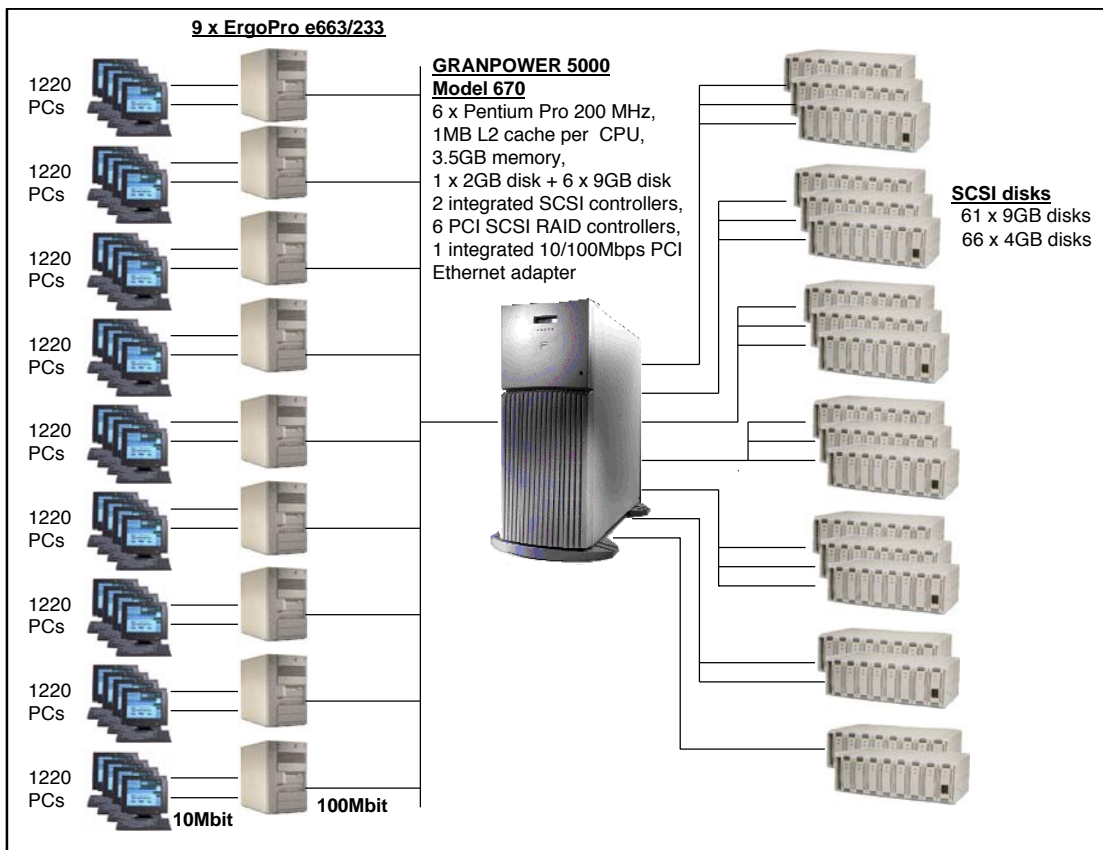


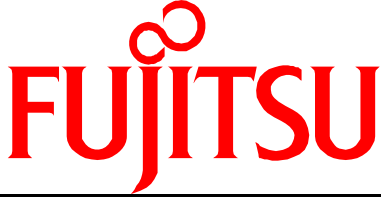
# GRANPOWER 5000 Model 670 C/S

TPC-C Rev 3.3  
Report Date:  
5<sup>th</sup> February  
1998

<b>Total System Cost</b>		<b>TPC-C Throughput</b>		<b>Price/Performance</b>		<b>Availability Date</b>	
<b>\$503,720</b>		<b>13,391.13 tpmC</b>		<b>\$37.62/tpmC</b>		<b>31<sup>st</sup> March 1998</b>	
<b>Processors</b>		<b>Database Manager</b>		<b>Operating System</b>		<b>Other Software</b>	
<b>6 x 200MHz Pentium® Pro 1MB L2 cache</b>		<b>Microsoft SQL Server 6.5 Enterprise Edition</b>		<b>Microsoft Windows NT Server 4.0 Enterprise Edition</b>		<b>Microsoft IIS 3.0 BEA Tuxedo 6.3 CFS</b>	
							<b>Number of Users</b>
							<b>10,980</b>



System Component	Server		Each Client (9 total)	
	Quantity	Description	Quantity	Description
Processors	6	200 MHz Pentium Pro	1	233 Mhz Pentium II
Cache Memory		1MB L2		512KB L2
Memory	1	3584MB	1	128MB
Disk Controller	6	3-channel Mylex DAC960PJ	1	Integrated IDE
	2	Integrated Adaptec 7880		
Disk Drives	1	2 GB	1	2GB IDE Drive
	66	4 GB		
	67	9 GB		
Total Storage		837.54 GB	1	2GB
CD/Tape Drive	1	CD-ROM	1	CD-ROM



# GRANPOWER 5000 Model 670

C/S

TPC-C Rev 3.3  
Report Date:  
5<sup>th</sup> February 1998

Description	Part Number	Supplier	Unit Price	Qty	Extended Price	5 yr. Maint. Price
<b>Server Hardware</b>						
GRANPOWER 5000 Model 670 6xPentium Pro 200MHz/1024KB	GP5000	Fujitsu	1/5	37495	1	37495
Memory Board	SV642014	Fujitsu	1/5	360	1	360
512MB ECC RAM Upgrade	SV642015	Fujitsu	1/5	5000	7	35000
Mylex DAC960PJ 3 channel RAID controller (including 2 spares)	DACPJ-3-8E-MY1	Mylex	6/6	1995	8	15960
Disk Shelf Kit	SV642052	Fujitsu	1/5	1125	19	21375
TRI-Link Connector and Cable	SV642048	Fujitsu	1/5	270	1	270
3m VHD to VHD SCSI Cable	SV642055	Fujitsu	1/5	155	19	2945
2GB 7200 1" SCA DISK	SV642022	Fujitsu	1/5	525	1	525
9GB 10,000 1.6" SCA DISK EXP	SV565050	Fujitsu	1/5	1695	10	16950
9GB 7200 1.6" SCA DISK	SV642024	Fujitsu	1/5	1450	6	8700
9GB 7200 1.6" SCA DISK EXP	SV642032	Fujitsu	1/5	1450	51	73950
4GB 7200 1" SCA DISK EXP	SV642031	Fujitsu	1/5	850	66	56100
4GB Internal DDS-2 DAT Drive	SV520009	Fujitsu	1/5	1140	1	1140
ErgoPro e142 Colour Monitor	PD42E193	Fujitsu	1/5	265	1	265
ErgoPro e105 keyboard (US-104)	PK040657	Fujitsu	1/5	45	1	45
Mouse Kit	PK080130	Fujitsu	1/5	26	1	26
Power Lead (USA)	57495004	Fujitsu	1/5	30	1	30
					Subtotal	271136
<b>Server Software</b>						
Microsoft Windows NT Server v 4.0 Enterprise Edition (inc 25 CAL)		Microsoft	2/2	3,999	1	3999
Microsoft SQL Server 6.5 Enterprise Edition unlimited user licence		Microsoft	2/2	28,999	1	28999
Microsoft Software Maintenance		Microsoft	2/2	10,475	1	0
					Subtotal	32998
<b>Client Hardware</b>						
ErgoPro e663/233	UID64ASE3001	Fujitsu	1/5	1884	9	16956
64MB EDO Memory Module	PL060152	Fujitsu	1/5	336	18	6048
Ether Express PRO/100B	PN010051	Fujitsu	1/5	104	27	2808
ErgoPro e142 Colour Monitor	PD42E193	Fujitsu	1/5	265	9	2385
ErgoPro e105 keyboard (US-104)	PK040657	Fujitsu	1/5	45	9	405
Fujitsu Mouse Kit	PK080130	Fujitsu	1/5	26	9	234
					Subtotal	28602
<b>Client Software</b>						
Microsoft Windows NT Server v. 4.0		Microsoft	2/2	809	9	7281
Microsoft SQL Server Workstation (includes prog. toolkit)		Microsoft	2/2	499	1	499
Microsoft Visual C++ 32 bit edition (subscription)		Microsoft	2/2	499	1	499
Tuxedo 6.3 Client Threads for NT4.0		BEA	3/3	3000	9	27000
					Subtotal	35279
<b>User Connectivity</b>						
Compex MicroHub TP1008C 8 port 10BaseT Hubs (including 10% spares)		Compex	4/-	34	1515	52631
Compex MicroHub MX1205 100TX 5 port Hubs (including 2 spares)		Compex	4/-	187	4	747
					Subtotal	53378
			-/5	Other Discounts		0
					Total	\$421,393
						<b>\$82,326</b>

Five-Year TCOP **\$503,720**  
tpmC: **13,391.13**  
\$/tpmC: **37.62**

**Notes:**

- \* Pricing: 1=FUJITSU ICL Computers LTD NAD Price book/Lexia, 2=Microsoft, 3=BEA, 4=NetSales, 5=Northern Telecom, 6=Mylex
- \* All Microsoft maintenance is covered by maintenance for SQL Server
- \* Northern Telecom discount of 15% is based on dollar volume discount and 5-year prepaid maintenance
- \* Benchmark results and test methodology were audited by Tom Sawyer of Performance Metrics, Inc.

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individual 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 section 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](mailto:pricing@tpc.org). Thank you.

# Numerical Quantities Summary

<b>MQTh, computed Maximum Qualified Throughput</b>		<b>13,391.13 tpmC</b>	
% throughput difference, reported & reproducibility runs		1.37%	
<b>Response Times (in seconds)</b>	<b>90th percentile</b>	<b>Average</b>	<b>Maximum</b>
New-Order	1.11	0.74	74.74
Payment	0.62	0.42	16.44
Order-Status	1.81	1.20	7.31
Delivery (interactive portion)	0.31	0.29	1.29
Delivery (deferred portion)	1.29	0.86	6329
Stock-Level	6.82	3.95	77.71
Menu	0.30	0.20	1.22
<b>Response time delay added for emulated components</b>		<b>Response Time</b>	<b>Menu</b>
New-Order		0.1	0.1
Payment		0.1	0.1
Order-Status		0.1	0.1
Delivery (interactive portion)		0.1	0.1
Stock-Level		0.1	0.1
<b>Transaction Mix in percentage of total transactions</b>			
New-Order			44.60%
Payment			43.17%
Order-Status			4.11%
Delivery			4.11%
Stock-Level			4.01%
<b>Keying/Think Times (in seconds)</b>	<b>Minimum</b>	<b>Average</b>	<b>Maximum</b>
New-Order	18.01/0.00	18.01/12.10	18.07/121.00
Payment	3.00/0.00	3.01/12.04	3.07/121.01
Order-Status	2.00/0.00	2.01/10.16	2.07/83.84
Delivery	2.00/0.00	2.01/5.10	2.05/40.47
Stock-Level	2.00/0.00	2.01/5.12	2.07/42.37
<b>Test Duration and Checkpointing</b>			
Measurement interval		30 mins	
Transactions (all types) completed during measurement interval		900,799	
Number of checkpoints		One	
Checkpoint interval		30 mins	
Ramp up period		59 mins	