IBM 3090 Series

Product Enhancement

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IBM Corporation lowered the entry point into the ES/3090 S Series with the February 1989 introduction of the Model 100S single processor. The company has also enhanced its Processor Resource/Systems Manager (PR/SM) logical partitioning feature and its sorting and transaction processing software.

In related hardware announcements, IBM reduced the price of additional central memory and Expanded Storage and withdrew from marketing the original 3090-based models and upgrades. Effective May 5, the Models 150, 180, 200, and 400 will no longer be actively marketed. IBM currently sells only the enhanced E and S model versions of these machines. Please refer to the price list for new memory and Expanded Storage pricing.

With the introduction of the Model 100S, IBM now offers five uniprocessor models, three dual processor models, a triple processor, a quad processor, a five-way processor, and a six-way processor. The newest entry-level model provides the 3090 S Series with a growth range of up to 21-fold.

The Model 100S overlaps the price/performance of IBM's strategic 4381 midrange mainframe series and eases migration into the company's large-systems environments. The Model 100S can be field upgraded to the Model 120S, another uniprocessor. The Model 100S becomes available this month. The Model 120S upgrade option will be available by the third quarter.

With a base purchase price of $525,000, the Model 100S is the lowest-priced 3090 offered to date. It sells for $50,000 less than a base IBM 4381 Model Group 91E and about $395,000 less than a base Model Group 92E, the top end of the 4381 midrange line. The new model is expected to have 1.0 to 1.3 times the internal throughput of the Model Group 91E.

Undoubtedly, IBM wants to lure more 4381 and 308X users into the 3090 camp with even more enticing entry-level hardware. The new 3090 probably means IBM will delay announcing a new 4381 follow-on series for several more months or until IBM can move more 3090 boxes. A 4381 replacement series is expected to hurt low-end 3090 sales.

The Model 100S consists of 32 megabytes of main memory, expandable to 64 megabytes; one 64-kilobyte buffer; and 16 channels, expandable to 32 channels in 8-channel increments. It also supports 64 to 256 megabytes of optional Expanded Storage, one optional Vector Facility, and one optional PR/SM feature.

The mainframe must also be configured with one 3092 Model 3 Processor Controller, one 3097 Model 1 or 2 Power & Coolant Distribution Unit, and one 3089 Model 3 Power Unit or equivalent unit supplying power at 400 Hz.

The Model 100S, which has a machine cycle time of 18.5 nanoseconds, supports Enterprise Systems Architecture (ESA)/370 operating mode, which, in turn, supports MVS/XA and ESA/370 operating systems.

In addition to a new 3090 model, IBM has once again enhanced its PR/SM feature. IBM has increased the number of possible logical partitions when operating in Logically Partitioned (LPAR) mode. LPAR mode now supports up to 7 logical partitions on single processors and up to 14 logical partitions on multiprocessors operating in physically partitioned mode. Previously, PR/SM let users set up 6 logical partitions on single processors and up to 12 on multiprocessors.

IBM also enhanced channel capabilities under PR/SM. Users can now define a second System/370 channel set operating within an MVS/370 or VM/SP HPO configuration. An MVS/370 channel set can have up to 16 channels, and an VM/SP HPO channel set can have up to 32 channels.

The two-channel set option, however, reduces the maximum number of System/370 logical partitions that can be concurrently activated. According to an IBM example, a maximum of three System/370 mode logical partitions each with two channel sets can be concurrently activated. A fourth logical partition operating under System/370 mode, however, can have only one channel set.

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▷ The PR/SM enhancements are supported on the Models 180S, 200S, 280S, 300S, 400S, 500S, and 600S. One optional PR/SM feature may be installed on the Models 100S, 180S, and 300S.

In addition to hardware enhancements, IBM introduced a faster version of Data Facility Sort (DFSORT) and enhanced CICS/MVS.

IBM contends that DFSORT Release 11, the newest release, reduces sorting time by 25 percent, CPU-busy time by 17 percent, and channel-busy time by 46 percent. The company achieved the performance improvement using a new "hipersorting" feature that takes advantage of faster mainframe memory. Hipersorting lets users sort data within an Expanded Storage data space called hiperspace. IBM introduced the hiperspace concept in February 1988 with the initial introduction of ESA/370. By moving sort data into processor memory rather than accessing it on a disk, users can access large amounts of data at higher speeds. Release 11 was scheduled for March availability.

CICS/MVS 2.1 running in an ESA/370 environment includes a new, optional feature called Data Tables. IBM claims this newest feature helps increase on-line transaction processing rates by up to 95 percent. The Data Tables feature provides users with faster access to frequently used data in virtual storage. Pricing information, descriptive data, and routing codes are IBM examples of high-access data that can be maintained under the new feature. Data Tables lets users construct, maintain, and access data in virtual storage above the 16-megabyte line, bypassing normal CICS file processing. The newest release provides for CICS-maintained and user-maintained Data Tables.

CICS/MVS participates in IBM Systems Application Architecture (SAA), a strategy for making applications portable across otherwise incompatible IBM hardware platforms using common interfaces and protocols. CICS/MVS 2.1 was scheduled for availability in March.

EQUIPMENT PRICES

	Purchase Price ($)	Monthly Maint. ($)
PROCESSOR & FEATURES		
Model 100S Processor Complex consists of CPU, 32MB of central storage, 64KB of buffer memory, and 16 integrated channels; requires 3092-3 Processor Controller, 3097-1 or -2 Power & Coolant Distribution Unit, and 3089-3 Power Unit	525,000	1,680
Expansion Frame		
7330 Expansion Frame; requires Feature 1545	45,000	52
Central Storage		
4064 Additional 32 megabytes	270,000	262
Expanded Storage		
5064 First 64 megabytes	330,000	525
5128 First 128 megabytes	515,000	945
5192 First 192 megabytes	700,000	1,365
5256 First 256 megabytes	885,000	1,785
6128 64 megabytes to 128 megabytes	185,000	420
6192 64 megabytes to 192 megabytes	370,000	840
6256 64 megabytes to 256 megabytes	555,000	1,260
6193 128 megabytes to 192 megabytes	185,000	420
6257 128 megabytes to 256 megabytes	370,000	840
6258 192 megabytes to 256 megabytes	185,000	420
Channel Groups		
3848 First Additional Channel Group; 8 channels	130,000	152
3849 Second Additional Channel Group; 8 channels	130,000	152

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		Purchase Price ($)	Monthly Maint. ($)
Vector Facility			
1545	First Vector Facility; requires 7330	325,000	315
Processor Resource/Systems Management (PR/SM)			
6851	PR/SM Feature	60,000	178
System Upgrade			
	3090 Model 100S to 3090 Model 120S	190,000	NA

		Purchase Price ($)

In February 1989, IBM reduced purchase prices for additional central memory and Expanded Storage modules for the entire 3090 Series. Please refer to the following price list.

Central Storage

		Purchase Price ($)
	A Side:	
4128	64 megabytes to 128 megabytes	490,000
4129	32 megabytes to 128 megabytes	760,000
4256	128 megabytes to 256 megabytes	980,000
4257	64 megabytes to 256 megabytes	1,470,000
	B Side:	
4228	64 megabytes to 128 megabytes	490,000
4229	32 megabytes to 128 megabytes	760,000
4356	128 megabytes to 256 megabytes	980,000
4357	64 megabytes to 256 megabytes	1,470,000

Expanded Storage

		Purchase Price ($)
	A Side:	
5064	First 64 megabytes	330,000
5128	First 128 megabytes	515,000
5192	First 192 megabytes	700,000
5256	First 256 megabytes	885,000
5512	First 512 megabytes	1,625,000
5024	First gigabyte	3,105,000
6128	64 megabytes to 128 megabytes	185,000
6192	64 megabytes to 192 megabytes	370,000
6256	64 megabytes to 256 megabytes	555,000
6512	64 megabytes to 512 megabytes	1,295,000
6193	128 megabytes to 192 megabytes	185,000
6257	128 megabytes to 256 megabytes	370,000
6513	128 megabytes to 512 megabytes	1,110,000
6258	192 megabytes to 256 megabytes	185,000
6514	192 megabytes to 512 megabytes	925,000
6515	256 megabytes to 512 megabytes	740,000
6024	64 megabytes to 1 gigabyte	2,775,000
6025	128 megabytes to 1 gigabyte	2,590,000
6026	192 megabytes to 1 gigabyte	2,405,000
6027	256 megabytes to 1 gigabyte	2,220,000
6028	512 megabytes to 1 gigabyte	1,480,000
	B Side:	
7064	First 64 megabytes	330,000
7128	First 128 megabytes	515,000
7192	First 192 megabytes	700,000
7256	First 256 megabytes	885,000
7512	First 512 megabytes	1,625,000
7024	First gigabyte	3,105,000
8128	64 megabytes to 128 megabytes	185,000
8192	64 megabytes to 192 megabytes	370,000
8256	64 megabytes to 256 megabytes	555,000
8512	64 megabytes to 512 megabytes	1,295,000
8193	128 megabytes to 192 megabytes	185,000
8257	128 megabytes to 256 megabytes	370,000
6513	128 megabytes to 512 megabytes	1,110,000
6258	192 megabytes to 256 megabytes	185,000
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		Purchase Price ($)
6026	192 megabytes to 1 gigabyte	2,405,000
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NA—Not applicable.
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SOFTWARE PRICES

		Monthly License Charge ($)	Graduated Onetime Charge ($)
5740-SM1	DFSORT Release 11.0 (MVS/ESA and MVS/XA)		
	Graduated Charge: Processor Group 18	259	8,820
	Graduated Charge: Processor Group 20	259	8,820
	Graduated Charge: Processor Group 30	259	8,820
	Graduated Charge: Processor Group 40	259	14,000
	Graduated Charge: Processor Group 50	259	18,070
5665-403	CICS/MVS Version 2 Release 1 (MVS/ESA)		
	Graduated Charge: Processor Group 18	595	17,850
	Graduated Charge: Processor Group 20	595	17,850
	Graduated Charge: Processor Group 30	595	17,850
	Graduated Charge: Processor Group 40	595	28,560
	Graduated Charge: Processor Group 50	595	36,840 ■