

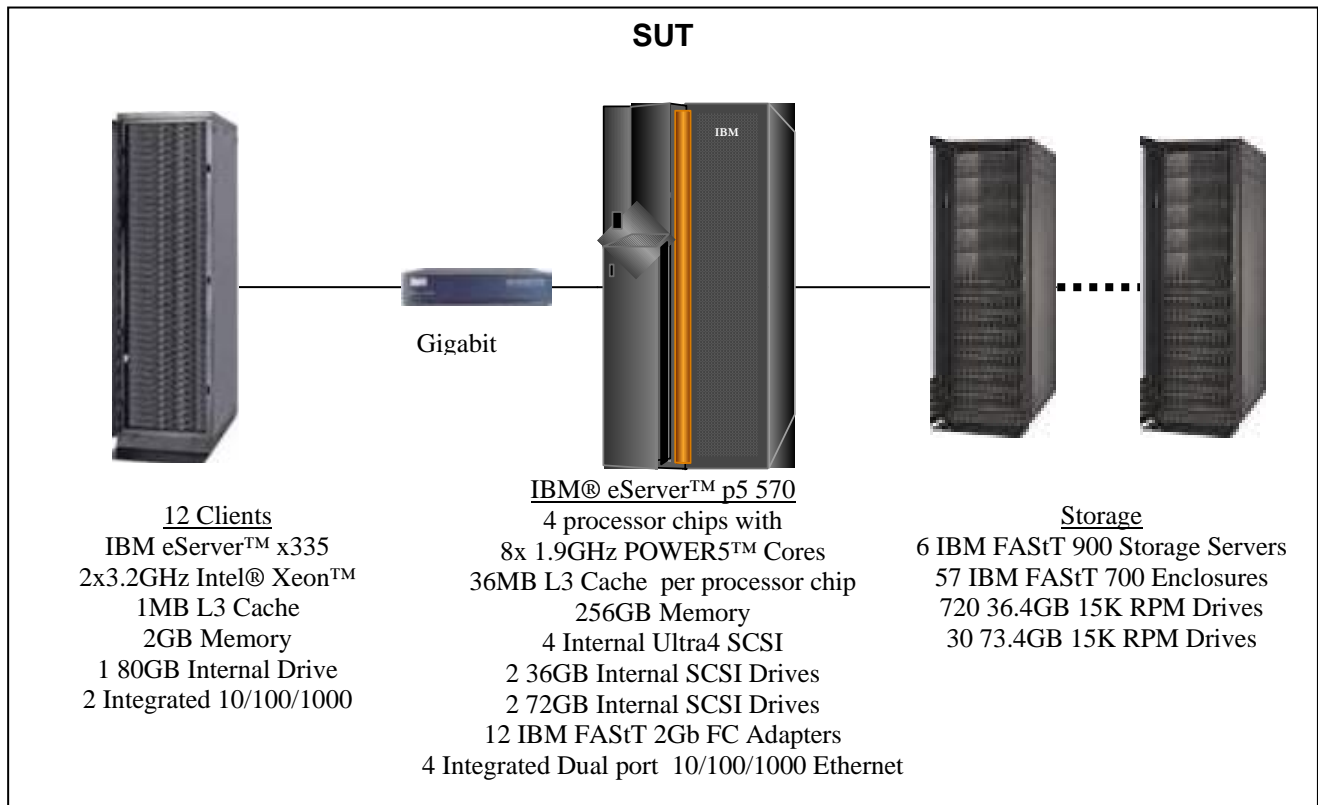
ORACLE

**IBM eServer p5 570
Model 9117-570**

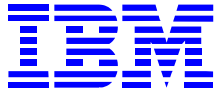
TPC-C Rev. 5.3

Report Date: July 12, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$1,951,215 USD	371,044.22	\$5.26 USD	September 30, 2004	
Processor Chips/Cores/Threads	Database Manager	Operating System	Other Software	No. Users
4/8/16	Oracle Database 10g Enterprise Edition	AIX 5L V5.3	Microsoft COM+	297,600



System Components	Each of the 12 Clients		Server	
	Quantity	Description	Quantity	Description
Processor Chips/Cores/Threads	2/2/2	3.2GHz Xeon with 1MB L3 Cache	4/8/16	1.9GHz POWER5™ 36MB L3 Cache per Chip
Memory	4	512 MB	8	32GB
Disk Controllers	1	EIDE	4 12 6	Integrated Ultra4SCSI FAStT 2Gb FC IBM FAStT900 Controllers
Disk Drives	1	80 GB	720 30 2 2	36.4GB 15K RPM FC 73.4GB 15K RPM FC 36.4GB 10K RPM SCSI 72GB 10K RPM SCSI
Total Storage		960 GB		25,537.50GB



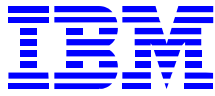
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Description	Part No.	Source	Unit Price	Qty	Ext Price	Maint Price
Server Hardware						
IBM eServer p5 570 Anhor Card VPD	9117-570	1	1,000	1	1,000	49,578
Headless Enclosure	7879	1	350	2	700	
I/O Backplane	7866	1	4,100	2	8,200	
System Midplane	7867	1	500	2	1,000	
SCSI disk backplane	7868	1	1,200	2	2,400	
Power Distribution Backplane	7870	1	200	2	400	
Serial Port Riser Card	7878	1	100	2	200	
Power Supply	7888	1	800	4	3,200	
L4 1.9 Processor 0/2Way	7832	1	10,900	4	43,600	
1-way Activation for 7832	7898	1	21,800	4	87,200	
1-way Activation for 7832 - \$0 Priced Value Pack	8454	1		4		
Media Backplane	7869	1	140	1	140	
CEC Backplane	7865	1	1,200	2	2,400	
L4 CPU Regulator	7875	1	1,100	6	6,600	
L4 FSP Card	7881	1	650	1	650	
IDE DVDROM, Slim Line	2640	1	378	1	378	
32GB (4x8000MB)	4492	1	103,000	8	824,000	
DASD 73.4 10K rpm	3274	1	1,400	2	2,800	
DASD 36.4 10K rpm	3273	1	750	2	1,500	
Line Cords	6458	1	14	4	56	
Op Panel	1846	1	150	1	150	
SMP Flex Cables - 2 encl	1847	1	2,000	1	2,000	
FSP Flex Cables - 2 encl	1857	1	1,000	1	1,000	
Hardware Management Console	7315-C03	1	2,535	1	2,535	144
HMC Cable	8121	1	62	1	62	
Quiet Touch Keyboard	8800	1	83	1	83	
Mouse	8841	1	62	1	62	
Model D20 I/O Drawer	7311-D11	1	4,461	2	8,922	5,568
Remote I/O Cable, 1.2M	3146	1	417	2	834	
SPCN 2m Cable: Drawer to Drawer	6001	1	25	3	75	
AC Power Supply, 250W	6278	1	375	4	1,500	
RIO-2 Ports to I/O Planar Riser Card	6431	1	900	1	900	
Rack Mount enclosure	7311	1	417	1	417	
2 Gigabit Fibre Channel PCI-X Adapter	5716	1	2,267	12	27,204	
Rack Model T00 - 6098, 6107	7014-T00	1	3,370	1	3,370	768
				Subtotal	1,035,538	56,058
Storage						
FAStT EXP 700	1740-1RU	1	6,000	57	342,000	
Short Wave SFP	2210	1	499	240	119,760	
2Gb FC, 36.4GB/15K Drive	5212	1	1,115	720	802,800	
2Gb FC, 73.4GB/15K Disk Module	5213	1	2,099	28	58,772	
FAStT900 Storage Server	1742-90U	1	66,500	6	399,000	
Fiber Cable 25m	5625	1	189	12	2,268	
Fiber Cable 1m	5601	1	79	104	8,216	
Fiber Cable 5m	5605	1	129	10	1,290	
2Gb Mini HUB	3507	1	899	12	10,788	
FAStT Storage Manager V8.4 upgrade	1742-7109	1	2,999	1	2,999	
3 Year Warranty Service Upgrade 1740-1RU 24x7x4	694225B1813	1	760	57		43,320
3 Year Warranty Service Upgrade 1742-90U 24x7x4	694225B1915	1	1,087	6		6,522
				Subtotal	1,747,893	49,842



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Server Software

AIX 5.3 (media only)	5962-A5L	1	50	1	50	
AIX Software	5765-AIX	1	1,225	8	9,800	
AIX Software Maintenance (3Y)	5773-SM3	1	1,958	8		15,664
AIX Software Maintenance 24x7 Upgrade (3Y)	0468	1	496	8		3,968
HMC Software SUB	5639-SB1	1	275	3		825
HMC Software Support	5639-ST1	1	525	3		1,575
C for AIX user Lic+SW maint 12 MO	D5A1DLL	1	515	1	515	
C for AIX user annual SW maint renewal	E1A1FLL	1	103	2		206
Oracle Database 10g Enterprise Edition, Per Processor for 3 years		2	20,000	8	160,000	
Oracle Database Server Support Package for 3 years		2	6,000	1		6,000
Oracle E-Business Discount (license & support)		2		1	-24,900	
				Subtotal	145,465	28,238

Client Hardware and Software

x335 w 3.2GHz/1024KB Xeon DP, one 80GB drive	864762X	1	2,679	12	32,148	5,400
3.2GHz 533 MHz 1MB L3 Cache Xeon Processor	13N0661	1	1,549	12	18,588	
512MB PC2100 CL2.5 ECC DDR SDRAM RDIMM	33L5038	1	219	24	5,256	
Microsoft Windows 2000 Server (Preloaded)	09N9982	1	799	12	9,588	
IBM ServicePac for xSeries	29R5396	1	1,375	12		16,500
NetBay42 Standard Rack	9306-421	1	1,439	6	8,634	1,008
xSeries Cable Chain Technology Cable Kit	06P4792	1	54	1	54	
IBM Sleek 2-Button Mouse - (PS/2)	28L3673	1	15	1	15	
Preferred Pro Full Size PS/2 Keyboard	31P7415	1	29	1	29	
E54 15" monitor/Keyboard/Mouse	W9SP47N	1	119	1	119	
				Subtotal	74,431	22,908

Third Party Hardware/Software

Visual Studio .NET Professional	528577	3	1,016	1	1,016	
NETGEAR 16PT 10/100/1000MBPS-GIG SW	638864	3	320	3	959	
				Subtotal	1,975	
				IBM Total System Discounts*	-1,163,010	-48,123
				Total	1,842,292	108,923

Three-Year Cost of Ownership **1,951,215**

*Discounts are based on US list prices for similar quantities & configurations including pre-payment for maintenance

tpmC **371,044**

\$/tpmC **5.26**

Audited by: Francois Raab, Info Sizing (www.infosizing.com)

Pricing Sources:

1 IBM HW: Bill Casey, eServer pSeries Offering Manager, wr Casey@us.ibm.com, 512-838-1422

2 Oracle Corporation; mary.beth.pierantoni@oracle.com, 916-315-5081

3 CDW.com

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 terms, please inform the TPC at pricing@tpc.org. Thank you

Numerical Quantities Summary for the IBM eServer p5 570 Model 9117-570

MQTH, computed Maximum Qualified Throughput: 371,044.22 tpmC

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.90	0.44	4.16
Payment	0.89	0.44	4.13
Order-Status	0.89	0.44	4.08
Delivery (interactive)	0.38	0.19	2.02
Delivery (deferred)	0.05	0.03	2.41
Stock-Level	0.98	0.51	4.03
Menu	0.39	0.18	2.02

Response time delay added for emulated components 0.1 seconds

<u>Transaction Mix, in percent of total transactions</u>	<u>Percent</u>
New Order	44.91%
Payment	43.02%
Order-Status	4.02%
Delivery	4.02%
Stock-Level	4.01%

<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.02	18.06/120.21
Payment	3.00/0.01	3.01/12.02	3.06/120.25
Order-Status	2.00/0.01	2.01/10.01	2.05/100.10
Delivery	2.00/0.01	2.01/5.02	2.05/50.21
Stock-Level	2.00/0.01	2.01/5.02	2.05/50.21

Test Duration

Ramp-up Time	1 hour 28 minutes
Measurement interval	2 hours 00 minutes
Transactions during measurement interval (all types)	166,800,105
Ramp-down time	20 minutes

Checkpoints

Number of checkpoints	4
Checkpoint interval	29 minutes 9 sec