	HP Integrity rx6600 - 4p/8c	TPC-C Revision 5.7
		Report Date: October 26, 2006

Total System Cost	TPC Throughput	Price/Performance	Availability Date
$717,016	**359,440 tpmC**	**$1.99/tpmC**	**December 15, 2006**

Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
4/8/16 Dual-Core Intel Itanium2 1.6GHz	**Oracle Database 10g Release 2 Enterprise Edition**	**Red Hat Enterprise Linux AS4**	**TUXEDO 8.0**	**283,500**

Server

Client 1

1000 Base T

1000 Base T

Procurve Switch

Client 8

Fiber Channel

HP Integrity rx6600 – 4p/8c
4 - 1.6GHz Dual Core Intel Itanium2
with 24MB iL3 Cache
192GB Memory

13 HP Storage Works MSA1000
- 26 HP StorageWorks Enclosures MSA30
- 504 36GB 15K RPM Disk Drives
- 42 73GB 15K RPM Disk Drives
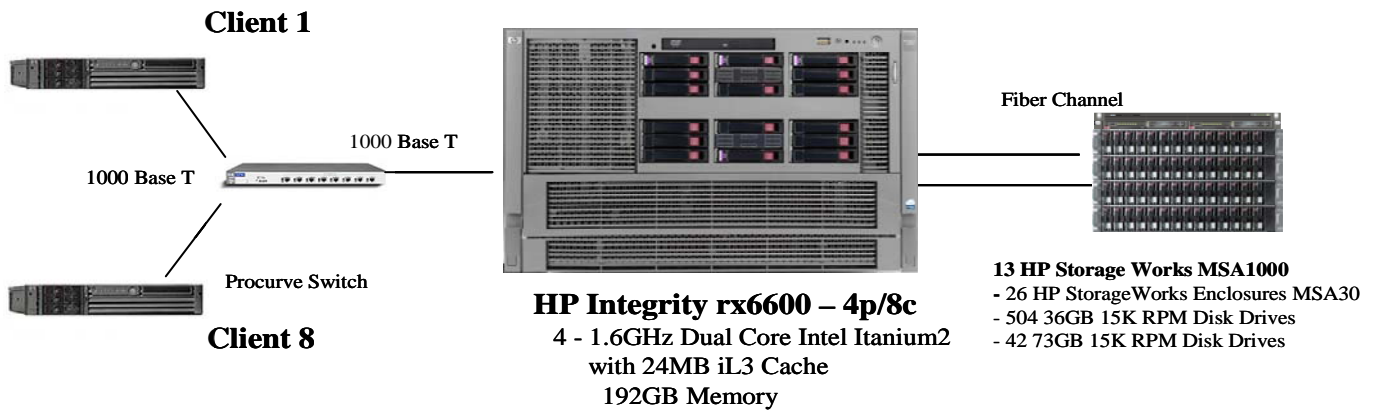
Clients – 8 hp rx2620 servers

System Components	Server (HP Integrity rx6600 - 4p/8c)		each Client (8 rx2620)	
	Qty	Type	Qty	Type
Processors/Cores/Threads	4/8/16	1.6GHz Dual-Core Intel Itanium2	2/2/2	1.3GHz Intel Itanium2
Cache Memory	2	24MB iL3 Cache	each	3M iL3 cache
Memory	192	GB	8	GB
Disk Controllers	2	Dual-Port PCI Fibre Channel 4X	1	Ultra2 SCSI LVD
Disk Drives	12	HP StorageWorks Modular Smart Array 1000 with 504 36GB 15K RPM	1	36 GB
	1	HP StorageWorks Modular Smart Array 1000 with 42 73GB 15K RPM		
	4	Internal 72GB/10kpm SAS hard disk drives		
Total Storage		18521.26 GB		
Tape Drives	1	DVD ROM		
Terminals	1	HP Server Thin Client	1	Console Terminal

HP Integrity rx6600 - 4p/8c

Description	Part Number	Brand	Price Key	US List Price	Qty	Price	3Year Main.Price
Server Hardware							
HP Integrity rx6600 Base System with 4 1.6GHz/24MB Dual-Core Processor Modules (incl dual-port 1000B-T adapter, 1 power supply)	AD134A, Opt 180		1	43,845	1	43,845	
I/O backplane	AD296A		1	0	1	0	
48-DIMM memory carrier board	AD127A		1	4,495	1	4,495	
72GB/10kpm SAS hard disk drive	AD140A		1	356	4	1,424	
DVD-ROM slimline drive	AD142A		1	230	1	230	
16GB memory quad (4x4GB DIMMS)	AB566A**		1	18,977	12	227,724	
3 Year Svc & Support Price (Hardware and Software)	HA110A3						$7,267
PCI 4GB Fibre Channel Adapter (dual port)	AB379A		1	3,995	2	7,990	
Redundant Power Supply	AD052A		1	749	1	749	
HP Server Thin Client (monitor, keyboard/mouse, cable inc.)	AB300B		1	500	1	500	
Rack Model 5642	358254-B21		1	689	1	689	
				Subtotal		287,646	7,267
Server Software							
Oracle Database 10g Release 2 Enterprise Edition, Per Processor Unlimited Users, 3 years	Runtime**	Oracle	2	20,000	4*	80,000	
Oracle Database Server Support Package for 3 years		Oracle	2	2,000	3		6,000
Red Hat Enterprise Linux AS 4	T2763AA**		1	0	1	0	
RHEL4 Update 4	T2763AA, Opt 004**		1	0	1	0	
Red Hat Linux Subscription License for 3 years	T2763AA, Opt 324**		1	1,908	1	1,908	
HP Support for Red Hat 7x24	HA107A3-6L4**		1		1		4,839
				Subtotal		81,908	10,839
Storage							
Rack System/E R3000 XR UPS	AF422A		1	1,366	7	9,562	
HP StorageWorks SAN Switch 2/8 (incl 4 SFP)	288247-B21		1	3,599	3	10,797	
2meter Fibre Optic Cable	221691-B21		1	77	12	924	
5 meter Fibre Optic Cable	221691-B22		1	82	4	328	
HP StorageWorks MSA 1000 (13 + 2 spares)	201723-B22		1	6,995	15	104,925	Included
HP StorageWorks MSA 1000 Controller	218231-B22		1	4,290	1	4,290	
HP StorageWorks Enclosures MSA30 (26 + 3 spares)	302969-B21		1	2,829	29	82,041	
36GB 15K Ultra320 Hard Drive (504 + 51 spares)	286776-B22		1	269	555	149,295	
73GB 15K Ultra320 Hard Drive (42 + 5 spares)	286778-B22		1	399	47	18,753	
10642 (G2) Rack Cabinet	AF001A		1	1,249	4	4,996	
200 - 240 volts North America	A5137AZ AW4		1	94	16	1,504	
				Subtotal		387,415	0
Client Hardware							
HP server rx2620 w 1.3GHz Intel Itanium 2 Processor	AB333A		1	3,795	8	30,360	
1.3GHz Intel Itanium 2 Processor	AB336A		1	1,650	8	13,200	
3 Year Support Price (Hardware & Software)	HA110A3						31,616
36GB 15K RPM Ultra320 SCSI Internal Disk	AD186A		1	389	8	3,112	
4GB Memory Module (4 x 1GB DIMMS)	AB397A		1	2,550	16	40,800	
HP Server Thin Client (monitor, keyboard/mouse, cable inc.)	AB300B		1	500	1	500	
HP CAT5 Lan Cables (qty 4)	263474-B24		1	29	3	87	
10642 (42U) Rack Cabinet	AF001A		1	1,249	1	1,249	
200-240 Volts Power Option	A5137AZ, Opt AW4		1	94	4	376	
HP-UX Fndn OE DVD Media	B9106AA, Opt. AJR		1	565	1	565	
HP-UX Fndn OE DVD Media, Factory Integrated	B9106AA, Opt. OD1		1	199	8	1,592	
HP-UX Fndn OE Integrity PPL max2CPU w/sys	B9430AC		1	455	16	7,280	
				Subtotal		99,121	31,616
Client Software							
HP C++/ANSI C Developer's Bundle	B9007AA, Opt. 2AH		1	966	1	966	256
BEA Tuxedo 8.0		Bea Sys.	3	1,200	8	9,600	6,048
				Subtotal		10,566	6,304
User Connectivity							
HP ProCurve Switch 2724	J4897A		1	1,599	1	1,599	636
				Subtotal		1,599	636
BEA 5% Mandatory Discount			3			(480)	
Oracle Mandatory E-Business Discount			2			(8,600)	
HP's Large configuration Discount and Support Prepayment*			4			($185,714)	($13,107)

* 2 = 0.50 * 4. Explanation: For the purposes of counting the number of processors which require licensing, an Intel multicore chip with "n" cores shall be determined by multiplying "n" cores by a factor of 0.50.		**Total**	673,461	43,555

** These components are not immediately orderable. See the FDR for more information.

*A 24.1% discount was based on the overall value of the specific components from HP (Price Key) in this single quotation. Discounts for similarly sized configurations will be similar to those quoted here, but may vary based on the components in the quotation.

1=HP 2= Oracle (Pricing Contact: MaryBeth Pierantoni (see Appendix F) 3=BEA Systems 4=HP's Large Quantity Pricing

Audited by Lorna Livingtree of Performance Metrics, Inc.

Three Year Cost of Ownership:	**$717,016**
tpmC Rating:	**359,440**
$/tpmC:	**$1.99**

Prices used in TPC benchmarks reflect 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 purchases 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 that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.

Numerical Quantities Summary for
HP Integrity rx6600 - 4p/8c

MQTH, Computed Maximum Qualified Throughput   **359,440 tpmC**

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.36s	25.51s	0.16s
Payment	0.34s	23.57s	0.16s
Order-Status	0.36s	20.19s	0.16s
Delivery (interactive portion)	0.35s	10.64s	0.09s
Delivery (deferred portion)	0.35s	11.35s	0.14s
Stock-Level	0.35s	23.79s	0.16s
Menu	0.10s	0.09s	0.00s

Transaction Mix, in percent of total transactions

New-Order	44.95%
Payment	43.01%
Order-Status	4.01%
Delivery	4.02%
Stock-Level	4.01%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.02s	18.03s	18.33s	0.02s	12.14s	202.32s
Payment	3.02s	3.03s	3.29s	0.02s	12.07s	227.67s
Order-Status	2.02s	2.03s	2.27s	0.02s	10.14s	146.95s
Delivery (interactive)	2.02s	2.03s	2.27s	0.02s	5.08s	75.49s
Stock-Level	2.02s	2.03s	2.25s	0.02s	5.07s	83.07s

Test Duration

Ramp up time	80 minutes
Measurement interval	120 minutes
Transactions during measurement interval	95,958,854
Ramp down time	20.336 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	29.33 minutes