	HP Integrity rx4640	TPC-C Revision 5.6
		Report Date: March 21, 2006

Total System Cost	TPC Throughput	Price/Performance	Availability Date
$551,406	**200,829 tpmC**	**$2.75/tpmC**	**September 1, 2006**

Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
2/4/8 **Dual-Core Intel Itanium2** **1.6GHz**	**Oracle Database 10g Enterprise Edition**	**HP-UX 11.i, v2 64-bit**	**TUXEDO 8.0**	**158,400**

Server

Client 1

1000 Base T

1000 Base T

Procurve Switch

Client 5

HP Integrity rx4640
2 - 1.6GHz Dual Core Intel Itanium2
with 2 24MB iL3 Cache
128GB Memory

Fiber Channel

8 HP StorageWorks MSA 1500
1 HP Storage Works MSA1000
- 26 HP StorageWorks Enclosures MSA30
- 336 36GB 15K RPM Disk Drives
- 42 73GB 15K RPM Disk Drives
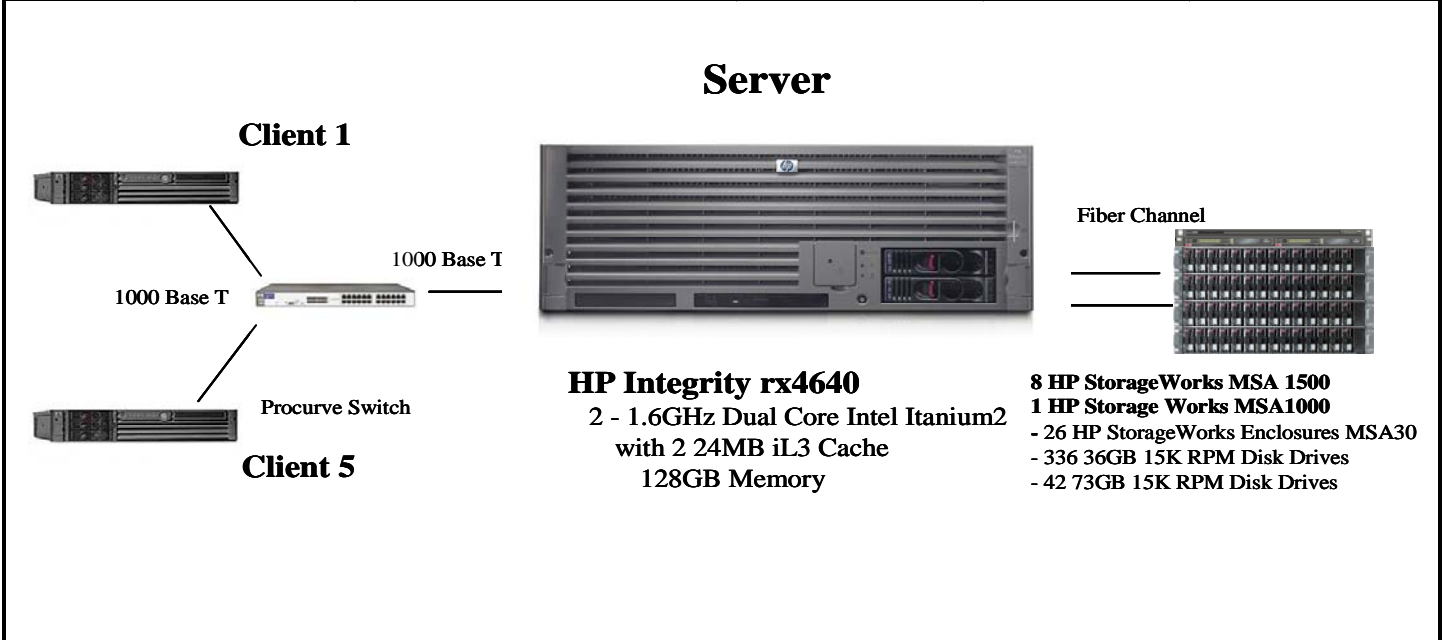
System Components	*Server (HP Integrity rx4640)*		*each Client (5 rx2620)*	
	Qty	*Type*	*Qty*	*Type*
Processors/Cores/Threads	2/4/8	1.6GHz Dual-Core Intel Itanium2	2/2/2	1.3GHz Intel Itanium2
Cache Memory	2	24MB iL3 Cache	each	3M L3 cache
Memory	128	GB	8	GB
Disk Controllers	2	Dual-Port PCI Fibre Channel 2X	1	Ultra2 SCSI LVD
Disk Drives	8	HP StorageWorks Modular Smart Array 1500 with 336 36GB 15K RPM	1	36 GB
	1	HP StorageWorks Modular Smart Array 1000 with 42 73GB 15K RPM		
Total Storage		12826 GB		
Tape Drives	1	DVD ROM		
Terminals	1	Console Terminal	1	Console Terminal

HP Integrity rx4640

Description	Part Number	Brand	Price Key	US List Price	Qty	Price	3Year Main.Price
Server Hardware							
HP Integrity rx4640 Base System	AB370B		1	6,800	1	6,800	
1.6GHz/24MB dual-core processors	AD268A		1	14,663	2	29,325	
32-DIMM memory carrier board	A9739B		1	4,450	1	4,450	
73GB/15krpm hard disk drive	AB421A		1	688	1	688	
DVD-ROM slimline drive	A7163B		1	150	1	150	
16GB memory quad (4x4GB DIMMS)	AB475A		1	27,300	8	218,400	
3 Year Svc & Support Price (Hardware and Software)	HA110A3-6KT						$8,759
PCI 1000 Base T Dual Port LAN Adapter Card	A7012A		1	1,800	1	1,800	
PCI 2GB Fibre Channel Adapter (dual port)	A6826A		1	4,395	2	8,790	
HP Server Thin Client (monitor, keyboard/mouse, cable i	AB300B		1	1,250	1	1,250	
Rack Model 5642	358254-B21		1	689	1	689	
				Subtotal		**272,342**	**8,759**
Server Software							
Oracle Database 10g Enterprise Edition, Per Processor Unlimited Users, 3 years	Runtime	Oracle	2	20,000	2	40,000	
Oracle Database Server Support Package		Oracle	2	2,000	3		6,000
HP-UX 11i Foundation Operating Environment	BA503AC		1	995	4	3,980	
HPUX Factory Integrated	B9106AA, Opt 0D1		1	199	1	199	
				Subtotal		**44,179**	**6,000**
Storage							
Rack System/E R3000 XR UPS	J4367A		1	1,948	4	7,792	
HP StorageWorks SAN switch 2/8V	AA979A		1	4,149	3	12,447	
2meter Fibre Optic Cable	221691-B22		1	77	8	616	
5 meter Fibre Optic Cable	221691-B22		1	82	4	328	
HP StorageWorks MSA 1500	AA986A		1	8,995	8	71,960	
HP StorageWorks MSA 1000	201723-B22		1	6,995	1	6,995	
HP StorageWorks MSA 1000 Controller	218231-B22		1	4,290	1	4,290	
HP StorageWorks Enclosures MSA30	302969-B21		1	2,829	26	73,554	
3 Yr Support Price for MSA1000, MSA30, disks	HA110A3-7GT/6FG						$70,342
36GB 15K Ultra320 Hard Drive	286776-B22		1	269	336	90,384	
73GB 15K Ultra320 Hard Drive	286778-B22		1	439	42	18,438	
10642 (42U) Rack Cabinet	245161-B21		1	1,359	3	4,077	
200 - 240 volts North America	A5137AZ AW4		1	94	12	1,128	
				Subtotal		**292,009**	**70,342**
Client Hardware							
HP server rx2620 w 1.3GHz Intel Itanium 2 Processor	AB333A		1	3,795	5	18,975	
1.3GHz Intel Itanium 2 Processor	AB336A		1	1,650	5	8,250	
3 Year Support Price (Hardware & Software)	HA110A3-6BT						22,745
36GB 15K RPM Ultra320 SCSI Internal Disk	AD186A		1	389	5	1,945	
4GB Memory Module (4 x 1GB DIMMS)	AB397A		1	2,550	10	25,500	
HP Server Thin Client (monitor, keyboard/mouse, cable i	AB300B		1	500	1	500	
HP CAT5 Lan Cables (qty 4)	263474-B24		1	1,250	2	2,500	
10642 (42U) Rack Cabinet	245161-B21		1	1,359	1	1,359	
200-240 Volts Power Option	A5137AZ, Opt AW4		1	94	4	376	
HP-UX Fndn OE DVD Media	B9106AA, Opt. AJR		1	565	5	2,825	
HP-UX Fndn OE DVD Media, Factory Integrated	B9106AA, Opt. OD1		1	199	5	995	
HP-UX Fndn OE Integrity PPL max2CPU w/sys	B9430AC		1	995	10	9,950	
				Subtotal		**73,175**	**22,745**
Client Software							
HP C/ANSI C Devoloper Bundle Server LTU	B3901BA, Opt 2AH		1	816	1	816	256
BEA Tuxedo 8.0		Bea Sys.	3	1,200	5	6,000	3,780
				Subtotal		**6,816**	**4,036**
User Connectivity							
HP ProCurve Switch 2724	J4897A		1	1,599	1	1,599	**636**
				Subtotal		**1,599**	**636**
	BEA 5% Mandatory Discount		3			(300)	
	Oracle Mandatory E-Business Discount		2			(2,300)	
	HP's Large configuration Discount and Support Prepayment*		4			($217,810)	($30,821)
				Total		**469,710**	**81,697**

*A 32% 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.

	Three Year Cost of Ownership:	$551,406
1=HP 2= Oracle (Pricing Contact: MaryBeth Pierantoni (see Appendix F) 3=BEA Systems 4=HP's Large Quantity Pricing	tpmC Rating:	200,829
Audited by Lorna Livingtree of Performance Metrics, Inc.	$/tpmC:	$2.75

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 rx4640

MQTH, Computed Maximum Qualified Throughput   **200,829 tpmC**

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.33s	7.49s	0.15s
Payment	0.32s	7.38s	0.15s
Order-Status	0.34s	6.39s	0.16s
Delivery (interactive portion)	0.10s	6.36s	0.09s
Delivery (deferred portion)	0.33s	6.98s	0.14s
Stock-Level	0.38s	6.21s	0.19s
Menu	0.10s	4.34s	0.07s

Transaction Mix, in percent of total transactions

New-Order	44.96%
Payment	43.01%
Order-Status	4.01%
Delivery	4.02%
Stock-Level	4.004%

Keying/Think Times

	Keying Time			Think Time		
	Min	**Avg**	**Max**	**Min**	**Avg**	**Max**
New-Order	18.02s	18.03s	18.26s	0.02s	12.15s	222.12s
Payment	3.02s	3.03s	3.24s	0.02s	12.07s	213.66s
Order-Status	2.02s	2.03s	2.22s	0.02s	10.13s	152.88s
Delivery (interactive)	2.02s	2.03s	2.22s	0.02s	5.07s	74.55s
Stock-Level	2.02s	2.03s	2.22s	0.02s	5.07s	77.93s

Test Duration

Ramp up time	108.5 minutes
Measurement interval	120 minutes
Transactions during measurement interval	53,607,126
Ramp down time	31.833 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	29.6 minutes