



PowerEdge 2650

Client/Server w/1 PE1600SC Front End

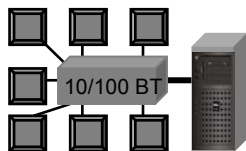
TPC-C Rev 5.2
Report Date
February 18, 2004
Revised Date
March 15, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$40,775	22,052 tpmC	\$1.85 / tpmC	FEB 18, 2004	
Processors	Database Manager	OS	Other Software	Number of Users
1 x Intel Xeon™ Processors 3.2 GHz 2MB L3 Cache	Microsoft SQL Server 2000 Standard Edition	Microsoft Windows 2003 Server	Windows 2003 Server w/ COM+ Internet Information Server 5.0 Microsoft Visual C++	18,000

PE2650

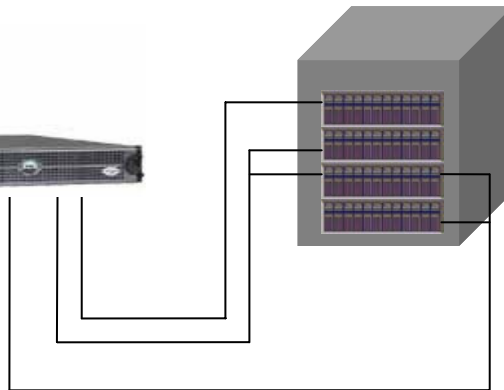
w/ 1 3.2 GHz Intel Xeon CPUs
w/ 2MB L3 cache,
2.5GB RAM,
2 PERC4-DC Controllers, and
1 On-board Adaptec AIC-7899 RAID Controller
4 36GB 10K RPM U320 SCSI disks
2 Gigabit Ethernet adapters

4 PV220S Disk Pods
56 18GB 15K RPM U320 SCSI Disks



1 PowerEdge 1600SC Client

2 Intel Xeon @ 2.4GHz
w/ 512 KB L2
1024 MB RAM
1 36 GB Disk
2 Intel Pro100+ Ethernet NICs



System Component	Server		Each Client	
Processors	1	Intel Xeon @ 3.2GHz	2	Intel Xeon w/ 512 KB L2
Cache		2MB cache		Client @ 2.4 GHz
Memory		2560 MB		1024 MB
Disk Controllers	2	PERC4-DC	1	Adaptec On-Board
	1	Adaptec AIC-7899 On-Board		
Disk Drives	56	18 GB SCSI	1	36 GB
	4	36 GB SCSI		
Total Storage		1100 GB		36 GB
Other	2	2GB NIC	2	10/100MB BT NIC
	1	CD-ROM		
	1	DAT		

Dell		PowerEdge 2650			TPC-C REV 5.2 EXECUTIVE SUMMARY PAGE 2 OF 2		
		Client/Server			Report Date: 23-February-04		
Description	Part Number	Third Party		Unit Price	Qty	Extended Price	3 yr. Maint. Price
		Brand	Pricing				
Server Hardware							
Dell PowerEdge 2650 3.2GHz/2MB	221-4490			1,622	1	1,622	290
PERC3/Di 128MB (2 int. ch)	340-3943			299	1	299	
2GB SDRAM,4X512MB DIMMs	311-2733			1,049	1	1,049	
512MB RAM, 2 x 128MB DIMMS	311-2729			470	1	470	
PV100T,DDS4,20/40G,TBU,NC,INT	340-7297			699	1	699	
Dell E551, 15 in Gray (13.8 VIS)	320-0960			149	1	149	
PERC4-DC 2-ch SCSI	340-8157			999	2	1,998	
Subtotal						6,286	290
PowerVault Disk Subsystem							
PV220S, U3, PS, Tower	220-4477, etc.			2,054	4	8,216	1,604
2 SCSI Cables	310-0679			99	2	198	
18GB U320M SCSI 15K RPM Hard Drive	340-9472			249	56	13,944	
36GB U320M SCSI 10K RPM Hard Drive (OS+LOG)	340-9370			249	4	996	
Subtotal						23,354	1,604
Server Software							
SQL Server 2000 St. Edition, Per processor licensing **	228-01079	Microsoft	1	4,999	1	4,999	
Windows 2003 Standard Server **	P73-00295	Microsoft	1	738	1	738	
Database Server Support Package	PRO-PRORS-16U-01	Microsoft	1	1,950	3		5,850
Subtotal						5,737	5,850
Client Hardware							
Dell PowerEdge 1600SC, 2.4 GHz / 512KB L2/400 FSB	221-2207			277	1	277	290
Additional processor , 2.4 GHz / 512KB	311-2456			599	1	599	
1025MB RAM, 2 DIMMs	311-1940			598	1	598	
36GB U160M SCSI 10K RPM Hard Drive	340-7087			249	1	249	
Non-Redundant Power	310-0540			199	1	199	
IntelPro 100S	430-0206			59	1	59	
Dell 15" Monitor	320-0960			149	1	149	
Subtotal						2,130	290
Client Software							
Windows 2003 Standard Server **	P73-00295	Microsoft	1	738	1	738	
Visual C++ ** .NET	254-00170	Microsoft	1	109	1	109	
Subtotal						847	
User Connectivity							
7ft Crossover cable	CBLC5C7	LanAdapter	2	1	3	3	
Subtotal						3	
Other Discounts						(\$5,616)	
Total						\$32,741	\$8,034
Notes: * Maint. included in PowerVault 210S disk pod or PV650F/630F fibre channel disk pod						Three-Year Cost of Ownership: \$40,775	
** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server						tpmC Rating: 22052	
*** 10% or minimum 2 spares are added in place of onsite service (products have a five year return-to-vendor warranty) Pricing: 1 - Microsoft 2 - LanAdapter						\$ / tpmC: 1.85	
Audited by Lorna Livingtree, Performance Metrics 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 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 items, please inform the TPC at pricing@tpc.org .							

MQTh, computed Maximum Qualified Throughput

22,052 tpmC

Response Times (in seconds)

	Average	90 th	Max
- Neworder	0.99	1.41	6.60
- Payment	0.62	0.99	4.12
- Delivery (interactive portion)	0.12	0.17	0.64
- Stock-Level	1.78	4.67	11.55
- Order Status	0.85	1.25	6.08
- Delivery (deferred portion)	1.81	2.50	4.39
- Menu	0.12	0.17	0.80

Response time delay added for emulated components

Menu 0.1
Resp 0.1

Transaction Mix, in percent of total transactions

- New-Order	44.84%
- Payment	43.02 %
- Delivery	4.04 %
- Stock-Level	4.05 %
- Order-Status	4.05 %

Keying/Think Times (in seconds),

	Min		Average		Max	
- New-Order	18.02	0.0	18.02	12.03	18.05	120.42
- Payment	3.01	0.0	3.02	12.03	3.05	120.41
- Delivery	2.01	0.0	2.02	5.04	2.04	50.40
- Stock-Level	2.01	0.0	2.02	5.05	2.05	50.40
- Order-Status	2.01	0.0	2.02	10.04	2.04	100.41

Test Duration

- Ramp-up time	5 minutes
- Measurement interval	120 minutes
- Number of checkpoints	4
- Checkpoint interval	30 minutes
- Number of transactions (all types) completed in measurement interval	6,140,323