



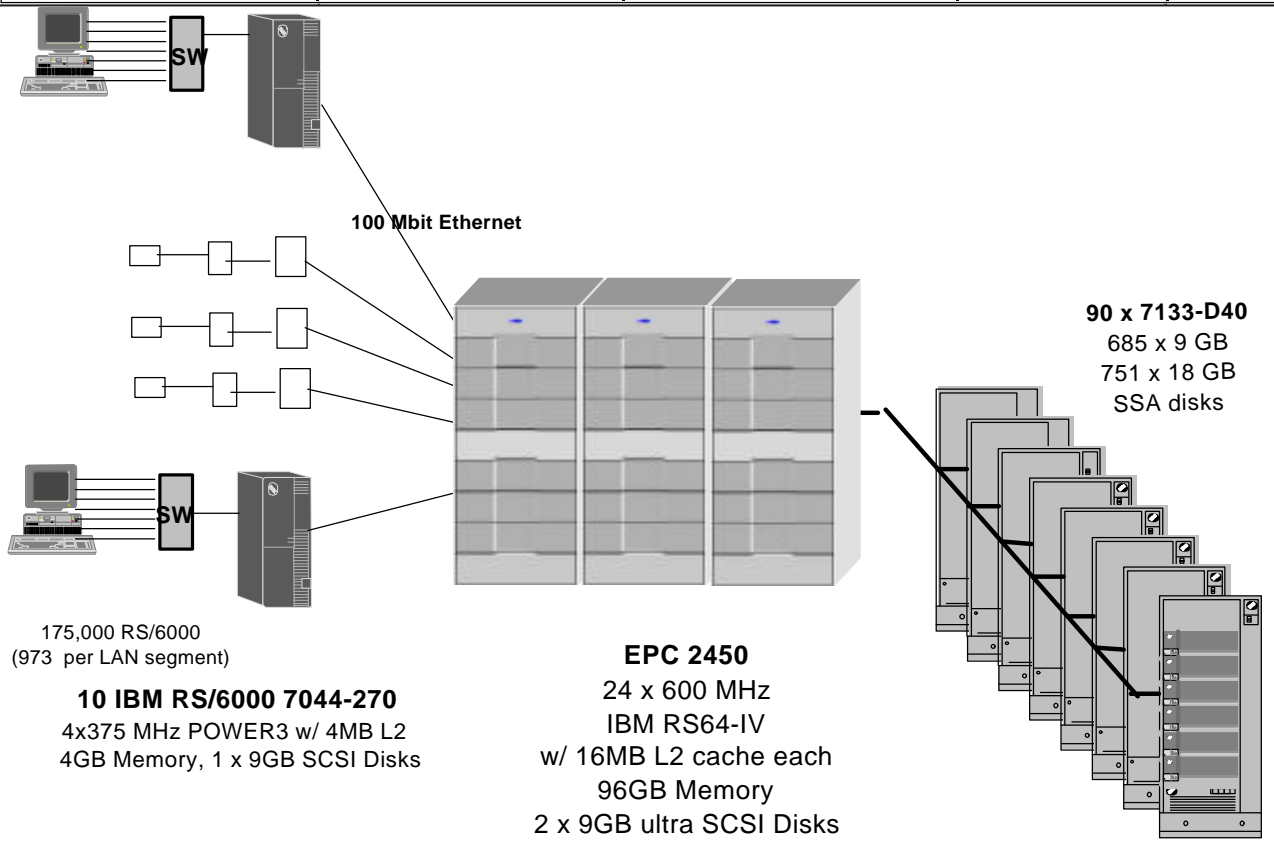
Bull Escala EPC2450 c/s

TPC-C Rev 5.0
upgrade from
TPC-C rev 3.5

ORACLE

Report Date
May 28, 2001

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$7,657,157	220,807.27 tpmC	\$34.67 /tpmC	Available	
Processors	Database Manager	Operating System	Other Software	No. Users
24 x IBM RS64-IV	Oracle8i™ Enterprise Edition(64-bit) Release 3 (8.1.7) for AIX - Based System	AIX 4.3.3 +APAR IY13076	Websphere Application Server Enterprise Edition Version 3.0	175 000



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	10	4 x 375 MHz Power3 w/ 4MB L2 cache each	1	24 x 600 MHz IBM RS64 IV w/ 16 MB L2 cache each
Memory		4 GB		96 GB
Disk Controllers	1	SCSI-2 (Integrated)	1	SCSI-2 (Integrated)
Disk Drives	1	9.1 GB SCSI each client	19	SSA Adapters
			751	18 GB SSA disk
			685	9.1 GB SSA disk
			2	9.1 GB SCSI Disk
Total Storage		8.4 GB each client		18,451.40 GB
Terminals	10	System Console	1	System Console



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BULL Escala EPC2450

TPC-C Rev. 5.0 Upgrade From TPC-C Rev. 3.5

Report Date: May 28, 2001

Description	Part Number	Brand	Pricing	Unit Price	Quantity	Extended Price	3-year Maint. Price
Server Hardware							
ESCALA EPC2450 SYSTEM	CPXG249-0000	Bull	1	49 606	1	49 606	36 000
Kit Ultra2 SCSI Basic Implementation	CKTG126-0100	Bull	1	1 465	1	1 465	
32X (Max) SCSI-2 Internal CD ROM drive	CDRG016-0000	Bull	1	375	1	375	
9,1 GB Ultra-SCSI 16-bit Hot Swap Disk Drive (1")	MSUG104-0000	Bull	1	1 260	2	2 520	
ETHERNET 10/100Mb/s PCI ADAPTER	DCCG137-0000	Bull	1	275	14	3 850	
Remote I/O Cable - 3m	CBLG202-1000	Bull	1	595	2	1 190	
Remote I/O Cable - 6m	CBLG199-1800	Bull	1	745	2	1 490	
16384 MB Memory (4 boards of 4096MB)	CMMG151-0000	Bull	1	147 456	2	294 912	
32768 MB Memory (4 boards of 8192MB)	CMMG171-0000	Bull	1	294 912	2	589 824	
CPU Board with 6 RS64-4@600MHz - 16MB L2 cache (F	CPUG052-0000	Bull	1	230 000	1	230 000	93 600
CPU Board with 6 RS64-4@600MHz - 16MB L2 cache (J	CPUG053-0000	Bull	1	250 000	3	750 000	280 800
I/O Drawer to Drawer Power Control Cable (SPCN) - 2	CBLG184-1000	Bull	1	60	2	120	
I/O Rack to Rack Power Control Cable (SPCN) - 15 m	CBLG185-2000	Bull	1	75	1	75	
Kit Power Supply Extension	PSKG006-0000	Bull	1	3270	1	3 270	
Additional I/O drawer, 10EIA (14 PCI slots, 12 disk ba	DRWG012-0000	Bull	1	24 500	3	73 500	
Rack 36U (with one PDU)	RCKG008-0000	Bull	1	3 850	11	42 350	
ADDITIONAL POWER DISTRIBUTION UNIT- SING	PSSG028-0000	Bull	1	1 000	20	20 000	
8-PORT ASYNC RS232/422 PCI ADAPTER with Fan	DCCG130-0000	Bull	1	1 395	1	1 395	
Async/Terminal cable	2934	IBM	1	45	1	45	
Advanced serial Raid adapter	6230	IBM	1	3 000	19	57 000	
32MB Cache option	6235	IBM	1	575	3	1 725	
6000VA UPS	9910-EP8	IBM	1	5904	1	5 904	
ext UPS	9910-U33	IBM	1	3 822	2	7 644	
SSA	7133-D40	IBM	1	13 000	90	1 170 000	397 440
50/60 hz power supply	8022	IBM	1	2 000	90	180 000	
9.1GB disk	8509	IBM	1	2 760	685	1 890 600	
18GB disk	8518	IBM	1	4 500	751	3 379 500	
SSA Cables	8802	IBM	1	125	90	11 250	
Subtotal						8 769 610	807 840
Server Software							
C for AIX V5.0 Initial User (incl. Media)	CLGG023-WA0A	Bull	1	799	1	799	540
AIX 4.3 License support - Class G		Bull	1		1		8 910
Oracle Version 8.1.7 64 bits		Oracle	2	666 900	1	666 900	926 640
Subtotal						667 699	936 090
Client Hardware							
RS/6000 Model 44P-270 w/ CD-ROM	7044-270	IBM	1	5137	10	51 370	16 800
Async Terminal/Printer Cable	2934	IBM	1	45	10	450	0
10/100 Mbps Ethernet Adapter, PCI	2968	IBM	1	275	40	11 000	0
9.1 GB SCSI Hard Disk	3029	IBM	1	1260	10	12 600	0
Serial Port Converter Cable	3925	IBM	1	25	10	250	0
Memory Expansion Feature	4098	IBM	1	1038	10	10 380	0
512MB SDRAM DIMM Memory	4120	IBM	1	3584	80	286 720	0
2-way 375 MHz Power3 , 4MB L2	4362	IBM	1	13000	20	260 000	33 600
IBM ASCII Terminal, Keyboard, Cable	3153-BG3	IBM	1	577	11	6 347	3 344
Subtotal						639 117	53 744
Client Software							
AIX 4. Unlimited Users(Media only)	5765-C34	IBM	1	50	10	500	21 031
IBM Websphere Applicaton Server	41L3462	IBM	1	21000	10	210 000	15 665
Subtotal						210 500	36 696
Discounts						-4 329 012	-135 126
TOTAL						5 957 914	1 699 243

Notes:

Pricing: 1-Bull 2-Oracle

Three-Year Cost of Ownership: \$7 657 157

tpmC Rating: 220807,27

Audited by Francois Raab of InfoSizing

\$ / tpmC: 34,67

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 reflects 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 Bull Escala EPC2450

MQTH, computed Maximum Qualified Throughput: 220,807.27 tpmC

Repeatability Run: 220,405.93 tpmC 0.18% difference

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.78	0.37	11.90
Payment	0.73	0.33	12.67
Order-Status	0.76	0.35	10.81
Delivery (interactive)	0.19	0.11	1.87
Delivery (deferred)	0.27	0.15	2.63
Stock-Level	1.14	0.70	10.93
Menu	0.00	0.00	2.54

Transaction Mix, in percent of total transactions

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

Keying/Think Times (in seconds)

	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.02	18.13/120.21
Payment	3.00/0.01	3.01/12.02	3.13/120.21
Order-Status	2.00/0.01	2.01/10.01	2.12/100.11
Delivery	2.00/0.01	2.01/5.02	2.11/50.21
Stock-Level	2.00/0.01	2.01/5.02	2.12/50.20

Test Duration

Ramp-up Time	37 min 40 sec
Measurement interval	30 minutes
Transactions during measurement interval (all types)	14,747,794
Ramp-down time	10 minutes

Checkpointing

Number of checkpoints	1
Checkpoint interval	29 min 54 sec