



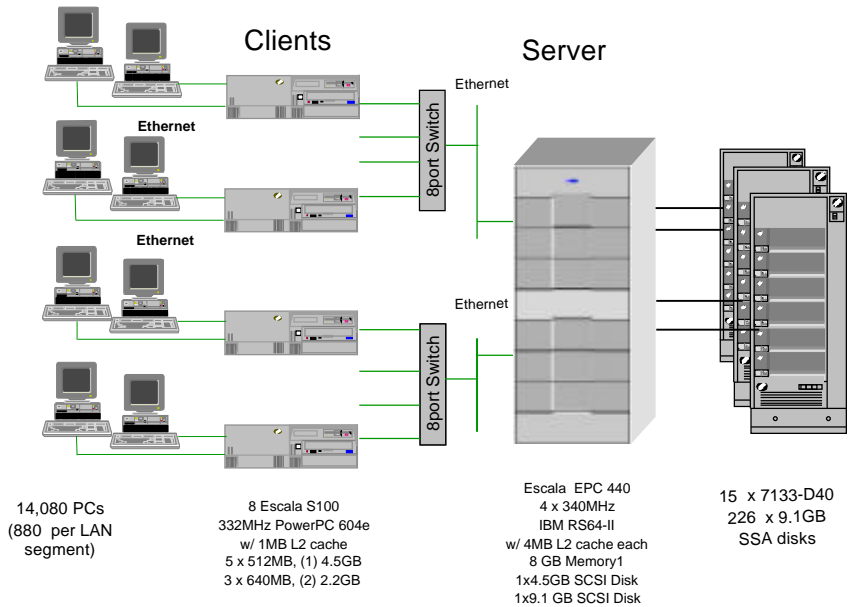
Bull Escala EPC 440 c/s

TPC-C Rev. 3.4

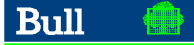


Report Date:
December 1, 1999

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
1 168 743 Euros	17,133.73 tpmC	68.21 Euros/tpmC	Available	
Processors	Database Manager	Operating System	Other Software	No. Users
4 x IBM RS64-II	Oracle Version 8.1.5	AIX 4.3.2	TXSeries 4.2 for AIX	14 080



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	8	332 MHz PowerPC 604e w/ 1MB L2 cache each	4	340 MHz IBM RS64-II w/ 4MB L2 cache each
Memory		5 x 512, 3x640 MB		8 GB
Disk Controllers	8	SCSI-2 Adapters	2	SCSI-2 Adapters
			4	SSA Adapters
Disk Drives	8	4.5 GB SCSI	226	9.1 GB SSA Disks
			1	4.5 GB SCSI Disk
			1	9.1 GB SCSI Disk
Total Storage		4.5 GB each client		1,884.41 GB
Terminals	8	System Console	1	System Console
Term. Connect	1 936	8-Port Ethernet Hubs + 10% spares		



ORACLE

BULL
Escala EPC440

TPC-C REV 3.4

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Description	Part Number	Source	Unit Price	Quantity	Extended Price	5-year Maint. Price
Server Hardware						
ESCALA EPC440 SYSTEM	CPXG226-0000	1	17 378	1	17 378	10 416
CD-ROM	CDRG016-0000	1	369	1	369	0
9.1GB ultra SCSI	MSUG104-0000	1	1 250	2	2 500	0
ETHERNET 10/100Mb/s PCI ADAPTER	DCCG137-0000	1	326	2	652	0
MEMORY BOARD (Up to 4GB)	CMMG146-0000	1	1 159	2	2 318	0
512MB	CMMG145-0000	1	5 999	16	95 984	0
CPU Board RS64-II @340Mhz, 2-Way with 2x4MB L2 Cache	CPXG040-0000	1	17 852	2	35 704	16 128
Async/Terminal cable	IBM -2934	1	45	1	45	0
Raid adapter	IBM - 6225	1	3 354	4	13 416	0
32MB Cache option	IBM - 6235	1	648	1	648	0
ext UPS	IBM - 9910-U33	1	4 406	2	8 812	0
Rack	IBM -7014-S00	1	4 314	2	8 628	2 688
additional power unit	IBM - 6171	1	884	3	2 652	0
SSA	IBM - 7133-D40	1	10 031	15	150 465	172 080
50/60 hz power supply	IBM - 8022	1	1 944	15	29 160	0
9.1GB disk	IBM - 8209	1	1 951	226	440 926	0
SSA Cables	IBM - 8801	1	68	30	2 040	0
Subtotal					811 697	201 312
Server Software						
AIX(TM) V4.3 SERVER LIBRARY	EXSG086-SRCE	1	76	1	76	0
AIX 4.3 1-2 User License Class F, G	EXSG124-RK0A	1	3201	1	3 201	0
C FOR AIX V4.4 (64 bits & SMP)- 1 CONCUR ACC.	CLGG020-RAAA	1	754	1	754	0
C FOR AIX V4.4 (64 bits & SMP) - MEDIA & DOC	CLGG020-SRAE	1	43	1	43	0
PERFORMANCE AIDE FOR AIX 4.3 LICENCE - QTY 1	UTSG135-RA0A	1	534	1	534	0
Oracle Version 8.1.5		2	118710	1	118 710	118 710
Subtotal					123 318	118 710
Client Hardware						
ESCALA SERIE S Model S100 - 332	CPXG215-0000	1	7856	8	62 848	33 024
64MB EDO DRAM DIMM MEMORY MODULE	CMMG112-0000	1	571	8	4 568	0
128MB EDO DRAM DIMM MEMORY MODULE	CMMG113-0000	1	823	27	22 221	0
PCI ETHERNET ADAPTER 10/100Mb/s	DCCG143-0000	1	381	16	6 096	0
10M cable RJ45/RJ45 category 5	CBLG179-1900	1	42	16	672	0
SYSTEM CONSOLE BQ 306 (White display, AZERTY keyboard)	CBLG001-1000	1	586	1	586	0
Subtotal					96 991	33 024
Client Software						
AIX(TM) V4.3 SERVER LIBRARY	EXSG086-SRCE	1	76	1	76	0
AIX 4.3 1-2 User License Class D	EXSG122-RK0A	1	907	1	907	0
AIX(TM) V4.3 SERVER - ADD'L DESIGN. SYSTEM LICENSE	EXSG089-RHZA	1	101	38	3 838	0
C FOR AIX V4.4 (64 bits & SMP)- 1 CONCUR ACC	CLGG020-RAAA	1	754	1	754	0
C FOR AIX V4.4 (64 bits & SMP) - MEDIA & DOC	CLGG020-SRAE	1	43	1	43	0
IBM TXSeries 4.2 for AIX	5697-D17	1	3353	8	26 821	9 400
Subtotal					26 821	9 400
User Connectivity						
16port Ethernet Switch + 2 spares	ACC3024-16	3	1 508	4	6 030	0
Ethernet HUB (8 port) (+10% spares)	EN108TP	3	63	1936	122 471	0
Subtotal					128 502	0
Discounts					-321 620	-59 412
TOTAL					865 709	303 034

Notes:
Pricing: 1-Bull 2-Oracle 3-Bull express

Audited by Francois Raab of InfoSizing, Inc

Five-Year Cost of Ownership: 1 168 743
tpmC Rating: 17133,73

Euro/ tpmC: 68,21

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. Thank you.

Numerical Quantities Summary for the Bull Escala EPC 440

MQTH, computed Maximum Qualified Throughput: 17,133.73 tpmC

Repeatability Run: 17,036.4 tpmC 0.57% difference

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	2.46	1.14	36.85
Payment	2.24	1.03	36.54
Order-Status	2.26	1.06	36.72
Delivery (interactive portion)	0.20	0.12	0.65
Delivery (deferred portion)	0.45	0.28	2.93
Stock-Level	3.10	1.69	37.43
Menu	0.01	0.00	0.40

Transaction Mix, in percent of total transactions

	<u>Percent</u>
New Order	44.78%
Payment	43.07%
Order-Status	4.06%
Delivery	4.02%
Stock-Level	4.05%

<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.04	18.12/120.31
Payment	3.00/0.01	3.01/12.06	3.11/120.31
Order-Status	2.00/0.01	2.01/10.00	2.11/100.30
Delivery	2.00/0.01	2.01/5.01	2.09/50.30
Stock-Level	2.00/0.01	2.01/5.07	2.10/50.30

Test Duration

Ramp-up Time	42 min 06 sec
Measurement interval	30 minutes
Transactions during measurement interval (all types)	1 147 627
Ramp-down time	10 minutes

Checkpointing

Number of checkpoints	1
Checkpoint interval	30
