 44
        @ make_s2  = 45
        @ make_e2  = 66
        @ make_s12 = 67
        @ make_e12 = 88
        @ make_s3  = 89
        @ make_e3  = 110
        @ make_s13 = 111
        @ make_e13 = 132
        @ make_s4  = 133
        @ make_e4  = 154
        @ make_s14 = 155
        @ make_e14 = 176
        wttpccd1 $LOAD1_D $make_s1 $make_e1 S &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 S &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 S &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 S &
        wttpccd1 $LOAD5_D $make_s11 $make_e11 S &
        wttpccd1 $LOAD6_D $make_s12 $make_e12 S &
        wttpccd1 $LOAD7_D $make_s13 $make_e13 S &
        wttpccd1 $LOAD8_D $make_s14 $make_e14 S &
        wait
foreach num ( 0 1 2 3 4 5 6 7 8 9 10 )
        @ dsi_num1 = $num * 4 + 1
        @ dsi_num2 = $num * 4 + 2
        @ dsi_num3 = $num * 4 + 3
        @ dsi_num4 = $num * 4 + 4
        timex rdbsloader -mi -i $RDBDB.STOCK_$dsi_num1\_DSI \
                                        -s $WK1_D \
                                        -s $WK2_D \
                                        -n
$LOAD1_D/ST$make_s1\_$make_e1 \

$LOAD5_D/ST$make_s11\_$make_e11 &
        timex rdbsloader -mi -i $RDBDB.STOCK_$dsi_num2\_DSI \
                                        -s $WK3_D \
                                        -s $WK4_D \
                                        -n
$LOAD2_D/ST$make_s2\_$make_e2 \

$LOAD6_D/ST$make_s12\_$make_e12 &
        timex rdbsloader -mi -i $RDBDB.STOCK_$dsi_num3\_DSI \
                                        -s $WK5_D \
                                        -s $WK6_D \
                                        -n
$LOAD3_D/ST$make_s3\_$make_e3 \

$LOAD7_D/ST$make_s13\_$make_e13 &
        timex rdbsloader -mi -i $RDBDB.STOCK_$dsi_num4\_DSI \
                                        -s $WK7_D \
                                        -s $WK8_D \
                                        -n
$LOAD4_D/ST$make_s4\_$make_e4 \
$LOAD8_D/ST$make_s14\_$make_e14 &
        @ rm_make_s1 = $make_s1
        @ rm_make_e1 = $make_e1
        @ rm_make_s11 = $make_s11
        @ rm_make_e11 = $make_e11
        @ rm_make_s2 = $make_s2
        @ rm_make_e2 = $make_e2
        @ rm_make_s12 = $make_s12
        @ rm_make_e12 = $make_e12
        @ rm_make_s3 = $make_s3
        @ rm_make_e3 = $make_e3
        @ rm_make_s13 = $make_s13
        @ rm_make_e13 = $make_e13
        @ rm_make_s4 = $make_s4
        @ rm_make_e4 = $make_e4
        @ rm_make_s14 = $make_s14
        @ rm_make_e14 = $make_e14
        @ make_s1  = $num * 176 + 176 + 1
        @ make_e1  = $num * 176 + 176 + 22
        @ make_s11 = $num * 176 + 176 + 23
        @ make_e11 = $num * 176 + 176 + 44
        @ make_s2  = $num * 176 + 176 + 45
        @ make_e2  = $num * 176 + 176 + 66
        @ make_s12 = $num * 176 + 176 + 67
        @ make_e12 = $num * 176 + 176 + 88
        @ make_s3  = $num * 176 + 176 + 89
        @ make_e3  = $num * 176 + 176 + 110
        @ make_s13 = $num * 176 + 176 + 111
        @ make_e13 = $num * 176 + 176 + 132
        @ make_s4  = $num * 176 + 176 + 133
        @ make_e4  = $num * 176 + 176 + 154
        @ make_s14 = $num * 176 + 176 + 155
        @ make_e14 = $num * 176 + 176 + 176
        wttpccd1 $LOAD1_D $make_s1 $make_e1 S &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 S &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 S &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 S &
        wttpccd1 $LOAD5_D $make_s11 $make_e11 S &
        wttpccd1 $LOAD6_D $make_s12 $make_e12 S &
        wttpccd1 $LOAD7_D $make_s13 $make_e13 S &
        wttpccd1 $LOAD8_D $make_s14 $make_e14 S &
        wait
        rm $LOAD1_D/ST$rm_make_s1\_$rm_make_e1 &
        rm $LOAD2_D/ST$rm_make_s2\_$rm_make_e2 &
        rm $LOAD3_D/ST$rm_make_s3\_$rm_make_e3 &
        rm $LOAD4_D/ST$rm_make_s4\_$rm_make_e4 &
        rm $LOAD5_D/ST$rm_make_s11\_$rm_make_e11 &
        rm $LOAD6_D/ST$rm_make_s12\_$rm_make_e12 &
        rm $LOAD7_D/ST$rm_make_s13\_$rm_make_e13 &
        rm $LOAD8_D/ST$rm_make_s14\_$rm_make_e14 &
end
        rm $LOAD1_D/ST$make_s1\_$make_e1 &
        rm $LOAD2_D/ST$make_s2\_$make_e2 &
        rm $LOAD3_D/ST$make_s3\_$make_e3 &
        rm $LOAD4_D/ST$make_s4\_$make_e4 &
        rm $LOAD5_D/ST$make_s11\_$make_e11 &
        rm $LOAD6_D/ST$make_s12\_$make_e12 &
        rm $LOAD7_D/ST$make_s13\_$make_e13 &
        rm $LOAD8_D/ST$make_s14\_$make_e14 &
        @ make_s1 = 1
        @ make_e1 = 22
        @ make_s2 = 23
        @ make_e2 = 44
        @ make_s3 = 45
        @ make_e3 = 66
        @ make_s4 = 67
        @ make_e4 = 88
        wttpccd1 $LOAD1_D $make_s1 $make_e1 O &
        wttpccd1 $LOAD2_D $make_s2 $make_e2 O &
        wttpccd1 $LOAD3_D $make_s3 $make_e3 O &
        wttpccd1 $LOAD4_D $make_s4 $make_e4 O &
        wait
foreach num ( 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 )
        @ dsi_num_os1 = $num * 4 * 1 + 1
        @ dsi_num_os2 = $num * 4 * 1 + 2
        @ dsi_num_os3 = $num * 4 * 1 + 3
        @ dsi_num_os4 = $num * 4 * 1 + 4
        @ dsi_num_ol1 = $num * 4 * 2 + 1
        @ dsi_num_ol2 = $num * 4 * 2 + 3
        @ dsi_num_ol3 = $num * 4 * 2 + 5
        @ dsi_num_ol4 = $num * 4 * 2 + 7
        @ dsi_num_no1 = $num * 4 * 1 + 1
        @ dsi_num_no2 = $num * 4 * 1 + 2
        @ dsi_num_no3 = $num * 4 * 1 + 3
        @ dsi_num_no4 = $num * 4 * 1 + 4
        timex rdbsloader -mi -i $RDBDB.ORDERS_$dsi_num_os1\_DSI -h -f 10\
                                                        -s $WK1_D \
                                                        -s $WK2_D \

$LOAD1_D/OS$make_s1\_$make_e1 &
wait
        timex rdbsloader -mi -i $RDBDB.ORDERS_$dsi_num_os2\_DSI -h -f 10\
                                                        -s $WK3_D \
                                                        -s $WK4_D \

$LOAD2_D/OS$make_s2\_$make_e2 &
wait
        timex rdbsloader -mi -i $RDBDB.ORDERS_$dsi_num_os3\_DSI -h -f 10\
                                                        -s $WK5_D \
                                                        -s $WK6_D \

$LOAD3_D/OS$make_s3\_$make_e3 &
wait
        timex rdbsloader -mi -i $RDBDB.ORDERS_$dsi_num_os4\_DSI -h -f 10\
                                                        -s $WK7_D \
                                                        -s $WK8_D \

$LOAD4_D/OS$make_s4\_$make_e4 &
wait
        timex rdbsloader -mi -i $RDBDB.NEWORDER_$dsi_num_no1\_DSI -h -f 20
\
                                                        -s $WK1_D \
                                                        -s $WK2_D \
                                                        -n
$LOAD1_D/NO$make_s1\_$make_e1 &
wait
        timex rdbsloader -mi -i $RDBDB.NEWORDER_$dsi_num_no2\_DSI -h -f 20
\
                                                        -s $WK3_D \
                                                        -s $WK4_D \
                                                        -n
$LOAD2_D/NO$make_s2\_$make_e2 &
wait
        timex rdbsloader -mi -i $RDBDB.NEWORDER_$dsi_num_no3\_DSI -h -f 20
\
                                                  -s $WK5_D \
                                                  -s $WK6_D \
                                                  -n
$LOAD3_D/NO$make_s3\_$make_e3 &
wait
      timex rdbsloader -mi -i
$RDBDB.NEWORDER_$dsi_num_no4\_DSI -h -f 20 \
                                                  -s $WK7_D \
                                                  -s $WK8_D \
                                                  -n
$LOAD4_D/NO$make_s4\_$make_e4 &
      wait
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol1\_DSI -h \
                                                  -s $WK1_D \
                                                  -s $WK2_D \

$LOAD1_D/OL$make_s1\_$make_e1 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol2\_DSI -h \
                                                  -s $WK3_D \
                                                  -s $WK4_D \

$LOAD2_D/OL$make_s2\_$make_e2 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol3\_DSI -h \
                                                  -s $WK5_D \
                                                  -s $WK6_D \

$LOAD3_D/OL$make_s3\_$make_e3 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol4\_DSI -h \
                                                  -s $WK7_D \
                                                  -s $WK8_D \

$LOAD4_D/OL$make_s4\_$make_e4 &
wait
      @ dsi_num_ol1 = $dsi_num_ol1 + 1
      @ dsi_num_ol2 = $dsi_num_ol2 + 1
      @ dsi_num_ol3 = $dsi_num_ol3 + 1
      @ dsi_num_ol4 = $dsi_num_ol4 + 1
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol1\_DSI -h \
                                                  -s $WK1_D \
                                                  -s $WK2_D \

$LOAD1_D/OL$make_s1\_$make_e1 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol2\_DSI -h \
                                                  -s $WK3_D \
                                                  -s $WK4_D \

$LOAD2_D/OL$make_s2\_$make_e2 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol3\_DSI -h \
                                                  -s $WK5_D \
                                                  -s $WK6_D \

$LOAD3_D/OL$make_s3\_$make_e3 &
      timex rdbsloader -mi -i
$RDBDB.ORDERLIN_$dsi_num_ol4\_DSI -h \
                                                  -s $WK7_D \
                                                  -s $WK8_D \
```

```
$LOAD4_D/OL$make_s4\_$make_e4 &
      @ rm_make_s1 = $make_s1
      @ rm_make_e1 = $make_e1
      @ rm_make_s2 = $make_s2
      @ rm_make_e2 = $make_e2
      @ rm_make_s3 = $make_s3
      @ rm_make_e3 = $make_e3
      @ rm_make_s4 = $make_s4
      @ rm_make_e4 = $make_e4
      @ make_s1 = $num * 88 + 88 + 1
      @ make_e1 = $num * 88 + 88 + 22
      @ make_s2 = $num * 88 + 88 + 23
      @ make_e2 = $num * 88 + 88 + 44
      @ make_s3 = $num * 88 + 88 + 45
      @ make_e3 = $num * 88 + 88 + 66
      @ make_s4 = $num * 88 + 88 + 67
      @ make_e4 = $num * 88 + 88 + 88
      wttpccd1 $LOAD1_D $make_s1 $make_e1 O &
      wttpccd1 $LOAD2_D $make_s2 $make_e2 O &
      wttpccd1 $LOAD3_D $make_s3 $make_e3 O &
      wttpccd1 $LOAD4_D $make_s4 $make_e4 O &
      wait
      rm $LOAD1_D/OS$rm_make_s1\_$rm_make_e1 &
      rm $LOAD2_D/OS$rm_make_s2\_$rm_make_e2 &
      rm $LOAD3_D/OS$rm_make_s3\_$rm_make_e3 &
      rm $LOAD4_D/OS$rm_make_s4\_$rm_make_e4 &
      rm $LOAD1_D/NO$rm_make_s1\_$rm_make_e1 &
      rm $LOAD2_D/NO$rm_make_s2\_$rm_make_e2 &
      rm $LOAD3_D/NO$rm_make_s3\_$rm_make_e3 &
      rm $LOAD4_D/NO$rm_make_s4\_$rm_make_e4 &
      rm $LOAD1_D/OL$rm_make_s1\_$rm_make_e1 &
      rm $LOAD2_D/OL$rm_make_s2\_$rm_make_e2 &
      rm $LOAD3_D/OL$rm_make_s3\_$rm_make_e3 &
      rm $LOAD4_D/OL$rm_make_s4\_$rm_make_e4 &
end
      rm $LOAD1_D/OS$make_s1\_$make_e1 &
      rm $LOAD2_D/OS$make_s2\_$make_e2 &
      rm $LOAD3_D/OS$make_s3\_$make_e3 &
      rm $LOAD4_D/OS$make_s4\_$make_e4 &
      rm $LOAD1_D/NO$make_s1\_$make_e1 &
      rm $LOAD2_D/NO$make_s2\_$make_e2 &
      rm $LOAD3_D/NO$make_s3\_$make_e3 &
      rm $LOAD4_D/NO$make_s4\_$make_e4 &
      rm $LOAD1_D/OL$make_s1\_$make_e1 &
      rm $LOAD2_D/OL$make_s2\_$make_e2 &
      rm $LOAD3_D/OL$make_s3\_$make_e3 &
      rm $LOAD4_D/OL$make_s4\_$make_e4 &
      rm $LOAD8_D/OL$make_s8\_$make_e8 &
wait
::::::::::::::
Y_DELIVERY
::::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                **/
EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_DELIVERY(OUT
                              INOUT
                              IN
                              INOUT
                              IN
                              IN
                              INOUT
                             )
```

```
DELIVERY:BEGIN
-- DECLARE
    DECLARE SQLSTATE            CHAR(5)         DEFAULT '00000';
    DECLARE SAPSTOP             CHAR(1)         DEFAULT '/'     ;
    DECLARE @OL_TOTAL           INTEGER ;
    DECLARE @DMY_W_ID           SMALLINT;
    DECLARE @DMY_D_ID           SMALLINT;
    DECLARE @D_ID           SMALLINT;
    DECLARE @NO_O_ID            INTEGER ;
--      DECLARE @OZAWK              SMALLINT;
-- (3) ORDERS    table cursor é¿
    DECLARE CDOS CURSOR FOR
        SELECT O_C_ID
            FROM  TPCC_SCHEMA.ORDERS
            WHERE O_W_ID =
              AND O_D_ID = @D_ID
              AND O_ID   = @NO_O_ID
         FOR UPDATE;
--   SET  @OZAWK = 1;
-- LOOP
   SET  @D_ID = 1;
   DID10:LOOP
    IF  @D_ID > 10 THEN
      GOTO NORMAL_END ;
    END IF;
    -- (1) NEWORDER e[u©çAÅ¬ÌI[_ÔiNO_O_IDjdÂ
    --     R[hi|¿AÅàÃ¢¢–ÌI[_ER[hjdõ
                          WHENEVER SQLERROR  GOTO ERR_S_NO;
    SELECT MIN( NO_O_ID )
         INTO  @NO_O_ID
         FROM  TPCC_SCHEMA.NEWORDER
         WHERE NO_W_ID =
           AND NO_D_ID = @D_ID;
                            WHENEVER SQLERROR  CONTINUE;
    IF   SQLSTATE <> '00000'
     OR @NO_O_ID IS NULL    THEN
      SET   @NO_O_ID  = 99999999     ;
      GOTO  NEXT_DID ;
    END IF;
    -- (2) NEW-ORDERe[u©çA@NO_O_ID Év·éR[h
    --    iÅàÃ¢¢–ÌI[_¥R[hjdíiPj
                            WHENEVER SQLERROR  GOTO
ERR_D_NO;
                            WHENEVER NOT FOUND GOTO
ERR_D_NO;
    DELETE FROM TPCC_SCHEMA.NEWORDER
         WHERE NO_W_ID =
           AND NO_D_ID = @D_ID
           AND NO_O_ID = @NO_O_ID ;

    -- (5) ORDER-LINEe[u©çAOL_AMOUNTÌvdl¿
                          WHENEVER SQLERROR  GOTO ERR_S_OL;
                            WHENEVER NOT FOUND GOTO
ERR_S_OL;
    SELECT SUM(OL_AMOUNT)
         INTO  @OL_TOTAL
         FROM  TPCC_SCHEMA.ORDERLINE
           WHERE OL_W_ID =
             AND OL_D_ID = @D_ID
             AND OL_O_ID = @NO_O_ID
           AND OL_NUMBER IN(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15);
--$$              AND OL_NUMBER = @OZAWK;
--$ -- if OL index exist
--$            WHERE OL_W_ID =
--$              AND OL_D_ID = @D_ID
--$              AND OL_O_ID = @NO_O_ID;
      -- ORDER-LINEe[uÌYR[hdXV
                            WHENEVER SQLERROR  GOTO ERR_U_OL;
                            WHENEVER NOT FOUND GOTO ERR_U_OL;
    UPDATE       TPCC_SCHEMA.ORDERLINE
        SET   OL_DELIVERY_D =
         WHERE    OL_W_ID =
             AND OL_D_ID = @D_ID
             AND OL_O_ID = @NO_O_ID
             AND OL_NUMBER IN(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15);
--$ -- if OL index exist
--$            WHERE OL_W_ID =
--$              AND OL_D_ID = @D_ID
--$              AND OL_O_ID = @NO_O_ID;
    -- (3) ORDER e[u©çA@NO_O_ID Év·éR[hdõu
    --     iPjAîñdo
                            WHENEVER SQLERROR  GOTO ERR_S_OR;
                            WHENEVER NOT FOUND GOTO ERR_S_OR;
    OPEN   CDOS;
    FETCH  CDOS INTO
                            WHENEVER SQLERROR  CONTINUE;
                            WHENEVER NOT FOUND CONTINUE;
    -- (4) ORDER e[uÌYR[hdXV
                            WHENEVER SQLERROR  GOTO ERR_U_OR;
    UPDATE       TPCC_SCHEMA.ORDERS
        SET   O_CARRIER_ID =
        WHERE CURRENT OF CDOS;
                            WHENEVER SQLERROR  CONTINUE;
    CLOSE  CDOS;
    -- (6) zdu¿I[_d–su¿Customere[uER[hdXV
                            WHENEVER SQLERROR  GOTO ERR_U_CM;
                            WHENEVER NOT FOUND GOTO ERR_U_CM;
    UPDATE       TPCC_SCHEMA.CUSTOMER
        SET   C_BALANCE      = C_BALANCE + @OL_TOTAL,
           C_DELIVERY_CNT = C_DELIVERY_CNT + 1
        WHERE C_W_ID  =
         AND C_D_ID  = @D_ID
         AND C_ID    =
                            WHENEVER SQLERROR  CONTINUE;
                            WHENEVER NOT FOUND CONTINUE;
NEXT_DID:
    SET
             | | CAST(@NO_O_ID AS CHAR(9)) | | SAPSTOP  ;
    SET  @D_ID = @D_ID + 1;
    COMMIT WORK          ;
  END LOOP DID10;
-- LOOP END
NORMAL_END:
    SET
    LEAVE DELIVERY       ;
--SQLERR:NOT_OUND:
ERR_S_OR:
    SET
    SET
    ROLLBACK WORK        ;
    LEAVE DELIVERY       ;
ERR_S_OL:
    SET
    SET
    ROLLBACK WORK        ;
    LEAVE DELIVERY       ;
```

```
ERR_S_NO:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE DELIVERY        ;
ERR_U_CM:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE DELIVERY        ;
ERR_U_OR:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE DELIVERY        ;
ERR_U_OL:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE DELIVERY        ;
ERR_D_NO:
        SET
        SET
        ROLLBACK WORK         ;

END DELIVERY
END-EXEC;
:::::::::::::
Y_NORDER
:::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_NORDER(OUT
                                      INOUT
                                      IN
                                      IN
                                      IN
                                      INOUT
                                      OUT
                                      OUT
                                      INOUT
                                      IN
                                      OUT
                                      OUT
                                      OUT
                                      INOUT
                                      IN
                                      IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
                                        IN
```

```
                                        IN
                                        IN
                                        IN
                                        INOUT
                                        INOUT
                                        IN
                                      )
NEWORDER:BEGIN
-- DECLARE
      DECLARE SQLSTATE           CHAR(5)         DEFAULT '00000';
      DECLARE SAPSTOP            CHAR(1)         DEFAULT '/';
      DECLARE @OL_I_ID           INTEGER;
      DECLARE @OL_SUPPLY_W_ID   SMALLINT;
      DECLARE @OL_QUANTITY      SMALLINT;
      DECLARE @S_QUANTITY       SMALLINT;
      DECLARE @I_PRICEH         SMALLINT;
      DECLARE @I_NAMEH          CHAR(24);
      DECLARE @I_DATAH          CHAR(50);
      DECLARE @S_DATA           CHAR(50);
      DECLARE @S_YTD            INTEGER;
      DECLARE @S_ORDER_CNT      SMALLINT;
      DECLARE @S_REMOTE_CNT     SMALLINT;
      DECLARE @D_NEXT_O_ID      INTEGER;
      DECLARE @OL_NUMBER        SMALLINT;
      DECLARE @STOCK_NUM        SMALLINT;
      DECLARE @MATCH_TBL_CNT    SMALLINT;
      DECLARE @S_DIST           CHAR(24);
      DECLARE @S_DIST_01        CHAR(24);
      DECLARE @S_DIST_02        CHAR(24);
      DECLARE @S_DIST_03        CHAR(24);
      DECLARE @S_DIST_04        CHAR(24);
      DECLARE @S_DIST_05        CHAR(24);
      DECLARE @S_DIST_06        CHAR(24);
      DECLARE @S_DIST_07        CHAR(24);
      DECLARE @S_DIST_08        CHAR(24);
      DECLARE @S_DIST_09        CHAR(24);
      DECLARE @S_DIST_10        CHAR(24);
      DECLARE @S_DIST_JOIN      CHAR(240)   ;
      DECLARE @C_OL_I_ID        CHAR(7)     ;
      DECLARE @C_I_PRICEH       CHAR(6)     ;
      DECLARE @C_S_QUANTITY     CHAR(6)     ;
      DECLARE @OL_AMOUNT        INTEGER     ;
      DECLARE @O_OL_CNT         SMALLINT    ;
      DECLARE @DIST_POS         SMALLINT    ;
-- (7) ITEM       table sele(IN)
      DECLARE ITEM_H CURSOR FOR
              SELECT I_PRICE,
                     I_NAME,
                     I_DATA,
                     I_ID
              FROM   TPCC_SCHEMA.ITEM
              WHERE  TPCC_SCHEMA.ITEM.I_ID
                               IN(
-- (8) STOCK      table select
      DECLARE CNSS_HOME CURSOR FOR
              SELECT S_I_ID,S_QUANTITY,
                    S_DIST_01,S_DIST_02,S_DIST_03,S_DIST_04,S_DIST_05,
                    S_DIST_06,S_DIST_07,S_DIST_08,S_DIST_09,S_DIST_10,
                     S_YTD,S_ORDER_CNT,S_REMOTE_CNT,S_DATA
                  FROM  TPCC_SCHEMA.STOCK
                  WHERE S_W_ID =
                    AND S_I_ID  IN(




              ORDER BY S_I_ID
                  FOR UPDATE ;
      SET @DIST_POS     = 1+((
      SET @O_OL_CNT     =
      SET
      -- (4) CUSTOMER  table select
                             WHENEVER SQLERROR  GOTO ERR_S_CM;
                                  WHENEVER NOT FOUND GOTO
ERR_S_CM;
      SELECT C_LAST,C_CREDIT,C_DISCOUNT
              INTO


              FROM  TPCC_SCHEMA.CUSTOMER
              WHERE C_W_ID =
                AND C_D_ID =
                AND C_ID    =
                                  WHENEVER SQLERROR  CONTINUE;
                                  WHENEVER NOT FOUND CONTINUE;
      IF
        GOTO REMORT_PROC ;
      END IF;
HOME_PROC:
-- Home Warehouse PROCESS START
--  ([ÉÅè3êÄ¢éWarehouse idÆ¯êÌàÌdYè)
      -- (7) ITEM       table select
                               WHENEVER SQLERROR  GOTO ERR_S_IT;
                             WHENEVER NOT FOUND GOTO ERR_S_IT;
      OPEN  ITEM_H ;
                                  WHENEVER SQLERROR  CONTINUE;
                                  WHENEVER NOT FOUND CONTINUE;
-- LOOP
      SET   @MATCH_TBL_CNT = 0 ;
      INCNT:LOOP
                               WHENEVER SQLERROR  GOTO ERR_S_IT;
                                  WHENEVER NOT FOUND GOTO L1;
```

```
            FETCH  ITEM_H
                    INTO  @I_PRICEH,
                          @I_NAMEH,
                          @I_DATAH,
                          @OL_I_ID;
                                        WHENEVER SQLERROR  CONTINUE;
                                        WHENEVER NOT FOUND CONTINUE;
            SET   @MATCH_TBL_CNT = @MATCH_TBL_CNT + 1;
            SET   @C_I_PRICEH     = CAST(@I_PRICEH AS CHAR(6) )          ;
            SET
                                 @I_NAMEH    | | @I_DATAH     | | SAPSTOP ;
      END LOOP INCNT;
-- LOOP END
L1:   IF  @MATCH_TBL_CNT <
          SET
      END IF;
      CLOSE  ITEM_H ;
--       (8) STOCK      table select
--       (9) STOCK      table update
                                        WHENEVER SQLERROR  GOTO ERR_S_ST;
                                        WHENEVER NOT FOUND GOTO ERR_S_ST;
      OPEN   CNSS_HOME   ;
                                        WHENEVER SQLERROR  CONTINUE;
                                        WHENEVER NOT FOUND CONTINUE;
-- LOOP
      SET   @STOCK_NUM = 0;
      OLCNT:LOOP
        IF  @STOCK_NUM =
              GOTO L3 ;
        END IF;

            -- (8) STOCK      table select
                                        WHENEVER SQLERROR  GOTO ERR_S_ST;
                                        WHENEVER NOT FOUND GOTO L3      ;
           FETCH  CNSS_HOME
                INTO @OL_I_ID,@S_QUANTITY,
                     @S_DIST_01,@S_DIST_02,@S_DIST_03,@S_DIST_04,@S_DIST_05,
                     @S_DIST_06,@S_DIST_07,@S_DIST_08,@S_DIST_09,@S_DIST_10,
                     @S_YTD,@S_ORDER_CNT,@S_REMOTE_CNT,@S_DATA;
                                        WHENEVER SQLERROR  CONTINUE;
                                        WHENEVER NOT FOUND CONTINUE;
            SET  @S_DIST_JOIN = @S_DIST_01
                            | | @S_DIST_02
                            | | @S_DIST_03
                            | | @S_DIST_04
                            | | @S_DIST_05
                            | | @S_DIST_06
                            | | @S_DIST_07
                            | | @S_DIST_08
                            | | @S_DIST_09
                            | | @S_DIST_10                            ;
          SET  @S_DIST = SUBSTRING(@S_DIST_JOIN FROM @DIST_POS FOR 24)
;

            SET @OL_QUANTITY   = CAST(SUBSTRING(
                           FROM 1+(@STOCK_NUM * 4) FOR 4)
                           AS SMALLINT )                ;
            SET @S_QUANTITY = (@S_QUANTITY - @OL_QUANTITY);
            IF  @S_QUANTITY < 10 THEN
                SET @S_QUANTITY = @S_QUANTITY + 91  ;
            END IF;

            SET @S_YTD        = @S_YTD + @OL_QUANTITY;
        SET @S_ORDER_CNT = @S_ORDER_CNT + 1;
        -- (9) STOCK     table update
                              WHENEVER SQLERROR  GOTO ERR_U_ST;
       UPDATE TPCC_SCHEMA.STOCK
            SET   S_QUANTITY   = @S_QUANTITY,
                 S_YTD         = @S_YTD,
                 S_ORDER_CNT  = @S_ORDER_CNT,
                 S_REMOTE_CNT = @S_REMOTE_CNT
            WHERE CURRENT OF CNSS_HOME ;
                                WHENEVER SQLERROR  CONTINUE;
        SET   @C_S_QUANTITY  = CAST(@S_QUANTITY AS
CHAR(6) )          ;
        SET
                             @S_DIST    | | @S_DATA       | | SAPSTOP ;
        SET @STOCK_NUM = @STOCK_NUM + 1;
     END LOOP OLCNT;
-- LOOP END
L3:   IF    @STOCK_NUM <>
       AND @STOCK_NUM <>
         GOTO ERR_S_ST_NF;
     END IF;
     CLOSE  CNSS_HOME   ;
-- Home Warehouse PROCESS END
     IF
       GOTO DISTRICT_PROC ;
     END IF;
REMORT_PROC:
-- Remote Warehouse process start
--  ([ÉÅè3êÄ¢éÈOÌ®ÌWarehouse)
-- LOOP
     SET   @MATCH_TBL_CNT = 0 ;
     SET   @STOCK_NUM     = 0 ;
     OLCNT_R:LOOP
R1:     IF  @STOCK_NUM =
         GOTO R3 ;
       END IF;
       SET  @OL_I_ID        = CAST(SUBSTRING(
                              FROM 1+(@STOCK_NUM * 7) FOR 7)
                          AS INTEGER )                      ;

       SET  @OL_SUPPLY_W_ID = CAST(SUBSTRING(
                              FROM 1+(@STOCK_NUM * 4) FOR 4)
                          AS SMALLINT )                     ;
       -- (7) ITEM      table select
                              WHENEVER SQLERROR  GOTO ERR_S_IT ;
                                WHENEVER NOT FOUND GOTO R2       ;
      SELECT I_PRICE,I_NAME,I_DATA
           INTO   @I_PRICEH,
                  @I_NAMEH ,
                  @I_DATAH
           FROM   TPCC_SCHEMA.ITEM
           WHERE  I_ID = @OL_I_ID ;
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
       SET   @MATCH_TBL_CNT = @MATCH_TBL_CNT + 1     ;
      SET   @C_I_PRICEH   = CAST(@I_PRICEH AS CHAR(6) )        ;
       SET
                          @I_NAMEH    | | @I_DATAH     | | SAPSTOP ;
       -- (8) STOCK     table select
                              WHENEVER SQLERROR  GOTO ERR_S_ST;
                                WHENEVER NOT FOUND GOTO
ERR_S_ST;
       SELECT  S_QUANTITY,
```

```
          S_DIST_01,S_DIST_02,S_DIST_03,S_DIST_04,S_DIST_05,
          S_DIST_06,S_DIST_07,S_DIST_08,S_DIST_09,S_DIST_10,
          S_YTD,S_ORDER_CNT,S_REMOTE_CNT,S_DATA
     INTO @S_QUANTITY,
         @S_DIST_01,@S_DIST_02,@S_DIST_03,@S_DIST_04,@S_DIST_05,
         @S_DIST_06,@S_DIST_07,@S_DIST_08,@S_DIST_09,@S_DIST_10,
         @S_YTD,@S_ORDER_CNT,@S_REMOTE_CNT,@S_DATA
     FROM  TPCC_SCHEMA.STOCK
     WHERE S_W_ID = @OL_SUPPLY_W_ID
      AND S_I_ID = @OL_I_ID  ;
                          WHENEVER SQLERROR  CONTINUE;
                          WHENEVER NOT FOUND CONTINUE;
      SET  @S_DIST_JOIN = @S_DIST_01
                     | | @S_DIST_02
                     | | @S_DIST_03
                     | | @S_DIST_04
                     | | @S_DIST_05
                     | | @S_DIST_06
                     | | @S_DIST_07
                     | | @S_DIST_08
                     | | @S_DIST_09
                     | | @S_DIST_10                             ;
     SET  @S_DIST = SUBSTRING(@S_DIST_JOIN FROM @DIST_POS FOR 24)
;

      SET  @OL_QUANTITY  = CAST(SUBSTRING(
                         FROM 1+((@STOCK_NUM+
                         AS SMALLINT )                       ;
      SET @S_QUANTITY = (@S_QUANTITY - @OL_QUANTITY);
      IF  @S_QUANTITY < 10 THEN
         SET @S_QUANTITY = @S_QUANTITY + 91   ;
      END IF;

      SET @S_YTD       = @S_YTD + @OL_QUANTITY;
      SET @S_ORDER_CNT = @S_ORDER_CNT + 1;
      IF  @OL_SUPPLY_W_ID <>
         SET @S_REMOTE_CNT = @S_REMOTE_CNT + 1;
         SET
      END IF;
    -- (9) STOCK     table update
                          WHENEVER SQLERROR  GOTO ERR_U_ST;
    UPDATE TPCC_SCHEMA.STOCK
      SET   S_QUANTITY   = @S_QUANTITY,
           S_YTD         = @S_YTD,
           S_ORDER_CNT  = @S_ORDER_CNT,
           S_REMOTE_CNT = @S_REMOTE_CNT
     WHERE   S_W_ID = @OL_SUPPLY_W_ID
      AND    S_I_ID = @OL_I_ID  ;
                          WHENEVER SQLERROR  CONTINUE;
    SET   @C_S_QUANTITY  = CAST(@S_QUANTITY AS CHAR(6) )          ;
    SET
                    @S_DIST    | | @S_DATA       | | SAPSTOP ;
R2:     SET @STOCK_NUM = @STOCK_NUM + 1 ;
    END LOOP OLCNT_R;
-- LOOP END
R3:
    IF  @MATCH_TBL_CNT <
      IF
        SET
      ELSE
        SET
      END IF;
    END IF;
```

```
-- Remote Warehouse process end
DISTRICT_PROC:
     -- (3) DISTRICT  table update
                              WHENEVER SQLERROR  GOTO ERR_U_DI;
                                 WHENEVER NOT FOUND GOTO
ERR_U_DI;
     UPDATE TPCC_SCHEMA.DISTRICT
            SET   D_NEXT_O_ID = D_NEXT_O_ID+1
            WHERE D_W_ID      =
              AND D_ID        =
                                 WHENEVER SQLERROR  CONTINUE;
                                 WHENEVER NOT FOUND CONTINUE;
    -- (2) DISTRICT  table select
     SELECT  D_NEXT_O_ID-1,D_TAX
            INTO
            FROM  TPCC_SCHEMA.DISTRICT
            WHERE D_W_ID =
              AND D_ID   =
     -- (6) ORDERS    table insert
                              WHENEVER SQLERROR  GOTO ERR_I_OR;
                                 WHENEVER NOT FOUND GOTO
ERR_I_OR;
     INSERT INTO TPCC_SCHEMA.ORDERS
            VALUES (





                   NULL,
                   @O_OL_CNT,

                                 WHENEVER SQLERROR  CONTINUE;
                                 WHENEVER NOT FOUND CONTINUE;
     -- (5) NEWORDER  table insert
                              WHENEVER SQLERROR  GOTO ERR_I_NO;
                                 WHENEVER NOT FOUND GOTO
ERR_I_NO;
     INSERT INTO TPCC_SCHEMA.NEWORDER
            VALUES (


                                 WHENEVER SQLERROR  CONTINUE;
                                 WHENEVER NOT FOUND CONTINUE;
     -- (1) WAREHOUSE table update
                                 WHENEVER SQLERROR  GOTO
ERR_S_WH;
     SELECT W_TAX
            INTO
            FROM  TPCC_SCHEMA.WAREHOUSE
            WHERE W_ID=
                                 WHENEVER SQLERROR  CONTINUE;
NORMAL_END:
     SET
     LEAVE NEWORDER ;
--SQLERR:NOT_FOUND:
ERR_I_OR:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_I_OL:
       SET
       SET
       LEAVE NEWORDER        ;
```

```
ERR_I_NO:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_IT:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_WH:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_DI:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_ST:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_ST_NF:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_S_CM:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_U_DI:
       SET
       SET
       LEAVE NEWORDER        ;
ERR_U_ST:
       SET
       SET
END NEWORDER
END-EXEC;
:::::::::::::
Y_NORDER5
:::::::::::::
--
--
--
--
--
--
--
--
--
--
-- ******************************************************************************
--
--  +-------------------------------------+
--  | sqllen        short                 |
--  +-sqlver------------------------------+  ---
--  |  S_QUANTITYn      CHAR(6)           |    |
--  +-------------------------------------+    |
--  |  S_DISTn          CHAR(24)          |    | ¿ÌgYí1ÅPTÂ
--  +-------------------------------------+    |
--  |  S_DATAn          CHAR(50)          |    |
--  +-------------------------------------+    |
--  | óÌTvXh~CHAR(1) “/”                  |    |
--  +-------------------------------------+  ---
```

```
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_NORDER5(OUT
                   INOUT
                   IN
                   IN
                   IN
                   INOUT
                   OUT
                   OUT
                   INOUT
                   IN
                   OUT
                   OUT
                   OUT
                   INOUT
                   IN
                   IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    IN
                    INOUT
                    INOUT
                    IN
                  )
NEWORDER:BEGIN
-- DECLARE
   DECLARE SQLSTATE          CHAR(5)        DEFAULT '00000';
   DECLARE SAPSTOP           CHAR(1)        DEFAULT '/';
   DECLARE @OL_I_ID          INTEGER;
   DECLARE @OL_SUPPLY_W_ID   SMALLINT;
   DECLARE @OL_QUANTITY      SMALLINT;
   DECLARE @S_QUANTITY       SMALLINT;
   DECLARE @I_PRICEH         SMALLINT;
   DECLARE @I_NAMEH          CHAR(24);
   DECLARE @I_DATAH          CHAR(50);
   DECLARE @S_DATA           CHAR(50);
   DECLARE @S_YTD            INTEGER;
   DECLARE @S_ORDER_CNT      SMALLINT;
   DECLARE @S_REMOTE_CNT     SMALLINT;
   DECLARE @D_NEXT_O_ID      INTEGER;
   DECLARE @OL_NUMBER        SMALLINT;
   DECLARE @STOCK_NUM        SMALLINT;
   DECLARE @MATCH_TBL_CNT    SMALLINT;
   DECLARE @S_DIST           CHAR(24);
   DECLARE @S_DIST_01        CHAR(24);
   DECLARE @S_DIST_02        CHAR(24);
   DECLARE @S_DIST_03        CHAR(24);
   DECLARE @S_DIST_04        CHAR(24);
   DECLARE @S_DIST_05        CHAR(24);
   DECLARE @S_DIST_06        CHAR(24);
   DECLARE @S_DIST_07        CHAR(24);
   DECLARE @S_DIST_08        CHAR(24);
   DECLARE @S_DIST_09        CHAR(24);
   DECLARE @S_DIST_10        CHAR(24);
   DECLARE @S_DIST_JOIN      CHAR(240)  ;
   DECLARE @C_OL_I_ID        CHAR(7)    ;
   DECLARE @C_I_PRICEH       CHAR(6)    ;
   DECLARE @C_S_QUANTITY     CHAR(6)    ;
   DECLARE @OL_AMOUNT        INTEGER    ;
   DECLARE @O_OL_CNT         SMALLINT   ;
   DECLARE @DIST_POS         SMALLINT   ;
   DECLARE @FILL_CNT         SMALLINT;
   DECLARE @TMP_CNT          SMALLINT;
-- (7) ITEM     table sele(IN)
   DECLARE ITEM_H CURSOR FOR
       SELECT I_PRICE,
          I_NAME,
          I_DATA,
          I_ID
       FROM   TPCC_SCHEMA.ITEM
       WHERE  TPCC_SCHEMA.ITEM.I_ID
                   IN(












-- (8) STOCK    table select
   DECLARE CNSS_HOME CURSOR FOR
       SELECT S_I_ID,S_QUANTITY,
          S_DIST_01,S_DIST_02,S_DIST_03,S_DIST_04,S_DIST_05,
          S_DIST_06,S_DIST_07,S_DIST_08,S_DIST_09,S_DIST_10,
          S_YTD,S_ORDER_CNT,S_REMOTE_CNT,S_DATA
         FROM  TPCC_SCHEMA.STOCK
         WHERE S_W_ID =
          AND S_I_ID  IN(















       ORDER BY S_I_ID DESC
```

```
            FOR UPDATE ;
      SET @DIST_POS     = 1+((
      SET @O_OL_CNT     =
      SET
      -- (4) CUSTOMER  table select
                              WHENEVER SQLERROR  GOTO ERR_S_CM;
                                WHENEVER NOT FOUND GOTO
ERR_S_CM;
      SELECT C_LAST,C_CREDIT,C_DISCOUNT
          INTO


          FROM  TPCC_SCHEMA.CUSTOMER
          WHERE C_W_ID =
           AND C_D_ID =
           AND C_ID   =
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
      IF
        GOTO REMORT_PROC ;
      END IF;
HOME_PROC:
-- Home Warehouse PROCESS START
--  ([ÉÅè3êÄ¢éWarehouse idÆ¯êÌàÌdYè)
      -- (7) ITEM       table select
                              WHENEVER SQLERROR  GOTO ERR_S_IT;
                             WHENEVER NOT FOUND GOTO ERR_S_IT;    ;
      OPEN  ITEM_H ;
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
-- LOOP
      SET   @MATCH_TBL_CNT = 0 ;
      INCNT:LOOP
                              WHENEVER SQLERROR  GOTO ERR_S_IT;
                                WHENEVER NOT FOUND GOTO L1;
         FETCH  ITEM_H
             INTO  @I_PRICEH,
                @I_NAMEH,
                @I_DATAH,
                @OL_I_ID;
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
         SET   @MATCH_TBL_CNT = @MATCH_TBL_CNT + 1;
        SET   @C_I_PRICEH    = CAST(@I_PRICEH AS CHAR(6) )
;
         SET
                           @I_NAMEH    | | @I_DATAH     | | SAPSTOP ;
      END LOOP INCNT;
-- LOOP END
L1:   IF  @MATCH_TBL_CNT <
        SET
        GOTO   NORMAL_END ;
      END IF;
      CLOSE  ITEM_H ;
--      (8) STOCK      table select
--      (9) STOCK      table update
                              WHENEVER SQLERROR  GOTO ERR_S_ST;
                             WHENEVER NOT FOUND GOTO ERR_S_ST;
      OPEN   CNSS_HOME   ;
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
-- LOOP
      SET   @STOCK_NUM = 0;
```

```
   OLCNT:LOOP
    IF  @STOCK_NUM =
       GOTO L3 ;
    END IF;

      -- (8) STOCK      table select
                    WHENEVER SQLERROR  GOTO ERR_S_ST;
                    WHENEVER NOT FOUND GOTO L3       ;
     FETCH  CNSS_HOME
        INTO @OL_I_ID,@S_QUANTITY,
           @S_DIST_01,@S_DIST_02,@S_DIST_03,@S_DIST_04,@S_DIST_05,
           @S_DIST_06,@S_DIST_07,@S_DIST_08,@S_DIST_09,@S_DIST_10,
           @S_YTD,@S_ORDER_CNT,@S_REMOTE_CNT,@S_DATA;
                    WHENEVER SQLERROR  CONTINUE;
                    WHENEVER NOT FOUND CONTINUE;
      SET  @S_DIST_JOIN = @S_DIST_01
                 | | @S_DIST_02
                 | | @S_DIST_03
                 | | @S_DIST_04
                 | | @S_DIST_05
                 | | @S_DIST_06
                 | | @S_DIST_07
                 | | @S_DIST_08
                 | | @S_DIST_09
                 | | @S_DIST_10                              ;
     SET  @S_DIST = SUBSTRING(@S_DIST_JOIN FROM @DIST_POS FOR 24)


      SET @OL_QUANTITY  = CAST(SUBSTRING(
                  FROM 1+(@STOCK_NUM * 4) FOR 4)
                  AS SMALLINT )                 ;
      SET @S_QUANTITY = (@S_QUANTITY - @OL_QUANTITY);
      IF  @S_QUANTITY < 10 THEN
        SET @S_QUANTITY = @S_QUANTITY + 91  ;
      END IF;

      SET @S_YTD        = @S_YTD + @OL_QUANTITY;
      SET @S_ORDER_CNT = @S_ORDER_CNT + 1;
      -- (9) STOCK      table update
                    WHENEVER SQLERROR  GOTO ERR_U_ST;
     UPDATE TPCC_SCHEMA.STOCK
        SET   S_QUANTITY    = @S_QUANTITY,
           S_YTD         = @S_YTD,
           S_ORDER_CNT  = @S_ORDER_CNT,
           S_REMOTE_CNT = @S_REMOTE_CNT
        WHERE CURRENT OF CNSS_HOME ;
                    WHENEVER SQLERROR  CONTINUE;
     SET   @C_S_QUANTITY  = CAST(@S_QUANTITY AS CHAR(6) )          ;
     SET
                 @S_DIST     | | @S_DATA       | | SAPSTOP ;
     SET @STOCK_NUM = @STOCK_NUM + 1;
   END LOOP OLCNT;
-- LOOP END
L3:   IF    @STOCK_NUM <>
        AND @STOCK_NUM <>
         GOTO ERR_S_ST_NF;
   END IF;
   CLOSE  CNSS_HOME   ;
-- ©EFAnEXÌACeG[Ì¿¯vCX[ÌGgdßé
-- LOOP
   SET   @FILL_CNT = 0 ;
   SET   @TMP_CNT  =
   FILLCNT:LOOP
```

```
        IF  @FILL_CNT = @TMP_CNT THEN
            GOTO L4 ;
        END IF;
        SET
                              ‘0     ‘| |
                              ‘12345678901234567890l234’  | |

‘1234567890123456789012345678901234567890l234567890’  | |
                              SAPSTOP ;
        SET
                              ‘123456’  | |
                              ‘12345678901234567890l234’  | |

‘1234567890123456789012345678901234567890l234567890’  | |
                              SAPSTOP ;
        SET @FILL_CNT = @FILL_CNT + 1;
      END LOOP FILLCNT;
-- LOOP END
-- Home Warehouse PROCESS END
L4:   IF
        GOTO DISTRICT_PROC ;
      END IF;
REMORT_PROC:
-- Remote Warehouse process start
--  ([ÉÅè3êÄ¢éÈOÌ®ÌWarehouse)
-- LOOP
      SET   @MATCH_TBL_CNT = 0 ;
      SET   @STOCK_NUM      = 0 ;
      OLCNT_R:LOOP
R1:     IF  @STOCK_NUM =
         GOTO R3 ;
        END IF;
        SET  @OL_I_ID         = CAST(SUBSTRING(
                                 FROM 1+(@STOCK_NUM * 7) FOR 7)
                              AS INTEGER )                        ;

        SET  @OL_SUPPLY_W_ID = CAST(SUBSTRING(
                                 FROM 1+(@STOCK_NUM * 4) FOR 4)
                              AS SMALLINT )                        ;
        -- (7) ITEM      table select
                                 WHENEVER SQLERROR  GOTO ERR_S_IT ;
                                   WHENEVER NOT FOUND GOTO R4       ;
       SELECT I_PRICE,I_NAME,I_DATA
            INTO   @I_PRICEH,
                   @I_NAMEH ,
                   @I_DATAH
            FROM   TPCC_SCHEMA.ITEM
            WHERE  I_ID = @OL_I_ID ;
                                   WHENEVER SQLERROR  CONTINUE;
                                   WHENEVER NOT FOUND CONTINUE;
        SET   @MATCH_TBL_CNT = @MATCH_TBL_CNT + 1     ;
       SET   @C_I_PRICEH    = CAST(@I_PRICEH AS CHAR(6) )         ;
        SET
                              @I_NAMEH    | | @I_DATAH    | | SAPSTOP ;
        -- (8) STOCK     table select
                                 WHENEVER SQLERROR  GOTO ERR_S_ST;
                                   WHENEVER NOT FOUND GOTO
ERR_S_ST;
        SELECT  S_QUANTITY,
                S_DIST_01,S_DIST_02,S_DIST_03,S_DIST_04,S_DIST_05,
                S_DIST_06,S_DIST_07,S_DIST_08,S_DIST_09,S_DIST_10,
                S_YTD,S_ORDER_CNT,S_REMOTE_CNT,S_DATA
          INTO @S_QUANTITY,
```

```
              @S_DIST_01,@S_DIST_02,@S_DIST_03,@S_DIST_04,@S_DIST_05,
              @S_DIST_06,@S_DIST_07,@S_DIST_08,@S_DIST_09,@S_DIST_10,
              @S_YTD,@S_ORDER_CNT,@S_REMOTE_CNT,@S_DATA
          FROM  TPCC_SCHEMA.STOCK
          WHERE S_W_ID = @OL_SUPPLY_W_ID
            AND S_I_ID = @OL_I_ID  ;
                                 WHENEVER SQLERROR  CONTINUE;
                                 WHENEVER NOT FOUND CONTINUE;
            SET  @S_DIST_JOIN = @S_DIST_01
                            | | @S_DIST_02
                            | | @S_DIST_03
                            | | @S_DIST_04
                            | | @S_DIST_05
                            | | @S_DIST_06
                            | | @S_DIST_07
                            | | @S_DIST_08
                            | | @S_DIST_09
                            | | @S_DIST_10                          ;
          SET  @S_DIST = SUBSTRING(@S_DIST_JOIN FROM @DIST_POS FOR 24)
;

            SET  @OL_QUANTITY  = CAST(SUBSTRING(
                              FROM 1+((@STOCK_NUM+
                              AS SMALLINT )                  ;
            SET @S_QUANTITY = (@S_QUANTITY - @OL_QUANTITY);
            IF  @S_QUANTITY < 10 THEN
               SET @S_QUANTITY = @S_QUANTITY + 91  ;
            END IF;

            SET @S_YTD       = @S_YTD + @OL_QUANTITY;
            SET @S_ORDER_CNT = @S_ORDER_CNT + 1;
            IF  @OL_SUPPLY_W_ID <>
               SET @S_REMOTE_CNT = @S_REMOTE_CNT + 1;
               SET
            END IF;
        -- (9) STOCK     table update
                                 WHENEVER SQLERROR  GOTO ERR_U_ST;
        UPDATE TPCC_SCHEMA.STOCK
            SET   S_QUANTITY   = @S_QUANTITY,
                  S_YTD        = @S_YTD,
                  S_ORDER_CNT  = @S_ORDER_CNT,
                  S_REMOTE_CNT = @S_REMOTE_CNT
          WHERE   S_W_ID = @OL_SUPPLY_W_ID
            AND   S_I_ID = @OL_I_ID  ;
                                 WHENEVER SQLERROR  CONTINUE;
        SET   @C_S_QUANTITY  = CAST(@S_QUANTITY AS CHAR(6) )          ;
        SET
                         @S_DIST    | | @S_DATA       | | SAPSTOP ;
R2:     SET @STOCK_NUM = @STOCK_NUM + 1 ;
     END LOOP OLCNT_R;
-- LOOP END
R3:
     IF  @MATCH_TBL_CNT <
       IF
         SET
       ELSE
         SET
       END IF;
     END IF;
-- Remote Warehouse process end
DISTRICT_PROC:
     -- (3) DISTRICT  table update
                                 WHENEVER SQLERROR  GOTO ERR_U_DI;
                              WHENEVER NOT FOUND GOTO
ERR_U_DI;
     UPDATE TPCC_SCHEMA.DISTRICT
           SET   D_NEXT_O_ID = D_NEXT_O_ID+1
           WHERE D_W_ID      =
             AND D_ID        =
                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
    -- (2) DISTRICT  table select
     SELECT  D_NEXT_O_ID-1,D_TAX
           INTO
           FROM  TPCC_SCHEMA.DISTRICT
           WHERE D_W_ID =
             AND D_ID   =
     -- (6) ORDERS    table insert
                           WHENEVER SQLERROR  GOTO ERR_I_OR;
                              WHENEVER NOT FOUND GOTO
ERR_I_OR;
     INSERT INTO TPCC_SCHEMA.ORDERS
           VALUES (




                 NULL,
                 @O_OL_CNT,

                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
     -- (5) NEWORDER  table insert
                           WHENEVER SQLERROR  GOTO ERR_I_NO;
                              WHENEVER NOT FOUND GOTO
ERR_I_NO;
     INSERT INTO TPCC_SCHEMA.NEWORDER
           VALUES (


                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
     -- (1) WAREHOUSE table update
                              WHENEVER SQLERROR  GOTO
ERR_S_WH;
     SELECT W_TAX
           INTO
           FROM  TPCC_SCHEMA.WAREHOUSE
           WHERE W_ID=
                              WHENEVER SQLERROR  CONTINUE;
NORMAL_END:
     SET
     LEAVE NEWORDER ;
-- ¿EFAnEXÌACeG[ÌáO
-- vCX[ÌGgdßé
R4:    SET
                        '0     ' | |
                        '12345678901234567890l234' | |

'12345678901234567890123456789012345678901234567890' | |
                        SAPSTOP ;
       SET
                        '123456' | |
                        '12345678901234567890l234' | |

'12345678901234567890123456789012345678901234567890' | |
```

```
                    SAPSTOP ;
     GOTO R2 ;
--SQLERR:NOT_FOUND:
ERR_I_OR:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_I_OL:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_I_NO:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_IT:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_WH:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_DI:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_ST:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_ST_NF:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_S_CM:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_U_DI:
      SET
      SET
      LEAVE NEWORDER       ;
ERR_U_ST:
      SET
      SET
END NEWORDER
END-EXEC;
::::::::::::::
Y_ODERSTAT
::::::::::::::
--
--
--
--
--
--
--
--
--
--
--  +--------------------------------------+
--  | sqllen        short                  |
 /** COPYRIGHT FUJITSU LIMITED 1997                     **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_ODERSTAT(OUT
                                    INOUT
                                    IN
                                    IN
                                    INOUT
                                    OUT
                                    OUT
                                    INOUT
                                    OUT
                                    INOUT
                                    OUT
                                    OUT
                                    INOUT
                                    INOUT
                                   )
ORDER_STATUS:BEGIN
-- DECLARE
      DECLARE SQLSTATE           CHAR(5)        DEFAULT '00000';
      DECLARE SAPSTOP            CHAR(1)        DEFAULT '/';
      DECLARE DELIVERY_D         CHAR(14)       DEFAULT
'777777777';
      DECLARE @OL_I_ID           INTEGER;
      DECLARE @OL_SUPPLY_W_ID    SMALLINT;
      DECLARE @OL_QUANTITY       SMALLINT;
      DECLARE @OL_AMOUNT         INTEGER;
      DECLARE @OL_DELIVERY_D     CHAR(14);
      DECLARE @OL_NUMBER         INTEGER;
      DECLARE @NAMECOUNT         INTEGER;
      DECLARE @J                 INTEGER;
      DECLARE @I                 INTEGER;
      DECLARE @WORK              VARCHAR(100);
-- DEFINE  CUSTOMER  table cursor
     DECLARE COCS  CURSOR FOR
             SELECT C_ID,
                    C_FIRST,
                    C_MIDDLE,
                    C_LAST,
                    C_BALANCE
                    FROM  TPCC_SCHEMA.CUSTOMER
                    WHERE C_LAST =
                      AND C_W_ID =
                      AND C_D_ID =
                    ORDER BY C_FIRST;
-- DEFINE  ORDERLINE table cursor
      DECLARE COOLS CURSOR FOR
              SELECT OL_I_ID,
                     OL_SUPPLY_W_ID,
                     OL_DELIVERY_D,
                     OL_QUANTITY,
                     OL_AMOUNT
                     FROM  TPCC_SCHEMA.ORDERLINE
                     WHERE OL_W_ID =
                       AND OL_D_ID =
                       AND OL_O_ID =
                       AND OL_NUMBER
IN(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15);
--$
--$                    WHERE OL_W_ID =
--$                      AND OL_D_ID =
--$                      AND OL_O_ID =
```

```
IF
    -- Customer Last Name Payment Transaction
    -- (1) CUSTOMER  table select
                              WHENEVER SQLERROR  GOTO ERR_S_CM;
                              WHENEVER NOT FOUND GOTO ERR_S_CM;
    SELECT COUNT(*)
           INTO  @NAMECOUNT
        FROM  TPCC_SCHEMA.CUSTOMER
        WHERE C_LAST =
          AND C_W_ID =
          AND C_D_ID =
                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
    IF @NAMECOUNT > 0 THEN
                              WHENEVER SQLERROR  GOTO ERR_S_CM;
                              WHENEVER NOT FOUND GOTO ERR_S_CM;
        OPEN  COCS;
                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
        SET   @J = @NAMECOUNT + 1;
        SET   @J = @J        / 2;
        SET   @I = 0            ;
        NAMECNT:LOOP
            IF  @I = @J THEN
                LEAVE NAMECNT ;
            END IF;
            SET   @I = @I + 1  ;
                              WHENEVER SQLERROR  GOTO ERR_S_CM;
                              WHENEVER NOT FOUND GOTO ERR_S_CM;
            FETCH  COCS
                   INTO





                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
        END LOOP NAMECNT;
        CLOSE COCS;
    ELSE
        GOTO ERR_S_CM_NAME ;
    END IF;
ELSE
    -- Customer id Payment Transaction
    -- (2) CUSTOMER  table select
                              WHENEVER SQLERROR  GOTO ERR_S_CM;
                              WHENEVER NOT FOUND GOTO ERR_S_CM;
    SELECT C_FIRST,C_MIDDLE,C_LAST,C_BALANCE
           INTO



           FROM  TPCC_SCHEMA.CUSTOMER
           WHERE C_ID    =
             AND C_D_ID =
             AND C_W_ID =
                              WHENEVER SQLERROR  CONTINUE;
                              WHENEVER NOT FOUND CONTINUE;
END IF;
-- (3) ORDER     table select get max o_id record
                              WHENEVER SQLERROR  GOTO ERR_S_OR;
                              WHENEVER NOT FOUND GOTO ERR_S_OR;
SELECT   O_ID,
        O_ENTRY_D,
        O_CARRIER_ID,
        O_OL_CNT
        INTO



        FROM  TPCC_SCHEMA.ORDERS
        WHERE O_ID   = (SELECT MAX(O_ID)
                     FROM  TPCC_SCHEMA.ORDERS
                     WHERE O_W_ID =
                      AND O_D_ID =
                      AND O_C_ID =
         AND O_W_ID =
         AND O_D_ID =
         AND O_C_ID =
                    WHENEVER SQLERROR  GOTO ERR_S_OL;
                      WHENEVER NOT FOUND GOTO
ERR_S_OL;
   OPEN     COOLS ;
                      WHENEVER SQLERROR  CONTINUE;
                      WHENEVER NOT FOUND CONTINUE;
-- LOOP
   SET   @OL_NUMBER = 1;
   OLCNT:LOOP
    IF
      LEAVE OLCNT ;
    END IF;
   -- (4) ORDER-LINE table select
                    WHENEVER SQLERROR  GOTO ERR_S_OL;
                      WHENEVER NOT FOUND GOTO
ERR_S_OL;
      FETCH  COOLS
           INTO  @OL_I_ID,
              @OL_SUPPLY_W_ID,
              @OL_DELIVERY_D,
              @OL_QUANTITY,
              @OL_AMOUNT;
                      WHENEVER SQLERROR  CONTINUE;
                      WHENEVER NOT FOUND CONTINUE;
      IF  @OL_DELIVERY_D IS NULL THEN
        SET @WORK    = CAST(@OL_I_ID        AS CHAR(7))
               | | CAST(@OL_AMOUNT      AS CHAR(8))
               | | CAST(@OL_SUPPLY_W_ID AS CHAR(4))
               | | CAST(@OL_QUANTITY    AS CHAR(4))
               | |          DELIVERY_D   | | SAPSTOP   ;
      ELSE
        SET @WORK    = CAST(@OL_I_ID        AS CHAR(7))
               | | CAST(@OL_AMOUNT      AS CHAR(8))
               | | CAST(@OL_SUPPLY_W_ID AS CHAR(4))
               | | CAST(@OL_QUANTITY    AS CHAR(4))
               | |      @OL_DELIVERY_D   | | SAPSTOP   ;
      END IF ;
      SET

      SET @OL_NUMBER  = @OL_NUMBER + 1;
   END LOOP OLCNT;
-- LOOP END
   CLOSE COOLS          ;
   COMMIT WORK          ;
   SET
   LEAVE ORDER_STATUS   ;
--SQLERR:NOT_FOUND:
```

```
ERR_S_CM_NAME:
   SET
   SET
   ROLLBACK WORK        ;
   LEAVE ORDER_STATUS   ;
ERR_S_CM:
   SET
   SET
   ROLLBACK WORK        ;
   LEAVE ORDER_STATUS   ;
ERR_S_OR:
   SET
   SET
   ROLLBACK WORK        ;
   LEAVE ORDER_STATUS   ;
ERR_S_OL:
   SET
   SET
   ROLLBACK WORK        ;
END ORDER_STATUS
END-EXEC;
::::::::::::::
Y_PAYMENT_cent
::::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_PAYMENT(OUT
                    INOUT
                    IN
                    IN
                    INOUT
                    IN
                    IN
                    IN
                    IN
                    INOUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    INOUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    INOUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    OUT
                    INOUT
                    OUT
                    OUT
                    INOUT
                    INOUT
                    INOUT
```

```
                  OUT
                  INOUT
                 )
PAYMENT:BEGIN
-- DECLARE
    DECLARE SQLSTATE          CHAR(5)         DEFAULT ‘00000’;
    DECLARE @CNT              INTEGER;
    DECLARE @NAMECOUNT        INTEGER;
    DECLARE @W_YTD            DECIMAL(12,0);  --98.11.06 À˚¿ô2¿
    DECLARE @D_YTD            DECIMAL(12,0);  --98.11.06 À˚¿ô2¿
    DECLARE @C_DATA474        CHAR(474);      --98.10.13 change
    DECLARE @H_DATA           CHAR(24);
    DECLARE @H_AMOUNT         DECIMAL(10,0);   --98.11.06
À˚¿ô2¿+oza
-- CUSTOMER ¥Æ¡¿¥Ö¥ë¤Î¥«¡¿¥¿¥ëÀë¸À
    DECLARE CPCS CURSOR FOR
        SELECT C_ID,
            C_FIRST,
            C_MIDDLE,
            C_LAST,
            C_STREET_1,
            C_STREET_2,
            C_CITY,
            C_STATE,
            C_ZIP,
            C_PHONE,
            C_SINCE,
            C_CREDIT,
            C_CREDIT_LIM,
            C_DISCOUNT,
            C_BALANCE,
            C_YTD_PAYMENT,
            C_PAYMENT_CNT
        FROM  TPCC_SCHEMA.CUSTOMER
        WHERE C_LAST =
         AND C_W_ID =
         AND C_D_ID =
        ORDER BY C_FIRST;
    IF
      -- Customer Last Name process
      -- (5) CUSTOMER   table select
                    WHENEVER SQLERROR  GOTO
ERR_S_CM;
                    WHENEVER NOT FOUND GOTO
ERR_S_CM;
      SELECT COUNT(*) INTO @NAMECOUNT
          FROM TPCC_SCHEMA.CUSTOMER
          WHERE C_LAST =
          AND C_W_ID =
          AND C_D_ID =
                    WHENEVER SQLERROR  CONTINUE;
                    WHENEVER NOT FOUND CONTINUE;
      -- (6) CUSTOMER ¥Æ¡¿¥Ö¥ë¡ÊÆp¶âÀè¡Ë¤«¤é¡¢
      -- Customer Last Name
¤¬1çÃx¤1¤ë¥ì¥3¡¿¥É¤òC_FIRST¤Î¿º¿ç¤ËÊ¬Îà¤·¡¢
      -- NAMECOUNT/£2 ·ïÌÜ¤Î¥ì¥3¡¿¥É¤Î¿dÊó¤òÃê¿D
      IF @NAMECOUNT > 0 THEN
        SET  @CNT       = @NAMECOUNT + 1;
        SET  @CNT       = @CNT       /  2;
        SET  @NAMECOUNT = @CNT           ;
                    WHENEVER SQLERROR  GOTO
ERR_S_CM;
```

```
                WHENEVER NOT FOUND GOTO ERR_S_CM;
    OPEN  CPCS;
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
    SET   @CNT    = 0 ;
    WHILE  @CNT < @NAMECOUNT DO
      SET  @CNT = @CNT + 1;
      -- (6) CUSTOMER  table
                WHENEVER SQLERROR  GOTO ERR_S_CM;
                WHENEVER NOT FOUND GOTO ERR_S_CM;
      FETCH CPCS
          INTO
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
    END WHILE;
    CLOSE CPCS;
  ELSE
     GOTO ERR_S_CM_NAME;
  END IF;
ELSE
  -- C-ID PROCESS
  -- (7) CUSTOMER  teble
                WHENEVER SQLERROR  GOTO ERR_S_CM;
                WHENEVER NOT FOUND GOTO ERR_S_CM;
  SELECT C_FIRST,
      C_MIDDLE,
      C_LAST,
      C_STREET_1,
      C_STREET_2,
      C_CITY,
      C_STATE,
      C_ZIP,
      C_PHONE,
      C_SINCE,
      C_CREDIT,
      C_CREDIT_LIM,
      C_DISCOUNT,
      C_BALANCE,
      C_YTD_PAYMENT,
      C_PAYMENT_CNT
   INTO
```

```
      FROM  TPCC_SCHEMA.CUSTOMER
      WHERE C_W_ID =
       AND C_D_ID =
       AND C_ID   =
                    WHENEVER SQLERROR  CONTINUE;
                    WHENEVER NOT FOUND CONTINUE;
    END IF;
--  ¿é»»¤¬¤|¤P¤¯¤¤¤«¤Ê¤¤¤¿¤á
    SET @H_AMOUNT =
    -- Customer Ì¤Ê§¤¤¶â3Û¡Ê
    -- Customer Æp¶â¶â3Û¤ÎÎßÀÑÃÍ¡Ê
    -- Customer Æp¶â2ó¿ô¤ÎÎßÀÑÃÍ¡Ê
    SET
    SET
    SET
    --(8) HISTORY teble insert
    IF
      --***************--
      -- Bad Customer
      --***************--
      -- (8)BC-1 CUSTOMER table select
                  WHENEVER SQLERROR  GOTO ERR_S_CM;
                    WHENEVER NOT FOUND GOTO
ERR_S_CM;
      SELECT C_DATA
          INTO  @C_DATA474
          FROM  TPCC_SCHEMA.CUSTOMER
          WHERE C_ID   =
           AND C_D_ID =
           AND C_W_ID =
                    WHENEVER SQLERROR  CONTINUE;
                    WHENEVER NOT FOUND CONTINUE;
      -- (8)BC-2 ¿·¤·¤¤c_data¿dÊó¤òºî¤ê¤À¤1.
      SET
               | | CAST(
               | | CAST(
               | | CAST(
               | | CAST(
               | | CAST(
               | | ‘  ‘
               | | @C_DATA474;
      -- (8) BC-3 CUSTOMER table update
                    WHENEVER SQLERROR  GOTO
ERR_U_CM;
                    WHENEVER NOT FOUND GOTO
ERR_U_CM;
      UPDATE    TPCC_SCHEMA.CUSTOMER
        SET   C_BALANCE     =
           C_YTD_PAYMENT =
           C_PAYMENT_CNT =
           C_DATA        =
        WHERE C_ID         =
         AND C_D_ID        =
         AND C_W_ID        =
```

```
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
ELSE
  --***************--
  -- Good Customer
  --***************--
  -- (8)GC-1 CUSTOMER table update
                WHENEVER SQLERROR  GOTO ERR_U_CM;
                WHENEVER NOT FOUND GOTO ERR_U_CM;
  UPDATE TPCC_SCHEMA.CUSTOMER
      SET   C_BALANCE     =
         C_YTD_PAYMENT =
         C_PAYMENT_CNT =
      WHERE C_ID   =
       AND C_D_ID =
       AND C_W_ID =
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
END IF;
-- (3) DISTRICT table select
                WHENEVER SQLERROR  GOTO ERR_S_DI;
                WHENEVER NOT FOUND GOTO ERR_S_DI;
SELECT   D_NAME,
     D_STREET_1,
     D_STREET_2,
     D_CITY,
     D_STATE,
     D_ZIP,
     D_YTD
  INTO
    @D_YTD
  FROM  TPCC_SCHEMA.DISTRICT
  WHERE D_ID   =
   AND D_W_ID =
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
-- (4) DISTRICT ¥Æ¡¿¥Ö¥ë¤ò11¿·¡ÊÆp¶â3ÛÎßÀÑÃÍ¥Õ¥£¡¿¥ë¥É¡Ë
SET     @D_YTD = @D_YTD + @H_AMOUNT;
                WHENEVER SQLERROR  GOTO ERR_U_DI;
                WHENEVER NOT FOUND GOTO ERR_U_DI;
UPDATE  TPCC_SCHEMA.DISTRICT
     SET   D_YTD  = @D_YTD
     WHERE D_ID   =
      AND D_W_ID =
                WHENEVER SQLERROR  CONTINUE;
                WHENEVER NOT FOUND CONTINUE;
-- (1) WAREHOUSE ¥Æ¡¿¥Ö¥ë¤Î¥«¡¿¥¿¥ëÀë¸À
                WHENEVER SQLERROR  GOTO ERR_S_WH;
SELECT  W_NAME,
    W_STREET_1,
    W_STREET_2,
    W_CITY,
    W_STATE,
    W_ZIP,
    W_YTD
 INTO
```

```
               @W_YTD
             FROM  TPCC_SCHEMA.WAREHOUSE
             WHERE W_ID =
                                    WHENEVER SQLERROR  CONTINUE;
         -- (2) WAREHOUSE
¥Æ¡¿¥Ö¥ë¤ò11¿·¡ÊÆp¶â3ÛÎßÀÑÃÍ¥Õ¥£¡¿¥ë¥É¡Ë
         SET     @W_YTD = @W_YTD + @H_AMOUNT;
                                    WHENEVER SQLERROR  GOTO
ERR_U_WH;
         UPDATE  TPCC_SCHEMA.WAREHOUSE
                 SET    W_YTD = @W_YTD
                 WHERE W_ID  =
                                    WHENEVER SQLERROR  CONTINUE;
         -- (9) HISTORY ¥Æ¡¿¥Ö¥ë¤ØÁPÆp¤1¤ë¥ì¥3¡¿¥É¡Ê
         --     HISTORY ¥Æ¡¿¥Ö¥ë¤Ë£¿¥ì¥3¡¿¥ÉÁPÆp
         SET    @H_DATA =
                                 WHENEVER SQLERROR  GOTO ERR_I_HI;
                                    WHENEVER NOT FOUND GOTO
ERR_I_HI;
         INSERT
               INTO   TPCC_SCHEMA.HISTORY
                      (H_C_ID,
                       H_C_D_ID,
                       H_C_W_ID,
                       H_D_ID,
                       H_W_ID,
                       H_DATE,
                       H_AMOUNT,
                       H_DATA)
               VALUES (







                       @H_DATA);
                                    WHENEVER SQLERROR  CONTINUE;
                                    WHENEVER NOT FOUND CONTINUE;
       COMMIT WORK          ;
       SET
       LEAVE PAYMENT        ;
--SQLERR:NOT_FOUND:
ERR_I_HI:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_S_WH:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_S_DI:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_S_CM_NAME:
         SET
```

```
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_S_CM:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_U_WH:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_U_DI:
         SET
         SET
         ROLLBACK WORK         ;
         LEAVE PAYMENT         ;
ERR_U_CM:
         SET
         SET
         ROLLBACK WORK         ;
END PAYMENT
END-EXEC;
::::::::::::::
Y_PAYMENT_cent.h10.out.4
::::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_PAYMENT_H10_OUT4(OUT
                                        INOUT
                                        IN
                                        IN
                                        INOUT
                                        IN
                                        IN
                                        IN
                                        IN
                                        INOUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        INOUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        INOUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        OUT
                                        INOUT
                                        OUT
                                        OUT
```

```
                                    OUT
                                    OUT
                                    INOUT
                                    OUT
                                    INOUT
                                   )
PAYMENT:BEGIN
-- DECLARE
            DECLARE @C_BALANCE        DECIMAL(12,0); --98.11.06
À˚¿ô2¿+oza
        DECLARE @C_YTD_PAYMENT    DECIMAL(12,0); --98.11.06
À˚¿ô2¿+oza
--              DECLARE @C_DATA           VARCHAR(500);  --98.11.06
À˚¿ô2¿+oza
        DECLARE SQLSTATE          CHAR(5)         DEFAULT ‘00000’;
        DECLARE @CNT              INTEGER;
        DECLARE @NAMECOUNT        INTEGER;
        DECLARE @W_YTD            DECIMAL(12,0);  --98.11.06 À˚¿ô2¿
        DECLARE @D_YTD            DECIMAL(12,0);  --98.11.06 À˚¿ô2¿
        DECLARE @C_DATA474        CHAR(474);      --98.10.13 change
        DECLARE @H_DATA           CHAR(24);
        DECLARE @H_AMOUNT         DECIMAL(10,0);   --98.11.06
À˚¿ô2¿+oza
-- CUSTOMER ¥Æ¡¿¥Ö¥ë¤Î¥«¡¿¥¿¥ëÀë¸À
        DECLARE CPCS CURSOR FOR
                SELECT C_ID,
                       C_FIRST,
                       C_MIDDLE,
                       C_LAST,
                       C_STREET_1,
                       C_STREET_2,
                       C_CITY,
                       C_STATE,
                       C_ZIP,
                       C_PHONE,
                       C_SINCE,
                       C_CREDIT,
                       C_CREDIT_LIM,
                       C_DISCOUNT,
                       C_BALANCE,
                       C_YTD_PAYMENT,
                       C_PAYMENT_CNT
                FROM  TPCC_SCHEMA.CUSTOMER
                WHERE C_LAST =
                  AND C_W_ID =
                  AND C_D_ID =
                ORDER BY C_FIRST;
        IF
            -- Customer Last Name process
            -- (5) CUSTOMER   table select
                                   WHENEVER SQLERROR  GOTO ERR_S_CM;
                                        WHENEVER NOT FOUND GOTO
ERR_S_CM;
            SELECT COUNT(*) INTO @NAMECOUNT
                    FROM TPCC_SCHEMA.CUSTOMER
                    WHERE C_LAST =
                    AND C_W_ID =
                    AND C_D_ID =
                                        WHENEVER SQLERROR  CONTINUE;
                                        WHENEVER NOT FOUND CONTINUE;
            -- (6) CUSTOMER ¥Æ¡¿¥Ö¥ë¡ÊÆp¶âÀè¡Ë¤«¤é¡¢
            -- Customer Last Name
¤¬1çÃx¤1¤ë¥ì¥3¡¿¥É¤òC_FIRST¤Î¿º¿ç¤ËÊ¬Îà¤·¡¢
```

```
    -- NAMECOUNT / £2 ·ïÌÜ¤Î¥ì¥3¡¿¥É¤Î¿dÊó¤òÃê¿D
    IF @NAMECOUNT > 0 THEN
        SET  @CNT       = @NAMECOUNT + 1;
        SET  @CNT       = @CNT       /  2;
        SET  @NAMECOUNT = @CNT          ;
                                WHENEVER SQLERROR  GOTO ERR_S_CM;
                                WHENEVER NOT FOUND GOTO ERR_S_CM;
        OPEN  CPCS;
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
        SET   @CNT   = 0 ;
        WHILE  @CNT < @NAMECOUNT DO
            SET  @CNT = @CNT + 1;
            -- (6) CUSTOMER  table
                                WHENEVER SQLERROR  GOTO ERR_S_CM;
                                WHENEVER NOT FOUND GOTO ERR_S_CM;
            FETCH CPCS
                 INTO












                      @C_BALANCE,
                      @C_YTD_PAYMENT,

                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
        END WHILE;
        CLOSE CPCS;
    ELSE
         GOTO ERR_S_CM_NAME;
    END IF;
ELSE
    -- C-ID PROCESS
    -- (7) CUSTOMER  teble
                                WHENEVER SQLERROR  GOTO ERR_S_CM;
                                WHENEVER NOT FOUND GOTO ERR_S_CM;
    SELECT C_FIRST,
           C_MIDDLE,
           C_LAST,
           C_STREET_1,
           C_STREET_2,
           C_CITY,
           C_STATE,
           C_ZIP,
           C_PHONE,
           C_SINCE,
           C_CREDIT,
           C_CREDIT_LIM,
           C_DISCOUNT,
           C_BALANCE,
           C_YTD_PAYMENT,
           C_PAYMENT_CNT
     INTO
```

```
                @C_BALANCE,
                @C_YTD_PAYMENT,

             FROM  TPCC_SCHEMA.CUSTOMER
             WHERE C_W_ID =
               AND C_D_ID =
               AND C_ID    =
                                    WHENEVER SQLERROR  CONTINUE;
                                    WHENEVER NOT FOUND CONTINUE;
        END IF;
--      ¿é»»¤¬¤|¤P¤¯¤¤¤«¤Ê¤¤¤¿¤á
        SET @H_AMOUNT =
        -- Customer Ì¤Ê§¤¤¶â3Û¡Ê
        -- Customer Æp¶â¶â3Û¤ÎÎßÀÑÃÍ¡Ê
        -- Customer Æp¶â2ó¿ô¤ÎÎßÀÑÃÍ¡Ê
        SET @C_BALANCE      = @C_BALANCE     - @H_AMOUNT ;
        SET @C_YTD_PAYMENT = @C_YTD_PAYMENT +
@H_AMOUNT ;
        SET
        --(8) HISTORY teble insert
        IF
            --***************--
            -- Bad Customer
            --***************--
            -- (8)BC-1 CUSTOMER table select
                                    WHENEVER SQLERROR  GOTO
ERR_S_CM;
                                    WHENEVER NOT FOUND GOTO
ERR_S_CM;
            SELECT C_DATA
                    INTO  @C_DATA474
                    FROM  TPCC_SCHEMA.CUSTOMER
                    WHERE C_ID    =
                      AND C_D_ID =
                      AND C_W_ID =
                                    WHENEVER SQLERROR  CONTINUE;
                                    WHENEVER NOT FOUND CONTINUE;
            -- (8)BC-2 ¿·¤·¤¤c_data¿dÊó¤òºî¤ê¤À¤1.
            SET
                            | | CAST(
                            | | CAST(
                            | | CAST(
                            | | CAST(
                            | | CAST(
                            | | ‘  ‘
                            | | @C_DATA474;
            -- (8) BC-3 CUSTOMER table update
                                    WHENEVER SQLERROR  GOTO
ERR_U_CM;
                                    WHENEVER NOT FOUND GOTO
ERR_U_CM;
```

```
    UPDATE    TPCC_SCHEMA.CUSTOMER
        SET   C_BALANCE      = @C_BALANCE,
              C_YTD_PAYMENT = @C_YTD_PAYMENT,
              C_PAYMENT_CNT =
              C_DATA         =
        WHERE C_ID           =
          AND C_D_ID         =
          AND C_W_ID         =
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
ELSE
    --***************--
    -- Good Customer
    --***************--
    -- (8)GC-1 CUSTOMER table update
                                WHENEVER SQLERROR  GOTO ERR_U_CM;
                                WHENEVER NOT FOUND GOTO ERR_U_CM;
    UPDATE TPCC_SCHEMA.CUSTOMER
            SET   C_BALANCE      = @C_BALANCE,
                  C_YTD_PAYMENT = @C_YTD_PAYMENT,
                  C_PAYMENT_CNT =
            WHERE C_ID   =
              AND C_D_ID =
              AND C_W_ID =
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
END IF;
-- (3) DISTRICT table select
                                WHENEVER SQLERROR  GOTO ERR_S_DI;
                                WHENEVER NOT FOUND GOTO ERR_S_DI;
SELECT    D_NAME,
          D_STREET_1,
          D_STREET_2,
          D_CITY,
          D_STATE,
          D_ZIP,
          D_YTD
   INTO




         @D_YTD
   FROM  TPCC_SCHEMA.DISTRICT
   WHERE D_ID    =
     AND D_W_ID =
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
-- (4) DISTRICT ¥Æ¡¿¥Ö¥ë¤ò11¿·¡ÊÆp¶â3ÛÎßÀÑÃÍ¥Õ¥£¡¿¥ë¥É¡Ë
SET     @D_YTD = @D_YTD + @H_AMOUNT;
                                WHENEVER SQLERROR  GOTO ERR_U_DI;
                                WHENEVER NOT FOUND GOTO ERR_U_DI;
UPDATE  TPCC_SCHEMA.DISTRICT
         SET   D_YTD  = @D_YTD
         WHERE D_ID    =
           AND D_W_ID =
                                WHENEVER SQLERROR  CONTINUE;
                                WHENEVER NOT FOUND CONTINUE;
-- (1) WAREHOUSE ¥Æ¡¿¥Ö¥ë¤Î¥«¡¿¥¿¥ëÀë¸À
                                WHENEVER SQLERROR  GOTO ERR_S_WH;
SELECT  W_NAME,
        W_STREET_1,
            W_STREET_2,
            W_CITY,
            W_STATE,
            W_ZIP,
            W_YTD
         INTO





           @W_YTD
         FROM  TPCC_SCHEMA.WAREHOUSE
         WHERE W_ID =
                            WHENEVER SQLERROR  CONTINUE;
        -- (2) WAREHOUSE
¥Æ¡¿¥Ö¥ë¤ò11¿·¡ÊÆp¶â3ÛÎßÀÑÃÍ¥Õ¥£¡¿¥ë¥É¡Ë
        SET     @W_YTD = @W_YTD + @H_AMOUNT;
                            WHENEVER SQLERROR  GOTO
ERR_U_WH;
        UPDATE  TPCC_SCHEMA.WAREHOUSE
            SET   W_YTD = @W_YTD
            WHERE W_ID  =
                            WHENEVER SQLERROR  CONTINUE;
        -- (9) HISTORY ¥Æ¡¿¥Ö¥ë¤ØÁPÆp¤1¤ë¥ì¥3¡¿¥É¡Ê
        --     HISTORY ¥Æ¡¿¥Ö¥ë¤Ë£¿¥ì¥3¡¿¥ÉÁPÆp
        SET    @H_DATA =
                           WHENEVER SQLERROR  GOTO ERR_I_HI;
                          WHENEVER NOT FOUND GOTO ERR_I_HI;
        INSERT
           INTO   TPCC_SCHEMA.HISTORY
               (H_C_ID,
                H_C_D_ID,
                H_C_W_ID,
                H_D_ID,
                H_W_ID,
                H_DATE,
                H_AMOUNT,
                H_DATA)
           VALUES (






               @H_DATA);
                            WHENEVER SQLERROR  CONTINUE;
                            WHENEVER NOT FOUND CONTINUE;
         SET
         SET
--       SET
       COMMIT WORK          ;
       SET
       LEAVE PAYMENT        ;
--SQLERR:NOT_FOUND:
ERR_I_HI:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_S_WH:
        SET
```

```
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_S_DI:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_S_CM_NAME:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_S_CM:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_U_WH:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_U_DI:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE PAYMENT         ;
ERR_U_CM:
        SET
        SET
        ROLLBACK WORK         ;
END PAYMENT
END-EXEC;
::::::::::::::
Y_STOCKLV
::::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

EXEC SQL
CREATE PROCEDURE TPCC_SCHEMA.Y_STOCKLV(OUT
                                       INOUT
                                       IN
                                       IN
                                       IN
                                       INOUT
STOCK_LEVEL:BEGIN
-- DECLARE
        DECLARE SQLSTATE          CHAR(5)          DEFAULT '00000';
        DECLARE @O_ID             INTEGER;
        DECLARE @TMP_O_ID         INTEGER;
        DECLARE @T02        INTEGER;
        DECLARE @T03        INTEGER;
        DECLARE @T04        INTEGER;
        DECLARE @T05        INTEGER;
        DECLARE @T06        INTEGER;
        DECLARE @T07        INTEGER;
        DECLARE @T08        INTEGER;
        DECLARE @T09        INTEGER;
        DECLARE @T10        INTEGER;
        DECLARE @T11        INTEGER;
        DECLARE @T12        INTEGER;
        DECLARE @T13        INTEGER;
        DECLARE @T14        INTEGER;
        DECLARE @T15        INTEGER;
        DECLARE @T16        INTEGER;
        DECLARE @T17        INTEGER;
        DECLARE @T18        INTEGER;
        DECLARE @T19        INTEGER;
-- (1) DISTRICT   teble select
                                WHENEVER SQLERROR  GOTO ERR_S_DI;
                                    WHENEVER NOT FOUND GOTO
ERR_S_DI;
        SELECT D_NEXT_O_ID
                INTO @O_ID
                FROM TPCC_SCHEMA.DISTRICT
                WHERE D_W_ID =
                  AND D_ID    =
                                    WHENEVER SQLERROR  CONTINUE;
                                    WHENEVER NOT FOUND CONTINUE;
-- (2) ORDERLINE  teble select
-- (3) STOCK       teble select and count ITEM
        SET
        SET    @TMP_O_ID  = @O_ID - 20;
        SET    @O_ID       = @O_ID - 1 ;
        SET    @T19      = @O_ID - 1 ;
        SET    @T18      = @T19 - 1 ;
        SET    @T17      = @T18 - 1 ;
        SET    @T16      = @T17 - 1 ;
        SET    @T15      = @T16 - 1 ;
        SET    @T14      = @T15 - 1 ;
        SET    @T13      = @T14 - 1 ;
        SET    @T12      = @T13 - 1 ;
        SET    @T11      = @T12 - 1 ;
        SET    @T10      = @T11 - 1 ;
        SET    @T09      = @T10 - 1 ;
        SET    @T08      = @T09 - 1 ;
        SET    @T07      = @T08 - 1 ;
        SET    @T06      = @T07 - 1 ;
        SET    @T05      = @T06 - 1 ;
        SET    @T04      = @T05 - 1 ;
        SET    @T03      = @T04 - 1 ;
        SET    @T02      = @T03 - 1 ;
                                    WHENEVER SQLERROR  GOTO
ERR_S_STOL;
                                    WHENEVER NOT FOUND GOTO
ERR_S_STOL;
        SELECT COUNT(DISTINCT S_I_ID)
                INTO
                FROM  TPCC_SCHEMA.ORDERLINE,
                      TPCC_SCHEMA.STOCK
                WHERE OL_W_ID    =
                  AND OL_D_ID    =
                  AND OL_O_ID
                      IN(@TMP_O_ID,

@T02,@T03,@T04,@T05,@T06,@T07,@T08,@T09,@T10,
                         @T11,@T12,@T13,@T14,@T15,@T16,@T17,@T18,@T19,
                         @O_ID )
                  AND OL_NUMBER IN(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15)
--$
--$               AND OL_O_ID
--$                         BETWEEN @TMP_O_ID
--$                             AND @O_ID
                  AND S_I_ID     = OL_I_ID
                  AND S_W_ID     =
```

```
                  AND S_QUANTITY <
                                    WHENEVER SQLERROR  CONTINUE;
                                    WHENEVER NOT FOUND CONTINUE;
        COMMIT WORK         ;
        SET
        LEAVE STOCK_LEVEL    ;
--SQLERR:NOT_FOUND
ERR_S_DI:
        SET
        SET
        ROLLBACK WORK         ;
        LEAVE STOCK_LEVEL     ;
ERR_S_STOL:
        SET
        SET
        ROLLBACK WORK         ;

END STOCK_LEVEL
END-EXEC;
*** Y_stored.PS: directory ***
::::::::::::::
Y_stored_cent.sh
::::::::::::::
 set -x
rdbddlex -d TPCC  -x Y_NORDER
rdbddlex -d TPCC  -x Y_NORDER5
rdbddlex -d TPCC  -x Y_PAYMENT_cent
rdbddlex -d TPCC  -x Y_ODERSTAT
rdbddlex -d TPCC  -x Y_DELIVERY
rdbddlex -d TPCC  -x Y_STOCKLV

::::::::::::::
Y_stored_cent.sh.h10.out4
::::::::::::::
 set -x
rdbddlex -d TPCC  -x Y_PAYMENT_cent.h10.out.4
rdbrcp

::::::::::::::
crta.def.cent
::::::::::::::
--
--
--
--
--
--
--
--
--
--
--
--
CREATE SCHEMA TPCC_SCHEMA
--
--
--
CREATE TABLE TPCC_SCHEMA.WAREHOUSE(
        W_ID        SMALLINTNOT NULL,
        W_NAME CHAR(10)NOT NULL,
        W_STREET_1CHAR(20)NOT NULL,
        W_STREET_2CHAR(20)NOT NULL,
        W_CITY    CHAR(20)NOT NULL,
        W_STATE  CHAR(2)    NOT NULL,
        W_ZIP       CHAR(9)    NOT NULL,
--      W_TAX       DECIMAL(4,4)NOT NULL,‘96/04/18 ÊÑ11
        W_TAX       SMALLINTNOT NULL,
--      W_YTD       DECIMAL(12,2) NOT NULL, ‘98/11/24 ÊÑ11
        W_YTD       DECIMAL(12,0) NOT NULL,
        PRIMARY KEY(W_ID)
)
CREATE TABLE TPCC_SCHEMA.DISTRICT(
        D_ID        SMALLINTNOT NULL,
        D_W_ID      SMALLINTNOT NULL,
        D_NAME      CHAR(10)NOT NULL,
        D_STREET_1CHAR(20)NOT NULL,
        D_STREET_2CHAR(20)NOT NULL,
        D_CITY      CHAR(20)NOT NULL,
        D_STATE     CHAR(2)    NOT NULL,
        D_ZIP       CHAR(9)    NOT NULL,
--      D_TAX       DECIMAL(4,4)NOT NULL,‘96/04/18 ÊÑ11
        D_TAX       SMALLINTNOT NULL,
--      D_YTD       DECIMAL(12,2)NOT NULL,‘98/11/24 ÊÑ11
        D_YTD       DECIMAL(12,0)NOT NULL,
        D_NEXT_O_IDINTEGERNOT NULL,
        PRIMARY KEY(D_W_ID,D_ID)
)
CREATE TABLE TPCC_SCHEMA.CUSTOMER(
--      C_ID        SMALLINTNOT NULL,‘96/10/18 ÊÑ11
        C_ID        INTEGER    NOT NULL,
        C_D_ID      SMALLINTNOT NULL,
        C_W_ID      SMALLINTNOT NULL,
        C_FIRST     CHAR(16)NOT NULL,
        C_MIDDLECHAR(2)NOT NULL,
        C_LAST      CHAR(16)NOT NULL,
        C_STREET_1CHAR(20)NOT NULL,
        C_STREET_2CHAR(20)NOT NULL,
        C_CITY      CHAR(20)NOT NULL,
        C_STATE     CHAR(2)    NOT NULL,
        C_ZIP       CHAR(9)    NOT NULL,
        C_PHONECHAR(16)NOT NULL,
--      C_SINCE     DECIMAL(14)NOT NULL,‘96/04/18 ÊÑ11
        C_SINCE     CHAR(14)NOT NULL,
        C_CREDITCHAR(2)NOT NULL,
--      C_CREDIT_LIMDECIMAL(12,2)NOT NULL,‘98/11/24 ÊÑ11
        C_CREDIT_LIMDECIMAL(12,0)NOT NULL,
--      C_DISCOUNTDECIMAL(4,4)NOT NULL,‘96/04/18 ÊÑ11
        C_DISCOUNTSMALLINTNOT NULL,
--      C_BALANCEDECIMAL(12,2)NOT NULL,     ‘98/11/24 ÊÑ11
        C_BALANCEDECIMAL(12,0)NOT NULL,
--      C_YTD_PAYMENTDECIMAL(12,2)NOT NULL,‘98/11/24 ÊÑ11
        C_YTD_PAYMENTDECIMAL(12,0)NOT NULL,
        C_PAYMENT_CNTSMALLINTNOT NULL,
        C_DELIVERY_CNTSMALLINTNOT NULL,
        C_DATA      CHAR(500)NOT NULL,
        PRIMARY KEY(C_W_ID, C_D_ID, C_ID)
)
CREATE TABLE TPCC_SCHEMA.ITEM(
        I_ID        INTEGER    NOT NULL,
        I_IM_ID     INTEGER    NOT NULL,
        I_NAME      CHAR(24)NOT NULL,
--      I_PRICE     DECIMAL(5,2)NOT NULL,‘96/04/18 ÊÑ11
        I_PRICE     SMALLINTNOT NULL,
        I_DATA      CHAR(50)NOT NULL,
        PRIMARY KEY(I_ID)
)
CREATE TABLE TPCC_SCHEMA.STOCK(
```

```
        S_I_ID      INTEGER    NOT NULL,
        S_W_ID      SMALLINTNOT NULL,
        S_QUANTITYSMALLINTNOT NULL,
        S_DIST_01CHAR(24)NOT NULL,
        S_DIST_02CHAR(24)NOT NULL,
        S_DIST_03CHAR(24)NOT NULL,
        S_DIST_04CHAR(24)NOT NULL,
        S_DIST_05CHAR(24)NOT NULL,
        S_DIST_06CHAR(24)NOT NULL,
        S_DIST_07CHAR(24)NOT NULL,
        S_DIST_08CHAR(24)NOT NULL,
        S_DIST_09CHAR(24)NOT NULL,
        S_DIST_10CHAR(24)NOT NULL,
        S_YTD       INTEGER    NOT NULL,
        S_ORDER_CNTSMALLINTNOT NULL,
        S_REMOTE_CNTSMALLINTNOT NULL,
        S_DATA      CHAR(50)NOT NULL,
        PRIMARY KEY(S_W_ID, S_I_ID)
)
CREATE TABLE TPCC_SCHEMA.NEWORDER(
        NO_O_ID INTEGER    NOT NULL,
        NO_D_ID SMALLINTNOT NULL,
        NO_W_ID SMALLINTNOT NULL,
        PRIMARY KEY(NO_W_ID, NO_D_ID, NO_O_ID)
)
CREATE TABLE TPCC_SCHEMA.ORDERS(
        O_ID        INTEGER    NOT NULL,
        O_D_ID      SMALLINTNOT NULL,
        O_W_ID      SMALLINTNOT NULL,
--      O_C_ID      SMALLINTNOT NULL,‘96/10/18 ÊÑ11
        O_C_ID      INTEGER    NOT NULL,
--      O_ENTRY_DDECIMAL(14)NOT NULL,‘96/04/18 ÊÑ11
        O_ENTRY_DCHAR(14)NOT NULL,
        O_CARRIER_IDSMALLINT,
        O_OL_CNTSMALLINTNOT NULL,
        O_ALL_LOCALSMALLINTNOT NULL,
        PRIMARY KEY(O_W_ID, O_D_ID, O_ID)
)
CREATE TABLE TPCC_SCHEMA.ORDERLINE(
        OL_O_ID INTEGER    NOT NULL,
        OL_D_ID SMALLINTNOT NULL,
        OL_W_ID SMALLINTNOT NULL,
        OL_NUMBERSMALLINTNOT NULL,
        OL_I_ID     INTEGER    NOT NULL,
        OL_SUPPLY_W_IDSMALLINTNOT NULL,
--      OL_DELIVERY_DDECIMAL(14),‘96/04/18 ÊÑ11
        OL_DELIVERY_DCHAR(14),
        OL_QUANTITYSMALLINTNOT NULL,
--      OL_AMOUNTDECIMAL(6,2)NOT NULL,‘96/04/18 ÊÑ11
        OL_AMOUNTINTEGERNOT NULL,
        OL_DIST_INFOCHAR(24)NOT NULL,
--      PRIMARY KEY(OL_W_ID, OL_D_ID, OL_O_ID, OL_NUMBER)
        PRIMARY KEY(OL_W_ID, OL_D_ID, OL_NUMBER, OL_O_ID )
)
CREATE TABLE TPCC_SCHEMA.HISTORY(
--      H_C_ID      SMALLINTNOT NULL,‘96/10/18 ÊÑ11
        H_C_ID      INTEGER    NOT NULL,
        H_C_D_IDSMALLINTNOT NULL,
        H_C_W_IDSMALLINTNOT NULL,
        H_D_ID      SMALLINTNOT NULL,
        H_W_ID      SMALLINTNOT NULL,
--      H_DATE      DECIMAL(14)NOT NULL,‘96/04/27 ÊÑ11
        H_DATE      CHAR(14)NOT NULL,
--      H_AMOUNTDECIMAL(6,2)NOT NULL,‘96/04/18 ÊÑ11
        H_AMOUNTINTEGER NOT NULL,
        H_DATA   CHAR(24)NOT NULL
)
::::::::::::::
ddl.dat.CI
::::::::::::::
------------------------------------------------------------------------------
-- * Phase.2-3b: Customer-Index
------------------------------------------------------------------------------
        CREATE DSO CUSTOMER_IX_DSO
                INDEX ON
TPCC_SCHEMA.CUSTOMER(C_W_ID,C_D_ID,C_LAST)
                TYPE BTREE(PAGESIZE1(16),PAGESIZE2(32));
        CREATE DSI CUSTOMER_X_1DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_1_DSI
                ALLOCATE INDEX    ON SP1 SIZE 224K,
                        BASE      ON SP1 SIZE 8416K
                                          SP2 SIZE 8400K;
        CREATE DSI CUSTOMER_X_2DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_2_DSI
                ALLOCATE INDEX    ON SP3 SIZE 224K,
                        BASE      ON SP3 SIZE 8416K
                                          SP4 SIZE 8400K;
        CREATE DSI CUSTOMER_X_3DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_3_DSI
                ALLOCATE INDEX    ON SP5 SIZE 224K,
                        BASE      ON SP5 SIZE 8416K
                                          SP6 SIZE 8400K;
        CREATE DSI CUSTOMER_X_4DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_4_DSI
                ALLOCATE INDEX    ON SP7 SIZE 224K,
                        BASE      ON SP7 SIZE 8416K
                                          SP8 SIZE 8400K;
        CREATE DSI CUSTOMER_X_5DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_5_DSI
                ALLOCATE INDEX    ON SP9 SIZE 224K,
                        BASE      ON SP9 SIZE 8416K
                                          SP10 SIZE 8400K;
        CREATE DSI CUSTOMER_X_6DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_6_DSI
                ALLOCATE INDEX    ON SP11 SIZE 224K,
                        BASE      ON SP11 SIZE 8416K
                                          SP12 SIZE 8400K;
        CREATE DSI CUSTOMER_X_7DSI
                INDEX
                DSO CUSTOMER_IX_DSO
                BASE CUSTOMER_7_DSI
                ALLOCATE INDEX    ON SP13 SIZE 224K,
                        BASE      ON SP13 SIZE 8416K
                                          SP14 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_8DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_8_DSI
        ALLOCATE INDEX    ON SP15 SIZE 224K,
                BASE      ON SP15 SIZE 8416K
                                  SP16 SIZE 8400K;
CREATE DSI CUSTOMER_X_9DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_9_DSI
        ALLOCATE INDEX    ON SP17 SIZE 224K,
                BASE      ON SP17 SIZE 8416K
                                  SP18 SIZE 8400K;
CREATE DSI CUSTOMER_X_10DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_10_DSI
        ALLOCATE INDEX    ON SP19 SIZE 224K,
                BASE      ON SP19 SIZE 8416K
                                  SP20 SIZE 8400K;
CREATE DSI CUSTOMER_X_11DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_11_DSI
        ALLOCATE INDEX    ON SP21 SIZE 224K,
                BASE      ON SP21 SIZE 8416K
                                  SP22 SIZE 8400K;
CREATE DSI CUSTOMER_X_12DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_12_DSI
        ALLOCATE INDEX    ON SP23 SIZE 224K,
                BASE      ON SP23 SIZE 8416K
                                  SP24 SIZE 8400K;
CREATE DSI CUSTOMER_X_13DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_13_DSI
        ALLOCATE INDEX    ON SP25 SIZE 224K,
                BASE      ON SP25 SIZE 8416K
                                  SP26 SIZE 8400K;
CREATE DSI CUSTOMER_X_14DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_14_DSI
        ALLOCATE INDEX    ON SP27 SIZE 224K,
                BASE      ON SP27 SIZE 8416K
                                  SP28 SIZE 8400K;
CREATE DSI CUSTOMER_X_15DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_15_DSI
        ALLOCATE INDEX    ON SP29 SIZE 224K,
                BASE      ON SP29 SIZE 8416K
                                  SP30 SIZE 8400K;
CREATE DSI CUSTOMER_X_16DSI
        INDEX
        DSO CUSTOMER_IX_DSO
        BASE CUSTOMER_16_DSI
        ALLOCATE INDEX    ON SP31 SIZE 224K,
                BASE      ON SP31 SIZE 8416K
                                  SP32 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_17DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_17_DSI
    ALLOCATE INDEX   ON SP33 SIZE 224K,
         BASE   ON SP33 SIZE 8416K
                          SP34 SIZE 8400K;
CREATE DSI CUSTOMER_X_18DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_18_DSI
    ALLOCATE INDEX   ON SP35 SIZE 224K,
         BASE   ON SP35 SIZE 8416K
                          SP36 SIZE 8400K;
CREATE DSI CUSTOMER_X_19DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_19_DSI
    ALLOCATE INDEX   ON SP37 SIZE 224K,
         BASE   ON SP37 SIZE 8416K
                          SP38 SIZE 8400K;
CREATE DSI CUSTOMER_X_20DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_20_DSI
    ALLOCATE INDEX   ON SP39 SIZE 224K,
         BASE   ON SP39 SIZE 8416K
                          SP40 SIZE 8400K;
CREATE DSI CUSTOMER_X_21DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_21_DSI
    ALLOCATE INDEX   ON SP41 SIZE 224K,
         BASE   ON SP41 SIZE 8416K
                          SP42 SIZE 8400K;
CREATE DSI CUSTOMER_X_22DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_22_DSI
    ALLOCATE INDEX   ON SP43 SIZE 224K,
         BASE   ON SP43 SIZE 8416K
                          SP44 SIZE 8400K;
CREATE DSI CUSTOMER_X_23DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_23_DSI
    ALLOCATE INDEX   ON SP45 SIZE 224K,
         BASE   ON SP45 SIZE 8416K
                          SP46 SIZE 8400K;
CREATE DSI CUSTOMER_X_24DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_24_DSI
    ALLOCATE INDEX   ON SP47 SIZE 224K,
         BASE   ON SP47 SIZE 8416K
                          SP48 SIZE 8400K;
CREATE DSI CUSTOMER_X_25DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_25_DSI
    ALLOCATE INDEX   ON SP49 SIZE 224K,
         BASE   ON SP49 SIZE 8416K
                          SP50 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_26DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_26_DSI
    ALLOCATE INDEX   ON SP51 SIZE 224K,
         BASE   ON SP51 SIZE 8416K
                          SP52 SIZE 8400K;
CREATE DSI CUSTOMER_X_27DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_27_DSI
    ALLOCATE INDEX   ON SP53 SIZE 224K,
         BASE   ON SP53 SIZE 8416K
                          SP54 SIZE 8400K;
CREATE DSI CUSTOMER_X_28DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_28_DSI
    ALLOCATE INDEX   ON SP55 SIZE 224K,
         BASE   ON SP55 SIZE 8416K
                          SP56 SIZE 8400K;
CREATE DSI CUSTOMER_X_29DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_29_DSI
    ALLOCATE INDEX   ON SP57 SIZE 224K,
         BASE   ON SP57 SIZE 8416K
                          SP58 SIZE 8400K;
CREATE DSI CUSTOMER_X_30DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_30_DSI
    ALLOCATE INDEX   ON SP59 SIZE 224K,
         BASE   ON SP59 SIZE 8416K
                          SP60 SIZE 8400K;
CREATE DSI CUSTOMER_X_31DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_31_DSI
    ALLOCATE INDEX   ON SP61 SIZE 224K,
         BASE   ON SP61 SIZE 8416K
                          SP62 SIZE 8400K;
CREATE DSI CUSTOMER_X_32DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_32_DSI
    ALLOCATE INDEX   ON SP63 SIZE 224K,
         BASE   ON SP63 SIZE 8416K
                          SP64 SIZE 8400K;
CREATE DSI CUSTOMER_X_33DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_33_DSI
    ALLOCATE INDEX   ON SP65 SIZE 224K,
         BASE   ON SP65 SIZE 8416K
                          SP66 SIZE 8400K;
CREATE DSI CUSTOMER_X_34DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_34_DSI
    ALLOCATE INDEX   ON SP67 SIZE 224K,
         BASE   ON SP67 SIZE 8416K
                          SP68 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_35DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_35_DSI
    ALLOCATE INDEX   ON SP69 SIZE 224K,
         BASE    ON SP69 SIZE 8416K
                          SP70 SIZE 8400K;
CREATE DSI CUSTOMER_X_36DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_36_DSI
    ALLOCATE INDEX   ON SP71 SIZE 224K,
         BASE    ON SP71 SIZE 8416K
                          SP72 SIZE 8400K;
CREATE DSI CUSTOMER_X_37DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_37_DSI
    ALLOCATE INDEX   ON SP73 SIZE 224K,
         BASE    ON SP73 SIZE 8416K
                          SP74 SIZE 8400K;
CREATE DSI CUSTOMER_X_38DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_38_DSI
    ALLOCATE INDEX   ON SP75 SIZE 224K,
         BASE    ON SP75 SIZE 8416K
                          SP76 SIZE 8400K;
CREATE DSI CUSTOMER_X_39DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_39_DSI
    ALLOCATE INDEX   ON SP77 SIZE 224K,
         BASE    ON SP77 SIZE 8416K
                          SP78 SIZE 8400K;
CREATE DSI CUSTOMER_X_40DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_40_DSI
    ALLOCATE INDEX   ON SP79 SIZE 224K,
         BASE    ON SP79 SIZE 8416K
                          SP80 SIZE 8400K;
CREATE DSI CUSTOMER_X_41DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_41_DSI
    ALLOCATE INDEX   ON SP81 SIZE 224K,
         BASE    ON SP81 SIZE 8416K
                          SP82 SIZE 8400K;
CREATE DSI CUSTOMER_X_42DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_42_DSI
    ALLOCATE INDEX   ON SP83 SIZE 224K,
         BASE    ON SP83 SIZE 8416K
                          SP84 SIZE 8400K;
CREATE DSI CUSTOMER_X_43DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_43_DSI
    ALLOCATE INDEX   ON SP85 SIZE 224K,
         BASE    ON SP85 SIZE 8416K
                          SP86 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_44DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_44_DSI
    ALLOCATE INDEX   ON SP87 SIZE 224K,
         BASE    ON SP87 SIZE 8416K
                          SP88 SIZE 8400K;
CREATE DSI CUSTOMER_X_45DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_45_DSI
    ALLOCATE INDEX   ON SP89 SIZE 224K,
         BASE    ON SP89 SIZE 8416K
                          SP90 SIZE 8400K;
CREATE DSI CUSTOMER_X_46DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_46_DSI
    ALLOCATE INDEX   ON SP91 SIZE 224K,
         BASE    ON SP91 SIZE 8416K
                          SP92 SIZE 8400K;
CREATE DSI CUSTOMER_X_47DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_47_DSI
    ALLOCATE INDEX   ON SP93 SIZE 224K,
         BASE    ON SP93 SIZE 8416K
                          SP94 SIZE 8400K;
CREATE DSI CUSTOMER_X_48DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_48_DSI
    ALLOCATE INDEX   ON SP95 SIZE 224K,
         BASE    ON SP95 SIZE 8416K
                          SP96 SIZE 8400K;
CREATE DSI CUSTOMER_X_49DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_49_DSI
    ALLOCATE INDEX   ON SP97 SIZE 224K,
         BASE    ON SP97 SIZE 8416K
                          SP98 SIZE 8400K;
CREATE DSI CUSTOMER_X_50DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_50_DSI
    ALLOCATE INDEX   ON SP99 SIZE 224K,
         BASE    ON SP99 SIZE 8416K
                          SP100 SIZE 8400K;
CREATE DSI CUSTOMER_X_51DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_51_DSI
    ALLOCATE INDEX   ON SP101 SIZE 224K,
         BASE    ON SP101 SIZE 8416K
                          SP102 SIZE 8400K;
CREATE DSI CUSTOMER_X_52DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_52_DSI
    ALLOCATE INDEX   ON SP103 SIZE 224K,
         BASE    ON SP103 SIZE 8416K
                          SP104 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_53DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_53_DSI
    ALLOCATE INDEX   ON SP105 SIZE 224K,
         BASE    ON SP105 SIZE 8416K
                          SP106 SIZE 8400K;
CREATE DSI CUSTOMER_X_54DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_54_DSI
    ALLOCATE INDEX   ON SP107 SIZE 224K,
         BASE    ON SP107 SIZE 8416K
                          SP108 SIZE 8400K;
CREATE DSI CUSTOMER_X_55DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_55_DSI
    ALLOCATE INDEX   ON SP109 SIZE 224K,
         BASE    ON SP109 SIZE 8416K
                          SP110 SIZE 8400K;
CREATE DSI CUSTOMER_X_56DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_56_DSI
    ALLOCATE INDEX   ON SP111 SIZE 224K,
         BASE    ON SP111 SIZE 8416K
                          SP112 SIZE 8400K;
CREATE DSI CUSTOMER_X_57DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_57_DSI
    ALLOCATE INDEX   ON SP113 SIZE 224K,
         BASE    ON SP113 SIZE 8416K
                          SP114 SIZE 8400K;
CREATE DSI CUSTOMER_X_58DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_58_DSI
    ALLOCATE INDEX   ON SP115 SIZE 224K,
         BASE    ON SP115 SIZE 8416K
                          SP116 SIZE 8400K;
CREATE DSI CUSTOMER_X_59DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_59_DSI
    ALLOCATE INDEX   ON SP117 SIZE 224K,
         BASE    ON SP117 SIZE 8416K
                          SP118 SIZE 8400K;
CREATE DSI CUSTOMER_X_60DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_60_DSI
    ALLOCATE INDEX   ON SP119 SIZE 224K,
         BASE    ON SP119 SIZE 8416K
                          SP120 SIZE 8400K;
CREATE DSI CUSTOMER_X_61DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_61_DSI
    ALLOCATE INDEX   ON SP121 SIZE 224K,
         BASE    ON SP121 SIZE 8416K
                          SP122 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_62DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_62_DSI
    ALLOCATE INDEX   ON SP123 SIZE 224K,
         BASE    ON SP123 SIZE 8416K
                          SP124 SIZE 8400K;
CREATE DSI CUSTOMER_X_63DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_63_DSI
    ALLOCATE INDEX   ON SP125 SIZE 224K,
         BASE    ON SP125 SIZE 8416K
                          SP126 SIZE 8400K;
CREATE DSI CUSTOMER_X_64DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_64_DSI
    ALLOCATE INDEX   ON SP127 SIZE 224K,
         BASE    ON SP127 SIZE 8416K
                          SP128 SIZE 8400K;
CREATE DSI CUSTOMER_X_65DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_65_DSI
    ALLOCATE INDEX   ON SP129 SIZE 224K,
         BASE    ON SP129 SIZE 8416K
                          SP130 SIZE 8400K;
CREATE DSI CUSTOMER_X_66DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_66_DSI
    ALLOCATE INDEX   ON SP131 SIZE 224K,
         BASE    ON SP131 SIZE 8416K
                          SP132 SIZE 8400K;
CREATE DSI CUSTOMER_X_67DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_67_DSI
    ALLOCATE INDEX   ON SP133 SIZE 224K,
         BASE    ON SP133 SIZE 8416K
                          SP134 SIZE 8400K;
CREATE DSI CUSTOMER_X_68DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_68_DSI
    ALLOCATE INDEX   ON SP135 SIZE 224K,
         BASE    ON SP135 SIZE 8416K
                          SP136 SIZE 8400K;
CREATE DSI CUSTOMER_X_69DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_69_DSI
    ALLOCATE INDEX   ON SP137 SIZE 224K,
         BASE    ON SP137 SIZE 8416K
                          SP138 SIZE 8400K;
CREATE DSI CUSTOMER_X_70DSI
    INDEX
    DSO CUSTOMER_IX_DSO
    BASE CUSTOMER_70_DSI
    ALLOCATE INDEX   ON SP139 SIZE 224K,
         BASE    ON SP139 SIZE 8416K
                          SP140 SIZE 8400K;
```

```
CREATE DSI CUSTOMER_X_71DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_71_DSI
       ALLOCATE INDEX    ON SP141 SIZE 224K,
               BASE      ON SP141 SIZE 8416K
                            SP142 SIZE 8400K;
CREATE DSI CUSTOMER_X_72DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_72_DSI
       ALLOCATE INDEX    ON SP143 SIZE 224K,
               BASE      ON SP143 SIZE 8416K
                            SP144 SIZE 8400K;
CREATE DSI CUSTOMER_X_73DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_73_DSI
       ALLOCATE INDEX    ON SP145 SIZE 224K,
               BASE      ON SP145 SIZE 8416K
                            SP146 SIZE 8400K;
CREATE DSI CUSTOMER_X_74DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_74_DSI
       ALLOCATE INDEX    ON SP147 SIZE 224K,
               BASE      ON SP147 SIZE 8416K
                            SP148 SIZE 8400K;
CREATE DSI CUSTOMER_X_75DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_75_DSI
       ALLOCATE INDEX    ON SP149 SIZE 224K,
               BASE      ON SP149 SIZE 8416K
                            SP150 SIZE 8400K;
CREATE DSI CUSTOMER_X_76DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_76_DSI
       ALLOCATE INDEX    ON SP151 SIZE 224K,
               BASE      ON SP151 SIZE 8416K
                            SP152 SIZE 8400K;
CREATE DSI CUSTOMER_X_77DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_77_DSI
       ALLOCATE INDEX    ON SP153 SIZE 224K,
               BASE      ON SP153 SIZE 8416K
                            SP154 SIZE 8400K;
CREATE DSI CUSTOMER_X_78DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_78_DSI
       ALLOCATE INDEX    ON SP155 SIZE 224K,
               BASE      ON SP155 SIZE 8416K
                            SP156 SIZE 8400K;
CREATE DSI CUSTOMER_X_79DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_79_DSI
       ALLOCATE INDEX    ON SP157 SIZE 224K,
               BASE      ON SP157 SIZE 8416K
                            SP158 SIZE 8400K;
CREATE DSI CUSTOMER_X_80DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_80_DSI
       ALLOCATE INDEX    ON SP159 SIZE 224K,
               BASE      ON SP159 SIZE 8416K
                            SP160 SIZE 8400K;
CREATE DSI CUSTOMER_X_81DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_81_DSI
       ALLOCATE INDEX    ON SP161 SIZE 224K,
               BASE      ON SP161 SIZE 8416K
                            SP162 SIZE 8400K;
CREATE DSI CUSTOMER_X_82DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_82_DSI
       ALLOCATE INDEX    ON SP163 SIZE 224K,
               BASE      ON SP163 SIZE 8416K
                            SP164 SIZE 8400K;
CREATE DSI CUSTOMER_X_83DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_83_DSI
       ALLOCATE INDEX    ON SP165 SIZE 224K,
               BASE      ON SP165 SIZE 8416K
                            SP166 SIZE 8400K;
CREATE DSI CUSTOMER_X_84DSI
       INDEX
       DSO CUSTOMER_IX_DSO
       BASE CUSTOMER_84_DSI
       ALLOCATE INDEX    ON SP167 SIZE 224K,
               BASE      ON SP167 SIZE 8416K
                            SP168 SIZE 8400K;
::::::::::::::
ddl.dat.CU
::::::::::::::
-----------------------------------------------------------------------------
-- * Phase.2-3a: Customer
-----------------------------------------------------------------------------
       CREATE DSO CUSTOMER_DSO
              FROM TPCC_SCHEMA.CUSTOMER
                     TYPE RANDOM(PAGESIZE1(8),PAGESIZE2(1),
                     RULE(C_ID*22+C_W_ID+C_D_ID*66000))
                     WHERE (C_W_ID) BETWEEN (?) AND (?);
       CREATE DSI CUSTOMER_1_DSI
             DSO CUSTOMER_DSO
              USING(1,22)
              ALLOCATE PRIME     ON SP1 SIZE 264008K
                                    SP2 SIZE 264000K,
                      OVERFLOW ON SP1 SIZE 13201K
                                    SP2 SIZE 13200K;
       CREATE DSI CUSTOMER_2_DSI
             DSO CUSTOMER_DSO
              USING(23,44)
              ALLOCATE PRIME     ON SP3 SIZE 264008K
                                    SP4 SIZE 264000K,
                      OVERFLOW ON SP3 SIZE 13201K
                                    SP4 SIZE 13200K;
       CREATE DSI CUSTOMER_3_DSI
             DSO CUSTOMER_DSO
              USING(45,66)
```

```
     ALLOCATE PRIME  ON SP5 SIZE 264008K
                          SP6 SIZE 264000K,
         OVERFLOW ON SP5 SIZE 13201K
                          SP6 SIZE 13200K;
CREATE DSI CUSTOMER_4_DSI
    DSO CUSTOMER_DSO
     USING(67,88)
     ALLOCATE PRIME  ON SP7 SIZE 264008K
                          SP8 SIZE 264000K,
         OVERFLOW ON SP7 SIZE 13201K
                          SP8 SIZE 13200K;
CREATE DSI CUSTOMER_5_DSI
    DSO CUSTOMER_DSO
     USING(89,110)
     ALLOCATE PRIME  ON SP9 SIZE 264008K
                          SP10 SIZE 264000K,
         OVERFLOW ON SP9 SIZE 13201K
                          SP10 SIZE 13200K;
CREATE DSI CUSTOMER_6_DSI
    DSO CUSTOMER_DSO
     USING(111,132)
     ALLOCATE PRIME  ON SP11 SIZE 264008K
                          SP12 SIZE 264000K,
         OVERFLOW ON SP11 SIZE 13201K
                          SP12 SIZE 13200K;
CREATE DSI CUSTOMER_7_DSI
    DSO CUSTOMER_DSO
     USING(133,154)
     ALLOCATE PRIME  ON SP13 SIZE 264008K
                          SP14 SIZE 264000K,
         OVERFLOW ON SP13 SIZE 13201K
                          SP14 SIZE 13200K;
CREATE DSI CUSTOMER_8_DSI
    DSO CUSTOMER_DSO
     USING(155,176)
     ALLOCATE PRIME  ON SP15 SIZE 264008K
                          SP16 SIZE 264000K,
         OVERFLOW ON SP15 SIZE 13201K
                          SP16 SIZE 13200K;
CREATE DSI CUSTOMER_9_DSI
    DSO CUSTOMER_DSO
     USING(177,198)
     ALLOCATE PRIME  ON SP17 SIZE 264008K
                          SP18 SIZE 264000K,
         OVERFLOW ON SP17 SIZE 13201K
                          SP18 SIZE 13200K;
CREATE DSI CUSTOMER_10_DSI
    DSO CUSTOMER_DSO
     USING(199,220)
     ALLOCATE PRIME  ON SP19 SIZE 264008K
                          SP20 SIZE 264000K,
         OVERFLOW ON SP19 SIZE 13201K
                          SP20 SIZE 13200K;
CREATE DSI CUSTOMER_11_DSI
    DSO CUSTOMER_DSO
     USING(221,242)
     ALLOCATE PRIME  ON SP21 SIZE 264008K
                          SP22 SIZE 264000K,
         OVERFLOW ON SP21 SIZE 13201K
                          SP22 SIZE 13200K;
CREATE DSI CUSTOMER_12_DSI
    DSO CUSTOMER_DSO
     USING(243,264)
     ALLOCATE PRIME  ON SP23 SIZE 264008K
                          SP24 SIZE 264000K,
         OVERFLOW ON SP23 SIZE 13201K
                          SP24 SIZE 13200K;
CREATE DSI CUSTOMER_13_DSI
    DSO CUSTOMER_DSO
     USING(265,286)
     ALLOCATE PRIME  ON SP25 SIZE 264008K
                          SP26 SIZE 264000K,
         OVERFLOW ON SP25 SIZE 13201K
                          SP26 SIZE 13200K;
CREATE DSI CUSTOMER_14_DSI
    DSO CUSTOMER_DSO
     USING(287,308)
     ALLOCATE PRIME  ON SP27 SIZE 264008K
                          SP28 SIZE 264000K,
         OVERFLOW ON SP27 SIZE 13201K
                          SP28 SIZE 13200K;
CREATE DSI CUSTOMER_15_DSI
    DSO CUSTOMER_DSO
     USING(309,330)
     ALLOCATE PRIME  ON SP29 SIZE 264008K
                          SP30 SIZE 264000K,
         OVERFLOW ON SP29 SIZE 13201K
                          SP30 SIZE 13200K;
CREATE DSI CUSTOMER_16_DSI
    DSO CUSTOMER_DSO
     USING(331,352)
     ALLOCATE PRIME  ON SP31 SIZE 264008K
                          SP32 SIZE 264000K,
         OVERFLOW ON SP31 SIZE 13201K
                          SP32 SIZE 13200K;
CREATE DSI CUSTOMER_17_DSI
    DSO CUSTOMER_DSO
     USING(353,374)
     ALLOCATE PRIME  ON SP33 SIZE 264008K
                          SP34 SIZE 264000K,
         OVERFLOW ON SP33 SIZE 13201K
                          SP34 SIZE 13200K;
CREATE DSI CUSTOMER_18_DSI
    DSO CUSTOMER_DSO
     USING(375,396)
     ALLOCATE PRIME  ON SP35 SIZE 264008K
                          SP36 SIZE 264000K,
         OVERFLOW ON SP35 SIZE 13201K
                          SP36 SIZE 13200K;
CREATE DSI CUSTOMER_19_DSI
    DSO CUSTOMER_DSO
     USING(397,418)
     ALLOCATE PRIME  ON SP37 SIZE 264008K
                          SP38 SIZE 264000K,
         OVERFLOW ON SP37 SIZE 13201K
                          SP38 SIZE 13200K;
CREATE DSI CUSTOMER_20_DSI
    DSO CUSTOMER_DSO
     USING(419,440)
     ALLOCATE PRIME  ON SP39 SIZE 264008K
                          SP40 SIZE 264000K,
         OVERFLOW ON SP39 SIZE 13201K
                          SP40 SIZE 13200K;
CREATE DSI CUSTOMER_21_DSI
    DSO CUSTOMER_DSO
     USING(441,462)
     ALLOCATE PRIME     ON SP41 SIZE 264008K
                              SP42 SIZE 264000K,
          OVERFLOW ON SP41 SIZE 13201K
                              SP42 SIZE 13200K;
CREATE DSI CUSTOMER_22_DSI
    DSO CUSTOMER_DSO
     USING(463,484)
     ALLOCATE PRIME     ON SP43 SIZE 264008K
                              SP44 SIZE 264000K,
          OVERFLOW ON SP43 SIZE 13201K
                              SP44 SIZE 13200K;
CREATE DSI CUSTOMER_23_DSI
    DSO CUSTOMER_DSO
     USING(485,506)
     ALLOCATE PRIME     ON SP45 SIZE 264008K
                              SP46 SIZE 264000K,
          OVERFLOW ON SP45 SIZE 13201K
                              SP46 SIZE 13200K;
CREATE DSI CUSTOMER_24_DSI
    DSO CUSTOMER_DSO
     USING(507,528)
     ALLOCATE PRIME     ON SP47 SIZE 264008K
                              SP48 SIZE 264000K,
          OVERFLOW ON SP47 SIZE 13201K
                              SP48 SIZE 13200K;
CREATE DSI CUSTOMER_25_DSI
    DSO CUSTOMER_DSO
     USING(529,550)
     ALLOCATE PRIME     ON SP49 SIZE 264008K
                              SP50 SIZE 264000K,
          OVERFLOW ON SP49 SIZE 13201K
                              SP50 SIZE 13200K;
CREATE DSI CUSTOMER_26_DSI
    DSO CUSTOMER_DSO
     USING(551,572)
     ALLOCATE PRIME     ON SP51 SIZE 264008K
                              SP52 SIZE 264000K,
          OVERFLOW ON SP51 SIZE 13201K
                              SP52 SIZE 13200K;
CREATE DSI CUSTOMER_27_DSI
    DSO CUSTOMER_DSO
     USING(573,594)
     ALLOCATE PRIME     ON SP53 SIZE 264008K
                              SP54 SIZE 264000K,
          OVERFLOW ON SP53 SIZE 13201K
                              SP54 SIZE 13200K;
CREATE DSI CUSTOMER_28_DSI
    DSO CUSTOMER_DSO
     USING(595,616)
     ALLOCATE PRIME     ON SP55 SIZE 264008K
                              SP56 SIZE 264000K,
          OVERFLOW ON SP55 SIZE 13201K
                              SP56 SIZE 13200K;
CREATE DSI CUSTOMER_29_DSI
    DSO CUSTOMER_DSO
     USING(617,638)
     ALLOCATE PRIME     ON SP57 SIZE 264008K
                              SP58 SIZE 264000K,
          OVERFLOW ON SP57 SIZE 13201K
                              SP58 SIZE 13200K;
CREATE DSI CUSTOMER_30_DSI
    DSO CUSTOMER_DSO
     USING(639,660)
     ALLOCATE PRIME     ON SP59 SIZE 264008K
                              SP60 SIZE 264000K,
          OVERFLOW ON SP59 SIZE 13201K
                              SP60 SIZE 13200K;
CREATE DSI CUSTOMER_31_DSI
    DSO CUSTOMER_DSO
     USING(661,682)
     ALLOCATE PRIME     ON SP61 SIZE 264008K
                              SP62 SIZE 264000K,
          OVERFLOW ON SP61 SIZE 13201K
                              SP62 SIZE 13200K;
CREATE DSI CUSTOMER_32_DSI
    DSO CUSTOMER_DSO
     USING(683,704)
     ALLOCATE PRIME     ON SP63 SIZE 264008K
                              SP64 SIZE 264000K,
          OVERFLOW ON SP63 SIZE 13201K
                              SP64 SIZE 13200K;
CREATE DSI CUSTOMER_33_DSI
    DSO CUSTOMER_DSO
     USING(705,726)
     ALLOCATE PRIME     ON SP65 SIZE 264008K
                              SP66 SIZE 264000K,
          OVERFLOW ON SP65 SIZE 13201K
                              SP66 SIZE 13200K;
CREATE DSI CUSTOMER_34_DSI
    DSO CUSTOMER_DSO
     USING(727,748)
     ALLOCATE PRIME     ON SP67 SIZE 264008K
                              SP68 SIZE 264000K,
          OVERFLOW ON SP67 SIZE 13201K
                              SP68 SIZE 13200K;
CREATE DSI CUSTOMER_35_DSI
    DSO CUSTOMER_DSO
     USING(749,770)
     ALLOCATE PRIME     ON SP69 SIZE 264008K
                              SP70 SIZE 264000K,
          OVERFLOW ON SP69 SIZE 13201K
                              SP70 SIZE 13200K;
CREATE DSI CUSTOMER_36_DSI
    DSO CUSTOMER_DSO
     USING(771,792)
     ALLOCATE PRIME     ON SP71 SIZE 264008K
                              SP72 SIZE 264000K,
          OVERFLOW ON SP71 SIZE 13201K
                              SP72 SIZE 13200K;
CREATE DSI CUSTOMER_37_DSI
    DSO CUSTOMER_DSO
     USING(793,814)
     ALLOCATE PRIME     ON SP73 SIZE 264008K
                              SP74 SIZE 264000K,
          OVERFLOW ON SP73 SIZE 13201K
                              SP74 SIZE 13200K;
CREATE DSI CUSTOMER_38_DSI
    DSO CUSTOMER_DSO
     USING(815,836)
     ALLOCATE PRIME     ON SP75 SIZE 264008K
                              SP76 SIZE 264000K,
          OVERFLOW ON SP75 SIZE 13201K
                              SP76 SIZE 13200K;
CREATE DSI CUSTOMER_39_DSI
    DSO CUSTOMER_DSO
     USING(837,858)
     ALLOCATE PRIME   ON SP77 SIZE 264008K
                           SP78 SIZE 264000K,
          OVERFLOW ON SP77 SIZE 13201K
                           SP78 SIZE 13200K;
CREATE DSI CUSTOMER_40_DSI
    DSO CUSTOMER_DSO
     USING(859,880)
     ALLOCATE PRIME   ON SP79 SIZE 264008K
                           SP80 SIZE 264000K,
          OVERFLOW ON SP79 SIZE 13201K
                           SP80 SIZE 13200K;
CREATE DSI CUSTOMER_41_DSI
    DSO CUSTOMER_DSO
     USING(881,902)
     ALLOCATE PRIME   ON SP81 SIZE 264008K
                           SP82 SIZE 264000K,
          OVERFLOW ON SP81 SIZE 13201K
                           SP82 SIZE 13200K;
CREATE DSI CUSTOMER_42_DSI
    DSO CUSTOMER_DSO
     USING(903,924)
     ALLOCATE PRIME   ON SP83 SIZE 264008K
                           SP84 SIZE 264000K,
          OVERFLOW ON SP83 SIZE 13201K
                           SP84 SIZE 13200K;
CREATE DSI CUSTOMER_43_DSI
    DSO CUSTOMER_DSO
     USING(925,946)
     ALLOCATE PRIME   ON SP85 SIZE 264008K
                           SP86 SIZE 264000K,
          OVERFLOW ON SP85 SIZE 13201K
                           SP86 SIZE 13200K;
CREATE DSI CUSTOMER_44_DSI
    DSO CUSTOMER_DSO
     USING(947,968)
     ALLOCATE PRIME   ON SP87 SIZE 264008K
                           SP88 SIZE 264000K,
          OVERFLOW ON SP87 SIZE 13201K
                           SP88 SIZE 13200K;
CREATE DSI CUSTOMER_45_DSI
    DSO CUSTOMER_DSO
     USING(969,990)
     ALLOCATE PRIME   ON SP89 SIZE 264008K
                           SP90 SIZE 264000K,
          OVERFLOW ON SP89 SIZE 13201K
                           SP90 SIZE 13200K;
CREATE DSI CUSTOMER_46_DSI
    DSO CUSTOMER_DSO
     USING(991,1012)
     ALLOCATE PRIME   ON SP91 SIZE 264008K
                           SP92 SIZE 264000K,
          OVERFLOW ON SP91 SIZE 13201K
                           SP92 SIZE 13200K;
CREATE DSI CUSTOMER_47_DSI
    DSO CUSTOMER_DSO
     USING(1013,1034)
     ALLOCATE PRIME   ON SP93 SIZE 264008K
                           SP94 SIZE 264000K,
          OVERFLOW ON SP93 SIZE 13201K
                           SP94 SIZE 13200K;
CREATE DSI CUSTOMER_48_DSI
    DSO CUSTOMER_DSO
     USING(1035,1056)
```

```
     ALLOCATE PRIME   ON SP95 SIZE 264008K
                           SP96 SIZE 264000K,
          OVERFLOW ON SP95 SIZE 13201K
                           SP96 SIZE 13200K;
CREATE DSI CUSTOMER_49_DSI
    DSO CUSTOMER_DSO
     USING(1057,1078)
     ALLOCATE PRIME   ON SP97 SIZE 264008K
                           SP98 SIZE 264000K,
          OVERFLOW ON SP97 SIZE 13201K
                           SP98 SIZE 13200K;
CREATE DSI CUSTOMER_50_DSI
    DSO CUSTOMER_DSO
     USING(1079,1100)
     ALLOCATE PRIME   ON SP99 SIZE 264008K
                           SP100 SIZE 264000K,
          OVERFLOW ON SP99 SIZE 13201K
                           SP100 SIZE 13200K;
CREATE DSI CUSTOMER_51_DSI
    DSO CUSTOMER_DSO
     USING(1101,1122)
     ALLOCATE PRIME   ON SP101 SIZE 264008K
                           SP102 SIZE 264000K,
          OVERFLOW ON SP101 SIZE 13201K
                           SP102 SIZE 13200K;
CREATE DSI CUSTOMER_52_DSI
    DSO CUSTOMER_DSO
     USING(1123,1144)
     ALLOCATE PRIME   ON SP103 SIZE 264008K
                           SP104 SIZE 264000K,
          OVERFLOW ON SP103 SIZE 13201K
                           SP104 SIZE 13200K;
CREATE DSI CUSTOMER_53_DSI
    DSO CUSTOMER_DSO
     USING(1145,1166)
     ALLOCATE PRIME   ON SP105 SIZE 264008K
                           SP106 SIZE 264000K,
          OVERFLOW ON SP105 SIZE 13201K
                           SP106 SIZE 13200K;
CREATE DSI CUSTOMER_54_DSI
    DSO CUSTOMER_DSO
     USING(1167,1188)
     ALLOCATE PRIME   ON SP107 SIZE 264008K
                           SP108 SIZE 264000K,
          OVERFLOW ON SP107 SIZE 13201K
                           SP108 SIZE 13200K;
CREATE DSI CUSTOMER_55_DSI
    DSO CUSTOMER_DSO
     USING(1189,1210)
     ALLOCATE PRIME   ON SP109 SIZE 264008K
                           SP110 SIZE 264000K,
          OVERFLOW ON SP109 SIZE 13201K
                           SP110 SIZE 13200K;
CREATE DSI CUSTOMER_56_DSI
    DSO CUSTOMER_DSO
     USING(1211,1232)
     ALLOCATE PRIME   ON SP111 SIZE 264008K
                           SP112 SIZE 264000K,
          OVERFLOW ON SP111 SIZE 13201K
                           SP112 SIZE 13200K;
CREATE DSI CUSTOMER_57_DSI
    DSO CUSTOMER_DSO
     USING(1233,1254)
    ALLOCATE PRIME   ON SP113 SIZE 264008K
                          SP114 SIZE 264000K,
         OVERFLOW ON SP113 SIZE 13201K
                          SP114 SIZE 13200K;
CREATE DSI CUSTOMER_58_DSI
    DSO CUSTOMER_DSO
    USING(1255,1276)
    ALLOCATE PRIME   ON SP115 SIZE 264008K
                          SP116 SIZE 264000K,
         OVERFLOW ON SP115 SIZE 13201K
                          SP116 SIZE 13200K;
CREATE DSI CUSTOMER_59_DSI
    DSO CUSTOMER_DSO
    USING(1277,1298)
    ALLOCATE PRIME   ON SP117 SIZE 264008K
                          SP118 SIZE 264000K,
         OVERFLOW ON SP117 SIZE 13201K
                          SP118 SIZE 13200K;
CREATE DSI CUSTOMER_60_DSI
    DSO CUSTOMER_DSO
    USING(1299,1320)
    ALLOCATE PRIME   ON SP119 SIZE 264008K
                          SP120 SIZE 264000K,
         OVERFLOW ON SP119 SIZE 13201K
                          SP120 SIZE 13200K;
CREATE DSI CUSTOMER_61_DSI
    DSO CUSTOMER_DSO
    USING(1321,1342)
    ALLOCATE PRIME   ON SP121 SIZE 264008K
                          SP122 SIZE 264000K,
         OVERFLOW ON SP121 SIZE 13201K
                          SP122 SIZE 13200K;
CREATE DSI CUSTOMER_62_DSI
    DSO CUSTOMER_DSO
    USING(1343,1364)
    ALLOCATE PRIME   ON SP123 SIZE 264008K
                          SP124 SIZE 264000K,
         OVERFLOW ON SP123 SIZE 13201K
                          SP124 SIZE 13200K;
CREATE DSI CUSTOMER_63_DSI
    DSO CUSTOMER_DSO
    USING(1365,1386)
    ALLOCATE PRIME   ON SP125 SIZE 264008K
                          SP126 SIZE 264000K,
         OVERFLOW ON SP125 SIZE 13201K
                          SP126 SIZE 13200K;
CREATE DSI CUSTOMER_64_DSI
    DSO CUSTOMER_DSO
    USING(1387,1408)
    ALLOCATE PRIME   ON SP127 SIZE 264008K
                          SP128 SIZE 264000K,
         OVERFLOW ON SP127 SIZE 13201K
                          SP128 SIZE 13200K;
CREATE DSI CUSTOMER_65_DSI
    DSO CUSTOMER_DSO
    USING(1409,1430)
    ALLOCATE PRIME   ON SP129 SIZE 264008K
                          SP130 SIZE 264000K,
         OVERFLOW ON SP129 SIZE 13201K
                          SP130 SIZE 13200K;
CREATE DSI CUSTOMER_66_DSI
    DSO CUSTOMER_DSO
    USING(1431,1452)
```

```
    ALLOCATE PRIME   ON SP131 SIZE 264008K
                          SP132 SIZE 264000K,
         OVERFLOW ON SP131 SIZE 13201K
                          SP132 SIZE 13200K;
CREATE DSI CUSTOMER_67_DSI
    DSO CUSTOMER_DSO
    USING(1453,1474)
    ALLOCATE PRIME   ON SP133 SIZE 264008K
                          SP134 SIZE 264000K,
         OVERFLOW ON SP133 SIZE 13201K
                          SP134 SIZE 13200K;
CREATE DSI CUSTOMER_68_DSI
    DSO CUSTOMER_DSO
    USING(1475,1496)
    ALLOCATE PRIME   ON SP135 SIZE 264008K
                          SP136 SIZE 264000K,
         OVERFLOW ON SP135 SIZE 13201K
                          SP136 SIZE 13200K;
CREATE DSI CUSTOMER_69_DSI
    DSO CUSTOMER_DSO
    USING(1497,1518)
    ALLOCATE PRIME   ON SP137 SIZE 264008K
                          SP138 SIZE 264000K,
         OVERFLOW ON SP137 SIZE 13201K
                          SP138 SIZE 13200K;
CREATE DSI CUSTOMER_70_DSI
    DSO CUSTOMER_DSO
    USING(1519,1540)
    ALLOCATE PRIME   ON SP139 SIZE 264008K
                          SP140 SIZE 264000K,
         OVERFLOW ON SP139 SIZE 13201K
                          SP140 SIZE 13200K;
CREATE DSI CUSTOMER_71_DSI
    DSO CUSTOMER_DSO
    USING(1541,1562)
    ALLOCATE PRIME   ON SP141 SIZE 264008K
                          SP142 SIZE 264000K,
         OVERFLOW ON SP141 SIZE 13201K
                          SP142 SIZE 13200K;
CREATE DSI CUSTOMER_72_DSI
    DSO CUSTOMER_DSO
    USING(1563,1584)
    ALLOCATE PRIME   ON SP143 SIZE 264008K
                          SP144 SIZE 264000K,
         OVERFLOW ON SP143 SIZE 13201K
                          SP144 SIZE 13200K;
CREATE DSI CUSTOMER_73_DSI
    DSO CUSTOMER_DSO
    USING(1585,1606)
    ALLOCATE PRIME   ON SP145 SIZE 264008K
                          SP146 SIZE 264000K,
         OVERFLOW ON SP145 SIZE 13201K
                          SP146 SIZE 13200K;
CREATE DSI CUSTOMER_74_DSI
    DSO CUSTOMER_DSO
    USING(1607,1628)
    ALLOCATE PRIME   ON SP147 SIZE 264008K
                          SP148 SIZE 264000K,
         OVERFLOW ON SP147 SIZE 13201K
                          SP148 SIZE 13200K;
CREATE DSI CUSTOMER_75_DSI
    DSO CUSTOMER_DSO
    USING(1629,1650)
```

```
      ALLOCATE PRIME    ON SP149 SIZE 264008K
                             SP150 SIZE 264000K,
            OVERFLOW ON SP149 SIZE 13201K
                             SP150 SIZE 13200K;
CREATE DSI CUSTOMER_76_DSI
     DSO CUSTOMER_DSO
      USING(1651,1672)
      ALLOCATE PRIME    ON SP151 SIZE 264008K
                             SP152 SIZE 264000K,
            OVERFLOW ON SP151 SIZE 13201K
                             SP152 SIZE 13200K;
CREATE DSI CUSTOMER_77_DSI
     DSO CUSTOMER_DSO
      USING(1673,1694)
      ALLOCATE PRIME    ON SP153 SIZE 264008K
                             SP154 SIZE 264000K,
            OVERFLOW ON SP153 SIZE 13201K
                             SP154 SIZE 13200K;
CREATE DSI CUSTOMER_78_DSI
     DSO CUSTOMER_DSO
      USING(1695,1716)
      ALLOCATE PRIME    ON SP155 SIZE 264008K
                             SP156 SIZE 264000K,
            OVERFLOW ON SP155 SIZE 13201K
                             SP156 SIZE 13200K;
CREATE DSI CUSTOMER_79_DSI
     DSO CUSTOMER_DSO
      USING(1717,1738)
      ALLOCATE PRIME    ON SP157 SIZE 264008K
                             SP158 SIZE 264000K,
            OVERFLOW ON SP157 SIZE 13201K
                             SP158 SIZE 13200K;
CREATE DSI CUSTOMER_80_DSI
     DSO CUSTOMER_DSO
      USING(1739,1760)
      ALLOCATE PRIME    ON SP159 SIZE 264008K
                             SP160 SIZE 264000K,
            OVERFLOW ON SP159 SIZE 13201K
                             SP160 SIZE 13200K;
CREATE DSI CUSTOMER_81_DSI
     DSO CUSTOMER_DSO
      USING(1761,1782)
      ALLOCATE PRIME    ON SP161 SIZE 264008K
                             SP162 SIZE 264000K,
            OVERFLOW ON SP161 SIZE 13201K
                             SP162 SIZE 13200K;
CREATE DSI CUSTOMER_82_DSI
     DSO CUSTOMER_DSO
      USING(1783,1804)
      ALLOCATE PRIME    ON SP163 SIZE 264008K
                             SP164 SIZE 264000K,
            OVERFLOW ON SP163 SIZE 13201K
                             SP164 SIZE 13200K;
CREATE DSI CUSTOMER_83_DSI
     DSO CUSTOMER_DSO
      USING(1805,1826)
      ALLOCATE PRIME    ON SP165 SIZE 264008K
                             SP166 SIZE 264000K,
            OVERFLOW ON SP165 SIZE 13201K
                             SP166 SIZE 13200K;
CREATE DSI CUSTOMER_84_DSI
     DSO CUSTOMER_DSO
      USING(1827,3696)
```

```
          ALLOCATE PRIME    ON SP167 SIZE 264008K
                                 SP168 SIZE 264000K,
                OVERFLOW ON SP167 SIZE 13201K
                                 SP168 SIZE 13200K;
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------------------------------------------------------------------------------
-- * Phase.2-2: District
------------------------------------------------------------------------------
     CREATE DSO DISTRICT_DSO
          FROM TPCC_SCHEMA.DISTRICT
               TYPE
RANDOM(PAGESIZE1(1),PAGESIZE2(1),RULE(D_W_ID*20+D_ID*2))
               WHERE (D_W_ID) BETWEEN (?) AND (?);
     CREATE DSI DISTRICT_1_DSI
         DSO DISTRICT_DSO
          USING(1,88)
          ALLOCATE PRIME    ON SP1 SIZE 2349K,
                OVERFLOW ON SP1 SIZE 58K;
     CREATE DSI DISTRICT_2_DSI
         DSO DISTRICT_DSO
          USING(89,176)
          ALLOCATE PRIME    ON SP7 SIZE 2349K,
                OVERFLOW ON SP7 SIZE 58K;
     CREATE DSI DISTRICT_3_DSI
         DSO DISTRICT_DSO
          USING(177,264)
          ALLOCATE PRIME    ON SP13 SIZE 2349K,
                OVERFLOW ON SP13 SIZE 58K;
     CREATE DSI DISTRICT_4_DSI
         DSO DISTRICT_DSO
          USING(265,352)
          ALLOCATE PRIME    ON SP19 SIZE 2349K,
                OVERFLOW ON SP19 SIZE 58K;
     CREATE DSI DISTRICT_5_DSI
         DSO DISTRICT_DSO
          USING(353,440)
          ALLOCATE PRIME    ON SP25 SIZE 2349K,
                OVERFLOW ON SP25 SIZE 58K;
     CREATE DSI DISTRICT_6_DSI
         DSO DISTRICT_DSO
          USING(441,528)
          ALLOCATE PRIME    ON SP31 SIZE 2349K,
                OVERFLOW ON SP31 SIZE 58K;
     CREATE DSI DISTRICT_7_DSI
         DSO DISTRICT_DSO
          USING(529,616)
          ALLOCATE PRIME    ON SP37 SIZE 2349K,
                OVERFLOW ON SP37 SIZE 58K;
     CREATE DSI DISTRICT_8_DSI
         DSO DISTRICT_DSO
          USING(617,704)
          ALLOCATE PRIME    ON SP43 SIZE 2349K,
                OVERFLOW ON SP43 SIZE 58K;
     CREATE DSI DISTRICT_9_DSI
         DSO DISTRICT_DSO
          USING(705,792)
          ALLOCATE PRIME    ON SP49 SIZE 2349K,
                OVERFLOW ON SP49 SIZE 58K;
     CREATE DSI DISTRICT_10_DSI
         DSO DISTRICT_DSO
          USING(793,880)
```

```
           ALLOCATE PRIME    ON SP55 SIZE 2349K,
                 OVERFLOW ON SP55 SIZE 58K;
      CREATE DSI DISTRICT_11_DSI
          DSO DISTRICT_DSO
           USING(881,968)
           ALLOCATE PRIME    ON SP61 SIZE 2349K,
                 OVERFLOW ON SP61 SIZE 58K;
      CREATE DSI DISTRICT_12_DSI
          DSO DISTRICT_DSO
           USING(969,1056)
           ALLOCATE PRIME    ON SP67 SIZE 2349K,
                 OVERFLOW ON SP67 SIZE 58K;
      CREATE DSI DISTRICT_13_DSI
          DSO DISTRICT_DSO
           USING(1057,1144)
           ALLOCATE PRIME    ON SP73 SIZE 2349K,
                 OVERFLOW ON SP73 SIZE 58K;
      CREATE DSI DISTRICT_14_DSI
          DSO DISTRICT_DSO
           USING(1145,1232)
           ALLOCATE PRIME    ON SP79 SIZE 2349K,
                 OVERFLOW ON SP79 SIZE 58K;
      CREATE DSI DISTRICT_15_DSI
          DSO DISTRICT_DSO
           USING(1233,1320)
           ALLOCATE PRIME    ON SP85 SIZE 2349K,
                 OVERFLOW ON SP85 SIZE 58K;
      CREATE DSI DISTRICT_16_DSI
          DSO DISTRICT_DSO
           USING(1321,1408)
           ALLOCATE PRIME    ON SP91 SIZE 2349K,
                 OVERFLOW ON SP91 SIZE 58K;
      CREATE DSI DISTRICT_17_DSI
          DSO DISTRICT_DSO
           USING(1409,1496)
           ALLOCATE PRIME    ON SP97 SIZE 2349K,
                 OVERFLOW ON SP97 SIZE 58K;
      CREATE DSI DISTRICT_18_DSI
          DSO DISTRICT_DSO
           USING(1497,1584)
           ALLOCATE PRIME    ON SP103 SIZE 2349K,
                 OVERFLOW ON SP103 SIZE 58K;
      CREATE DSI DISTRICT_19_DSI
          DSO DISTRICT_DSO
           USING(1585,1672)
           ALLOCATE PRIME    ON SP109 SIZE 2349K,
                 OVERFLOW ON SP109 SIZE 58K;
      CREATE DSI DISTRICT_20_DSI
          DSO DISTRICT_DSO
           USING(1673,1760)
           ALLOCATE PRIME    ON SP115 SIZE 2349K,
                 OVERFLOW ON SP115 SIZE 58K;
      CREATE DSI DISTRICT_21_DSI
          DSO DISTRICT_DSO
           USING(1761,3696)
           ALLOCATE PRIME    ON SP121 SIZE 2349K,
                 OVERFLOW ON SP121 SIZE 58K;
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------------------------------------------------------------------------------
-- * Phase.2-7: History
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```

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CREATE DSO HISTORY_DSO
     FROM TPCC_SCHEMA.HISTORY
          TYPE SEQUENTIAL(PAGESIZE(4),ORDER(0))
          WHERE (H_W_ID) BETWEEN (?) AND (?);
CREATE DSI HISTORY_1_DSI
    DSO HISTORY_DSO
     USING(1,22)
     ALLOCATE DATA    ON SP1 SIZE 32444K
                            SP2 SIZE 32440K;
CREATE DSI HISTORY_2_DSI
    DSO HISTORY_DSO
     USING(23,44)
     ALLOCATE DATA    ON SP3 SIZE 32444K
                            SP4 SIZE 32440K;
CREATE DSI HISTORY_3_DSI
    DSO HISTORY_DSO
     USING(45,66)
     ALLOCATE DATA    ON SP5 SIZE 32444K
                            SP6 SIZE 32440K;
CREATE DSI HISTORY_4_DSI
    DSO HISTORY_DSO
     USING(67,88)
     ALLOCATE DATA    ON SP7 SIZE 32444K
                            SP8 SIZE 32440K;
CREATE DSI HISTORY_5_DSI
    DSO HISTORY_DSO
     USING(89,110)
     ALLOCATE DATA    ON SP9 SIZE 32444K
                            SP10 SIZE 32440K;
CREATE DSI HISTORY_6_DSI
    DSO HISTORY_DSO
     USING(111,132)
     ALLOCATE DATA    ON SP11 SIZE 32444K
                            SP12 SIZE 32440K;
CREATE DSI HISTORY_7_DSI
    DSO HISTORY_DSO
     USING(133,154)
     ALLOCATE DATA    ON SP13 SIZE 32444K
                            SP14 SIZE 32440K;
CREATE DSI HISTORY_8_DSI
    DSO HISTORY_DSO
     USING(155,176)
     ALLOCATE DATA    ON SP15 SIZE 32444K
                            SP16 SIZE 32440K;
CREATE DSI HISTORY_9_DSI
    DSO HISTORY_DSO
     USING(177,198)
     ALLOCATE DATA    ON SP17 SIZE 32444K
                            SP18 SIZE 32440K;
CREATE DSI HISTORY_10_DSI
    DSO HISTORY_DSO
     USING(199,220)
     ALLOCATE DATA    ON SP19 SIZE 32444K
                            SP20 SIZE 32440K;
CREATE DSI HISTORY_11_DSI
    DSO HISTORY_DSO
     USING(221,242)
     ALLOCATE DATA    ON SP21 SIZE 32444K
                            SP22 SIZE 32440K;
CREATE DSI HISTORY_12_DSI
    DSO HISTORY_DSO
     USING(243,264)
     ALLOCATE DATA    ON SP23 SIZE 32444K
```

```
                           SP24 SIZE 32440K;
CREATE DSI HISTORY_13_DSI
    DSO HISTORY_DSO
     USING(265,286)
     ALLOCATE DATA    ON SP25 SIZE 32444K
                           SP26 SIZE 32440K;
CREATE DSI HISTORY_14_DSI
    DSO HISTORY_DSO
     USING(287,308)
     ALLOCATE DATA    ON SP27 SIZE 32444K
                           SP28 SIZE 32440K;
CREATE DSI HISTORY_15_DSI
    DSO HISTORY_DSO
     USING(309,330)
     ALLOCATE DATA    ON SP29 SIZE 32444K
                           SP30 SIZE 32440K;
CREATE DSI HISTORY_16_DSI
    DSO HISTORY_DSO
     USING(331,352)
     ALLOCATE DATA    ON SP31 SIZE 32444K
                           SP32 SIZE 32440K;
CREATE DSI HISTORY_17_DSI
    DSO HISTORY_DSO
     USING(353,374)
     ALLOCATE DATA    ON SP33 SIZE 32444K
                           SP34 SIZE 32440K;
CREATE DSI HISTORY_18_DSI
    DSO HISTORY_DSO
     USING(375,396)
     ALLOCATE DATA    ON SP35 SIZE 32444K
                           SP36 SIZE 32440K;
CREATE DSI HISTORY_19_DSI
    DSO HISTORY_DSO
     USING(397,418)
     ALLOCATE DATA    ON SP37 SIZE 32444K
                           SP38 SIZE 32440K;
CREATE DSI HISTORY_20_DSI
    DSO HISTORY_DSO
     USING(419,440)
     ALLOCATE DATA    ON SP39 SIZE 32444K
                           SP40 SIZE 32440K;
CREATE DSI HISTORY_21_DSI
    DSO HISTORY_DSO
     USING(441,462)
     ALLOCATE DATA    ON SP41 SIZE 32444K
                           SP42 SIZE 32440K;
CREATE DSI HISTORY_22_DSI
    DSO HISTORY_DSO
     USING(463,484)
     ALLOCATE DATA    ON SP43 SIZE 32444K
                           SP44 SIZE 32440K;
CREATE DSI HISTORY_23_DSI
    DSO HISTORY_DSO
     USING(485,506)
     ALLOCATE DATA    ON SP45 SIZE 32444K
                           SP46 SIZE 32440K;
CREATE DSI HISTORY_24_DSI
    DSO HISTORY_DSO
     USING(507,528)
     ALLOCATE DATA    ON SP47 SIZE 32444K
                           SP48 SIZE 32440K;
CREATE DSI HISTORY_25_DSI
    DSO HISTORY_DSO
```

```
     USING(529,550)
     ALLOCATE DATA    ON SP49 SIZE 32444K
                           SP50 SIZE 32440K;
CREATE DSI HISTORY_26_DSI
    DSO HISTORY_DSO
     USING(551,572)
     ALLOCATE DATA    ON SP51 SIZE 32444K
                           SP52 SIZE 32440K;
CREATE DSI HISTORY_27_DSI
    DSO HISTORY_DSO
     USING(573,594)
     ALLOCATE DATA    ON SP53 SIZE 32444K
                           SP54 SIZE 32440K;
CREATE DSI HISTORY_28_DSI
    DSO HISTORY_DSO
     USING(595,616)
     ALLOCATE DATA    ON SP55 SIZE 32444K
                           SP56 SIZE 32440K;
CREATE DSI HISTORY_29_DSI
    DSO HISTORY_DSO
     USING(617,638)
     ALLOCATE DATA    ON SP57 SIZE 32444K
                           SP58 SIZE 32440K;
CREATE DSI HISTORY_30_DSI
    DSO HISTORY_DSO
     USING(639,660)
     ALLOCATE DATA    ON SP59 SIZE 32444K
                           SP60 SIZE 32440K;
CREATE DSI HISTORY_31_DSI
    DSO HISTORY_DSO
     USING(661,682)
     ALLOCATE DATA    ON SP61 SIZE 32444K
                           SP62 SIZE 32440K;
CREATE DSI HISTORY_32_DSI
    DSO HISTORY_DSO
     USING(683,704)
     ALLOCATE DATA    ON SP63 SIZE 32444K
                           SP64 SIZE 32440K;
CREATE DSI HISTORY_33_DSI
    DSO HISTORY_DSO
     USING(705,726)
     ALLOCATE DATA    ON SP65 SIZE 32444K
                           SP66 SIZE 32440K;
CREATE DSI HISTORY_34_DSI
    DSO HISTORY_DSO
     USING(727,748)
     ALLOCATE DATA    ON SP67 SIZE 32444K
                           SP68 SIZE 32440K;
CREATE DSI HISTORY_35_DSI
    DSO HISTORY_DSO
     USING(749,770)
     ALLOCATE DATA    ON SP69 SIZE 32444K
                           SP70 SIZE 32440K;
CREATE DSI HISTORY_36_DSI
    DSO HISTORY_DSO
     USING(771,792)
     ALLOCATE DATA    ON SP71 SIZE 32444K
                           SP72 SIZE 32440K;
CREATE DSI HISTORY_37_DSI
    DSO HISTORY_DSO
     USING(793,814)
     ALLOCATE DATA    ON SP73 SIZE 32444K
                           SP74 SIZE 32440K;
```

```
CREATE DSI HISTORY_38_DSI
      DSO HISTORY_DSO
       USING(815,836)
       ALLOCATE DATA    ON SP75 SIZE 32444K
                           SP76 SIZE 32440K;
CREATE DSI HISTORY_39_DSI
      DSO HISTORY_DSO
       USING(837,858)
       ALLOCATE DATA    ON SP77 SIZE 32444K
                           SP78 SIZE 32440K;
CREATE DSI HISTORY_40_DSI
      DSO HISTORY_DSO
       USING(859,880)
       ALLOCATE DATA    ON SP79 SIZE 32444K
                           SP80 SIZE 32440K;
CREATE DSI HISTORY_41_DSI
      DSO HISTORY_DSO
       USING(881,902)
       ALLOCATE DATA    ON SP81 SIZE 32444K
                           SP82 SIZE 32440K;
CREATE DSI HISTORY_42_DSI
      DSO HISTORY_DSO
       USING(903,924)
       ALLOCATE DATA    ON SP83 SIZE 32444K
                           SP84 SIZE 32440K;
CREATE DSI HISTORY_43_DSI
      DSO HISTORY_DSO
       USING(925,946)
       ALLOCATE DATA    ON SP85 SIZE 32444K
                           SP86 SIZE 32440K;
CREATE DSI HISTORY_44_DSI
      DSO HISTORY_DSO
       USING(947,968)
       ALLOCATE DATA    ON SP87 SIZE 32444K
                           SP88 SIZE 32440K;
CREATE DSI HISTORY_45_DSI
      DSO HISTORY_DSO
       USING(969,990)
       ALLOCATE DATA    ON SP89 SIZE 32444K
                           SP90 SIZE 32440K;
CREATE DSI HISTORY_46_DSI
      DSO HISTORY_DSO
       USING(991,1012)
       ALLOCATE DATA    ON SP91 SIZE 32444K
                           SP92 SIZE 32440K;
CREATE DSI HISTORY_47_DSI
      DSO HISTORY_DSO
       USING(1013,1034)
       ALLOCATE DATA    ON SP93 SIZE 32444K
                           SP94 SIZE 32440K;
CREATE DSI HISTORY_48_DSI
      DSO HISTORY_DSO
       USING(1035,1056)
       ALLOCATE DATA    ON SP95 SIZE 32444K
                           SP96 SIZE 32440K;
CREATE DSI HISTORY_49_DSI
      DSO HISTORY_DSO
       USING(1057,1078)
       ALLOCATE DATA    ON SP97 SIZE 32444K
                           SP98 SIZE 32440K;
CREATE DSI HISTORY_50_DSI
      DSO HISTORY_DSO
       USING(1079,1100)
       ALLOCATE DATA    ON SP99 SIZE 32444K
                           SP100 SIZE 32440K;
CREATE DSI HISTORY_51_DSI
      DSO HISTORY_DSO
       USING(1101,1122)
       ALLOCATE DATA    ON SP101 SIZE 32444K
                           SP102 SIZE 32440K;
CREATE DSI HISTORY_52_DSI
      DSO HISTORY_DSO
       USING(1123,1144)
       ALLOCATE DATA    ON SP103 SIZE 32444K
                           SP104 SIZE 32440K;
CREATE DSI HISTORY_53_DSI
      DSO HISTORY_DSO
       USING(1145,1166)
       ALLOCATE DATA    ON SP105 SIZE 32444K
                           SP106 SIZE 32440K;
CREATE DSI HISTORY_54_DSI
      DSO HISTORY_DSO
       USING(1167,1188)
       ALLOCATE DATA    ON SP107 SIZE 32444K
                           SP108 SIZE 32440K;
CREATE DSI HISTORY_55_DSI
      DSO HISTORY_DSO
       USING(1189,1210)
       ALLOCATE DATA    ON SP109 SIZE 32444K
                           SP110 SIZE 32440K;
CREATE DSI HISTORY_56_DSI
      DSO HISTORY_DSO
       USING(1211,1232)
       ALLOCATE DATA    ON SP111 SIZE 32444K
                           SP112 SIZE 32440K;
CREATE DSI HISTORY_57_DSI
      DSO HISTORY_DSO
       USING(1233,1254)
       ALLOCATE DATA    ON SP113 SIZE 32444K
                           SP114 SIZE 32440K;
CREATE DSI HISTORY_58_DSI
      DSO HISTORY_DSO
       USING(1255,1276)
       ALLOCATE DATA    ON SP115 SIZE 32444K
                           SP116 SIZE 32440K;
CREATE DSI HISTORY_59_DSI
      DSO HISTORY_DSO
       USING(1277,1298)
       ALLOCATE DATA    ON SP117 SIZE 32444K
                           SP118 SIZE 32440K;
CREATE DSI HISTORY_60_DSI
      DSO HISTORY_DSO
       USING(1299,1320)
       ALLOCATE DATA    ON SP119 SIZE 32444K
                           SP120 SIZE 32440K;
CREATE DSI HISTORY_61_DSI
      DSO HISTORY_DSO
       USING(1321,1342)
       ALLOCATE DATA    ON SP121 SIZE 32444K
                           SP122 SIZE 32440K;
CREATE DSI HISTORY_62_DSI
      DSO HISTORY_DSO
       USING(1343,1364)
       ALLOCATE DATA    ON SP123 SIZE 32444K
                           SP124 SIZE 32440K;
CREATE DSI HISTORY_63_DSI
```

```
        DSO HISTORY_DSO
         USING(1365,1386)
         ALLOCATE DATA      ON SP125 SIZE 32444K
                                SP126 SIZE 32440K;
    CREATE DSI HISTORY_64_DSI
        DSO HISTORY_DSO
         USING(1387,1408)
         ALLOCATE DATA      ON SP127 SIZE 32444K
                                SP128 SIZE 32440K;
    CREATE DSI HISTORY_65_DSI
        DSO HISTORY_DSO
         USING(1409,1430)
         ALLOCATE DATA      ON SP129 SIZE 32444K
                                SP130 SIZE 32440K;
    CREATE DSI HISTORY_66_DSI
        DSO HISTORY_DSO
         USING(1431,1452)
         ALLOCATE DATA      ON SP131 SIZE 32444K
                                SP132 SIZE 32440K;
    CREATE DSI HISTORY_67_DSI
        DSO HISTORY_DSO
         USING(1453,1474)
         ALLOCATE DATA      ON SP133 SIZE 32444K
                                SP134 SIZE 32440K;
    CREATE DSI HISTORY_68_DSI
        DSO HISTORY_DSO
         USING(1475,1496)
         ALLOCATE DATA      ON SP135 SIZE 32444K
                                SP136 SIZE 32440K;
    CREATE DSI HISTORY_69_DSI
        DSO HISTORY_DSO
         USING(1497,1518)
         ALLOCATE DATA      ON SP137 SIZE 32444K
                                SP138 SIZE 32440K;
    CREATE DSI HISTORY_70_DSI
        DSO HISTORY_DSO
         USING(1519,1540)
         ALLOCATE DATA      ON SP139 SIZE 32444K
                                SP140 SIZE 32440K;
    CREATE DSI HISTORY_71_DSI
        DSO HISTORY_DSO
         USING(1541,1562)
         ALLOCATE DATA      ON SP141 SIZE 32444K
                                SP142 SIZE 32440K;
    CREATE DSI HISTORY_72_DSI
        DSO HISTORY_DSO
         USING(1563,1584)
         ALLOCATE DATA      ON SP143 SIZE 32444K
                                SP144 SIZE 32440K;
    CREATE DSI HISTORY_73_DSI
        DSO HISTORY_DSO
         USING(1585,1606)
         ALLOCATE DATA      ON SP145 SIZE 32444K
                                SP146 SIZE 32440K;
    CREATE DSI HISTORY_74_DSI
        DSO HISTORY_DSO
         USING(1607,1628)
         ALLOCATE DATA      ON SP147 SIZE 32444K
                                SP148 SIZE 32440K;
    CREATE DSI HISTORY_75_DSI
        DSO HISTORY_DSO
         USING(1629,1650)
         ALLOCATE DATA      ON SP149 SIZE 32444K
                                SP150 SIZE 32440K;
    CREATE DSI HISTORY_76_DSI
        DSO HISTORY_DSO
         USING(1651,1672)
         ALLOCATE DATA      ON SP151 SIZE 32444K
                                SP152 SIZE 32440K;
    CREATE DSI HISTORY_77_DSI
        DSO HISTORY_DSO
         USING(1673,1694)
         ALLOCATE DATA      ON SP153 SIZE 32444K
                                SP154 SIZE 32440K;
    CREATE DSI HISTORY_78_DSI
        DSO HISTORY_DSO
         USING(1695,1716)
         ALLOCATE DATA      ON SP155 SIZE 32444K
                                SP156 SIZE 32440K;
    CREATE DSI HISTORY_79_DSI
        DSO HISTORY_DSO
         USING(1717,1738)
         ALLOCATE DATA      ON SP157 SIZE 32444K
                                SP158 SIZE 32440K;
    CREATE DSI HISTORY_80_DSI
        DSO HISTORY_DSO
         USING(1739,1760)
         ALLOCATE DATA      ON SP159 SIZE 32444K
                                SP160 SIZE 32440K;
    CREATE DSI HISTORY_81_DSI
        DSO HISTORY_DSO
         USING(1761,1782)
         ALLOCATE DATA      ON SP161 SIZE 32444K
                                SP162 SIZE 32440K;
    CREATE DSI HISTORY_82_DSI
        DSO HISTORY_DSO
         USING(1783,1804)
         ALLOCATE DATA      ON SP163 SIZE 32444K
                                SP164 SIZE 32440K;
    CREATE DSI HISTORY_83_DSI
        DSO HISTORY_DSO
         USING(1805,1826)
         ALLOCATE DATA      ON SP165 SIZE 32444K
                                SP166 SIZE 32440K;
    CREATE DSI HISTORY_84_DSI
        DSO HISTORY_DSO
         USING(1827,3696)
         ALLOCATE DATA      ON SP167 SIZE 32444K
                                SP168 SIZE 32440K;
::::::::::::::
ddl.dat.IT
::::::::::::::
-----------------------------------------------------------------------------
-- * Phase.2-9: Item
-----------------------------------------------------------------------------
    CREATE DSO ITEM_DSO
         FROM TPCC_SCHEMA.ITEM
             TYPE
RANDOM(PAGESIZE1(1),PAGESIZE2(1),RULE(I_ID / 7+(I_ID-
((I_ID / 7)*7))*14286));
    CREATE DSI ITEM_1_DSI
        DSO ITEM_DSO
         ALLOCATE PRIME     ONSP1 SIZE 1435K
                                    SP2 SIZE 1428K
                                    SP3 SIZE 1428K
                                    SP4 SIZE 1428K
                                    SP5 SIZE 1428K
                                    SP6 SIZE 1428K
                                    SP7 SIZE 1428K
                                    SP8 SIZE 1428K
                                    SP9 SIZE 1428K
                                    SP10 SIZE 1428K,
              OVERFLOW ONSP1 SIZE 716K;
::::::::::::::
ddl.dat.NI
::::::::::::::
------------------------------------------------------------------------------
-- * Phase.2-6b: NewOrder-Index
------------------------------------------------------------------------------
    CREATE DSO NEWORDER_IX_DSO
        INDEX ON
TPCC_SCHEMA.NEWORDER(NO_W_ID,NO_D_ID,NO_O_ID)
        TYPE
BTREE(PAGESIZE1(8),PAGESIZE2(32),DEGENERATE);
    CREATE DSI NEWORDER_X_1_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_1_DSI
        ALLOCATE INDEX    ON SP2 SIZE 256K,
            BASE      ON SP1 SIZE 6624K
                                SP2 SIZE 6616K;
    CREATE DSI NEWORDER_X_2_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_2_DSI
        ALLOCATE INDEX    ON SP4 SIZE 256K,
            BASE      ON SP3 SIZE 6624K
                                SP4 SIZE 6616K;
    CREATE DSI NEWORDER_X_3_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_3_DSI
        ALLOCATE INDEX    ON SP6 SIZE 256K,
            BASE      ON SP5 SIZE 6624K
                                SP6 SIZE 6616K;
    CREATE DSI NEWORDER_X_4_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_4_DSI
        ALLOCATE INDEX    ON SP8 SIZE 256K,
            BASE      ON SP7 SIZE 6624K
                                SP8 SIZE 6616K;
    CREATE DSI NEWORDER_X_5_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_5_DSI
        ALLOCATE INDEX    ON SP10 SIZE 256K,
            BASE      ON SP9 SIZE 6624K
                                SP10 SIZE 6616K;
    CREATE DSI NEWORDER_X_6_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_6_DSI
        ALLOCATE INDEX    ON SP12 SIZE 256K,
            BASE      ON SP11 SIZE 6624K
                                SP12 SIZE 6616K;
    CREATE DSI NEWORDER_X_7_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_7_DSI
        ALLOCATE INDEX    ON SP14 SIZE 256K,
            BASE      ON SP13 SIZE 6624K
                                SP14 SIZE 6616K;
    CREATE DSI NEWORDER_X_8_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_8_DSI
        ALLOCATE INDEX    ON SP16 SIZE 256K,
            BASE      ON SP15 SIZE 6624K
                                SP16 SIZE 6616K;
    CREATE DSI NEWORDER_X_9_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_9_DSI
        ALLOCATE INDEX    ON SP18 SIZE 256K,
            BASE      ON SP17 SIZE 6624K
                                SP18 SIZE 6616K;
    CREATE DSI NEWORDER_X_10_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_10_DSI
        ALLOCATE INDEX    ON SP20 SIZE 256K,
            BASE      ON SP19 SIZE 6624K
                                SP20 SIZE 6616K;
    CREATE DSI NEWORDER_X_11_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_11_DSI
        ALLOCATE INDEX    ON SP22 SIZE 256K,
            BASE      ON SP21 SIZE 6624K
                                SP22 SIZE 6616K;
    CREATE DSI NEWORDER_X_12_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_12_DSI
        ALLOCATE INDEX    ON SP24 SIZE 256K,
            BASE      ON SP23 SIZE 6624K
                                SP24 SIZE 6616K;
    CREATE DSI NEWORDER_X_13_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_13_DSI
        ALLOCATE INDEX    ON SP26 SIZE 256K,
            BASE      ON SP25 SIZE 6624K
                                SP26 SIZE 6616K;
    CREATE DSI NEWORDER_X_14_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_14_DSI
        ALLOCATE INDEX    ON SP28 SIZE 256K,
            BASE      ON SP27 SIZE 6624K
                                SP28 SIZE 6616K;
    CREATE DSI NEWORDER_X_15_DSI
        INDEX
        DSO NEWORDER_IX_DSO
        BASE NEWORDER_15_DSI
        ALLOCATE INDEX    ON SP30 SIZE 256K,
            BASE      ON SP29 SIZE 6624K
                                SP30 SIZE 6616K;
    CREATE DSI NEWORDER_X_16_DSI
        INDEX
        DSO NEWORDER_IX_DSO
    BASE NEWORDER_16_DSI
    ALLOCATE INDEX   ON SP32 SIZE 256K,
         BASE     ON SP31 SIZE 6624K
                          SP32 SIZE 6616K;
CREATE DSI NEWORDER_X_17_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_17_DSI
    ALLOCATE INDEX   ON SP34 SIZE 256K,
         BASE     ON SP33 SIZE 6624K
                          SP34 SIZE 6616K;
CREATE DSI NEWORDER_X_18_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_18_DSI
    ALLOCATE INDEX   ON SP36 SIZE 256K,
         BASE     ON SP35 SIZE 6624K
                          SP36 SIZE 6616K;
CREATE DSI NEWORDER_X_19_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_19_DSI
    ALLOCATE INDEX   ON SP38 SIZE 256K,
         BASE     ON SP37 SIZE 6624K
                          SP38 SIZE 6616K;
CREATE DSI NEWORDER_X_20_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_20_DSI
    ALLOCATE INDEX   ON SP40 SIZE 256K,
         BASE     ON SP39 SIZE 6624K
                          SP40 SIZE 6616K;
CREATE DSI NEWORDER_X_21_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_21_DSI
    ALLOCATE INDEX   ON SP42 SIZE 256K,
         BASE     ON SP41 SIZE 6624K
                          SP42 SIZE 6616K;
CREATE DSI NEWORDER_X_22_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_22_DSI
    ALLOCATE INDEX   ON SP44 SIZE 256K,
         BASE     ON SP43 SIZE 6624K
                          SP44 SIZE 6616K;
CREATE DSI NEWORDER_X_23_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_23_DSI
    ALLOCATE INDEX   ON SP46 SIZE 256K,
         BASE     ON SP45 SIZE 6624K
                          SP46 SIZE 6616K;
CREATE DSI NEWORDER_X_24_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_24_DSI
    ALLOCATE INDEX   ON SP48 SIZE 256K,
         BASE     ON SP47 SIZE 6624K
                          SP48 SIZE 6616K;
CREATE DSI NEWORDER_X_25_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_25_DSI
    ALLOCATE INDEX   ON SP50 SIZE 256K,
         BASE     ON SP49 SIZE 6624K
                          SP50 SIZE 6616K;
CREATE DSI NEWORDER_X_26_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_26_DSI
    ALLOCATE INDEX   ON SP52 SIZE 256K,
         BASE     ON SP51 SIZE 6624K
                          SP52 SIZE 6616K;
CREATE DSI NEWORDER_X_27_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_27_DSI
    ALLOCATE INDEX   ON SP54 SIZE 256K,
         BASE     ON SP53 SIZE 6624K
                          SP54 SIZE 6616K;
CREATE DSI NEWORDER_X_28_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_28_DSI
    ALLOCATE INDEX   ON SP56 SIZE 256K,
         BASE     ON SP55 SIZE 6624K
                          SP56 SIZE 6616K;
CREATE DSI NEWORDER_X_29_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_29_DSI
    ALLOCATE INDEX   ON SP58 SIZE 256K,
         BASE     ON SP57 SIZE 6624K
                          SP58 SIZE 6616K;
CREATE DSI NEWORDER_X_30_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_30_DSI
    ALLOCATE INDEX   ON SP60 SIZE 256K,
         BASE     ON SP59 SIZE 6624K
                          SP60 SIZE 6616K;
CREATE DSI NEWORDER_X_31_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_31_DSI
    ALLOCATE INDEX   ON SP62 SIZE 256K,
         BASE     ON SP61 SIZE 6624K
                          SP62 SIZE 6616K;
CREATE DSI NEWORDER_X_32_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_32_DSI
    ALLOCATE INDEX   ON SP64 SIZE 256K,
         BASE     ON SP63 SIZE 6624K
                          SP64 SIZE 6616K;
CREATE DSI NEWORDER_X_33_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_33_DSI
    ALLOCATE INDEX   ON SP66 SIZE 256K,
         BASE     ON SP65 SIZE 6624K
                          SP66 SIZE 6616K;
CREATE DSI NEWORDER_X_34_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_34_DSI
    ALLOCATE INDEX  ON SP68 SIZE 256K,
        BASE   ON SP67 SIZE 6624K
                        SP68 SIZE 6616K;
CREATE DSI NEWORDER_X_35_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_35_DSI
    ALLOCATE INDEX  ON SP70 SIZE 256K,
        BASE   ON SP69 SIZE 6624K
                        SP70 SIZE 6616K;
CREATE DSI NEWORDER_X_36_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_36_DSI
    ALLOCATE INDEX  ON SP72 SIZE 256K,
        BASE   ON SP71 SIZE 6624K
                        SP72 SIZE 6616K;
CREATE DSI NEWORDER_X_37_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_37_DSI
    ALLOCATE INDEX  ON SP74 SIZE 256K,
        BASE   ON SP73 SIZE 6624K
                        SP74 SIZE 6616K;
CREATE DSI NEWORDER_X_38_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_38_DSI
    ALLOCATE INDEX  ON SP76 SIZE 256K,
        BASE   ON SP75 SIZE 6624K
                        SP76 SIZE 6616K;
CREATE DSI NEWORDER_X_39_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_39_DSI
    ALLOCATE INDEX  ON SP78 SIZE 256K,
        BASE   ON SP77 SIZE 6624K
                        SP78 SIZE 6616K;
CREATE DSI NEWORDER_X_40_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_40_DSI
    ALLOCATE INDEX  ON SP80 SIZE 256K,
        BASE   ON SP79 SIZE 6624K
                        SP80 SIZE 6616K;
CREATE DSI NEWORDER_X_41_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_41_DSI
    ALLOCATE INDEX  ON SP82 SIZE 256K,
        BASE   ON SP81 SIZE 6624K
                        SP82 SIZE 6616K;
CREATE DSI NEWORDER_X_42_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_42_DSI
    ALLOCATE INDEX  ON SP84 SIZE 256K,
        BASE   ON SP83 SIZE 6624K
                        SP84 SIZE 6616K;
CREATE DSI NEWORDER_X_43_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_43_DSI
    ALLOCATE INDEX  ON SP86 SIZE 256K,
        BASE   ON SP85 SIZE 6624K
                        SP86 SIZE 6616K;
CREATE DSI NEWORDER_X_44_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_44_DSI
    ALLOCATE INDEX  ON SP88 SIZE 256K,
        BASE   ON SP87 SIZE 6624K
                        SP88 SIZE 6616K;
CREATE DSI NEWORDER_X_45_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_45_DSI
    ALLOCATE INDEX  ON SP90 SIZE 256K,
        BASE   ON SP89 SIZE 6624K
                        SP90 SIZE 6616K;
CREATE DSI NEWORDER_X_46_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_46_DSI
    ALLOCATE INDEX  ON SP92 SIZE 256K,
        BASE   ON SP91 SIZE 6624K
                        SP92 SIZE 6616K;
CREATE DSI NEWORDER_X_47_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_47_DSI
    ALLOCATE INDEX  ON SP94 SIZE 256K,
        BASE   ON SP93 SIZE 6624K
                        SP94 SIZE 6616K;
CREATE DSI NEWORDER_X_48_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_48_DSI
    ALLOCATE INDEX  ON SP96 SIZE 256K,
        BASE   ON SP95 SIZE 6624K
                        SP96 SIZE 6616K;
CREATE DSI NEWORDER_X_49_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_49_DSI
    ALLOCATE INDEX  ON SP98 SIZE 256K,
        BASE   ON SP97 SIZE 6624K
                        SP98 SIZE 6616K;
CREATE DSI NEWORDER_X_50_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_50_DSI
    ALLOCATE INDEX  ON SP100 SIZE 256K,
        BASE   ON SP99 SIZE 6624K
                        SP100 SIZE 6616K;
CREATE DSI NEWORDER_X_51_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_51_DSI
    ALLOCATE INDEX  ON SP102 SIZE 256K,
        BASE   ON SP101 SIZE 6624K
                        SP102 SIZE 6616K;
CREATE DSI NEWORDER_X_52_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_52_DSI
    ALLOCATE INDEX    ON SP104 SIZE 256K,
         BASE    ON SP103 SIZE 6624K
                           SP104 SIZE 6616K;
CREATE DSI NEWORDER_X_53_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_53_DSI
    ALLOCATE INDEX    ON SP106 SIZE 256K,
         BASE    ON SP105 SIZE 6624K
                           SP106 SIZE 6616K;
CREATE DSI NEWORDER_X_54_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_54_DSI
    ALLOCATE INDEX    ON SP108 SIZE 256K,
         BASE    ON SP107 SIZE 6624K
                           SP108 SIZE 6616K;
CREATE DSI NEWORDER_X_55_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_55_DSI
    ALLOCATE INDEX    ON SP110 SIZE 256K,
         BASE    ON SP109 SIZE 6624K
                           SP110 SIZE 6616K;
CREATE DSI NEWORDER_X_56_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_56_DSI
    ALLOCATE INDEX    ON SP112 SIZE 256K,
         BASE    ON SP111 SIZE 6624K
                           SP112 SIZE 6616K;
CREATE DSI NEWORDER_X_57_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_57_DSI
    ALLOCATE INDEX    ON SP114 SIZE 256K,
         BASE    ON SP113 SIZE 6624K
                           SP114 SIZE 6616K;
CREATE DSI NEWORDER_X_58_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_58_DSI
    ALLOCATE INDEX    ON SP116 SIZE 256K,
         BASE    ON SP115 SIZE 6624K
                           SP116 SIZE 6616K;
CREATE DSI NEWORDER_X_59_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_59_DSI
    ALLOCATE INDEX    ON SP118 SIZE 256K,
         BASE    ON SP117 SIZE 6624K
                           SP118 SIZE 6616K;
CREATE DSI NEWORDER_X_60_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_60_DSI
    ALLOCATE INDEX    ON SP120 SIZE 256K,
         BASE    ON SP119 SIZE 6624K
                           SP120 SIZE 6616K;
CREATE DSI NEWORDER_X_61_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_61_DSI
    ALLOCATE INDEX    ON SP122 SIZE 256K,
         BASE    ON SP121 SIZE 6624K
                           SP122 SIZE 6616K;
CREATE DSI NEWORDER_X_62_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_62_DSI
    ALLOCATE INDEX    ON SP124 SIZE 256K,
         BASE    ON SP123 SIZE 6624K
                           SP124 SIZE 6616K;
CREATE DSI NEWORDER_X_63_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_63_DSI
    ALLOCATE INDEX    ON SP126 SIZE 256K,
         BASE    ON SP125 SIZE 6624K
                           SP126 SIZE 6616K;
CREATE DSI NEWORDER_X_64_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_64_DSI
    ALLOCATE INDEX    ON SP128 SIZE 256K,
         BASE    ON SP127 SIZE 6624K
                           SP128 SIZE 6616K;
CREATE DSI NEWORDER_X_65_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_65_DSI
    ALLOCATE INDEX    ON SP130 SIZE 256K,
         BASE    ON SP129 SIZE 6624K
                           SP130 SIZE 6616K;
CREATE DSI NEWORDER_X_66_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_66_DSI
    ALLOCATE INDEX    ON SP132 SIZE 256K,
         BASE    ON SP131 SIZE 6624K
                           SP132 SIZE 6616K;
CREATE DSI NEWORDER_X_67_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_67_DSI
    ALLOCATE INDEX    ON SP134 SIZE 256K,
         BASE    ON SP133 SIZE 6624K
                           SP134 SIZE 6616K;
CREATE DSI NEWORDER_X_68_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_68_DSI
    ALLOCATE INDEX    ON SP136 SIZE 256K,
         BASE    ON SP135 SIZE 6624K
                           SP136 SIZE 6616K;
CREATE DSI NEWORDER_X_69_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_69_DSI
    ALLOCATE INDEX    ON SP138 SIZE 256K,
         BASE    ON SP137 SIZE 6624K
                           SP138 SIZE 6616K;
CREATE DSI NEWORDER_X_70_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_70_DSI
    ALLOCATE INDEX   ON SP140 SIZE 256K,
        BASE    ON SP139 SIZE 6624K
                                    SP140 SIZE 6616K;
CREATE DSI NEWORDER_X_71_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_71_DSI
    ALLOCATE INDEX   ON SP142 SIZE 256K,
        BASE    ON SP141 SIZE 6624K
                                    SP142 SIZE 6616K;
CREATE DSI NEWORDER_X_72_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_72_DSI
    ALLOCATE INDEX   ON SP144 SIZE 256K,
        BASE    ON SP143 SIZE 6624K
                                    SP144 SIZE 6616K;
CREATE DSI NEWORDER_X_73_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_73_DSI
    ALLOCATE INDEX   ON SP146 SIZE 256K,
        BASE    ON SP145 SIZE 6624K
                                    SP146 SIZE 6616K;
CREATE DSI NEWORDER_X_74_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_74_DSI
    ALLOCATE INDEX   ON SP148 SIZE 256K,
        BASE    ON SP147 SIZE 6624K
                                    SP148 SIZE 6616K;
CREATE DSI NEWORDER_X_75_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_75_DSI
    ALLOCATE INDEX   ON SP150 SIZE 256K,
        BASE    ON SP149 SIZE 6624K
                                    SP150 SIZE 6616K;
CREATE DSI NEWORDER_X_76_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_76_DSI
    ALLOCATE INDEX   ON SP152 SIZE 256K,
        BASE    ON SP151 SIZE 6624K
                                    SP152 SIZE 6616K;
CREATE DSI NEWORDER_X_77_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_77_DSI
    ALLOCATE INDEX   ON SP154 SIZE 256K,
        BASE    ON SP153 SIZE 6624K
                                    SP154 SIZE 6616K;
CREATE DSI NEWORDER_X_78_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_78_DSI
    ALLOCATE INDEX   ON SP156 SIZE 256K,
        BASE    ON SP155 SIZE 6624K
                                    SP156 SIZE 6616K;
CREATE DSI NEWORDER_X_79_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_79_DSI
    ALLOCATE INDEX   ON SP158 SIZE 256K,
        BASE    ON SP157 SIZE 6624K
                                    SP158 SIZE 6616K;
CREATE DSI NEWORDER_X_80_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_80_DSI
    ALLOCATE INDEX   ON SP160 SIZE 256K,
        BASE    ON SP159 SIZE 6624K
                                    SP160 SIZE 6616K;
CREATE DSI NEWORDER_X_81_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_81_DSI
    ALLOCATE INDEX   ON SP162 SIZE 256K,
        BASE    ON SP161 SIZE 6624K
                                    SP162 SIZE 6616K;
CREATE DSI NEWORDER_X_82_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_82_DSI
    ALLOCATE INDEX   ON SP164 SIZE 256K,
        BASE    ON SP163 SIZE 6624K
                                    SP164 SIZE 6616K;
CREATE DSI NEWORDER_X_83_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_83_DSI
    ALLOCATE INDEX   ON SP166 SIZE 256K,
        BASE    ON SP165 SIZE 6624K
                                    SP166 SIZE 6616K;
CREATE DSI NEWORDER_X_84_DSI
    INDEX
    DSO NEWORDER_IX_DSO
    BASE NEWORDER_84_DSI
    ALLOCATE INDEX   ON SP168 SIZE 256K,
        BASE    ON SP167 SIZE 6624K
                                    SP168 SIZE 6616K;
::::::::::::::
ddl.dat.NO
::::::::::::::
---------------------------------------------------------------------------
-- * Phase.2-6a: NewOrder
---------------------------------------------------------------------------
    CREATE DSO NEWORDER_DSO
        FROM TPCC_SCHEMA.NEWORDER
     TYPE
RANDOM(PAGESIZE1(8),PAGESIZE2(1),RULE((NO_O_ID/8)*22+NO_W_ID+((N
O_D_ID-1)*10+(NO_O_ID-((NO_O_ID/8)*8)))*3586))
            WHERE (NO_W_ID) BETWEEN (?) AND (?);
    CREATE DSI NEWORDER_1_DSI
       DSO NEWORDER_DSO
        USING(1,22)
        ALLOCATE PRIME   ON SP1 SIZE 14352K
                                    SP2 SIZE 14344K,
            OVERFLOW ON SP1 SIZE 501K
                                    SP2 SIZE 500K;
    CREATE DSI NEWORDER_2_DSI
       DSO NEWORDER_DSO
        USING(23,44)
        ALLOCATE PRIME   ON SP3 SIZE 14352K
                                    SP4 SIZE 14344K,
         OVERFLOW ON SP3 SIZE 501K
                          SP4 SIZE 500K;
CREATE DSI NEWORDER_3_DSI
    DSO NEWORDER_DSO
     USING(45,66)
     ALLOCATE PRIME  ON SP5 SIZE 14352K
                          SP6 SIZE 14344K,
         OVERFLOW ON SP5 SIZE 501K
                          SP6 SIZE 500K;
CREATE DSI NEWORDER_4_DSI
    DSO NEWORDER_DSO
     USING(67,88)
     ALLOCATE PRIME  ON SP7 SIZE 14352K
                          SP8 SIZE 14344K,
         OVERFLOW ON SP7 SIZE 501K
                          SP8 SIZE 500K;
CREATE DSI NEWORDER_5_DSI
    DSO NEWORDER_DSO
     USING(89,110)
     ALLOCATE PRIME  ON SP9 SIZE 14352K
                          SP10 SIZE 14344K,
         OVERFLOW ON SP9 SIZE 501K
                          SP10 SIZE 500K;
CREATE DSI NEWORDER_6_DSI
    DSO NEWORDER_DSO
     USING(111,132)
     ALLOCATE PRIME  ON SP11 SIZE 14352K
                          SP12 SIZE 14344K,
         OVERFLOW ON SP11 SIZE 501K
                          SP12 SIZE 500K;
CREATE DSI NEWORDER_7_DSI
    DSO NEWORDER_DSO
     USING(133,154)
     ALLOCATE PRIME  ON SP13 SIZE 14352K
                          SP14 SIZE 14344K,
         OVERFLOW ON SP13 SIZE 501K
                          SP14 SIZE 500K;
CREATE DSI NEWORDER_8_DSI
    DSO NEWORDER_DSO
     USING(155,176)
     ALLOCATE PRIME  ON SP15 SIZE 14352K
                          SP16 SIZE 14344K,
         OVERFLOW ON SP15 SIZE 501K
                          SP16 SIZE 500K;
CREATE DSI NEWORDER_9_DSI
    DSO NEWORDER_DSO
     USING(177,198)
     ALLOCATE PRIME  ON SP17 SIZE 14352K
                          SP18 SIZE 14344K,
         OVERFLOW ON SP17 SIZE 501K
                          SP18 SIZE 500K;
CREATE DSI NEWORDER_10_DSI
    DSO NEWORDER_DSO
     USING(199,220)
     ALLOCATE PRIME  ON SP19 SIZE 14352K
                          SP20 SIZE 14344K,
         OVERFLOW ON SP19 SIZE 501K
                          SP20 SIZE 500K;
CREATE DSI NEWORDER_11_DSI
    DSO NEWORDER_DSO
     USING(221,242)
     ALLOCATE PRIME  ON SP21 SIZE 14352K
                          SP22 SIZE 14344K,
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         OVERFLOW ON SP21 SIZE 501K
                          SP22 SIZE 500K;
CREATE DSI NEWORDER_12_DSI
    DSO NEWORDER_DSO
     USING(243,264)
     ALLOCATE PRIME  ON SP23 SIZE 14352K
                          SP24 SIZE 14344K,
         OVERFLOW ON SP23 SIZE 501K
                          SP24 SIZE 500K;
CREATE DSI NEWORDER_13_DSI
    DSO NEWORDER_DSO
     USING(265,286)
     ALLOCATE PRIME  ON SP25 SIZE 14352K
                          SP26 SIZE 14344K,
         OVERFLOW ON SP25 SIZE 501K
                          SP26 SIZE 500K;
CREATE DSI NEWORDER_14_DSI
    DSO NEWORDER_DSO
     USING(287,308)
     ALLOCATE PRIME  ON SP27 SIZE 14352K
                          SP28 SIZE 14344K,
         OVERFLOW ON SP27 SIZE 501K
                          SP28 SIZE 500K;
CREATE DSI NEWORDER_15_DSI
    DSO NEWORDER_DSO
     USING(309,330)
     ALLOCATE PRIME  ON SP29 SIZE 14352K
                          SP30 SIZE 14344K,
         OVERFLOW ON SP29 SIZE 501K
                          SP30 SIZE 500K;
CREATE DSI NEWORDER_16_DSI
    DSO NEWORDER_DSO
     USING(331,352)
     ALLOCATE PRIME  ON SP31 SIZE 14352K
                          SP32 SIZE 14344K,
         OVERFLOW ON SP31 SIZE 501K
                          SP32 SIZE 500K;
CREATE DSI NEWORDER_17_DSI
    DSO NEWORDER_DSO
     USING(353,374)
     ALLOCATE PRIME  ON SP33 SIZE 14352K
                          SP34 SIZE 14344K,
         OVERFLOW ON SP33 SIZE 501K
                          SP34 SIZE 500K;
CREATE DSI NEWORDER_18_DSI
    DSO NEWORDER_DSO
     USING(375,396)
     ALLOCATE PRIME  ON SP35 SIZE 14352K
                          SP36 SIZE 14344K,
         OVERFLOW ON SP35 SIZE 501K
                          SP36 SIZE 500K;
CREATE DSI NEWORDER_19_DSI
    DSO NEWORDER_DSO
     USING(397,418)
     ALLOCATE PRIME  ON SP37 SIZE 14352K
                          SP38 SIZE 14344K,
         OVERFLOW ON SP37 SIZE 501K
                          SP38 SIZE 500K;
CREATE DSI NEWORDER_20_DSI
    DSO NEWORDER_DSO
     USING(419,440)
     ALLOCATE PRIME  ON SP39 SIZE 14352K
                          SP40 SIZE 14344K,
          OVERFLOW ON SP39 SIZE 501K
                             SP40 SIZE 500K;
CREATE DSI NEWORDER_21_DSI
    DSO NEWORDER_DSO
     USING(441,462)
     ALLOCATE PRIME     ON SP41 SIZE 14352K
                             SP42 SIZE 14344K,
          OVERFLOW ON SP41 SIZE 501K
                             SP42 SIZE 500K;
CREATE DSI NEWORDER_22_DSI
    DSO NEWORDER_DSO
     USING(463,484)
     ALLOCATE PRIME     ON SP43 SIZE 14352K
                             SP44 SIZE 14344K,
          OVERFLOW ON SP43 SIZE 501K
                             SP44 SIZE 500K;
CREATE DSI NEWORDER_23_DSI
    DSO NEWORDER_DSO
     USING(485,506)
     ALLOCATE PRIME     ON SP45 SIZE 14352K
                             SP46 SIZE 14344K,
          OVERFLOW ON SP45 SIZE 501K
                             SP46 SIZE 500K;
CREATE DSI NEWORDER_24_DSI
    DSO NEWORDER_DSO
     USING(507,528)
     ALLOCATE PRIME     ON SP47 SIZE 14352K
                             SP48 SIZE 14344K,
          OVERFLOW ON SP47 SIZE 501K
                             SP48 SIZE 500K;
CREATE DSI NEWORDER_25_DSI
    DSO NEWORDER_DSO
     USING(529,550)
     ALLOCATE PRIME     ON SP49 SIZE 14352K
                             SP50 SIZE 14344K,
          OVERFLOW ON SP49 SIZE 501K
                             SP50 SIZE 500K;
CREATE DSI NEWORDER_26_DSI
    DSO NEWORDER_DSO
     USING(551,572)
     ALLOCATE PRIME     ON SP51 SIZE 14352K
                             SP52 SIZE 14344K,
          OVERFLOW ON SP51 SIZE 501K
                             SP52 SIZE 500K;
CREATE DSI NEWORDER_27_DSI
    DSO NEWORDER_DSO
     USING(573,594)
     ALLOCATE PRIME     ON SP53 SIZE 14352K
                             SP54 SIZE 14344K,
          OVERFLOW ON SP53 SIZE 501K
                             SP54 SIZE 500K;
CREATE DSI NEWORDER_28_DSI
    DSO NEWORDER_DSO
     USING(595,616)
     ALLOCATE PRIME     ON SP55 SIZE 14352K
                             SP56 SIZE 14344K,
          OVERFLOW ON SP55 SIZE 501K
                             SP56 SIZE 500K;
CREATE DSI NEWORDER_29_DSI
    DSO NEWORDER_DSO
     USING(617,638)
     ALLOCATE PRIME     ON SP57 SIZE 14352K
                             SP58 SIZE 14344K,
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          OVERFLOW ON SP57 SIZE 501K
                             SP58 SIZE 500K;
CREATE DSI NEWORDER_30_DSI
    DSO NEWORDER_DSO
     USING(639,660)
     ALLOCATE PRIME     ON SP59 SIZE 14352K
                             SP60 SIZE 14344K,
          OVERFLOW ON SP59 SIZE 501K
                             SP60 SIZE 500K;
CREATE DSI NEWORDER_31_DSI
    DSO NEWORDER_DSO
     USING(661,682)
     ALLOCATE PRIME     ON SP61 SIZE 14352K
                             SP62 SIZE 14344K,
          OVERFLOW ON SP61 SIZE 501K
                             SP62 SIZE 500K;
CREATE DSI NEWORDER_32_DSI
    DSO NEWORDER_DSO
     USING(683,704)
     ALLOCATE PRIME     ON SP63 SIZE 14352K
                             SP64 SIZE 14344K,
          OVERFLOW ON SP63 SIZE 501K
                             SP64 SIZE 500K;
CREATE DSI NEWORDER_33_DSI
    DSO NEWORDER_DSO
     USING(705,726)
     ALLOCATE PRIME     ON SP65 SIZE 14352K
                             SP66 SIZE 14344K,
          OVERFLOW ON SP65 SIZE 501K
                             SP66 SIZE 500K;
CREATE DSI NEWORDER_34_DSI
    DSO NEWORDER_DSO
     USING(727,748)
     ALLOCATE PRIME     ON SP67 SIZE 14352K
                             SP68 SIZE 14344K,
          OVERFLOW ON SP67 SIZE 501K
                             SP68 SIZE 500K;
CREATE DSI NEWORDER_35_DSI
    DSO NEWORDER_DSO
     USING(749,770)
     ALLOCATE PRIME     ON SP69 SIZE 14352K
                             SP70 SIZE 14344K,
          OVERFLOW ON SP69 SIZE 501K
                             SP70 SIZE 500K;
CREATE DSI NEWORDER_36_DSI
    DSO NEWORDER_DSO
     USING(771,792)
     ALLOCATE PRIME     ON SP71 SIZE 14352K
                             SP72 SIZE 14344K,
          OVERFLOW ON SP71 SIZE 501K
                             SP72 SIZE 500K;
CREATE DSI NEWORDER_37_DSI
    DSO NEWORDER_DSO
     USING(793,814)
     ALLOCATE PRIME     ON SP73 SIZE 14352K
                             SP74 SIZE 14344K,
          OVERFLOW ON SP73 SIZE 501K
                             SP74 SIZE 500K;
CREATE DSI NEWORDER_38_DSI
    DSO NEWORDER_DSO
     USING(815,836)
     ALLOCATE PRIME     ON SP75 SIZE 14352K
                             SP76 SIZE 14344K,
         OVERFLOW ON SP75 SIZE 501K
                          SP76 SIZE 500K;
CREATE DSI NEWORDER_39_DSI
    DSO NEWORDER_DSO
     USING(837,858)
     ALLOCATE PRIME   ON SP77 SIZE 14352K
                          SP78 SIZE 14344K,
         OVERFLOW ON SP77 SIZE 501K
                          SP78 SIZE 500K;
CREATE DSI NEWORDER_40_DSI
    DSO NEWORDER_DSO
     USING(859,880)
     ALLOCATE PRIME   ON SP79 SIZE 14352K
                          SP80 SIZE 14344K,
         OVERFLOW ON SP79 SIZE 501K
                          SP80 SIZE 500K;
CREATE DSI NEWORDER_41_DSI
    DSO NEWORDER_DSO
     USING(881,902)
     ALLOCATE PRIME   ON SP81 SIZE 14352K
                          SP82 SIZE 14344K,
         OVERFLOW ON SP81 SIZE 501K
                          SP82 SIZE 500K;
CREATE DSI NEWORDER_42_DSI
    DSO NEWORDER_DSO
     USING(903,924)
     ALLOCATE PRIME   ON SP83 SIZE 14352K
                          SP84 SIZE 14344K,
         OVERFLOW ON SP83 SIZE 501K
                          SP84 SIZE 500K;
CREATE DSI NEWORDER_43_DSI
    DSO NEWORDER_DSO
     USING(925,946)
     ALLOCATE PRIME   ON SP85 SIZE 14352K
                          SP86 SIZE 14344K,
         OVERFLOW ON SP85 SIZE 501K
                          SP86 SIZE 500K;
CREATE DSI NEWORDER_44_DSI
    DSO NEWORDER_DSO
     USING(947,968)
     ALLOCATE PRIME   ON SP87 SIZE 14352K
                          SP88 SIZE 14344K,
         OVERFLOW ON SP87 SIZE 501K
                          SP88 SIZE 500K;
CREATE DSI NEWORDER_45_DSI
    DSO NEWORDER_DSO
     USING(969,990)
     ALLOCATE PRIME   ON SP89 SIZE 14352K
                          SP90 SIZE 14344K,
         OVERFLOW ON SP89 SIZE 501K
                          SP90 SIZE 500K;
CREATE DSI NEWORDER_46_DSI
    DSO NEWORDER_DSO
     USING(991,1012)
     ALLOCATE PRIME   ON SP91 SIZE 14352K
                          SP92 SIZE 14344K,
         OVERFLOW ON SP91 SIZE 501K
                          SP92 SIZE 500K;
CREATE DSI NEWORDER_47_DSI
    DSO NEWORDER_DSO
     USING(1013,1034)
     ALLOCATE PRIME   ON SP93 SIZE 14352K
                          SP94 SIZE 14344K,
         OVERFLOW ON SP93 SIZE 501K
                          SP94 SIZE 500K;
CREATE DSI NEWORDER_48_DSI
    DSO NEWORDER_DSO
     USING(1035,1056)
     ALLOCATE PRIME   ON SP95 SIZE 14352K
                          SP96 SIZE 14344K,
         OVERFLOW ON SP95 SIZE 501K
                          SP96 SIZE 500K;
CREATE DSI NEWORDER_49_DSI
    DSO NEWORDER_DSO
     USING(1057,1078)
     ALLOCATE PRIME   ON SP97 SIZE 14352K
                          SP98 SIZE 14344K,
         OVERFLOW ON SP97 SIZE 501K
                          SP98 SIZE 500K;
CREATE DSI NEWORDER_50_DSI
    DSO NEWORDER_DSO
     USING(1079,1100)
     ALLOCATE PRIME   ON SP99 SIZE 14352K
                          SP100 SIZE 14344K,
         OVERFLOW ON SP99 SIZE 501K
                          SP100 SIZE 500K;
CREATE DSI NEWORDER_51_DSI
    DSO NEWORDER_DSO
     USING(1101,1122)
     ALLOCATE PRIME   ON SP101 SIZE 14352K
                          SP102 SIZE 14344K,
         OVERFLOW ON SP101 SIZE 501K
                          SP102 SIZE 500K;
CREATE DSI NEWORDER_52_DSI
    DSO NEWORDER_DSO
     USING(1123,1144)
     ALLOCATE PRIME   ON SP103 SIZE 14352K
                          SP104 SIZE 14344K,
         OVERFLOW ON SP103 SIZE 501K
                          SP104 SIZE 500K;
CREATE DSI NEWORDER_53_DSI
    DSO NEWORDER_DSO
     USING(1145,1166)
     ALLOCATE PRIME   ON SP105 SIZE 14352K
                          SP106 SIZE 14344K,
         OVERFLOW ON SP105 SIZE 501K
                          SP106 SIZE 500K;
CREATE DSI NEWORDER_54_DSI
    DSO NEWORDER_DSO
     USING(1167,1188)
     ALLOCATE PRIME   ON SP107 SIZE 14352K
                          SP108 SIZE 14344K,
         OVERFLOW ON SP107 SIZE 501K
                          SP108 SIZE 500K;
CREATE DSI NEWORDER_55_DSI
    DSO NEWORDER_DSO
     USING(1189,1210)
     ALLOCATE PRIME   ON SP109 SIZE 14352K
                          SP110 SIZE 14344K,
         OVERFLOW ON SP109 SIZE 501K
                          SP110 SIZE 500K;
CREATE DSI NEWORDER_56_DSI
    DSO NEWORDER_DSO
     USING(1211,1232)
     ALLOCATE PRIME   ON SP111 SIZE 14352K
                          SP112 SIZE 14344K,
         OVERFLOW ON SP111 SIZE 501K
                          SP112 SIZE 500K;
CREATE DSI NEWORDER_57_DSI
    DSO NEWORDER_DSO
    USING(1233,1254)
    ALLOCATE PRIME   ON SP113 SIZE 14352K
                          SP114 SIZE 14344K,
         OVERFLOW ON SP113 SIZE 501K
                          SP114 SIZE 500K;
CREATE DSI NEWORDER_58_DSI
    DSO NEWORDER_DSO
    USING(1255,1276)
    ALLOCATE PRIME   ON SP115 SIZE 14352K
                          SP116 SIZE 14344K,
         OVERFLOW ON SP115 SIZE 501K
                          SP116 SIZE 500K;
CREATE DSI NEWORDER_59_DSI
    DSO NEWORDER_DSO
    USING(1277,1298)
    ALLOCATE PRIME   ON SP117 SIZE 14352K
                          SP118 SIZE 14344K,
         OVERFLOW ON SP117 SIZE 501K
                          SP118 SIZE 500K;
CREATE DSI NEWORDER_60_DSI
    DSO NEWORDER_DSO
    USING(1299,1320)
    ALLOCATE PRIME   ON SP119 SIZE 14352K
                          SP120 SIZE 14344K,
         OVERFLOW ON SP119 SIZE 501K
                          SP120 SIZE 500K;
CREATE DSI NEWORDER_61_DSI
    DSO NEWORDER_DSO
    USING(1321,1342)
    ALLOCATE PRIME   ON SP121 SIZE 14352K
                          SP122 SIZE 14344K,
         OVERFLOW ON SP121 SIZE 501K
                          SP122 SIZE 500K;
CREATE DSI NEWORDER_62_DSI
    DSO NEWORDER_DSO
    USING(1343,1364)
    ALLOCATE PRIME   ON SP123 SIZE 14352K
                          SP124 SIZE 14344K,
         OVERFLOW ON SP123 SIZE 501K
                          SP124 SIZE 500K;
CREATE DSI NEWORDER_63_DSI
    DSO NEWORDER_DSO
    USING(1365,1386)
    ALLOCATE PRIME   ON SP125 SIZE 14352K
                          SP126 SIZE 14344K,
         OVERFLOW ON SP125 SIZE 501K
                          SP126 SIZE 500K;
CREATE DSI NEWORDER_64_DSI
    DSO NEWORDER_DSO
    USING(1387,1408)
    ALLOCATE PRIME   ON SP127 SIZE 14352K
                          SP128 SIZE 14344K,
         OVERFLOW ON SP127 SIZE 501K
                          SP128 SIZE 500K;
CREATE DSI NEWORDER_65_DSI
    DSO NEWORDER_DSO
    USING(1409,1430)
    ALLOCATE PRIME   ON SP129 SIZE 14352K
                          SP130 SIZE 14344K,
         OVERFLOW ON SP129 SIZE 501K
                          SP130 SIZE 500K;
CREATE DSI NEWORDER_66_DSI
    DSO NEWORDER_DSO
    USING(1431,1452)
    ALLOCATE PRIME   ON SP131 SIZE 14352K
                          SP132 SIZE 14344K,
         OVERFLOW ON SP131 SIZE 501K
                          SP132 SIZE 500K;
CREATE DSI NEWORDER_67_DSI
    DSO NEWORDER_DSO
    USING(1453,1474)
    ALLOCATE PRIME   ON SP133 SIZE 14352K
                          SP134 SIZE 14344K,
         OVERFLOW ON SP133 SIZE 501K
                          SP134 SIZE 500K;
CREATE DSI NEWORDER_68_DSI
    DSO NEWORDER_DSO
    USING(1475,1496)
    ALLOCATE PRIME   ON SP135 SIZE 14352K
                          SP136 SIZE 14344K,
         OVERFLOW ON SP135 SIZE 501K
                          SP136 SIZE 500K;
CREATE DSI NEWORDER_69_DSI
    DSO NEWORDER_DSO
    USING(1497,1518)
    ALLOCATE PRIME   ON SP137 SIZE 14352K
                          SP138 SIZE 14344K,
         OVERFLOW ON SP137 SIZE 501K
                          SP138 SIZE 500K;
CREATE DSI NEWORDER_70_DSI
    DSO NEWORDER_DSO
    USING(1519,1540)
    ALLOCATE PRIME   ON SP139 SIZE 14352K
                          SP140 SIZE 14344K,
         OVERFLOW ON SP139 SIZE 501K
                          SP140 SIZE 500K;
CREATE DSI NEWORDER_71_DSI
    DSO NEWORDER_DSO
    USING(1541,1562)
    ALLOCATE PRIME   ON SP141 SIZE 14352K
                          SP142 SIZE 14344K,
         OVERFLOW ON SP141 SIZE 501K
                          SP142 SIZE 500K;
CREATE DSI NEWORDER_72_DSI
    DSO NEWORDER_DSO
    USING(1563,1584)
    ALLOCATE PRIME   ON SP143 SIZE 14352K
                          SP144 SIZE 14344K,
         OVERFLOW ON SP143 SIZE 501K
                          SP144 SIZE 500K;
CREATE DSI NEWORDER_73_DSI
    DSO NEWORDER_DSO
    USING(1585,1606)
    ALLOCATE PRIME   ON SP145 SIZE 14352K
                          SP146 SIZE 14344K,
         OVERFLOW ON SP145 SIZE 501K
                          SP146 SIZE 500K;
CREATE DSI NEWORDER_74_DSI
    DSO NEWORDER_DSO
    USING(1607,1628)
    ALLOCATE PRIME   ON SP147 SIZE 14352K
                          SP148 SIZE 14344K,
         OVERFLOW ON SP147 SIZE 501K
                          SP148 SIZE 500K;
CREATE DSI NEWORDER_75_DSI
    DSO NEWORDER_DSO
     USING(1629,1650)
     ALLOCATE PRIME   ON SP149 SIZE 14352K
                          SP150 SIZE 14344K,
         OVERFLOW ON SP149 SIZE 501K
                          SP150 SIZE 500K;
CREATE DSI NEWORDER_76_DSI
    DSO NEWORDER_DSO
     USING(1651,1672)
     ALLOCATE PRIME   ON SP151 SIZE 14352K
                          SP152 SIZE 14344K,
         OVERFLOW ON SP151 SIZE 501K
                          SP152 SIZE 500K;
CREATE DSI NEWORDER_77_DSI
    DSO NEWORDER_DSO
     USING(1673,1694)
     ALLOCATE PRIME   ON SP153 SIZE 14352K
                          SP154 SIZE 14344K,
         OVERFLOW ON SP153 SIZE 501K
                          SP154 SIZE 500K;
CREATE DSI NEWORDER_78_DSI
    DSO NEWORDER_DSO
     USING(1695,1716)
     ALLOCATE PRIME   ON SP155 SIZE 14352K
                          SP156 SIZE 14344K,
         OVERFLOW ON SP155 SIZE 501K
                          SP156 SIZE 500K;
CREATE DSI NEWORDER_79_DSI
    DSO NEWORDER_DSO
     USING(1717,1738)
     ALLOCATE PRIME   ON SP157 SIZE 14352K
                          SP158 SIZE 14344K,
         OVERFLOW ON SP157 SIZE 501K
                          SP158 SIZE 500K;
CREATE DSI NEWORDER_80_DSI
    DSO NEWORDER_DSO
     USING(1739,1760)
     ALLOCATE PRIME   ON SP159 SIZE 14352K
                          SP160 SIZE 14344K,
         OVERFLOW ON SP159 SIZE 501K
                          SP160 SIZE 500K;
CREATE DSI NEWORDER_81_DSI
    DSO NEWORDER_DSO
     USING(1761,1782)
     ALLOCATE PRIME   ON SP161 SIZE 14352K
                          SP162 SIZE 14344K,
         OVERFLOW ON SP161 SIZE 501K
                          SP162 SIZE 500K;
CREATE DSI NEWORDER_82_DSI
    DSO NEWORDER_DSO
     USING(1783,1804)
     ALLOCATE PRIME   ON SP163 SIZE 14352K
                          SP164 SIZE 14344K,
         OVERFLOW ON SP163 SIZE 501K
                          SP164 SIZE 500K;
CREATE DSI NEWORDER_83_DSI
    DSO NEWORDER_DSO
     USING(1805,1826)
     ALLOCATE PRIME   ON SP165 SIZE 14352K
                          SP166 SIZE 14344K,
```

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             OVERFLOW ON SP165 SIZE 501K
                              SP166 SIZE 500K;
    CREATE DSI NEWORDER_84_DSI
        DSO NEWORDER_DSO
        USING(1827,3696)
        ALLOCATE PRIME   ON SP167 SIZE 14352K
                              SP168 SIZE 14344K,
             OVERFLOW ON SP167 SIZE 501K
                              SP168 SIZE 500K;
::::::::::::::
ddl.dat.OI
::::::::::::::
---------------------------------------------------------------------------
-- * Phase.2-4b: Orders-IX
---------------------------------------------------------------------------
    CREATE DSO ORDERS_IX_DSO
        INDEX ON TPCC_SCHEMA.ORDERS(O_W_ID,O_D_ID,O_C_ID)
        TYPE BTREE(PAGESIZE1(8),PAGESIZE2(32));
    CREATE DSI ORDERS_IX_1_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_1_DSI
        ALLOCATE INDEX   ON SP1 SIZE 1024K,
             BASE   ON SP1 SIZE 16400K
                              SP2 SIZE 16392K;
    CREATE DSI ORDERS_IX_2_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_2_DSI
        ALLOCATE INDEX   ON SP3 SIZE 1024K,
             BASE   ON SP3 SIZE 16400K
                              SP4 SIZE 16392K;
    CREATE DSI ORDERS_IX_3_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_3_DSI
        ALLOCATE INDEX   ON SP5 SIZE 1024K,
             BASE   ON SP5 SIZE 16400K
                              SP6 SIZE 16392K;
    CREATE DSI ORDERS_IX_4_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_4_DSI
        ALLOCATE INDEX   ON SP7 SIZE 1024K,
             BASE   ON SP7 SIZE 16400K
                              SP8 SIZE 16392K;
    CREATE DSI ORDERS_IX_5_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_5_DSI
        ALLOCATE INDEX   ON SP9 SIZE 1024K,
             BASE   ON SP9 SIZE 16400K
                              SP10 SIZE 16392K;
    CREATE DSI ORDERS_IX_6_DSI
        INDEX
        DSO ORDERS_IX_DSO
        BASE ORDERS_6_DSI
        ALLOCATE INDEX   ON SP11 SIZE 1024K,
             BASE   ON SP11 SIZE 16400K
                              SP12 SIZE 16392K;
    CREATE DSI ORDERS_IX_7_DSI
        INDEX
        DSO ORDERS_IX_DSO
    BASE ORDERS_7_DSI
    ALLOCATE INDEX    ON SP13 SIZE 1024K,
         BASE     ON SP13 SIZE 16400K
                       SP14 SIZE 16392K;
CREATE DSI ORDERS_IX_8_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_8_DSI
    ALLOCATE INDEX    ON SP15 SIZE 1024K,
         BASE     ON SP15 SIZE 16400K
                       SP16 SIZE 16392K;
CREATE DSI ORDERS_IX_9_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_9_DSI
    ALLOCATE INDEX    ON SP17 SIZE 1024K,
         BASE     ON SP17 SIZE 16400K
                       SP18 SIZE 16392K;
CREATE DSI ORDERS_IX_10_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_10_DSI
    ALLOCATE INDEX    ON SP19 SIZE 1024K,
         BASE     ON SP19 SIZE 16400K
                       SP20 SIZE 16392K;
CREATE DSI ORDERS_IX_11_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_11_DSI
    ALLOCATE INDEX    ON SP21 SIZE 1024K,
         BASE     ON SP21 SIZE 16400K
                       SP22 SIZE 16392K;
CREATE DSI ORDERS_IX_12_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_12_DSI
    ALLOCATE INDEX    ON SP23 SIZE 1024K,
         BASE     ON SP23 SIZE 16400K
                       SP24 SIZE 16392K;
CREATE DSI ORDERS_IX_13_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_13_DSI
    ALLOCATE INDEX    ON SP25 SIZE 1024K,
         BASE     ON SP25 SIZE 16400K
                       SP26 SIZE 16392K;
CREATE DSI ORDERS_IX_14_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_14_DSI
    ALLOCATE INDEX    ON SP27 SIZE 1024K,
         BASE     ON SP27 SIZE 16400K
                       SP28 SIZE 16392K;
CREATE DSI ORDERS_IX_15_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_15_DSI
    ALLOCATE INDEX    ON SP29 SIZE 1024K,
         BASE     ON SP29 SIZE 16400K
                       SP30 SIZE 16392K;
CREATE DSI ORDERS_IX_16_DSI
    INDEX
    DSO ORDERS_IX_DSO
```

```
    BASE ORDERS_16_DSI
    ALLOCATE INDEX    ON SP31 SIZE 1024K,
         BASE     ON SP31 SIZE 16400K
                       SP32 SIZE 16392K;
CREATE DSI ORDERS_IX_17_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_17_DSI
    ALLOCATE INDEX    ON SP33 SIZE 1024K,
         BASE     ON SP33 SIZE 16400K
                       SP34 SIZE 16392K;
CREATE DSI ORDERS_IX_18_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_18_DSI
    ALLOCATE INDEX    ON SP35 SIZE 1024K,
         BASE     ON SP35 SIZE 16400K
                       SP36 SIZE 16392K;
CREATE DSI ORDERS_IX_19_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_19_DSI
    ALLOCATE INDEX    ON SP37 SIZE 1024K,
         BASE     ON SP37 SIZE 16400K
                       SP38 SIZE 16392K;
CREATE DSI ORDERS_IX_20_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_20_DSI
    ALLOCATE INDEX    ON SP39 SIZE 1024K,
         BASE     ON SP39 SIZE 16400K
                       SP40 SIZE 16392K;
CREATE DSI ORDERS_IX_21_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_21_DSI
    ALLOCATE INDEX    ON SP41 SIZE 1024K,
         BASE     ON SP41 SIZE 16400K
                       SP42 SIZE 16392K;
CREATE DSI ORDERS_IX_22_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_22_DSI
    ALLOCATE INDEX    ON SP43 SIZE 1024K,
         BASE     ON SP43 SIZE 16400K
                       SP44 SIZE 16392K;
CREATE DSI ORDERS_IX_23_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_23_DSI
    ALLOCATE INDEX    ON SP45 SIZE 1024K,
         BASE     ON SP45 SIZE 16400K
                       SP46 SIZE 16392K;
CREATE DSI ORDERS_IX_24_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_24_DSI
    ALLOCATE INDEX    ON SP47 SIZE 1024K,
         BASE     ON SP47 SIZE 16400K
                       SP48 SIZE 16392K;
CREATE DSI ORDERS_IX_25_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_25_DSI
    ALLOCATE INDEX    ON SP49 SIZE 1024K,
         BASE    ON SP49 SIZE 16400K
                           SP50 SIZE 16392K;
CREATE DSI ORDERS_IX_26_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_26_DSI
    ALLOCATE INDEX    ON SP51 SIZE 1024K,
         BASE    ON SP51 SIZE 16400K
                           SP52 SIZE 16392K;
CREATE DSI ORDERS_IX_27_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_27_DSI
    ALLOCATE INDEX    ON SP53 SIZE 1024K,
         BASE    ON SP53 SIZE 16400K
                           SP54 SIZE 16392K;
CREATE DSI ORDERS_IX_28_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_28_DSI
    ALLOCATE INDEX    ON SP55 SIZE 1024K,
         BASE    ON SP55 SIZE 16400K
                           SP56 SIZE 16392K;
CREATE DSI ORDERS_IX_29_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_29_DSI
    ALLOCATE INDEX    ON SP57 SIZE 1024K,
         BASE    ON SP57 SIZE 16400K
                           SP58 SIZE 16392K;
CREATE DSI ORDERS_IX_30_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_30_DSI
    ALLOCATE INDEX    ON SP59 SIZE 1024K,
         BASE    ON SP59 SIZE 16400K
                           SP60 SIZE 16392K;
CREATE DSI ORDERS_IX_31_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_31_DSI
    ALLOCATE INDEX    ON SP61 SIZE 1024K,
         BASE    ON SP61 SIZE 16400K
                           SP62 SIZE 16392K;
CREATE DSI ORDERS_IX_32_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_32_DSI
    ALLOCATE INDEX    ON SP63 SIZE 1024K,
         BASE    ON SP63 SIZE 16400K
                           SP64 SIZE 16392K;
CREATE DSI ORDERS_IX_33_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_33_DSI
    ALLOCATE INDEX    ON SP65 SIZE 1024K,
         BASE    ON SP65 SIZE 16400K
                           SP66 SIZE 16392K;
CREATE DSI ORDERS_IX_34_DSI
    INDEX
    DSO ORDERS_IX_DSO
```

```
    BASE ORDERS_34_DSI
    ALLOCATE INDEX    ON SP67 SIZE 1024K,
         BASE    ON SP67 SIZE 16400K
                           SP68 SIZE 16392K;
CREATE DSI ORDERS_IX_35_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_35_DSI
    ALLOCATE INDEX    ON SP69 SIZE 1024K,
         BASE    ON SP69 SIZE 16400K
                           SP70 SIZE 16392K;
CREATE DSI ORDERS_IX_36_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_36_DSI
    ALLOCATE INDEX    ON SP71 SIZE 1024K,
         BASE    ON SP71 SIZE 16400K
                           SP72 SIZE 16392K;
CREATE DSI ORDERS_IX_37_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_37_DSI
    ALLOCATE INDEX    ON SP73 SIZE 1024K,
         BASE    ON SP73 SIZE 16400K
                           SP74 SIZE 16392K;
CREATE DSI ORDERS_IX_38_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_38_DSI
    ALLOCATE INDEX    ON SP75 SIZE 1024K,
         BASE    ON SP75 SIZE 16400K
                           SP76 SIZE 16392K;
CREATE DSI ORDERS_IX_39_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_39_DSI
    ALLOCATE INDEX    ON SP77 SIZE 1024K,
         BASE    ON SP77 SIZE 16400K
                           SP78 SIZE 16392K;
CREATE DSI ORDERS_IX_40_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_40_DSI
    ALLOCATE INDEX    ON SP79 SIZE 1024K,
         BASE    ON SP79 SIZE 16400K
                           SP80 SIZE 16392K;
CREATE DSI ORDERS_IX_41_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_41_DSI
    ALLOCATE INDEX    ON SP81 SIZE 1024K,
         BASE    ON SP81 SIZE 16400K
                           SP82 SIZE 16392K;
CREATE DSI ORDERS_IX_42_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_42_DSI
    ALLOCATE INDEX    ON SP83 SIZE 1024K,
         BASE    ON SP83 SIZE 16400K
                           SP84 SIZE 16392K;
CREATE DSI ORDERS_IX_43_DSI
    INDEX
    DSO ORDERS_IX_DSO
```

```
     BASE ORDERS_43_DSI
     ALLOCATE INDEX       ON SP85 SIZE 1024K,
           BASE    ON SP85 SIZE 16400K
                                SP86 SIZE 16392K;
CREATE DSI ORDERS_IX_44_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_44_DSI
     ALLOCATE INDEX       ON SP87 SIZE 1024K,
           BASE    ON SP87 SIZE 16400K
                                SP88 SIZE 16392K;
CREATE DSI ORDERS_IX_45_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_45_DSI
     ALLOCATE INDEX       ON SP89 SIZE 1024K,
           BASE    ON SP89 SIZE 16400K
                                SP90 SIZE 16392K;
CREATE DSI ORDERS_IX_46_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_46_DSI
     ALLOCATE INDEX       ON SP91 SIZE 1024K,
           BASE    ON SP91 SIZE 16400K
                                SP92 SIZE 16392K;
CREATE DSI ORDERS_IX_47_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_47_DSI
     ALLOCATE INDEX       ON SP93 SIZE 1024K,
           BASE    ON SP93 SIZE 16400K
                                SP94 SIZE 16392K;
CREATE DSI ORDERS_IX_48_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_48_DSI
     ALLOCATE INDEX       ON SP95 SIZE 1024K,
           BASE    ON SP95 SIZE 16400K
                                SP96 SIZE 16392K;
CREATE DSI ORDERS_IX_49_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_49_DSI
     ALLOCATE INDEX       ON SP97 SIZE 1024K,
           BASE    ON SP97 SIZE 16400K
                                SP98 SIZE 16392K;
CREATE DSI ORDERS_IX_50_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_50_DSI
     ALLOCATE INDEX       ON SP99 SIZE 1024K,
           BASE    ON SP99 SIZE 16400K
                                SP100 SIZE 16392K;
CREATE DSI ORDERS_IX_51_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_51_DSI
     ALLOCATE INDEX       ON SP101 SIZE 1024K,
           BASE    ON SP101 SIZE 16400K
                                SP102 SIZE 16392K;
CREATE DSI ORDERS_IX_52_DSI
     INDEX
     DSO ORDERS_IX_DSO
```

```
     BASE ORDERS_52_DSI
     ALLOCATE INDEX       ON SP103 SIZE 1024K,
           BASE    ON SP103 SIZE 16400K
                                SP104 SIZE 16392K;
CREATE DSI ORDERS_IX_53_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_53_DSI
     ALLOCATE INDEX       ON SP105 SIZE 1024K,
           BASE    ON SP105 SIZE 16400K
                                SP106 SIZE 16392K;
CREATE DSI ORDERS_IX_54_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_54_DSI
     ALLOCATE INDEX       ON SP107 SIZE 1024K,
           BASE    ON SP107 SIZE 16400K
                                SP108 SIZE 16392K;
CREATE DSI ORDERS_IX_55_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_55_DSI
     ALLOCATE INDEX       ON SP109 SIZE 1024K,
           BASE    ON SP109 SIZE 16400K
                                SP110 SIZE 16392K;
CREATE DSI ORDERS_IX_56_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_56_DSI
     ALLOCATE INDEX       ON SP111 SIZE 1024K,
           BASE    ON SP111 SIZE 16400K
                                SP112 SIZE 16392K;
CREATE DSI ORDERS_IX_57_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_57_DSI
     ALLOCATE INDEX       ON SP113 SIZE 1024K,
           BASE    ON SP113 SIZE 16400K
                                SP114 SIZE 16392K;
CREATE DSI ORDERS_IX_58_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_58_DSI
     ALLOCATE INDEX       ON SP115 SIZE 1024K,
           BASE    ON SP115 SIZE 16400K
                                SP116 SIZE 16392K;
CREATE DSI ORDERS_IX_59_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_59_DSI
     ALLOCATE INDEX       ON SP117 SIZE 1024K,
           BASE    ON SP117 SIZE 16400K
                                SP118 SIZE 16392K;
CREATE DSI ORDERS_IX_60_DSI
     INDEX
     DSO ORDERS_IX_DSO
     BASE ORDERS_60_DSI
     ALLOCATE INDEX       ON SP119 SIZE 1024K,
           BASE    ON SP119 SIZE 16400K
                                SP120 SIZE 16392K;
CREATE DSI ORDERS_IX_61_DSI
     INDEX
     DSO ORDERS_IX_DSO
```

```
    BASE ORDERS_61_DSI
    ALLOCATE INDEX   ON SP121 SIZE 1024K,
         BASE    ON SP121 SIZE 16400K
                          SP122 SIZE 16392K;
CREATE DSI ORDERS_IX_62_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_62_DSI
    ALLOCATE INDEX   ON SP123 SIZE 1024K,
         BASE    ON SP123 SIZE 16400K
                          SP124 SIZE 16392K;
CREATE DSI ORDERS_IX_63_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_63_DSI
    ALLOCATE INDEX   ON SP125 SIZE 1024K,
         BASE    ON SP125 SIZE 16400K
                          SP126 SIZE 16392K;
CREATE DSI ORDERS_IX_64_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_64_DSI
    ALLOCATE INDEX   ON SP127 SIZE 1024K,
         BASE    ON SP127 SIZE 16400K
                          SP128 SIZE 16392K;
CREATE DSI ORDERS_IX_65_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_65_DSI
    ALLOCATE INDEX   ON SP129 SIZE 1024K,
         BASE    ON SP129 SIZE 16400K
                          SP130 SIZE 16392K;
CREATE DSI ORDERS_IX_66_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_66_DSI
    ALLOCATE INDEX   ON SP131 SIZE 1024K,
         BASE    ON SP131 SIZE 16400K
                          SP132 SIZE 16392K;
CREATE DSI ORDERS_IX_67_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_67_DSI
    ALLOCATE INDEX   ON SP133 SIZE 1024K,
         BASE    ON SP133 SIZE 16400K
                          SP134 SIZE 16392K;
CREATE DSI ORDERS_IX_68_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_68_DSI
    ALLOCATE INDEX   ON SP135 SIZE 1024K,
         BASE    ON SP135 SIZE 16400K
                          SP136 SIZE 16392K;
CREATE DSI ORDERS_IX_69_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_69_DSI
    ALLOCATE INDEX   ON SP137 SIZE 1024K,
         BASE    ON SP137 SIZE 16400K
                          SP138 SIZE 16392K;
CREATE DSI ORDERS_IX_70_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_70_DSI
    ALLOCATE INDEX   ON SP139 SIZE 1024K,
         BASE    ON SP139 SIZE 16400K
                          SP140 SIZE 16392K;
CREATE DSI ORDERS_IX_71_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_71_DSI
    ALLOCATE INDEX   ON SP141 SIZE 1024K,
         BASE    ON SP141 SIZE 16400K
                          SP142 SIZE 16392K;
CREATE DSI ORDERS_IX_72_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_72_DSI
    ALLOCATE INDEX   ON SP143 SIZE 1024K,
         BASE    ON SP143 SIZE 16400K
                          SP144 SIZE 16392K;
CREATE DSI ORDERS_IX_73_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_73_DSI
    ALLOCATE INDEX   ON SP145 SIZE 1024K,
         BASE    ON SP145 SIZE 16400K
                          SP146 SIZE 16392K;
CREATE DSI ORDERS_IX_74_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_74_DSI
    ALLOCATE INDEX   ON SP147 SIZE 1024K,
         BASE    ON SP147 SIZE 16400K
                          SP148 SIZE 16392K;
CREATE DSI ORDERS_IX_75_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_75_DSI
    ALLOCATE INDEX   ON SP149 SIZE 1024K,
         BASE    ON SP149 SIZE 16400K
                          SP150 SIZE 16392K;
CREATE DSI ORDERS_IX_76_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_76_DSI
    ALLOCATE INDEX   ON SP151 SIZE 1024K,
         BASE    ON SP151 SIZE 16400K
                          SP152 SIZE 16392K;
CREATE DSI ORDERS_IX_77_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_77_DSI
    ALLOCATE INDEX   ON SP153 SIZE 1024K,
         BASE    ON SP153 SIZE 16400K
                          SP154 SIZE 16392K;
CREATE DSI ORDERS_IX_78_DSI
    INDEX
    DSO ORDERS_IX_DSO
    BASE ORDERS_78_DSI
    ALLOCATE INDEX   ON SP155 SIZE 1024K,
         BASE    ON SP155 SIZE 16400K
                          SP156 SIZE 16392K;
CREATE DSI ORDERS_IX_79_DSI
    INDEX
    DSO ORDERS_IX_DSO
```

```
            BASE ORDERS_79_DSI
            ALLOCATE INDEX    ON SP157 SIZE 1024K,
                   BASE    ON SP157 SIZE 16400K
                                     SP158 SIZE 16392K;
      CREATE DSI ORDERS_IX_80_DSI
            INDEX
            DSO ORDERS_IX_DSO
            BASE ORDERS_80_DSI
            ALLOCATE INDEX    ON SP159 SIZE 1024K,
                   BASE    ON SP159 SIZE 16400K
                                     SP160 SIZE 16392K;
      CREATE DSI ORDERS_IX_81_DSI
            INDEX
            DSO ORDERS_IX_DSO
            BASE ORDERS_81_DSI
            ALLOCATE INDEX    ON SP161 SIZE 1024K,
                   BASE    ON SP161 SIZE 16400K
                                     SP162 SIZE 16392K;
      CREATE DSI ORDERS_IX_82_DSI
            INDEX
            DSO ORDERS_IX_DSO
            BASE ORDERS_82_DSI
            ALLOCATE INDEX    ON SP163 SIZE 1024K,
                   BASE    ON SP163 SIZE 16400K
                                     SP164 SIZE 16392K;
      CREATE DSI ORDERS_IX_83_DSI
            INDEX
            DSO ORDERS_IX_DSO
            BASE ORDERS_83_DSI
            ALLOCATE INDEX    ON SP165 SIZE 1024K,
                   BASE    ON SP165 SIZE 16400K
                                     SP166 SIZE 16392K;
      CREATE DSI ORDERS_IX_84_DSI
            INDEX
            DSO ORDERS_IX_DSO
            BASE ORDERS_84_DSI
            ALLOCATE INDEX    ON SP167 SIZE 1024K,
                   BASE    ON SP167 SIZE 16400K
                                     SP168 SIZE 16392K;
::::::::::::::
ddl.dat.OL
::::::::::::::
---------------------------------------------------------------------------
-- * Phase.2-5a: OrderLine
---------------------------------------------------------------------------
      CREATE DSO ORDERLINE_DSO
            FROM TPCC_SCHEMA.ORDERLINE
                  TYPE
RANDOM(PAGESIZE1(32),PAGESIZE2(8),RULE((OL_O_ID / 30)*110+
OL_W_ID*10+OL_D_ID+(OL_NUMBER+(OL_O_ID-
((OL_O_ID / 30)*30))*15)*13757))
                  WHERE (OL_W_ID) BETWEEN (?) AND (?);
      CREATE DSI ORDERLIN_1_DSI
           DSO ORDERLINE_DSO
            USING(1,11)
            ALLOCATE PRIME    ON SP1 SIZE 440256K,
                   OVERFLOW ON SP1 SIZE  1760K;
      CREATE DSI ORDERLIN_2_DSI
           DSO ORDERLINE_DSO
            USING(12,22)
            ALLOCATE PRIME    ON SP2 SIZE 440256K,
                   OVERFLOW ON SP2 SIZE  1760K;
      CREATE DSI ORDERLIN_3_DSI
           DSO ORDERLINE_DSO
            USING(23,33)
            ALLOCATE PRIME    ON SP3 SIZE 440256K,
                   OVERFLOW ON SP3 SIZE  1760K;
      CREATE DSI ORDERLIN_4_DSI
           DSO ORDERLINE_DSO
            USING(34,44)
            ALLOCATE PRIME    ON SP4 SIZE 440256K,
                   OVERFLOW ON SP4 SIZE  1760K;
      CREATE DSI ORDERLIN_5_DSI
           DSO ORDERLINE_DSO
            USING(45,55)
            ALLOCATE PRIME    ON SP5 SIZE 440256K,
                   OVERFLOW ON SP5 SIZE  1760K;
      CREATE DSI ORDERLIN_6_DSI
           DSO ORDERLINE_DSO
            USING(56,66)
            ALLOCATE PRIME    ON SP6 SIZE 440256K,
                   OVERFLOW ON SP6 SIZE  1760K;
      CREATE DSI ORDERLIN_7_DSI
           DSO ORDERLINE_DSO
            USING(67,77)
            ALLOCATE PRIME    ON SP7 SIZE 440256K,
                   OVERFLOW ON SP7 SIZE  1760K;
      CREATE DSI ORDERLIN_8_DSI
           DSO ORDERLINE_DSO
            USING(78,88)
            ALLOCATE PRIME    ON SP8 SIZE 440256K,
                   OVERFLOW ON SP8 SIZE  1760K;
      CREATE DSI ORDERLIN_9_DSI
           DSO ORDERLINE_DSO
            USING(89,99)
            ALLOCATE PRIME    ON SP9 SIZE 440256K,
                   OVERFLOW ON SP9 SIZE  1760K;
      CREATE DSI ORDERLIN_10_DSI
           DSO ORDERLINE_DSO
            USING(100,110)
            ALLOCATE PRIME    ON SP10 SIZE 440256K,
                   OVERFLOW ON SP10 SIZE  1760K;
      CREATE DSI ORDERLIN_11_DSI
           DSO ORDERLINE_DSO
            USING(111,121)
            ALLOCATE PRIME    ON SP11 SIZE 440256K,
                   OVERFLOW ON SP11 SIZE  1760K;
      CREATE DSI ORDERLIN_12_DSI
           DSO ORDERLINE_DSO
            USING(122,132)
            ALLOCATE PRIME    ON SP12 SIZE 440256K,
                   OVERFLOW ON SP12 SIZE  1760K;
      CREATE DSI ORDERLIN_13_DSI
           DSO ORDERLINE_DSO
            USING(133,143)
            ALLOCATE PRIME    ON SP13 SIZE 440256K,
                   OVERFLOW ON SP13 SIZE  1760K;
      CREATE DSI ORDERLIN_14_DSI
           DSO ORDERLINE_DSO
            USING(144,154)
            ALLOCATE PRIME    ON SP14 SIZE 440256K,
                   OVERFLOW ON SP14 SIZE  1760K;
      CREATE DSI ORDERLIN_15_DSI
           DSO ORDERLINE_DSO
            USING(155,165)
            ALLOCATE PRIME    ON SP15 SIZE 440256K,
          OVERFLOW ON SP15 SIZE  1760K;
CREATE DSI ORDERLIN_16_DSI
    DSO ORDERLINE_DSO
     USING(166,176)
     ALLOCATE PRIME    ON SP16 SIZE 440256K,
          OVERFLOW ON SP16 SIZE  1760K;
CREATE DSI ORDERLIN_17_DSI
    DSO ORDERLINE_DSO
     USING(177,187)
     ALLOCATE PRIME    ON SP17 SIZE 440256K,
          OVERFLOW ON SP17 SIZE  1760K;
CREATE DSI ORDERLIN_18_DSI
    DSO ORDERLINE_DSO
     USING(188,198)
     ALLOCATE PRIME    ON SP18 SIZE 440256K,
          OVERFLOW ON SP18 SIZE  1760K;
CREATE DSI ORDERLIN_19_DSI
    DSO ORDERLINE_DSO
     USING(199,209)
     ALLOCATE PRIME    ON SP19 SIZE 440256K,
          OVERFLOW ON SP19 SIZE  1760K;
CREATE DSI ORDERLIN_20_DSI
    DSO ORDERLINE_DSO
     USING(210,220)
     ALLOCATE PRIME    ON SP20 SIZE 440256K,
          OVERFLOW ON SP20 SIZE  1760K;
CREATE DSI ORDERLIN_21_DSI
    DSO ORDERLINE_DSO
     USING(221,231)
     ALLOCATE PRIME    ON SP21 SIZE 440256K,
          OVERFLOW ON SP21 SIZE  1760K;
CREATE DSI ORDERLIN_22_DSI
    DSO ORDERLINE_DSO
     USING(232,242)
     ALLOCATE PRIME    ON SP22 SIZE 440256K,
          OVERFLOW ON SP22 SIZE  1760K;
CREATE DSI ORDERLIN_23_DSI
    DSO ORDERLINE_DSO
     USING(243,253)
     ALLOCATE PRIME    ON SP23 SIZE 440256K,
          OVERFLOW ON SP23 SIZE  1760K;
CREATE DSI ORDERLIN_24_DSI
    DSO ORDERLINE_DSO
     USING(254,264)
     ALLOCATE PRIME    ON SP24 SIZE 440256K,
          OVERFLOW ON SP24 SIZE  1760K;
CREATE DSI ORDERLIN_25_DSI
    DSO ORDERLINE_DSO
     USING(265,275)
     ALLOCATE PRIME    ON SP25 SIZE 440256K,
          OVERFLOW ON SP25 SIZE  1760K;
CREATE DSI ORDERLIN_26_DSI
    DSO ORDERLINE_DSO
     USING(276,286)
     ALLOCATE PRIME    ON SP26 SIZE 440256K,
          OVERFLOW ON SP26 SIZE  1760K;
CREATE DSI ORDERLIN_27_DSI
    DSO ORDERLINE_DSO
     USING(287,297)
     ALLOCATE PRIME    ON SP27 SIZE 440256K,
          OVERFLOW ON SP27 SIZE  1760K;
CREATE DSI ORDERLIN_28_DSI
    DSO ORDERLINE_DSO
     USING(298,308)
     ALLOCATE PRIME    ON SP28 SIZE 440256K,
          OVERFLOW ON SP28 SIZE  1760K;
CREATE DSI ORDERLIN_29_DSI
    DSO ORDERLINE_DSO
     USING(309,319)
     ALLOCATE PRIME    ON SP29 SIZE 440256K,
          OVERFLOW ON SP29 SIZE  1760K;
CREATE DSI ORDERLIN_30_DSI
    DSO ORDERLINE_DSO
     USING(320,330)
     ALLOCATE PRIME    ON SP30 SIZE 440256K,
          OVERFLOW ON SP30 SIZE  1760K;
CREATE DSI ORDERLIN_31_DSI
    DSO ORDERLINE_DSO
     USING(331,341)
     ALLOCATE PRIME    ON SP31 SIZE 440256K,
          OVERFLOW ON SP31 SIZE  1760K;
CREATE DSI ORDERLIN_32_DSI
    DSO ORDERLINE_DSO
     USING(342,352)
     ALLOCATE PRIME    ON SP32 SIZE 440256K,
          OVERFLOW ON SP32 SIZE  1760K;
CREATE DSI ORDERLIN_33_DSI
    DSO ORDERLINE_DSO
     USING(353,363)
     ALLOCATE PRIME    ON SP33 SIZE 440256K,
          OVERFLOW ON SP33 SIZE  1760K;
CREATE DSI ORDERLIN_34_DSI
    DSO ORDERLINE_DSO
     USING(364,374)
     ALLOCATE PRIME    ON SP34 SIZE 440256K,
          OVERFLOW ON SP34 SIZE  1760K;
CREATE DSI ORDERLIN_35_DSI
    DSO ORDERLINE_DSO
     USING(375,385)
     ALLOCATE PRIME    ON SP35 SIZE 440256K,
          OVERFLOW ON SP35 SIZE  1760K;
CREATE DSI ORDERLIN_36_DSI
    DSO ORDERLINE_DSO
     USING(386,396)
     ALLOCATE PRIME    ON SP36 SIZE 440256K,
          OVERFLOW ON SP36 SIZE  1760K;
CREATE DSI ORDERLIN_37_DSI
    DSO ORDERLINE_DSO
     USING(397,407)
     ALLOCATE PRIME    ON SP37 SIZE 440256K,
          OVERFLOW ON SP37 SIZE  1760K;
CREATE DSI ORDERLIN_38_DSI
    DSO ORDERLINE_DSO
     USING(408,418)
     ALLOCATE PRIME    ON SP38 SIZE 440256K,
          OVERFLOW ON SP38 SIZE  1760K;
CREATE DSI ORDERLIN_39_DSI
    DSO ORDERLINE_DSO
     USING(419,429)
     ALLOCATE PRIME    ON SP39 SIZE 440256K,
          OVERFLOW ON SP39 SIZE  1760K;
CREATE DSI ORDERLIN_40_DSI
    DSO ORDERLINE_DSO
     USING(430,440)
     ALLOCATE PRIME    ON SP40 SIZE 440256K,
          OVERFLOW ON SP40 SIZE  1760K;
```

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CREATE DSI ORDERLIN_41_DSI
    DSO ORDERLINE_DSO
     USING(441,451)
     ALLOCATE PRIME    ON SP41 SIZE 440256K,
          OVERFLOW ON SP41 SIZE  1760K;
CREATE DSI ORDERLIN_42_DSI
    DSO ORDERLINE_DSO
     USING(452,462)
     ALLOCATE PRIME    ON SP42 SIZE 440256K,
          OVERFLOW ON SP42 SIZE  1760K;
CREATE DSI ORDERLIN_43_DSI
    DSO ORDERLINE_DSO
     USING(463,473)
     ALLOCATE PRIME    ON SP43 SIZE 440256K,
          OVERFLOW ON SP43 SIZE  1760K;
CREATE DSI ORDERLIN_44_DSI
    DSO ORDERLINE_DSO
     USING(474,484)
     ALLOCATE PRIME    ON SP44 SIZE 440256K,
          OVERFLOW ON SP44 SIZE  1760K;
CREATE DSI ORDERLIN_45_DSI
    DSO ORDERLINE_DSO
     USING(485,495)
     ALLOCATE PRIME    ON SP45 SIZE 440256K,
          OVERFLOW ON SP45 SIZE  1760K;
CREATE DSI ORDERLIN_46_DSI
    DSO ORDERLINE_DSO
     USING(496,506)
     ALLOCATE PRIME    ON SP46 SIZE 440256K,
          OVERFLOW ON SP46 SIZE  1760K;
CREATE DSI ORDERLIN_47_DSI
    DSO ORDERLINE_DSO
     USING(507,517)
     ALLOCATE PRIME    ON SP47 SIZE 440256K,
          OVERFLOW ON SP47 SIZE  1760K;
CREATE DSI ORDERLIN_48_DSI
    DSO ORDERLINE_DSO
     USING(518,528)
     ALLOCATE PRIME    ON SP48 SIZE 440256K,
          OVERFLOW ON SP48 SIZE  1760K;
CREATE DSI ORDERLIN_49_DSI
    DSO ORDERLINE_DSO
     USING(529,539)
     ALLOCATE PRIME    ON SP49 SIZE 440256K,
          OVERFLOW ON SP49 SIZE  1760K;
CREATE DSI ORDERLIN_50_DSI
    DSO ORDERLINE_DSO
     USING(540,550)
     ALLOCATE PRIME    ON SP50 SIZE 440256K,
          OVERFLOW ON SP50 SIZE  1760K;
CREATE DSI ORDERLIN_51_DSI
    DSO ORDERLINE_DSO
     USING(551,561)
     ALLOCATE PRIME    ON SP51 SIZE 440256K,
          OVERFLOW ON SP51 SIZE  1760K;
CREATE DSI ORDERLIN_52_DSI
    DSO ORDERLINE_DSO
     USING(562,572)
     ALLOCATE PRIME    ON SP52 SIZE 440256K,
          OVERFLOW ON SP52 SIZE  1760K;
CREATE DSI ORDERLIN_53_DSI
    DSO ORDERLINE_DSO
     USING(573,583)
     ALLOCATE PRIME    ON SP53 SIZE 440256K,
          OVERFLOW ON SP53 SIZE  1760K;
CREATE DSI ORDERLIN_54_DSI
    DSO ORDERLINE_DSO
     USING(584,594)
     ALLOCATE PRIME    ON SP54 SIZE 440256K,
          OVERFLOW ON SP54 SIZE  1760K;
CREATE DSI ORDERLIN_55_DSI
    DSO ORDERLINE_DSO
     USING(595,605)
     ALLOCATE PRIME    ON SP55 SIZE 440256K,
          OVERFLOW ON SP55 SIZE  1760K;
CREATE DSI ORDERLIN_56_DSI
    DSO ORDERLINE_DSO
     USING(606,616)
     ALLOCATE PRIME    ON SP56 SIZE 440256K,
          OVERFLOW ON SP56 SIZE  1760K;
CREATE DSI ORDERLIN_57_DSI
    DSO ORDERLINE_DSO
     USING(617,627)
     ALLOCATE PRIME    ON SP57 SIZE 440256K,
          OVERFLOW ON SP57 SIZE  1760K;
CREATE DSI ORDERLIN_58_DSI
    DSO ORDERLINE_DSO
     USING(628,638)
     ALLOCATE PRIME    ON SP58 SIZE 440256K,
          OVERFLOW ON SP58 SIZE  1760K;
CREATE DSI ORDERLIN_59_DSI
    DSO ORDERLINE_DSO
     USING(639,649)
     ALLOCATE PRIME    ON SP59 SIZE 440256K,
          OVERFLOW ON SP59 SIZE  1760K;
CREATE DSI ORDERLIN_60_DSI
    DSO ORDERLINE_DSO
     USING(650,660)
     ALLOCATE PRIME    ON SP60 SIZE 440256K,
          OVERFLOW ON SP60 SIZE  1760K;
CREATE DSI ORDERLIN_61_DSI
    DSO ORDERLINE_DSO
     USING(661,671)
     ALLOCATE PRIME    ON SP61 SIZE 440256K,
          OVERFLOW ON SP61 SIZE  1760K;
CREATE DSI ORDERLIN_62_DSI
    DSO ORDERLINE_DSO
     USING(672,682)
     ALLOCATE PRIME    ON SP62 SIZE 440256K,
          OVERFLOW ON SP62 SIZE  1760K;
CREATE DSI ORDERLIN_63_DSI
    DSO ORDERLINE_DSO
     USING(683,693)
     ALLOCATE PRIME    ON SP63 SIZE 440256K,
          OVERFLOW ON SP63 SIZE  1760K;
CREATE DSI ORDERLIN_64_DSI
    DSO ORDERLINE_DSO
     USING(694,704)
     ALLOCATE PRIME    ON SP64 SIZE 440256K,
          OVERFLOW ON SP64 SIZE  1760K;
CREATE DSI ORDERLIN_65_DSI
    DSO ORDERLINE_DSO
     USING(705,715)
     ALLOCATE PRIME    ON SP65 SIZE 440256K,
          OVERFLOW ON SP65 SIZE  1760K;
CREATE DSI ORDERLIN_66_DSI
```

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      DSO ORDERLINE_DSO
       USING(716,726)
       ALLOCATE PRIME    ON SP66 SIZE 440256K,
              OVERFLOW ON SP66 SIZE  1760K;
CREATE DSI ORDERLIN_67_DSI
      DSO ORDERLINE_DSO
       USING(727,737)
       ALLOCATE PRIME    ON SP67 SIZE 440256K,
              OVERFLOW ON SP67 SIZE  1760K;
CREATE DSI ORDERLIN_68_DSI
      DSO ORDERLINE_DSO
       USING(738,748)
       ALLOCATE PRIME    ON SP68 SIZE 440256K,
              OVERFLOW ON SP68 SIZE  1760K;
CREATE DSI ORDERLIN_69_DSI
      DSO ORDERLINE_DSO
       USING(749,759)
       ALLOCATE PRIME    ON SP69 SIZE 440256K,
              OVERFLOW ON SP69 SIZE  1760K;
CREATE DSI ORDERLIN_70_DSI
      DSO ORDERLINE_DSO
       USING(760,770)
       ALLOCATE PRIME    ON SP70 SIZE 440256K,
              OVERFLOW ON SP70 SIZE  1760K;
CREATE DSI ORDERLIN_71_DSI
      DSO ORDERLINE_DSO
       USING(771,781)
       ALLOCATE PRIME    ON SP71 SIZE 440256K,
              OVERFLOW ON SP71 SIZE  1760K;
CREATE DSI ORDERLIN_72_DSI
      DSO ORDERLINE_DSO
       USING(782,792)
       ALLOCATE PRIME    ON SP72 SIZE 440256K,
              OVERFLOW ON SP72 SIZE  1760K;
CREATE DSI ORDERLIN_73_DSI
      DSO ORDERLINE_DSO
       USING(793,803)
       ALLOCATE PRIME    ON SP73 SIZE 440256K,
              OVERFLOW ON SP73 SIZE  1760K;
CREATE DSI ORDERLIN_74_DSI
      DSO ORDERLINE_DSO
       USING(804,814)
       ALLOCATE PRIME    ON SP74 SIZE 440256K,
              OVERFLOW ON SP74 SIZE  1760K;
CREATE DSI ORDERLIN_75_DSI
      DSO ORDERLINE_DSO
       USING(815,825)
       ALLOCATE PRIME    ON SP75 SIZE 440256K,
              OVERFLOW ON SP75 SIZE  1760K;
CREATE DSI ORDERLIN_76_DSI
      DSO ORDERLINE_DSO
       USING(826,836)
       ALLOCATE PRIME    ON SP76 SIZE 440256K,
              OVERFLOW ON SP76 SIZE  1760K;
CREATE DSI ORDERLIN_77_DSI
      DSO ORDERLINE_DSO
       USING(837,847)
       ALLOCATE PRIME    ON SP77 SIZE 440256K,
              OVERFLOW ON SP77 SIZE  1760K;
CREATE DSI ORDERLIN_78_DSI
      DSO ORDERLINE_DSO
       USING(848,858)
       ALLOCATE PRIME    ON SP78 SIZE 440256K,
              OVERFLOW ON SP78 SIZE  1760K;
CREATE DSI ORDERLIN_79_DSI
      DSO ORDERLINE_DSO
       USING(859,869)
       ALLOCATE PRIME    ON SP79 SIZE 440256K,
              OVERFLOW ON SP79 SIZE  1760K;
CREATE DSI ORDERLIN_80_DSI
      DSO ORDERLINE_DSO
       USING(870,880)
       ALLOCATE PRIME    ON SP80 SIZE 440256K,
              OVERFLOW ON SP80 SIZE  1760K;
CREATE DSI ORDERLIN_81_DSI
      DSO ORDERLINE_DSO
       USING(881,891)
       ALLOCATE PRIME    ON SP81 SIZE 440256K,
              OVERFLOW ON SP81 SIZE  1760K;
CREATE DSI ORDERLIN_82_DSI
      DSO ORDERLINE_DSO
       USING(892,902)
       ALLOCATE PRIME    ON SP82 SIZE 440256K,
              OVERFLOW ON SP82 SIZE  1760K;
CREATE DSI ORDERLIN_83_DSI
      DSO ORDERLINE_DSO
       USING(903,913)
       ALLOCATE PRIME    ON SP83 SIZE 440256K,
              OVERFLOW ON SP83 SIZE  1760K;
CREATE DSI ORDERLIN_84_DSI
      DSO ORDERLINE_DSO
       USING(914,924)
       ALLOCATE PRIME    ON SP84 SIZE 440256K,
              OVERFLOW ON SP84 SIZE  1760K;
CREATE DSI ORDERLIN_85_DSI
      DSO ORDERLINE_DSO
       USING(925,935)
       ALLOCATE PRIME    ON SP85 SIZE 440256K,
              OVERFLOW ON SP85 SIZE  1760K;
CREATE DSI ORDERLIN_86_DSI
      DSO ORDERLINE_DSO
       USING(936,946)
       ALLOCATE PRIME    ON SP86 SIZE 440256K,
              OVERFLOW ON SP86 SIZE  1760K;
CREATE DSI ORDERLIN_87_DSI
      DSO ORDERLINE_DSO
       USING(947,957)
       ALLOCATE PRIME    ON SP87 SIZE 440256K,
              OVERFLOW ON SP87 SIZE  1760K;
CREATE DSI ORDERLIN_88_DSI
      DSO ORDERLINE_DSO
       USING(958,968)
       ALLOCATE PRIME    ON SP88 SIZE 440256K,
              OVERFLOW ON SP88 SIZE  1760K;
CREATE DSI ORDERLIN_89_DSI
      DSO ORDERLINE_DSO
       USING(969,979)
       ALLOCATE PRIME    ON SP89 SIZE 440256K,
              OVERFLOW ON SP89 SIZE  1760K;
CREATE DSI ORDERLIN_90_DSI
      DSO ORDERLINE_DSO
       USING(980,990)
       ALLOCATE PRIME    ON SP90 SIZE 440256K,
              OVERFLOW ON SP90 SIZE  1760K;
CREATE DSI ORDERLIN_91_DSI
      DSO ORDERLINE_DSO
```

```
     USING(991,1001)
     ALLOCATE PRIME    ON SP91 SIZE 440256K,
          OVERFLOW ON SP91 SIZE  1760K;
CREATE DSI ORDERLIN_92_DSI
    DSO ORDERLINE_DSO
     USING(1002,1012)
     ALLOCATE PRIME    ON SP92 SIZE 440256K,
          OVERFLOW ON SP92 SIZE  1760K;
CREATE DSI ORDERLIN_93_DSI
    DSO ORDERLINE_DSO
     USING(1013,1023)
     ALLOCATE PRIME    ON SP93 SIZE 440256K,
          OVERFLOW ON SP93 SIZE  1760K;
CREATE DSI ORDERLIN_94_DSI
    DSO ORDERLINE_DSO
     USING(1024,1034)
     ALLOCATE PRIME    ON SP94 SIZE 440256K,
          OVERFLOW ON SP94 SIZE  1760K;
CREATE DSI ORDERLIN_95_DSI
    DSO ORDERLINE_DSO
     USING(1035,1045)
     ALLOCATE PRIME    ON SP95 SIZE 440256K,
          OVERFLOW ON SP95 SIZE  1760K;
CREATE DSI ORDERLIN_96_DSI
    DSO ORDERLINE_DSO
     USING(1046,1056)
     ALLOCATE PRIME    ON SP96 SIZE 440256K,
          OVERFLOW ON SP96 SIZE  1760K;
CREATE DSI ORDERLIN_97_DSI
    DSO ORDERLINE_DSO
     USING(1057,1067)
     ALLOCATE PRIME    ON SP97 SIZE 440256K,
          OVERFLOW ON SP97 SIZE  1760K;
CREATE DSI ORDERLIN_98_DSI
    DSO ORDERLINE_DSO
     USING(1068,1078)
     ALLOCATE PRIME    ON SP98 SIZE 440256K,
          OVERFLOW ON SP98 SIZE  1760K;
CREATE DSI ORDERLIN_99_DSI
    DSO ORDERLINE_DSO
     USING(1079,1089)
     ALLOCATE PRIME    ON SP99 SIZE 440256K,
          OVERFLOW ON SP99 SIZE  1760K;
CREATE DSI ORDERLIN_100_DSI
    DSO ORDERLINE_DSO
     USING(1090,1100)
     ALLOCATE PRIME    ON SP100 SIZE 440256K,
          OVERFLOW ON SP100 SIZE  1760K;
CREATE DSI ORDERLIN_101_DSI
    DSO ORDERLINE_DSO
     USING(1101,1111)
     ALLOCATE PRIME    ON SP101 SIZE 440256K,
          OVERFLOW ON SP101 SIZE  1760K;
CREATE DSI ORDERLIN_102_DSI
    DSO ORDERLINE_DSO
     USING(1112,1122)
     ALLOCATE PRIME    ON SP102 SIZE 440256K,
          OVERFLOW ON SP102 SIZE  1760K;
CREATE DSI ORDERLIN_103_DSI
    DSO ORDERLINE_DSO
     USING(1123,1133)
     ALLOCATE PRIME    ON SP103 SIZE 440256K,
          OVERFLOW ON SP103 SIZE  1760K;
CREATE DSI ORDERLIN_104_DSI
    DSO ORDERLINE_DSO
     USING(1134,1144)
     ALLOCATE PRIME    ON SP104 SIZE 440256K,
          OVERFLOW ON SP104 SIZE  1760K;
CREATE DSI ORDERLIN_105_DSI
    DSO ORDERLINE_DSO
     USING(1145,1155)
     ALLOCATE PRIME    ON SP105 SIZE 440256K,
          OVERFLOW ON SP105 SIZE  1760K;
CREATE DSI ORDERLIN_106_DSI
    DSO ORDERLINE_DSO
     USING(1156,1166)
     ALLOCATE PRIME    ON SP106 SIZE 440256K,
          OVERFLOW ON SP106 SIZE  1760K;
CREATE DSI ORDERLIN_107_DSI
    DSO ORDERLINE_DSO
     USING(1167,1177)
     ALLOCATE PRIME    ON SP107 SIZE 440256K,
          OVERFLOW ON SP107 SIZE  1760K;
CREATE DSI ORDERLIN_108_DSI
    DSO ORDERLINE_DSO
     USING(1178,1188)
     ALLOCATE PRIME    ON SP108 SIZE 440256K,
          OVERFLOW ON SP108 SIZE  1760K;
CREATE DSI ORDERLIN_109_DSI
    DSO ORDERLINE_DSO
     USING(1189,1199)
     ALLOCATE PRIME    ON SP109 SIZE 440256K,
          OVERFLOW ON SP109 SIZE  1760K;
CREATE DSI ORDERLIN_110_DSI
    DSO ORDERLINE_DSO
     USING(1200,1210)
     ALLOCATE PRIME    ON SP110 SIZE 440256K,
          OVERFLOW ON SP110 SIZE  1760K;
CREATE DSI ORDERLIN_111_DSI
    DSO ORDERLINE_DSO
     USING(1211,1221)
     ALLOCATE PRIME    ON SP111 SIZE 440256K,
          OVERFLOW ON SP111 SIZE  1760K;
CREATE DSI ORDERLIN_112_DSI
    DSO ORDERLINE_DSO
     USING(1222,1232)
     ALLOCATE PRIME    ON SP112 SIZE 440256K,
          OVERFLOW ON SP112 SIZE  1760K;
CREATE DSI ORDERLIN_113_DSI
    DSO ORDERLINE_DSO
     USING(1233,1243)
     ALLOCATE PRIME    ON SP113 SIZE 440256K,
          OVERFLOW ON SP113 SIZE  1760K;
CREATE DSI ORDERLIN_114_DSI
    DSO ORDERLINE_DSO
     USING(1244,1254)
     ALLOCATE PRIME    ON SP114 SIZE 440256K,
          OVERFLOW ON SP114 SIZE  1760K;
CREATE DSI ORDERLIN_115_DSI
    DSO ORDERLINE_DSO
     USING(1255,1265)
     ALLOCATE PRIME    ON SP115 SIZE 440256K,
          OVERFLOW ON SP115 SIZE  1760K;
CREATE DSI ORDERLIN_116_DSI
    DSO ORDERLINE_DSO
     USING(1266,1276)
     ALLOCATE PRIME    ON SP116 SIZE 440256K,
            OVERFLOW ON SP116 SIZE  1760K;
CREATE DSI ORDERLIN_117_DSI
    DSO ORDERLINE_DSO
     USING(1277,1287)
     ALLOCATE PRIME    ON SP117 SIZE 440256K,
            OVERFLOW ON SP117 SIZE  1760K;
CREATE DSI ORDERLIN_118_DSI
    DSO ORDERLINE_DSO
     USING(1288,1298)
     ALLOCATE PRIME    ON SP118 SIZE 440256K,
            OVERFLOW ON SP118 SIZE  1760K;
CREATE DSI ORDERLIN_119_DSI
    DSO ORDERLINE_DSO
     USING(1299,1309)
     ALLOCATE PRIME    ON SP119 SIZE 440256K,
            OVERFLOW ON SP119 SIZE  1760K;
CREATE DSI ORDERLIN_120_DSI
    DSO ORDERLINE_DSO
     USING(1310,1320)
     ALLOCATE PRIME    ON SP120 SIZE 440256K,
            OVERFLOW ON SP120 SIZE  1760K;
CREATE DSI ORDERLIN_121_DSI
    DSO ORDERLINE_DSO
     USING(1321,1331)
     ALLOCATE PRIME    ON SP121 SIZE 440256K,
            OVERFLOW ON SP121 SIZE  1760K;
CREATE DSI ORDERLIN_122_DSI
    DSO ORDERLINE_DSO
     USING(1332,1342)
     ALLOCATE PRIME    ON SP122 SIZE 440256K,
            OVERFLOW ON SP122 SIZE  1760K;
CREATE DSI ORDERLIN_123_DSI
    DSO ORDERLINE_DSO
     USING(1343,1353)
     ALLOCATE PRIME    ON SP123 SIZE 440256K,
            OVERFLOW ON SP123 SIZE  1760K;
CREATE DSI ORDERLIN_124_DSI
    DSO ORDERLINE_DSO
     USING(1354,1364)
     ALLOCATE PRIME    ON SP124 SIZE 440256K,
            OVERFLOW ON SP124 SIZE  1760K;
CREATE DSI ORDERLIN_125_DSI
    DSO ORDERLINE_DSO
     USING(1365,1375)
     ALLOCATE PRIME    ON SP125 SIZE 440256K,
            OVERFLOW ON SP125 SIZE  1760K;
CREATE DSI ORDERLIN_126_DSI
    DSO ORDERLINE_DSO
     USING(1376,1386)
     ALLOCATE PRIME    ON SP126 SIZE 440256K,
            OVERFLOW ON SP126 SIZE  1760K;
CREATE DSI ORDERLIN_127_DSI
    DSO ORDERLINE_DSO
     USING(1387,1397)
     ALLOCATE PRIME    ON SP127 SIZE 440256K,
            OVERFLOW ON SP127 SIZE  1760K;
CREATE DSI ORDERLIN_128_DSI
    DSO ORDERLINE_DSO
     USING(1398,1408)
     ALLOCATE PRIME    ON SP128 SIZE 440256K,
            OVERFLOW ON SP128 SIZE  1760K;
CREATE DSI ORDERLIN_129_DSI
    DSO ORDERLINE_DSO
     USING(1409,1419)
     ALLOCATE PRIME    ON SP129 SIZE 440256K,
            OVERFLOW ON SP129 SIZE  1760K;
CREATE DSI ORDERLIN_130_DSI
    DSO ORDERLINE_DSO
     USING(1420,1430)
     ALLOCATE PRIME    ON SP130 SIZE 440256K,
            OVERFLOW ON SP130 SIZE  1760K;
CREATE DSI ORDERLIN_131_DSI
    DSO ORDERLINE_DSO
     USING(1431,1441)
     ALLOCATE PRIME    ON SP131 SIZE 440256K,
            OVERFLOW ON SP131 SIZE  1760K;
CREATE DSI ORDERLIN_132_DSI
    DSO ORDERLINE_DSO
     USING(1442,1452)
     ALLOCATE PRIME    ON SP132 SIZE 440256K,
            OVERFLOW ON SP132 SIZE  1760K;
CREATE DSI ORDERLIN_133_DSI
    DSO ORDERLINE_DSO
     USING(1453,1463)
     ALLOCATE PRIME    ON SP133 SIZE 440256K,
            OVERFLOW ON SP133 SIZE  1760K;
CREATE DSI ORDERLIN_134_DSI
    DSO ORDERLINE_DSO
     USING(1464,1474)
     ALLOCATE PRIME    ON SP134 SIZE 440256K,
            OVERFLOW ON SP134 SIZE  1760K;
CREATE DSI ORDERLIN_135_DSI
    DSO ORDERLINE_DSO
     USING(1475,1485)
     ALLOCATE PRIME    ON SP135 SIZE 440256K,
            OVERFLOW ON SP135 SIZE  1760K;
CREATE DSI ORDERLIN_136_DSI
    DSO ORDERLINE_DSO
     USING(1486,1496)
     ALLOCATE PRIME    ON SP136 SIZE 440256K,
            OVERFLOW ON SP136 SIZE  1760K;
CREATE DSI ORDERLIN_137_DSI
    DSO ORDERLINE_DSO
     USING(1497,1507)
     ALLOCATE PRIME    ON SP137 SIZE 440256K,
            OVERFLOW ON SP137 SIZE  1760K;
CREATE DSI ORDERLIN_138_DSI
    DSO ORDERLINE_DSO
     USING(1508,1518)
     ALLOCATE PRIME    ON SP138 SIZE 440256K,
            OVERFLOW ON SP138 SIZE  1760K;
CREATE DSI ORDERLIN_139_DSI
    DSO ORDERLINE_DSO
     USING(1519,1529)
     ALLOCATE PRIME    ON SP139 SIZE 440256K,
            OVERFLOW ON SP139 SIZE  1760K;
CREATE DSI ORDERLIN_140_DSI
    DSO ORDERLINE_DSO
     USING(1530,1540)
     ALLOCATE PRIME    ON SP140 SIZE 440256K,
            OVERFLOW ON SP140 SIZE  1760K;
CREATE DSI ORDERLIN_141_DSI
    DSO ORDERLINE_DSO
     USING(1541,1551)
     ALLOCATE PRIME    ON SP141 SIZE 440256K,
          OVERFLOW ON SP141 SIZE  1760K;
CREATE DSI ORDERLIN_142_DSI
    DSO ORDERLINE_DSO
     USING(1552,1562)
     ALLOCATE PRIME    ON SP142 SIZE 440256K,
          OVERFLOW ON SP142 SIZE  1760K;
CREATE DSI ORDERLIN_143_DSI
    DSO ORDERLINE_DSO
     USING(1563,1573)
     ALLOCATE PRIME    ON SP143 SIZE 440256K,
          OVERFLOW ON SP143 SIZE  1760K;
CREATE DSI ORDERLIN_144_DSI
    DSO ORDERLINE_DSO
     USING(1574,1584)
     ALLOCATE PRIME    ON SP144 SIZE 440256K,
          OVERFLOW ON SP144 SIZE  1760K;
CREATE DSI ORDERLIN_145_DSI
    DSO ORDERLINE_DSO
     USING(1585,1595)
     ALLOCATE PRIME    ON SP145 SIZE 440256K,
          OVERFLOW ON SP145 SIZE  1760K;
CREATE DSI ORDERLIN_146_DSI
    DSO ORDERLINE_DSO
     USING(1596,1606)
     ALLOCATE PRIME    ON SP146 SIZE 440256K,
          OVERFLOW ON SP146 SIZE  1760K;
CREATE DSI ORDERLIN_147_DSI
    DSO ORDERLINE_DSO
     USING(1607,1617)
     ALLOCATE PRIME    ON SP147 SIZE 440256K,
          OVERFLOW ON SP147 SIZE  1760K;
CREATE DSI ORDERLIN_148_DSI
    DSO ORDERLINE_DSO
     USING(1618,1628)
     ALLOCATE PRIME    ON SP148 SIZE 440256K,
          OVERFLOW ON SP148 SIZE  1760K;
CREATE DSI ORDERLIN_149_DSI
    DSO ORDERLINE_DSO
     USING(1629,1639)
     ALLOCATE PRIME    ON SP149 SIZE 440256K,
          OVERFLOW ON SP149 SIZE  1760K;
CREATE DSI ORDERLIN_150_DSI
    DSO ORDERLINE_DSO
     USING(1640,1650)
     ALLOCATE PRIME    ON SP150 SIZE 440256K,
          OVERFLOW ON SP150 SIZE  1760K;
CREATE DSI ORDERLIN_151_DSI
    DSO ORDERLINE_DSO
     USING(1651,1661)
     ALLOCATE PRIME    ON SP151 SIZE 440256K,
          OVERFLOW ON SP151 SIZE  1760K;
CREATE DSI ORDERLIN_152_DSI
    DSO ORDERLINE_DSO
     USING(1662,1672)
     ALLOCATE PRIME    ON SP152 SIZE 440256K,
          OVERFLOW ON SP152 SIZE  1760K;
CREATE DSI ORDERLIN_153_DSI
    DSO ORDERLINE_DSO
     USING(1673,1683)
     ALLOCATE PRIME    ON SP153 SIZE 440256K,
          OVERFLOW ON SP153 SIZE  1760K;
CREATE DSI ORDERLIN_154_DSI
    DSO ORDERLINE_DSO
     USING(1684,1694)
     ALLOCATE PRIME    ON SP154 SIZE 440256K,
          OVERFLOW ON SP154 SIZE  1760K;
CREATE DSI ORDERLIN_155_DSI
    DSO ORDERLINE_DSO
     USING(1695,1705)
     ALLOCATE PRIME    ON SP155 SIZE 440256K,
          OVERFLOW ON SP155 SIZE  1760K;
CREATE DSI ORDERLIN_156_DSI
    DSO ORDERLINE_DSO
     USING(1706,1716)
     ALLOCATE PRIME    ON SP156 SIZE 440256K,
          OVERFLOW ON SP156 SIZE  1760K;
CREATE DSI ORDERLIN_157_DSI
    DSO ORDERLINE_DSO
     USING(1717,1727)
     ALLOCATE PRIME    ON SP157 SIZE 440256K,
          OVERFLOW ON SP157 SIZE  1760K;
CREATE DSI ORDERLIN_158_DSI
    DSO ORDERLINE_DSO
     USING(1728,1738)
     ALLOCATE PRIME    ON SP158 SIZE 440256K,
          OVERFLOW ON SP158 SIZE  1760K;
CREATE DSI ORDERLIN_159_DSI
    DSO ORDERLINE_DSO
     USING(1739,1749)
     ALLOCATE PRIME    ON SP159 SIZE 440256K,
          OVERFLOW ON SP159 SIZE  1760K;
CREATE DSI ORDERLIN_160_DSI
    DSO ORDERLINE_DSO
     USING(1750,1760)
     ALLOCATE PRIME    ON SP160 SIZE 440256K,
          OVERFLOW ON SP160 SIZE  1760K;
CREATE DSI ORDERLIN_161_DSI
    DSO ORDERLINE_DSO
     USING(1761,1771)
     ALLOCATE PRIME    ON SP161 SIZE 440256K,
          OVERFLOW ON SP161 SIZE  1760K;
CREATE DSI ORDERLIN_162_DSI
    DSO ORDERLINE_DSO
     USING(1772,1782)
     ALLOCATE PRIME    ON SP162 SIZE 440256K,
          OVERFLOW ON SP162 SIZE  1760K;
CREATE DSI ORDERLIN_163_DSI
    DSO ORDERLINE_DSO
     USING(1783,1793)
     ALLOCATE PRIME    ON SP163 SIZE 440256K,
          OVERFLOW ON SP163 SIZE  1760K;
CREATE DSI ORDERLIN_164_DSI
    DSO ORDERLINE_DSO
     USING(1794,1804)
     ALLOCATE PRIME    ON SP164 SIZE 440256K,
          OVERFLOW ON SP164 SIZE  1760K;
CREATE DSI ORDERLIN_165_DSI
    DSO ORDERLINE_DSO
     USING(1805,1815)
     ALLOCATE PRIME    ON SP165 SIZE 440256K,
          OVERFLOW ON SP165 SIZE  1760K;
CREATE DSI ORDERLIN_166_DSI
    DSO ORDERLINE_DSO
     USING(1816,1826)
     ALLOCATE PRIME    ON SP166 SIZE 440256K,
          OVERFLOW ON SP166 SIZE  1760K;
    CREATE DSI ORDERLIN_167_DSI
        DSO ORDERLINE_DSO
         USING(1827,1837)
         ALLOCATE PRIME    ON SP167 SIZE 440256K,
              OVERFLOW ON SP167 SIZE  1760K;
    CREATE DSI ORDERLIN_168_DSI
        DSO ORDERLINE_DSO
         USING(1838,3696)
         ALLOCATE PRIME    ON SP168 SIZE 440256K,
              OVERFLOW ON SP168 SIZE  1760K;
::::::::::::::
ddl.dat.OS
::::::::::::::
----------------------------------------------------------------------------
-- * Phase.2-4a: Orders
----------------------------------------------------------------------------
    CREATE DSO ORDERS_DSO
         FROM TPCC_SCHEMA.ORDERS
             TYPE
RANDOM(PAGESIZE1(8),PAGESIZE2(1),RULE((O_ID / 12)*22+O_W_
ID+((O_D_ID-1)*12+(O_ID-((O_ID / 12)*12)))*6996))
             WHERE (O_W_ID) BETWEEN (?) AND (?);
    CREATE DSI ORDERS_1_DSI
        DSO ORDERS_DSO
         USING(1,22)
         ALLOCATE PRIME    ON SP1 SIZE 27992K
                              SP2 SIZE 27984K,
              OVERFLOW ON SP1 SIZE 331K
                              SP2 SIZE 330K;
    CREATE DSI ORDERS_2_DSI
        DSO ORDERS_DSO
         USING(23,44)
         ALLOCATE PRIME    ON SP3 SIZE 27992K
                              SP4 SIZE 27984K,
              OVERFLOW ON SP3 SIZE 331K
                              SP4 SIZE 330K;
    CREATE DSI ORDERS_3_DSI
        DSO ORDERS_DSO
         USING(45,66)
         ALLOCATE PRIME    ON SP5 SIZE 27992K
                              SP6 SIZE 27984K,
              OVERFLOW ON SP5 SIZE 331K
                              SP6 SIZE 330K;
    CREATE DSI ORDERS_4_DSI
        DSO ORDERS_DSO
         USING(67,88)
         ALLOCATE PRIME    ON SP7 SIZE 27992K
                              SP8 SIZE 27984K,
              OVERFLOW ON SP7 SIZE 331K
                              SP8 SIZE 330K;
    CREATE DSI ORDERS_5_DSI
        DSO ORDERS_DSO
         USING(89,110)
         ALLOCATE PRIME    ON SP9 SIZE 27992K
                              SP10 SIZE 27984K,
              OVERFLOW ON SP9 SIZE 331K
                              SP10 SIZE 330K;
    CREATE DSI ORDERS_6_DSI
        DSO ORDERS_DSO
         USING(111,132)
         ALLOCATE PRIME    ON SP11 SIZE 27992K
                              SP12 SIZE 27984K,
              OVERFLOW ON SP11 SIZE 331K
                              SP12 SIZE 330K;
    CREATE DSI ORDERS_7_DSI
        DSO ORDERS_DSO
         USING(133,154)
         ALLOCATE PRIME    ON SP13 SIZE 27992K
                              SP14 SIZE 27984K,
              OVERFLOW ON SP13 SIZE 331K
                              SP14 SIZE 330K;
    CREATE DSI ORDERS_8_DSI
        DSO ORDERS_DSO
         USING(155,176)
         ALLOCATE PRIME    ON SP15 SIZE 27992K
                              SP16 SIZE 27984K,
              OVERFLOW ON SP15 SIZE 331K
                              SP16 SIZE 330K;
    CREATE DSI ORDERS_9_DSI
        DSO ORDERS_DSO
         USING(177,198)
         ALLOCATE PRIME    ON SP17 SIZE 27992K
                              SP18 SIZE 27984K,
              OVERFLOW ON SP17 SIZE 331K
                              SP18 SIZE 330K;
    CREATE DSI ORDERS_10_DSI
        DSO ORDERS_DSO
         USING(199,220)
         ALLOCATE PRIME    ON SP19 SIZE 27992K
                              SP20 SIZE 27984K,
              OVERFLOW ON SP19 SIZE 331K
                              SP20 SIZE 330K;
    CREATE DSI ORDERS_11_DSI
        DSO ORDERS_DSO
         USING(221,242)
         ALLOCATE PRIME    ON SP21 SIZE 27992K
                              SP22 SIZE 27984K,
              OVERFLOW ON SP21 SIZE 331K
                              SP22 SIZE 330K;
    CREATE DSI ORDERS_12_DSI
        DSO ORDERS_DSO
         USING(243,264)
         ALLOCATE PRIME    ON SP23 SIZE 27992K
                              SP24 SIZE 27984K,
              OVERFLOW ON SP23 SIZE 331K
                              SP24 SIZE 330K;
    CREATE DSI ORDERS_13_DSI
        DSO ORDERS_DSO
         USING(265,286)
         ALLOCATE PRIME    ON SP25 SIZE 27992K
                              SP26 SIZE 27984K,
              OVERFLOW ON SP25 SIZE 331K
                              SP26 SIZE 330K;
    CREATE DSI ORDERS_14_DSI
        DSO ORDERS_DSO
         USING(287,308)
         ALLOCATE PRIME    ON SP27 SIZE 27992K
                              SP28 SIZE 27984K,
              OVERFLOW ON SP27 SIZE 331K
                              SP28 SIZE 330K;
    CREATE DSI ORDERS_15_DSI
        DSO ORDERS_DSO
         USING(309,330)
         ALLOCATE PRIME    ON SP29 SIZE 27992K
                              SP30 SIZE 27984K,
              OVERFLOW ON SP29 SIZE 331K
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                           SP30 SIZE 330K;
CREATE DSI ORDERS_16_DSI
    DSO ORDERS_DSO
     USING(331,352)
     ALLOCATE PRIME   ON SP31 SIZE 27992K
                           SP32 SIZE 27984K,
         OVERFLOW ON SP31 SIZE 331K
                           SP32 SIZE 330K;
CREATE DSI ORDERS_17_DSI
    DSO ORDERS_DSO
     USING(353,374)
     ALLOCATE PRIME   ON SP33 SIZE 27992K
                           SP34 SIZE 27984K,
         OVERFLOW ON SP33 SIZE 331K
                           SP34 SIZE 330K;
CREATE DSI ORDERS_18_DSI
    DSO ORDERS_DSO
     USING(375,396)
     ALLOCATE PRIME   ON SP35 SIZE 27992K
                           SP36 SIZE 27984K,
         OVERFLOW ON SP35 SIZE 331K
                           SP36 SIZE 330K;
CREATE DSI ORDERS_19_DSI
    DSO ORDERS_DSO
     USING(397,418)
     ALLOCATE PRIME   ON SP37 SIZE 27992K
                           SP38 SIZE 27984K,
         OVERFLOW ON SP37 SIZE 331K
                           SP38 SIZE 330K;
CREATE DSI ORDERS_20_DSI
    DSO ORDERS_DSO
     USING(419,440)
     ALLOCATE PRIME   ON SP39 SIZE 27992K
                           SP40 SIZE 27984K,
         OVERFLOW ON SP39 SIZE 331K
                           SP40 SIZE 330K;
CREATE DSI ORDERS_21_DSI
    DSO ORDERS_DSO
     USING(441,462)
     ALLOCATE PRIME   ON SP41 SIZE 27992K
                           SP42 SIZE 27984K,
         OVERFLOW ON SP41 SIZE 331K
                           SP42 SIZE 330K;
CREATE DSI ORDERS_22_DSI
    DSO ORDERS_DSO
     USING(463,484)
     ALLOCATE PRIME   ON SP43 SIZE 27992K
                           SP44 SIZE 27984K,
         OVERFLOW ON SP43 SIZE 331K
                           SP44 SIZE 330K;
CREATE DSI ORDERS_23_DSI
    DSO ORDERS_DSO
     USING(485,506)
     ALLOCATE PRIME   ON SP45 SIZE 27992K
                           SP46 SIZE 27984K,
         OVERFLOW ON SP45 SIZE 331K
                           SP46 SIZE 330K;
CREATE DSI ORDERS_24_DSI
    DSO ORDERS_DSO
     USING(507,528)
     ALLOCATE PRIME   ON SP47 SIZE 27992K
                           SP48 SIZE 27984K,
         OVERFLOW ON SP47 SIZE 331K
                           SP48 SIZE 330K;
CREATE DSI ORDERS_25_DSI
    DSO ORDERS_DSO
     USING(529,550)
     ALLOCATE PRIME   ON SP49 SIZE 27992K
                           SP50 SIZE 27984K,
         OVERFLOW ON SP49 SIZE 331K
                           SP50 SIZE 330K;
CREATE DSI ORDERS_26_DSI
    DSO ORDERS_DSO
     USING(551,572)
     ALLOCATE PRIME   ON SP51 SIZE 27992K
                           SP52 SIZE 27984K,
         OVERFLOW ON SP51 SIZE 331K
                           SP52 SIZE 330K;
CREATE DSI ORDERS_27_DSI
    DSO ORDERS_DSO
     USING(573,594)
     ALLOCATE PRIME   ON SP53 SIZE 27992K
                           SP54 SIZE 27984K,
         OVERFLOW ON SP53 SIZE 331K
                           SP54 SIZE 330K;
CREATE DSI ORDERS_28_DSI
    DSO ORDERS_DSO
     USING(595,616)
     ALLOCATE PRIME   ON SP55 SIZE 27992K
                           SP56 SIZE 27984K,
         OVERFLOW ON SP55 SIZE 331K
                           SP56 SIZE 330K;
CREATE DSI ORDERS_29_DSI
    DSO ORDERS_DSO
     USING(617,638)
     ALLOCATE PRIME   ON SP57 SIZE 27992K
                           SP58 SIZE 27984K,
         OVERFLOW ON SP57 SIZE 331K
                           SP58 SIZE 330K;
CREATE DSI ORDERS_30_DSI
    DSO ORDERS_DSO
     USING(639,660)
     ALLOCATE PRIME   ON SP59 SIZE 27992K
                           SP60 SIZE 27984K,
         OVERFLOW ON SP59 SIZE 331K
                           SP60 SIZE 330K;
CREATE DSI ORDERS_31_DSI
    DSO ORDERS_DSO
     USING(661,682)
     ALLOCATE PRIME   ON SP61 SIZE 27992K
                           SP62 SIZE 27984K,
         OVERFLOW ON SP61 SIZE 331K
                           SP62 SIZE 330K;
CREATE DSI ORDERS_32_DSI
    DSO ORDERS_DSO
     USING(683,704)
     ALLOCATE PRIME   ON SP63 SIZE 27992K
                           SP64 SIZE 27984K,
         OVERFLOW ON SP63 SIZE 331K
                           SP64 SIZE 330K;
CREATE DSI ORDERS_33_DSI
    DSO ORDERS_DSO
     USING(705,726)
     ALLOCATE PRIME   ON SP65 SIZE 27992K
                           SP66 SIZE 27984K,
         OVERFLOW ON SP65 SIZE 331K
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                             SP66 SIZE 330K;
CREATE DSI ORDERS_34_DSI
    DSO ORDERS_DSO
     USING(727,748)
     ALLOCATE PRIME     ON SP67 SIZE 27992K
                             SP68 SIZE 27984K,
          OVERFLOW ON SP67 SIZE 331K
                             SP68 SIZE 330K;
CREATE DSI ORDERS_35_DSI
    DSO ORDERS_DSO
     USING(749,770)
     ALLOCATE PRIME     ON SP69 SIZE 27992K
                             SP70 SIZE 27984K,
          OVERFLOW ON SP69 SIZE 331K
                             SP70 SIZE 330K;
CREATE DSI ORDERS_36_DSI
    DSO ORDERS_DSO
     USING(771,792)
     ALLOCATE PRIME     ON SP71 SIZE 27992K
                             SP72 SIZE 27984K,
          OVERFLOW ON SP71 SIZE 331K
                             SP72 SIZE 330K;
CREATE DSI ORDERS_37_DSI
    DSO ORDERS_DSO
     USING(793,814)
     ALLOCATE PRIME     ON SP73 SIZE 27992K
                             SP74 SIZE 27984K,
          OVERFLOW ON SP73 SIZE 331K
                             SP74 SIZE 330K;
CREATE DSI ORDERS_38_DSI
    DSO ORDERS_DSO
     USING(815,836)
     ALLOCATE PRIME     ON SP75 SIZE 27992K
                             SP76 SIZE 27984K,
          OVERFLOW ON SP75 SIZE 331K
                             SP76 SIZE 330K;
CREATE DSI ORDERS_39_DSI
    DSO ORDERS_DSO
     USING(837,858)
     ALLOCATE PRIME     ON SP77 SIZE 27992K
                             SP78 SIZE 27984K,
          OVERFLOW ON SP77 SIZE 331K
                             SP78 SIZE 330K;
CREATE DSI ORDERS_40_DSI
    DSO ORDERS_DSO
     USING(859,880)
     ALLOCATE PRIME     ON SP79 SIZE 27992K
                             SP80 SIZE 27984K,
          OVERFLOW ON SP79 SIZE 331K
                             SP80 SIZE 330K;
CREATE DSI ORDERS_41_DSI
    DSO ORDERS_DSO
     USING(881,902)
     ALLOCATE PRIME     ON SP81 SIZE 27992K
                             SP82 SIZE 27984K,
          OVERFLOW ON SP81 SIZE 331K
                             SP82 SIZE 330K;
CREATE DSI ORDERS_42_DSI
    DSO ORDERS_DSO
     USING(903,924)
     ALLOCATE PRIME     ON SP83 SIZE 27992K
                             SP84 SIZE 27984K,
          OVERFLOW ON SP83 SIZE 331K
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                             SP84 SIZE 330K;
CREATE DSI ORDERS_43_DSI
    DSO ORDERS_DSO
     USING(925,946)
     ALLOCATE PRIME     ON SP85 SIZE 27992K
                             SP86 SIZE 27984K,
          OVERFLOW ON SP85 SIZE 331K
                             SP86 SIZE 330K;
CREATE DSI ORDERS_44_DSI
    DSO ORDERS_DSO
     USING(947,968)
     ALLOCATE PRIME     ON SP87 SIZE 27992K
                             SP88 SIZE 27984K,
          OVERFLOW ON SP87 SIZE 331K
                             SP88 SIZE 330K;
CREATE DSI ORDERS_45_DSI
    DSO ORDERS_DSO
     USING(969,990)
     ALLOCATE PRIME     ON SP89 SIZE 27992K
                             SP90 SIZE 27984K,
          OVERFLOW ON SP89 SIZE 331K
                             SP90 SIZE 330K;
CREATE DSI ORDERS_46_DSI
    DSO ORDERS_DSO
     USING(991,1012)
     ALLOCATE PRIME     ON SP91 SIZE 27992K
                             SP92 SIZE 27984K,
          OVERFLOW ON SP91 SIZE 331K
                             SP92 SIZE 330K;
CREATE DSI ORDERS_47_DSI
    DSO ORDERS_DSO
     USING(1013,1034)
     ALLOCATE PRIME     ON SP93 SIZE 27992K
                             SP94 SIZE 27984K,
          OVERFLOW ON SP93 SIZE 331K
                             SP94 SIZE 330K;
CREATE DSI ORDERS_48_DSI
    DSO ORDERS_DSO
     USING(1035,1056)
     ALLOCATE PRIME     ON SP95 SIZE 27992K
                             SP96 SIZE 27984K,
          OVERFLOW ON SP95 SIZE 331K
                             SP96 SIZE 330K;
CREATE DSI ORDERS_49_DSI
    DSO ORDERS_DSO
     USING(1057,1078)
     ALLOCATE PRIME     ON SP97 SIZE 27992K
                             SP98 SIZE 27984K,
          OVERFLOW ON SP97 SIZE 331K
                             SP98 SIZE 330K;
CREATE DSI ORDERS_50_DSI
    DSO ORDERS_DSO
     USING(1079,1100)
     ALLOCATE PRIME     ON SP99 SIZE 27992K
                             SP100 SIZE 27984K,
          OVERFLOW ON SP99 SIZE 331K
                             SP100 SIZE 330K;
CREATE DSI ORDERS_51_DSI
    DSO ORDERS_DSO
     USING(1101,1122)
     ALLOCATE PRIME     ON SP101 SIZE 27992K
                             SP102 SIZE 27984K,
          OVERFLOW ON SP101 SIZE 331K
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                              SP102 SIZE 330K;
CREATE DSI ORDERS_52_DSI
    DSO ORDERS_DSO
     USING(1123,1144)
     ALLOCATE PRIME    ON SP103 SIZE 27992K
                              SP104 SIZE 27984K,
          OVERFLOW ON SP103 SIZE 331K
                              SP104 SIZE 330K;
CREATE DSI ORDERS_53_DSI
    DSO ORDERS_DSO
     USING(1145,1166)
     ALLOCATE PRIME    ON SP105 SIZE 27992K
                              SP106 SIZE 27984K,
          OVERFLOW ON SP105 SIZE 331K
                              SP106 SIZE 330K;
CREATE DSI ORDERS_54_DSI
    DSO ORDERS_DSO
     USING(1167,1188)
     ALLOCATE PRIME    ON SP107 SIZE 27992K
                              SP108 SIZE 27984K,
          OVERFLOW ON SP107 SIZE 331K
                              SP108 SIZE 330K;
CREATE DSI ORDERS_55_DSI
    DSO ORDERS_DSO
     USING(1189,1210)
     ALLOCATE PRIME    ON SP109 SIZE 27992K
                              SP110 SIZE 27984K,
          OVERFLOW ON SP109 SIZE 331K
                              SP110 SIZE 330K;
CREATE DSI ORDERS_56_DSI
    DSO ORDERS_DSO
     USING(1211,1232)
     ALLOCATE PRIME    ON SP111 SIZE 27992K
                              SP112 SIZE 27984K,
          OVERFLOW ON SP111 SIZE 331K
                              SP112 SIZE 330K;
CREATE DSI ORDERS_57_DSI
    DSO ORDERS_DSO
     USING(1233,1254)
     ALLOCATE PRIME    ON SP113 SIZE 27992K
                              SP114 SIZE 27984K,
          OVERFLOW ON SP113 SIZE 331K
                              SP114 SIZE 330K;
CREATE DSI ORDERS_58_DSI
    DSO ORDERS_DSO
     USING(1255,1276)
     ALLOCATE PRIME    ON SP115 SIZE 27992K
                              SP116 SIZE 27984K,
          OVERFLOW ON SP115 SIZE 331K
                              SP116 SIZE 330K;
CREATE DSI ORDERS_59_DSI
    DSO ORDERS_DSO
     USING(1277,1298)
     ALLOCATE PRIME    ON SP117 SIZE 27992K
                              SP118 SIZE 27984K,
          OVERFLOW ON SP117 SIZE 331K
                              SP118 SIZE 330K;
CREATE DSI ORDERS_60_DSI
    DSO ORDERS_DSO
     USING(1299,1320)
     ALLOCATE PRIME    ON SP119 SIZE 27992K
                              SP120 SIZE 27984K,
          OVERFLOW ON SP119 SIZE 331K
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                              SP120 SIZE 330K;
CREATE DSI ORDERS_61_DSI
    DSO ORDERS_DSO
     USING(1321,1342)
     ALLOCATE PRIME    ON SP121 SIZE 27992K
                              SP122 SIZE 27984K,
          OVERFLOW ON SP121 SIZE 331K
                              SP122 SIZE 330K;
CREATE DSI ORDERS_62_DSI
    DSO ORDERS_DSO
     USING(1343,1364)
     ALLOCATE PRIME    ON SP123 SIZE 27992K
                              SP124 SIZE 27984K,
          OVERFLOW ON SP123 SIZE 331K
                              SP124 SIZE 330K;
CREATE DSI ORDERS_63_DSI
    DSO ORDERS_DSO
     USING(1365,1386)
     ALLOCATE PRIME    ON SP125 SIZE 27992K
                              SP126 SIZE 27984K,
          OVERFLOW ON SP125 SIZE 331K
                              SP126 SIZE 330K;
CREATE DSI ORDERS_64_DSI
    DSO ORDERS_DSO
     USING(1387,1408)
     ALLOCATE PRIME    ON SP127 SIZE 27992K
                              SP128 SIZE 27984K,
          OVERFLOW ON SP127 SIZE 331K
                              SP128 SIZE 330K;
CREATE DSI ORDERS_65_DSI
    DSO ORDERS_DSO
     USING(1409,1430)
     ALLOCATE PRIME    ON SP129 SIZE 27992K
                              SP130 SIZE 27984K,
          OVERFLOW ON SP129 SIZE 331K
                              SP130 SIZE 330K;
CREATE DSI ORDERS_66_DSI
    DSO ORDERS_DSO
     USING(1431,1452)
     ALLOCATE PRIME    ON SP131 SIZE 27992K
                              SP132 SIZE 27984K,
          OVERFLOW ON SP131 SIZE 331K
                              SP132 SIZE 330K;
CREATE DSI ORDERS_67_DSI
    DSO ORDERS_DSO
     USING(1453,1474)
     ALLOCATE PRIME    ON SP133 SIZE 27992K
                              SP134 SIZE 27984K,
          OVERFLOW ON SP133 SIZE 331K
                              SP134 SIZE 330K;
CREATE DSI ORDERS_68_DSI
    DSO ORDERS_DSO
     USING(1475,1496)
     ALLOCATE PRIME    ON SP135 SIZE 27992K
                              SP136 SIZE 27984K,
          OVERFLOW ON SP135 SIZE 331K
                              SP136 SIZE 330K;
CREATE DSI ORDERS_69_DSI
    DSO ORDERS_DSO
     USING(1497,1518)
     ALLOCATE PRIME    ON SP137 SIZE 27992K
                              SP138 SIZE 27984K,
          OVERFLOW ON SP137 SIZE 331K
```

```
                                        SP138 SIZE 330K;
CREATE DSI ORDERS_70_DSI
      DSO ORDERS_DSO
       USING(1519,1540)
       ALLOCATE PRIME    ON SP139 SIZE 27992K
                                        SP140 SIZE 27984K,
              OVERFLOW ON SP139 SIZE 331K
                                        SP140 SIZE 330K;
CREATE DSI ORDERS_71_DSI
      DSO ORDERS_DSO
       USING(1541,1562)
       ALLOCATE PRIME    ON SP141 SIZE 27992K
                                        SP142 SIZE 27984K,
              OVERFLOW ON SP141 SIZE 331K
                                        SP142 SIZE 330K;
CREATE DSI ORDERS_72_DSI
      DSO ORDERS_DSO
       USING(1563,1584)
       ALLOCATE PRIME    ON SP143 SIZE 27992K
                                        SP144 SIZE 27984K,
              OVERFLOW ON SP143 SIZE 331K
                                        SP144 SIZE 330K;
CREATE DSI ORDERS_73_DSI
      DSO ORDERS_DSO
       USING(1585,1606)
       ALLOCATE PRIME    ON SP145 SIZE 27992K
                                        SP146 SIZE 27984K,
              OVERFLOW ON SP145 SIZE 331K
                                        SP146 SIZE 330K;
CREATE DSI ORDERS_74_DSI
      DSO ORDERS_DSO
       USING(1607,1628)
       ALLOCATE PRIME    ON SP147 SIZE 27992K
                                        SP148 SIZE 27984K,
              OVERFLOW ON SP147 SIZE 331K
                                        SP148 SIZE 330K;
CREATE DSI ORDERS_75_DSI
      DSO ORDERS_DSO
       USING(1629,1650)
       ALLOCATE PRIME    ON SP149 SIZE 27992K
                                        SP150 SIZE 27984K,
              OVERFLOW ON SP149 SIZE 331K
                                        SP150 SIZE 330K;
CREATE DSI ORDERS_76_DSI
      DSO ORDERS_DSO
       USING(1651,1672)
       ALLOCATE PRIME    ON SP151 SIZE 27992K
                                        SP152 SIZE 27984K,
              OVERFLOW ON SP151 SIZE 331K
                                        SP152 SIZE 330K;
CREATE DSI ORDERS_77_DSI
      DSO ORDERS_DSO
       USING(1673,1694)
       ALLOCATE PRIME    ON SP153 SIZE 27992K
                                        SP154 SIZE 27984K,
              OVERFLOW ON SP153 SIZE 331K
                                        SP154 SIZE 330K;
CREATE DSI ORDERS_78_DSI
      DSO ORDERS_DSO
       USING(1695,1716)
       ALLOCATE PRIME    ON SP155 SIZE 27992K
                                        SP156 SIZE 27984K,
              OVERFLOW ON SP155 SIZE 331K
```

```
                                              SP156 SIZE 330K;
      CREATE DSI ORDERS_79_DSI
            DSO ORDERS_DSO
             USING(1717,1738)
             ALLOCATE PRIME    ON SP157 SIZE 27992K
                                              SP158 SIZE 27984K,
                    OVERFLOW ON SP157 SIZE 331K
                                              SP158 SIZE 330K;
      CREATE DSI ORDERS_80_DSI
            DSO ORDERS_DSO
             USING(1739,1760)
             ALLOCATE PRIME    ON SP159 SIZE 27992K
                                              SP160 SIZE 27984K,
                    OVERFLOW ON SP159 SIZE 331K
                                              SP160 SIZE 330K;
      CREATE DSI ORDERS_81_DSI
            DSO ORDERS_DSO
             USING(1761,1782)
             ALLOCATE PRIME    ON SP161 SIZE 27992K
                                              SP162 SIZE 27984K,
                    OVERFLOW ON SP161 SIZE 331K
                                              SP162 SIZE 330K;
      CREATE DSI ORDERS_82_DSI
            DSO ORDERS_DSO
             USING(1783,1804)
             ALLOCATE PRIME    ON SP163 SIZE 27992K
                                              SP164 SIZE 27984K,
                    OVERFLOW ON SP163 SIZE 331K
                                              SP164 SIZE 330K;
      CREATE DSI ORDERS_83_DSI
            DSO ORDERS_DSO
             USING(1805,1826)
             ALLOCATE PRIME    ON SP165 SIZE 27992K
                                              SP166 SIZE 27984K,
                    OVERFLOW ON SP165 SIZE 331K
                                              SP166 SIZE 330K;
      CREATE DSI ORDERS_84_DSI
            DSO ORDERS_DSO
             USING(1827,3696)
             ALLOCATE PRIME    ON SP167 SIZE 27992K
                                              SP168 SIZE 27984K,
                    OVERFLOW ON SP167 SIZE 331K
                                              SP168 SIZE 330K;
::::::::::::::
ddl.dat.ST
::::::::::::::
---------------------------------------------------------------------------
-- * Phase.2-8: Stock
---------------------------------------------------------------------------
      CREATE DSO STOCK_DSO
             FROM TPCC_SCHEMA.STOCK
                    TYPE RANDOM(PAGESIZE1(4),PAGESIZE2(1),
                    RULE(S_I_ID*4+(S_W_ID-1) / 11+(S_W_ID-
S_W_ID / 11*11)*400000))
                    WHERE (S_W_ID) BETWEEN (?) AND (?);
      CREATE DSI STOCK_1_DSI
            DSO STOCK_DSO
             USING(1,44)
             ALLOCATE PRIME    ON SP1 SIZE 200004K
                                              SP2 SIZE 200000K
                                              SP3 SIZE 200000K
                                              SP4 SIZE 200000K
                                              SP5 SIZE 200000K
```

```
                              SP6 SIZE 200000K
                              SP7 SIZE 200000K
                              SP8 SIZE 200000K,
          OVERFLOW ON SP5 SIZE 80001K;
CREATE DSI STOCK_2_DSI
    DSO STOCK_DSO
     USING(45,88)
     ALLOCATE PRIME        ON SP1 SIZE 200004K
                              SP2 SIZE 200000K
                              SP3 SIZE 200000K
                              SP4 SIZE 200000K
                              SP5 SIZE 200000K
                              SP6 SIZE 200000K
                              SP7 SIZE 200000K
                              SP8 SIZE 200000K,
          OVERFLOW ON SP5 SIZE 80001K;
CREATE DSI STOCK_3_DSI
    DSO STOCK_DSO
     USING(89,132)
     ALLOCATE PRIME        ON SP9 SIZE 200004K
                              SP10 SIZE 200000K
                              SP11 SIZE 200000K
                              SP12 SIZE 200000K
                              SP13 SIZE 200000K
                              SP14 SIZE 200000K
                              SP15 SIZE 200000K
                              SP16 SIZE 200000K,
          OVERFLOW ON SP13 SIZE 80001K;
CREATE DSI STOCK_4_DSI
    DSO STOCK_DSO
     USING(133,176)
     ALLOCATE PRIME        ON SP9 SIZE 200004K
                              SP10 SIZE 200000K
                              SP11 SIZE 200000K
                              SP12 SIZE 200000K
                              SP13 SIZE 200000K
                              SP14 SIZE 200000K
                              SP15 SIZE 200000K
                              SP16 SIZE 200000K,
          OVERFLOW ON SP13 SIZE 80001K;
CREATE DSI STOCK_5_DSI
    DSO STOCK_DSO
     USING(177,220)
     ALLOCATE PRIME        ON SP17 SIZE 200004K
                              SP18 SIZE 200000K
                              SP19 SIZE 200000K
                              SP20 SIZE 200000K
                              SP21 SIZE 200000K
                              SP22 SIZE 200000K
                              SP23 SIZE 200000K
                              SP24 SIZE 200000K,
          OVERFLOW ON SP21 SIZE 80001K;
CREATE DSI STOCK_6_DSI
    DSO STOCK_DSO
     USING(221,264)
     ALLOCATE PRIME        ON SP17 SIZE 200004K
                              SP18 SIZE 200000K
                              SP19 SIZE 200000K
                              SP20 SIZE 200000K
                              SP21 SIZE 200000K
                              SP22 SIZE 200000K
                              SP23 SIZE 200000K
                              SP24 SIZE 200000K,
```

```
          OVERFLOW ON SP21 SIZE 80001K;
CREATE DSI STOCK_7_DSI
    DSO STOCK_DSO
     USING(265,308)
     ALLOCATE PRIME        ON SP25 SIZE 200004K
                              SP26 SIZE 200000K
                              SP27 SIZE 200000K
                              SP28 SIZE 200000K
                              SP29 SIZE 200000K
                              SP30 SIZE 200000K
                              SP31 SIZE 200000K
                              SP32 SIZE 200000K,
          OVERFLOW ON SP29 SIZE 80001K;
CREATE DSI STOCK_8_DSI
    DSO STOCK_DSO
     USING(309,352)
     ALLOCATE PRIME        ON SP25 SIZE 200004K
                              SP26 SIZE 200000K
                              SP27 SIZE 200000K
                              SP28 SIZE 200000K
                              SP29 SIZE 200000K
                              SP30 SIZE 200000K
                              SP31 SIZE 200000K
                              SP32 SIZE 200000K,
          OVERFLOW ON SP29 SIZE 80001K;
CREATE DSI STOCK_9_DSI
    DSO STOCK_DSO
     USING(353,396)
     ALLOCATE PRIME        ON SP33 SIZE 200004K
                              SP34 SIZE 200000K
                              SP35 SIZE 200000K
                              SP36 SIZE 200000K
                              SP37 SIZE 200000K
                              SP38 SIZE 200000K
                              SP39 SIZE 200000K
                              SP40 SIZE 200000K,
          OVERFLOW ON SP37 SIZE 80001K;
CREATE DSI STOCK_10_DSI
    DSO STOCK_DSO
     USING(397,440)
     ALLOCATE PRIME        ON SP33 SIZE 200004K
                              SP34 SIZE 200000K
                              SP35 SIZE 200000K
                              SP36 SIZE 200000K
                              SP37 SIZE 200000K
                              SP38 SIZE 200000K
                              SP39 SIZE 200000K
                              SP40 SIZE 200000K,
          OVERFLOW ON SP37 SIZE 80001K;
CREATE DSI STOCK_11_DSI
    DSO STOCK_DSO
     USING(441,484)
     ALLOCATE PRIME        ON SP41 SIZE 200004K
                              SP42 SIZE 200000K
                              SP43 SIZE 200000K
                              SP44 SIZE 200000K
                              SP45 SIZE 200000K
                              SP46 SIZE 200000K
                              SP47 SIZE 200000K
                              SP48 SIZE 200000K,
          OVERFLOW ON SP45 SIZE 80001K;
CREATE DSI STOCK_12_DSI
    DSO STOCK_DSO
```

```
     USING(485,528)
     ALLOCATE PRIME    ON SP41 SIZE 200004K
                            SP42 SIZE 200000K
                            SP43 SIZE 200000K
                            SP44 SIZE 200000K
                            SP45 SIZE 200000K
                            SP46 SIZE 200000K
                            SP47 SIZE 200000K
                            SP48 SIZE 200000K,
          OVERFLOW ON SP45 SIZE 80001K;
CREATE DSI STOCK_13_DSI
    DSO STOCK_DSO
     USING(529,572)
     ALLOCATE PRIME    ON SP49 SIZE 200004K
                            SP50 SIZE 200000K
                            SP51 SIZE 200000K
                            SP52 SIZE 200000K
                            SP53 SIZE 200000K
                            SP54 SIZE 200000K
                            SP55 SIZE 200000K
                            SP56 SIZE 200000K,
          OVERFLOW ON SP53 SIZE 80001K;
CREATE DSI STOCK_14_DSI
    DSO STOCK_DSO
     USING(573,616)
     ALLOCATE PRIME    ON SP49 SIZE 200004K
                            SP50 SIZE 200000K
                            SP51 SIZE 200000K
                            SP52 SIZE 200000K
                            SP53 SIZE 200000K
                            SP54 SIZE 200000K
                            SP55 SIZE 200000K
                            SP56 SIZE 200000K,
          OVERFLOW ON SP53 SIZE 80001K;
CREATE DSI STOCK_15_DSI
    DSO STOCK_DSO
     USING(617,660)
     ALLOCATE PRIME    ON SP57 SIZE 200004K
                            SP58 SIZE 200000K
                            SP59 SIZE 200000K
                            SP60 SIZE 200000K
                            SP61 SIZE 200000K
                            SP62 SIZE 200000K
                            SP63 SIZE 200000K
                            SP64 SIZE 200000K,
          OVERFLOW ON SP61 SIZE 80001K;
CREATE DSI STOCK_16_DSI
    DSO STOCK_DSO
     USING(661,704)
     ALLOCATE PRIME    ON SP57 SIZE 200004K
                            SP58 SIZE 200000K
                            SP59 SIZE 200000K
                            SP60 SIZE 200000K
                            SP61 SIZE 200000K
                            SP62 SIZE 200000K
                            SP63 SIZE 200000K
                            SP64 SIZE 200000K,
          OVERFLOW ON SP61 SIZE 80001K;
CREATE DSI STOCK_17_DSI
    DSO STOCK_DSO
     USING(705,748)
     ALLOCATE PRIME    ON SP65 SIZE 200004K
                            SP66 SIZE 200000K
                            SP67 SIZE 200000K
                            SP68 SIZE 200000K
                            SP69 SIZE 200000K
                            SP70 SIZE 200000K
                            SP71 SIZE 200000K
                            SP72 SIZE 200000K,
          OVERFLOW ON SP69 SIZE 80001K;
CREATE DSI STOCK_18_DSI
    DSO STOCK_DSO
     USING(749,792)
     ALLOCATE PRIME    ON SP65 SIZE 200004K
                            SP66 SIZE 200000K
                            SP67 SIZE 200000K
                            SP68 SIZE 200000K
                            SP69 SIZE 200000K
                            SP70 SIZE 200000K
                            SP71 SIZE 200000K
                            SP72 SIZE 200000K,
          OVERFLOW ON SP69 SIZE 80001K;
CREATE DSI STOCK_19_DSI
    DSO STOCK_DSO
     USING(793,836)
     ALLOCATE PRIME    ON SP73 SIZE 200004K
                            SP74 SIZE 200000K
                            SP75 SIZE 200000K
                            SP76 SIZE 200000K
                            SP77 SIZE 200000K
                            SP78 SIZE 200000K
                            SP79 SIZE 200000K
                            SP80 SIZE 200000K,
          OVERFLOW ON SP77 SIZE 80001K;
CREATE DSI STOCK_20_DSI
    DSO STOCK_DSO
     USING(837,880)
     ALLOCATE PRIME    ON SP73 SIZE 200004K
                            SP74 SIZE 200000K
                            SP75 SIZE 200000K
                            SP76 SIZE 200000K
                            SP77 SIZE 200000K
                            SP78 SIZE 200000K
                            SP79 SIZE 200000K
                            SP80 SIZE 200000K,
          OVERFLOW ON SP77 SIZE 80001K;
CREATE DSI STOCK_21_DSI
    DSO STOCK_DSO
     USING(881,924)
     ALLOCATE PRIME    ON SP81 SIZE 200004K
                            SP82 SIZE 200000K
                            SP83 SIZE 200000K
                            SP84 SIZE 200000K
                            SP85 SIZE 200000K
                            SP86 SIZE 200000K
                            SP87 SIZE 200000K
                            SP88 SIZE 200000K,
          OVERFLOW ON SP85 SIZE 80001K;
CREATE DSI STOCK_22_DSI
    DSO STOCK_DSO
     USING(925,968)
     ALLOCATE PRIME    ON SP81 SIZE 200004K
                            SP82 SIZE 200000K
                            SP83 SIZE 200000K
                            SP84 SIZE 200000K
                            SP85 SIZE 200000K
```

```
                              SP86 SIZE 200000K
                              SP87 SIZE 200000K
                              SP88 SIZE 200000K,
          OVERFLOW ON SP85 SIZE 80001K;
CREATE DSI STOCK_23_DSI
    DSO STOCK_DSO
     USING(969,1012)
     ALLOCATE PRIME    ON SP89 SIZE 200004K
                              SP90 SIZE 200000K
                              SP91 SIZE 200000K
                              SP92 SIZE 200000K
                              SP93 SIZE 200000K
                              SP94 SIZE 200000K
                              SP95 SIZE 200000K
                              SP96 SIZE 200000K,
          OVERFLOW ON SP93 SIZE 80001K;
CREATE DSI STOCK_24_DSI
    DSO STOCK_DSO
     USING(1013,1056)
     ALLOCATE PRIME    ON SP89 SIZE 200004K
                              SP90 SIZE 200000K
                              SP91 SIZE 200000K
                              SP92 SIZE 200000K
                              SP93 SIZE 200000K
                              SP94 SIZE 200000K
                              SP95 SIZE 200000K
                              SP96 SIZE 200000K,
          OVERFLOW ON SP93 SIZE 80001K;
CREATE DSI STOCK_25_DSI
    DSO STOCK_DSO
     USING(1057,1100)
     ALLOCATE PRIME    ON SP97 SIZE 200004K
                              SP98 SIZE 200000K
                              SP99 SIZE 200000K
                              SP100 SIZE 200000K
                              SP101 SIZE 200000K
                              SP102 SIZE 200000K
                              SP103 SIZE 200000K
                              SP104 SIZE 200000K,
          OVERFLOW ON SP101 SIZE 80001K;
CREATE DSI STOCK_26_DSI
    DSO STOCK_DSO
     USING(1101,1144)
     ALLOCATE PRIME    ON SP97 SIZE 200004K
                              SP98 SIZE 200000K
                              SP99 SIZE 200000K
                              SP100 SIZE 200000K
                              SP101 SIZE 200000K
                              SP102 SIZE 200000K
                              SP103 SIZE 200000K
                              SP104 SIZE 200000K,
          OVERFLOW ON SP101 SIZE 80001K;
CREATE DSI STOCK_27_DSI
    DSO STOCK_DSO
     USING(1145,1188)
     ALLOCATE PRIME    ON SP105 SIZE 200004K
                              SP106 SIZE 200000K
                              SP107 SIZE 200000K
                              SP108 SIZE 200000K
                              SP109 SIZE 200000K
                              SP110 SIZE 200000K
                              SP111 SIZE 200000K
                              SP112 SIZE 200000K,
          OVERFLOW ON SP109 SIZE 80001K;
CREATE DSI STOCK_28_DSI
    DSO STOCK_DSO
     USING(1189,1232)
     ALLOCATE PRIME    ON SP105 SIZE 200004K
                              SP106 SIZE 200000K
                              SP107 SIZE 200000K
                              SP108 SIZE 200000K
                              SP109 SIZE 200000K
                              SP110 SIZE 200000K
                              SP111 SIZE 200000K
                              SP112 SIZE 200000K,
          OVERFLOW ON SP109 SIZE 80001K;
CREATE DSI STOCK_29_DSI
    DSO STOCK_DSO
     USING(1233,1276)
     ALLOCATE PRIME    ON SP113 SIZE 200004K
                              SP114 SIZE 200000K
                              SP115 SIZE 200000K
                              SP116 SIZE 200000K
                              SP117 SIZE 200000K
                              SP118 SIZE 200000K
                              SP119 SIZE 200000K
                              SP120 SIZE 200000K,
          OVERFLOW ON SP117 SIZE 80001K;
CREATE DSI STOCK_30_DSI
    DSO STOCK_DSO
     USING(1277,1320)
     ALLOCATE PRIME    ON SP113 SIZE 200004K
                              SP114 SIZE 200000K
                              SP115 SIZE 200000K
                              SP116 SIZE 200000K
                              SP117 SIZE 200000K
                              SP118 SIZE 200000K
                              SP119 SIZE 200000K
                              SP120 SIZE 200000K,
          OVERFLOW ON SP117 SIZE 80001K;
CREATE DSI STOCK_31_DSI
    DSO STOCK_DSO
     USING(1321,1364)
     ALLOCATE PRIME    ON SP121 SIZE 200004K
                              SP122 SIZE 200000K
                              SP123 SIZE 200000K
                              SP124 SIZE 200000K
                              SP125 SIZE 200000K
                              SP126 SIZE 200000K
                              SP127 SIZE 200000K
                              SP128 SIZE 200000K,
          OVERFLOW ON SP125 SIZE 80001K;
CREATE DSI STOCK_32_DSI
    DSO STOCK_DSO
     USING(1365,1408)
     ALLOCATE PRIME    ON SP121 SIZE 200004K
                              SP122 SIZE 200000K
                              SP123 SIZE 200000K
                              SP124 SIZE 200000K
                              SP125 SIZE 200000K
                              SP126 SIZE 200000K
                              SP127 SIZE 200000K
                              SP128 SIZE 200000K,
          OVERFLOW ON SP125 SIZE 80001K;
CREATE DSI STOCK_33_DSI
    DSO STOCK_DSO
```

```
        USING(1409,1452)
        ALLOCATE PRIME  ON SP129 SIZE 200004K
                            SP130 SIZE 200000K
                            SP131 SIZE 200000K
                            SP132 SIZE 200000K
                            SP133 SIZE 200000K
                            SP134 SIZE 200000K
                            SP135 SIZE 200000K
                            SP136 SIZE 200000K,
            OVERFLOW ON SP133 SIZE 80001K;
    CREATE DSI STOCK_34_DSI
       DSO STOCK_DSO
        USING(1453,1496)
        ALLOCATE PRIME  ON SP129 SIZE 200004K
                            SP130 SIZE 200000K
                            SP131 SIZE 200000K
                            SP132 SIZE 200000K
                            SP133 SIZE 200000K
                            SP134 SIZE 200000K
                            SP135 SIZE 200000K
                            SP136 SIZE 200000K,
            OVERFLOW ON SP133 SIZE 80001K;
    CREATE DSI STOCK_35_DSI
       DSO STOCK_DSO
        USING(1497,1540)
        ALLOCATE PRIME  ON SP137 SIZE 200004K
                            SP138 SIZE 200000K
                            SP139 SIZE 200000K
                            SP140 SIZE 200000K
                            SP141 SIZE 200000K
                            SP142 SIZE 200000K
                            SP143 SIZE 200000K
                            SP144 SIZE 200000K,
            OVERFLOW ON SP141 SIZE 80001K;
    CREATE DSI STOCK_36_DSI
       DSO STOCK_DSO
        USING(1541,1584)
        ALLOCATE PRIME  ON SP137 SIZE 200004K
                            SP138 SIZE 200000K
                            SP139 SIZE 200000K
                            SP140 SIZE 200000K
                            SP141 SIZE 200000K
                            SP142 SIZE 200000K
                            SP143 SIZE 200000K
                            SP144 SIZE 200000K,
            OVERFLOW ON SP141 SIZE 80001K;
    CREATE DSI STOCK_37_DSI
       DSO STOCK_DSO
        USING(1585,1628)
        ALLOCATE PRIME  ON SP145 SIZE 200004K
                            SP146 SIZE 200000K
                            SP147 SIZE 200000K
                            SP148 SIZE 200000K
                            SP149 SIZE 200000K
                            SP150 SIZE 200000K
                            SP151 SIZE 200000K
                            SP152 SIZE 200000K,
            OVERFLOW ON SP149 SIZE 80001K;
    CREATE DSI STOCK_38_DSI
       DSO STOCK_DSO
        USING(1629,1672)
        ALLOCATE PRIME  ON SP145 SIZE 200004K
                            SP146 SIZE 200000K
                            SP147 SIZE 200000K
                            SP148 SIZE 200000K
                            SP149 SIZE 200000K
                            SP150 SIZE 200000K
                            SP151 SIZE 200000K
                            SP152 SIZE 200000K,
            OVERFLOW ON SP149 SIZE 80001K;
    CREATE DSI STOCK_39_DSI
       DSO STOCK_DSO
        USING(1673,1716)
        ALLOCATE PRIME  ON SP153 SIZE 200004K
                            SP154 SIZE 200000K
                            SP155 SIZE 200000K
                            SP156 SIZE 200000K
                            SP157 SIZE 200000K
                            SP158 SIZE 200000K
                            SP159 SIZE 200000K
                            SP160 SIZE 200000K,
            OVERFLOW ON SP157 SIZE 80001K;
    CREATE DSI STOCK_40_DSI
       DSO STOCK_DSO
        USING(1717,1760)
        ALLOCATE PRIME  ON SP153 SIZE 200004K
                            SP154 SIZE 200000K
                            SP155 SIZE 200000K
                            SP156 SIZE 200000K
                            SP157 SIZE 200000K
                            SP158 SIZE 200000K
                            SP159 SIZE 200000K
                            SP160 SIZE 200000K,
            OVERFLOW ON SP157 SIZE 80001K;
    CREATE DSI STOCK_41_DSI
       DSO STOCK_DSO
        USING(1761,1804)
        ALLOCATE PRIME  ON SP161 SIZE 200004K
                            SP162 SIZE 200000K
                            SP163 SIZE 200000K
                            SP164 SIZE 200000K
                            SP165 SIZE 200000K
                            SP166 SIZE 200000K
                            SP167 SIZE 200000K
                            SP168 SIZE 200000K,
            OVERFLOW ON SP165 SIZE 80001K;
    CREATE DSI STOCK_42_DSI
       DSO STOCK_DSO
        USING(1805,3696)
        ALLOCATE PRIME  ON SP161 SIZE 200004K
                            SP162 SIZE 200000K
                            SP163 SIZE 200000K
                            SP164 SIZE 200000K
                            SP165 SIZE 200000K
                            SP166 SIZE 200000K
                            SP167 SIZE 200000K
                            SP168 SIZE 200000K,
            OVERFLOW ON SP165 SIZE 80001K;
::::::::::::::
ddl.dat.WH
::::::::::::::
------------------------------------------------------------------------------
-- * Phase.2-1: Warehouse
------------------------------------------------------------------------------
    CREATE DSO WAREHOUSE_DSO
        FROM TPCC_SCHEMA.WAREHOUSE
```

```
            TYPE RANDOM(PAGESIZE1(1),PAGESIZE2(1))
            WHERE (W_ID) BETWEEN (?) AND (?);
CREATE DSI WAREHOUSE_1_DSI
     DSO WAREHOUSE_DSO
      USING(1,88)
      ALLOCATE PRIME    ON SP1 SIZE 4097K,
             OVERFLOW ON SP1 SIZE 17K;
CREATE DSI WAREHOUSE_2_DSI
     DSO WAREHOUSE_DSO
      USING(89,176)
      ALLOCATE PRIME    ON SP7 SIZE 4097K,
             OVERFLOW ON SP7 SIZE 17K;
CREATE DSI WAREHOUSE_3_DSI
     DSO WAREHOUSE_DSO
      USING(177,264)
      ALLOCATE PRIME    ON SP13 SIZE 4097K,
             OVERFLOW ON SP13 SIZE 17K;
CREATE DSI WAREHOUSE_4_DSI
     DSO WAREHOUSE_DSO
      USING(265,352)
      ALLOCATE PRIME    ON SP19 SIZE 4097K,
             OVERFLOW ON SP19 SIZE 17K;
CREATE DSI WAREHOUSE_5_DSI
     DSO WAREHOUSE_DSO
      USING(353,440)
      ALLOCATE PRIME    ON SP25 SIZE 4097K,
             OVERFLOW ON SP25 SIZE 17K;
CREATE DSI WAREHOUSE_6_DSI
     DSO WAREHOUSE_DSO
      USING(441,528)
      ALLOCATE PRIME    ON SP31 SIZE 4097K,
             OVERFLOW ON SP31 SIZE 17K;
CREATE DSI WAREHOUSE_7_DSI
     DSO WAREHOUSE_DSO
      USING(529,616)
      ALLOCATE PRIME    ON SP37 SIZE 4097K,
             OVERFLOW ON SP37 SIZE 17K;
CREATE DSI WAREHOUSE_8_DSI
     DSO WAREHOUSE_DSO
      USING(617,704)
      ALLOCATE PRIME    ON SP43 SIZE 4097K,
             OVERFLOW ON SP43 SIZE 17K;
CREATE DSI WAREHOUSE_9_DSI
     DSO WAREHOUSE_DSO
      USING(705,792)
      ALLOCATE PRIME    ON SP49 SIZE 4097K,
             OVERFLOW ON SP49 SIZE 17K;
CREATE DSI WAREHOUSE_10_DSI
     DSO WAREHOUSE_DSO
      USING(793,880)
      ALLOCATE PRIME    ON SP55 SIZE 4097K,
             OVERFLOW ON SP55 SIZE 17K;
CREATE DSI WAREHOUSE_11_DSI
     DSO WAREHOUSE_DSO
      USING(881,968)
      ALLOCATE PRIME    ON SP61 SIZE 4097K,
             OVERFLOW ON SP61 SIZE 17K;
CREATE DSI WAREHOUSE_12_DSI
     DSO WAREHOUSE_DSO
      USING(969,1056)
      ALLOCATE PRIME    ON SP67 SIZE 4097K,
             OVERFLOW ON SP67 SIZE 17K;
CREATE DSI WAREHOUSE_13_DSI
     DSO WAREHOUSE_DSO
      USING(1057,1144)
      ALLOCATE PRIME    ON SP73 SIZE 4097K,
             OVERFLOW ON SP73 SIZE 17K;
CREATE DSI WAREHOUSE_14_DSI
     DSO WAREHOUSE_DSO
      USING(1145,1232)
      ALLOCATE PRIME    ON SP79 SIZE 4097K,
             OVERFLOW ON SP79 SIZE 17K;
CREATE DSI WAREHOUSE_15_DSI
     DSO WAREHOUSE_DSO
      USING(1233,1320)
      ALLOCATE PRIME    ON SP85 SIZE 4097K,
             OVERFLOW ON SP85 SIZE 17K;
CREATE DSI WAREHOUSE_16_DSI
     DSO WAREHOUSE_DSO
      USING(1321,1408)
      ALLOCATE PRIME    ON SP91 SIZE 4097K,
             OVERFLOW ON SP91 SIZE 17K;
CREATE DSI WAREHOUSE_17_DSI
     DSO WAREHOUSE_DSO
      USING(1409,1496)
      ALLOCATE PRIME    ON SP97 SIZE 4097K,
             OVERFLOW ON SP97 SIZE 17K;
CREATE DSI WAREHOUSE_18_DSI
     DSO WAREHOUSE_DSO
      USING(1497,1584)
      ALLOCATE PRIME    ON SP103 SIZE 4097K,
             OVERFLOW ON SP103 SIZE 17K;
CREATE DSI WAREHOUSE_19_DSI
     DSO WAREHOUSE_DSO
      USING(1585,1672)
      ALLOCATE PRIME    ON SP109 SIZE 4097K,
             OVERFLOW ON SP109 SIZE 17K;
CREATE DSI WAREHOUSE_20_DSI
     DSO WAREHOUSE_DSO
      USING(1673,1760)
      ALLOCATE PRIME    ON SP115 SIZE 4097K,
             OVERFLOW ON SP115 SIZE 17K;
CREATE DSI WAREHOUSE_21_DSI
     DSO WAREHOUSE_DSO
      USING(1761,3696)
      ALLOCATE PRIME    ON SP121 SIZE 4097K,
             OVERFLOW ON SP121 SIZE 17K;
::::::::::::::
ddl.dbsp.dat
::::::::::::::
CREATE DBSPACE SP1    ALLOCATE RAWDEVICE /DEV/rdsk/SP1;
CREATE DBSPACE SP2    ALLOCATE RAWDEVICE /DEV/rdsk/SP2;
CREATE DBSPACE SP3    ALLOCATE RAWDEVICE /DEV/rdsk/SP3;
CREATE DBSPACE SP4    ALLOCATE RAWDEVICE /DEV/rdsk/SP4;
CREATE DBSPACE SP5    ALLOCATE RAWDEVICE /DEV/rdsk/SP5;
CREATE DBSPACE SP6    ALLOCATE RAWDEVICE /DEV/rdsk/SP6;
CREATE DBSPACE SP7    ALLOCATE RAWDEVICE /DEV/rdsk/SP7;
CREATE DBSPACE SP8    ALLOCATE RAWDEVICE /DEV/rdsk/SP8;
CREATE DBSPACE SP9    ALLOCATE RAWDEVICE /DEV/rdsk/SP9;
CREATE DBSPACE SP10   ALLOCATE RAWDEVICE /DEV/rdsk/SP10;
CREATE DBSPACE SP11   ALLOCATE RAWDEVICE /DEV/rdsk/SP11;
CREATE DBSPACE SP12   ALLOCATE RAWDEVICE /DEV/rdsk/SP12;
CREATE DBSPACE SP13   ALLOCATE RAWDEVICE /DEV/rdsk/SP13;
CREATE DBSPACE SP14   ALLOCATE RAWDEVICE /DEV/rdsk/SP14;
CREATE DBSPACE SP15   ALLOCATE RAWDEVICE /DEV/rdsk/SP15;
CREATE DBSPACE SP16   ALLOCATE RAWDEVICE /DEV/rdsk/SP16;
CREATE DBSPACE SP17   ALLOCATE RAWDEVICE
/DEV/rdsk/SP17;
CREATE DBSPACE SP18   ALLOCATE RAWDEVICE
/DEV/rdsk/SP18;
CREATE DBSPACE SP19   ALLOCATE RAWDEVICE
/DEV/rdsk/SP19;
CREATE DBSPACE SP20   ALLOCATE RAWDEVICE
/DEV/rdsk/SP20;
CREATE DBSPACE SP21   ALLOCATE RAWDEVICE
/DEV/rdsk/SP21;
CREATE DBSPACE SP22   ALLOCATE RAWDEVICE
/DEV/rdsk/SP22;
CREATE DBSPACE SP23   ALLOCATE RAWDEVICE
/DEV/rdsk/SP23;
CREATE DBSPACE SP24   ALLOCATE RAWDEVICE
/DEV/rdsk/SP24;
CREATE DBSPACE SP25   ALLOCATE RAWDEVICE
/DEV/rdsk/SP25;
CREATE DBSPACE SP26   ALLOCATE RAWDEVICE
/DEV/rdsk/SP26;
CREATE DBSPACE SP27   ALLOCATE RAWDEVICE
/DEV/rdsk/SP27;
CREATE DBSPACE SP28   ALLOCATE RAWDEVICE
/DEV/rdsk/SP28;
CREATE DBSPACE SP29   ALLOCATE RAWDEVICE
/DEV/rdsk/SP29;
CREATE DBSPACE SP30   ALLOCATE RAWDEVICE
/DEV/rdsk/SP30;
CREATE DBSPACE SP31   ALLOCATE RAWDEVICE
/DEV/rdsk/SP31;
CREATE DBSPACE SP32   ALLOCATE RAWDEVICE
/DEV/rdsk/SP32;
CREATE DBSPACE SP33   ALLOCATE RAWDEVICE
/DEV/rdsk/SP33;
CREATE DBSPACE SP34   ALLOCATE RAWDEVICE
/DEV/rdsk/SP34;
CREATE DBSPACE SP35   ALLOCATE RAWDEVICE
/DEV/rdsk/SP35;
CREATE DBSPACE SP36   ALLOCATE RAWDEVICE
/DEV/rdsk/SP36;
CREATE DBSPACE SP37   ALLOCATE RAWDEVICE
/DEV/rdsk/SP37;
CREATE DBSPACE SP38   ALLOCATE RAWDEVICE
/DEV/rdsk/SP38;
CREATE DBSPACE SP39   ALLOCATE RAWDEVICE
/DEV/rdsk/SP39;
CREATE DBSPACE SP40   ALLOCATE RAWDEVICE
/DEV/rdsk/SP40;
CREATE DBSPACE SP41   ALLOCATE RAWDEVICE
/DEV/rdsk/SP41;
CREATE DBSPACE SP42   ALLOCATE RAWDEVICE
/DEV/rdsk/SP42;
CREATE DBSPACE SP43   ALLOCATE RAWDEVICE
/DEV/rdsk/SP43;
CREATE DBSPACE SP44   ALLOCATE RAWDEVICE
/DEV/rdsk/SP44;
CREATE DBSPACE SP45   ALLOCATE RAWDEVICE
/DEV/rdsk/SP45;
CREATE DBSPACE SP46   ALLOCATE RAWDEVICE
/DEV/rdsk/SP46;
CREATE DBSPACE SP47   ALLOCATE RAWDEVICE
/DEV/rdsk/SP47;
```

```
CREATE DBSPACE SP48   ALLOCATE RAWDEVICE /DEV/rdsk/SP48;
CREATE DBSPACE SP49   ALLOCATE RAWDEVICE /DEV/rdsk/SP49;
CREATE DBSPACE SP50   ALLOCATE RAWDEVICE /DEV/rdsk/SP50;
CREATE DBSPACE SP51   ALLOCATE RAWDEVICE /DEV/rdsk/SP51;
CREATE DBSPACE SP52   ALLOCATE RAWDEVICE /DEV/rdsk/SP52;
CREATE DBSPACE SP53   ALLOCATE RAWDEVICE /DEV/rdsk/SP53;
CREATE DBSPACE SP54   ALLOCATE RAWDEVICE /DEV/rdsk/SP54;
CREATE DBSPACE SP55   ALLOCATE RAWDEVICE /DEV/rdsk/SP55;
CREATE DBSPACE SP56   ALLOCATE RAWDEVICE /DEV/rdsk/SP56;
CREATE DBSPACE SP57   ALLOCATE RAWDEVICE /DEV/rdsk/SP57;
CREATE DBSPACE SP58   ALLOCATE RAWDEVICE /DEV/rdsk/SP58;
CREATE DBSPACE SP59   ALLOCATE RAWDEVICE /DEV/rdsk/SP59;
CREATE DBSPACE SP60   ALLOCATE RAWDEVICE /DEV/rdsk/SP60;
CREATE DBSPACE SP61   ALLOCATE RAWDEVICE /DEV/rdsk/SP61;
CREATE DBSPACE SP62   ALLOCATE RAWDEVICE /DEV/rdsk/SP62;
CREATE DBSPACE SP63   ALLOCATE RAWDEVICE /DEV/rdsk/SP63;
CREATE DBSPACE SP64   ALLOCATE RAWDEVICE /DEV/rdsk/SP64;
CREATE DBSPACE SP65   ALLOCATE RAWDEVICE /DEV/rdsk/SP65;
CREATE DBSPACE SP66   ALLOCATE RAWDEVICE /DEV/rdsk/SP66;
CREATE DBSPACE SP67   ALLOCATE RAWDEVICE /DEV/rdsk/SP67;
CREATE DBSPACE SP68   ALLOCATE RAWDEVICE /DEV/rdsk/SP68;
CREATE DBSPACE SP69   ALLOCATE RAWDEVICE /DEV/rdsk/SP69;
CREATE DBSPACE SP70   ALLOCATE RAWDEVICE /DEV/rdsk/SP70;
CREATE DBSPACE SP71   ALLOCATE RAWDEVICE /DEV/rdsk/SP71;
CREATE DBSPACE SP72   ALLOCATE RAWDEVICE /DEV/rdsk/SP72;
CREATE DBSPACE SP73   ALLOCATE RAWDEVICE /DEV/rdsk/SP73;
CREATE DBSPACE SP74   ALLOCATE RAWDEVICE /DEV/rdsk/SP74;
CREATE DBSPACE SP75   ALLOCATE RAWDEVICE /DEV/rdsk/SP75;
CREATE DBSPACE SP76   ALLOCATE RAWDEVICE /DEV/rdsk/SP76;
CREATE DBSPACE SP77   ALLOCATE RAWDEVICE /DEV/rdsk/SP77;
CREATE DBSPACE SP78   ALLOCATE RAWDEVICE /DEV/rdsk/SP78;
CREATE DBSPACE SP79   ALLOCATE RAWDEVICE /DEV/rdsk/SP79;
CREATE DBSPACE SP80   ALLOCATE RAWDEVICE /DEV/rdsk/SP80;
CREATE DBSPACE SP81   ALLOCATE RAWDEVICE /DEV/rdsk/SP81;
CREATE DBSPACE SP82   ALLOCATE RAWDEVICE /DEV/rdsk/SP82;
CREATE DBSPACE SP83   ALLOCATE RAWDEVICE /DEV/rdsk/SP83;
CREATE DBSPACE SP84   ALLOCATE RAWDEVICE /DEV/rdsk/SP84;
CREATE DBSPACE SP85   ALLOCATE RAWDEVICE /DEV/rdsk/SP85;
CREATE DBSPACE SP86   ALLOCATE RAWDEVICE /DEV/rdsk/SP86;
CREATE DBSPACE SP87   ALLOCATE RAWDEVICE /DEV/rdsk/SP87;
CREATE DBSPACE SP88   ALLOCATE RAWDEVICE /DEV/rdsk/SP88;
CREATE DBSPACE SP89   ALLOCATE RAWDEVICE /DEV/rdsk/SP89;
CREATE DBSPACE SP90   ALLOCATE RAWDEVICE /DEV/rdsk/SP90;
CREATE DBSPACE SP91   ALLOCATE RAWDEVICE /DEV/rdsk/SP91;
CREATE DBSPACE SP92   ALLOCATE RAWDEVICE /DEV/rdsk/SP92;
CREATE DBSPACE SP93   ALLOCATE RAWDEVICE /DEV/rdsk/SP93;
CREATE DBSPACE SP94   ALLOCATE RAWDEVICE /DEV/rdsk/SP94;
CREATE DBSPACE SP95   ALLOCATE RAWDEVICE /DEV/rdsk/SP95;
CREATE DBSPACE SP96   ALLOCATE RAWDEVICE /DEV/rdsk/SP96;
CREATE DBSPACE SP97   ALLOCATE RAWDEVICE /DEV/rdsk/SP97;
CREATE DBSPACE SP98   ALLOCATE RAWDEVICE /DEV/rdsk/SP98;
CREATE DBSPACE SP99   ALLOCATE RAWDEVICE /DEV/rdsk/SP99;
CREATE DBSPACE SP100  ALLOCATE RAWDEVICE /DEV/rdsk/SP100;
CREATE DBSPACE SP101  ALLOCATE RAWDEVICE /DEV/rdsk/SP101;
CREATE DBSPACE SP102  ALLOCATE RAWDEVICE /DEV/rdsk/SP102;
CREATE DBSPACE SP103  ALLOCATE RAWDEVICE /DEV/rdsk/SP103;
CREATE DBSPACE SP104  ALLOCATE RAWDEVICE /DEV/rdsk/SP104;
CREATE DBSPACE SP105  ALLOCATE RAWDEVICE /DEV/rdsk/SP105;
CREATE DBSPACE SP106  ALLOCATE RAWDEVICE /DEV/rdsk/SP106;
CREATE DBSPACE SP107  ALLOCATE RAWDEVICE /DEV/rdsk/SP107;
CREATE DBSPACE SP108  ALLOCATE RAWDEVICE /DEV/rdsk/SP108;
CREATE DBSPACE SP109  ALLOCATE RAWDEVICE /DEV/rdsk/SP109;
CREATE DBSPACE SP110  ALLOCATE RAWDEVICE /DEV/rdsk/SP110;
CREATE DBSPACE SP111  ALLOCATE RAWDEVICE
/DEV/rdsk/SP111;
CREATE DBSPACE SP112  ALLOCATE RAWDEVICE
/DEV/rdsk/SP112;
CREATE DBSPACE SP113  ALLOCATE RAWDEVICE
/DEV/rdsk/SP113;
CREATE DBSPACE SP114  ALLOCATE RAWDEVICE
/DEV/rdsk/SP114;
CREATE DBSPACE SP115  ALLOCATE RAWDEVICE
/DEV/rdsk/SP115;
CREATE DBSPACE SP116  ALLOCATE RAWDEVICE
/DEV/rdsk/SP116;
CREATE DBSPACE SP117  ALLOCATE RAWDEVICE
/DEV/rdsk/SP117;
CREATE DBSPACE SP118  ALLOCATE RAWDEVICE
/DEV/rdsk/SP118;
CREATE DBSPACE SP119  ALLOCATE RAWDEVICE
/DEV/rdsk/SP119;
CREATE DBSPACE SP120  ALLOCATE RAWDEVICE
/DEV/rdsk/SP120;
CREATE DBSPACE SP121  ALLOCATE RAWDEVICE
/DEV/rdsk/SP121;
CREATE DBSPACE SP122  ALLOCATE RAWDEVICE
/DEV/rdsk/SP122;
CREATE DBSPACE SP123  ALLOCATE RAWDEVICE
/DEV/rdsk/SP123;
CREATE DBSPACE SP124  ALLOCATE RAWDEVICE
/DEV/rdsk/SP124;
CREATE DBSPACE SP125  ALLOCATE RAWDEVICE
/DEV/rdsk/SP125;
CREATE DBSPACE SP126  ALLOCATE RAWDEVICE
/DEV/rdsk/SP126;
CREATE DBSPACE SP127  ALLOCATE RAWDEVICE
/DEV/rdsk/SP127;
CREATE DBSPACE SP128  ALLOCATE RAWDEVICE
/DEV/rdsk/SP128;
CREATE DBSPACE SP129  ALLOCATE RAWDEVICE
/DEV/rdsk/SP129;
CREATE DBSPACE SP130  ALLOCATE RAWDEVICE
/DEV/rdsk/SP130;
CREATE DBSPACE SP131  ALLOCATE RAWDEVICE
/DEV/rdsk/SP131;
CREATE DBSPACE SP132  ALLOCATE RAWDEVICE
/DEV/rdsk/SP132;
CREATE DBSPACE SP133  ALLOCATE RAWDEVICE
/DEV/rdsk/SP133;
CREATE DBSPACE SP134  ALLOCATE RAWDEVICE
/DEV/rdsk/SP134;
CREATE DBSPACE SP135  ALLOCATE RAWDEVICE
/DEV/rdsk/SP135;
CREATE DBSPACE SP136  ALLOCATE RAWDEVICE
/DEV/rdsk/SP136;
CREATE DBSPACE SP137  ALLOCATE RAWDEVICE
/DEV/rdsk/SP137;
CREATE DBSPACE SP138  ALLOCATE RAWDEVICE
/DEV/rdsk/SP138;
CREATE DBSPACE SP139  ALLOCATE RAWDEVICE
/DEV/rdsk/SP139;
CREATE DBSPACE SP140  ALLOCATE RAWDEVICE
/DEV/rdsk/SP140;
CREATE DBSPACE SP141  ALLOCATE RAWDEVICE
/DEV/rdsk/SP141;
CREATE DBSPACE SP142  ALLOCATE RAWDEVICE  /DEV/rdsk/SP142;
CREATE DBSPACE SP143  ALLOCATE RAWDEVICE  /DEV/rdsk/SP143;
CREATE DBSPACE SP144  ALLOCATE RAWDEVICE  /DEV/rdsk/SP144;
CREATE DBSPACE SP145  ALLOCATE RAWDEVICE  /DEV/rdsk/SP145;
CREATE DBSPACE SP146  ALLOCATE RAWDEVICE  /DEV/rdsk/SP146;
CREATE DBSPACE SP147  ALLOCATE RAWDEVICE  /DEV/rdsk/SP147;
CREATE DBSPACE SP148  ALLOCATE RAWDEVICE  /DEV/rdsk/SP148;
CREATE DBSPACE SP149  ALLOCATE RAWDEVICE  /DEV/rdsk/SP149;
CREATE DBSPACE SP150  ALLOCATE RAWDEVICE  /DEV/rdsk/SP150;
CREATE DBSPACE SP151  ALLOCATE RAWDEVICE  /DEV/rdsk/SP151;
CREATE DBSPACE SP152  ALLOCATE RAWDEVICE  /DEV/rdsk/SP152;
CREATE DBSPACE SP153  ALLOCATE RAWDEVICE  /DEV/rdsk/SP153;
CREATE DBSPACE SP154  ALLOCATE RAWDEVICE  /DEV/rdsk/SP154;
CREATE DBSPACE SP155  ALLOCATE RAWDEVICE  /DEV/rdsk/SP155;
CREATE DBSPACE SP156  ALLOCATE RAWDEVICE  /DEV/rdsk/SP156;
CREATE DBSPACE SP157  ALLOCATE RAWDEVICE  /DEV/rdsk/SP157;
CREATE DBSPACE SP158  ALLOCATE RAWDEVICE  /DEV/rdsk/SP158;
CREATE DBSPACE SP159  ALLOCATE RAWDEVICE  /DEV/rdsk/SP159;
CREATE DBSPACE SP160  ALLOCATE RAWDEVICE  /DEV/rdsk/SP160;
CREATE DBSPACE SP161  ALLOCATE RAWDEVICE  /DEV/rdsk/SP161;
CREATE DBSPACE SP162  ALLOCATE RAWDEVICE  /DEV/rdsk/SP162;
CREATE DBSPACE SP163  ALLOCATE RAWDEVICE  /DEV/rdsk/SP163;
CREATE DBSPACE SP164  ALLOCATE RAWDEVICE  /DEV/rdsk/SP164;
CREATE DBSPACE SP165  ALLOCATE RAWDEVICE  /DEV/rdsk/SP165;
CREATE DBSPACE SP166  ALLOCATE RAWDEVICE  /DEV/rdsk/SP166;
CREATE DBSPACE SP167  ALLOCATE RAWDEVICE  /DEV/rdsk/SP167;
CREATE DBSPACE SP168  ALLOCATE RAWDEVICE  /DEV/rdsk/SP168;
::::::::::::::
ddl_db.mak
::::::::::::::
--
--
--
  CREATE DATABASE TPCC;
::::::::::::::
mkarc.sh
::::::::::::::
:
set -x
date
timex rdblog -G -a /DEV/rdsk/ARC1 2035M
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC2
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC3
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC4
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC5
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC6
sleep 1
date
exit
timex rdblog -U -a /DEV/rdsk/ARC7
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC8
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC9
sleep 1
timex rdblog -U -a /DEV/rdsk/ARC10
sleep 1
date
```

```
::::::::::::::
mktmplog.sh
::::::::::::::
:
set -x
date
echo “its takes 25 min (990424 9GB not duplex)”
rm /rdbptc/tpcc80/SYS/rdblogmanage
timex rdblog -I
LOG_AI=/DEV/rdsk/AI_LOG
LOG_BI=/DEV/rdsk/BI_LOG
LOG_IX=/DEV/rdsk/IX_LOG
rm /rdbptc/arc/ARC* &
timex rdblog -G -t -c 5400M -io 2048 $LOG_IX $LOG_BI $LOG_AI
2000M 6000M 200
wait
::::::::::::::
sh.rdbups
::::::::::::::
rdbups -i TPCC.WAREHOUSE_1_DSI &
rdbups -i TPCC.DISTRICT_1_DSI &
rdbups -i TPCC.ITEM_1_DSI &
rdbups -i TPCC.CUSTOMER_1_DSI &
rdbups -i TPCC.CUSTOMER_X_1_DSI &
rdbups -i TPCC.ORDERS_1_DSI &
rdbups -i TPCC.ORDERS_IX_1_DSI &
rdbups -i TPCC.NEWORDER_1_DSI &
rdbups -i TPCC.NEWORDER_X_1_DSI &
rdbups -i TPCC.HISTORY_1_DSI &
rdbups -i TPCC.ORDERLIN_1_DSI &
rdbups -i TPCC.STOCK_1_DSI &
wait
::::::::::::::
sh.stored
::::::::::::::
:
set -x
cd stored/Y_stored.PS
Y_stored_cent.sh

::::::::::::::
wttpccd1.c
::::::::::::::
/** COPYRIGHT FUJITSU LIMITED 1997                    **/

typedef struct
  {
     chari_id_1,i_id_2,i_id_3,i_id_4 ;
     chari_im_id_1, i_im_id_2, i_im_id_3, i_im_id_4 ;
     char   i_name[24] ;
     chari_price_1, i_price_2 ;
     char   i_data[50] ;
  } item_str ;
typedef struct
  {
     chard_id_1,d_id_2;
     char   d_w_id_1,d_w_id_2;
     chard_name[10];
     chard_street_1[20];
     chard_street_2[20];
     chard_city[20];
     chard_state[2];
     chard_zip[9];
     chard_tax_1, d_tax_2;
     chard_ytd_1, d_ytd_2, d_ytd_3, d_ytd_4, d_ytd_5, d_ytd_6, d_ytd_7;
     chard_next_o_id_1, d_next_o_id_2, d_next_o_id_3, d_next_o_id_4;
  } district_str ;
typedef struct
  {
     charw_id_1, w_id_2;
     charw_name[10];
     charw_street_1[20];
     charw_street_2[20];
     charw_city[20];
     charw_state[2];
     charw_zip[9];
     charw_tax_1, w_tax_2;
     charw_ytd_1, w_ytd_2, w_ytd_3, w_ytd_4, w_ytd_5, w_ytd_6, w_ytd_7;
  } warehouse_str ;
typedef struct
  {
     chars_i_id_1, s_i_id_2, s_i_id_3, s_i_id_4;
     chars_w_id_1, s_w_id_2;
     char   s_quantity_1, s_quantity_2;
     chars_dist_01[24];
     chars_dist_02[24];
     chars_dist_03[24];
     chars_dist_04[24];
     chars_dist_05[24];
     chars_dist_06[24];
     chars_dist_07[24];
     chars_dist_08[24];
     chars_dist_09[24];
     chars_dist_10[24];
     char   s_ytd_1, s_ytd_2, s_ytd_3, s_ytd_4;
     chars_order_cnt_1, s_order_cnt_2;
     char   s_remote_cnt_1, s_remote_cnt_2;
     chars_data[50];
  } stock_str ;
typedef struct
  {
     char   c_id_1, c_id_2, c_id_3, c_id_4;
     charc_d_id_1, c_d_id_2;
     charc_w_id_1, c_w_id_2;
     charc_first[16];
     charc_middle[2];
     charc_last[16];
     charc_street_1[20];
     charc_street_2[20];
     charc_city[20];
     charc_state[2];
     charc_zip[9];
     charc_phone[16];
     charc_since[14];
     charc_credit[2];
     charc_credit_lim_1, c_credit_lim_2, c_credit_lim_3, c_credit_lim_4;
     char   c_credit_lim_5, c_credit_lim_6, c_credit_lim_7;
     charc_discount_1, c_discount_2;
     charc_balance_1, c_balance_2, c_balance_3, c_balance_4;
     charc_balance_5, c_balance_6, c_balance_7;
     char   c_ytd_payment_1, c_ytd_payment_2, c_ytd_payment_3,
c_ytd_payment_4;
     charc_ytd_payment_5, c_ytd_payment_6, c_ytd_payment_7;
     charc_payment_cnt_1, c_payment_cnt_2;
     charc_delivery_cnt_1, c_delivery_cnt_2;
     charc_data[500];
  } customer_str ;
typedef struct
  {
     charh_c_id_1, h_c_id_2,h_c_id_3, h_c_id_4;
     charh_c_d_id_1, h_c_d_id_2;
     charh_c_w_id_1, h_c_w_id_2;
     charh_d_id_1, h_d_id_2;
     charh_w_id_1, h_w_id_2;
     charh_date[14];
     charh_amount_1, h_amount_2, h_amount_3, h_amount_4;
     char  h_data[24];
  } history_str ;
typedef struct
  {
    char   o_id_v1, o_id_v2;
     charo_id_1, o_id_2, o_id_3, o_id_4;
    char   o_d_id_v1, o_d_id_v2;
     charo_d_id_1, o_d_id_2;
    char   o_w_id_v1, o_w_id_v2;
     charo_w_id_1, o_w_id_2;
    char   o_c_id_v1, o_c_id_v2;
     charo_c_id_1, o_c_id_2, o_c_id_3, o_c_id_4;
    char   o_entry_d_v1,o_entry_d_v2;
     charo_entry_d[14];
    char   o_carrier_id_v1, o_carrier_id_v2;
     charo_carrier_id_1, o_carrier_id_2;
    char   o_ol_cnt_v1, o_ol_cnt_v2;
     charo_ol_cnt_1, o_ol_cnt_2;
    char   o_all_local_v1, o_all_local_v2;
     charo_all_local_1, o_all_local_2;
  } orders_str ;
typedef struct
  {
    char   ol_o_id_v1, ol_o_id_v2;
     char   ol_o_id_1, ol_o_id_2, ol_o_id_3, ol_o_id_4;
    char   ol_d_id_v1, ol_d_id_v2;
     charol_d_id_1, ol_d_id_2;
    char   ol_w_id_v1, ol_w_id_v2;
     charol_w_id_1, ol_w_id_2;
    char   ol_number_v1, ol_number_v2;
     char   ol_number_1, ol_number_2;
    char   ol_i_id_v1, ol_i_id_v2;
     charol_i_id_1, ol_i_id_2, ol_i_id_3, ol_i_id_4;
    char   ol_supply_w_id_v1, ol_supply_w_id_v2;
     charol_supply_w_id_1, ol_supply_w_id_2;
    char   ol_delivery_d_v1,ol_delivery_d_v2;
     char ol_delivery_d[14];
    char   ol_quantity_v1, ol_quantity_v2;
     charol_quantity_1, ol_quantity_2;
    char   ol_amount_v1, ol_amount_v2;
     char   ol_amount_1, ol_amount_2, ol_amount_3, ol_amount_4;
    char   ol_dist_info_v1,ol_dist_info_v2;
     charol_dist_info[24];
  } orderline_str ;
typedef struct
  {
     charno_o_id_1, no_o_id_2, no_o_id_3, no_o_id_4;
     charno_d_id_1, no_d_id_2;
     charno_w_id_1, no_w_id_2;
  } neworder_str ;
int len_i ;
```

```
char  yyyymmddhhmmss[15];
int   i_id;
int          i_id_1, i_id_2, i_id_3, i_id_4;
int   i_im_id;
int          i_im_id_1, i_im_id_2, i_im_id_3, i_im_id_4;
char  i_name[25];
int   i_price;
int          i_price_1, i_price_2;
char  i_data[51];
short w_id;
int          w_id_1, w_id_2;
char  w_name[11];
char  w_street_1[21];
char  w_street_2[21];
char  w_city[21];
char  w_state[3];
char  w_zip[10];
int   w_tax;
int          w_tax_1, w_tax_2;
float  w_ytd;
int          w_ytd_1, w_ytd_2, w_ytd_3, w_ytd_4, w_ytd_5, w_ytd_6, w_ytd_7;
int   s_i_id;
int          s_i_id_1, s_i_id_2, s_i_id_3, s_i_id_4;
short s_w_id;
int          s_w_id_1, s_w_id_2;
int   s_quantity;
int          s_quantity_1, s_quantity_2;
char  s_dist_01[25];
char  s_dist_02[25];
char  s_dist_03[25];
char  s_dist_04[25];
char  s_dist_05[25];
char  s_dist_06[25];
char  s_dist_07[25];
char  s_dist_08[25];
char  s_dist_09[25];
char  s_dist_10[25];
int          s_ytd;
int          s_ytd_1, s_ytd_2, s_ytd_3, s_ytd_4;
int   s_order_cnt;
int          s_order_cnt_1, s_order_cnt_2;
int   s_remote_cnt;
int          s_remote_cnt_1, s_remote_cnt_2;
char  s_data[51];
short d_id;
int          d_id_1,d_id_2;
short d_w_id;
int          d_w_id_1,d_w_id_2;
char  d_name[11];
char  d_street_1[21];
char  d_street_2[21];
char  d_city[21];
char  d_state[3];
char  d_zip[10];
int          d_tax;
int          d_tax_1, d_tax_2;
char  work[10];
float  d_ytd;
int          d_ytd_1, d_ytd_2, d_ytd_3, d_ytd_4, d_ytd_5, d_ytd_6, d_ytd_7;
int   d_next_o_id;
int          d_next_o_id_1, d_next_o_id_2, d_next_o_id_3, d_next_o_id_4;
int          c_id;
int          c_id_1, c_id_2, c_id_3, c_id_4;
```

```
short c_d_id;
int         c_d_id_1, c_d_id_2;
short c_w_id;
int         c_w_id_1, c_w_id_2;
char  c_first[17];
char  c_middle[3];
char  c_last[17];
char  c_street_1[21];
char  c_street_2[21];
char  c_city[21];
char  c_state[3];
char  c_zip[10];
char  c_phone[17];
char  c_since[15];
char  c_credit[3];
float c_credit_lim;
int         c_credit_lim_1, c_credit_lim_2, c_credit_lim_3,
c_credit_lim_4;
int         c_credit_lim_5, c_credit_lim_6, c_credit_lim_7;
int   c_discount;
int         c_discount_1, c_discount_2;
float c_balance;
int         c_balance_1, c_balance_2, c_balance_3, c_balance_4;
int         c_balance_5, c_balance_6, c_balance_7;
float c_ytd_payment;
int         c_ytd_payment_1, c_ytd_payment_2, c_ytd_payment_3,
c_ytd_payment_4;
int         c_ytd_payment_5, c_ytd_payment_6, c_ytd_payment_7;
int   c_payment_cnt;
int         c_payment_cnt_1, c_payment_cnt_2;
int   c_delivery_cnt;
int         c_delivery_cnt_1, c_delivery_cnt_2;
char  c_data[501];
int         h_c_id;
int         h_c_id_1, h_c_id_2,h_c_id_3, h_c_id_4;
short h_c_d_id;
int         h_c_d_id_1, h_c_d_id_2;
short h_c_w_id;
int         h_c_w_id_1, h_c_w_id_2;
short h_d_id;
int         h_d_id_1, h_d_id_2;
short h_w_id;
int         h_w_id_1, h_w_id_2;
char  h_date[15];
int   h_amount;
int         h_amount_1, h_amount_2, h_amount_3, h_amount_4;
char   h_data[25];
int   o_id;
int         o_id_1, o_id_2, o_id_3, o_id_4;
short o_d_id;
int         o_d_id_1, o_d_id_2;
short o_w_id;
int         o_w_id_1, o_w_id_2;
int   o_c_id;
int         o_c_id_1, o_c_id_2, o_c_id_3, o_c_id_4;
char  o_entry_d[15];
short o_carrier_id;
int         o_carrier_id_1, o_carrier_id_2;
short o_ol_cnt;
int         o_ol_cnt_1, o_ol_cnt_2;
short o_all_local;
int         o_all_local_1, o_all_local_2;
int   ol_o_id;
int         ol_o_id_1, ol_o_id_2, ol_o_id_3, ol_o_id_4;
short ol_d_id;
int         ol_d_id_1, ol_d_id_2;
short ol_w_id;
int         ol_w_id_1, ol_w_id_2;
short ol_number;
int         ol_number_1, ol_number_2;
int   ol_i_id;
int         ol_i_id_1, ol_i_id_2, ol_i_id_3, ol_i_id_4;
short  ol_supply_w_id;
int         ol_supply_w_id_1, ol_supply_w_id_2;
char  ol_delivery_d[15];
int   ol_quantity;
int         ol_quantity_1, ol_quantity_2;
int   ol_amount;
int         ol_amount_1, ol_amount_2, ol_amount_3, ol_amount_4;
char  ol_dist_info[25];
int         no_o_id;
int         no_o_id_1, no_o_id_2, no_o_id_3, no_o_id_4;
short no_d_id;
int         no_d_id_1, no_d_id_2;
short no_w_id;
int         no_w_id_1, no_w_id_2;

short ocid[CUST_PER_DIST];
short counter;
      char  *EnvGetI_ID;
      int          I_ID_Rand_by;
void  item();
void  warehouse();
void  stock();
void  district();
void  customer();
void  history();
void  orders();
void  make_address();
void  lastname();
int         make_alpha_string();
int         make_number_string();
int         random_number();
void  set_seed();
int         nurand();
void  init_permutation();
FILE  *fst1;
FILE  *fst2;
FILE  *fst3;
FILE  *fst4;
FILE  *fst5;
FILE  *fst6;
FILE  *fst7;
FILE  *fst8;
FILE  *fst9;
int    wst;
int    op_item      ;
int    op_stock     ;
int    op_customer  ;
int    op_history   ;
int    op_orders    ;
int    op_orderline ;
char  fileout[100];
char  filedum[100];
int
main(argc, argv)
```

```
int     argc;
char  **argv;
{
        time_t      tod;
        struct tm*stm;
        int     count_ware;
        int     last_ware;
        int     base_ware;
        int make_type;
        int     mk_loop;
        char  sw_buf[1];

        if (argc < 5) {
                printf("usage: wttpcc [output_dir] "
               "[start_warehouse] "
               "[end_warehouse] "
               "[maketype]..\n\n");
                printf(" [maketype] make data seeds for rdbsloader "
               "(multiple designation available)\n");
                printf("            I:Item, D:District, W:Warehouse,
S:Stock,\n");
                printf("            C:Customer, H:History,"
                        " O:Orders/OrderLine/NewOrder\n");
                exit(1);
        }

        strcpy( fileout, argv[1] );
        base_ware = atoi(argv[2]);
        last_ware = atoi(argv[3]);

        count_ware = last_ware - base_ware;

        if (count_ware < 0) {
                printf("%s: invalid warehouse count\n",argv[0]);
                exit(1);
        }


        printf("wttpcc: ¿dÊó: ºîÀ®¥Æ¡¿¥Ö¥ë: (%d-%dWH)
",base_ware,last_ware);
        for( mk_loop = 4; mk_loop <= argc-1; mk_loop++ ){
                strcpy(sw_buf, argv[mk_loop]);
                switch( sw_buf[0] ){
                        case  'I':     printf("Item(%3d), ",ITEM_SIZE);
                    break;
                        case  'W':    printf("Warehouse(%3d),
",WAREHOUSE_SIZE);
                      break;
                        case  'S':     printf("Stock(%3d), ",STOCK_SIZE);
                        break;
                        case  'D':     printf("District(%3d), ",DISTRICT_SIZE);
                        break;
                        case  'C':     printf("Customer(%3d),
",CUSTOMER_SIZE);
                        break;
                        case  'H':     printf("History(%3d), ",HISTORY_SIZE);
                        break;
                        case  'O':     printf("Orders(%3d), N.Order(%3d),
O.Line(%3d), ",

ORDERS_SIZE,NEWORDER_SIZE,ORDERLINE_SIZE);
                        break;
                }
```

```
        }
        printf("to %s\n", fileout);

        EnvGetI_ID = getenv( "TPCRANDBY" );
        if( EnvGetI_ID == NULL ){
                I_ID_Rand_by = 1;
                printf("wttpcc: ·Ù1d: "
              "TPCRANDBY: Ì¤ÄêuÁ¤Î¤¿¤áÉ¸¿à¤ÎOL_I_IDÀ¸À®¤È¤Ê¤ê¤P¤1\n");
        } else {
                I_ID_Rand_by = atoi( EnvGetI_ID );
                printf("wttpcc: ¿dÊó: "
            "TPCRANDBY: %d ¤ÎÇÜ¿ô¤ÇOL_I_ID¤òÀ¸À®¤·¤P¤1\n", I_ID_Rand_by);
                if( ( I_ID_Rand_by < 1 ) | | ( I_ID_Rand_by > MAXITEMS ) ){
                        I_ID_Rand_by = 1;
                        printf("wttpcc: ·Ù1d: "
                   "TPCRANDBY: ÈÏ°Ï3°¤Ç¤1(1¡Á%d)."
                   "É¸¿à¤ÎOL_I_IDÀ¸À®¤È¤Ê¤ê¤P¤1\n",
                   MAXITEMS);
                }
        }


        set_seed(time(0));



        printf("wttpcc: ¿dÊó: TAB ID 221u¬Ìó C-Delta = %d  \n",C_DELTA) ;
    printf("              C-Load  NURAND   Äê¿ôC = %d  \n",C_LOAD ) ;
    printf("              C-Run   NURAND   Äê¿ôC = %d  \n",C_RUN  ) ;

        time(&tod);
        stm = localtime(&tod);
        sprintf(yyyymmddhhmmss,"%04d%02d%02d%02d%02d%02d",
                        stm->tm_year+1900,stm->tm_mon+1,stm->tm_mday,
                        stm->tm_hour,stm->tm_min,stm->tm_sec);
        for( mk_loop = 4; mk_loop <= argc-1; mk_loop++ ){
                strcpy(sw_buf, argv[mk_loop]);
                switch( sw_buf[0] ){
                        case  'I':
                                if ( base_ware == 1 )
                  {
                                        fprintf(stderr,"wttpcc: ¿dÊó: ITEM
À¸À®¤ò3«»Ï¤·¤P¤1\n");

                                        item();
                                        fprintf(stderr,"wttpcc: ¿dÊó: ITEM
À¸À®¤¬´°Î»¤·¤P¤·¤¿\n");
                                  }
                 else
                  {
                    printf("wttpcc: ·Ù1d: "
                           "3«»Ïwarehouse¤¬'1'¤Ç¤Ï¤Ê¤¤¤Î¤Ç,"
                           "ITEM À¸À®¤Ï1Ô¤ï¤ì¤P¤»¤ó\n") ;
                  }
                                break;
                        case  'W':
                                fprintf(stderr,"wttpcc: ¿dÊó: "
                     "WAREHOUSE (%d¡Á%dwh) À¸À®¤ò3«»Ï¤·¤P¤1\n",
                     base_ware,last_ware);

                                warehouse(base_ware,last_ware);
                                fprintf(stderr,"wttpcc: ¿dÊó: "
                     "WAREHOUSE (%d¡Á%dwh) À¸À®¤¬´°Î»¤·¤P¤·¤¿\n",
                base_ware,last_ware);
                        break;
                  case  ‘S’:
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “STOCK (%d¡Á%dwh) À¸À®¤ò3«»Ï¤·¤P¤1\n”,
                base_ware, last_ware);

                        stock(base_ware,last_ware);
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “STOCK (%d¡Á%dwh) À¸À®¤¬´°Î»¤·¤P¤·¤¿\n”,
                base_ware, last_ware);
                        break;
                  case  ‘D’:
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “DISTRICT (%d¡Á%dwh) À¸À®¤ò3«»Ï¤·¤P¤1\n”,
                base_ware, last_ware);

                        district(base_ware,last_ware);
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “DISTRICT (%d¡Á%dwh) À¸À®¤¬´°Î»¤·¤P¤·¤¿\n”,
                base_ware, last_ware);
                        break;
                  case  ‘C’:
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “CUSTOMER (%d¡Á%dwh) À¸À®¤ò3«»Ï¤·¤P¤1\n”,
                base_ware, last_ware);

                        customer(base_ware,last_ware);
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “CUSTOMER (%d¡Á%dwh) À¸À®¤¬´°Î»¤·¤P¤·¤¿\n”,
                base_ware, last_ware);
                        break;
                  case  ‘H’:
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “HISTORY (%d¡Á%dwh) À¸À®¤ò3«»Ï¤·¤P¤1\n”,
                base_ware, last_ware);

                        history(base_ware,last_ware);
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “HISTORY (%d¡Á%dwh) À¸À®¤¬´°Î»¤·¤P¤·¤¿\n”,
                base_ware, last_ware);
                        break;
                  case  ‘O’:
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “ORDERS/O.LINE/N.ORDER (%d¡Á%dwh)
À¸À®¤ò3«»Ï¤·¤P¤1\n”,
                base_ware, last_ware);

                        orders(base_ware,last_ware);
                        fprintf(stderr,”wttpcc: ¿dÊó: “
                “ORDERS/O.LINE/N.ORDER (%d¡Á%dwh)
À¸À®¤¬´°Î»¤·¤P¤·¤¿\n”,
                base_ware, last_ware);
              }
        }

        return(0);
}
void
item()
{
        short       idatasiz;
        short       orig[MAXITEMS];
```

```
        int                 pos;
        int                 cnt;
        long        d_100 = 100.0;

int         item_lpcnt                      ;
char        *item_ap                        ;
item_str    *item_cp                        ;

        sprintf( filedum, “%s/data”, fileout );

        if ((op_item = open( filedum , O_WRONLY|O_CREAT|O_TRUNC,
                S_IRUSR|S_IWUSR|S_IRGRP|S_IWGRP|S_IROTH ))==NULL){
                printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n”, filedum);
                exit(1);
        }


item_ap = (char *)malloc((size_t)ITEM_SIZE*ITEM_COUNT);
if ( item_ap == NULL )
  {
     printf(“Malloc failed.(item)\n”)         ;
     exit(1)                                  ;
  }
item_cp    = (item_str *)item_ap              ;
item_lpcnt = 0                                ;

        memset(orig, 0, sizeof(orig));
        for (cnt = 0; cnt < (MAXITEMS / 10); cnt++) {
                do {
                        pos = random_number(1, MAXITEMS);
                } while (orig[pos - 1]);
                orig[pos - 1] = 1;
        }


        for (i_id = 1; i_id <= MAXITEMS; i_id++) {

                make_alpha_string(14, 24, i_name);

                idatasiz = make_alpha_string(26, 50, i_data);
                if (orig[i_id - 1]) {
                        pos = random_number(0, idatasiz - 8);
                        strncpy(&i_data[pos], “ORIGINAL”, 8);
                }

        memset(item_cp->i_name, ‘ ‘ ,24)     ;
        len_i = strlen(i_name)               ;
        strncpy(item_cp->i_name,i_name,len_i) ;
        memset(item_cp->i_data, ‘ ‘ ,50)     ;
        len_i = strlen(i_data)               ;
        strncpy(item_cp->i_data,i_data,len_i) ;

        item_cp->i_id_1 = i_id / T256;
                item_cp->i_id_2 = (i_id - ( i_id_1 * T256 )) / D256;
                item_cp->i_id_3 = (i_id - ( i_id_1 * T256 )
                               - ( i_id_2 * D256 )) / 256 ;
                item_cp->i_id_4 = i_id % T256 ;

                i_im_id = random_number(1, 10000);
                item_cp->i_im_id_1 = i_im_id / T256;
                item_cp->i_im_id_2 = (i_im_id - (i_im_id_1 * T256)) / D256;
                item_cp->i_im_id_3 = (i_im_id - (i_im_id_1 * T256)
                                   - (i_im_id_2 * D256)) / 256;
                item_cp->i_im_id_4 = i_im_id % T256;



                i_price = random_number(100, 10000);
                item_cp->i_price_1 = i_price  /  256 ;
                item_cp->i_price_2 = i_price % 256 ;
        item_cp     = item_cp     + 1 ;
        item_lpcnt = item_lpcnt + 1 ;
        if ( item_lpcnt == ITEM_COUNT )
          {
         write(op_item,
                 item_ap,
                 (size_t)ITEM_SIZE * (size_t)ITEM_COUNT ) ;
            item_cp     = (item_str *)item_ap       ;
            item_lpcnt = 0              ;
          }
        }

        if ( item_lpcnt != 0 )
          {
         write(op_item,
                 item_ap,
                 (size_t)ITEM_SIZE * (size_t)item_lpcnt ) ;
          }

        close(op_item);


    free(item_ap) ;

        return;
}
void
warehouse(base_ware,last_ware)
int     base_ware;
int     last_ware;
{


        int             filecount = 1;
        int             outfilecount;
        char            filename[64];

        long            d_10000 = 10000.0;
        w_ytd = 30000000;
        outfilecount = ((base_ware-1)/10) + 1;

        sprintf(filename , "%s/WH%d_%d", fileout, base_ware,
last_ware);
        if ((fst2 = fopen(filename , "w"))==NULL){
                printf("wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n",filename);
                exit(1);
        }



        for (w_id = base_ware; w_id <= last_ware; w_id++) {

                make_alpha_string(6, 10, w_name);

                make_address(w_street_1, w_street_2, w_city, w_state,
w_zip);
                w_tax = random_number(0, 2000);

                w_id_1 = w_id  /  256;
                w_id_2 = w_id % 256;
                w_tax_1 = w_tax  /  256;
                w_tax_2 = w_tax % 256;
                w_ytd_1 = 0x00;
                w_ytd_2 = 0x00;
                w_ytd_3 = 0x03;
                w_ytd_4 = 0x00;
                w_ytd_5 = 0x00;
                w_ytd_6 = 0x00;
                w_ytd_7 = 0x0c;
                fprintf(fst2 ,
                    "%c%c"
                    "%-10s"
                    "%-20s"
                    "%-20s"
                    "%-20s"
                    "%-2s"
                    "%-9s"
                    "%c%c"
                    "%c%c%c%c%c%c%c",
                     w_id_1,w_id_2,
                     w_name,
                     w_street_1,w_street_2,
                     w_city,
                     w_state,
                     w_zip,
                     w_tax_1,w_tax_2,
                     w_ytd_1,w_ytd_2,w_ytd_3,w_ytd_4,w_ytd_5,w_ytd_6,w_ytd_7);
                filecount++;

        }

        fclose(fst2);


        return;
}
void
stock(base_ware,last_ware)
int     base_ware;
int     last_ware;
{

        short sdatasiz;
        short orig[MAXITEMS];
        int             pos;
        int             cnt;
        int             filecount = 1;
        int             outfilecount;
        char    filename[64];

    int          stock_lpcnt                         ;
    char         *stock_ap                           ;
    stock_str  *stock_cp                             ;

        s_ytd = 0;
        s_order_cnt = 0;
        s_remote_cnt = 0;
        outfilecount = ((base_ware-1)/10) + 1;
        sprintf(filename , “%s/ST%d_%d” ,fileout, base_ware,
last_ware);

        if ((op_stock = open( filename ,
O_WRONLY|O_CREAT|O_TRUNC,
                    S_IRUSR|S_IWUSR|S_IRGRP|S_IWGRP|S_IROTH
))==NULL){
                printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n” , filename);
                exit(1);
        }


    stock_ap = (char *)malloc((size_t)STOCK_SIZE*STOCK_COUNT);
    if ( stock_ap == NULL )
      {
         printf(“Malloc failed.(stock)\n”)          ;
         exit(1)                                    ;
      }
    stock_cp     = (stock_str *)stock_ap            ;
    stock_lpcnt = 0                                 ;


        for (s_w_id = base_ware; s_w_id <= last_ware; s_w_id++){
                fprintf(stderr,”wttpcc: ¿dÊó: “
                      “STOCK %d/%d¡Á%d À¸À®Ãæ\n” ,
                      s_w_id, base_ware, last_ware);

                memset(orig, 0, sizeof(orig));
                for (cnt = 0; cnt < (MAXSTOCK / 10); cnt++) {
                        do {
                                pos = random_number(1, MAXSTOCK);
                        } while (orig[pos - 1]);
                        orig[pos - 1] = 1;
                }



                for (s_i_id = 1; s_i_id <= MAXSTOCK; s_i_id++) {

                        s_quantity = random_number(10, 100);

                        make_alpha_string(24, 24, s_dist_01);
                        make_alpha_string(24, 24, s_dist_02);
                        make_alpha_string(24, 24, s_dist_03);
                        make_alpha_string(24, 24, s_dist_04);
                        make_alpha_string(24, 24, s_dist_05);
                        make_alpha_string(24, 24, s_dist_06);
                        make_alpha_string(24, 24, s_dist_07);
                        make_alpha_string(24, 24, s_dist_08);
                        make_alpha_string(24, 24, s_dist_09);
                        make_alpha_string(24, 24, s_dist_10);

                        sdatasiz = make_alpha_string(26, 50, s_data);
                        if (orig[s_i_id - 1]) {
                                pos = random_number(0, sdatasiz - 8);
                                strncpy(&s_data[pos], “ORIGINAL”, 8);
                        }

            strncpy(stock_cp->s_dist_01,s_dist_01,24) ;
            strncpy(stock_cp->s_dist_02,s_dist_02,24) ;
            strncpy(stock_cp->s_dist_03,s_dist_03,24) ;
            strncpy(stock_cp->s_dist_04,s_dist_04,24) ;
```

```
            strncpy(stock_cp->s_dist_05,s_dist_05,24) ;
            strncpy(stock_cp->s_dist_06,s_dist_06,24) ;
            strncpy(stock_cp->s_dist_07,s_dist_07,24) ;
            strncpy(stock_cp->s_dist_08,s_dist_08,24) ;
            strncpy(stock_cp->s_dist_09,s_dist_09,24) ;
            strncpy(stock_cp->s_dist_10,s_dist_10,24) ;
            memset(stock_cp->s_data,’ ‘,50)            ;
            len_i = strlen(s_data)                     ;
            strncpy(stock_cp->s_data,s_data,len_i)    ;

                    stock_cp->s_i_id_1 = s_i_id / T256;
                    stock_cp->s_i_id_2 = (s_i_id - (s_i_id_1 * T256)) / D256;
                    stock_cp->s_i_id_3 = (s_i_id - (s_i_id_1 * T256)
                                - (s_i_id_2 * D256)) / 256;
                    stock_cp->s_i_id_4 = s_i_id % T256;
                    stock_cp->s_w_id_1 = s_w_id / 256;
                    stock_cp->s_w_id_2 = s_w_id % 256;
                    stock_cp->s_quantity_1 = s_quantity / 256;
                    stock_cp->s_quantity_2 = s_quantity % 256;
                    stock_cp->s_ytd_1 = s_ytd / T256;
                    stock_cp->s_ytd_2 = (s_ytd - (s_ytd_1*T256)) / D256;
                    stock_cp->s_ytd_3 = (s_ytd - (s_ytd_1*T256)-(s_ytd_2*D256)) /
256;
                    stock_cp->s_ytd_4 = s_ytd % T256;
                    stock_cp->s_order_cnt_1 = s_order_cnt / 256;
                    stock_cp->s_order_cnt_2 = s_order_cnt % 256;
                    stock_cp->s_remote_cnt_1 = s_remote_cnt / 256;
                    stock_cp->s_remote_cnt_2 = s_remote_cnt % 256;
            stock_cp     = stock_cp     + 1 ;
            stock_lpcnt = stock_lpcnt + 1 ;
            if ( stock_lpcnt == STOCK_COUNT )
              {
             write(op_stock,
                    stock_ap,
                    (size_t)STOCK_SIZE * (size_t)STOCK_COUNT ) ;
               stock_cp     = (stock_str *)stock_ap      ;
               stock_lpcnt = 0                ;
              }
                }
                filecount++;
        }

        if ( stock_lpcnt != 0 )
          {
         write(op_stock,
                stock_ap,
                (size_t)STOCK_SIZE * (size_t)stock_lpcnt ) ;
          }

        close(op_stock);

    free(stock_ap) ;

        return;
}
void
district(base_ware,last_ware)
int     base_ware;
int     last_ware;
{

        long  d_10000 = 10000.0;
        int           filecount = 1;
    int             outfilecount;
    char  filename[64];

    d_ytd = 3000000;
    d_next_o_id = 3001;
    outfilecount = ((base_ware-1)/10) +1;

    sprintf(filename , “%s/DI%d_%d” ,fileout, base_ware,
last_ware);
    if ((fst4 = fopen(filename , “w”))==NULL){
        printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n” ,
filename);
        exit(1);
    }


    for (d_w_id = base_ware; d_w_id <= last_ware; d_w_id++){

        for (d_id = 1; d_id <= DIST_PER_WARE; d_id++) {

            make_alpha_string(6, 10, d_name);

            make_address(d_street_1, d_street_2, d_city, d_state,
d_zip);


            d_tax = random_number(0, 2000);

            d_id_1 = d_id  /  256;
            d_id_2 = d_id % 256;
            d_w_id_1 = d_w_id  /  256;
            d_w_id_2 = d_w_id % 256;
            d_tax_1 = d_tax  /  256;
            d_tax_2 = d_tax % 256;
            d_ytd_1 = 0x00;
            d_ytd_2 = 0x00;
            d_ytd_3 = 0x00;
            d_ytd_4 = 0x30;
            d_ytd_5 = 0x00;
            d_ytd_6 = 0x00;
            d_ytd_7 = 0x0c;
            d_next_o_id_1 = d_next_o_id  /  T256;
            d_next_o_id_2 = (d_next_o_id-
(d_next_o_id_1*T256))/D256;
            d_next_o_id_3 = (d_next_o_id-(d_next_o_id_1*T256)
                    -(d_next_o_id_2*D256))/256;
            d_next_o_id_4 = d_next_o_id % T256;
            fprintf(fst4 ,”%c%c”
             “%c%c”
             “%-10s”
             “%-20s%-20s%-20s%-2s%-9s”
             “%c%c”
             “%c%c%c%c%c%c%c”
             “%c%c%c%c”,
           d_id_1,d_id_2,
           d_w_id_1,d_w_id_2,
           d_name,
           d_street_1,d_street_2,d_city,d_state,d_zip,
           d_tax_1,d_tax_2,

d_ytd_1,d_ytd_2,d_ytd_3,d_ytd_4,d_ytd_5,d_ytd_6,d_ytd_7,

d_next_o_id_1,d_next_o_id_2,d_next_o_id_3,d_next_o_id_4);
```

```
        }
        filecount++;
    }

    fclose(fst4);

    return;
}
void
customer(base_ware,last_ware)
int     base_ware;
int     last_ware;
{

    long          d_10000 = 1000.0;
    long          d_100 = 100.0;
    int                     filecount = 1;
    int                     outfilecount;
    char          filename1[64];

  int           customer_lpcnt                    ;
  char          *customer_ap                      ;
  customer_str *customer_cp                       ;
    c_credit_lim = 5000000;
    c_balance = -1000;
    c_ytd_payment = 1000;
    c_payment_cnt = 0;
    c_delivery_cnt = 0;
    strcpy(c_middle, “OE”);
    strcpy(c_since, yyyymmddhhmmss);

    outfilecount = ((base_ware-1)/10) +1;

    sprintf(filename1 , “%s/CU%d_%d” ,fileout, base_ware, last_ware);

    if ((op_customer = open( filename1,O_WRONLY|O_CREAT|O_TRUNC,
             S_IRUSR|S_IWUSR|S_IRGRP|S_IWGRP|S_IROTH ))==NULL){
        printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n” , filename1);
        exit(1);
    }


  customer_ap = (char *)malloc((size_t)(CUSTOMER_SIZE*CUSTOMER_COUNT)
) ;
  if ( customer_ap == NULL )
   {
     printf(“Malloc failed.(customer)\n”)      ;
     exit(1)                                   ;
   }
  customer_cp     = (customer_str *)customer_ap   ;
  customer_lpcnt = 0                              ;


    for (c_w_id = base_ware; c_w_id <= last_ware; c_w_id++){
        fprintf(stderr,”wttpcc: ¿dÊó: CUSTOMER %d/%d¡Á%d À¸À®Ãæ\n”
                                  ,c_w_id, base_ware,last_ware);

        for (c_d_id = 1; c_d_id <= DIST_PER_WARE; c_d_id++){


            for (c_id = 1; c_id <= CUST_PER_DIST; c_id++) {
                make_alpha_string(8, 16, c_first)      ;
```

```
                        if (c_id <= 1000) {
                                lastname(c_id - 1, c_last);
                        } else {
                                lastname(nurand(255, 0, 999,C_LOAD),
c_last);
                        }

                        make_address(c_street_1, c_street_2, c_city,
c_state, c_zip);
                        make_number_string(16, 16, c_phone);

                        if (random_number(0, 9)) {
                                strcpy(c_credit, “GC”);
                        } else {
                                strcpy(c_credit, “BC”);
                        }


                        c_discount = random_number(0, 5000);

                        make_alpha_string(300, 500, c_data);

            memset(customer_cp , ‘ ‘ , CUSTOMER_SIZE)          ;
          len_i = strlen(c_first)                     ;
          strncpy(customer_cp->c_first    ,c_first    ,len_i) ;
          strncpy(customer_cp->c_middle   ,c_middle   ,2      ) ;
          len_i = strlen(c_last)                      ;
          strncpy(customer_cp->c_last     ,c_last     ,len_i) ;
          len_i = strlen(c_street_1)                  ;
          strncpy(customer_cp->c_street_1,c_street_1,len_i) ;
          len_i = strlen(c_street_2)                  ;
          strncpy(customer_cp->c_street_2,c_street_2,len_i) ;
          len_i = strlen(c_city)                      ;
          strncpy(customer_cp->c_city     ,c_city     ,len_i) ;
          strncpy(customer_cp->c_state    ,c_state    ,2      ) ;
          strncpy(customer_cp->c_zip      ,c_zip      ,9      ) ;
          strncpy(customer_cp->c_phone    ,c_phone    ,16     ) ;
          strncpy(customer_cp->c_since    ,c_since    ,14     ) ;
          strncpy(customer_cp->c_credit   ,c_credit   ,2      ) ;
          len_i = strlen(c_data)                      ;
          strncpy(customer_cp->c_data     ,c_data     ,len_i) ;



                        customer_cp->c_id_1 = c_id  /  T256;
                        customer_cp->c_id_2 = (c_id - (c_id_1 * T256))
 /  D256;

                        customer_cp->c_id_3 = (c_id - (c_id_1 * T256)
                                - (c_id_2 * D256))  /  256;
                        customer_cp->c_id_4 = c_id % T256;
                        customer_cp->c_d_id_1 = c_d_id  /  256;
                        customer_cp->c_d_id_2 = c_d_id % 256;
                        customer_cp->c_w_id_1 = c_w_id  /  256;
                        customer_cp->c_w_id_2 = c_w_id % 256;
                        customer_cp->c_credit_lim_1 = 0x00;
                        customer_cp->c_credit_lim_2 = 0x00;
                        customer_cp->c_credit_lim_3 = 0x00;
                        customer_cp->c_credit_lim_4 = 0x50;
                        customer_cp->c_credit_lim_5 = 0x00;
                        customer_cp->c_credit_lim_6 = 0x00;
                        customer_cp->c_credit_lim_7 = 0x0c;
```

```
                        customer_cp->c_discount_1 = c_discount  /  256;
                        customer_cp->c_discount_2 = c_discount % 256;
                        customer_cp->c_balance_1 = 0x00;
                        customer_cp->c_balance_2 = 0x00;
                        customer_cp->c_balance_3 = 0x00;
                        customer_cp->c_balance_4 = 0x00;
                        customer_cp->c_balance_5 = 0x01;
                        customer_cp->c_balance_6 = 0x00;
                        customer_cp->c_balance_7 = 0x0d;
                        customer_cp->c_ytd_payment_1 = 0x00;
                        customer_cp->c_ytd_payment_2 = 0x00;
                        customer_cp->c_ytd_payment_3 = 0x00;
                        customer_cp->c_ytd_payment_4 = 0x00;
                        customer_cp->c_ytd_payment_5 = 0x01;
                        customer_cp->c_ytd_payment_6 = 0x00;
                        customer_cp->c_ytd_payment_7 = 0x0c;
                        customer_cp->c_payment_cnt_1 = c_payment_cnt  /  256;
                        customer_cp->c_payment_cnt_2 = c_payment_cnt % 256;
                        customer_cp->c_delivery_cnt_1 = c_delivery_cnt  /  256;
                        customer_cp->c_delivery_cnt_2 = c_delivery_cnt % 256;

                customer_cp     = customer_cp     + 1 ;
                customer_lpcnt = customer_lpcnt + 1 ;
                if ( customer_lpcnt == CUSTOMER_COUNT )
                  {
                  write(op_customer ,
                          customer_ap ,
                          (size_t)CUSTOMER_SIZE * (size_t)CUSTOMER_COUNT) ;
                     customer_cp     = (customer_str *)customer_ap ;
                     customer_lpcnt = 0              ;
                  }
                        }
                }
                filecount++;
        }

        if ( customer_lpcnt != 0 )
          {
          write(op_customer ,
                  customer_ap ,
                  (size_t)CUSTOMER_SIZE * (size_t)customer_lpcnt) ;
          }

        close(op_customer) ;

    free(customer_ap) ;

        return;
}
void
history(base_ware,last_ware)
int     base_ware;
int     last_ware;
{

        int                     filecount = 1;
        int                     outfilecount;
        char            filename2[64];

    int         history_lpcnt                   ;
    char        *history_ap                      ;
    history_str *history_cp                       ;
        h_amount = 10;
        strcpy(h_date, yyyymmddhhmmss);
        outfilecount = ((base_ware-1)/10) +1;
        sprintf(filename2 , "%s/HI%d_%d" ,fileout, base_ware,
last_ware);

        if ((op_history = open(
filename2,O_WRONLY|O_CREAT|O_TRUNC,
                  S_IRUSR|S_IWUSR|S_IRGRP|S_IWGRP|S_IROTH
))==NULL){
                printf("wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó\n" ,
filename2);
                exit(1);
        }


    history_ap = (char
*)malloc((size_t)(HISTORY_SIZE*HISTORY_COUNT)  );
    if ( history_ap == NULL )
      {
         printf("Malloc failed.(history)\n")       ;
         exit(1)                                    ;
      }
    history_cp      = (history_str *)history_ap     ;
    history_lpcnt  = 0                               ;


        for (h_c_w_id = base_ware; h_c_w_id <= last_ware;
h_c_w_id++){
                fprintf(stderr,"wttpcc: ¿dÊó: HISTORY %d/%d¡Á%d
À¸À®Ãæ\n"
                                                  ,h_c_w_id, base_ware,last_ware);

                for (h_c_d_id = 1; h_c_d_id <= DIST_PER_WARE;
h_c_d_id++){


                        for (h_c_id = 1; h_c_id <= CUST_PER_DIST;
h_c_id++) {



                                h_w_id = h_c_w_id;
                                h_d_id = h_c_d_id;

                                make_alpha_string(12, 24, h_data);

                            memset(history_cp->h_data , ' ' , 24)     ;
                len_i = strlen(h_data)                      ;
                strncpy(history_cp->h_data,h_data,len_i) ;
                strncpy(history_cp->h_date,h_date,14    ) ;

                                history_cp->h_c_id_1= h_c_id  /  T256;
                                history_cp->h_c_id_2=(h_c_id - (h_c_id_1 *
T256))  /  D256;
                                history_cp->h_c_id_3=(h_c_id - (h_c_id_1 *
T256)
                                            - (h_c_id_2 * D256))  / 256;
                                history_cp->h_c_id_4= h_c_id % T256;
                                history_cp->h_c_d_id_1 = h_c_d_id  /  256;
                                history_cp->h_c_d_id_2 = h_c_d_id % 256;
                                history_cp->h_c_w_id_1 = h_c_w_id  /  256;
                                history_cp->h_c_w_id_2 = h_c_w_id % 256;
                                history_cp->h_d_id_1 = h_d_id  /  256;
```

```
                                history_cp->h_d_id_2 = h_d_id % 256;
                                history_cp->h_w_id_1 = h_w_id  /  256;
                                history_cp->h_w_id_2 = h_w_id % 256;
                                history_cp->h_amount_1 = h_amount  /  T256;
                                history_cp->h_amount_2 = (h_amount - (h_amount_1*T256))
/  D256;

                                history_cp->h_amount_3 = (h_amount - (h_amount_1*T256)
                                           - (h_amount_2*D256))  /  D256;
                                history_cp->h_amount_4 = h_amount % T256;
                        history_cp     = history_cp     + 1 ;
                        history_lpcnt = history_lpcnt + 1 ;
                        if ( history_lpcnt == HISTORY_COUNT )
                          {
                          write(op_history ,
                                 history_ap ,
                                 (size_t)HISTORY_SIZE  * (size_t)HISTORY_COUNT) ;
                            history_cp     = (history_str *)history_ap    ;
                            history_lpcnt = 0              ;
                          }
                                }
                        }
                        filecount++;
                }

                if ( history_lpcnt != 0 )
                  {
                 write(op_history ,
                        history_ap ,
                        (size_t)HISTORY_SIZE  * (size_t)history_lpcnt) ;
                  }

                close(op_history ) ;

        free(history_ap) ;

                return;
}
void
orders(base_ware,last_ware)
int     base_ware;
int     last_ware;
{

        double      d_100 = 100;
        int                    filecount = 1;
        int                    outfilecount;
        char          filename1[64];
        char          filename2[64];
        char          filename3[64];
        short         d_id;
        short         w_id;
        int                    o_id;

    int             orders_lpcnt                       ;
    char           *orders_ap                          ;
    orders_str    *orders_cp                           ;
    int             orderline_lpcnt                    ;
    char           *orderline_ap                       ;
    orderline_str *orderline_cp                        ;

        o_all_local = 1;
        ol_quantity = 5;
        outfilecount = ((base_ware-1)/10) + 1;
        sprintf(filename1 , “%s / OS%d_%d” ,fileout, base_ware,
last_ware);

        if ((op_orders = open(
filename1,O_WRONLY | O_CREAT | O_TRUNC,
                    S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP | S_IROTH
))==NULL){
                printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó \ n” ,
filename1);
                exit(1);
        }
        sprintf(filename2 , “%s / NO%d_%d” ,fileout, base_ware,
last_ware);
        if ((fst8 = fopen(filename2 , “w”))==NULL){
                printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó \ n” ,
filename2);
                exit(1);
        }
        sprintf(filename3 , “%s / OL%d_%d” ,fileout, base_ware,
last_ware);

        if ((op_orderline = open(
filename3,O_WRONLY | O_CREAT | O_TRUNC,
                    S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP | S_IROTH
))==NULL){
                printf(“wttpcc: ¥¨¥é¡¿: %s: ºîÀ®¤Ç¤–¤P¤»¤ó \ n” ,
filename3);
                exit(1);
        }



    orders_ap = (char
*)malloc((size_t)(ORDERS_SIZE*ORDERS_COUNT)
                                + (ORDERLINE_SIZE*ORDERLINE_COUNT));
    if ( orders_ap == NULL )
      {
        printf(“Malloc failed.(orders) \ n”)         ;
        exit(1)                                   ;
      }
    orderline_ap    = orders_ap + (ORDERS_SIZE*ORDERS_COUNT) ;
    orders_cp       = (orders_str *)orders_ap       ;
    orderline_cp    = (orderline_str *)orderline_ap;
    orders_lpcnt    = 0                              ;
    orderline_lpcnt = 0                               ;


        for (w_id = base_ware; w_id <= last_ware; w_id++){
                fprintf(stderr,”wttpcc: ¿dÊó: ORDERS / O.LINE / N.ORDER
%d / %d¡Á%d À¸À®Ãæ \ n”
                                                ,w_id, base_ware,
last_ware);

                for (d_id = 1; d_id <= DIST_PER_WARE; d_id++) {

                        init_permutation();


                        for (o_id = 1; o_id <= ORD_PER_DIST; o_id++) {
                                no_o_id = o_id;
                                no_w_id = w_id;
                                no_d_id = d_id;
```

```
                                o_id = o_id;
                                o_w_id = w_id;
                                o_d_id = d_id;
                                o_ol_cnt = random_number(5, 15);
                                strcpy(o_entry_d, yyyymmddhhmmss);
                                ol_o_id = o_id;
                                ol_w_id = w_id;
                                ol_d_id = d_id;
                                ol_supply_w_id = w_id;





                        counter++;


                                o_c_id = ocid[counter - 1] ;
                                orders_cp->o_entry_d_v1 = NNUL_V;
                                orders_cp->o_entry_d_v2 = NNUL_V;
                    strncpy(orders_cp->o_entry_d,o_entry_d,14) ;


                                if (o_id > (ORD_PER_DIST - NEWORDS)){


                                        orders_cp->o_carrier_id_v1 = NUL_V;
                                        orders_cp->o_carrier_id_v2 = NUL_V;
                                        orders_cp->o_carrier_id_1 = 0x00;
                                        orders_cp->o_carrier_id_2 = 0x00;


                                        orders_cp->o_id_v1 = NNUL_V;
                                        orders_cp->o_id_v2 = NNUL_V;
                                        orders_cp->o_id_1 = o_id  /  T256;
                                        orders_cp->o_id_2 = (o_id-(o_id_1*T256)) / D256;
                                        orders_cp->o_id_3 = (o_id-(o_id_1*T256)-
(o_id_2*D256)) / 256;

                                        orders_cp->o_id_4 = o_id % T256;
                                        orders_cp->o_d_id_v1 = NNUL_V;
                                        orders_cp->o_d_id_v2 = NNUL_V;
                                        orders_cp->o_d_id_1 = o_d_id  /  256;
                                        orders_cp->o_d_id_2 = o_d_id % 256;
                                        orders_cp->o_w_id_v1 = NNUL_V;
                                        orders_cp->o_w_id_v2 = NNUL_V;
                                        orders_cp->o_w_id_1 = o_w_id  /  256;
                                        orders_cp->o_w_id_2 = o_w_id % 256;

                                        orders_cp->o_c_id_v1 = NNUL_V;
                                        orders_cp->o_c_id_v2 = NNUL_V;
                                        orders_cp->o_c_id_1 = o_c_id  /  T256;
                                        orders_cp->o_c_id_2 = (o_c_id-(o_c_id_1*T256))  /
D256;

                                        orders_cp->o_c_id_3 = (o_c_id-(o_c_id_1*T256)
                                            -(o_c_id_2*D256)) / 256;
                                        orders_cp->o_c_id_4 = o_c_id % T256;
                                        orders_cp->o_ol_cnt_v1 = NNUL_V;
                                        orders_cp->o_ol_cnt_v2 = NNUL_V;
                                        orders_cp->o_ol_cnt_1 = o_ol_cnt  /  256;
                                        orders_cp->o_ol_cnt_2 = o_ol_cnt % 256;
                                        orders_cp->o_all_local_v1 = NNUL_V;
                                        orders_cp->o_all_local_v2 = NNUL_V;
                                        orders_cp->o_all_local_1 = o_all_local  /  256;
```

```
                              orders_cp->o_all_local_2 = o_all_local %
256;

                              no_o_id_1 = no_o_id  /  T256;
                              no_o_id_2 = (no_o_id-
(no_o_id_1*T256)) / D256;
                              no_o_id_3 =(no_o_id-(no_o_id_1*T256)-
(no_o_id_2*D256)) / 256;
                              no_o_id_4 = no_o_id % T256;
                              no_d_id_1 = no_d_id  /  256;
                              no_d_id_2 = no_d_id % 256;
                              no_w_id_1 = no_w_id  /  256;
                              no_w_id_2 = no_w_id % 256;
                              fprintf(fst8 ,"%c%c%c%c"
                          "%c%c%c%c",
                           no_o_id_1,no_o_id_2,no_o_id_3,no_o_id_4,
                           no_d_id_1,no_d_id_2,no_w_id_1,no_w_id_2);
                          } else {

                              o_carrier_id = random_number(1, 10);
                              orders_cp->o_carrier_id_v1 = NNUL_V;
                              orders_cp->o_carrier_id_v2 = NNUL_V;
                              orders_cp->o_carrier_id_1 = o_carrier_id
 /  256;
                              orders_cp->o_carrier_id_2 = o_carrier_id
% 256;

                              orders_cp->o_id_v1 = NNUL_V;
                              orders_cp->o_id_v2 = NNUL_V;
                              orders_cp->o_id_1 = o_id  /  T256;
                              orders_cp->o_id_2 = (o_id-
(o_id_1*T256)) / D256;
                              orders_cp->o_id_3 = (o_id-
(o_id_1*T256)-(o_id_2*D256)) / 256;
                              orders_cp->o_id_4 = o_id % T256;
                              orders_cp->o_d_id_v1 = NNUL_V;
                              orders_cp->o_d_id_v2 = NNUL_V;
                              orders_cp->o_d_id_1 = o_d_id  /  256;
                              orders_cp->o_d_id_2 = o_d_id % 256;
                              orders_cp->o_w_id_v1 = NNUL_V;
                              orders_cp->o_w_id_v2 = NNUL_V;
                              orders_cp->o_w_id_1 = o_w_id  /  256;
                              orders_cp->o_w_id_2 = o_w_id % 256;

                              orders_cp->o_c_id_v1 = NNUL_V;
                              orders_cp->o_c_id_v2 = NNUL_V;
                              orders_cp->o_c_id_1 = o_c_id  /  T256;
                              orders_cp->o_c_id_2 = (o_c_id-
(o_c_id_1*T256))  /  D256;
                              orders_cp->o_c_id_3 = (o_c_id-
(o_c_id_1*T256)
                                  -(o_c_id_2*D256)) / 256;
                              orders_cp->o_c_id_4 = o_c_id % T256;
                              orders_cp->o_ol_cnt_v1 = NNUL_V;
                              orders_cp->o_ol_cnt_v2 = NNUL_V;
                              orders_cp->o_ol_cnt_1 = o_ol_cnt  /  256;
                              orders_cp->o_ol_cnt_2 = o_ol_cnt % 256;
                              orders_cp->o_all_local_v1 = NNUL_V;
                              orders_cp->o_all_local_v2 = NNUL_V;
                              orders_cp->o_all_local_1 = o_all_local  /
256;
                              orders_cp->o_all_local_2 = o_all_local %
256;
```

```
                  }
        orders_cp     = orders_cp     + 1 ;
        orders_lpcnt = orders_lpcnt + 1 ;
        if ( orders_lpcnt == ORDERS_COUNT )
         {
         write(op_orders ,
              orders_ap ,
                   (size_t)ORDERS_SIZE * (size_t)ORDERS_COUNT) ;
           orders_cp     = (orders_str *)orders_ap    ;
           orders_lpcnt = 0             ;
         }


                  for (ol_number = 1; ol_number <= o_ol_cnt; ol_number++)
         {


                       ol_i_id = random_number( 1, MAXITEMS  /
I_ID_Rand_by );
                       ol_i_id = ol_i_id * I_ID_Rand_by;
                       make_alpha_string(24, 24, ol_dist_info);
                       orderline_cp->ol_dist_info_v1 = NNUL_V;
                       orderline_cp->ol_dist_info_v2 = NNUL_V;
           strncpy(orderline_cp->ol_dist_info,ol_dist_info,24) ;



                       if (o_id > (CUST_PER_DIST - NEWORDS))
             {

                            ol_amount = random_number(1, 999999);


                            orderline_cp->ol_delivery_d_v1 = NUL_V;
                            orderline_cp->ol_delivery_d_v2 = NUL_V;

                            orderline_cp->ol_o_id_v1 = NNUL_V;
                            orderline_cp->ol_o_id_v2 = NNUL_V;
                            orderline_cp->ol_o_id_1 = ol_o_id  /  T256;
                            orderline_cp->ol_o_id_2 = (ol_o_id-
(ol_o_id_1*T256))
                                         / D256;
                            orderline_cp->ol_o_id_3 = (ol_o_id-
(ol_o_id_1*T256)
                            -(ol_o_id_2*D256)) / 256;
                            orderline_cp->ol_o_id_4 = ol_o_id % T256;
                            orderline_cp->ol_d_id_v1 = NNUL_V;
                            orderline_cp->ol_d_id_v2 = NNUL_V;
                            orderline_cp->ol_d_id_1 = ol_d_id  /  256;
                            orderline_cp->ol_d_id_2 = ol_d_id  % 256;
                            orderline_cp->ol_w_id_v1 = NNUL_V;
                            orderline_cp->ol_w_id_v2 = NNUL_V;
                            orderline_cp->ol_w_id_1 = ol_w_id  /  256;
                            orderline_cp->ol_w_id_2 = ol_w_id % 256;
                            orderline_cp->ol_number_v1 = NNUL_V;
                            orderline_cp->ol_number_v2 = NNUL_V;
                            orderline_cp->ol_number_1 = ol_number  /  256;
                            orderline_cp->ol_number_2 = ol_number % 256;
                            orderline_cp->ol_i_id_v1 = NNUL_V;
                            orderline_cp->ol_i_id_v2 = NNUL_V;
                            orderline_cp->ol_i_id_1 = ol_i_id  /  T256;
```

```
                              orderline_cp->ol_i_id_2 = (ol_i_id-
(ol_i_id_1*T256))
                                        / D256;
                              orderline_cp->ol_i_id_3 = (ol_i_id-
(ol_i_id_1*T256)
                              -(ol_i_id_2*D256)) / 256;
                              orderline_cp->ol_i_id_4 = ol_i_id %
T256;
                              orderline_cp->ol_supply_w_id_v1 =
NNUL_V;
                              orderline_cp->ol_supply_w_id_v2 =
NNUL_V;
                              orderline_cp->ol_supply_w_id_1 =
ol_supply_w_id / 256;
                              orderline_cp->ol_supply_w_id_2 =
ol_supply_w_id % 256;
                              orderline_cp->ol_quantity_v1 =
NNUL_V;
                              orderline_cp->ol_quantity_v2 =
NNUL_V;
                              orderline_cp->ol_quantity_1 =
ol_quantity / 256;
                              orderline_cp->ol_quantity_2 =
ol_quantity % 256;
                              orderline_cp->ol_amount_v1 =
NNUL_V;
                              orderline_cp->ol_amount_v2 =
NNUL_V;
                              orderline_cp->ol_amount_1 =
ol_amount / T256;
                              orderline_cp->ol_amount_2 =
(ol_amount
                                -(ol_amount_1*T256)) / D256;
                              orderline_cp->ol_amount_3 =
(ol_amount
                                -(ol_amount_1*T256)
                                -(ol_amount_2*D256)) / 256;
                              orderline_cp->ol_amount_4 =
ol_amount % T256;
                         } else {
                              ol_amount = 0;
                              strcpy(ol_delivery_d,
yyyymmddhhmmss);
                              orderline_cp->ol_delivery_d_v1 =
NNUL_V;
                              orderline_cp->ol_delivery_d_v2 =
NNUL_V;
               strncpy(orderline_cp->ol_delivery_d,
                           ol_delivery_d,14);

                              orderline_cp->ol_o_id_v1 =
NNUL_V;
                              orderline_cp->ol_o_id_v2 =
NNUL_V;
                              orderline_cp->ol_o_id_1 = ol_o_id /
T256;
                              orderline_cp->ol_o_id_2 = (ol_o_id
                                -(ol_o_id_1*T256)) / D256;
                              orderline_cp->ol_o_id_3 = (ol_o_id
                                -(ol_o_id_1*T256)
                                -(ol_o_id_2*D256)) / 256;
                              orderline_cp->ol_o_id_4 = ol_o_id
% T256;
```

```
                              orderline_cp->ol_d_id_v1 = NNUL_V;
                              orderline_cp->ol_d_id_v2 = NNUL_V;
                              orderline_cp->ol_d_id_1 = ol_d_id / 256;
                              orderline_cp->ol_d_id_2 = ol_d_id % 256;
                              orderline_cp->ol_w_id_v1 = NNUL_V;
                              orderline_cp->ol_w_id_v2 = NNUL_V;
                              orderline_cp->ol_w_id_1 = ol_w_id / 256;
                              orderline_cp->ol_w_id_2 = ol_w_id % 256;
                              orderline_cp->ol_number_v1 = NNUL_V;
                              orderline_cp->ol_number_v2 = NNUL_V;
                              orderline_cp->ol_number_1 = ol_number / 256;
                              orderline_cp->ol_number_2 = ol_number % 256;
                              orderline_cp->ol_i_id_v1 = NNUL_V;
                              orderline_cp->ol_i_id_v2 = NNUL_V;
                              orderline_cp->ol_i_id_1 = ol_i_id / T256;
                              orderline_cp->ol_i_id_2 = (ol_i_id
                                -(ol_i_id_1*T256)) / D256;
                              orderline_cp->ol_i_id_3 = (ol_i_id
                                -(ol_i_id_1*T256)
                                -(ol_i_id_2*D256)) / 256;
                              orderline_cp->ol_i_id_4 = ol_i_id % T256;
                              orderline_cp->ol_supply_w_id_v1 = NNUL_V;
                              orderline_cp->ol_supply_w_id_v2 = NNUL_V;
                              orderline_cp->ol_supply_w_id_1 =
ol_supply_w_id / 256;
                              orderline_cp->ol_supply_w_id_2 =
ol_supply_w_id % 256;

                              orderline_cp->ol_quantity_v1 = NNUL_V;
                              orderline_cp->ol_quantity_v2 = NNUL_V;
                              orderline_cp->ol_quantity_1 = ol_quantity / 256;
                              orderline_cp->ol_quantity_2 = ol_quantity %
256;
                              orderline_cp->ol_amount_v1 = NNUL_V;
                              orderline_cp->ol_amount_v2 = NNUL_V;
                              orderline_cp->ol_amount_1 = ol_amount / T256;
                              orderline_cp->ol_amount_2 = (ol_amount
                                 -(ol_amount_1*T256)) / D256;
                              orderline_cp->ol_amount_3 = (ol_amount
                                 -(ol_amount_1*T256)
                                 -(ol_amount_2*D256)) / 256;
                              orderline_cp->ol_amount_4 = ol_amount %
T256;
                         }
          orderline_cp    = orderline_cp    + 1 ;
          orderline_lpcnt = orderline_lpcnt + 1 ;
          if ( orderline_lpcnt == ORDERLINE_COUNT )
            {
              write(op_orderline ,
                orderline_ap ,
                (size_t)ORDERLINE_SIZE * (size_t)ORDERLINE_COUNT);
              orderline_cp    = (orderline_str *)orderline_ap ;
              orderline_lpcnt = 0              ;
            }
                    }
               }
         }
         filecount++;
    }
    if ( orders_lpcnt != 0 )
      {
        write(op_orders ,
          orders_ap ,
          (size_t)ORDERS_SIZE * (size_t)orders_lpcnt) ;
          }
        if ( orderline_lpcnt != 0 )
          {
            write(op_orderline ,
               orderline_ap ,
                  (size_t)ORDERLINE_SIZE * (size_t)orderline_lpcnt) ;
          }

        fclose(fst8);
        close(op_orders)     ;
        close(op_orderline) ;

    free(orders_ap)     ;

        return;
}
void
make_address(str1, str2, city, state, zip)
char  *str1;
char  *str2;
char  *city;
char  *state;
char  *zip;
{

        make_alpha_string(10, 20, str1);

        make_alpha_string(10, 20, str2);

        make_alpha_string(10, 20, city);

        make_alpha_string(2, 2, state);

        make_number_string(9, 9, zip);
        return;
}
void
lastname(num, name)
int     num;
char  *name;
{

        static char  *syllable[] = {
                        “BAR”, “OUGHT”, “ABLE”, “PRI”, “PRES”,
                        “ESE”, “ANTI”, “CALLY”, “ATION”, “EING”
                        };

        strcpy(name, syllable[num  /  100]);

        strcat(name, syllable[(num  / 10) % 10]);

        strcat(name, syllable[num % 10]);
        return;
}
int
make_alpha_string(num1, num2, str)
int     num1;
int     num2;
char  *str;
{
        int             len;
        int             i;
        short rnum;
```

```
    if (num1 == num2) {
                len = num1;
        } else {
                len = random_number(num1, num2);
        }

        for ( i = 0; i < len; i++) {

                rnum = random_number(0, 61);

                if ((0 <= rnum) && (rnum <= 25)) {
                        str[i] = ‘a’ + rnum;

                } else if ((26 <= rnum) && (rnum <= 51)) {
                        str[i] = ‘A’ + rnum - 26;

                } else if ((52 <= rnum) && (rnum <= 61)) {
                        str[i] = ‘0’ + rnum - 52;
                }

        rnum = rand()%52  ;

                if ((0 <= rnum) && (rnum <= 25)) {
                        str[i] = ‘a’ + rnum;

                } else if ((26 <= rnum) && (rnum <= 51)) {
                        str[i] = ‘A’ + rnum - 26;
                }
        }

                str[len] = ‘\0’;

        return(len);
}
int
make_number_string(num1, num2, str)
int     num1;
int     num2;
char  *str;
{
        int             len;
        int             i;
        short rnum;

        if (num1 == num2) {
                len = num1;
        } else {
                len = random_number(num1, num2);
        }

        for ( i = 0; i < len; i++) {

                rnum = random_number(0, 9);

                str[i] = ‘0’ + rnum;
        str[i] = (char)(rand()%10+’0’);
        }

        str[len] = ‘\0’;

        return(len);
}
```

```
int
random_number(num1, num2)
int     num1;
int     num2;
{
        int     value;

        value = lrand48() % (num2 - num1 + 1) + num1;

        return(value);
}
void
set_seed(seedval)
int     seedval;
{

        srand(seedval)  ;
        srand48(seedval);
        return;
}
int
nurand(a, x, y, c)
int     a;
int     x;
int     y;
int c;
{
        int     value;

        value = (((random_number(0, a) | random_number(x, y)) + c) %
                (y - x + 1)) + x;

        return(value);
}
void
init_permutation()
{
        short cnt;
        short replace;
        short work;

        for (cnt = 0; cnt < CUST_PER_DIST; cnt++){
                ocid[cnt] = cnt + 1;
        }


        for (cnt = 0; cnt < CUST_PER_DIST; cnt++){
                replace = random_number(1, CUST_PER_DIST);
                work = ocid[cnt];
                ocid[cnt] = ocid[replace - 1];
                ocid[replace -1] = work;
        }

        counter = 0;
}
```

Appendix C: Tunable Parameters

This Appendix contains the configuration information for the operating system, the RDBMS and Tuxedo.

Operating System Configuration Values

The Solaris 7 kernel configuration parameters set in the file /etc/system are given below.

Solaris 7 Configuration File for Server, Clients, and RTEs

```
server:
set msgsys:msginfo_msgmap = 200
set msgsys:msginfo_msgmax = 16384
set msgsys:msginfo_msgmnb = 32768
set msgsys:msginfo_msgmni = 512
set msgsys:msginfo_msgseg = 31744
set semsys:seminfo_semmni = 24576
set semsys:seminfo_semmns = 18432
set semsys:seminfo_semmnu = 6144
set semsys:seminfo_semmsl = 32
set shmsys:shminfo_shmmax = 2097152000
set shmsys:shminfo_shmmni = 1024
set shmsys:shminfo_shmseg = 512
set pt_cnt = 300
set intr_policy=1
forceload: drv/vxio
forceload: drv/vxspec
set vxio:vol_maxio=2048
client(c1):
set pt_cnt=4096
set shmsys:shminfo_shmmax=0xffffffff
set shmsys:shminfo_shmseg=600
set shmsys:shminfo_shmmni=10
set msgsys:msginfo_msgmni=4096
set msgsys:msginfo_msgmax=2048
set msgsys:msginfo_msgmnb=800000
set msgsys:msginfo_msgmap=200000
set msgsys:msginfo_msgseg=10000
set msgsys:msginfo_msgssz=2048
set msgsys:msginfo_msgtql=5000
set semsys:seminfo_semmns=5000
set semsys:seminfo_semmni=5000
set semsys:seminfo_semmsl=5000
set semsys:seminfo_semmap=5000
set semsys:seminfo_semume=1
set semsys:seminfo_semmnu=5000
set autoup = 300
client(c2..c7):
set pt_cnt=4096
set shmsys:shminfo_shmmax=0xffffffff
set shmsys:shminfo_shmseg=600
set shmsys:shminfo_shmmni=10
set msgsys:msginfo_msgmni=4096
set msgsys:msginfo_msgmax=2048
set msgsys:msginfo_msgmnb=10000
set msgsys:msginfo_msgmap=10000
set msgsys:msginfo_msgseg=10000
set msgsys:msginfo_msgssz=2048
set msgsys:msginfo_msgtql=5000
set semsys:seminfo_semmns=5000
set semsys:seminfo_semmni=5000
set semsys:seminfo_semmsl=5000
set semsys:seminfo_semmap=5000
set semsys:seminfo_semume=1
set semsys:seminfo_semmnu=5000
set tune_t_flckrec=2048
set rlim_fd_max=12288
```

RDBMS Configuration values

```
::::::::::::::
conbf_wk2
::::::::::::::
# WORK FILE for rdbconbf
TPCC.WAREHOUSE_1_DSI W_1
TPCC.WAREHOUSE_2_DSI W_2
TPCC.WAREHOUSE_3_DSI W_3
TPCC.WAREHOUSE_4_DSI W_4
TPCC.WAREHOUSE_5_DSI W_5
TPCC.WAREHOUSE_6_DSI W_1
TPCC.WAREHOUSE_7_DSI W_2
TPCC.WAREHOUSE_8_DSI W_3
TPCC.WAREHOUSE_9_DSI W_4
TPCC.WAREHOUSE_10_DSI W_5
TPCC.WAREHOUSE_11_DSI W_1
TPCC.WAREHOUSE_12_DSI W_2
TPCC.WAREHOUSE_13_DSI W_3
TPCC.WAREHOUSE_14_DSI W_4
TPCC.WAREHOUSE_15_DSI W_5
TPCC.WAREHOUSE_16_DSI W_1
TPCC.WAREHOUSE_17_DSI W_2
TPCC.WAREHOUSE_18_DSI W_3
TPCC.WAREHOUSE_19_DSI W_4
TPCC.WAREHOUSE_20_DSI W_5
TPCC.WAREHOUSE_21_DSI W_1
TPCC.DISTRICT_1_DSI D_1
TPCC.DISTRICT_2_DSI D_2
TPCC.DISTRICT_3_DSI D_3
TPCC.DISTRICT_4_DSI D_4
TPCC.DISTRICT_5_DSI D_5
TPCC.DISTRICT_6_DSI D_1
TPCC.DISTRICT_7_DSI D_2
TPCC.DISTRICT_8_DSI D_3
TPCC.DISTRICT_9_DSI D_4
TPCC.DISTRICT_10_DSI D_5
TPCC.DISTRICT_11_DSI D_1
TPCC.DISTRICT_12_DSI D_2
TPCC.DISTRICT_13_DSI D_3
TPCC.DISTRICT_14_DSI D_4
TPCC.DISTRICT_15_DSI D_5
TPCC.DISTRICT_16_DSI D_1
TPCC.DISTRICT_17_DSI D_2
TPCC.DISTRICT_18_DSI D_3
TPCC.DISTRICT_19_DSI D_4
TPCC.DISTRICT_20_DSI D_5
TPCC.DISTRICT_21_DSI D_1
TPCC.CUSTOMER_1_DSI C_1
TPCC.CUSTOMER_2_DSI C_2
TPCC.CUSTOMER_3_DSI C_3
TPCC.CUSTOMER_4_DSI C_4
TPCC.CUSTOMER_5_DSI C_5
TPCC.CUSTOMER_6_DSI C_6
TPCC.CUSTOMER_7_DSI C_7
TPCC.CUSTOMER_8_DSI C_8
TPCC.CUSTOMER_9_DSI C_1
TPCC.CUSTOMER_10_DSI C_2
TPCC.CUSTOMER_11_DSI C_3
TPCC.CUSTOMER_12_DSI C_4
TPCC.CUSTOMER_13_DSI C_5
TPCC.CUSTOMER_14_DSI C_6
TPCC.CUSTOMER_15_DSI C_7
TPCC.CUSTOMER_16_DSI C_8
TPCC.CUSTOMER_17_DSI C_1
TPCC.CUSTOMER_18_DSI C_2
TPCC.CUSTOMER_19_DSI C_3
TPCC.CUSTOMER_20_DSI C_4
TPCC.CUSTOMER_21_DSI C_5
TPCC.CUSTOMER_22_DSI C_6
TPCC.CUSTOMER_23_DSI C_7
TPCC.CUSTOMER_24_DSI C_8
TPCC.CUSTOMER_25_DSI C_1
TPCC.CUSTOMER_26_DSI C_2
TPCC.CUSTOMER_27_DSI C_3
TPCC.CUSTOMER_28_DSI C_4
TPCC.CUSTOMER_29_DSI C_5
TPCC.CUSTOMER_30_DSI C_6
TPCC.CUSTOMER_31_DSI C_7
TPCC.CUSTOMER_32_DSI C_8
TPCC.CUSTOMER_33_DSI C_1
TPCC.CUSTOMER_34_DSI C_2
TPCC.CUSTOMER_35_DSI C_3
TPCC.CUSTOMER_36_DSI C_4
TPCC.CUSTOMER_37_DSI C_5
TPCC.CUSTOMER_38_DSI C_6
TPCC.CUSTOMER_39_DSI C_7
TPCC.CUSTOMER_40_DSI C_8
TPCC.CUSTOMER_41_DSI C_1
TPCC.CUSTOMER_42_DSI C_2
TPCC.CUSTOMER_43_DSI C_3
TPCC.CUSTOMER_44_DSI C_4
TPCC.CUSTOMER_45_DSI C_5
TPCC.CUSTOMER_46_DSI C_6
TPCC.CUSTOMER_47_DSI C_7
TPCC.CUSTOMER_48_DSI C_8
TPCC.CUSTOMER_49_DSI C_1
TPCC.CUSTOMER_50_DSI C_2
TPCC.CUSTOMER_51_DSI C_3
TPCC.CUSTOMER_52_DSI C_4
TPCC.CUSTOMER_53_DSI C_5
TPCC.CUSTOMER_54_DSI C_6
TPCC.CUSTOMER_55_DSI C_7
TPCC.CUSTOMER_56_DSI C_8
TPCC.CUSTOMER_57_DSI C_1
TPCC.CUSTOMER_58_DSI C_2
TPCC.CUSTOMER_59_DSI C_3
TPCC.CUSTOMER_60_DSI C_4
TPCC.CUSTOMER_61_DSI C_5
TPCC.CUSTOMER_62_DSI C_6
TPCC.CUSTOMER_63_DSI C_7
TPCC.CUSTOMER_64_DSI C_8
TPCC.CUSTOMER_65_DSI C_1
TPCC.CUSTOMER_66_DSI C_2
TPCC.CUSTOMER_67_DSI C_3
TPCC.CUSTOMER_68_DSI C_4
TPCC.CUSTOMER_69_DSI C_5
TPCC.CUSTOMER_70_DSI C_6
TPCC.CUSTOMER_71_DSI C_7
TPCC.CUSTOMER_72_DSI C_8
TPCC.CUSTOMER_73_DSI C_1
TPCC.CUSTOMER_74_DSI C_2
TPCC.CUSTOMER_75_DSI C_3
TPCC.CUSTOMER_76_DSI C_4
TPCC.CUSTOMER_77_DSI C_5
TPCC.CUSTOMER_78_DSI C_6
TPCC.CUSTOMER_79_DSI C_7
TPCC.CUSTOMER_80_DSI C_8
TPCC.CUSTOMER_81_DSI C_1
TPCC.CUSTOMER_82_DSI C_2
TPCC.CUSTOMER_83_DSI C_3
TPCC.CUSTOMER_84_DSI C_4
TPCC.ORDERS_1_DSI O_1
TPCC.ORDERS_2_DSI O_2
TPCC.ORDERS_3_DSI O_3
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TPCC.ORDERLIN_122_DSI OL_2
TPCC.ORDERLIN_123_DSI OL_3
TPCC.ORDERLIN_124_DSI OL_4
TPCC.ORDERLIN_125_DSI OL_5
TPCC.ORDERLIN_126_DSI OL_6
TPCC.ORDERLIN_127_DSI OL_7
TPCC.ORDERLIN_128_DSI OL_8
TPCC.ORDERLIN_129_DSI OL_1
TPCC.ORDERLIN_130_DSI OL_2
TPCC.ORDERLIN_131_DSI OL_3
TPCC.ORDERLIN_132_DSI OL_4
TPCC.ORDERLIN_133_DSI OL_5
TPCC.ORDERLIN_134_DSI OL_6
TPCC.ORDERLIN_135_DSI OL_7
TPCC.ORDERLIN_136_DSI OL_8
TPCC.ORDERLIN_137_DSI OL_1
TPCC.ORDERLIN_138_DSI OL_2
TPCC.ORDERLIN_139_DSI OL_3
TPCC.ORDERLIN_140_DSI OL_4
TPCC.ORDERLIN_141_DSI OL_5
TPCC.ORDERLIN_142_DSI OL_6
TPCC.ORDERLIN_143_DSI OL_7
TPCC.ORDERLIN_144_DSI OL_8
TPCC.ORDERLIN_145_DSI OL_1
TPCC.ORDERLIN_146_DSI OL_2
TPCC.ORDERLIN_147_DSI OL_3
TPCC.ORDERLIN_148_DSI OL_4
TPCC.ORDERLIN_149_DSI OL_5
TPCC.ORDERLIN_150_DSI OL_6
TPCC.ORDERLIN_151_DSI OL_7
TPCC.ORDERLIN_152_DSI OL_8
TPCC.ORDERLIN_153_DSI OL_1
TPCC.ORDERLIN_154_DSI OL_2
TPCC.ORDERLIN_155_DSI OL_3
TPCC.ORDERLIN_156_DSI OL_4
TPCC.ORDERLIN_157_DSI OL_5
TPCC.ORDERLIN_158_DSI OL_6
TPCC.ORDERLIN_159_DSI OL_7
TPCC.ORDERLIN_160_DSI OL_8
TPCC.ORDERLIN_161_DSI OL_1
TPCC.ORDERLIN_162_DSI OL_2
TPCC.ORDERLIN_163_DSI OL_3
TPCC.ORDERLIN_164_DSI OL_4
TPCC.ORDERLIN_165_DSI OL_5
TPCC.ORDERLIN_166_DSI OL_6
TPCC.ORDERLIN_167_DSI OL_7
TPCC.ORDERLIN_168_DSI OL_8
TPCC.HISTORY_1_DSI H_1
TPCC.HISTORY_2_DSI H_2
TPCC.HISTORY_3_DSI H_3
TPCC.HISTORY_4_DSI H_4
TPCC.HISTORY_5_DSI H_5
TPCC.HISTORY_6_DSI H_6
TPCC.HISTORY_7_DSI H_7
TPCC.HISTORY_8_DSI H_8
TPCC.HISTORY_9_DSI H_1
TPCC.HISTORY_10_DSI H_2
TPCC.HISTORY_11_DSI H_3
TPCC.HISTORY_12_DSI H_4
TPCC.HISTORY_13_DSI H_5
TPCC.HISTORY_14_DSI H_6
TPCC.HISTORY_15_DSI H_7
TPCC.HISTORY_16_DSI H_8
TPCC.HISTORY_17_DSI H_1
TPCC.HISTORY_18_DSI H_2
TPCC.HISTORY_19_DSI H_3
TPCC.HISTORY_20_DSI H_4
TPCC.HISTORY_21_DSI H_5
TPCC.HISTORY_22_DSI H_6
TPCC.HISTORY_23_DSI H_7
TPCC.HISTORY_24_DSI H_8
TPCC.HISTORY_25_DSI H_1
TPCC.HISTORY_26_DSI H_2
TPCC.HISTORY_27_DSI H_3
TPCC.HISTORY_28_DSI H_4
TPCC.HISTORY_29_DSI H_5
TPCC.HISTORY_30_DSI H_6
TPCC.HISTORY_31_DSI H_7
TPCC.HISTORY_32_DSI H_8
TPCC.HISTORY_33_DSI H_1
TPCC.HISTORY_34_DSI H_2
TPCC.HISTORY_35_DSI H_3
TPCC.HISTORY_36_DSI H_4
TPCC.HISTORY_37_DSI H_5
TPCC.HISTORY_38_DSI H_6
TPCC.HISTORY_39_DSI H_7
TPCC.HISTORY_40_DSI H_8
TPCC.HISTORY_41_DSI H_1
TPCC.HISTORY_42_DSI H_2
TPCC.HISTORY_43_DSI H_3
TPCC.HISTORY_44_DSI H_4
TPCC.HISTORY_45_DSI H_5
TPCC.HISTORY_46_DSI H_6
TPCC.HISTORY_47_DSI H_7
TPCC.HISTORY_48_DSI H_8
TPCC.HISTORY_49_DSI H_1
TPCC.HISTORY_50_DSI H_2
TPCC.HISTORY_51_DSI H_3
TPCC.HISTORY_52_DSI H_4
TPCC.HISTORY_53_DSI H_5
TPCC.HISTORY_54_DSI H_6
TPCC.HISTORY_55_DSI H_7
TPCC.HISTORY_56_DSI H_8
TPCC.HISTORY_57_DSI H_1
TPCC.HISTORY_58_DSI H_2
TPCC.HISTORY_59_DSI H_3
TPCC.HISTORY_60_DSI H_4
TPCC.HISTORY_61_DSI H_5
TPCC.HISTORY_62_DSI H_6
TPCC.HISTORY_63_DSI H_7
TPCC.HISTORY_64_DSI H_8
TPCC.HISTORY_65_DSI H_1
TPCC.HISTORY_66_DSI H_2
TPCC.HISTORY_67_DSI H_3
TPCC.HISTORY_68_DSI H_4
TPCC.HISTORY_69_DSI H_5
TPCC.HISTORY_70_DSI H_6
TPCC.HISTORY_71_DSI H_7
TPCC.HISTORY_72_DSI H_8
TPCC.HISTORY_73_DSI H_1
TPCC.HISTORY_74_DSI H_2
TPCC.HISTORY_75_DSI H_3
TPCC.HISTORY_76_DSI H_4
TPCC.HISTORY_77_DSI H_5
TPCC.HISTORY_78_DSI H_6
TPCC.HISTORY_79_DSI H_7
TPCC.HISTORY_80_DSI H_8
TPCC.HISTORY_81_DSI H_1
TPCC.HISTORY_82_DSI H_2
TPCC.HISTORY_83_DSI H_3
TPCC.HISTORY_84_DSI H_4
::::::::::::::
cw_env.comp
::::::::::::::
TPCC,TPCC_SCHEMA,ITEM,STOCK; <<< TPCC ,ITEM, STOCK >>>
1,4,0,I_IM_ID,I_NAME,I_PRICE,I_DATA,1,1,100000,100000; <<< STAY_ALL, CACHE_OFF, NO_COMP >>>
0,1,0,S_QUANTITY,2,1,1760,1760,100000,100000; <<< 1 COLUMN, CACHE_OFF, NO_COMP >>>
::::::::::::::
fssqlenv
::::::::::::::
;
; All Rights Reserved, Copyright(c) FUJITSU 1993, 1994, 1995
; All Rights Reserved, Copyright(c) PFU     1993, 1994, 1995
;;;
;MAX_CONNECT_TCP=(260)
MAX_CONNECT_TCP=(90)
;MAX_CONNECT_SYS=(250)
;MAX_CONNECT_SYS=(470)
MAX_CONNECT_SYS=(50)
; rdbsysconfig -> RDBCNTNUM
JOIN_RULE=(F,3)
COMMUNICATION_BUFFER=(8)
;INCLUSION_TYPE=NEW
;MAX_PARALLEL=20
RDB2_TCP_LEVEL=(LEVEL2)
;SOC_SELECT_TIME=(20000)
;SOC_SELECT_TIME=(5000)
SOC_SELECT_TIME=(10000)
SOC_WRITE_SIZE=(8)
;DEBUG_INFO = ON,2084

::::::::::::::
rdbbuf
::::::::::::::
#
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#
```

```
###########################################################################nrk
BUFFER1K  = 64
BUFFER2K  = 64
BUFFER4K  = 512
BUFFER8K  = 384
BUFFER16K = 32
BUFFER32K = 32


::::::::::::::
rdbpool
::::::::::::::
#
# All Rights Reserved, Copyright(c) FUJITSU 1993, 1994, 1995, 1996
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#
ARC_ALCT    = 0      ,1     ,1024000000  #508
BCM_BPC     = 124928 ,4096  ,1024000000  #508
#BCM_EEXT    = 294912 ,8192  ,1024000000  #1532
BCM_EEXT    = 310272 ,8192  ,1024000000  #1532
BCM_ESUB    = 351232 ,1024  ,1024000000  #60
BCM_GPCT    = 4096   ,4096  ,1024000000  #508
#BCM_IOPROC  = 71680  ,4096  ,1024000000  #380
BCM_IOPROC  = 78848  ,4096  ,1024000000  #380
BCM_LOGAREA = 0      ,1     ,1024000000  #1020
BCM_LOGLIST = 0      ,1     ,1024000000  #252
#BCM_PGC     = 176128 ,4096  ,1024000000  #1020
BCM_PGC     = 249856 ,4096  ,1024000000  #1020
BCM_WKACC   = 0      ,1024  ,1024000000  #252
BCM_WKDMON  = 256    ,1024  ,1024000000  #252
BCM_WKSPC   = 0      ,1024  ,1024000000  #60
BCM_WKSSPC  = 0      ,1024  ,1024000000  #124
#CCR_COMINF  = 2121728 ,16384 ,1024000000  #3836(0xefc)
CCR_COMINF  = 2629632 ,16384 ,1024000000  #3836(0xefc)
#CCR_FGRP    = 43008  ,4096  ,1024000000  #252
CCR_FGRP    = 63488 ,4096  ,1024000000  #252
#CCR_IDT     = 849920 ,4096  ,1024000000  #912(0x390)
CCR_IDT     = 848896 ,4096  ,1024000000  #912(0x390)
#CCR_KAIOCB  = 184320  ,1024  ,1024000000  #92
CCR_KAIOCB  = 271360  ,1024  ,1024000000  #92
#CCR_LWPIDT  = 157696 ,4096  ,1024000000  #112(0x70)
CCR_LWPIDT  = 15360 ,4096  ,1024000000  #112(0x70)
#CCR_POLMCTL = 4184064 ,16384 ,1024000000  #4336(0x10+0x50*(42+12))
CCR_POLMCTL = 2048000 ,16384 ,1024000000  #4336(0x10+0x50*(42+12))
CCR_SANQUE  = 29696  ,1024  ,1024000000  #64
CCR_USRCON  = 412672 ,4096  ,1024000000  #448(0x1c0)
#CCR_USRSTK  = 25600000 ,65544 ,1024000000  #65536
#CCR_USRSTK  = 43523072 ,65544 ,1024000000  #65536
CCR_USRSTK  = 30720000 ,65544 ,1024000000  #65536
#CCR_WLIST   = 17408  ,1024  ,1024000000  #28(0x1c)
CCR_WLIST   = 22528  ,1024  ,1024000000  #28(0x1c)
#CCR_WPID    = 276480  ,1024  ,1024000000  #60
CCR_WPID    = 306288  ,1024  ,1024000000  #60
DSM_DSAH    = 786432 ,4096  ,1024000000  #2044
#DSM_DSAP    = 45056000 ,1024000  ,1024000000  #124
#DSM_DSAP    = 34816000 ,1024000  ,1024000000  #124
```

```
#DSM_DSAP    = 32768000 ,1024000  ,1024000000  #124
#DSM_DSAP    = 67584000 ,1024000  ,1024000000  #124
DSM_DSAP    =  9216000 ,1024000  ,1024000000  #124
#DSM_DSIL    = 2668544 ,1024  ,1024000000  #60
DSM_DSIL    = 3085312 ,1024  ,1024000000  #60
DSM_DSVP    = 7168    ,1024  ,1024000000  #60
#DSM_DSVQ    = 50176  ,1024  ,1024000000  #92
DSM_DSVQ    = 61440  ,1024  ,1024000000  #92
DSM_DSWH    = 0      ,4096  ,1024000000  #2044
DSM_DSWP    = 0      ,1024  ,1024000000  #124
#DSM_DUSI    = 12288  ,1024  ,1024000000  #60
DSM_DUSI    = 16384  ,1024  ,1024000000  #60
DSM_DWFL    = 0      ,1024  ,1024000000  #60
DSM_DWUI    = 0      ,1024  ,1024000000  #60
#LCM_LOGCNTL = 47104  ,4096  ,1024000000  #252
LCM_LOGCNTL = 63488  ,4096  ,1024000000  #252
SCI_CMD     = 73728  ,4096  ,1024000000  #508
SCI_CONBF   = 4096   ,4096  ,1024000000  #508
#SSV_IINF    = 20480  ,1024  ,1024000000  #124
SSV_IINF    = 31774  ,1024  ,1024000000  #124
#TCM_TRAN    = 43008  ,4096  ,1024000000  #252
TCM_TRAN    = 63488  ,4096  ,1024000000  #252
UTY_UNQUE   = 256    ,1024  ,1024000000  #172
UTY_UNDB    = 0      ,4096  ,1024000000  #508
UTY_UNDSI   = 0      ,1024  ,1024000000  #124
XCM_KHASH   = 0      ,4096  ,1024000000  #1036
XCM_KMEM    = 0      ,4096  ,1024000000  #2044
XCM_KQUE    = 0      ,1024  ,1024000000  #28
XCM_KTERM   = 0      ,1024  ,1024000000  #28
#XCM_LOCK    = 763904 ,10240  ,1024000000  #60
XCM_LOCK    = 1024000 ,10240  ,1024000000  #60
#XCM_LPHASH  = 6784000 ,4096  ,1024000000  #1028
XCM_LPHASH  =  3072000 ,4096  ,1024000000  #1028
XCM_NLOWN   = 5120   ,1024  ,1024000000  #28
#XCM_NLQUE   = 29278208 ,10240  ,1024000000  #60
#XCM_NLRSC   = 1124352 ,1024  ,1024000000  #252
XCM_NLQUE   = 10240 ,10240  ,1024000000  #60
XCM_NLRSC   = 10240 ,1024  ,1024000000  #252
XCM_OWNER   = 22528   ,1024  ,1024000000  #124
#XCM_QUE     = 3136512 ,102400  ,1024000000  #124
XCM_QUE     = 3379200 ,102400  ,1024000000  #124
XCM_TTERM   = 841728 ,1024  ,1024000000  #44
XCM_WQUE_S  = 0      ,1024  ,1024000000  #76
XCM_RSC_S   = 0      ,1024  ,1024000000  #60
#------------------------------------------------------------------------------
# group
#------------------------------------------------------------------------------
BCM_DFPOOL_G = 128    ,1024  ,1024000000  #124
BCM_DPCT_G   = 64     ,1024  ,1024000000  #60
#CCR_GCOMINF  = 32768  ,16384 ,1024000000  #3836(0xefc)
CCR_GCOMINF  = 8192  ,16384 ,1024000000  #3836(0xefc)
XCM_BITMAP_G = 96     ,1024  ,1024000000  #92
XCM_BITMNG_G = 64     ,1024  ,1024000000  #60
#XCM_RSC_G    = 64     ,1024  ,1024000000  #60
XCM_RSC_G    = 3520     ,1024  ,1024000000  #60
#XCM_WQUE_G   = 80     ,1024  ,1024000000  #76
```

```
XCM_WQUE_G   = 20000   ,1024  ,1024000000  #76
#------------------------------------------------------------------------------
# local
#------------------------------------------------------------------------------
BCM_DFPOOL  = 128    ,1024  ,1024000000  #124
BCM_DPCT    = 64     ,1024  ,1024000000  #60
#BCM_LPCT    = 64     ,1024  ,1024000000  #60
BCM_LPCT    = 960     ,1024  ,1024000000  #60
#BCM_LPG     = 256    ,1024  ,1024000000  #252
BCM_LPG     = 256    ,270000  ,1024000000  #252
BCM_PFT     = 256    ,67000  ,1024000000  #252
CCR_LCOMINF = 8240   ,307200 ,1024000000  #3836(0xefc)
#CCR_LCOMINF = 8192   ,40960 ,1024000000  #3836(0xefc)
DSM_DDSF    = 256    ,1024  ,1024000000  #252
##DSM_DDSF    = 411136  ,1024  ,1024000000  #252
DSM_DESF    = 256    ,1024  ,1024000000  #252
##DSM_DESF    = 736000    ,1024  ,1024000000  #252
SAP_KEY     = 4096   ,16384 ,1024000000  #4092
SCI_CS      = 0      ,1     ,1024000000  #124
#XCM_BITMAP  = 96     ,1024  ,1024000000  #92
XCM_BITMAP  = 96     ,20000  ,1024000000  #92
XCM_BITMNG  = 64     ,2400  ,1024000000  #60
XCM_RSC     = 64     ,1024  ,1024000000  #60
XCM_WQUE    = 80     ,1024  ,1024000000  #76
XCM_THASH   = 48     ,1400    ,1024000000  #44
#XCM_TQUE    = 80     ,1024  ,1024000000  #76
XCM_TQUE    = 400     ,1024  ,1024000000  #76

::::::::::::::
rdbsysconfig
::::::::::::::
#
# All Rights Reserved, Copyright(c) FUJITSU 1993, 1994, 1995, 1999
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#
###############################################################################
RDBDIRSPACE1=/export/home/RDBDIR2
RDBDIRSPACE2=/export/home/RDBDIR2
#RDBLOG=512, 512
RDBLOG=1024, 1024

RDBCORE=/rdbptc/RDBCORE #directory name
RDBCNTNUM=50          #for cl-sv & 3tier #fssqlenv -> MAX_CONECT_SYS
#RDBCNTNUM=220        #fssqlenv -> MAX_CONECT_SYS
RDBPRJCODE=0xdb

RDBSYSBUF=/rdbptc/tpcc80/SYS
RDBSQLENV=/rdbptc/tpcc80/SYS/fssqlenv
RDBLOGMANAGE=/rdbptc/tpcc80/SYS
RDBPOOLCFG=/rdbptc/tpcc80/SYS

#-------------------------------------------------------------------
#RDBFIXBUFMEM=80              #for LOAD
#RDBFIXBUFMEMADDR=0x36000000

#RDBFIXBUFMEM=2752       # 991010 OK
```

```
RDBFIXBUFMEM=2928 #2944 #2912 #2848
#RDBFIXBUFMEMADDR=0x40000000 # 991010 OK
RDBFIXBUFMEMADDR=0x35000000 #0x34000000 #0x36000000 #0x3a000000

#---------------------------------------------------------
RDBEXTMEMADDR=0xed000000
RDBEXTMEM=8192

############################################################################
RDBPRESCHED=10
RDBKCHKSKIPCNT=200    #
#RDBKCHKSKIPCNT=300   #
RDBKTAJUUDOSDP = 2016
RDBKLISTNUMSDP = 5
RDBKCATENUMSDP=252
#RDBKAIOREP = 6
RDBKAIOREP = 12  #980531
#RDBKAIOREP = 18  #980531
##RDBKAIOSAV = 30
RDBKAIOYLD = 0

RDBKAIOCNT    = yes
RDBKAIOD9F    = yes
RDBKAIOSELFWAIT    = yes
RDBKAIODSP    = yes
#RDBIOERRDOWN = yes
############################################################################nrk
##RDBVER: UXP / DS_RDBII_V20L21_3 / 22_version
###############################################################################
RDBSDPCPU = 0,1,2,3

RDBCCRDMCPU=0
RDBRECEPCPU=0
#---
RDBSORTCPU=0
RDBTCPIPCPU=0
RDBALFCPU=0  #990610 5 --> 1 --> 5
RDBDBSCPU=0  #NG  1,2,3         ##
RDBDIRCPU=0
#---
RDBIOCPU=0
RDBTLFCPU=0  #0  #3  #0  #5   #990610 5 --> 1 -->5
#---
RDBWKSCPU=0


####I / O
RDBREADUNC = NO           #

RDBDBSNUM+ = 350          #

RDBMAXLWP =  100        #98.11.11 oza
#RDBMAXDBIO = 20          #
RDBMAXDBIO = 8  #6  #NG3 #6good #12 #14ng  #12ok #5NG #10  # 990309 oza
RDBMAXRCPIO = 9 #5 #7 #?2  #7?  #13 #15?  #13ok #6NG #11 # old=20 RCP
RDBNEWPAGE = 1            # LRU
```

```
#RDBNEWPAGE = 2            # LRU
RDBANTIQUEPAGE = 4 # LRU
RDBIOUNITNUM = 1,1
RDBSORTUNITNUM = 1,1

##LOG
#RDBLOGAIONUM=32 #
RDBLOGAIONUM=128 #
RDBLOGBIONUM=256 #
RDBLOGIOSLEEP=20 #
RDBLOGSLTRNUM= 2  #
RDBLOGGRCOMMIT=4  #5  #6 #4 #

#RDBKTAJUUDOSDP=5
#RDBKCATENUMSDP=5
#RDBKCATENUMSDP=60

##SLK / LWP
RDBSLKLOOP=10   #
#RDBLWPLOOP=100 #
RDBSEMMODE=IPC   #

##my_mutex
#RDBDBGSLKCNT=yes,yes
#RDBDBGSLKCNT=yes
#RDBDBGMUTCNT=yes
#RDBDBGWPCCNT = yes
#RDBDBGWAITPOS = yes
#RDBKAIOCNT    = yes

RDBIXSECDWD=YES      #
RDBSDPLDBALMODE = 2

::::::::::::::
rdbsysparm
::::::::::::::
#
# All Rights Reserved, Copyright(c) FUJITSU 1996
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#
# Title: RDB system definition file
#
################################################################################
#
#RDBMEMBLKSIZE=32
#RDBMEMBLKSIZE=64
RDBMEMBLKSIZE=128
RDBLBUFSIZE=0,128,512
COMMUNICATION_BUFFER=1
SORT_MEM_SIZE=64
WORK_MEM_SIZE=64
CGP_INIT_SIZE=1
###CGP_ELEM=10
MEM_CMD_POOL_SIZE=14 #1
#MEM_LC1_POOL_SIZE=1
#MEM_LC2_POOL_SIZE=1
```

```
MEM_LC3_POOL_SIZE=28  #1
MEM_OPL_POOL_SIZE=148  #1
#MEM_OPT_POOL_SIZE=1
MEM_SCT_POOL_SIZE=10  #1
#MEM_SPL_POOL_SIZE=1
DYN_SQL_BUFFER=3, 1, 3
TID_BUFFER=1, 1, 3
CURSOR_NAME_BUFFER=1, 1, 1
BUFFER_SIZE=1, 1
RESULT_BUFFER=0, 1
OPL_BUFFER_SIZE=1
MAX_CONNECT_SYS=20
DESC_NUM=256
::::::::::::::
sh.crbuf.mk
::::::::::::::
#!/bin/csh
rm sh.crbuf crbuf.aa
echo “# 1760WH xxxMB###################################” >sh.crbuf
@ D= 50
@ W= 50
@ T= 0
@ XK= 0

echo “#ORDERLINE(M)----------------------------------------”>>sh.crbuf
@ X=4500 #6000
#@ A=$X - $D ; @ S=$A - $W; @ T= 0
@ A=$X - 60 ; @ S=$A - 60; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 ) #foreach P ( 1 2 3 4 5 6 )
 echo “rdbcrbf -A $A  -S  $S -x -l 1 -m 5 OL_$P  32K $X”>>sh.crbuf
 @ T= $T + $X * 32
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#OL $TM $XM”

echo “# STOCK-----------------------------------”  >>sh.crbuf
#@ X=12750 + 6883 + 3300 + 2530
#@ X=22633 # 9->8bunkatsu 991111
#@ X=25866 # 8->7bunkatsu 991111
#@ X=32738 # 8->7bunkatsu 991111
@ X=22619  #22916 # 10 bunkatsu 991120

#@ A=$X - 400 ; @ S=$A - 100; @ T= 0
#@ A=$X - 500 ; @ S=$A - 150; @ T= 0   # for 7-bunkatsu
#@ A=$X - 1000 ; @ S=$A - 150; @ T= 0   # for 7-bunkatsu
#@ A=$X - 700 ; @ S=$A - 220; @ T= 0   # for 10-bun,1760WH
@ A=$X - 700 ; @ S=$A - 250; @ T= 0   # for 10-bun,1760WH

#echo “$X $A $S”
foreach P ( 1 2 3 4 5 6 7 8 9 10 )
 echo “rdbcrbf -A $A -S $S -x -l 1 -m 3 S_$P  4K $X “>>sh.crbuf
 @ T= $T + $X * 4
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#S $TM $XM”

echo “#NEWORDER(M)----------------------------------------”>>sh.crbuf
@ X=3124 #4166
@ A=$X - $D ; @ S=$A - $W; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A  $A -S  $S -x -l 1 -m 5 NO_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#N $TM $XM”

echo “#NEWORDER_IX(MB)-----------------------------------”>>sh.crbuf
@ X=2746 #3024 #4166
@ A=$X - $D ; @ S=$A - $W; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A  $A -S  $S -x -l 1 -m 5 NO_IX_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#NX $TM $XM”

echo “# CUSTOMER-----------------------------------------”>>sh.crbuf
@ X=2000 #1450 #1800
@ A=$X - 180 ; @ S=$A - 150; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A $A  -S $S -x -l 2 -m 4 C_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#C $TM $XM”

echo “# CUSTOMER_IX(M)-------------------------------------”>>sh.crbuf
@ X=825 #1100
@ A=$X - $D ; @ S=$A - $W; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A $A  -S $S -x -l 1 -m 5 C_IX_$P  16K $X”>>sh.crbuf
 @ T= $T + $X * 16
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#CX $TM $XM”

echo “# ORDERS(M)------------------------------------------”>>sh.crbuf
@ X=1074 #999 #1333
@ A=$X - 75 ; @ S=$A - 75; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A $A  -S  $S -x -l 1 -m 5 O_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#O $TM $XM”

echo “# ORDER_IX(M)------------------------------------------”>>sh.crbuf
@ X=2865 #2805 #1668 #2225
#@ A=$X - $D ; @ S=$A - $W; @ T= 0
@ A=$X - 80 ; @ S=$A - 80; @ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A $A  -S  $S -x -l 1 -m 5 O_IX_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#OX $TM $XM”

echo “#ORDERLINE(M)--------------------------------------”>>sh.crbuf
@ X=98 #178  #238
@ A=$X - 25 ; @ S=$A - 5; @ T= 0
```

```
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “rdbcrbf -A $A  -S  $S -x -l 1 -m 5 OL_$P  8K $X”>>sh.crbuf
 @ T= $T + $X * 8
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#OL2 $TM $XM”

echo “#HISTORY(M)-------------------------------------”>>sh.crbuf
@ X=350
@ A=$X - $D ; @ S=$A - $W; @ T= 0
foreach P ( 1 2 3 4 5 6 7  8 )
 echo “rdbcrbf -A  $A -S  $S -x -l 1 -m 5 H_$P  4K $X”>>sh.crbuf
 @ T= $T + $X * 4
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#H $TM $XM”

#======================================================================
echo “                                   “>crbuf.aa

#echo “#D(M)-------------------------------------”

@ X=3520
foreach P ( 1 2 3 4 5 )
 echo “D_$P 1K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end

 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#D $TM $XM”

#echo “#I(M)-------------------------------------”
@ X=14350 #14300
@ T= $X * 1
echo “I_1 1K $X 100 100 1 0 fixed” >>crbuf.aa
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#I $TM $XM”

#echo “#CX2(M)-------------------------------------”
@ X=10
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “C_IX_$P 32K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 32
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#CX2 $TM $XM”

#echo “#OX2(M)-------------------------------------”
@ X=30 #48
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “O_IX_$P 32K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 32
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#OX2 $TM $XM”

#echo “#NOX2(M)-------------------------------------”
@ X=10 #16
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
```

```
 echo “NO_IX_$P 32K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 32
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#NOX2 $TM $XM”


#echo “#W(M)-------------------------------------”
@ X=440
@ T= 0
foreach P ( 1 2 3 4 5 )
 echo “W_$P 1K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#W $TM $XM”

#echo “#C2(M)-------------------------------------”
@ X=3
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8  )
 echo “C_$P 1K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#C2 $TM $XM”

#echo “#O2(M)-------------------------------------”
@ X=3
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “O_$P 1K $X 100 100 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#O2 $TM $XM”

#echo “#NO2(M)-------------------------------------”
@ X=10
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 )
 echo “NO_$P 1K $X 80 50 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#NO2 $TM $XM”

#echo “#S2(M)-------------------------------------”
@ X=10
@ T= 0
foreach P ( 1 2 3 4 5 6 7 8 9 10 )
 echo “S_$P 1K $X 80 50 1 0 fixed”>>crbuf.aa
 @ T= $T + $X * 1
end
 @ XK= $XK + $T ; @ XM= $XK  /  1024; @ TM= $T  /  1024; echo “#S2 $TM $XM”

::::::::::::::
RDBSTART
::::::::::::::
#!/usr/bin/sh -xf
# last changed
# Fri Oct  1 15:51:20 PDT 1999
RDB_XCM_NOT_TINF=1; export RDB_XCM_NOT_TINF
RDB_BCM_NOT_TINF=1; export RDB_BCM_NOT_TINF
RDB_NOT_RISTRICT_MODE=1; export RDB_NOT_RISTRICT_MODE
SEINO_RCP_SMALL_FIRST=450; export SEINO_RCP_SMALL_FIRST

RDBDB=TPCC
#
RDBBUFCPU=0  #2  #0 #0 #2  #0
export RDBBUFCPU

#RDB_UNBALANCED_CPUBIND='100 97 97 97 99 99 99 99' # for 4cpu cl-sv E450

#RDB_UNBALANCED_CPUBIND='100 94 94 94 99 99 99 99 99' # for 4cpu cl-sv E450
#RDB_UNBALANCED_CPUBIND='40 100 100 100 100 100 100 100' # for 4cpu cl-sv E450
##RDB_UNBALANCED_CPUBIND='1 99 92 99 99 99 99 99 99' # BEST E450 1716/1760WH
RDB_UNBALANCED_CPUBIND='1 99 99 99 99 99 99 99 99' # not  dem  idoH
#RDB_UNBALANCED_CPUBIND='1 95 92 99 99 99 99 99 99' # for 4cpu E450 1716WH
#RDB_UNBALANCED_CPUBIND='1 95 84 99 99 99 99 99 99' # for 4cpu E450 1760WH
#RDB_UNBALANCED_CPUBIND='1 98 91 99 99 99 99 99 99' # for 4cpu E450 1760WH
export RDB_UNBALANCED_CPUBIND

RDBFOPENMAX2=30
export RDBFOPENMAX2

RDBBUFPATH=/rdbptc/tpcc80/tpcc/b-onsrc/rdbcwbuf.wk
export RDBBUFPATH

### mks Fri Sep 24 23:25:57 PDT 1999
### try it
###mks-oza-Fri Sep 24 18:36:54 PDT 1999
RDB_LOCAL_LP_ADDR=0x3000000
export RDB_LOCAL_LP_ADDR
#RDB_LOCAL_LP_SIZE=576
RDB_LOCAL_LP_SIZE=384 #400 #464  #  =480 is NG  at 991023
export RDB_LOCAL_LP_SIZE

#RDB_LOCAL_LP_ADDR2=0x27000000  #991010
RDB_LOCAL_LP_ADDR2=0x1c000000 #0x1d000000  #0x21000000  #991010.2
export RDB_LOCAL_LP_ADDR2

#RDB_LOCAL_LP_SIZE2=404     #980614
RDB_LOCAL_LP_SIZE2=352  #336 #352 #400     #991001 mks
export RDB_LOCAL_LP_SIZE2

#RDBINFKB=1
#export RDBINFKB

date; rdbstart

rdbcrbufcw cw_env.comp

date

csh sh.crbuf.mk
sh sh.crbuf
```

```
timex rdbcrbf -f crbuf.aa  2>crbf.wk.out1
grep -v qdg02630 crbf.wk.out1

sh conbf.sh

date
sar -r 1 1
swap -s


#for ITEM read
RDBMSG=E
export RDBMSG
setenv  SQLRTENV  sql.env;  export  SQLRTENV
tra.wup  0  0  #wupi.sh #ITEM READ

sar -r 1 1
swap -s

crbfadd.sh
date

cwenvchk

echo “RDBSTART env” > res.doc/RDBSTART.env
env >> res.doc/RDBSTART.env
cwenvchk >>res.doc/RDBSTART.env
crbfadd.sh >>res.doc/RDBSTART.env


rdbpid
if [ $? != 0 ]
then
  rm -f /tmp/ipcrm.csh
  echo “ipcrm_s “ > /tmp/ipcrm.csh
  ipcs | grep dba | awk ‘{ printf “-%s %s “,$1,$2 }’ >> /tmp/ipcrm.csh
  echo “\n”  >> /tmp/ipcrm.csh
  chmod a+x /tmp/ipcrm.csh
  /tmp/ipcrm.csh
else
  rdblog -V -a
fi
::::::::::::::
tra.wup.c
::::::::::::::

/* Function: READ ITEM TABLE. */

EXEC SQL BEGIN DECLARE SECTION;
char       SQLSTATE[6];
int i_c;
short w_id;
short we_id;
short d_id;
int   o_id;
int item_s;
int item_e;
EXEC SQL END DECLARE SECTION;

main( int argc, char *argv[] ){
   int i, j;
   int ws=1,we=80;
   char sqlnormal[6] = “00000”;
   if( argc == 3 ){
      ws = atoi( argv[1]);
      we = atoi( argv[2]);
   }
   system(“date”);

   if( ws == 0 ){
      if( we != 0 ){
         printf(“WUPI:@@ use 25 second\n”);
         item_s = we * 10000 - 10000 + 1 ;
         item_e = we * 10000;
         printf(“for   I_ID=%d`%d\n”,item_s,item_e);
         EXEC SQL SELECT COUNT(*) INTO :i_c  FROM TPCC_SCHEMA.ITEM
               WHERE  I_ID > :item_s AND I_ID < :item_e;
      } else {
         printf(“WUPI:@@ use 90 second\n”);
         EXEC SQL SELECT COUNT(*) INTO :i_c  FROM TPCC_SCHEMA.ITEM;
      }
      EXEC SQL COMMIT WORK ;
      exit(0);
   }
}
::::::::::::::
sqlenv.tcp
::::::::::::::
SERVER_SPEC = ( RDB2_TCP, SV1 ,TPCC , slice, 2001 )
DEFAULT_CONNECTION = ( SV1,TPCC,TPCC )
TRAN_SPEC = ( TRANSACTION_ROLLBACK )
DESCRIPTOR_SPEC = ( 30,1 )
;BUFFER_SIZE = ( 16 )
WAIT_TIME = ( 0 )
NCHAR_CODE = ( EUC )
OPL_BUFFER_SIZE = ( 280 )
;;;CHARACTER_TRANSLATE = CLIENT
CHAR_CODE = EUC
RESULT_BUFFER = ( 4,1 )
;SQL_SNAP = (ON,/risu02/tpcc.tcp.snap.970206,2 )
;MSG_PRINT = ( ON )
DSO_LOCK = (TPCC.ORDERLINE_DSO/EX,TPCC.HISTORY_DSO/EX,TPCC.CUSTOMER_IX_DSO/SH,
        TPCC.ITEM_DSO/SH,TPCC.NEWORDER_DSO/EX,TPCC.ORDERS_DSO/EX,
         TPCC.NEWORDER_IX_DSO/EX,TPCC.ORDERS_IX_DSO/EX)
;DSO_LOCK = ( TPCC.CUSTOMER_IX_DSO/SH,TPCC.ITEM_DSO/SH )
SIGNAL_INF = NO
SORT_MEM_SIZE = 128
WORK_MEM_SIZE = 64
```

Tuxedo Configuration values

```
#
#       ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c1        # machine on which master copy is found
UID             30        # user id as displayed by command “id”
GID             5433      # group id as displayed by command “id”
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE      16       # maximum buffer types
#MAXBUFSTYPE     32       # maximum buffer subtypes
SCANUNIT        30        # scan program wake-up time in secs.
SANITYSCAN      5         # sanity scan wake-up
DBBLWAIT        1         # scanunit multiplier for DBBL max time wait
BBLQUERY        60        # check out wake-up time
BLOCKTIME       10        # blocking call time-out
NOTIFY          DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL         SIGUSR2


*MACHINES
“c1”       LMID=”c1”
           TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c1”
           ROOTDIR=”/export/home/tuxedo”
           APPDIR=”/export/home/dbbench/tuxedo”
           ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc1”
           ENVFILE=”/export/home/dbbench/tuxedo/c1.env”

*GROUPS
“group1”        LMID=”c1” GRPNO=1
“group2”        LMID=”c1” GRPNO=2
“group3”        LMID=”c1” GRPNO=3
“group4”        LMID=”c1” GRPNO=4
“group5”        LMID=”c1” GRPNO=5
“group6”        LMID=”c1” GRPNO=6
“group7”        LMID=”c1” GRPNO=7
“group8”        LMID=”c1” GRPNO=8
“group9”        LMID=”c1” GRPNO=9
“group10”       LMID=”c1” GRPNO=10
“group11”       LMID=”c1” GRPNO=11
“group12”       LMID=”c1” GRPNO=12

*SERVERS
```

```
DEFAULT:       RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group12 RQADDR=TPCCq12 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group5
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group6
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group7
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group8
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group9
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group10
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group11
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group12


*ROUTING
“route1”      FIELD=FML_TERM
              BUFTYPE=”FML”
        RANGES=”1-22:group1,23-44:group2,45-66:group3,67-88:group4,89-110:group5,111-132:group6,133-
154:group7,155-176:group8,177-198:group9,199-220:group10,221-242:group11,243-264:group12,*:*”

#
#       ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c2        # machine on which master copy is found
UID             30        # user id as displayed by command “id”
GID             5433      # group id as displayed by command “id”
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE     16        # maximum buffer types
```

```
#MAXBUFSTYPE     32       # maximum buffer subtypes
SCANUNIT        30       # scan program wake-up time in secs.
SANITYSCAN       5        # sanity scan wake-up
DBBLWAIT         1        # scanunit multiplier for DBBL max time wait
BBLQUERY        60       # check out wake-up time
BLOCKTIME       10       # blocking call time-out
NOTIFY          DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL         SIGUSR2


*MACHINES
“c2”        LMID=”c2”
            TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c2”
            ROOTDIR=”/export/home/tuxedo”
            APPDIR=”/export/home/dbbench/tuxedo”
            ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc2”
            ENVFILE=”/export/home/dbbench/tuxedo/c2.env”

*GROUPS
“group1”        LMID=”c2” GRPNO=1
“group2”        LMID=”c2” GRPNO=2
“group3”        LMID=”c2” GRPNO=3
“group4”        LMID=”c2” GRPNO=4
“group5”        LMID=”c2” GRPNO=5
“group6”        LMID=”c2” GRPNO=6
“group7”        LMID=”c2” GRPNO=7
“group8”        LMID=”c2” GRPNO=8
“group9”        LMID=”c2” GRPNO=9
“group10”       LMID=”c2” GRPNO=10
“group11”       LMID=”c2” GRPNO=11
“group12”       LMID=”c2” GRPNO=12

*SERVERS
DEFAULT:        RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group12 RQADDR=TPCCq12 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group5
```

```
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group6
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group7
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group8
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group9
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group10
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group11
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group12


*ROUTING
"route1"        FIELD=FML_TERM
                BUFTYPE="FML"
        RANGES="265-286:group1,287-308:group2,309-330:group3,331-352:group4,353-374:group5,375-396:group6,397-
418:group7,419-440:group8,441-462:group9,463-484:group10,485-506:group11,507-528:group12,*:*"


#
#       ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c3        # machine on which master copy is found
UID             30        # user id as displayed by command "id"
GID             5433      # group id as displayed by command "id"
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE     16        # maximum buffer types
#MAXBUFSTYPE    32        # maximum buffer subtypes
SCANUNIT        30        # scan program wake-up time in secs.
SANITYSCAN      5         # sanity scan wake-up
DBBLWAIT        1         # scanunit multiplier for DBBL max time wait
BBLQUERY        60        # check out wake-up time
BLOCKTIME       10        # blocking call time-out
NOTIFY          DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL         SIGUSR2


*MACHINES
"c3"        LMID="c3"
            TUXCONFIG="/export/home/dbbench/tuxedo/tuxconfig.c3"
            ROOTDIR="/export/home/tuxedo"
            APPDIR="/export/home/dbbench/tuxedo"
            ULOGPFX="/export/home/dbbench/tuxedo/ULOGc3"
            ENVFILE="/export/home/dbbench/tuxedo/c3.env"

*GROUPS
"group1"        LMID="c3" GRPNO=1
```

```
“group2”        LMID=”c3” GRPNO=2
“group3”        LMID=”c3” GRPNO=3
“group4”        LMID=”c3” GRPNO=4
“group5”        LMID=”c3” GRPNO=5
“group6”        LMID=”c3” GRPNO=6
“group7”        LMID=”c3” GRPNO=7
“group8”        LMID=”c3” GRPNO=8
“group9”        LMID=”c3” GRPNO=9
“group10”       LMID=”c3” GRPNO=10
“group11”       LMID=”c3” GRPNO=11
“group12”       LMID=”c3” GRPNO=12

*SERVERS
DEFAULT:        RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group12 RQADDR=TPCCq12 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group5
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group6
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group7
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group8
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group9
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group10
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group11
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group12


*ROUTING
“route1”        FIELD=FML_TERM
                BUFTYPE=”FML”
        RANGES=”529-550:group1,551-572:group2,573-594:group3,595-616:group4,617-638:group5,639-660:group6,661-
682:group7,683-704:group8,705-726:group9,727-748:group10,749-770:group11,771-792:group12,*:*”



#
#       ubbconfig : TUXEDO configuration file
#
```

```
*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c4        # machine on which master copy is found
UID             30        # user id as displayed by command “id”
GID             5433      # group id as displayed by command “id”
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE     16        # maximum buffer types
#MAXBUFSTYPE    32        # maximum buffer subtypes
SCANUNIT        30        # scan program wake-up time in secs.
SANITYSCAN      5         # sanity scan wake-up
DBBLWAIT        1         # scanunit multiplier for DBBL max time wait
BBLQUERY        60        # check out wake-up time
BLOCKTIME       10        # blocking call time-out
NOTIFY          DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL         SIGUSR2


*MACHINES
“c4”    LMID=”c4”
        TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c4”
        ROOTDIR=”/export/home/tuxedo”
        APPDIR=”/export/home/dbbench/tuxedo”
        ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc4”
        ENVFILE=”/export/home/dbbench/tuxedo/c4.env”

*GROUPS
“group1”        LMID=”c4” GRPNO=1
“group2”        LMID=”c4” GRPNO=2
“group3”        LMID=”c4” GRPNO=3
“group4”        LMID=”c4” GRPNO=4
“group5”        LMID=”c4” GRPNO=5
“group6”        LMID=”c4” GRPNO=6
“group7”        LMID=”c4” GRPNO=7
“group8”        LMID=”c4” GRPNO=8
“group9”        LMID=”c4” GRPNO=9
“group10”       LMID=”c4” GRPNO=10
“group11”       LMID=”c4” GRPNO=11

*SERVERS
DEFAULT:        RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group5
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group6
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group7
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group8
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group9
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group10
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group11


*ROUTING
“route1”       FIELD=FML_TERM
          BUFTYPE=”FML”
     RANGES=”793-814:group1,815-836:group2,837-858:group3,859-880:group4,881-902:group5,903-924:group6,925-
946:group7,947-968:group8,969-990:group9,991-1012:group10,1013-1034:group11,*:*”

#
#      ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY         40001     # IPC KEY from 32,768 to 16,777,215
MASTER         c5       # machine on which master copy is found
UID            30       # user id as displayed by command “id”
GID            5433     # group id as displayed by command “id”
PERM           0666     # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS   3700     # max no of processes accesing bulleting board
MAXGTT         1000     # maximum simultaneous global transactions
MAXSERVERS     200      # maximum number of servers
MAXSERVICES    3100     # 991022 to big OK?.old=200 #maximum number of services
MAXCONV        1
MODEL          SHM      # SHM=single processor, MP=multi processor
LDBAL          N        # load balancing, Y=yes, N=no
CMTRET         COMPLETE
#MAXBUFTYPE    16       # maximum buffer types
#MAXBUFSTYPE   32       # maximum buffer subtypes
SCANUNIT       30       # scan program wake-up time in secs.
SANITYSCAN     5        # sanity scan wake-up
DBBLWAIT       1        # scanunit multiplier for DBBL max time wait
BBLQUERY       60       # check out wake-up time
BLOCKTIME      10       # blocking call time-out
NOTIFY         DIPIN
SYSTEM_ACCESS  FASTPATH
USIGNAL        SIGUSR2
```

```
*MACHINES
“c5”        LMID=”c5”
            TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c5”
            ROOTDIR=”/export/home/tuxedo”
            APPDIR=”/export/home/dbbench/tuxedo”
            ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc5”
            ENVFILE=”/export/home/dbbench/tuxedo/c5.env”

*GROUPS
“group1”        LMID=”c5” GRPNO=1
“group2”        LMID=”c5” GRPNO=2
“group3”        LMID=”c5” GRPNO=3
“group4”        LMID=”c5” GRPNO=4
“group5”        LMID=”c5” GRPNO=5
“group6”        LMID=”c5” GRPNO=6
“group7”        LMID=”c5” GRPNO=7
“group8”        LMID=”c5” GRPNO=8
“group9”        LMID=”c5” GRPNO=9
“group10”       LMID=”c5” GRPNO=10
“group11”       LMID=”c5” GRPNO=11

*SERVERS
DEFAULT:        RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group5
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group6
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group7
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group8
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group9
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group10
“TPCC”  TRANTIME=0     ROUTING=”route1” SRVGRP=group11


*ROUTING
“route1”        FIELD=FML_TERM
            BUFTYPE=”FML”
```

```
    RANGES=”1035-1056:group1,1057-1078:group2,1079-1100:group3,1101-1122:group4,1123-1144:group5,1145-
1166:group6,1167-1188:group7,1189-1210:group8,1211-1232:group9,1233-1254:group10,1255-1276:group11,*:*”

#
#     ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c6        # machine on which master copy is found
UID             30        # user id as displayed by command “id”
GID             5433      # group id as displayed by command “id”
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE     16        # maximum buffer types
#MAXBUFSTYPE    32        # maximum buffer subtypes
SCANUNIT        30        # scan program wake-up time in secs.
SANITYSCAN      5         # sanity scan wake-up
DBBLWAIT        1         # scanunit multiplier for DBBL max time wait
BBLQUERY        60        # check out wake-up time
BLOCKTIME       10        # blocking call time-out
NOTIFY          DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL         SIGUSR2


*MACHINES
“c6”      LMID=”c6”
          TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c6”
          ROOTDIR=”/export/home/tuxedo”
          APPDIR=”/export/home/dbbench/tuxedo”
          ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc6”
          ENVFILE=”/export/home/dbbench/tuxedo/c6.env”

*GROUPS
“group1”        LMID=”c6” GRPNO=1
“group2”        LMID=”c6” GRPNO=2
“group3”        LMID=”c6” GRPNO=3
“group4”        LMID=”c6” GRPNO=4
“group5”        LMID=”c6” GRPNO=5
“group6”        LMID=”c6” GRPNO=6
“group7”        LMID=”c6” GRPNO=7
“group8”        LMID=”c6” GRPNO=8
“group9”        LMID=”c6” GRPNO=9
“group10”       LMID=”c6” GRPNO=10
“group11”       LMID=”c6” GRPNO=11

*SERVERS
DEFAULT:        RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
```

```
TPCC    SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT="-s TPCC:TPCC"
TPCC    SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT="-s TPCC:TPCC"

# *NETWORK

*SERVICES
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group1
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group2
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group3
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group4
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group5
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group6
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group7
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group8
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group9
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group10
"TPCC"  TRANTIME=0     ROUTING="route1" SRVGRP=group11


*ROUTING
"route1"        FIELD=FML_TERM
           BUFTYPE="FML"
     RANGES="1277-1298:group1,1299-1320:group2,1321-1342:group3,1343-1364:group4,1365-1386:group5,1387-
1408:group6,1409-1430:group7,1431-1452:group8,1453-1474:group9,1475-1496:group10,1497-1518:group11,*:*"
#
#       ubbconfig : TUXEDO configuration file
#

*RESOURCES
IPCKEY          40001     # IPC KEY from 32,768 to 16,777,215
MASTER          c7        # machine on which master copy is found
UID             30        # user id as displayed by command "id"
GID             5433      # group id as displayed by command "id"
PERM            0666      # UNIX permission from 0001 to 0777 in octal
MAXACCESSERS    3700      # max no of processes accesing bulleting board
MAXGTT          1000      # maximum simultaneous global transactions
MAXSERVERS      200       # maximum number of servers
MAXSERVICES     3100      # 991022 to big OK?.old=200 #maximum number of services
MAXCONV         1
MODEL           SHM       # SHM=single processor, MP=multi processor
LDBAL           N         # load balancing, Y=yes, N=no
CMTRET          COMPLETE
#MAXBUFTYPE     16        # maximum buffer types
#MAXBUFSTYPE    32        # maximum buffer subtypes
SCANUNIT        30        # scan program wake-up time in secs.
SANITYSCAN      5         # sanity scan wake-up
DBBLWAIT        1         # scanunit multiplier for DBBL max time wait
```

```
BBLQUERY      60      # check out wake-up time
BLOCKTIME     10      # blocking call time-out
NOTIFY        DIPIN
SYSTEM_ACCESS   FASTPATH
USIGNAL       SIGUSR2


*MACHINES
“c7”     LMID=”c7”
         TUXCONFIG=”/export/home/dbbench/tuxedo/tuxconfig.c7”
         ROOTDIR=”/export/home/tuxedo”
         APPDIR=”/export/home/dbbench/tuxedo”
         ULOGPFX=”/export/home/dbbench/tuxedo/ULOGc7”
         ENVFILE=”/export/home/dbbench/tuxedo/c7.env”

*GROUPS
“group1”      LMID=”c7” GRPNO=1
“group2”      LMID=”c7” GRPNO=2
“group3”      LMID=”c7” GRPNO=3
“group4”      LMID=”c7” GRPNO=4
“group5”      LMID=”c7” GRPNO=5
“group6”      LMID=”c7” GRPNO=6
“group7”      LMID=”c7” GRPNO=7
“group8”      LMID=”c7” GRPNO=8
“group9”      LMID=”c7” GRPNO=9
“group10”      LMID=”c7” GRPNO=10
“group11”      LMID=”c7” GRPNO=11

*SERVERS
DEFAULT:      RESTART=Y MAXGEN=5 REPLYQ=N RQPERM=0660
TPCC   SRVGRP=group1 RQADDR=TPCCq1 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group2 RQADDR=TPCCq2 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group3 RQADDR=TPCCq3 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group4 RQADDR=TPCCq4 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group5 RQADDR=TPCCq5 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group6 RQADDR=TPCCq6 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group7 RQADDR=TPCCq7 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group8 RQADDR=TPCCq8 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group9 RQADDR=TPCCq9 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group10 RQADDR=TPCCq10 SRVID=1 CLOPT=”-s TPCC:TPCC”
TPCC   SRVGRP=group11 RQADDR=TPCCq11 SRVID=1 CLOPT=”-s TPCC:TPCC”

# *NETWORK

*SERVICES
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group1
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group2
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group3
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group4
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group5
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group6
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group7
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group8
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group9
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group10
“TPCC”  TRANTIME=0    ROUTING=”route1” SRVGRP=group11
```

```
*ROUTING
"route1"        FIELD=FML_TERM
                BUFTYPE="FML"
        RANGES="1519-1540:group1,1541-1562:group2,1563-1584:group3,1585-1606:group4,1607-1628:group5,1629-1650:group6,1651-1672:group7,1673-1694:group8,1695-1716:group9,1717-1738:group10,1739-1760:group11,*:*"
```

Compilation Flags

These are the compilation flags used to compile the application code:

```
-O -lc -w -lintl

-O -lc -l./libOLINSERT.so -l/usr/lib/libc.so -l/usr/lib/libdl.so -l/opt/FCOBOL/lib -fast -xO4 -xspace -xarch=v8a -xchip=ultra
```

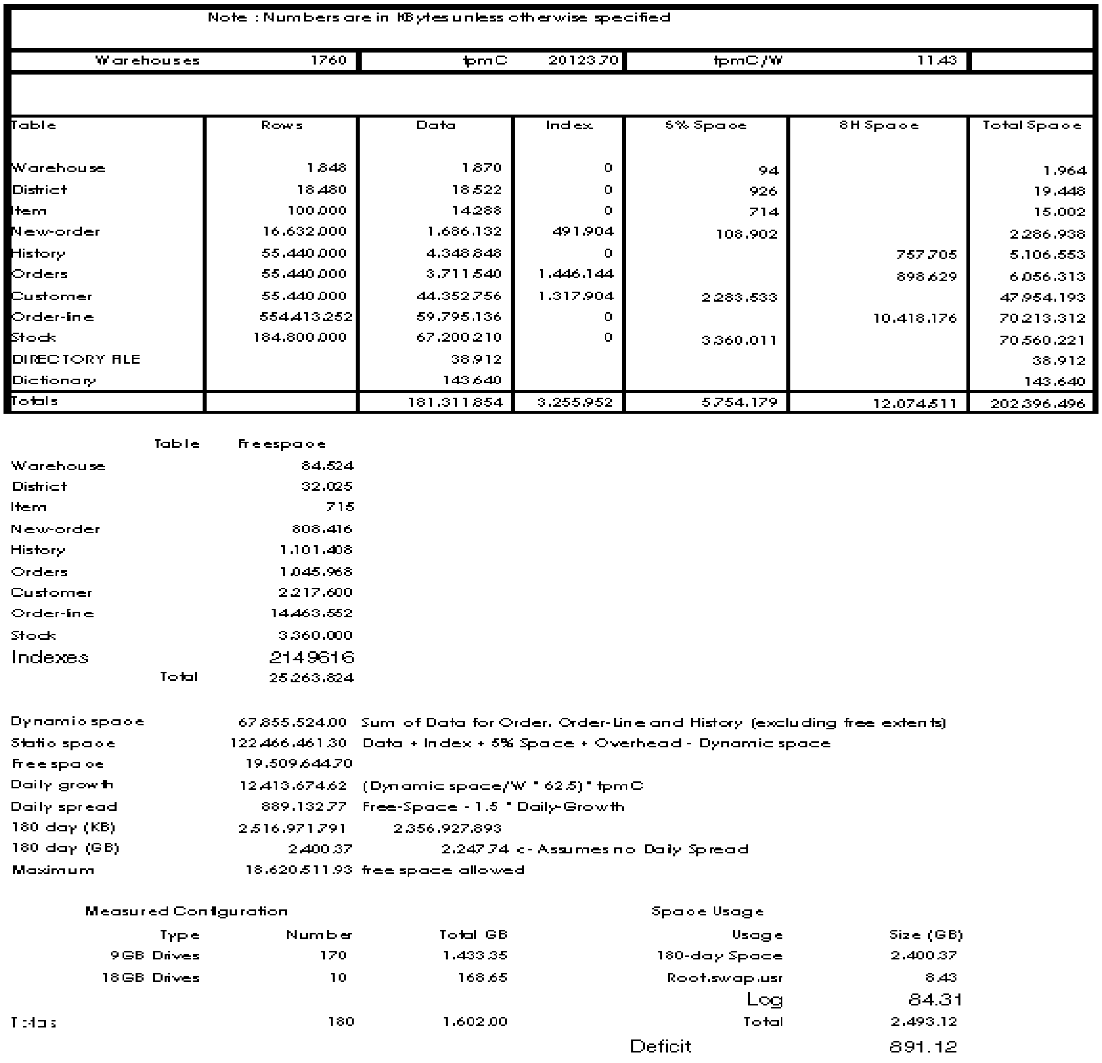
Appendix D: Disk Storage D

The calculations used to determine the storage requirements for the 8 hour logical log and the 180-day space calculations are contained in this appendix.

The calculations for the 8 hour recovery log was determined as follows :

The number of logpages used during the measurement run was determined by using the Sybase stored procedure *sp_helpdb* tpcc before and after the run. We found the amount of log space used by the DBMS during the benchmark run. This was 15801328 KB. The amount of log disk used per transaction was 15801328/4114487 = 3.84 KB. Therefore we need 50268.07*60*8*3.84*1KB = 88.36 GB

We allocated 48 * 9GB disks for the logs and the same for the mirrors.



Note : Numbers are in KBytes unless otherwise specified

Warehouses	1760	tpmC	20123.70	tpmC/W	11.43	

Table	Rows	Data	Index	5% Space	8H Space	Total Space
Warehouse	1,848	1,870	0	94		1,964
District	18,480	18,522	0	926		19,448
Item	100,000	14,288	0	714		15,002
New-order	16,632,000	1,686,132	491,904	108,902		2,286,938
History	55,440,000	4,348,848	0		757,705	5,106,553
Orders	55,440,000	3,711,540	1,446,144		898,629	6,056,313
Customer	55,440,000	44,352,756	1,317,904	2,283,533		47,954,193
Order-line	554,413,252	59,795,136	0		10,418,176	70,213,312
Stock	184,800,000	67,200,210	0	3,360,011		70,560,221
DIRECTORY FILE		38,912				38,912
Dictionary		143,640				143,640
Totals		181,311,854	3,255,952	5,754,179	12,074,511	202,396,496

	Table	Freespace
Warehouse		84,524
District		32,025
Item		715
New-order		808,416
History		1,101,408
Orders		1,045,968
Customer		2,217,600
Order-line		14,463,552
Stock		3,360,000
Indexes		2149616
	Total	25,263,824

Dynamic space	67,855,524.00	Sum of Data for Order, Order-Line and History (excluding free extents)
Static space	122,466,461.30	Data + Index + 5% Space + Overhead - Dynamic space
Free space	19,509,644.70	
Daily growth	12,413,674.62	(Dynamic space/W * 62.5) * tpmC
Daily spread	889,132.77	Free-Space - 1.5 * Daily-Growth
180 day (KB)	2,516,971,791	2,356,927,893
180 day (GB)	2,400.37	2,247.74 <- Assumes no Daily Spread
Maximum	18,620,511.93	free space allowed

Measured Configuration			Space Usage	
Type	Number	Total GB	Usage	Size (GB)
9GB Drives	170	1,433.35	180-day Space	2,400.37
18GB Drives	10	168.65	Root,swap,usr	8.43
			Log	84.31
Totals	180	1,602.00	Total	2,493.12
			Deficit	891.12

Appendix E: Driver Scripts

The following code sections show how the transactions are generated and how statistics are gathered. Each of the transaction functions generates the input data for that transaction, sends it to the client, reads the output form and computes keying, response and think time statistics.

This is the main loop of the RTE:

```
/* run for ramp up without capturing the stats */
        i=0;
        in_ramp = 1;
        while (1)
        {
                tx_type = do_menu(); /* Select transaction */
                switch (tx_type) {
                case NEWORDER:
                        do_neworder();
                        break;
                case PAYMENT:
                        do_payment();
                        break;
                case DELIVERY:
                        do_delivery();
                        break;
                case ORDSTAT:
                        do_ordstat();
                        break;
                case STOCKLEVEL:
                        do_stocklevel();
                        break;
                default:
                        fprintf(stderr, "%s: Slave %d: Internal error. Tx-type = %d\n",
                        hostname, slave_num, tx_type);
                        cleanup(-1);
                }
                end_time = gettime();
        if ( end_time >= control->end_rampup &&
                end_time < control->end_stdystate )
                in_ramp = 0;
        else
            in_ramp = 1;
        if (end_time >= control->end_rampdown)
            break;
    }
```

The do_menu function selects the transaction to execute based on the weighted distribution algorithm.

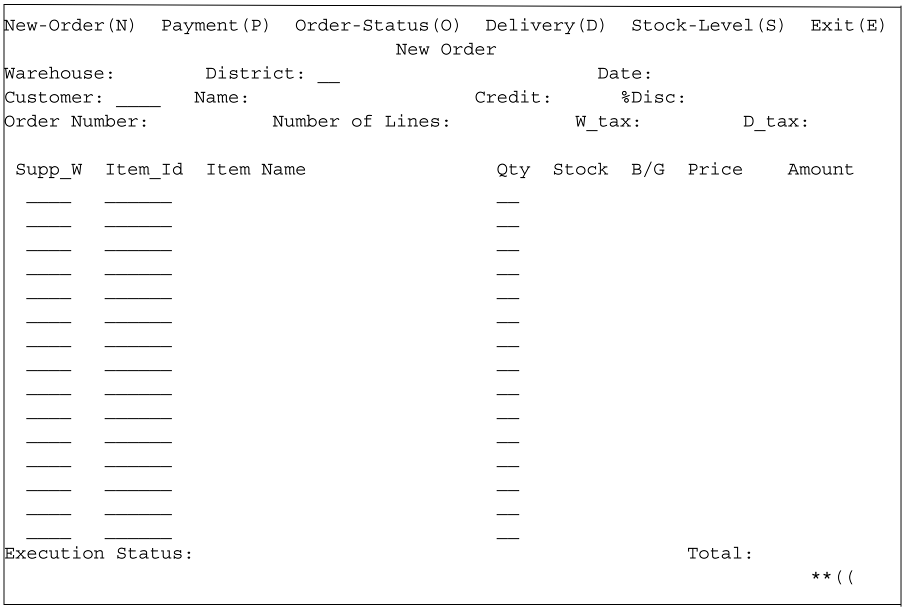
```
int
do_menu()
{
    int val, result, menu_start, menu_end, menu_resp;
    char ch;
    /* Read menu line from client */
    /* Choose tx. type*/
    /* Now select menu and compute menu response time */
    menu_start = gettime();
    /* Write menu selection to client */
    /* Read input form for this transaction type */
    menu_end = gettime();
    menu_resp = menu_end - menu_start;
    if ( ! in_ramp) {
        statsp->menu_resp += menu_resp;
        /* Post in histogram bucket */
        if ((menu_resp / MENU_BUCKET) < MENU_MAX)
            statsp->menu_hist[menu_resp / MENU_BUCKET]++;
        else
            statsp->menu_hist[MENU_MAX - 1]++;
        if (menu_resp > statsp->menu_max)
            statsp->menu_max = menu_resp;
    }
    return(result);
}
/*
 * Function: do_neworder
 * This function executes the neworder transaction
 * It generates all the input fields, sends it to the
 * client over the keying time, measures the response
 * time, reads the results and delays for the think time.
 */
 /* The code for the other transactions is similar */
do_neworder()
{
    struct newo_fld no;
    struct items_fld *itemp = no.items;
    int ol_cnt, rbk, remote = 0, i, x;
    char *bufp = fldbuf;
    int start_time, end_time, key_time, resp_time, elapse_time, del;
    start_time = gettime();
    /* Now wait for keying time */
    poll (0, 0, NEWO_KEY);
    /* Generate all input data */
    no.d_id = random(1, 10);
    no.c_id = NURand(1023, 1, 3000, CONST_CID);
```

```
ol_cnt = random(5, 15);
rbk = random(1, 100);/* trans. to be rolledback */
sprintf(bufp, "%02d%04d", no.d_id, no.c_id);
bufp += strlen(bufp);
/* Generate all the item fields */
for (i=0; i < ol_cnt; i++, itemp++) {
    itemp->ol_i_id = NURand(8191, 1, 100000, CONST_IID);
    /* If last item and rbk, select unused item */
    if (i == ol_cnt - 1 && rbk == 1) {
        itemp->ol_i_id = 100001;
    }
    x = random(1, 100);
    if ( x > 1)
        itemp->ol_supply_w_id = W_ID;
    else {
        /* Select a warehouse other than w_id */
        do {
            x = random(1, control->scale);
        } while (x == W_ID);
        itemp->ol_supply_w_id = x;
        remote++;
    }
    itemp->ol_quantity = random(1, 10);
    sprintf(bufp, "%04d%06d%02d",itemp->ol_supply_w_id,
    itemp->ol_i_id, itemp->ol_quantity);
    bufp += strlen(bufp);
}
strcpy(bufp, leave_key);
bufp += 2;
/* Compute keying time info */
end_time = gettime();
key_time = end_time - start_time;
start_time = end_time;

/* Now send fields to client */
/* Read output screen from client */
end_time = gettime();
/* Store elapse time info for thruput */
elapse_time = end_time - control->start_time;
/* compute the how long it took to run the tx */
resp_time = end_time - start_time + control->newo_delta;
/* Wait think time */
del = delay(control->newo_think, 5*control->newo_think);
poll(0, 0, del + control->newo_delta);
end_time = gettime();
/* Now post all stats */
if ( ! in_ramp && end_time <= control->end_stdystate) {
    statsp->newo_cnt++; /* another one bytes the dust */
    if ( rbk == 1 )
        statsp->newo_rbkcnt++;
    statsp->newo_remote += remote;
    statsp->newo_olcnt += ol_cnt;
    statsp->newo_key += key_time;
    /* Save keying time in histogram bucket */
    statsp->newo_resp += (double) resp_time;/* sum up the response time */
    /* Save response time in histogram bucket */
```

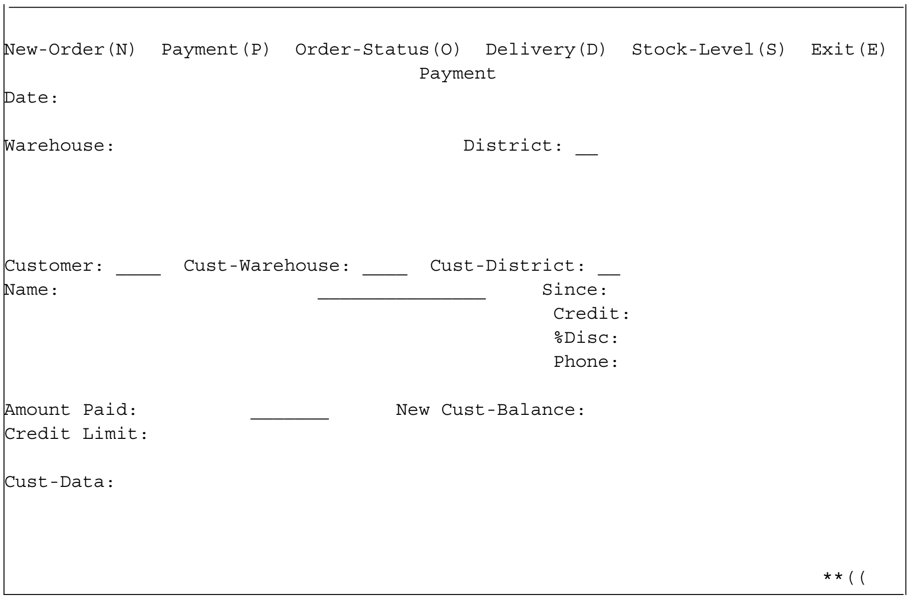
```
                    statsp->newo_think += (double) del;
                    /* Save think time in histogram bucket */
          }
}
```

Appendix F: Screen Layouts

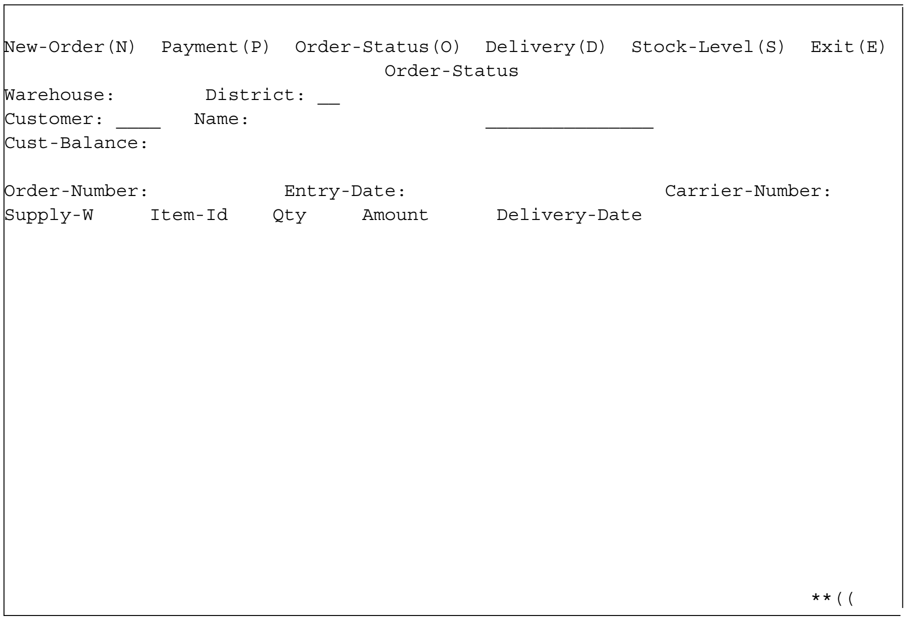
This Appendix contains the screen form layouts for the 5 transactions.



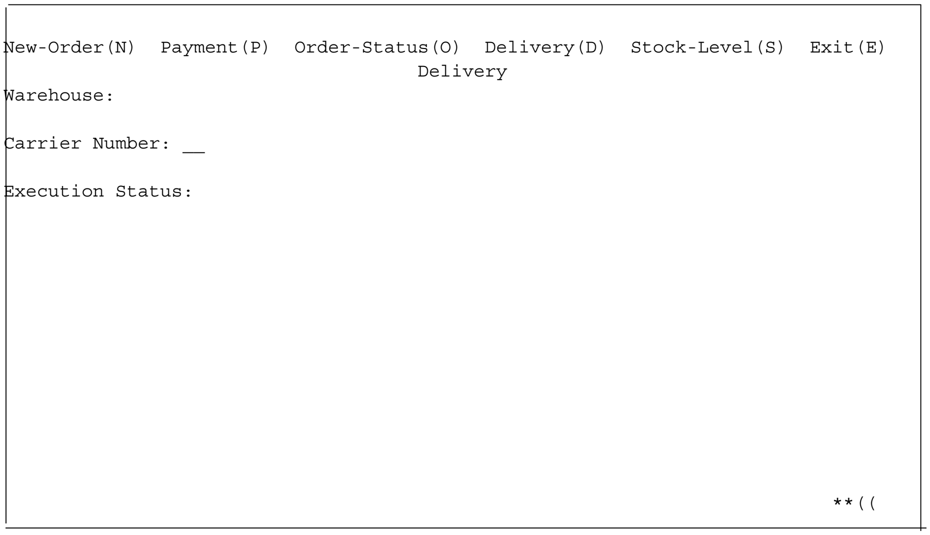
```
New-Order(N)  Payment(P)  Order-Status(O)  Delivery(D)  Stock-Level(S)  Exit(E)
                                   New Order
Warehouse:        District: __                       Date:
Customer: ____   Name:                    Credit:      %Disc:
Order Number:           Number of Lines:           W_tax:         D_tax:

 Supp_W  Item_Id  Item Name                 Qty  Stock  B/G  Price    Amount
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
  ____   ______                             __
Execution Status:                                            Total:
                                                                        **((
```



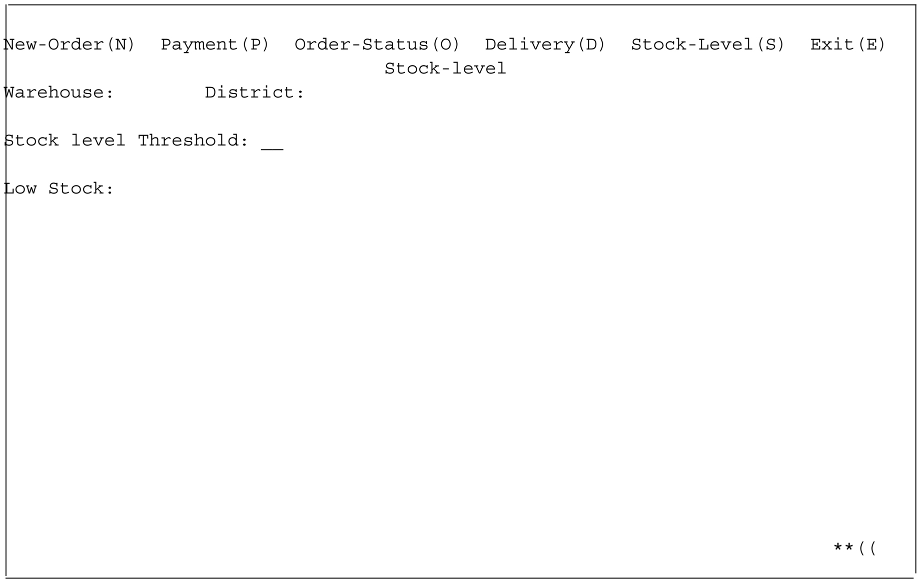
```
New-Order(N)  Payment(P)  Order-Status(O)  Delivery(D)  Stock-Level(S)  Exit(E)
                                     Payment
Date:

Warehouse:                              District: __




Customer: ____  Cust-Warehouse: ____  Cust-District: __
Name:                       _______________      Since:
                                                  Credit:
                                                  %Disc:
                                                  Phone:

Amount Paid:          _______      New Cust-Balance:
Credit Limit:

Cust-Data:



                                                                          **((
```



```
New-Order(N)  Payment(P)  Order-Status(O)  Delivery(D)  Stock-Level(S)  Exit(E)
                                  Order-Status
Warehouse:        District: __
Customer: ____    Name:                     _______________
Cust-Balance:

Order-Number:            Entry-Date:                       Carrier-Number:
Supply-W     Item-Id    Qty     Amount      Delivery-Date
















                                                                         **((
```



```
New-Order(N)   Payment(P)   Order-Status(O)   Delivery(D)   Stock-Level(S)   Exit(E)
                                          Delivery
Warehouse:

Carrier Number: __

Execution Status:













                                                                                  **((
```

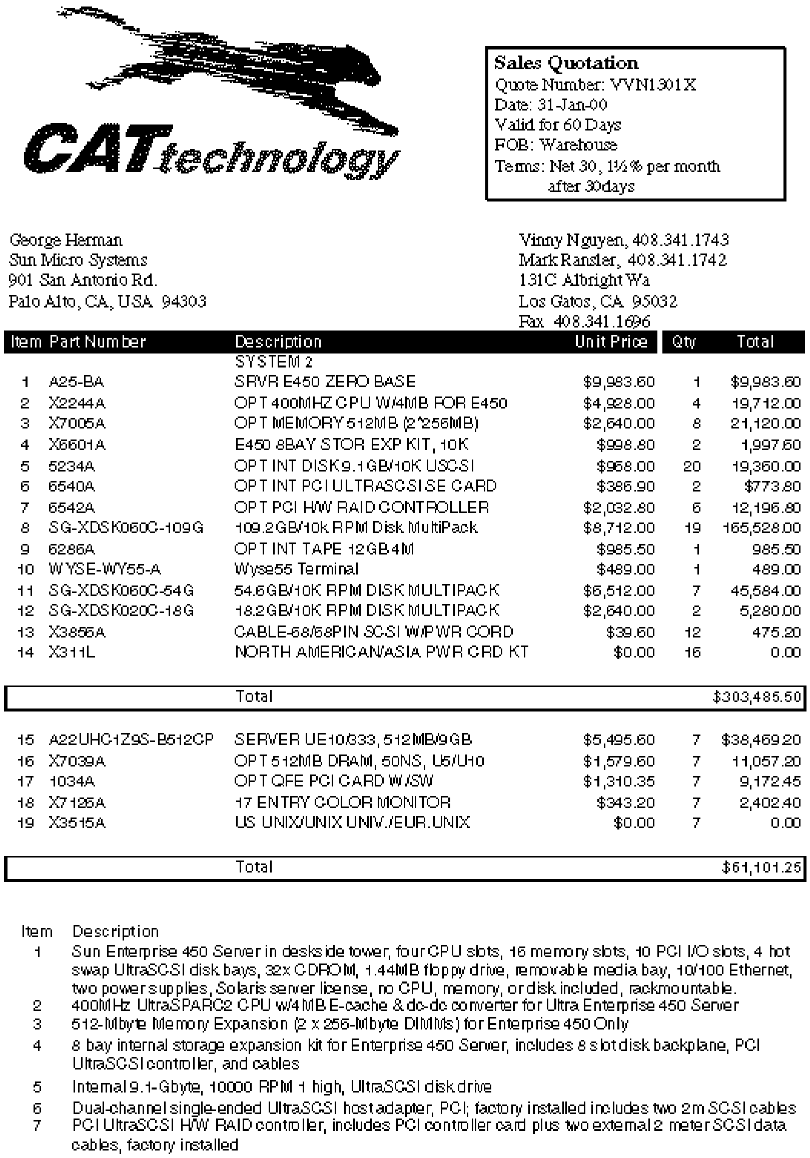


```
New-Order(N)   Payment(P)   Order-Status(O)   Delivery(D)   Stock-Level(S)   Exit(E)
                                       Stock-level
Warehouse:        District:

Stock level Threshold: __

Low Stock:















                                                                                  **((
```

Appendix G: Price Quotes

G

The following pages contain the pricing quotes for the hardware and software included in this FDR.



CATtechnology

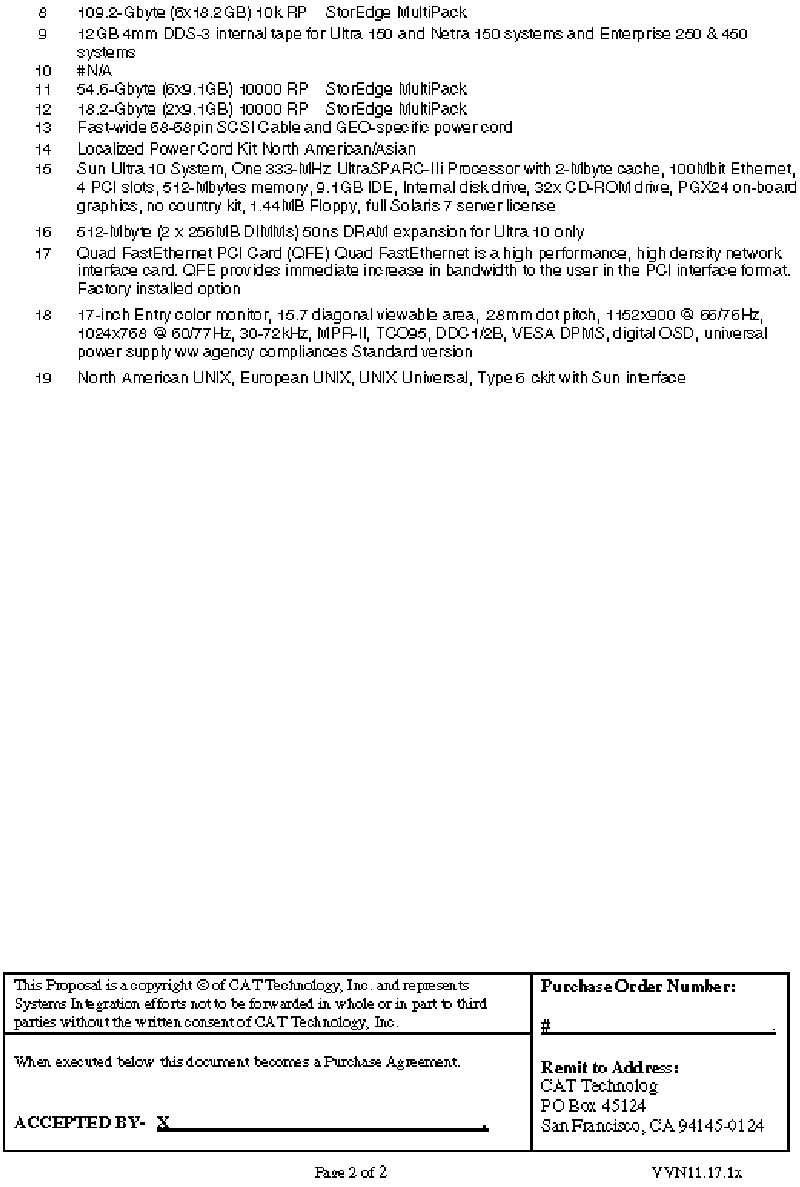
Sales Quotation
Quote Number: VVN1301X
Date: 31-Jan-00
Valid for 60 Days
FOB: Warehouse
Terms: Net 30, 1½% per month
after 30days

George Herman
Sun Micro Systems
901 San Antonio Rd.
Palo Alto, CA, USA 94303

Vinny Nguyen, 408.341.1743
Mark Ransler, 408.341.1742
131C Albright Wa
Los Gatos, CA 95032
Fax 408.341.1696

Item	Part Number	Description	Unit Price	Qty	Total
		SYSTEM 2			
1	A25-BA	SRVR E450 ZERO BASE	$9,983.60	1	$9,983.60
2	X2244A	OPT 400MHZ CPU W/4MB FOR E450	$4,928.00	4	19,712.00
3	X7005A	OPT MEMORY 512MB (2*256MB)	$2,640.00	8	21,120.00
4	X6601A	E450 8BAY STOR EXP KIT, 10K	$998.80	2	1,997.60
5	5234A	OPT INT DISK9.1GB/10K USCSI	$968.00	20	19,360.00
6	6540A	OPT INT PCI ULTRASCSI SE CARD	$386.90	2	$773.80
7	6542A	OPT PCI H/W RAID CONTROLLER	$2,032.80	6	12,196.80
8	SG-XDSK060C-109G	109.2GB/10k RPM Disk MultiPack	$8,712.00	19	165,528.00
9	6286A	OPT INT TAPE 12GB4M	$985.50	1	985.50
10	WYSE-WY55-A	Wyse55 Terminal	$489.00	1	489.00
11	SG-XDSK060C-54G	54.6GB/10K RPM DISK MULTIPACK	$6,512.00	7	45,584.00
12	SG-XDSK020C-18G	18.2GB/10K RPM DISK MULTIPACK	$2,640.00	2	5,280.00
13	X3856A	CABLE-68/68PIN SCSI W/PWR CORD	$39.60	12	475.20
14	X311L	NORTH AMERICAN/ASIA PWR CRD KT	$0.00	16	0.00
		Total			$303,485.50
15	A22UHC1Z9S-B512CP	SERVER UE10/333, 512MB/9GB	$5,495.60	7	$38,469.20
16	X7039A	OPT 512MB DRAM, 50NS, U5/U10	$1,579.60	7	11,057.20
17	1034A	OPT QFE PCI CARD W/SW	$1,310.35	7	9,172.45
18	X7126A	17 ENTRY COLOR MONITOR	$343.20	7	2,402.40
19	X3515A	US UNIX/UNIX UNIV./EUR.UNIX	$0.00	7	0.00
		Total			$61,101.25

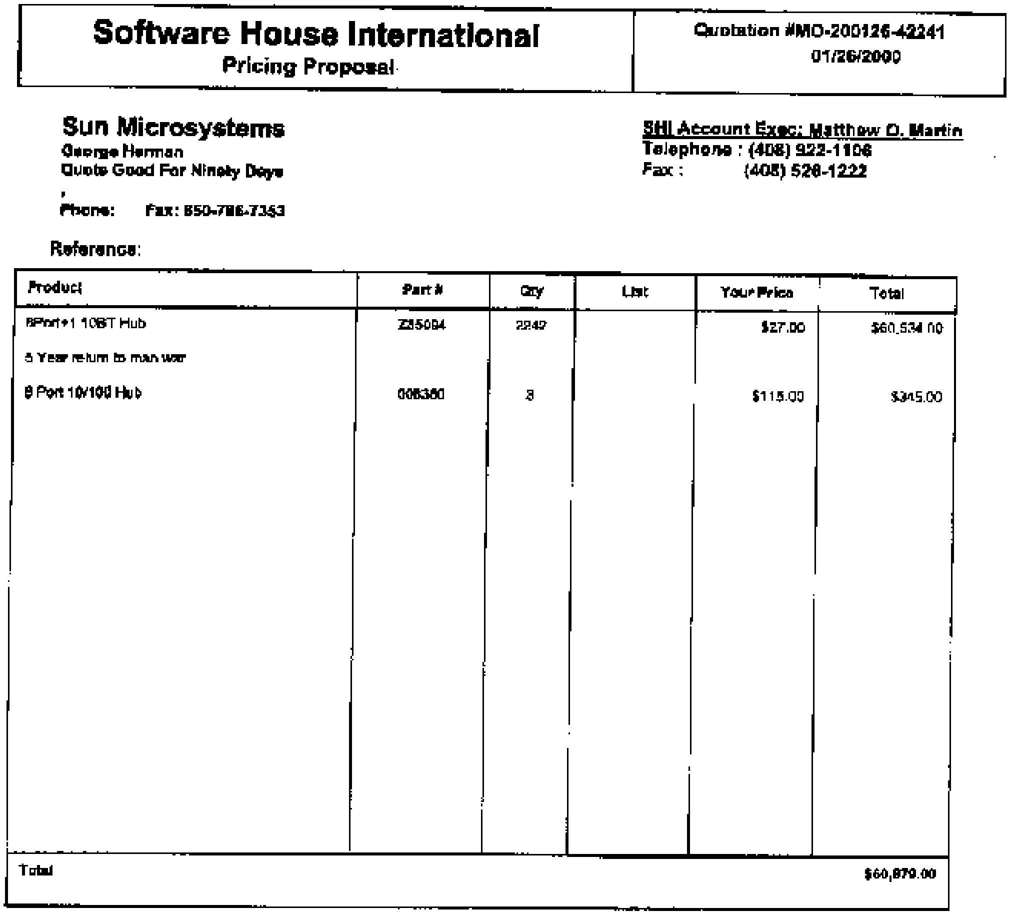
Item Description
1 Sun Enterprise 450 Server in deskside tower, four CPU slots, 16 memory slots, 10 PCI I/O slots, 4 hot swap UltraSCSI disk bays, 32x CDROM, 1.44MB floppy drive, removable media bay, 10/100 Ethernet, two power supplies, Solaris server license, no CPU, memory, or disk included, rackmountable.
2 400MHz UltraSPARC2 CPU w/4MB E-cache & dc-dc converter for Ultra Enterprise 450 Server
3 512-Mbyte Memory Expansion (2 x 256-Mbyte DIMMs) for Enterprise 450 Only
4 8 bay internal storage expansion kit for Enterprise 450 Server, includes 8 slot disk backplane, PCI UltraSCSI controller, and cables
5 Internal 9.1-Gbyte, 10000 RPM 1 high, UltraSCSI disk drive
6 Dual-channel single-ended UltraSCSI host adapter, PCI; factory installed includes two 2m SCSI cables
7 PCI UltraSCSI H/W RAID controller, includes PCI controller card plus two external 2 meter SCSI data cables, factory installed



8 109.2-Gbyte (6x18.2GB) 10k RP StorEdge MultiPack
9 12GB 4mm DDS-3 internal tape for Ultra 150 and Netra 150 systems and Enterprise 250 & 450 systems
10 #N/A
11 54.6-Gbyte (6x9.1GB) 10000 RP StorEdge MultiPack
12 18.2-Gbyte (2x9.1GB) 10000 RP StorEdge MultiPack
13 Fast-wide 68-68pin SCSI Cable and GEO-specific power cord
14 Localized Power Cord Kit North American/Asian
15 Sun Ultra 10 System, One 333-MHz UltraSPARC-IIi Processor with 2-Mbyte cache, 100Mbit Ethernet, 4 PCI slots, 512-Mbytes memory, 9.1GB IDE, Internal disk drive, 32x CD-ROM drive, PGX24 on-board graphics, no country kit, 1.44MB Floppy, full Solaris 7 server license
16 512-Mbyte (2 x 256MB DIMMs) 50ns DRAM expansion for Ultra 10 only
17 Quad FastEthernet PCI Card (QFE) Quad FastEthernet is a high performance, high density network interface card. QFE provides immediate increase in bandwidth to the user in the PCI interface format. Factory installed option
18 17-inch Entry color monitor, 15.7 diagonal viewable area, .28mm dot pitch, 1152x900 @ 66/76Hz, 1024x768 @ 60/77Hz, 30-72kHz, MPR-II, TCO95, DDC-1/2B, VESA DPMS, digital OSD, universal power supply ww agency compliances Standard version
19 North American UNIX, European UNIX, UNIX Universal, Type 6 ckit with Sun interface

This Proposal is a copyright © of CAT Technology, Inc. and represents Systems Integration efforts not to be forwarded in whole or in part to third parties without the written consent of CAT Technology, Inc.	**Purchase Order Number:** # ____________________
When executed below this document becomes a Purchase Agreement. **ACCEPTED BY-** X____________________	**Remit to Address:** CAT Technolog PO Box 45124 San Francisco, CA 94145-0124

Page 2 of 2 VVN11.17.1x



Software House International
Pricing Proposal

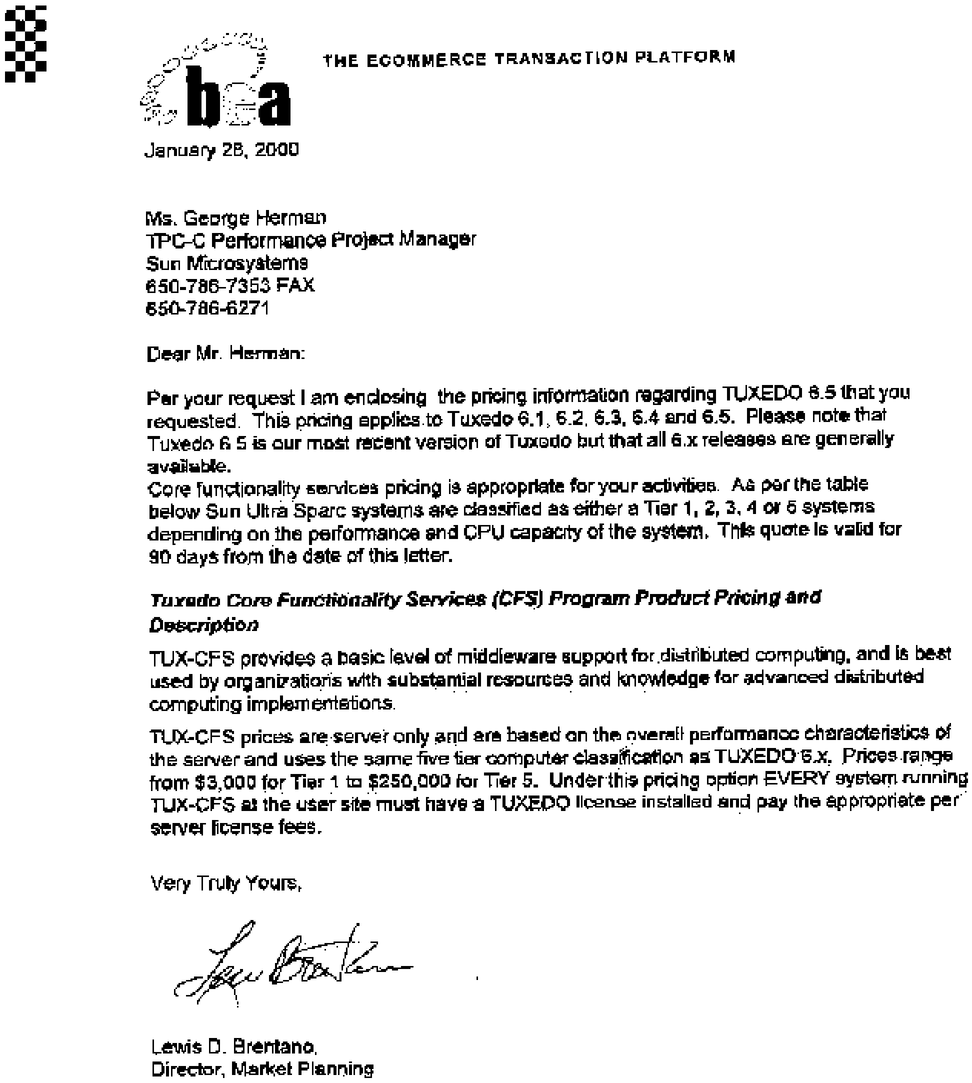
Quotation #MO-200126-42241
01/26/2000

Sun Microsystems
George Herman
Quote Good For Ninety Days
,
Phone: Fax: 850-786-7353

SHI Account Exec: Matthew O. Martin
Telephone : (408) 922-1106
Fax : (408) 526-1222

Reference:

Product	Part #	Qty	List	Your Price	Total
8Port+1 10BT Hub	Z35094	2242		$27.00	$60,534.00
5 Year return to man war					
8 Port 10/100 Hub	008360	3		$115.00	$345.00
Total					$60,879.00



THE ECOMMERCE TRANSACTION PLATFORM

January 28, 2000

Ms. George Herman
TPC-C Performance Project Manager
Sun Microsystems
650-786-7353 FAX
650-786-6271

Dear Mr. Herman:

Per your request I am enclosing the pricing information regarding TUXEDO 6.5 that you requested. This pricing applies to Tuxedo 6.1, 6.2, 6.3, 6.4 and 6.5. Please note that Tuxedo 6.5 is our most recent version of Tuxedo but that all 6.x releases are generally available.
Core functionality services pricing is appropriate for your activities. As per the table below Sun Ultra Sparc systems are classified as either a Tier 1, 2, 3, 4 or 5 systems depending on the performance and CPU capacity of the system. This quote is valid for 90 days from the date of this letter.

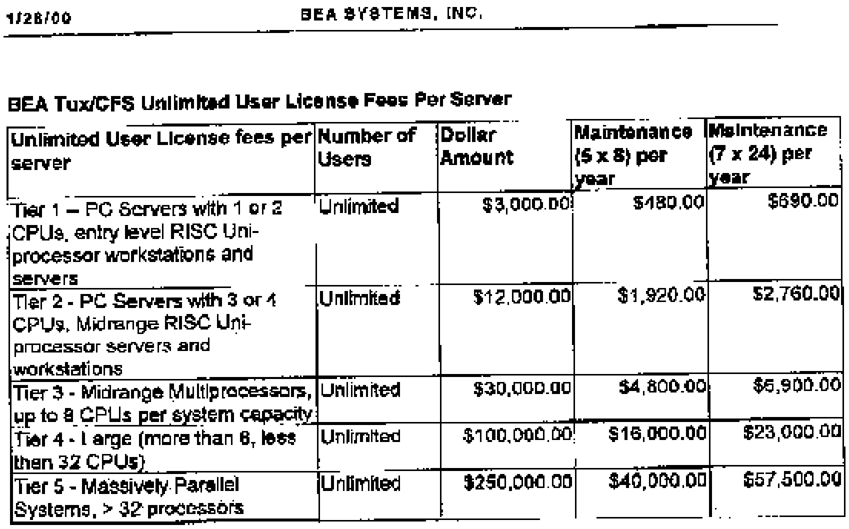
Tuxedo Core Functionality Services (CFS) Program Product Pricing and Description

TUX-CFS provides a basic level of middleware support for distributed computing, and is best used by organizations with substantial resources and knowledge for advanced distributed computing implementations.

TUX-CFS prices are server only and are based on the overall performance characteristics of the server and uses the same five tier computer classification as TUXEDO 6.x. Prices range from $3,000 for Tier 1 to $250,000 for Tier 5. Under this pricing option EVERY system running TUX-CFS at the user site must have a TUXEDO license installed and pay the appropriate per server license fees.

Very Truly Yours,

Lewis D. Brentano,
Director, Market Planning



1/26/00 BEA SYSTEMS, INC.

BEA Tux/CFS Unlimited User License Fees Per Server

Unlimited User License fees per server	Number of Users	Dollar Amount	Maintenance (5 x 8) per year	Maintenance (7 x 24) per year
Tier 1 – PC Servers with 1 or 2 CPUs, entry level RISC Uni-processor workstations and servers	Unlimited	$3,000.00	$480.00	$690.00
Tier 2 - PC Servers with 3 or 4 CPUs, Midrange RISC Uni-processor servers and workstations	Unlimited	$12,000.00	$1,920.00	$2,760.00
Tier 3 - Midrange Multiprocessors, up to 8 CPUs per system capacity	Unlimited	$30,000.00	$4,800.00	$6,900.00
Tier 4 - Large (more than 8, less then 32 CPUs)	Unlimited	$100,000.00	$16,000.00	$23,000.00
Tier 5 - Massively Parallel Systems, > 32 processors	Unlimited	$250,000.00	$40,000.00	$57,500.00