



# Compaq AlphaServer ES40

## 4 CPU Client Server System

TPC-C Rev. 3.4

Report Date: July 9, 1999

Total System Cost

**\$960,104**

TPC-C Throughput

**25,903**

Price/Performance

**\$37.07**

Availability Date

**November 24, 1999**

Processors

4 500MHz  
Alphachip  
21264

Database

Sybase Adaptive  
Server Enterprise  
11.9.3

Operating System

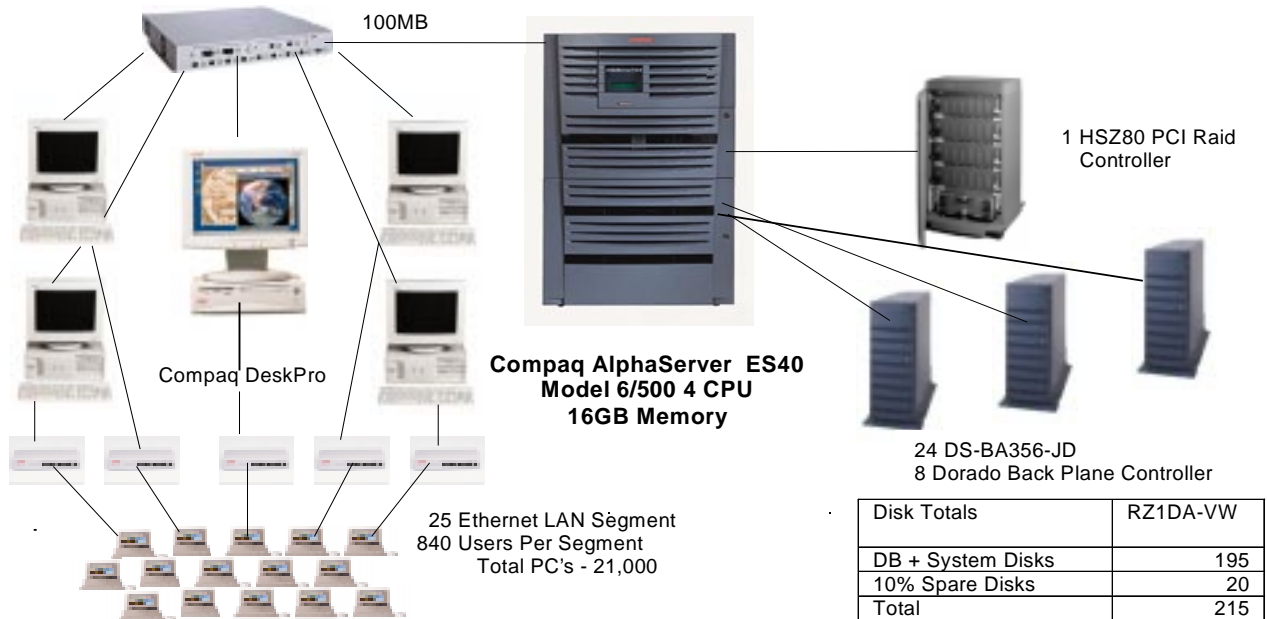
Compaq  
Tru64 UNIX V4.0F

Other Software

Application Optimizer  
WNT Server Edition

Number Users

21,000



### System Components

System Components	Server Qty	Type
Database Nodes	1	Compaq AlphaServer ES40
Processors	4	500 MHz Alphachip 21264
Cache Memory	4	MB
Memory	4	4 GB
Total Memory	16	GB
Disk Controllers	8	Backplane Raid Controller
	1	PCI to SCSI UWD, Adapter
Disks	195	9.1GB Disks
Total Disk Storage	1774.5	GB

### Client (each of 5)

Client Qty	Type
1	Compaq DeskPro
1	400 MHz Intel
3	128MB



**AlphaServer ES40  
Model 6/500  
4 CPU C/S System**

TPC-C REV 3.4 EXECUTIVE SUMMARY  
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Description	Part Number	Third Party	Unit Price	Qty	Extended Price	5 yr. Maint. Price
<b>Server Hardware</b>						
Compaq AlphaServer ES40 Model 6/500	DA-64AAA-EA	Brand	Pricing	1	45,737	19,165
ES40 Tower Enclosure	BA61M-MT			1	350	0
ES40 SMP CPU; 500 MHz;UNIX	KN610-AB			3	21,000	0
PCI to SCSI UWD, Adapter	KZPBA-CB			1	578	0
ES40 2GB Memory Option	MS610-EA			7	160,566	29,766
ES40 Power Supply	H7906-A9			2	1,750	0
3 Chan. LVD 64Bit PCI Raid Controller 16MB Mem	DS-KZPCC-CC			1	2,660	206
PCI/Fast Ethernet, CAT 5 UTP	DE500-BA			1	83	76
Ultra 68VHD 10M Cable Assembly	BN37A-10			25	4,375	0
D Shf 180W 1 Doc BLW Metric Blue	DS-BA356-JD			25	24,750	10,325
RA8000 Dual Pedestal	400552-B21			1	29,617	14,212
4/8GB 4MM SCSI DAT Tape Drive	TLZ09-VA			1	882	1,147
VT510,WHITE,NORTH AMER,NO KEY	VT510-AA			1	263	0
US/CANADA W95 KYBD WHIT	PCXLA-NA			1	18	0
9.1GB 7200RPM UltraSCSI 16bit	DS-RZ1DA-VW			215	136,740	Spared
17-03212-05 8MP-8MP Patch Cable	BN25G-07			6	36	0
Linksys 8port 10baste T Switch	DEH3552			3	357	Spared
<b>Subtotal</b>					<b>448,382</b>	<b>74,897</b>
<b>Server Software</b>						
5YR AS ES40 UNIX BRZ9X5	FM-62UN9-60			1	9,457	9,457
5YR As ES40 Unix SMP	FM-62USM-60			3	1,121	3,363
HSZ80 SW U/A LIC/MCD/No DOC	400566-001			2	6,976	
5YR 5x9 HS*80 SW Dual Controller	FM-DBAL3-60			1	9,772	9,772
5YR 9X5 HS*80 Platform SW	FM-PBAT1-60			1	1,363	
cVISN MC MG MUL SYS 1 LIC	QM-MQDAA-BA			1	697	
clearVISN MUL CDRM KIT	QA-5FVAB-H8			1	69	
Dig UNIX Alpha CDRM	QA-MT4AA-H8			1	277	
Sybase Development Pricing (License)	Sybase			3	9,600	
Sybase Adaptive Server	Sybase			1	141,980	
1 Yr Sybase Maintenance	Sybase			5		128,316
<b>Subtotal</b>					<b>160,962</b>	<b>150,908</b>
<b>Client Hardware</b>						
DeskPro EN Model 6400X/9100 MiniTower	326450-002			5	11,095	2,470
64-MB Mem Kit 6400	166617-B21			5	(\$140)	Inc.
128MB EDO Memory Option	166618-B21			15	4,875	Inc.
Netelligent Dual 10/100 TX PCI UTP Controller	242559-001			15	4,380	Inc.
V700 17" Color Monitor	325900-001			5	1,340	Inc.
<b>Subtotal</b>					<b>20,990</b>	<b>2,470</b>
<b>Client Software</b>						
Application Optimizer WNT Server Edition	QB-641AA-SA			5	1,575	
Application Optimizer WNT Server Service	QT-641AA-XA			5		1,625
Sybase Open Client/DB Lib	Sybase			1	795	
<b>Subtotal</b>					<b>2,370</b>	<b>1,625</b>
<b>User Connectivity</b>						
Compex Micro Hub/8-8 Port Hub	DEH2924			3000	97,500	Spared
<b>Subtotal</b>					<b>97,500</b>	
<b>Total</b>					<b>\$730,204</b>	<b>\$229,900</b>

Notes:\*\* 10% Spares

ICS Discount: 30% on Server Hardware/Software based on volume.

ICS Discount: 10% on FM and FR numbers based on volume.

Sybase Discount: 10%

1=IC System Solutions, 2=MicroWarehouse, 3= Sybase

Audited by Information Paradigm, Inc.

Five-Year Cost of Ownership: \$960,104  
tpmC Rating: 25,903  
\$ / tpmC: \$37.07

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.

**Numeric Quantities Summary**  
**Compaq AlphaServer ES40 4 CPU C/S System**

**MQTH**

MQTH, computed Maximum Qualified Throughput	25,903
% throughput difference, reported and reproducibility runs	.01%

**Response Times** in seconds

Transaction	90th percentile	Average	Maximum
New-Order	1.222	0.686	7.454
Payment	1.198	0.719	7.660
Order-Status	1.348	0.808	6.718
Delivery (interactive)	0.322	0.289	0.952
Delivery (deferred)	1.722	1.306	26.779
Stock-Level	1.758	0.902	7.551
Menu	0.304	0.182	1.009

**Transaction Mix** in percent of total transactions

Transaction	Total Occurrences	Percentage
New-Order	777101	44.982%
Payment	742924	43.003%
Order-Status	69175	4.004%
Delivery (interactive)	69227	4.007%
Stock-Level	69165	4.004%

**Keying/Think Times** in seconds

Transaction	Minimum	Average	Maximum
New-Order	18.000/0.000	18.002/12.003	18.116/119.750
Payment	3.000/0.000	3.005/12.008	3.110/119.988
Order-Status	2.000/0.000	2.004/10.007	2.089/ 97.576
Delivery (interactive)	2.000/0.000	2.004/ 5.004	2.071/ 49.765
Stock-Level	2.000/0.000	2.004/ 5.010	2.089/ 45.810

**Emulation Delay** in seconds

Transaction	Response Time	Menu Response Time
New-Order	0.10	0.10
Payment	0.10	0.10
Order-Status	0.10	0.10
Delivery (interactive)	0.10	0.10
Stock-Level	0.10	0.10

**Test Duration**

Ramp up time	30 minutes
Measurement interval	30 minutes
Number of checkpoints	1
Number of New Order transactions	777101
Number of transactions (all types) completed in measurement interval	1727592