



PowerEdge 2650

Client/Server w/1 PE1600SC Front End

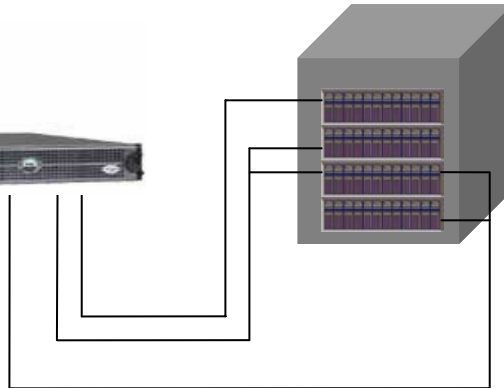
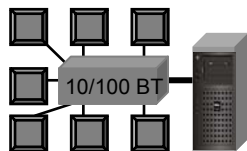
TPC-C Rev 5.2
 Report Date
February 23, 2004
 Revised Date
March 15, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$61,788	32,185 tpmC	\$1.92 / tpmC	FEB 23, 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 Enterprise Edition	Microsoft Windows 2003 Server Enterprise	Windows 2003 Server w/ COM+ Internet Information Server 6.0 Microsoft Visual C++	25,500

PE2650

w/ 1 3.2 GHz Intel Xeon CPUs
 w/ 2MB L3 cache,
 12GB RAM,
 2 PERC4-DC Controllers, and
 1 On-board Adaptec AIC-7899 RAID Controller
 4 73GB 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 L3 cache		Client @ 2.4 GHz
Memory		12288 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	73 GB SCSI		
Total Storage		1300 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 Brand	Pricing	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
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		
12GB SDRAM,6X2GB DIMMs	311-2740			9,799	1	9,799		
PV100T,DDS4,20/40G,TBU,NC,INT	340-7297			699	1	699		
Dell E551,15 in Gray (13.8 VIS)	320-0960			129	1	129		
PERC4-DC 2-ch SCSI	340-8157			999	2	1,998		
						Subtotal	14,546	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		
73GB U320M SCSI 10K RPM Hard Drive	340-7951			399	4	1,596		
						Subtotal	23,954	1,604
Server Software								
SQL Server 2000 Ent. Edition, 1 processor licensing **	810-00845	Microsoft	1	17,279	1	17,279		
Windows 2003 Enterprise Server **	P72-00264	Microsoft	1	2,399	1	2,399		
Database Server Support Package	PRO-PRORS-16U-01	Microsoft	1	1,950	3		5,850	
						Subtotal	19,678	5,850
Client Hardware								
Dell PowerEdge 1600SC, 2.4 GHz / 512KB L2	221-2207			277	1	277	290	
Additional processor , 2.4 GHz / 512KB	311-2456			599	1	599		
1025MB RAM, 2 DIMMs	311-1940			548	1	548		
36GB U160M SCSI 10K RPM Hard Drive	340-7087			249	1	249		
Non-Redundant Power	310-1866			199	1	199		
IntelPro 100S	430-0206			59	1	59		
Dell 15" Monitor	320-0960			129	1	129		
						Subtotal	2,060	290
Client Software								
Windows 2003 Standard Server **	P73-00295	Microsoft	2	738	1	738		
Visual C++ ** .NET	254-00170	Microsoft	2	109	1	109		
						Subtotal	847	
User Connectivity								
7ft Crossover cable	CBLC5C7	LanAdapter	3	1	3	3		
						Subtotal	3	
						Other Discounts	(\$7,334)	
						Total	\$53,754	\$8,034
Notes: * Maint. included in PowerVault 220S disk pod or PV650F/630F fibre channel disk pod						Three-Year Cost of Ownership: \$61,788		
** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server						tpmC Rating: 32185		
*** 10% or minimum 2 spares are added in place of onsite service (products have a five year return-to-vendor warranty) Pricing: 1 - Software More 2 - Microsoft 3 - LanAdapter						\$ / tpmC: 1.92		
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

32,185 tpmC

Response Times (in seconds)

	Average	90 th	Max
- Neworder	0.23	0.31	5.02
- Payment	0.13	0.16	1.27
- Delivery (interactive portion)	0.10	0.11	0.29
- Stock-Level	0.59	1.51	5.17
- Order Status	0.23	0.32	5.07
- Delivery (deferred portion)	0.30	0.65	2.25
- Menu	0.10	0.11	0.32

Response time delay added for emulated components

Menu 0.1
Resp 0.1

Transaction Mix, in percent of total transactions

- New-Order	44.85%
- Payment	43.02 %
- Delivery	4.04 %
- Stock-Level	4.05 %
- Order-Status	4.04 %

Keying/Think Times (in seconds),

	Min		Average		Max	
- New-Order	18.02	0.0	18.02	12.04	18.04	120.41
- Payment	3.01	0.0	3.02	12.03	3.03	120.41
- Delivery	2.01	0.0	2.02	5.04	2.03	50.40
- Stock-Level	2.01	0.0	2.02	5.05	2.03	50.40
- Order-Status	2.01	0.0	2.02	10.05	2.03	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	8,959,780