



**IBM NUMA-Q E410 with IBM Netfinity
4500R Using IBM DB2 UDB 7.1**

TPC-W Version 1.2.1

Report Date: 02/02/2001

Updated: 04/09/2001

Price Performance

Performance

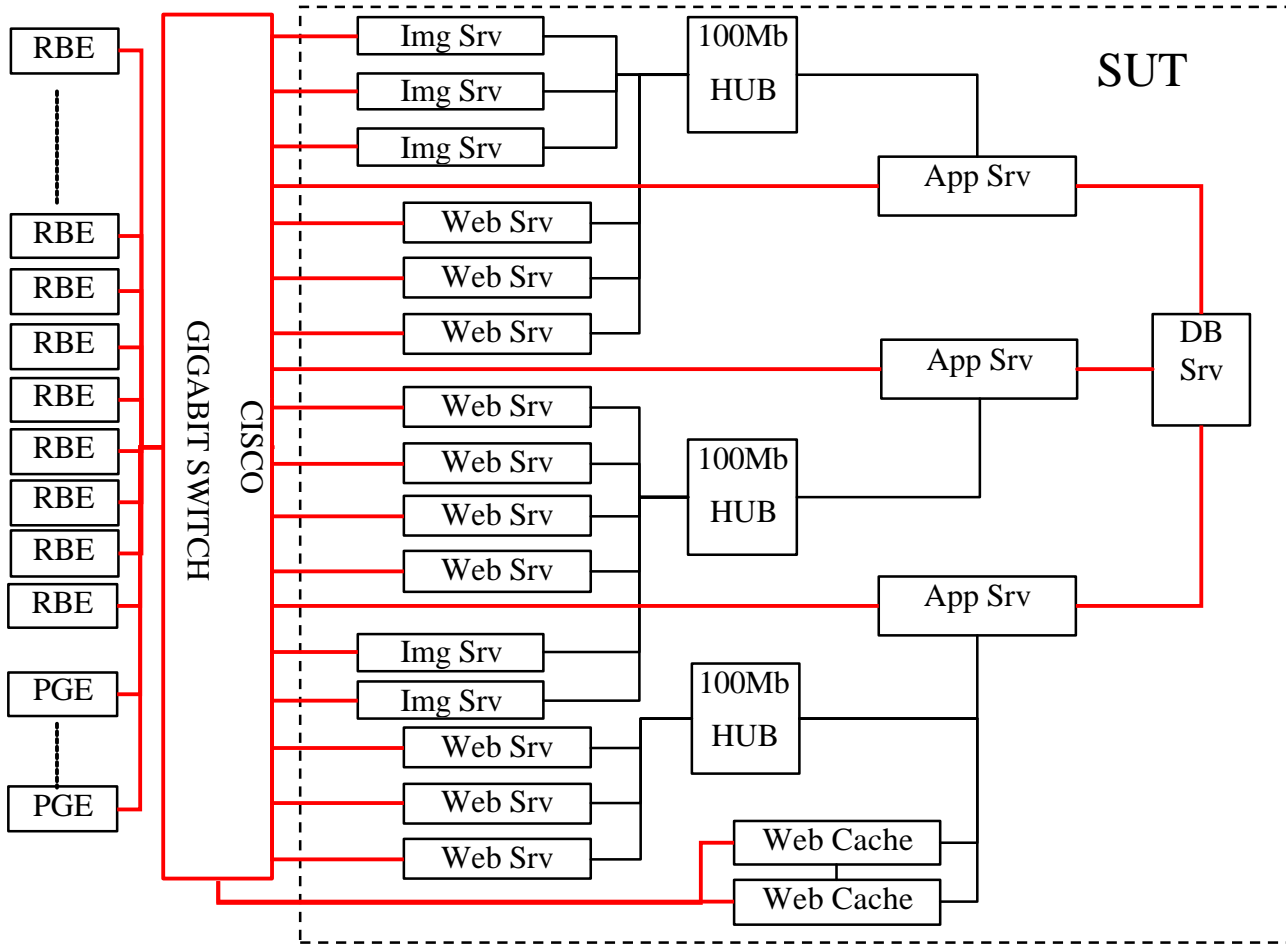
Availability Date

\$195.59 per WIPS@100,000

6,272.5 WIPS@100,000

February 2, 2001

Total Cost	WIPSo@100,000	WIPSB@100,000	Scale Factor	Number of Users	Number of Systems
\$1,226,840.95	3,193.4	5,755.7	100,000	50,000	21
Web Server		Commerce Server		Database Server	
Microsoft Internet Information Server 5.0		ISAPI Application		IBM DB2 UDB Version 7.1	
Load Balancer		Search Engine		Other Software	
Microsoft Windows DNS Server		Microsoft Windows 2000 Indexing Service		Microsoft ISA Server Cypress AutoTask2000	



Function	Num of Systems	Operating System	Processors	Memory	Storage
Netfinity 4500R Web, and Application Server	13	Microsoft Windows 2000 Server	2 Pentium III 933MHz/256K	512MB	1 x 18.2GB
Netfinity 6000R ISA Server	2	Microsoft Windows 2000 Server	2 Pentium III Xeon 700MHz/1MB	4GB	3x18.2GB
Netfinity 4500R Image Server	5	Microsoft Windows 2000 Server	2 Pentium III 933MHz/256K	2304MB	3x18.2GB
IBM NUMA-Q E410 Database Server	1	DYNIX/ptx 4.5.1	12 Pentium III Xeon 700MHz/2MB	15GB	20x36GB 10x18GB



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Description	Part No	Third Party Brand	Unit Price	QTY	Price	3Y Maint Price
Web/Application/Index/Image Servers						
Netfinity 4500R with 933MHz Pentium III 256KB Cache	86565RY	IBM	2	\$2,870.00	18	\$51,660.00
Netfinity 933 MHz 133 FSB/256KB Pentium III Processor	19K4631	IBM	2	\$1,037.00	18	\$18,666.00
128MB 133 MHz ECC SDRAM RDIMM II	33L3123	IBM	2	\$216.00	18	\$3,888.00
256MB 133 MHz ECC SDRAM RDIMM II	33L3125	IBM	2	\$549.00	13	\$7,137.00
1GB 133 MHz ECC SDRAM RDIMM II	33L3129	IBM	2	\$2,840.00	10	\$28,400.00
10/100 Ethernet Server Adapter	06P3601	IBM	2	\$99.00	2	\$198.00
Netfinity 6000R with 700 MHz/1MB Pentium III Xeon Processor	86821RY	IBM	2	\$5,106.00	2	\$10,212.00
Netfinity 700 MHz/1MB Pentium III Xeon Processor	00N7946	IBM	2	\$1,890.00	2	\$3,780.00
Netfinity 512MB 100 MHz ECC SDRAM RDIMM	33L3117	IBM	2	\$1,415.00	14	\$19,810.00
18.2GB 10K-4 Ultra160 SCSI Hot-Swap SL HDD	37L7205	IBM	2	\$469.00	34	\$15,946.00
3YR Onsite repair 24x7 4-Hour warranty service upgrade	30L9186	IBM	1	\$1,495.00	20	\$29,900.00
Intel Pro/1000 Gigabit Server Adapter (10% Spare)	PWLA8490	Intel	2	\$596.00	26	\$15,496.00
Netfinity Rack	9306900	IBM	2	\$1,554.00	3	\$4,662.00
Side Panel Kit	94G6669	IBM	2	\$185.00	2	\$370.00
E51 - 15(13.8) in. UV-NH Color Monitor	633347N	IBM	2	\$159.00	20	\$3,180.00
NETGEAR FS108 8-Port Fast Ethernet Switch (10% spae)	FS108NA	Bay	2	\$95.00	5	\$475.00
Web/App/Image/ISA Subtotal					\$183,880.00	\$29,900.00
DataBase						
NUMA BASE Console, ethernet	CON-0300	IBM	1	\$4,290.00	1	\$4,290.00
Console country kit for NAO, includes power cord and modem	IOC-0021-30	IBM	1		1	
NUMA-Q 2000 Quads w/4x 700 MHz 2MB, 1GB	QUAD-0414	IBM	1	\$38,162.00	3	\$114,486.00
IQ-LINK for E4x0 quad	IQ-LINK-20	IBM	1	\$14,300.00	3	\$42,900.00
32X CD-ROM and QIC525 TAPE DRIVE in a 3.5" PBAY	CDR-0010-03	IBM	1	\$924.00	1	\$924.00
36 GB Disk in 3.5" PBAY Carrier	DSK-3600-B1	IBM	1	\$2,362.00	1	\$2,362.00
Boot Bay , SE SCSI HA and cable, devices seperate	BBAY-MR00-01	IBM	1	\$2,200.00	1	\$2,200.00
1GB Memory Add-on for 400 Series Quad	MEM-1200-00	IBM	1	\$11,050.00	12	\$132,600.00
FC Switch: 8 Ports, with 8 multi-mode NON-OFC GBIC's	FCS-0008-01	IBM	1	\$18,330.00	1	\$18,330.00
Gigabit Ethernet Adapter Card from Sysconnect	COM-0040-61	IBM	1	\$777.00	3	\$2,331.00
PCI/Fibre Channel Ctrl w/multi-mode NON-OFC GLM, 500M	IOC-0210-54	IBM	1	\$2,612.00	3	\$7,836.00
8 meter, multi-mode, FC cable for all MM FC connections	CBL-0800-F3	IBM	1	\$101.00	9	\$909.00
NUMA-Q 2000 128MB L3 Remote Cache Expander	MEMR-128-20	IBM	1	\$11,050.00	3	\$33,150.00
IQ-RING Memory Programmable Control Switch	IQ-RING-00	IBM	1	\$26,000.00	1	\$26,000.00
IQ Ring-IQ Link interconnect cable, quads 1, 2, or 3	CBL-PLUS-03	IBM	1	\$1,281.00	3	\$3,843.00
IBM NUMA-Q Enterprise Server Cabinet	CAB-2000-00	IBM	1	\$6,500.00	1	\$6,500.00
3YR Onsite repair 24x7 4-Hour warranty Service		IBM	1			\$194,601.00
Database Server Subtotal					\$398,661.00	\$194,601.00
Database Storage						
HDS 5800 30 slot, 512MB cache, 2 CU's 2 FC ports	HDS-0580-10	IBM	1	\$60,125.00	1	\$60,125.00
HDS single 18GB 10K RPM disk	HDS-D018-00	IBM	1	\$1,507.00	10	\$15,070.00
HDS single 36GB 10K RPM disk	HDS-D036-10	IBM	1	\$2,279.00	20	\$45,580.00
3YR Onsite repair 24x7 4-Hour warranty Service						\$11,214.00
Database Storage Subtotal					\$120,775.00	\$11,214.00
Software						
DYNIX/ptx Initial 2 users license for NUMA-Q 2000	PTX-BASE-000	IBM	1		1	\$49,571.00
ptx/SVM v2.2.1	SVM-P051-2Q	IBM	1	\$4,875.00	3	\$14,625.00
Dynix/ptx v4.5.1 CD-ROM Media for NUMA-Q system - US	PTX-C451-000	IBM	1	\$1,300.00	1	\$1,300.00
ptx/C++ v5.2.3 for DYNIX/ptx v4.5.1	CMP-5230-00	IBM	1	\$7,150.00	1	\$7,150.00
DB2 Enterprise Edition for NUMA-Q V7.1 Program Package	11K8374	IBM	1	\$13,899.00	1	\$13,899.00
DB2 Enterprise Edition for NUMA-Q 1 Process Entitlement	11K8106	IBM	1	\$13,799.00	11	\$151,789.00
Cypress AutoTask 2000 Scheduler v2.30		Cypress	4	\$49.95	1	\$49.95
Microsoft Windows 2000 Server	C11-00018	MS	3	\$999.00	20	\$19,980.00
Visual C++ Professional 6.0 Win32	PCI502-P64	MS	3	\$549.00	1	\$549.00
Microsoft ISA Standard Edition	E84-00001	MS	3	\$1,499.00	4	\$5,996.00
3-Year maintenance for all Microsoft Software		MS	3	\$2,095.00	3	\$6,285.00
Software Subtotal					\$215,337.95	\$72,472.00
3-Year Cost of Ownership					\$1,226,840.95	
WIPS@100,000					6,272.5	
\$ / WIPS @ 100,000					\$195.59	

1=IBM 2=Software House International 3=Microsoft 4=Cypress Technologies



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Numerical Quantities Summary

WIPS Interactions Summary

Interaction	Mix	Count	90% Response
Home	15.98%	1804809	0.2
Shopping Cart	11.59%	1309135	1.0
Customer Registration	3.01%	339570	0.1
Buy Request	2.61%	294187	1.3
Buy Confirm	1.21%	136313	4.3
Order Inquiry	0.75%	84736	0.4
Order Display	0.66%	74643	0.5
Search Request	20.01%	2258982	0.1
Search Result	17.01%	1920150	0.1
New Product	5.00%	564116	0.1
Best Sellers	4.99%	563650	0.1
Product Detail	17.00%	1919420	0.1
Admin. Request	0.10%	11056	0.1
Admin. Confirm	0.09%	9900	2.0

Measurement Intervals Summary

	Shopping	Browsing	Ordering
Ramp-up Time (min)	30.0	30.0	30.0
Length of Measurement Interval (min.):	30.0	30.0	30.0
Average Think Time (sec.)	7.6	7.6	7.6
Average User Session duration (min.):	15.1	14.7	15.3
Number of Users	50,000	45,000	25,000

Overload Run

Maximum Think Time	90% WIRT for Home	Failure Rate	WIPS
19.0 (average=1.9)	10.5	0.048%	6388.4