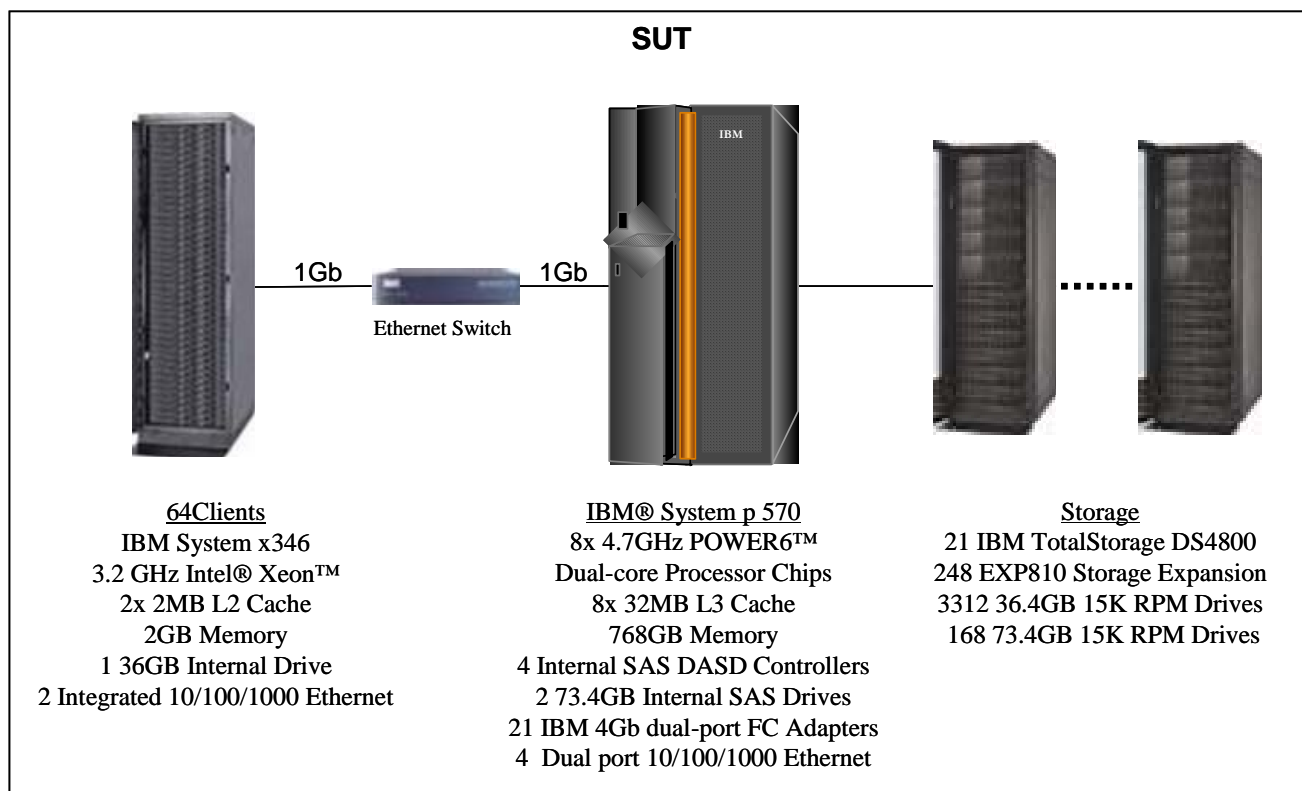


**IBM System p 570  
Model 9117-MMA**

TPC-C Rev. 5.8

Report Date: May 21, 2007

<b>Total System Cost</b>	<b>TPC-C Throughput</b>	<b>Price/Performance</b>	<b>Availability Date</b>
5,713,181 USD	<b>1,616,162</b>	\$3.54 USD	<b>November 21, 2007</b>
<b>Database Server Processor Chip/Core/Thread</b>	<b>Database Manager</b>	<b>Operating System</b>	<b>Other Software</b>
8/16/32 POWER6 4.7GHz	DB2 9.1	AIX 5L V5.3	Microsoft Visual C++ Microsoft COM+
			<b>No. Users</b>
			1,279,200



System Components	Server		Each of the 64 Clients	
	Quantity	Description	Quantity	Description
<b>Processors Chips /Cores/Threads</b>	8/16/32	4.7GHz POWER6™	2/2/4	3.2GHz 1MB L3 Xeon Processor
<b>Memory</b>	24	32 GB	4	512 MB
<b>Disk Controllers</b>	4 21 21	Integrated SAS 4Gb Dual-port FC Adapters IBM System Storage DS4800	1	Ultra320 SCSI
<b>Disk Drives</b>	3312 168 2	36.4GB 15K RPM 4Gb FC 73.4GB 15K RPM 4Gb FC 73.4GB 15K RPM SAS	1	36GB
<b>Total Storage</b>		117.05 TB		2,304 GB
<b>Terminals</b>	1	System Console	1	System Console

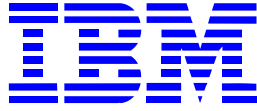


# IBM System p 570 Model 9117-MMA

TPC-C Rev. 5.8

Report Date: May 21, 2007

Description	Part No.	Source	Unit Price	Qty	Ext Price	Maint Price
<b>Server Hardware</b>						
Server 1:9117 Model MMA	9117-MMA	1	10,195	1	10,195	7,146
Op Panel (MMA)	1845	1	199	1	199	
P6 Processor Power Regulator	5625	1	1,500	12	18,000	
System CEC Enclosure with Bezel	5626	1	500	4	2,000	
AC Power Supply, 200-240v, 1500 Watt	5628	1	1,502	8	12,016	
Media Enclosure and Backplane	5629	1	185	1	185	
Service Processor Interface	5648	1	1,000	4	4,000	
Processor Enclosure and Backplane	5663	1	2,000	4	8,000	
I/O Backplane	5666	1	4,500	4	18,000	
System Midplane	5667	1	1,000	4	4,000	
SAS DASD Backplane, 6-pk	5668	1	1,051	4	4,204	
Line Cord, DRWR TO IBM PDU, 14', 200-240V/10A,	6458	1	19	8	152	
Rack Mount kit for IBM 19" rack	7164	1	222	4	888	
Power Distribution Backplane	7870	1	265	4	1,060	
P6 P6 SMP Fabric Cable, DRWR/DRWR	3660	1	2,000	3	6,000	
P6 P6 SMP Fabric Cable, DRWR/NC/DRWR	3664	1	4,000	2	8,000	
P6 SMP Fabric Cable DRWR/NC/NC/DRWR	3665	1	8,000	1	8,000	
Enhanced FSP cable, 4 enclosures	5660	1	8,000	1	8,000	
IDE Slimline DVD-ROM Drive	5756	1	275	1	275	
4.7GHz POWER6 -2 Core Processor Card, 0-core active	7380	1	11,500	8	92,000	34,368
One Processor Activation for Processor Feature #7380	5403	1	23,000	16	368,000	63,360
256GB Memory (8x32GB) DDR2 POWER6 memory	8129	1	97,126	3	291,378	
Activation of 256 GB DDR2 POWER6 Memory	5681	1	387,840	3	1,163,520	
I/O Riser, 2x Serial, 2x p5IO2C E'net (Evans)	5636	1	399	4	1,596	
73.4GB SAS DASD, 15K RPM	3646	1	659	2	1,318	
4 Gigabit Fibre Channel PCI-X Adapter	5759	1	3,308	21	69,468	
IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter	5701	1	699	4	2,796	
GX Dual Port- 12X Channel Attach	1802	1	1,499	4	5,996	
IO Drawer 7314-G30	7314-G30	1	2,850	4	11,400	20,324
Planer and Tray Assembly	6590	1	1,300	4	5,200	
I/O Drawer Mounting Enclosure	7314	1	525	2	1,050	
AC Power Supply 300 Watt	6270	1	300	8	2,400	
1.5M 12X ENHANCED IB CABLE	1830	1	400	8	3,200	
Power Controll SPCN	6631	1	250	4	1,000	
Line cord	6458	1	14	8	112	
Dual Port 12X Channel Adapter	6446	1	575	4	2,300	
POWER CONTROL CABLE, 3M, (SPCN)	6006	1	40	8	320	
Rack Model T00	7014-T00	1	2,920	1	2,920	768
Front Trim Kit For 1.8 Meter Rack (Black)	6246	1	158	1	158	
Side Panel (Black)	6098	1	150	2	300	
PDU to 14', 200-240V/24A, UTG0247, PT#12	6654	1	240	1	240	
HMC 1:7310-C05 Desktop Hardw.Mgmt.Console	7310-C05	1	1,830	1	1,830	1,344
IBM ThinkVision C170 17-inch Color Monitor	3631	1	250	1	250	
Power Cord (6-foot), To Wall Plug Type #4	6470	1	18	2	36	
Ethernet Cable, 6M, HMC to System Unit	7801	1	15	1	15	
Keyboard - English, #103P	8800	1	104	1	104	
Mouse - Attachment Cable	8841	1	78	1	78	
			<b>Subtotal</b>		<b>2,142,159</b>	<b>127,310</b>
<b>Storage</b>						
DS4800 Disk System Model 82	1815-82A	1	53,995	21	1,133,895	
DS4800 8-Storage Partitions	8870	1	10,000	21	210,000	
(22R4255) DS4800 AIX Host Kit	7711	1	7,000	21	147,000	
DS4000 EXP810 Enclosure	1812-81A	1	6,000	248	1,488,000	
72GB/15K Drive 4Gb FC disks	5413	1	1,679	168	282,072	
36GB/15K Drive 4Gb FC disks	5412	1	892	3,312	2,954,304	
Short Wave SFP	2410	1	998	185	184,630	



# IBM System p 570 Model 9117-MMA

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Report Date: May 21, 2007

Fiber Cable 25m	5625	1	189	42	7,938	
Fiber Cable 1m	5601	1	79	496	39,184	
3 Year Warranty Service Upgrade 1812-81A 24x7x4		1	960	248		238,080
3 Year Warranty Service Upgrade 1815-82A 24x7x4		1	3,200	21		67,200
			<b>Subtotal</b>		<b>6,447,023</b>	<b>305,280</b>
<b>Server Software</b>						
AIX 5.3 (media only)	5692-A5L	1	50	1	50	
AIX Software per Processor	5765-G03	1	1,225	16	19,600	
Software Maintenance for AIX, 3 Year	5773-SM3	1				
F5 3 Yr SWMA for AIX per Processor	466	1	1,958	16		31,328
F5 3 yr Services 7x24 Support per Processor	468	1	496	16		7,936
Partition Load Manager SW Maint: 3 year	5773-PLM	1				
F5 3 Yr SWMA for AIX per Processor	627	1	55	16		880
F5 3 yr Services 7x24 Support per Processor	628	1	14	16		224
VIO Software Maintenance (3Y)	5773-VIO	1				
Per Processor F5 VIO 3 Yr Maintenance	573	1	245	16		3,920
Per Processor F5 VIO 3 Yr Maint 24x7 Support	574	1	64	16		1,024
Initial Software Support 3 Year	5773-RS3					
Per Processor Software Support 3 Year	569	1	675	1		675
Per Processor 24x7 Software Support 3 Year	570	1	236	1		236
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
DB2 Enterprise Proc 9 Lic/1 year Maintenance		1	271	1,920	519,533	
DB2 9 Enterprise Edition Proc Maint Renew		1	13	3,840		49,498
			<b>Subtotal</b>		<b>539,698</b>	<b>95,927</b>
<b>Client Hardware and Software</b>						
xSeries 346 Express Model	884025U	1	2,175	64	139,200	38,400
3.2GHz 800MHz 2MB L2 Cache Xeon Processor	40K2505	1	499	64	31,936	
1GB (2x512MB Kit) PC2-3200	39M5818	1	238	64	15,232	
36GB 15K Hot Swap SCSI	40K1026	1	269	64	17,216	
NetBAY S2 42U Standard Rack Cabinet	93074RX	1	1,489	26	38,714	
Optical 3-Button Mouse - USB	40K9201	1	19	1	19	
Preferred Pro Full Size PS/2 Keyboard	40K9584	1	29	1	29	
IBM C117 17" CRT Monitor	49387NU	1	149	1	149	
			<b>Subtotal</b>		<b>242,495</b>	<b>38,400</b>
<b>Third Party Hardware/Software</b>						
Visual C++ Standard Edition	254-00170	2	109	1	109	
Microsoft Windows 2003 Server	P73-00295	2	719	64	46,016	
Microsoft Problem Resolution Services		2	245	1	245	245
3Com Baseline Switch 2824 24-port unmanaged Gigabit	512294	3	290	6	1,740	
			<b>Subtotal</b>		<b>48,110</b>	<b>245</b>
			<b>Total</b>		<b>9,419,485</b>	<b>567,162</b>
					<b>Total IBM Discounts*</b>	<b>-4,273,465</b>

**Three-Year Cost of Ownership 5,713,181**

**Notes:**

For pricing details and contact information please see appendix E

Pricing Sources: 1) IBM 2) Microsoft 3) CDW

**tpmC 1,616,162**

**\$/tpmC 3.54**

\*Discounts are based on US list prices for similar quantities & configurations including pre-payment for maintenance. The discount of 43% applies to the totality of all items with price source of "1".

Audited by: Francois Raab, Info Sizing ([www.infosizing.com](http://www.infosizing.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](mailto:pricing@tpc.org). Thank you

## Numerical Quantities Summary for the IBM System p 570 Model 9117-MMA

MQTH, computed Maximum Qualified Throughput: 1,616,162 tpmC

<u>Response Times (in seconds)</u>	<u>90<sup>th</sup> %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.48	0.25	20.91
Payment	0.46	0.24	20.43
Order-Status	0.47	0.25	16.9
Delivery (interactive)	0.10	0.10	19.62
Delivery (deferred)	0.14	0.24	2.55
Stock-Level	0.55	0.30	13.44
Menu	0.10	0.10	20.40

Response time delay added for emulated components was 0.1 seconds

<u>Transaction Mix, in percent of total transactions</u>	<u>Percent</u>
New Order	44.96%
Payment	43.01%
Order-Status	4.01%
Delivery	4.01%
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	18.04/120.20
Payment	3.00/0.01	3.01/12.02	3.04/120.20
Order-Status	2.00/0.01	2.01/10.01	2.03/100.10
Delivery	2.00/0.01	2.01/5.02	2.03/50.20
Stock-Level	2.00/0.01	2.01/5.02	2.03/50.20

### Test Duration

Ramp-up Time	19 minutes
Measurement interval	2 hours 20 minutes
Transactions during measurement interval (all types)	503,267,530
Ramp-down time	15 minutes

### Checkpoints

Number of checkpoints	N/A
Checkpoint interval	N/A