IBM 3090 Series

Product Enhancement

To enhance configuration flexibility, IBM Corporation introduced asymmetrical processing options now available with several designated 3090 models. Additionally, the company announced still another ES/3090 Series processor: the Model 380S, a three-processor system.

The Model 380S features two central processors on the A side and one central processor on the B side. The system comes with 128M bytes of central storage, expandable to 512M bytes; 128K bytes of buffer storage per processor; and 48 channels, expandable to 96 channels. The 380S can be configured with 64M bytes to 1.28G bytes of Expanded Storage. Additionally, a vector facility can be installed on each central processor.

The Model 380S requires a 3092-5 Processor Controller, two 3097 Model 1 or 2 Power and Coolant Distribution Units, and three 3089 Power Units or equivalent source of 400 Hz power.

The Model 380S approximates 1.8 to 1.9 times the internal throughput of an ES/3090 Model 200E operating under MVS/SP Version 3.1 and about 1.4 to 1.5 times the internal throughput of a Model 280S.

Unlike the Model 300S, also a triple processor, the 380S can take advantage of the new asymmetric configuration options explained below.

The 380S can be configured as a single image or may be physically partitioned: two processors on one side of the partition and one processor on the other. In physically partitioned mode, processors are established as physically attached but independent environments.

In single-image operation, the processor can support ESA/370 mode or Logically Partitioned (LPAR) mode. ESA/370 mode supports 370-XA and ESA/370 operating systems. LPAR mode is available with the installation of Processor Resource/System Manager (PR/SM), a feature that establishes separate hardware environments within single or multiprocessors. If the PR/SM feature is selected, one must be installed on each side of the partition to maintain symmetry.

The Model 380S, announced on April 4, 1989, will be available in November.

A 3090 Model 200, 200E, 280E, 200S, and 280S can be upgraded to the 380S. The 380S, in turn, can be upgraded to the 400S. Upgrades to the 380S will be available November 1989. The 380S-to-400S upgrade will be available by the first quarter of 1990.

In addition to the new 3090 model, IBM introduced new asymmetrical configuration options for Models 250S, 280S, 380S, 400S, 500S, 600S, and related upgrades involving these models. (The option is not available with 3090 E models.) The option lets users configure channels and Expanded Storage within multiprocessor configurations with more flexibility. Under this option, channels and Expanded Storage no longer need balance on either side of a partition for designated 3090 S models. When upgrading, channel and Expanded Storage features must meet minimum requirements. An asymmetric Expanded Storage configuration requires a minimum of 64M bytes of storage on the A and B sides of the processor complex before asymmetry can be exploited. Asymmetry does not apply to central storage and PR/SM features. The asymmetry feature lets users purchase the amount of extra channels and Expanded Storage they need. They no longer have to purchase additional amounts to maintain a balance on each side of the machine as IBM previously required. Evidently, IBM's marketing brain trust hopes that the new configuration flexibility will stimulate more business, particularly among customers that have put off additional 3090 purchases.

The asymmetric option was available for newly shipped or installed Models 250S, 280S, 400S, 500S, and 600S in May 1989. The option will be available for the Model 380S when it becomes available in November 1989.

The option will be available for the following upgrades this month:

- 150 to 250S, 150E to 250S

- 180 to 280S, 180E to 280S, 180S to 280S

- 200 to 400S, 200E to 400S, 200S to 400S

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▷ • 280E to 280S, 280E to 400S, 280S to 400S

  • 300E to 400S, 300S to 400S

  • 300E to 500S, 300S to 500S

  • 300E to 600S, 300S to 600S

  • 400 to 400S, 400E to 400S, 400 to 600S

  • 400E to 500S, 400S to 500S

  • 400E to 600S, 400S to 600S

  • 500E to 500S, 500S to 600S

  • 600E to 600S

The option will be available for the following upgrades by third-quarter 1989:

  • 150S to 250S

  • 250S to 280S

The option will be available for the following upgrades by November 1989:

  • 200 to 380S, 200E to 380S, 200S to 380S

  • 280E to 380S, 280S to 380S

Finally, the option will be available for the 380S-to-400S upgrade by the first quarter of 1990.

EQUIPMENT PRICES

PROCESSOR & FEATURES		Purchase Price ($)	Monthly Maint. ($)
Model 380S	Processor Complex consists of three CPUs, 128MB of central storage, 128KB of buffer memory per CPU, and 48 integrated channels; requires 3092-5 Processor Controller, two 3097-1 or -2 Power & Coolant Distribution Units, and three 3089-3 Power Units.	7,469,000	11,389
Expansion Frame			
7330	Expansion Frame for A side; requires feature 1545 or 3854	47,250	52
7331	Expansion Frame for B side; requires feature 1546	47,250	52
Central Storage			
	A side:		
4128	64 megabytes to 128 megabytes	490,000	525
4256	128 megabytes to 256 megabytes	980,000	1,050
4257	64 megabytes to 256 megabytes	1,470,000	1,575
	B side:		
4228	64 megabytes to 128 megabytes	490,000	525
4356	128 megabytes to 256 megabytes	980,000	1,050
4357	64 megabytes to 256 megabytes	1,470,000	1,575

NA—Not applicable.

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		Purchase Price ($)	Monthly Maint. ($)
▷ **Expanded Storage**			
	A side:		
5024	First gigabyte	3,105,000	6,825
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
5512	First 512 megabytes	1,625,000	3,465
6024	64 megabytes to 1 gigabyte	2,775,000	6,300
6025	128 megabytes to 1 gigabyte	2,590,000	5,880
6026	192 megabytes to 1 gigabyte	2,405,000	5,460
6027	256 megabytes to 1 gigabyte	2,220,000	5,040
6028	512 megabytes to 1 gigabyte	1,480,000	3,360
6128	64 megabytes to 128 megabytes	185,000	420
6192	64 megabytes to 192 megabytes	370,000	840
6193	128 megabytes to 192 megabytes	185,000	420
6256	64 megabytes to 256 megabytes	555,000	1,260
6257	128 megabytes to 256 megabytes	370,000	840
6258	192 megabytes to 256 megabytes	185,000	420
6512	64 megabytes to 512 megabytes	1,295,000	2,940
6513	128 megabytes to 512 megabytes	1,110,000	2,520
6514	192 megabytes to 512 megabytes	925,000	2,100
6515	256 megabytes to 512 megabytes	740,000	1,680
	B side:		
7064	First 64 megabytes	330,000	525
7128	First 128 megabytes	515,000	945
7192	First 192 megabytes	700,000	1,365
7256	First 256 megabytes	885,000	1,785
8128	64 megabytes to 128 megabytes	185,000	420
8192	64 megabytes to 192 megabytes	370,000	840
8193	128 megabytes to 192 megabytes	185,000	420
8256	64 megabytes to 256 megabytes	555,000	1,260
8257	128 megabytes to 256 megabytes	370,000	840
8258	192 megabytes to 256 megabytes	185,000	420
Channel Groups			
	A side:		
3850	First Additional Channel Group; 8 channels	136,500	152
3851	Second Additional Channel Group; 8 channels	136,500	152
3854	Third Additional Channel Group; requires 7330	273,000	304
	B side:		
3858	First Additional Channel Group; 8 channels	136,500	152
3859	Second Additional Channel Group; 8 channels	136,500	152
Vector Facility			
	A side:		
1545	First Vector Facility; requires 7330	341,250	315
1550	Second Vector Facility	241,500	183
	B side:		
1546	First Vector Facility; requires 7331	341,250	315
Processor Resource/Systems Management (PR/SM)			
6851	PR/SM Feature; A side; central stroage and PR/SM features must be symmetrical on A and B sides	63,000	178
7851	PR/SM Feature; B side	63,000	178
System Upgrades			
	3090 Model 200 to 3090 Model 380S; central storage and PR/SM features must be symmetrical	4,819,000	NA
	3090 Model 200E to 3090 Model 380S; central storage and PR/SM features must be symmetrical	3,604,000	NA
	3090 Model 280E to 3090 Model 380S; central storage and PR/SM features must be symmetrical; requires 3848, 3849, 4064, and 4264	2,827,000	NA
	3090 Model 200S to 3090 Model 380S; central storage and PR/SM features must be symmetrical	2,757,500	NA
	3090 Model 280S to 3090 Model 380S; central storage and PR/SM features must be symmetrical; requires 3848. 3849, 4064, and 4264	1,569,800	NA
	3090 Model 380S to 3090 Model 400S; central storage and PR/SM features must be symmetrical; requires 3858 and 3859	1,622,200	NA

NA—Not applicable. □