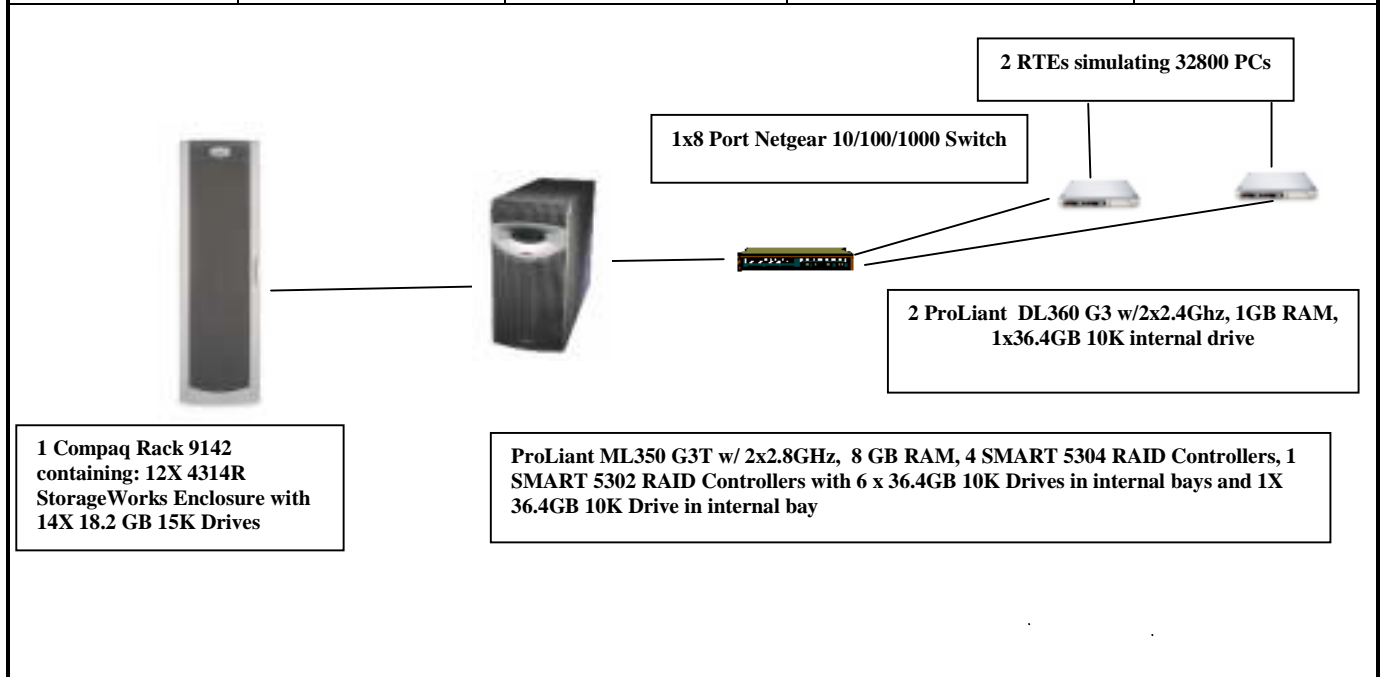


Hewlett-Packard Company	ProLiant ML350 G3T 2P	TPC-C Rev. 5.1
	c/s with 2 ProLiant DL360 G3	Report Date: May 12, 2003

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>\$187,141</b>	<b>39,006.54</b>	<b>\$4.72</b>	<b>May 12, 2003</b>

Processors	Database Manager	Operating System	Other Software	Number of Users
2 Intel Xeon 2.8GHz – Server 2 Intel Xeon 2.4GHz – Client	Microsoft SQL Server 2000 Enterprise Edition (SP3)	Microsoft Windows Server 2003 Enterprise Edition	Microsoft Visual C++ Microsoft COM+	<b>32800</b>



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	2	2.8 GHz Intel Xeon w/ 512K Cache	2	2.4 GHz Intel Xeon w/ 512K cache
Memory	2	4GB DDR (2x2GB)	2	512MB (2x256MB)
Disk Controllers	1	Integrated Ultra-3 SCSI Controller	1	Integrated SMART Array Controller
	1	SMART 5302 Array Controller		
	4	SMART 5304 Array Controller		
Disk Drives	168 6	18.2 GB SCSI Drive 36.4 GB SCSI Drive	1	36.4GB SCSI Drive
Total Storage		3276.0 GB		36.4 GB
Tape Drives	1	12/24 GB DAT		

Hewlett-Packard	ProLiant ML350-G3T-2.8-2P	TPC-C Rev. 5.1				
Company	Client/Server	Report Date:	12-May-03			
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
<b>Brand Pricing</b>						
ProLiant ML350T 1P 2.8GHz, 256MB, Integrated Gigabit NIC	311523-001	1	1,759	1	1,759	
2.8GHz Processor Option Kit	314763-B21	1	999	1	999	
4G Reg PC2100 (2 x 2Gb)	300682-B21	1	11404	2	22,808	
2-Bay Hot Plug Wide Ultra2/Ultra3 SCSI Drive Cage	244059-B21	1	370	1	370	
S5500 15 carbon / silver monitor	261602-001	1	149	1	149	
Scroll Mouse-Carbon	231947-B21	1	5	1	5	
PS/2 Easy Access Internet Keyboard	265977-001	1	12	1	12	
StorageWorks Enclosure Model 4314R - Rack-mountable	190209-001	1	2,955	12	35,460	
Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21	1	1,321	2	2,642	
Side Panel Kit - 9142 Rack	120670-B21	1	207	1	207	
Smart Array 5302/32 Controller	166207-B21	1	1,270	1	1,270	
Smart Array 5304/128 Controller	158939-B21	1	2,052	4	8,208	
12/24-Gigabyte DAT Drive (Internal)	295513-B22	1	682	1	682	
UPS T700	204015-001	1	325	1	325	
18.2GB 15Krpm U320 UNI HDD	286775-B22	1	399	168	67,032	
18.2GB 15Krpm U320 UNI HDD (10% spares)	286775-B22	1	399	17		6,783
36.4GB 10Krpm U320 UNI HDD (internal OS drive)	286713-B22	1	339	1	339	
36.4GB 10Krpm U320 UNI HDD (internal Log Drives)	286713-B22	1	339	6	2,034	
CarePaq Service - 300 Series Servers 3Yr,7x24,4hr	162657-002	1	1,450	1		1,450
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002	1	157	12		1,884
<b>Subtotal</b>					<b>144,301</b>	<b>10,117</b>
<b>Server Software</b>						
Database Server Support Package (1 year)	PRORS-16U-01	Microsoft	2	1,950	3	5,850
SQL Server 2000 Enterprise Edition(per processor)	810-00845	Microsoft	2	17,279	2	34,558 Incl Above
Visual C++ Standard	254-00170	Microsoft	2	109	1	109 Incl Above
Windows Server 2003, Enterprise Edition	P72-00264	Microsoft	2	2,399	1	2,399 Incl Above
<b>Subtotal</b>					<b>37,066</b>	<b>5,850</b>
<b>Client Hardware</b>						
ProLiant DL360 G3 2.4GHz	292887-001	1	2,599	2	5,198	
Two integrated Gigabit NIC, Integrated Smart Array Controller						
2.4GHz Xeon Processor Option Kit - DL360G3	292891-B21	1	729	2	1,458	
512MB PC2100 DDR (2x256MB)	300678-B21	1	326	2	652	
S5500 15 carbon / silver monitor	261602-001	1	149	2	298	
Scroll Mouse-Carbon	231947-B21	1	5	2	10	
PS/2 Easy Access Internet Keyboard	265977-001	1	12	2	24	
36.4GB 10Krpm U320 UNI HDD (internal OS drive)	286713-B22	1	339	2	678	
FM-EL724-36 3YR 24X7 4HR ENTRY 300 SVR	162675-002	1	750	2		1,500
<b>Subtotal</b>					<b>8,318</b>	<b>1,500</b>
<b>Client Software</b>						
Windows 2000 Server	C11-00821	Microsoft	2	738	2	1,476 Incl. Above
<b>Subtotal</b>					<b>1,476</b>	<b>0</b>
<b>User Connectivity</b>						
Netgear GS508TNA 8 port Copper Gigabit Switch		N/A CompuPlus	3	502	3	1,506
<b>Subtotal</b>					<b>1,506</b>	<b>0</b>
Large Purchase and Net 30 discount (See Note 1)	16.0%	1				
<b>Total</b>					<b>\$168,248</b>	<b>\$15,608</b>
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.					<b>Three-Year Cost of Ownership: \$183,856</b>	
					<b>tpmC Rating: 39006.54</b>	
					<b>\$ / tpmC: \$4.72</b>	
Pricing: 1=HP 2=Microsoft 3=CompuPlus.com						
Note 1 = Discount based on HP Direct guidance with large purchase and Net 30 discount.						
Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc.						

## Numerical Quantities Summary

**MQTH, Computed Maximum Qualified Throughput**

**39006.54 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
New-Order	0.98	1.54	8.07
Payment	0.88	1.44	7.01
Order-Status	0.90	1.46	6.44
Delivery (interactive portion)	0.10	0.11	0.76
Delivery (deferred portion)	0.26	0.43	1.13
Stock-Level	1.96	2.61	6.93
Menu	0.10	0.11	0.96

### **Transaction Mix, in percent of total transaction**

New-Order	44.88%
Payment	43.03%
Order-Status	4.03%
Delivery	4.03%
Stock-Level	4.03%

### **Emulation Delay (in seconds)**

	<b>Resp.Time</b>	<b>Menu</b>
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)**

	<b>Min.</b>	<b>Average</b>	<b>Max.</b>
New-Order	18.00/0.00	18.02/12.65	18.04/126.50
Payment	3.00/0.00	3.02/12.65	3.04/126.50
Order-Status	2.00/0.00	2.02/10.54	2.04/105.50
Delivery (interactive)	2.00/0.00	2.02/5.31	2.04/53.00
Stock-Level	2.00/0.00	2.02/5.30	2.04/53.00

### **Test Duration**

Ramp-up time	112 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	10,849,691
Ramp down time	17 minutes

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval	30 minutes