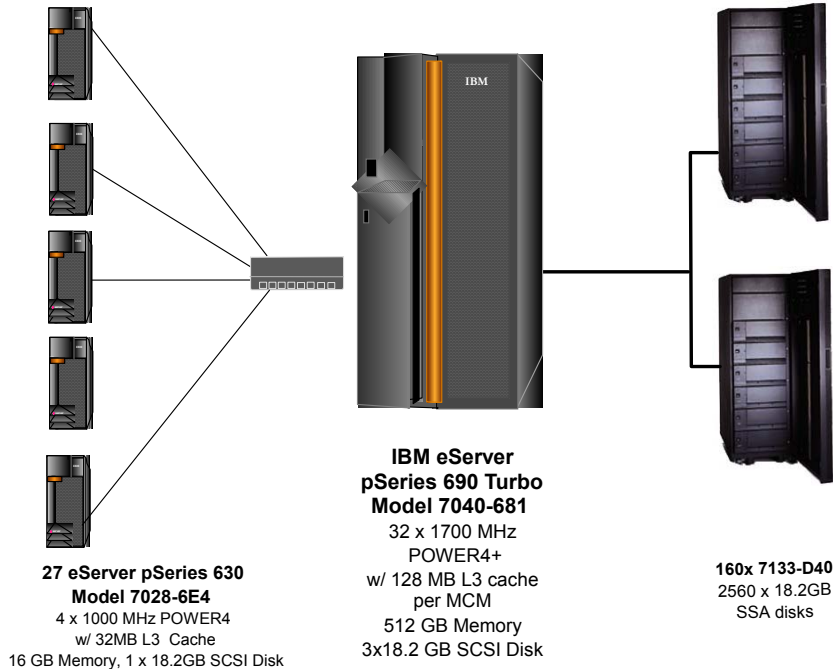
	IBM eServer pSeries 690 Turbo Model 7040-681		TPC-C Rev. 5.1	
			Report Date: May 9, 2003	
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$7,574,961	680,613.12 tpmC	\$11.13/tpmC	November 8, 2003	
Processors	Database Manager	Operating System	Other Software	No. Users
32 for database 108 for clients	DB2 UDB 8.1	AIX 5L V5.2	TUXEDO 8.0	532,000



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	27	4 x1000 MHz POWER4 W/32MB L3 cache each	1	32 x 1700 MHz POWER4+ w/ 128 MB L3 cache per MCM, 4 MCM in the SUT
Memory		16 GB		512 GB
Disk Controllers	2	Ultra3 SCSI-2 (Integrated)	1	SCSI-2 (Integrated)
Disk Drives			30	SSA Adapters
	1	18.2 GB Ultra SCSI each client	2,560	18.2 GB SSA disk
Total Storage		16.96 GB each client	3	18.2 GB SCSI disk
Terminals	1	System Console	1	System Console
				43,067 GB



IBM eServer pSeries 690 Turbo Model 7040-681

TPC-C Rev. 5.1

Report Date: May 9, 2003

Description	Part No.	Source	Unit Price	Qty	Ext Price	Maint Price
Server Hardware						
IBM eServer pSeries 690 (CD, cables, clock card)	7040-681	1	13,394	1	13,394	20,760
128MB (4x32) L3 Cache, 600MHz	4199	1	25,000	4	100,000	0
64GB H-Memory (inward facing)	4488	1	172,000	4	688,000	0
64GB H-Memory (outward facing)	4489	1	172,000	4	688,000	0
1.7GHz 8-way Processor MCM	5246	1	350,000	4	1,400,000	372,000
Std CEC Fan Pwr cbl grp, BPC(F&R) to Std CEC Fans	6161	1	400	1	400	0
Std CEC Service Proc Y-Cbl, BPC(F&R) to Std CEC Sf	6162	1	200	1	200	0
Standard CEC DC/DC Converter Assembly	6170	1	4,700	2	9,400	0
Power Cable Group, 1 thru 3 processor modules	6181	1	720	1	720	0
Additional DC/DC Converter Assembly, (DCA)	6189	1	4,200	3	12,600	0
Capacitor book (for 2 MCMs)	6198	1	1,800	2	3,600	0
Service Processor + Dual Rio Loop (GX)	6418	1	7,000	1	7,000	0
Remote I/O Loop adapter	6410	1	8,000	1	8,000	0
Backplane, Central Electronics Complex	6565	1	50,000	1	50,000	0
Attachment Cable, Hardware Management Console	8121	1	75	1	75	0
Media Drwr, 1U, Op Pnl/Dskt/4 SCSI Media Bays	8692	1	1,700	1	1,700	0
I/O Drawer	7040-61D	1	3,980	4	15,920	16,320
SCSI cable - B&C to Media Drawer	2122	1	275	1	275	0
RIO-G Cable, 500MHz, 1.2m + 2x3.5M	3146	1	1700	4	6,800	0
18.2 GB Ultra3 10K RPM 1" U3 Module	3157	1	1,260	3	3,780	0
10/100 Mbps Ethernet adapter II	4962	1	275	10	2,750	0
Cable Grp, 4xUPIC/2xRIO, BPM(IO#1 thru#4) to B&C	6121	1	1600	1	1,600	0
I/O Drwr DC/DC Converter assembly, (DCA)	6172	1	4000	8	32,000	0
Power Cable, B&C to Media Drawer	6179	1	300	1	300	0
Ultra SCSI SE Adapter	6206	1	395	1	395	0
Advanced SerialRAID Adapter	6230	1	3000	30	90,000	0
32 MB Fast_Write Cache option card	6235	1	575	2	1,150	0
B&C Planar, 10 PCI Slots, 2x integrated SCSI	6563	1	8,000	8	64,000	0
Ultra3 SCSI 4-Pack	6564	1	500	16	8,000	0
Rack	7040-61R	1	5,500	1	5,500	3,960
Front Door, 24W, 2M, and back door	6070	1	3750	1	3,750	0
Bulk Power Regulator (BPR)	6186	1	4000	4	16,000	0
Bulk Power Controller (BPC), 4 Fans + 3 DCAs	6187	1	1900	2	3,800	0
Bulk Power Distribution (BPD), 10 DCAs	6188	1	3500	4	14,000	0
Line Cord, 60A, 14', IEC309 Plug, Chargeable	8678	1	1000	2	2,000	0
Regatta-H Bulk Power Module (2x BPA, EPO PNL)	8690	1	5000	1	5,000	0
System Console, serial attach. cabel 6M	7316	1	4,400	1	4,400	0
Display, White P76/P77 Color Monitor, keyboard	3627	1	675	1	675	0
				Subtotal	3,265,184	413,040
Storage						
SSA Disk Subsystem	7014-T42	1	4,150	16	66,400	14,208
Front Trim, 2 side Trims	6081	1	450	16	7,200	0
Additional Power Distribution Unit	6171	1	1,000	43	43,000	0
				Subtotal	116,600	14,208
2.6 TB SSA Disk Bundle	7133-1BU	1	587,756	1	587,756	44,160
13.1 TB SSA Disk Bundle	7133-5BU	1	2,351,025	1	2,351,025	220,800
26.2 TB SSA Disk Bundle	7133-9BU	1	3,918,375	1	3,918,375	441,600
				Subtotal	6,857,156	706,560

Server Software							
AIX 5.2 (media only)	5962-A5L	1	50	1	50	0	
AIX SWMA Subscription	5771-SUB	1	275	32	0	8,800	
AIX SWMA Support	5771-SPT	1	775	32	0	24,800	
C for AIX user Lic+SW maint 12 MO	D5A1DLL	1	515	1	515	0	
C for AIX user annual SW maint renewal	E1A1FLL	1	103	2	0	206	
DB2 Enterprise Server Edition Proc Lic/1 yr Maint.	D158GLL	1	19,755	32	632,160	0	
DB2 Enterprise Server Ed Proc Maint Renew (annual).	E00BILL	1	940	64		60,160	
					Subtotal	632,725	93,966
Client Hardware and Software							
Desktop Server 1:pSeries 630 Model 6E4, CD ROM	7028-6E4	1	808	27	21,816	81,000	
18.2 GB 10,000 RPM Ultra3 SCSI Disk Drive, cable	3157	1	1,112	27	30,024	0	
P76/p77 Color Monitor, captured cable, keyboard	3627	1	562	1	562	0	
4096MB (4x1024MB) SDRAM DIMM Memory	4453	1	8,800	108	950,400	0	
4-port 10/100 Mbps Ethernet adapter	4961	1	1,250	135	168,750	0	
2-way 1.0 GHz POWER4 processor card	5132	1	13,000	54	702,000	0	
Pwr Supply ,645 W AC, Hot-Swap, base and redunadar	6273	1	2,083	27	56,241	0	
Ultra3 SCSI 4-Pack Hot Swap Back Plane	6568	1	292	27	7,884	0	
AIX SWMA Subscription	5771-SUB	1	175	2	0	350	
AIX SWMA Support	5771-SPT	1	475	2	0	950	
AIX 5L version 5	5962-A5L	1	50	27	1,350	0	
					Subtotal	1,939,027	82,300
Third Party Hardware/Software							
BEA Tuxedo 8.0		2	10,200	27	275,400	173,502	
10/100 16-Port Dual Speed Switch	FS116NA	3	98	5	490	0	
					Subtotal	275,890	173,502
Audited by: Francois Raab, Info Sizing (www.infosizing.com)					Discounts	-6,475,282	-519,915
Pricing Sources:					Total	6,611,300	963,661
1=IBM HW: Bill Casey, eServer pSeries Offering Mgr, wr Casey@us.ibm.com, 512-838-1422							
1= IBM DB2:Paul Rivot, Director Database Servers and Business Intelligence Software, e-mail privot@us.ibm.com, 914-766-1325					Three-Year Cost of Ownership	US\$7,574,961	
2= BEA Systems					tpmC	680,613.12	
3=NETGEAR					\$/tpmC	US\$11.13	

See next page for details of the SSA Disk Rack Bundles.

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

2.6 TB SSA Disk Bundle	7133-1BU		US\$587,756
Pre-configured bundle of parts below			
	Part No.	Qty	
SSA Disk Subsystem	7133-D40	9	
50/60 Hz AC, 300 VDC Power Supply	8022	9	
Raven Black Drawer Cover	8031	9	
10K/18.2 GB Advanced Disk Drive Module	8518	144	
SSA Cables	8805	9	
13.1 TB SSA Disk Bundle	7133-5BU		US\$2,351,025
Pre-configured bundle of parts below			
	Part No.	Qty	
SSA Disk Subsystem	7133-D40	45	
50/60 Hz AC, 300 VDC Power Supply	8022	45	
Raven Black Drawer Cover	8031	45	
10K/18.2 GB Advanced Disk Drive Module	8518	720	
SSA Cables	8805	45	
26.2 TB SSA Disk Bundle	7133-9BU		US\$3,918,375
Pre-configured bundle of parts below			
	Part No.	Qty	
SSA Disk Subsystem	7133-D40	90	
50/60 Hz AC, 300 VDC Power Supply	8022	90	
Raven Black Drawer Cover	8031	90	
10K/18.2 GB Advanced Disk Drive Module	8518	1,440	
SSA Cables	8805	90	

Numerical Quantities Summary for the IBM eServer pSeries 690 Turbo Model 7040-681

MQTH, computed Maximum Qualified Throughput: 680,613.12 tpmC

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.12	0.08	17.99
Payment	0.08	0.05	24.02
Order-Status	0.13	0.09	12.45
Delivery (interactive)	0.05	0.03	14.26
Delivery (deferred)	0.28	0.23	11.76
Stock-Level	0.08	0.05	11.92
Menu	0.00	0.00	15.11

Transaction Mix, in percent of total transactions

	<u>Percent</u>
New Order	44.91%
Payment	43.02%
Order-Status	4.02%
Delivery	4.01%
Stock-Level	4.01%

Keying/Think Times (in seconds)

	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.02	18.12/120.20
Payment	3.00/0.01	3.01/12.02	3.08/120.21
Order-Status	2.00/0.01	2.01/10.01	2.08/100.10
Delivery	2.00/0.01	2.01/5.02	2.08/50.20
Stock-Level	2.00/0.01	2.01/5.02	2.08/50.20

Test Duration

Ramp-up Time	29 minutes 19 seconds
Measurement interval	4 hours 30 minutes
Transactions during measurement interval (all types)	409,144,518
Ramp-down time	17 minutes

Checkpointing

Number of checkpoints	N/A
Checkpoint interval	N/A