

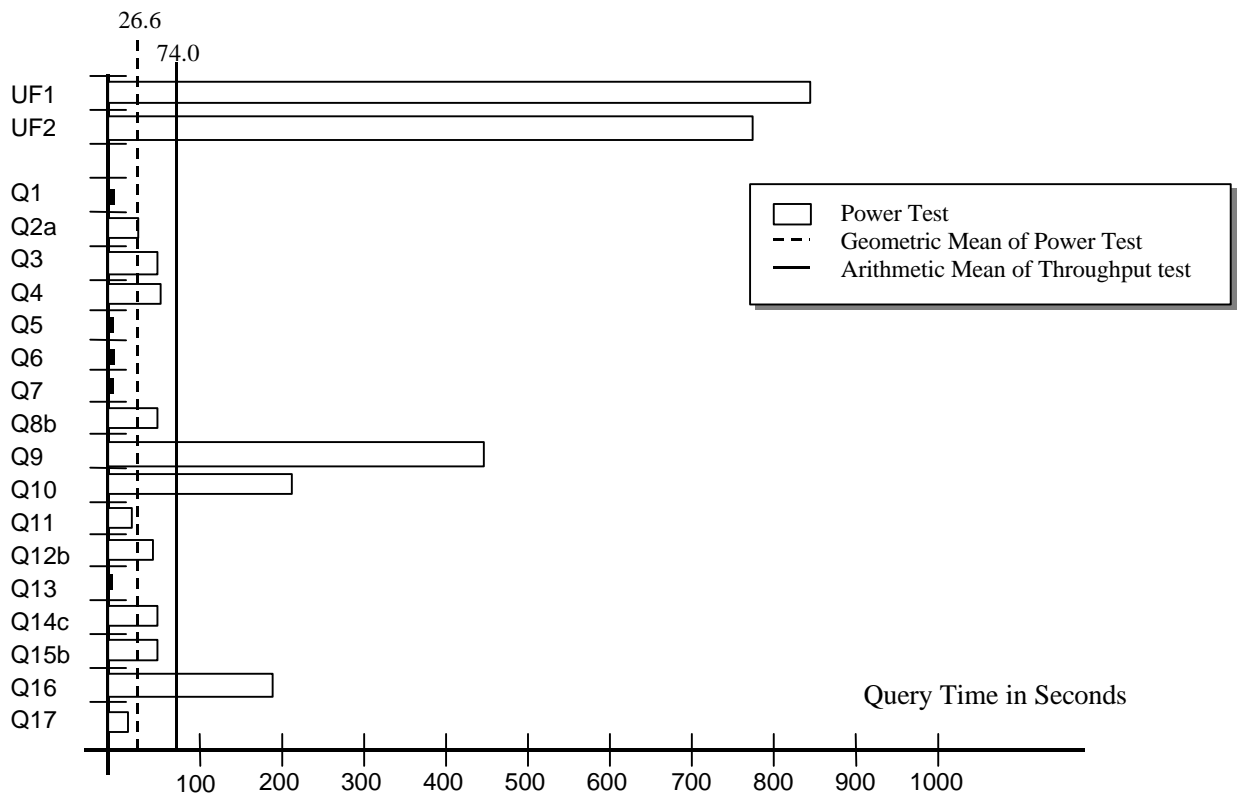


**Express5800 HV8600  
Model2  
Using Oracle8i**

TPC-D 1.3.1

Report Date:  
**12 Feb. 1999**

Total System Cost	TPC-D Power	TPC-D Throughput	Price/Performance	
<b>765,474 Euros</b>	<b>13,554.3</b> QppD@100GB	<b>2,143.66</b> QthD@100GB	<b>142.01 Euros</b> per QphD@100GB	
Database Size	Database Manager	Operation System	Other Software	Availability Date
<b>100GB</b>	<b>Oracle 8i</b> v 8.1.5.1	<b>Windows NT</b> <b>Server 4.0</b> <b>Enterprise Edition</b>	<b>MKS Toolkit</b> <b>Visual C++</b>	<b>May 18,1999</b>




Database Load Time = 34 h 16 m

Disk Size/Database Size = 11.6

RAID:N

**System Configuration:**

- 8 x 450MHz PentiumII Xeon CPUs each with 2MB Cache
- 4Gbytes memory
- 3 x 9.1GB internal drives
- 5 NEC SecuRAID 530 RAID controller with 24 x 9.1GB drives each
- 1 NEC SecuRAID 530 RAID controller with 4 x 9.1GB drives each

		Express5800 HV8600			TPC-D REV 1.3.1 EXECUTIVE SUMMARY		
		Using Oracle8i			Report Date: Feb 12, 99		
Description	Part Number	Pricing	Unit Price	Quantity	Extended Price	5-year Maintain. Price	
<b>Server Hardware</b>							
Express5800 HV8600 Dual Pentium Xeon 450MHz/2MB Deskside Model 0 RAID 64MB L3 cache, 32X CD-ROM, 3.5" FDD, no RAM, no HDD, RAID adapter w/ 32MB cache, embedded ETH adapter, Kbd, mouse CPU board with 2 Pentium II Xeon 450MHz/2MB and 64MB L3 cache Pentium II Xeon 450MHz/2MB Processor kit (1) 1GB (4X256MB) 60ns DIMM Memory upgrade kit SecuRaid 530, 64 bit PCI Ultra2 SCSI tri-channel RAID card (mode 0,1,5,0+1) model 0, including 0 Mb cache, drivers and documentation 32MB cache memory module + battery backup unit for AIF-0690 9.1GB LVD HDD (10000rpm) including Hot-Plug carrier Z-VISION MR 15"	HSXH013-002Z	1	36 487	1	36 487		
	CPUH104-200F	1	16 096	1	16 096		
	CPUH103-100F	1	5 869	4	23 476		
	CMMH011-000F	1	3 833	4	15 332		
	AIF-0690-IN-HU	1	1 832	6	10 992		
	AMR-0633-IN-00	1	659	6	3 954		
	MSUH010-000F	1	1 378	3	4 134		
	ZCM-1520-H2-00	1	192	1	192		
	GMHH021-S3F4	1		1		2 799	
	GMHH021-S1F4	1		2		2 520	
				<b>Subtotal</b>	110 663	5 319	
<b>Storage Subsystem</b>							
Express5800 ST8000 Tower Model 0 9.1Gb Ultra2 SCSI HDD (5.4ms, 10000rpm, 80 pin, 1") including Hot Plug carrier 1-meter 68-pin VHD to VHD SCSI-3 data cable 3-meter 68-pin VHD to VHD SCSI-3 data cable 1-channel Ultra SCSI Extender board Single-SCSI bus 1X8 Option Module  Silver Service (4-hour On-Site) for ST8000 One year Silver Service (4-hour On-Site) extension for ST8000	ADE-0002-00-00	1	2 061	17	35 037		
	ADH-1943-IN-00	1	1 378	124	170 872		
	ACN-0015-00-00	1	120	12	1 440		
	ACN-0017-00-00	1	151	5	755		
	AAD-0100-IN-00	1	456	17	7 752		
	AZA-1008-IN-00	1	72	17	1 224		
	GMHH021-S3S4	1		17		20 519	
	GMHH021-S1S4	1		34		18 462	
				<b>Subtotal</b>	217 080	38 981	
<b>Server Software</b>							
Windows NT Enterprise Edition (Media & Doc + 25 Client licences) - English MKS Toolkit for NT Microsoft Visual C++ Professional Edition Oracle8i for WinNT	EXSH001-TNEF	1	4 585	1	4 585		
	MKS NT	3	508	1	508		
	C++	4	563	1	563		
	Oracle 8i 8.1.5.1	2	166531	1	166 531	221 244	
				<b>Subtotal</b>	172 187	221 244	
				<b>TOTAL</b>	499 930	265 544	
<b>Notes: All prices in Euros (€)</b>  Pricing: 1-Bull 2-Oracle 3-.Mortice Kern Systems (France) 4- SOS developpers  <b>Audited by Francois Raab of Information Paradigm, Inc</b>				<b>Five-Year Cost of Ownership: 765474</b> <b>QphD@100GB: 5390,30</b>  <b>Euro/QphD@100GB: 142,01</b>			
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.							



**BULL Express5800  
HV8600 Model2  
Using Oracle8i**

TPC-D 1.3.1

Report Date:  
**12 Feb. 1999**

**Numerical Quantity Summary**

**Measurement Results:**

Database Scaling Factor(SF/Size) = 100GB  
 Total Data Storage/Database Size = 11.6  
 Database Load Time = 34 hours 16 minutes  
 Query Stream for Throughput Test = 0  
 TPC-D Power Metric (QppD@100GB) = 13,554.3  
 TPC-D Throughput Metric (QthD@100GB) = 2,143.6  
 Composite QphD@100GB = 5,390.3  
 Total System Price Over 5 Years = 608,305  
 TPC-D Price/Performance Metric = 113

**Measurement Intervals:**

Measurement Interval in Throughput Test (Ts) = 2,855 seconds  
 Duration of Stream Execution:

Stream ID	Seed	Start Date	Start Time	End Date	End Time
Stream00	454986351	1/29/99	16:55:03	1/29/99	17:42:38
UF1		1/29/99	16:55:03	1/29/99	17:09:23
UF2		1/29/99	17:30:22	1/29/99	17:42:38

**TPC-D Timing Intervals (in seconds)**

Q1	Q2a	Q3	Q4	Q5	Q6	Q7	Q8b	Q9	Q10
0.2	27.1	42.6	53.8	0.8	0.1	0.6	60.2	456.1	228.1

Q11	Q12b	Q13	Q14c	Q15b	Q16	Q17	UF1	UF2
20.8	42.1	5.8	57.4	56.5	193.4	12.2	859.6	736.7