

TPC Benchmark™ C

Full Disclosure Report for



PRIMERGY H200

**Using Microsoft SQL Server 2000
Enterprise Edition**

**and Microsoft Windows 2000
Advanced Server**

February 5, 2001

First Edition



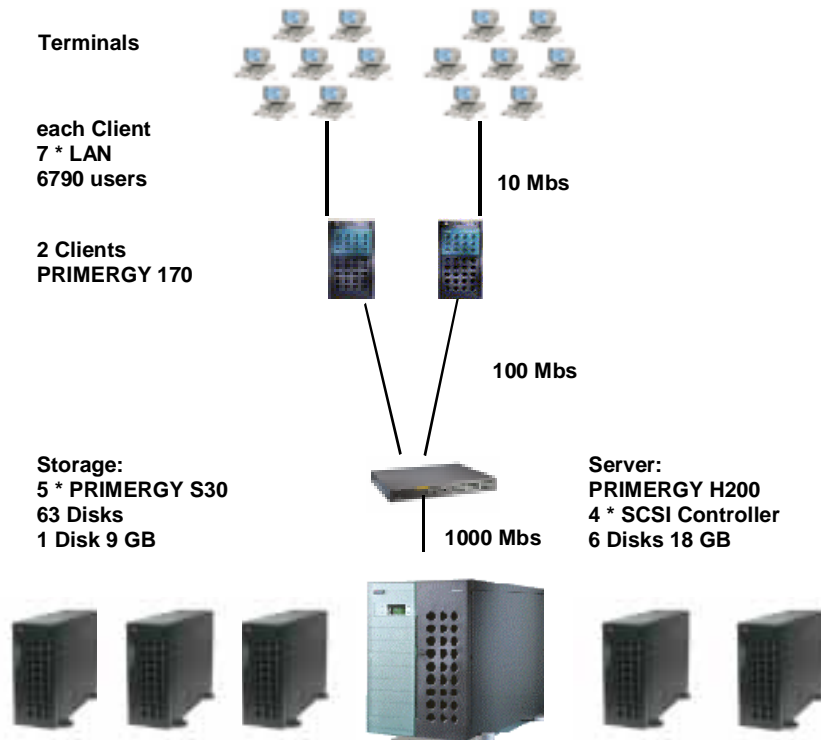
PRIMERGY H200

C/S with 2 PRIMERGY 170

TPC-C REV 3.5
EXECUTIVE SUMMARY

Report Date: February 5, 2001

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
€ 287,384	17,025.17 tpmC	€16.88/tpmC	February 1, 2001	
Processors	Database Manager	Operating-System	Other Software	Number of Users
2 Intel Pentium® III Xeon 1000 MHz with 256 KB SLC	Microsoft SQL Server 2000 Enterprise Edition	Microsoft Windows 2000 Advanced Server	Windows 2000 Server, IIS 5.0 and COM+	13,580



System Components	Qty/Srv.	1 PRIMERGY H200	Qty/Client	2 PRIMERGY 170
Processors	2	Intel Pentium® III Xeon 1000 MHz with 256 KB SLC	1	Intel Pentium® III 750 MHz with 256 KB SLC
Memory	4	GB	256	MB
Disk Controller	4	Mylex eXtremeRAID 2000	1	SCSI Controller
Disk Drives	1	9 GB	1	9 GB
	69	18 GB		
Total GB of Storage	1	1,177 GB	1	9 GB

Description	Part Number	Third Party	Unit Price	Qty.	Extended Price	5yr Maint. Price
Brand Pricing						
PRIMERGY H200 GE FH PIII X 1 GHz 256kB	S26361-K607-V104		1 4,776 Euro	1	4,776 Euro	
Pentium III Xeon Prozessor 1 GHz/256kB	S26361-F2324-E100		1 1,280 Euro	1	1,280 Euro	
Hauptspeicher 2GB SDRAM PC133	S26361-F2306-E525		1 7,744 Euro	2	15,488 Euro	
Gigabit Ethernet PCI 32/64	D:RM6T5-CL18		1 2,485 Euro	1	2,485 Euro	
Tape Drv SLR50 , 25GB	SNP:SY-F1835E1-A		1 1,480 Euro	1	1,480 Euro	
9GB, 10k, U2W/LVD, Hot Plug	SNP:SY-F1899E109-A		1 460 Euro	1	460 Euro	
Ext. SCSI-Anschl. für on-board-Ctrl,U160	SNP:SY-F2287E2-A		1 100 Euro	1	100 Euro	
RAID-Ctrl, PCI, 4-Ch, BBU	SNP:SY-F2190-E128		1 2,520 Euro	4	10,080 Euro	
APC USV 3000VA	S26113-E399-L1		1 1,316 Euro	1	1,316 Euro	
CD-ROM 40x, Ultra SCSI	SNP:SY-F2086E1-A		1 120 Euro	1	120 Euro	
Power Supply Module 400W (add)	SNP:PS-F234E4-A		1 320 Euro	1	320 Euro	
Tastatur KBPC B Light Basic (D)	S26381-K271-V320		1 25 Euro	1	25 Euro	
Country Pack	S26361-F2195-B231		1 40 Euro	1	40 Euro	
Monitor 154V	S26361-K605-V150		1 241 Euro	1	241 Euro	
Maintenance	G5S0400SES					5,369 Euro
Server Hardware Subtotal			1		38,211 Euro	
18GB, 15k, U160, Hot plug, 1"	S26361-F2336-E518		1 980 Euro	69	67,620 Euro	
18GB, 15k, U160, Hot plug, 1", 10%spare	S26361-F2336-E518		1 980 Euro	7	6,860 Euro	
PRIMERGY S30 FH 2-Kanal U160 SCSI	SNP:SY-K638V110-P		1 2,801 Euro	5	14,005 Euro	
PRIMERGY S30 Country Pack	SNP:SY-F1699B953-P		1 40 Euro	5	200 Euro	
PRIMERGY S30 10 % spare	SNP:SY-K638V110-P		1 2,801 Euro	2	5,602 Euro	
Country Pack S30 incl. spare	SNP:SY-F1699B953-P		1 40 Euro	2	80 Euro	
Maintenance	G5S0400SEL					1,350 Euro
Storage Subtotal					94,367 Euro	
Maint. Server + Storage						6,719 Euro
PRIMERGY 170 GE F, PIII 750, SCSI	SNP:SY-K549V147-A		1 1,219 Euro	2	2,438 Euro	2,700 Euro
Keyboard KBPC	S26381-K271-V320		1 25 Euro	2	50 Euro	
Country Pack	SNP:SY-F1699B401-A		1 40 Euro	2	80 Euro	
Memory 128 MB SDRAM ECC	S26361-F1840E515		1 246 Euro	4	984 Euro	
HD 9GB, U2W	SNP:SY-F2069E9-A		1 360 Euro	2	720 Euro	
Fast Ethernet 2x 10/100 Duralink64 PCI	SNP:SY-F2217L1-A		1 360 Euro	8	2,880 Euro	
Monitor 154V	S26361-K605-V150		1 241 Euro	2	482 Euro	
Client Hardware Subtotal					7,634 Euro	
Microsoft Windows 2000 Adv. Server, incl 5 C	SNP:SY-F1940E706-P		1 3,939 Euro	1	3,939 Euro	
MS SQL-Server 2000 Ent.Edit. Per Proc Lic.	MSO810-00963		1 30,116 Euro	2	60,232 Euro	
Server Software Subtotal					64,171 Euro	
Microsoft Windows 2000 Server, incl.5 CALs	SNP:SY-F1940E701-P		1 1,037 Euro	2	2,074 Euro	
Microsoft Visual C++ Professional 6.01	MSO048-00328		1 859 Euro	1	859 Euro	
Client Software Subtotal					2,933 Euro	
Microsoft Software Support (all above)	SNP:10901600012			1		15,529 Euro
8xTP, 1x Coax 10Mbit Hub (+10% spare)	Artk-Nr 4356	BUG	3 26 Euro	1910	49,660 Euro	
24x10/0100Mbit Switch (+10% spare)	DES-3225G	Jauch	4 1,252 Euro	3	3,756 Euro	
Gigabit Uplink (+10% spare)	DES-3251G	Jauch	4 568 Euro	3	1,704 Euro	
User Connectivity Subtotal					55,120 Euro	
Total					262,436 Euro	24,948 Euro

1=Fujitsu-Siemens, 2=Microsoft, 3=BUG Computer Components AG, 4=Jauch Computer

Five-Year Cost of Owners 287,384
tpmC Rating 17,025.17
Euro / tpmC 16.88

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 section 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.

Five-Year Cost of Ownership: €287,384
tpmC Rating: 17,025.17
€ / tpmC: 16.88

Note: The benchmark results and test methodology were audited by Bradley J. Askins of InfoSizing

Numerical Quantities Summary

MQTh, computed Maximum Qualified Throughput		17,025.17 tpmC	
% throughput difference, reported & reproducibility runs 0.02 %			
Response Times (in seconds)	90th percentile	Average	Maximum
- New-Order	0.55	0.34	4.16
- Payment	0.46	0.26	2.17
- Order-Status	0.49	0.29	3.96
- Delivery (interactive portion)	0.12	0.11	0.63
- Delivery (deferred portion)	0.44	0.26	1.07
- Stock-Level	1.70	1.15	3.52
- Menu	0.13	0.12	0.73
Transaction Mix, in percent of total transactions			
- New-Order			44.83 %
- Payment			43.00 %
- Order-Status			4.07 %
- Delivery			4.03 %
- Stock-Level			4.06 %
Emulation Delay (in seconds)		Response Time	Menu
- New-Order		0.1	0.1
- Payment		0.1	0.1
- Order-Status		0.1	0.1
- Delivery (interactive)		0.1	0.1
- Stock-Level		0.1	0.1
Keying/Think Times (in seconds)	Minimum	Average	Maximum
- New-Order	18.00/0.00	18.01/12.05	18.03/120.50
- Payment	3.00/0.00	3.01/12.03	3.03/120.50
- Order-Status	2.00/0.00	2.01/10.05	2.03/100.81
- Delivery (interactive)	2.00/0.00	2.01/ 5.03	2.03/ 50.50
- Stock-Level	2.00/0.00	2.01/ 5.04	2.03/ 50.50
Test Duration and Checkpointing			
- Ramp-up time		59 minutes	
- Measurement interval		30 minutes	
- Number of checkpoints		1	
- Checkpoint interval		30 minutes	
- Transactions during measurement interval (all types)		1,185,170	