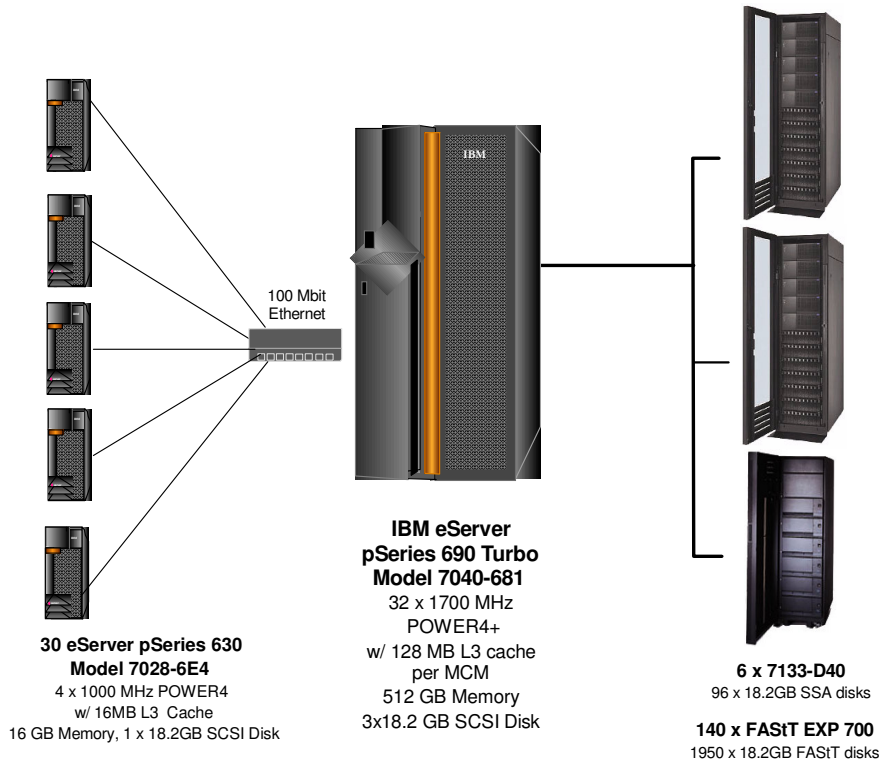
	IBM eServer pSeries 690 Turbo Model 7040-681		TPC-C Rev. 5.1	
			Report Date: June 30, 2003	
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$6,301,741	763,898.39 tpmC	\$8.25/tpmC	November 8, 2003	
Processors	Database Manager	Operating System	Other Software	No. Users
32 for database 120 for clients	DB2 UDB 8.1	AIX 5L V5.2	TUXEDO 8.0	609,000



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	30	4 x1000 MHz POWER4 W/16MB 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)
			2	SSA Adapters
			26	Fibre Channel Adapters
Disk Drives	1	18.2 GB Ultra SCSI each client	3	18.2 GB SCSI disk
			96	18.2 GB SSA disk
			1950	18.2 GB FASTT disk
Total Storage		16.96 GB each client		33,300.03GB
Terminals	1	System Console	1	System Console



IBM eServer pSeries 690 Turbo Model 7040-681

TPC-C Rev. 5.1

Report Date: June 30, 2003

Server Hardware	Part No.	Source	Unit Price	Qty	Ext Price	Maint Price
IBM eServer pSeries 690 (CD, cables, clock card)	7040-681	1	13,394	1	13,394	20,760
128MB (4x32) L3 Cache, 1700MHz 8w MCM	4199	1	375,000	4	1,500,000	372,000
64GB H-Memory (inw ard and outw ard 4488,4489)	4488	1	344,000	4	1,376,000	0
Std CEC Fan Pw r cbl grp, service proc. 6161,6162	6161	1	600	1	600	0
Standard CEC DC/DC Converter Assembly	6170	1	4,700	2	9,400	0
Pow er Cable Group, 1 thru 4 proc. module	6181	1	720	1	720	0
Additional DC/DC Converter Assembly, (DCA)	6189	1	4,200	4	16,800	0
Capacitor book (for 2 MCMs)	6198	1	1,800	2	3,600	0
Service Proc. + Dual Rio Loop (GX), I/O loop adapter	6418	1	15,000	1	15,000	0
Backplane, Central Electronics Complex	6565	1	50,000	1	50,000	0
Attachment Cable, Hardw are Management Console	8121	1	75	1	75	0
Media Drw r, 1U, Op Pnl/Dskt/4 SCSI Media Bays	8692	1	1,700	1	1,700	0
I/O Draw er	7040-61D	1	3,980	4	15,920	16,320
Converter Cable, VHDCI to P, 0.3M	2118	1	60	4	240	0
SCSI cable - B&C to Media Draw er	2122	1	275	1	275	0
Fibre Chan. Converter Cable, LC (M) to SC (F), 2M	2146	1	100	4	400	0
RIO-G Cable, 500MHz, 1.2m, 2*1.75m (3146,3156)	3146	1	1250	4	5,000	0
18.2 GB Ultra3 10K RPM 1" U3 Module	3158	1	1,540	3	4,620	0
10/100 Mbps Ethernet adapter II	4962	1	275	10	2,750	0
Cable Grp, 4xUPIO/2xRIO, BPM(IO#1 thru 3) (6121-6123)	6121	1	400	3	1,200	0
I/O Drw r DC/DC Converter assembly, (DCA)	6172	1	4000	8	32,000	0
Pow er Cable, B&C to Media Drw r 6179, SCSI adapter 620:	6179	1	1,090	1	1,090	0
Adv. SerialRAID Adapter, 32MB Cache (6230, 6235)	6230	1	3575	2	7,150	0
2 Gigabit Fibre Channel PCI-X Adapter	6239	1	3,100	26	80,600	0
Ultra3 SCSI 4-Pack	6564	1	500	16	8,000	0
I/O Draw er PCI-X Planar, 10 Slot, 2 Integrated	6571	1	8,000	8	64,000	0
Rack, Front door, back door	7040-61R	1	9,250	1	9,250	3,960
Bulk Pow er Regulator (BPR)	6186	1	4000	6	24,000	0
Bulk Pow er Controller (BPC), 4 Fans + 3 DCAs	6187	1	1900	2	3,800	0
Bulk Pow er 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 Pow er 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
IBM T541H 15 TFT Color Monitor, keyboard , graphics	3637	1	974	1	974	0
Subtotal					3,273,958	413,040
FASt Storage (Data Disks)						
RS/6000 System Rack (6081,6098)	7014-T42	1	4,270	13	55,510	11,544
FAStT EXP 700	1740-1RU	1	6,000	140	840,000	201,600
Short Wave SFP	2210	1	499	560	279,440	0
18.2 GB 15K drive	5211	1	681	1,950	1,327,950	0
FAStT900 Storage Server	1742-90U	1	66,500	13	864,500	26,780
Short Wave SFP GBIC	2210	1	499	104	51,896	0
FAStT700 Mini HUB	3507	1	899	26	23,374	0
Subtotal					3,442,670	239,924

SSA Storage (Log Disks)						
System Rack Model T42	7014-T42	1	4,270	1	4,270	888
Additional Power Distribution Unit	6171	1	1,000	1	1,000	0
			Subtotal		5,270	888
SSA Disk Subsys, 50/60 Hz AC, power supply, cover, cables	7133-D40	1	15,125	6	90,750	26,496
Advanced 10K rpm/18.2 GB Disk Module	8536	1	4,500	96	432,000	0
			Subtotal		522,750	26,496
Server Software						
AIX 5.2 (media only)	5962-A5L	1	50	1	50	0
AIX SWMA Subscription	5771-SUB	1	247	96	23,712	0
AIX SWMA Support	5771-SPT	1	697	96	0	66,912
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		656,437	127,278
Client Hardware and Software						
pSeries 630-6E4, CD-ROM, 18.2GB Disk, Power Supply	7028-6E4	1	3,941	30	118,230	90,000
FC I Exp Config (402 E) AIX	8016	1	39,249	30	1,177,470	
T541H 15" TFT Color Monitor, Captured Cable, keyboard	3637	1	562	1	562	0
POWER GXT135P Graphics Accelerator -Digital support	2849	1	412	1	412	0
SCSI Connector Cable + 4-Pack Hot Swap Back plane	4254	1	354	30	10,620	0
4-port 10/100 Mbps Ethernet adapter	4961	1	1,250	90	112,500	0
AIX SWMA Subscription	5771-SUB	1	157	240	37,680	0
AIX SWMA Support	5771-SPT	1	427	240	0	102,480
AIX 5L version 5	5962-A5L	1	50	30	1,500	0
			Subtotal		1,458,974	192,480
Third Party Hardware/Software						
BEA Tuxedo 8.0		2	10,200	30	306,000	192,780
10/100 16-Port Dual Speed Switch	FS116NA	3	81	5	405	0
			Subtotal		306,405	192,780
			Discounts		(4,167,191)	(390,418)
"price updated on August 12, 2003 to reflect accurate software maintenance charges"			Total		5,499,273	802,468
Audited by: Francois Raab, Info Sizing (www.infosizing.com)						
Pricing Sources:						
					Three-Year Cost of Ownership	\$6,301,741
1=IBM HW: Bill Casey, eServer pSeries Offering Manager, wr Casey@us.ibm.com, 512-838-1422					tpm C	763,898.39
1= IBM DB2: Paul Rivot, Director Database Servers and Business Intelligence Software, e-mail privot@us.ibm.com, phone 1-914-766-1325					\$/tpm C	\$8.25
2= BEA Systems						
3=NETGEAR						

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 pSeries 690 Turbo Model 7040-681

MQTH, computed Maximum Qualified Throughput: 763,898.39 t tpmc

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	1.40	0.58	20.39
Payment	1.14	0.40	17.41
Order-Status	1.18	0.44	14.44
Delivery (interactive)	1.12	0.38	9.60
Delivery (deferred)	2.26	1.04	9.25
Stock-Level	1.14	0.40	10.60
Menu	0.00	0.00	15.01

Transaction Mix, in percent of total transactions

	<u>Percent</u>
New Order	44.90%
Payment	43.03%
Order-Status	4.01%
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	18.09/120.20
Payment	3.00/0.01	3.01/12.02	3.09/120.20
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	2.07/50.20

Test Duration

Ramp-up Time	31 minutes 00 seconds
Measurement interval	2 hours 10 minutes
Transactions during measurement interval (all types)	221,132,757
Ramp-down time	17 minutes

Checkpointing

Number of checkpoints	N/A
Checkpoint interval	N/A