
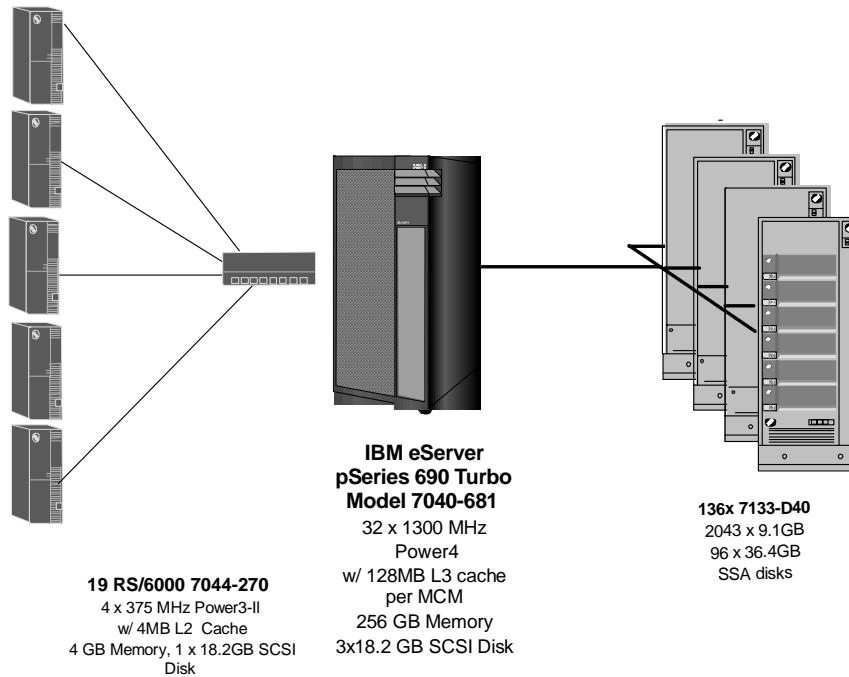
		<b>IBM eServer pSeries 690 Turbo Model 7040-681</b>		TPC-C Rev. 5.0			
				Report Date August 14, 2002			
Total System Cost		TPC-C Throughput		Price/Performance		Availability Date	
<b>\$7,179,598</b>		<b>403,255.46 tpmC</b>		<b>\$17.80/tpmC</b>		<b>Nov 22, 2002</b>	
Processors		Database Manager		Operating System		Other Software	No. Users
32 x database 76 x clients		Oracle9i Enterprise Edition Release 2 (9.2.0.1.0) for AIX 5.L V5.2		AIX 5L V5.2		Websphere Application Server Enterprise Edition Version 3.0	324,000



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	19	4 x 375 MHz Power3-II W/4MB L2 cache each	1	32 x 1300 MHz POWER4 w/ 128 MB L3 cache per MCM, 4 MCM in the SUT
Memory		4 GB		256 GB
Disk Controllers	1	SCSI-2 (Integrated)	1	SCSI-2 (Integrated)
Disk Drives	1	18.2 GB SCSI each client	34	SSA Adapters
			2043	9.1GB SSA Disk
			96	36.4GB SSA disk
Total Storage		16.93 GB each client	3	18.2GB SCSI Disk
Terminals	3	System Console	1	19,959.99 GB System Console



ORACLE

# IBM eServer pSeries 690 Turbo Model 7040-681

TPC-C Rev. 5.0

Report Date: August 14, 2002

Description	Part No.	Source	Unit Price	Qty	Ext Price	Maint Price
<b>Server Hardware</b>						
IBM eServer pSeries 690 (CD, cables, clock card)	7040-681	1	18,764	1	18,764	20,760
128MB (4x32) L3 Cache, 433MHz	4139	1	25,000	4	100,000	0
32 GB H-Memory (inward and outward facing)	4188	1	163,840	8	1,310,720	0
1.3GHz 8-way Processor MCM (1 thru 4 books)	5244	1	275,000	4	1,100,000	403,200
Std CEC Fan Pwr cblgrp, BPC(F&R), cable	6161	1	600	1	600	0
Standard CEC DC/DC Converter Assembly	6170	1	4,700	2	9,400	0
Power Cable Group, 1 thru 4 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 + DualRio Loop (GX), adapter	6404	1	15,000	1	15,000	0
Regatta-H Planar	6565	1	50,000	1	50,000	0
Media Drawer, 1U, Op Pnl/Dskt/4 SCSI Media Bays	8692	1	1,700	1	1,700	0
I/O Drawer	7040-61D	1	3,500	4	14,000	16,320
SCSI cable - B&C to Media Drawer	2122	1	275	1	275	0
Remote I/O Cable, 500MHz, 0.5m (RIO)	3145	1	310	4	1,240	0
Remote I/O Cable, 500MHz, 2m (RIO)	3149	1	350	8	2,800	0
18.2 GB Ultra3 10K RPM 1" U3 Module	3157	1	1,500	3	4,500	0
10/100 Mbps Ethernet adapter II	4962	1	275	5	1,375	0
Cable Grp, 4xUPIC/2xRIO, BPM(IO#1 thru #4) to B&C(p	6121	1	2300	1	2,300	0
I/O Drawer DC/DC Converter assembly, (DCA)	6172	1	4,000	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 Serial RAID Adapter	6230	1	3,000	34	102,000	0
32 MB Fast_Write Cache option card	6235	1	575	6	3,450	0
B&C Planar, 10 PCISlots, 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, (primary and secondary)	6070	1	3,550	1	3,550	0
Back Door, Slim Line (primary or secondary)	6074	1	750	2	1,500	0
Bulk Power Regulator (BPR)	6186	1	4,000	4	16,000	0
Bulk Power Controller (BPC), 4 Fans + 3 DCA s	6187	1	1,900	2	3,800	0
Bulk Power Distribution (BPD), 10 DCA s	6188	1	3,500	4	14,000	0
Integrated Battery Backup, redundant, cables	6200	1	4,600	4	18,400	0
Line Cord, 60A, 14', IEC309 Plug, Chargeable	8678	1	1,000	2	2,000	0
Regatta-H Bulk Power Module (2x BPA, EPO PNL)	8690	1	5,000	1	5,000	0
Expansion Rack 24", 42 EIA	8691	1	8,000	1	8,000	0
System Console	7316	1	4,325	1	4,325	0
Display, White P76/P77 Color Monitor, keyboard	3627	1	1,095	1	1,095	0
Console/Host Serial Attachment Cable, 6M	8121	1	75	1	75	0
System Rack Model T42 (6089,6098)	7014-T42	1	5,000	14	70,000	12,432
Additional Power Distribution Unit	6171	1	1,000	41	41,000	0
SSA Disk Subsystem, power supply, Drawer cover	7133-D40	1	15,000	136	2,040,000	600,576
Dummy Drive	8399	1	30	2	60	0
10K/9.1 GB Advanced Disk Drive Module	8509	1	2,760	2,043	5,638,680	0
10K/36.4 GB Advanced Disk Drive Module	8536	1	5,900	96	566,400	0
SSA Cables (8801, 8802)	8801	1	125	136	17,000	0
				<b>Sub total</b>	<b>11,316,124</b>	<b>1,057,248</b>
<b>Server Software</b>						
AIX 5.1 (media only)	5765-E61	1	50	1	50	42,300
IBM Websphere Application Server	D5A LCLL	1	29,305	32	937,760	173,664
IBM C for AIX V5	D5A 1ELL	1	559	1	559	104
Oracle9i Database Enterprise Edition Release 2, v9.2.0.1 for AIX 5L v5.2, Processor 3 year term for 32 processors, Unlimited Users		2	640,000	1	640,000	6,000
Oracle Database Server Support Package for 3 years		2				6,000
				<b>Sub total</b>	<b>1,578,369</b>	<b>222,068</b>
<b>Client Hardware and Software</b>						
RS/6000 Model 144P-270 w / CD-ROM	7044-270	1	4,405	19	83,695	31,920
18.2 GB 10K RPM Ultra SCSI Enhanced Disk	3110	1	1,260	19	23,940	0
Memory Expansion Feature	4098	1	1,038	19	19,722	0
512MB SDRAM DIMM Memory	4120	1	2,048	152	311,296	0
2-way 375 MHz Power3, 4MB L2	4362	1	11,000	38	418,000	63,840
4-port 10/100 Mbps Ethernet adapter	4961	1	1,500	57	85,500	0
IBM ASC II Terminal, Keyboard w / 2934,3925	3153-BG3	1	647	19	12,293	5,776
AIX 4. Unlimited Users	5765-C34	1	50	19	950	57,780
				<b>Sub total</b>	<b>955,396</b>	<b>159,316</b>
<b>Third Party Hardware</b>						
8-port 10/100 Ethernet Switch	FS108NA	3	85	4	340	0
				<b>Sub total</b>	<b>340</b>	<b>0</b>
Oracle Mandatory E-Business Discount on License and Support		2	(129,200)	1	(129,200)	
				<b>Discounts</b>	<b>(7,672,334)</b>	<b>(307,728)</b>
				<b>Total</b>	<b>6,048,695</b>	<b>1,130,904</b>
Audited by: Brad Askins, Info Sizing						
Pricing Sources:						
Three-Year Cost of Ownership						\$7,179,598
1=IBM: Larry Amy, eServer pSeries Offering Manager, lamy@us.ibm.com, 512-823-6899					tpm C	403,255.46
2=Oracle: Mary Beth Pierantoni, mary.beth.pierantoni@oracle.com, 650-506-2118					\$/tpm C	\$17.80
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: 

403,255.46
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 tpmC

<b><u>Response Times (in seconds)</u></b>	<b><u>90th %</u></b>	<b><u>Average</u></b>	<b><u>Maximum</u></b>
New Order	1.36	0.70	6.97
Payment	1.29	0.65	6.66
Order-Status	1.32	0.68	5.80
Delivery (interactive )	0.19	0.10	2.17
Delivery (deferred)	0.11	0.07	2.70
Stock-Level	1.29	0.65	5.99
Menu	0.00	0.00	2.54

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

<b><u>Keying/Think Times (in seconds)</u></b>	<b><u>Min.</u></b>	<b><u>Average</u></b>	<b><u>Max.</u></b>
New Order	18.00/0.01	18.01/12.02	18.15/120.21
Payment	3.00/0.01	3.01/12.02	3.09/120.21
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	2.09/50.20

**Test Duration**

Ramp-up Time	41 min 11 sec
Measurement interval	2 hours
Transactions during measurement interval (all types)	107,744,315
Ramp-down time	17 minutes

**Checkpointing**

Number of checkpoints	4
Checkpoint interval	29 min 41 sec