



HP Integrity rx2600

C/S with 2 ProLiant ML110

TPC-C Version 5.3

Report Date

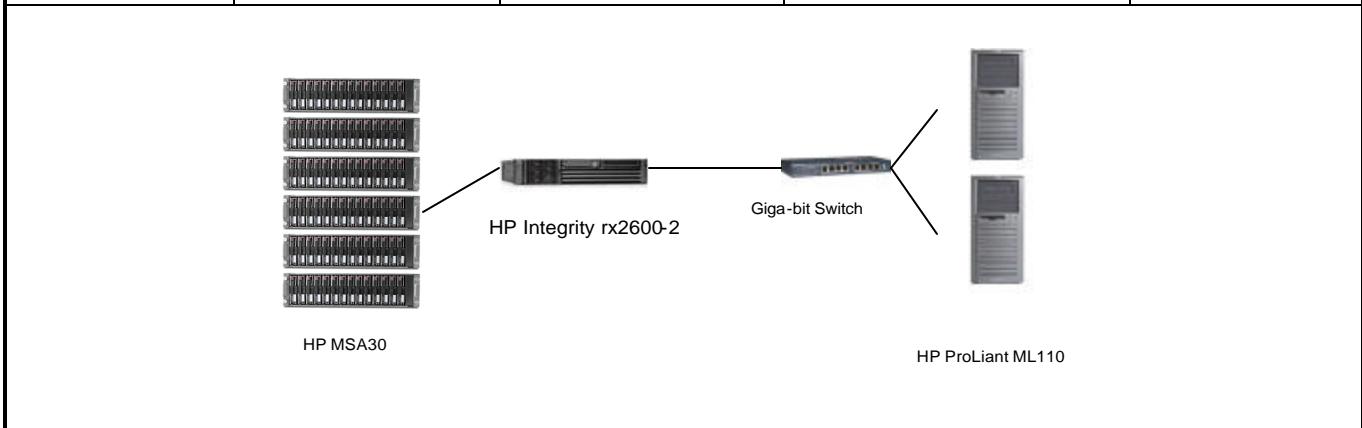
September 29, 2004

Revised Date


October 6, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$93,217 USD	51,506 tpmC	\$1.81 USD/ tpmC	September 29, 2004

Processors	Database Manager	Operating System	Other Software	Number of Users
2 x 1.3GHz Intel Itanium2 3M Processors – Server 2 x Xeon 3.0GHz – Client	Oracle Database 10g Standard Edition One	Red Hat Enterprise Linux AS 3	Microsoft COM+	40800



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	2	1.3 GHz Itanium2 3M w/ 3MB Cache	2	3.0GHz Xeon w/ 256K cache
Memory	12	2GB	1	1024MB
Disk Controllers	4	HP SMART Array Controller 5302/128	1	Integrated SMART 5i Controller
	1	Integrated SCSI Controller		
Disk Drives	84	18GB 15K SCSI Drives	1	40 GB ATA Drive
	2	146GB 10K SCSI Drives		
Total Storage		1804 GB		40 GB

 invent	HP Integrity rx2600 1.30GHz/3MB 2P			TPC-C Version 5.3		
				Report Date:	29-Sep-04	
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
		Brand	Pricing			
Server Hardware						
HP Integrity rx2600, Intel Itanium2 processor 1.30GHz with 3MB L3 cache	A6870B		1	5,195	1	5,195
Single power supply, 1-Year Limited Warranty, Core I/O (2NICs, Mgt LAN, U320 SCSI, RS-232 sp, VGA, USB)						
36GB Ultra 320 SCSI 15,000 rpm Hard Drive	A9896A		1	760	1	760
DVD-ROM Drive	A9919A		1	150	1	150
Intel Itanium2 processor 1.30GHz with 3MB L3 cache	A9872A		1	3,200	1	3,200
8GB PC2100 DDR SDRAM memory quad (4x2GB DIMMs)	AB228A		1	9,460	3	28,380
146GB Pluggable Ultra320 SCSI 10,000 rpm Hard Drive (DB Log)	A9898A		1	1,910	2	3,820
Smart Array 5302/128MB Cache Controller	A9825A		1	1,399	4	5,596
Smart Array Internal Cables for rx2600	A9827A		1	65	1	65
USB Keyboard kit PC-104/105 (inc. USB Kydb and USB mouse)	A7861#ABA		1	25	1	25
HP S5500 color monitor (carbon/silver 15-inch CRT)	P9006A#ABA		1	129	1	129
TR5 10/20-Gigabyte Tape Drive - Carbon	294243-B22		1	299	1	299
Pro UPS 500 (500VA/300 Watts; 110-127 VAC, 60 Hz)	136386-001		1	146	1	146
Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21		1	1,321	1	1,321
Rack Sidewall Kit	120670-B21		1	207	1	207
3YR 24X7/4HR for HP Integrity rx2600	HA110A3-6BT		1	2,488	1	2,488
Server Hardware Subtotal					49,293	2,488
External Storage						
StorageWorks Enclosure Model MSA 30 SB - Rack-mountable	302969-B21		1	2,978	6	17,868
18.2GB 15Krpm U320 UNI HDD	286775-B22		1	269	84	22,596
18.2GB 15Krpm U320 UNI HDD (10% spares)	286775-B22		1	269	9	2,421
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002			157	6	942
Server External Storage Subtotal					40,464	3,363
Server Software						
Red Hat Enterprise Linux AS 3.0	T2744AA-324	HP	1	1,908	1	1,908
3 Yrs 24 x 7 Support Contract for Red Hat Enterprise Linux AS 3.0	HA110A3-6L4	HP	1	4,839	1	4,839
Oracle Database 10g Standard Edition One for 3 years, Per Processor, Unlimited Users	run-time	Oracle	2	2,498	2	4,995
Oracle Database Server Support Package for 3 years	run-time	Oracle	2	2,000	3	6,000
Server Software Subtotal					6,903	10,839
Client Hardware						
HP ProLiant ML110 - ATA Model, 3.0GHz/800MHz, 1GB, 40GB, 24x7 4-Hr, 3Yrs	359661-xx1		1	1,315	2	2,630
PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)						896
Client Hardware Subtotal					2,630	896
Client Software						
Microsoft Windows 2000 Server	C11-00821	Microsoft	4	738	2	1,476
Client Software Subtotal					1,476	Included
User Connectivity						
NetGear GS105 5-port Gigabit Ethernet Switch 10/100/1000 Mbps	GS105	NetGear	5	70	3	210
Connectivity Subtotal					210	
Large Purchase and Net 30 discount	30.0%		1			(\$746)
Large Purchase and Net 30 discount	16.0%		1			(\$681)
Large Purchase and Net 30 discount	23.0%		1			(\$439)
Total					\$79,068	\$14,149
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 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 pricing 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.						
Pricing: 1=HP 2=Oracle 3=Red Hat 4=Microsoft 5=ecost.com.						
Oracle pricing contact: Mary Beth Pierantoni, mary.beth.pierantoni@oracle.com, 916-315-5081						
Note 1 : Discount based on HP Direct guidance with large purchase discount.						
The benchmark results and test methodology audited by Lorna Livingtree of Performance Metrics, Inc.						
Three-Year Cost of Ownership:					\$93,217 USD	
tpmC Rating:					51.506	
\$ / tpmC:					\$1.81 USD	

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

51506.4 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.168	0.202	
Payment	0.154	0.186	1.812
Order-Status	0.164	0.201	1.383
Delivery (interactive portion)	0.102	0.102	0.978
Delivery (deferred portion)	0.138	0.173	0.117
Stock-Level	0.061	0.108	1.005
Menu	0.102	0.102	0.625

Transaction Mix, in percent of total transaction

New-Order	44.914%
Payment	43.021%
Order-Status	4.020%
Delivery	4.025%
Stock-Level	4.020%

Emulation Delay (in seconds)	Resp.Time	Menu
New-Order	0.10	0.10
Payment	0.10	0.10
Order-Status	0.10	0.10
Delivery (interactive)	0.10	0.10
Stock-Level	0.10	0.10

Keying/Think Times (in seconds)	Min.	Average	Max.
New-Order	18.005/0.00	18.008/12.205	18.021/1250.266
Payment	3.010/0.00	3.018/12.014	3.031/1251.333
Order-Status	2.010/0.00	2.018/10.015	2.029/100.037
Delivery (interactive)	2.010/0.00	2.018/5.025	2.029/50.078
Stock-Level	2.010/0.00	2.018/5.015	2.030/50.082

Test Duration

Ramp-up time	80 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	13,761,271
Ramp down time	129 minutes

Checkpointing

Number of checkpoints	5
Checkpoint interval	23 minutes