

Sun Microsystems Incorporated Appendix

SPARCstation Specifications

SPARC- SPARCstation SPARCstation-2 classic LX
Introduction date Nov. 1992 Nov. 1992 Nov 1990 Packaging desktop desktop desktop Clock speed (MHz) 50 50 40 Processor MicroSPARC MicroSPARC SPARC # processors 1 1

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1
SPECint92
26.4
26.4
21.8
SPECfp92
21.0
21.0
22.8
SPECrate_int92
626
626
517
SPECrate_fp92
498.1
498.1
541
Cache
6 KB
6 KB
64 KB
Memory/MB
(min/max)
16 - 96
16 - 96
32 - 128
Disk (max)
in GB
207 MB -
424 MB -
424 -

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22 GB (SCSI)  
22 GB (SCSI)  
20.8 GB (SCSI)  
Graphics  
Color  
Accel. color  
Mono, accel.  
  
(GX+)  
(GX, GX+,  
  
GS, GT)  
# slots  
2 SBus  
2 SBus  
3 SBus  
Base price:  
\$4,295  
\$7,995  
\$14,295  
Base config:  
16 MB RAM  
16 MB RAM  
32 MB RAM  
15" color  
16" color  
19" mono  
207 MB disk  
424 MB disk

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424 MB disk

ISDN

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SPARCstation 10

	Model 20 Model 54	Model 30	Model 41	Model 52
Packaging	desktop desktop	desktop	desktop	desktop
Availability	now 3Q'93	now	now	2Q'93
Clock speed (MHz)	33 45	36	40	45
# processors	1 4	1	1	2
SPECint92	39.8 58.1/CPU	45.2	53.2	58.1/CPU
SPECfp92	52.9 71.4/CPU	49.4	63.4	71.4/CPU
Cache (KB)	36 36/CPU	36	36	36/CPU
External cache	1 MB/CPU	none 1 MB/CPU	none	1 MB
Memory/MB (min/max)	32/512 64/512	32/51	32/512	64/512
Disk/GB (min/max)	424/41 GB 1 GB/41 GB	424/41 GB	424/41 GB	1GB/41 GB
Graphics # slots	Grayscale, accelerated color(GX, GX+, GS, GT) 4 SBus 4 SBus			
Base price:	\$16,495 \$57,995	\$18,495	\$24,995	\$39,995
Base config:	32 MB 64 MB 19" GX 19" GX grayscale color	32 MB 19" GX grayscale	32 MB 19" GX grayscale	64 MB 19" GX color
	424 MB- disk ISDN	424 MB disk ISDN	1 GB disk ISDN	1 GB disk ISDN

Note: All the above SPARCstation products will include SunOS, ONC, OpenWindows V.3, DeskSet and OpenLook.

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Accelerated Graphics:

GX 2-D and 3-D wireframe/flat shading,  
8-bit planes

GXplus

1280x1024, 2-D and 3-D  
wireframe/flat shading, 8-bit  
planes, double buffering

GS 3-D solids, shading, Z-buffer, 24-bit  
planes, double  
buffering

GT Same as GS, plus anti-aliasing,  
transparency, 5 times GS  
performance

High-end options (VX and MVX) have been discontinued and the R&D, marketing, manufacturing and service rights were licensed to Vicom Systems Inc. in October 1991. Sun will receive royalties from sales and service income for these products. These products include:

VX, MVX

Visualization, programmable, 32-bit  
+ 8-bit planes

Monitor Options:

17" monochrome

1152x900

SPARCstation ELC, IPC, IPX

19" monochrome

1152x900

SPARCstation IPC, IPX, 2

15" color

1024x768

SPARCclassic only

16" color

1152x900 SPARCstation LX, 2, 10 model 30, 41 19" color
1152x900 SPARCstation IPC, IPX, 2, 10 model 30, 41,
52, 54 21" color
1280x1024 SPARCstation 2, 10 model 30, 41 (GT only) 19" grayscale
1152x900 SPARCstation 10 model 30, 41

Note that aside from the 21" color monitor, all other monitors come with non-standard resolution.

## SPARCserver Specifications

Models	SPARCserver 690MP 2 Models 120, 140	630MP Models 120, 140	670MP Models 120, 140	
Introduction date	Sep 1991	Nov 1990	Sep 1991	
Packaging	desktop datacenter	desktop	desktop	
Clock speed (MHz)	40	40	40	40
# processors or 4	1	2 or 4	2 or 4	2
SPECs	25 50.9	50.9 (2 cpu)	50.9	
TPC-A (tps)		91 (4 cpu)	91	91
TPC-B (tps)	95.4 62.1 134.9	121.4	121.4	
Cache KB/CPU	64 KB	64 KB/CPU	64 KB/CPU	64
Memory (min/max)	32/128MB 128/1 GB (ECC)	64/512 (ECC)	64/1GB(ECC)	
Disk (max) in GB	100	41	41	
# slots SBus	3 SBus	4 SBus	4 SBus	4
VME		3 VME	7 VME	11
Max local terminals	26 130	50	130	
Typical workgroup size (clients)	100 50-150	10-50	15-75	25-
Base price:	\$ 5,000 \$92,000	120: \$41,000 140: \$56,200	\$60,000 \$75,200	
Base config: CPU	\$102,000 1 CPU	2 CPU	2 CPU	2
GB disk	32 MB RAM 128 MB RAM 424 MB disk	64 MB RAM 1.3 GB disk	64 MB RAM 2.6 GB disk	5.2



ROM	CD-ROM	CD-ROM	CD-
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New SPARCserver products using the SuperSPARC (Viking processors) were announced on May 19, 1992. These includes new models for the 630MP, 670MP and 690MP systems. The announcement also introduced a new SPARCserver 10 product. The specifications are as follows:

### SPARCserver 10

	SPARCclassic Model 30 Model 54 Server	Model 41	Model 52
Packaging	desktop desktop	desktop	desktop
Availability	now 3Q'93	now	2Q'93
Clock speed (MHz)	50(MSPARC) 45	36	40
# processors	1 4	1	2
SPECint92	26.4 58.1/CPU	44.2	52.6
SPECfp92	21.0 71.4/CPU	52.9	64.7
SPECrate_int92	2812	626.2 5624	1072.1
SPECrate_fp92	3346	498.1 6692	1171.1
Estimated NFS	none	none	700+
Estimated tps	none 220	100	120
Cache	6 KB 1 MB/CPU	36 KB on chip	1 MB/CPU
Memory/MB (min/max)	8-96 32 - 512	32 - 512	32 - 512
Disk (max)	22 GB 41 GB	41 GB	41 GB
# slots	2 SBus 4 SBus	4 SBus	4 SBus
Max local terminals	50 200	200	200
Base price:	\$5,295 \$55,295	\$16,995	\$23,495
Base config:	1 CPU	1 CPU	2 CPU

4 CPU				
16 MB	32 MB	32 MB	64 MB	
64 MB				
1 GB	424 GB disk	424 MB disk	2 GB disk	
2 GB disk				

For the new models of the 600MP systems, the new SuperSPARC processors will be used in varying quantities of multiprocessor configurations. The memory and disk capacity, local terminal connectivity, workgroup size and number of I/O slots will remain the same as the existing 600MP models. The specifications are:

SPARCserver 630MP

Model 41
Model 52
Model 54
Packaging
deskside
deskside
deskside
Availability
now
2Q'93
3Q'93
Clock speed (MHz)
40
45
45
# processors
1
2
4
Main memory
64-512 MB
64-512 MB

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64-512 MB  
Disk capacity  
41 GB  
41 GB  
41 GB  
Slots  
4 SBus +  
4 SBus +  
4 SBus +  
3 VMEBus  
3 VMEBus  
3 VMEBus  
SPECint92  
52.6  
58.1/CPU  
58.1/CPU  
SPECfp92  
64.7  
71.4/CPU  
71.4/CPU  
SPECrate\_int92  
1263.0  
2812  
5624  
SPECrate\_fp92  
1503.0  
3346  
6692  
Estimated NFS  
800+

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n/a

n/a  
operations/second  
Estimated tps

120

180

220

Cache

1 MB/CPU

1 MB/CPU

1 MB/CPU

Base price:

\$47,000

\$60,500

\$78,500

Base config:

1 CPU

2 CPU

4 CPU

64 MB

128 MB

128 MB

1.3 GB disk

1.3 GB disk

1.3 GB disk

CD-ROM

CD-ROM

CD-ROM

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SPARCserver 670MP

Model 41
Model 52
Model 54
Packaging
deskside
deskside
deskside
Availability
now
2Q'93
3Q'93
Clock speed (MHz)
40
45
45
# processors
1
2
4
Main memory
64 MB-1 GB
64 MB-1 GB
64 MB-1 GB
Disk capacity
41 GB
41 GB
41 GB



Slots
4 SBus +
4 SBus +
4 SBus +
7 VMEBus
7 VMEBus
7 VMEBus
SPECint92
52.6
58.1/CPU
58.1/CPU
SPECfp92
64.7
71.4/CPU
71.4/CPU
SPECrate_int92
1263.0
2812
5624
SPECrate_fp92
1503.0
3346
6692
Estimated NFS
800+
n/a
n/a
operations/second
Estimated tps
120

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180
220
Cache
1 MB/CPU
1 MB/CPU
1 MB/CPU
Base price:
\$56,000
\$69,500
\$91,500
Base config:
1 CPU
2 CPU
4 CPU
64 MB
128 MB
128 MB
1.3 GB disk
1.3 GB disk
1.3 GB disk
CD-ROM
CD-ROM
CD-ROM

SPARCserver 690MP

Model 41
Model 52
Model 54

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Availability

now

2Q'93

3Q'93

Clock speed  
(MHz)

40

45

45

# processors

1

2

4

Main memory

64 MB-1 GB

64 MB-1 GB

64 MB-1 GB

Disk capacity

52 GB (IPI)/

52 GB (IPI)/

52 GB (IPI)/

100 GB (SCSI)

100 GB (SCSI)

100 GB (SCSI)

Slots

4 SBus +

4 SBus +

4 SBus +

11 VMEBus

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11 VMEBus
11 VMEBus
SPECint92
52.6
58.1/CPU
58.1/CPU
SPECfp92
64.7
71.4/CPU
71.4/CPU
SPECrate_int92
1263.0
2812
5624
SPECrate_fp92
1503.0
3346
6692
Estimated NFS
800+
n/a
n/a
operations/second
Estimated tps
130
200
250
Cache
1 MB/CPU
1 MB/CPU
1 MB/CPU

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Base price:

\$76,000

\$101,500

\$119,500

Base config:

1 CPU

2 CPU

4 CPU

64 MB

128 MB

128 MB

4.2 GB disk

8.4 GB disk

8.4 GB disk

CD-ROM

CD-ROM

CD-ROM

Availability
Apr., 1993
Clock speed (MHz)
40MHz
# processors
2 - 8 (4/93)
2 - 16 (2H93)
2 - 20 (1H94)
Main memory
64 MB-2 GB (8-way)
64 MB-4 GB (16-way)
64 MB-5 GB (20-way)
Disk capacity
138 GB (8-way)
340 GB (16-way)
1 TB (20-way)
I/O slots
16 Sbus (8-way)
40 Sbus (16-way)
40 Sbus (20-way)
SPECint92

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52.6  
SPECfp92

64.7  
SPECrate\_int92

8,047  
SPECrate\_fp92

10,600  
Estimated NFS operations/second

n/a  
Estimated tps

500 (8-way)  
Cache

1 MB/CPU  
Base price:

\$95,000  
Base config:

2 CPU

64 MB

4.2 GB disk

Price/performance comparisons

The following audited benchmarks have been published by Sun:

TPC-A benchmark:

Model	Database \$/tps-A	Total cost	tps-A
690MP	Oracle7 \$12,604	\$1,352,119	107.28

Compare these to HP's published benchmarks for TPC-A (as of October 1992):

Model	Database	Total Cost	tps-A	\$/tps-A
9000/807	Informix 4.0	\$ 328,272	30.40	\$10,798
9000/817	Informix 4.0	439,032	51.20	8,563
9000/827	Informix 4.0	492,368	51.80	9,496
9000/837	Informix 4.0	572,416	60.00	9,526
9000/847	Informix 4.0	592,595	60.10	9,852
9000/847 c/s	Informix 5.0	808,538	88.10	9,177
9000/857	Informix 4.0	615,788	60.10	10,238
9000/857 c/s	Informix 5.0	831,734	88.10	9,440
9000/867	Informix 4.0	893,928	74.90	11,930
9000/867 c/s	Sybase V4.9.1	919,995	110.50	8,323
9000/877	Informix 4.0	909,428	74.90	12,124
9000/877 c/s	Sybase V4.9.1	908,428	110.50	8,472
9000/897 c/s	Oracle 7	----	184.50	10,737
9000/870-100	Informix 4.1	1,568,748	74.50	21,057
9000/870-200	Informix 4.1	1,967,803	111.16	17,783
9000/870-400	Informix 4.1	2,748,301	173.20	15,868
9000/890-4 c/s	Oracle 7	6,708,041	578.00	11,606

The estimated transaction per second for the rest of the 890 family are as follows:

Model tps
9000/890 1 (host)
160



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9000/890 2 (host)	270
9000/890 3 (host)	400

Cost of ownership comparisons

For comparisons with desktop, desktside and graphics workstations, see your Series 700 Sales Kit.

HP 9000 Series 800 v/s SPARCserver (with same day or "Priority" support): The system choices are based on user workload characterization as described in Sun's product literature.

16-User system:

	Same Day	List		List
F10	\$11,250		SPARCserver-10/30	\$16,995
16 MB RAM incl.			32 MB RAM	incl.
566 MB disk incl.			424 MB disk	incl.
2 GB DAT incl.			5 GB DAT	4,200
16-user license		3,150	20-user license	1,200
	n/c			
<hr/>			<hr/>	
Total Cost	\$14,400		Total Cost	\$22,395
3-year support			3-year support	\$ 150
	\$5,400			
3-year C.O.O		\$22,430	3-year C.O.O	\$27,795

128-user system:

G30	\$20,000		SPARCserver 630/41	\$47,000	\$ 350
96 MB RAM	6,400		128 MB RAM	5,200	n/c
2.0 GB disk	4,700		2.1 GB disk	4,400	n/c
2 GB DAT incl.			5.0 GB DAT	4,200	65
128-user license		17,875	Unlimited license		2,000
	n/c				
<hr/>			<hr/>		
Total Cost	\$48,975		Total Cost	\$62,800	
3-year support			3-year support	\$17,047	
	\$14,940				
3-year C.O.O		\$66,022	3-year C.O.O		\$83,860

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256-user system:

H50	\$72,000		SPARCserver 690/54	\$119,500	\$840
256 MB RAM	19,200		256 MB RAM	10,400	n/c
5 GB disk	13,800		8.4 GB disk	incl.	n/c
2 GB DAT	incl.		5.0 GB DAT	incl.	n/c
256 user license		22,075	Unlimited license		2,000
	n/c				
<hr/>			<hr/>		
Total Cost	\$127,075		Total Cost	\$131,900	\$ 840
3-year support			\$38,358	3-year support	
	\$30,240				
3-year C.O.O		\$165,433		3-year C.O.O	\$162,140

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