

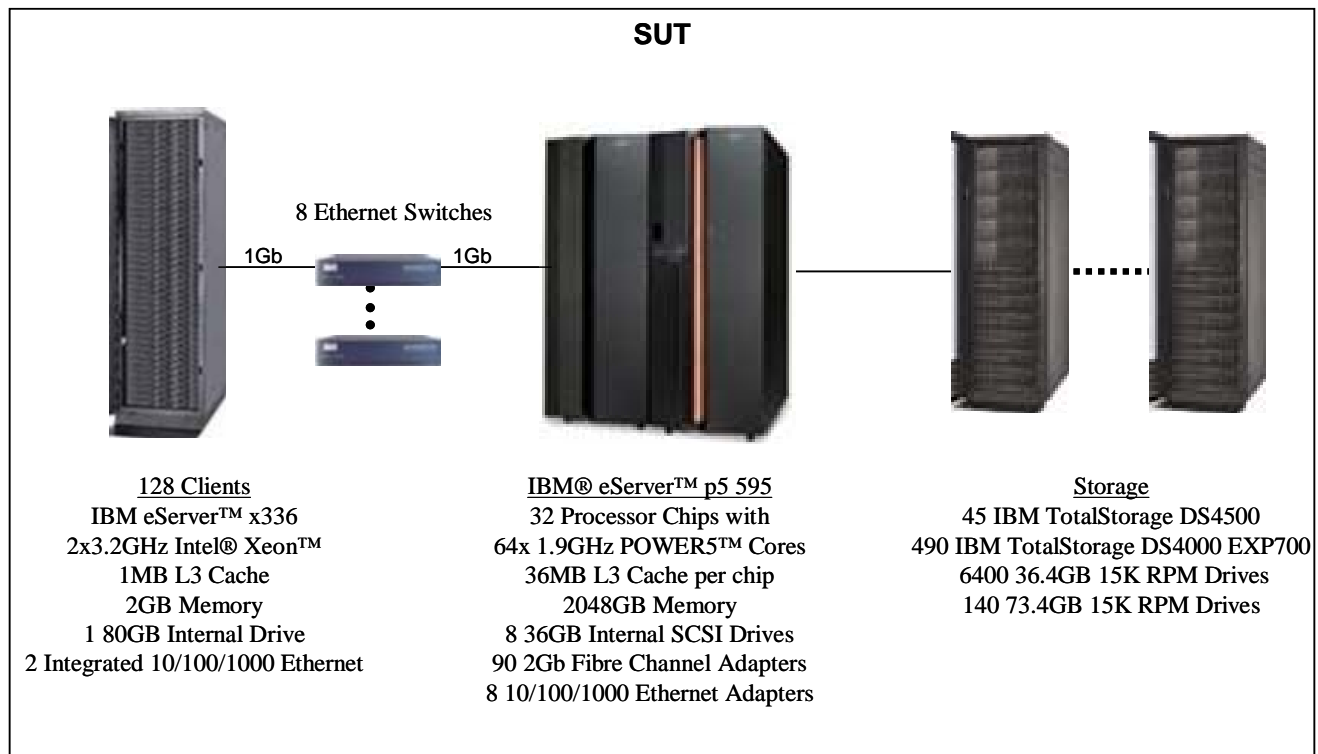


**IBM eServer p5 595
Model 9119-595**

TPC-C Rev. 5.3

Report Date: November 18, 2004
Updated: April 10, 2006

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$16,273,320 USD	3,210,540.63	\$5.07 USD	May 14, 2005	
Processor Chip/Core/Thread	Database Manager	Operating System	Other Software	No. Users
32/64/128	DB2 UDB 8.2	AIX 5L V5.3	Microsoft Visual C++ Microsoft COM+	2,560,000



System Components	Each of the 128 Clients		Server	
	Quantity	Description	Quantity	Description
Processor Chips/Cores/Threads	2/2/2	3.2GHz 1MB L3 Xeon Processor	32/64/128	1.9GHz POWER5™
Memory	4	512 MB	4	512 GB
Disk Controllers	1	SATA	2 90 45	Integrated dual Ultra3SCSI 2Gb FC Adapters IBM DS4500 Controllers
Disk Drives	1	80 GB	6400 140 8	36.4GB 15K RPM FC 73.4GB 15K RPM FC 36.4GB 15K RPM SCSI
Total Storage		10240 GB		243,236GB
Terminals	4	System Console	1	System Console



IBM eServer p5 595 Model 9119-595

TPC-C Rev. 5.3

Report Date: November 18, 2004

Update: November 18, 2005

Description	Part No.	Src	Unit Price	Qty	Ext Price	Maint Price
Server Hardware						
Server 1:- p5 595	9119-595	1	92,000	1	92,000	63,000
RIO-2 (Remote I/O-2) Cable, 3.5M	3147	1	660	16	10,560	
RIO-2(Remote I/O-2)Cbl, 8.0M	3170	1	800	16	12,800	
36.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly	3277	1	2,125	8	17,000	
2 Gigabit Fibre Channel PCI-X Adapter	5716	1	2,720	90	244,800	
IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter	5701	1	1,280	8	10,240	
PCI-X Dual Channel Ultra320 SCSI Blind Swap	5710	1	790	1	790	
Expansion Rack, Powered	5792	1	60,000	1	60,000	3,960
I/O Drawer, 20 Slots, 8 Disk Bays	5794	1	30,000	8	240,000	32,640
I/O Drw.Cbl.Grp, Prim.Rck/9U	6121	1	400	1	400	
I/O Drw.Cbl.Grp, Prim.Rck/5U	6122	1	400	1	400	
I/O Drw.Cbl.Grp, Prim.Rck/1U	6123	1	400	1	400	
I/O Drw.Cbl.Grp, Prim.Rck/13U	6124	1	400	1	400	
Bulk Power Regulator	6186	1	4,000	8	32,000	
Slim Line Doors, System and #5792 Racks	6251	1	6,000	2	12,000	
Power Cord - United States/Canada	6470	1	17	1	17	
Ethernet Cable, 6M, HMC to System Unit	7801	1	14	2	28	
Power Controller Assembly	7803	1	4,000	4	16,000	
Cooling Group, 2-4 Processor Books	7807	1	4,000	1	4,000	
DC Power Converter, Processor Book	7809	1	6,000	12	72,000	
Processor Clock Card, Programmable	7810	1	575	2	1,150	
System Service Processor	7811	1	3,500	2	7,000	
Multiplexer Card	7812	1	2,200	4	8,800	
16-Way POWER5 Turbo CUoD Processor, 0-Way Active	7813	1	127,000	4	508,000	68,640
Activation, #7813 CUoD Processor Book, One Processor	7815	1	32,000	64	2,048,000	506,880
Remote I/O-2 (RIO-2) Loop Adapter, Two Port	7818	1	3,400	16	54,400	
Pwr.Cbl.Grp, CEC Primary Fans	7821	1	650	1	650	
Pwr.Cbl.Grp, 1st CEC Book	7822	1	650	1	650	
Pwr.Cbl.Grp, 2nd CEC Book	7823	1	650	1	650	
Pwr.Cbl.Grp, 3rd CEC Book	7824	1	650	1	650	
Pwr.Cbl.Grp, 4th CEC Book	7825	1	650	1	650	
Pwr.Cbl.Grp, 7807 Cooling Grp.	7826	1	650	1	650	
Power Distribution Assembly	7837	1	2,500	6	15,000	
I/O Drw.Cbl.Grp, 5792 Rck/1U	7853	1	650	1	650	
I/O Drw.Cbl.Grp, 5792 Rck/5U	7854	1	650	1	650	
I/O Drw.Cbl.Grp, 5792 Rck/9U	7855	1	650	1	650	
I/O Drw.Cbl.Grp, 5792 Rck/19U	7857	1	400	1	400	
512GB DDR1 Memory (16 X 32GB Cards)	8198	1	2,228,224	4	8,912,896	
Line Cord, 6AWG, 14ft, IEC309 100A Plug	8686	1	2,500	4	10,000	
Storage Device Enclosure	7212-102	1	1,295	1	1,295	264
DVD-ROM Drive	1106	1	500	1	500	72
Drive Panel (Blank)	1204	1	25	1	25	
Rack Mounting Hardware Kit	1205	1	150	1	150	
Rack Power Cord, Single	5060	1	29	1	29	
HMC 1:7310-C03 Desktop Hardw.Mgmt.Console	7310-C03	1	2,001	1	2,001	816
Subtotal					12,401,331	676,272
Storage						
DS4500 Disk System	1742-90U	1	49,900	45	2,245,500	
DS4000 EXP700 Storage Expansion	1740-1RU	1	6,000	490	2,940,000	
2Gb FC, 36.4GB/15K Drive	5212	1	1,115	6,400	7,136,000	
2Gb FC, 73.4GB/15K Disk Module	5213	1	2,099	140	293,860	
Short Wave SFP	2210	1	499	1,640	818,360	
Fiber Cable 25m	5625	1	189	90	17,010	
Fiber Cable 1m	5601	1	79	900	71,100	



IBM eServer p5 595 Model 9119-595

TPC-C Rev. 5.3

Report Date: November 18, 2004
Updated November 18, 2005

Fiber Cable 5m	5605	1	129	80	10,320		
2Gb Mini HUB	3507	1	899	90	80,910		
Storage Manager V8.4 upgrade	1742-7109	1	2,999	5	14,995		
3 Year Warranty Service Upgrade 1740-1RU 24x7x4	41L2768	1	760	490		372,400	
3 Year Warranty Service Upgrade 1742-90U 24x7x4	96P2062	1	1,087	45		48,915	
			Subtotal		13,628,055	421,315	
Server Software							
AIX 5.3 (media only)	5692-A5L	1	50	1	50		
AIX Software per Processor	5765-G03	1	2,495	64	159,680		
AIX Software Maintenance (3Y)	5773-SM3	1	2,836	64		181,504	
PLM Software Maintenance (3Y)	5773-PL3	1	35	64		2,240	
VIO Software Maintenance (3Y)	5773-PL3	1	155	64		9,920	
AIX Software Maintenance 24x7 Upgrade (3Y)	0468	1	496	64		31,744	
HMC Software SUB (3Y)	5773-0570	1	236	1		236	
HMC Software Support (3Y)	5773-0569	1	675	1		675	
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 Server Edition Proc Lic/1 yr Maint.	D518GLL	1	21,425	64	1,371,200		
DB2 Enterprise Server Ed Proc Maint Renew	E00BILL	1	1,020	128		130,560	
			Subtotal		1,531,445	357,085	
Client Hardware and Software							
	3,992						
x336 w 3.2GHz/1024KB Xeon	883722U	1	2,529	128	323,712	57,600	
xSeries 3.2GHz 800MHz 1MB L2Cache Intel Xeon	13N0663	1	899	128	115,072		
1GB PC2-3200 (2x512MB) ECC DDR2 SDRAM RDIMM	73P3522	1	399	128	51,072		
80GB 7200 RPM SATA HDD with EZ swap Tray	73P8002	1	165	128	21,120		
Microsoft Windows 2000 Server	C11-00821	3	738	128	94,464		
Microsoft Problem Resolution Services		3	245	1		245	
NetBay42 Standard Rack	9306-421	1	1,439	46	66,194	8,648	
xSeries Cable Chain Technology Cable Kit	06P4792	1	54	4	216		
IBM Sleek 2-Button Mouse - (PS/2)	28L3673	1	15	4	60		
Preferred Pro Full Size PS/2 Keyboard	31P7415	1	29	4	116		
E54 15" monitor	W9SP47N	1	119	4	476		
			Subtotal		672,502	66,493	
Third Party Hardware/Software							
Visual C++ Standard Edition	254-00170	3	109	1	109		
Cisco Catalyst 2970 24 10/100/1000 BASE-T ports	511987	2	2,809	10	28,094		
			Subtotal		28,203		
			Total		28,261,536	1,521,165	
					IBM Total System Discounts*	-13,509,381	
					Three-Year Cost of Ownership	16,273,320	
					tpmC	3,210,540.6	
					\$/tpmC	5.07	

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

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

Pricing Sources:

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

1 IBM DB2: Paul Rivot, Director Database Servers Business Intelligence Software, email privot@us.ibm.com, phone 914-766-1325

2. CDW.com, 3. Microsoft Corporation

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 595 Model 9119-595

MQTH, computed Maximum Qualified Throughput: 3,210,540.63 tpmC

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.53	0.34	6.84
Payment	0.53	0.34	7.17
Order-Status	0.53	0.34	6.90
Delivery (interactive)	0.27	0.16	6.50
Delivery (deferred)	0.20	0.15	0.
Stock-Level	0.53	0.35	6.16
Menu	0.25	0.16	6.51

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	44.90%
Payment	43.03%
Order-Status	4.01%
Delivery	4.02%
Stock-Level	4.02%

<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	18.06/120.23
Payment	3.00/0.01	3.01/12.02	3.06/120.22
Order-Status	2.00/0.01	2.01/10.01	2.05/100.11
Delivery	2.00/0.01	2.01/5.02	2.05/50.23
Stock-Level	2.00/0.01	2.01/5.02	2.05/50.21

Test Duration

Ramp-up Time	44 minutes
Measurement interval	2 hours 30 minutes
Transactions during measurement interval (all types)	1,072,383,088
Ramp-down time	20 minutes

Checkpoints

Number of checkpoints	N/A
Checkpoint interval	N/A