
	Compaq AlphaServer GS320 Model 6/731	TPC-C Rev. 3.5
	<b>32 CPU Client/Server System</b>	<b>Report Date:</b> November 10, 2000

<b>Total System Cost</b>	<b>TPC-C Throughput</b>	<b>Price/Performance</b>	<b>Availability Date</b>
\$8,641,121	155,179.25	\$55.68	February 2, 2001

<b>Processors</b>	<b>Database</b>	<b>Operating System</b>	<b>Other Software</b>	<b>Number of Users</b>
(32) 731MHz Alphachip 21264A	Oracle v8.1.7 Enterprise Edition for Tru64 UNIX	Compaq Tru64 UNIX V5.1	Compaq DB Web Connector V1.1	135,040



(8) Compaq ProLiant ML370s

**Compaq AlphaServer GS320 Model 6/731- 32 CPU 128GB**

(18) 380620-001 Cabs  
(854) DS-RZ1EA-VW (18GB)  
(20) DS-RZ1DA-VW (9GB)

133 Ethernet Segments on 10/100 Mbps Fast Ethernet  
1,016 Users per Segment  
Total PC's – 135,040

System Components Database Server, Compaq AlphaServer GS320 Model 6/731			Client Components (Each of 8) Compaq ProLiant ML370	
	Qty	Type	Qty	Type
Processors	32	6/731 MHz Alphachip 21264A	2	600 MHz Intel Pentium III
Cache Memory		4MB Cache	1	512KB Cache
Memory	32	4 GB Memory	1	128MB Memory
Total Memory	128	GB Memory	2	256MB Memory
Disk Controllers	52	Fiber Storage Controllers		640MB Total
Disks	20	9.1GB Disks	1	18GB Disk
	854	18.1GB Disks		
Total Disk Storage	15,639.4	GB		



**AlphaServer GS320  
Model 6/731  
32 CPU C/S System**

**TPC-C REV 3.5 EXECUTIVE  
SUMMARY  
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**Report Date: Nov.10, 2000**

Description	Part Number	Third Party Brand	Unit Price	Qty	Extended Price	5 yr. Maint. Price
<b>Server Hardware</b>						
Compaq AlphaServer GS320 6/731 Model 32	DA-320EC-AA		666,000	1	666,000	476,962
GS160/320 ADD-on CPU UNIX SMP	3X-KN8AA-AD		23,000	31	713,000	Inc.
GS80/160/320 2GB MEMORY OPT	3X-KN8AA-CB		26,000	32	832,000	Inc.
GS80/160/320 2GB MEMORY UPG	3X-KN8AA-CU		22,000	32	704,000	Inc.
PCI Fibre Adapter	DS-KGPSA-CA		4,000	52	208,000	Inc.
PCI to Ultra SCSI Adapter	KZPBA-CA		460	2	920	Inc.
D shf 180w Dif Blw Mtrc blue	DS-BA356-JF		1,464	2	2,928	Inc.
16Bit SCSI for KZPSC/BA356	BN31S-1E		116	2	232	Inc.
1600 Watt Bulk Power Converter	H7506-AA		10,000	4	40,000	Inc.
GS160/320 PCI Expansion Box	3X-DWWPA-BA		12,000	8	96,000	Inc.
GS80/160/320 Expansion Cab	H9A20-AA		5,000	2	10,000	Inc.
15M Fibre Op Cable 50/125	234457-B23		227	52	11,804	Inc.
PCI to gbE SX Adapter	DEGPA-SA		1,949	8	15,592	Inc.
PCO Mempru Channel Two Controller	CCMAB-AA		2,990	1	2,990	Inc.
SC-SC DUAL FO Cbl, MM, PP, 4.5M	BN34B-4E		96	8	768	0
ESA 12000 Storage Array	380620-001		88,629	18	1,595,322	285,642
15M Fibre Op Cable 50/125	234457-B23		227	144	32,688	0
9.1GB 7200rpm UWSCSI Disk**	DS-RZ1DA-VW		650	21	13,650	Spared
18.2GB 7200rpm UWSCSI Disk**	DS-RZ1EA-VW		1,195.45	940	1,123,723	Spared
16 port Fibre Switch	DS-DSGGB-AB		35,714	13	464,282	175,448
Short Wave Optical GBIC	3380561-B21		492	196	96,432	15,448
12/24gb 4MM DAT Tape	TLZ10-LB		1,135	1	1,135	1,274
GS-Router 16 Slot Chassis	DGSRA-BA		9,995	2	19,990	5,736
GS-/R 64MB Switch Control Pro	DGSRB-BA		8,995	2	17,990	5,736
GS/Rtr 2-P Geeth SX 16mB Line Card	DGSRB-AB		7,995	8	63,960	22,944
GS/R 16-Slot Swtiching Fabric Module	DGSRD-AA		4,995	4	19,980	5,400
GS/Rtr 8-P Fast Ethernet 16mb Line Card	DGSRD-AB		5,995	17	101,915	34,408
VT510, WHITE, NORTH AMER, NO KEY	VT510-AA		395	1	395	0
US & Canada/English KB	PCXLA-NA		25	1	25	0
<b>Subtotal</b>					<b>6,855,721</b>	<b>1,013,550</b>
<b>Server Software</b>						
5YR TRU64UNIX BRZ9x5	FM-W16U9-60		34,074	1	34,074	34,074
5YR GS160/320 TRU64 UNIX SMP	FM-W16SM-60		2,592	31	80,352	80,352
5YR Tru64Unix O/S & LP	FM-CDDST-60		13,624	1	13,624	13,624
HSG80 ACSsf All Lic/PCRM Pkg	128697-B21		7,000	72	504,000	
GIGAsw/Rtr All Lic/MCD Pkg	QB-64PAA-WA		3,995	1	3,995	
5YR 5x9 HS*80 SW Dual Controller	FM-DBAL6-60		9,360	36		336,960
5YR 5x9 HS*90 Platform SW	FM-PBAT1-60		1,514	36		54,504
TRU64 UNIX Alpha CDRM	QA-MT4AA-H8		395	1	395	
Oracle v 8.1.7 Enterprise Edition for Tru64 UNIX	Oracle		1,224,158	1	1,224,158	1,224,158
<b>Subtotal</b>					<b>1,732,548</b>	<b>1,743,672</b>
<b>Client Hardware</b>						
ML370T01 P600-256 128 US	195293-001		3,855	8	30,840	21,920
Processor 600Mhz	128292-B21		1,005	8	8,040	Inc.
256MB SDRAM DIMM Memory	128278-B21		1,205	16	19,280	Inc.
Ethernet Dual Channel	338456-B21		285	8	2,280	Inc.
Gigabit Daughter CD Upgrade	338456-B23		570	8	4,560	Inc.
18GB Drive	388144-B22		556	8	4,448	Inc.
SC-SC DUAL FO Cbl, MM, PP, 4.5M	BN34B-4E		96	8	768	Inc.
V700 15" Color Monitor**	325900-001		125	10	1,250	Spared
<b>Subtotal</b>					<b>71,466</b>	<b>21,920</b>
<b>Client Software</b>						
Application Optimizer WNT Server Edition	QB-641AA-SA		450	8	3,600	2,880
<b>Subtotal</b>					<b>3,600</b>	<b>2,880</b>
<b>User Connectivity</b>						
8 Port Desktop Hub/Plastic***	CT1008D/P			3	18 18568	334,224
<b>Subtotal</b>					<b>334,224</b>	<b>Spared</b>
<b>Notes:** 10% Spares</b>						
<b>ICS Discount: 38% on Server Hardware/Software based on volume.</b>					<b>(\$2,826,887)</b>	<b>(\$311,573)</b>
<b>ICS Discount: 20% on FM and FR numbers based on volume.</b>						
<b>Subtotal</b>					<b>\$6,170,672</b>	<b>\$2,470,449</b>
<b>Five Year Cost of Ownership</b>						<b>\$8,641,121</b>
<b>1=IC System Solutions, 2=Oracle, 3= NetCruiser Technologies</b>					<b>tpmC Rating:</b>	<b>155,179.25</b>
<b>Audited by InfoSizing ( www.info sizing.com )</b>					<b>\$ / tpmC:</b>	<b>\$55.68</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 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**  
**AlphaServer GS320 6/731 Client/Server**

**MQTH**

MQTH, computed Maximum Qualified Throughput	155179
% throughput difference, reported and reproducibility runs	.001

**Response Times** in seconds

Transaction	90th percentile	Average	Maximum
New-Order	1.826	1.050	9.952
Payment	1.780	1.037	9.567
Order-Status	1.676	0.947	8.727
Delivery (interactive)	1.190	0.625	9.176
Delivery (deferred)	1.141	0.611	7.907
Stock-Level	1.989	1.223	9.755
Menu	1.202	0.607	9.234

**Transaction Mix** in percent of total transactions

Transaction	Total Occurrences	Percentage
New-Order	18621511	44.980%
Payment	17803546	43.004%
Order-Status	1658365	4.006%
Delivery (interactive)	1658112	4.005%
Stock-Level	1657747	4.004%

**Keying/Think Times** in seconds

Transaction	Minimum	Average	Maximum
New-Order	18.000/0.000	18.001/13.904	18.192/140.005
Payment	3.000/0.000	3.000/12.004	3.172/120.007
Order-Status	2.000/0.000	2.001/10.003	2.163/ 99.977
Delivery (interactive)	2.000/0.000	2.001/ 5.002	2.163/ 49.963
Stock-Level	2.000/0.000	2.001/ 5.003	2.163/ 49.920

**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	60 minutes
Measurement interval	120:00.00 minutes
Number of checkpoints	4
Number of New Order transactions	18621511
Number of transactions (all types) completed in measurement interval	41399281