

IBM 3083

PRODUCT DESCRIPTION

IBM has beefed up its large systems arsenal with the announcement of three new high-performance processors, the 3083 Model Groups E, B, and J. All three are uniprocessors with varying execution rates, and feature the same processor technology as the larger dual-processor 3081 Model Groups D and K. The new systems have improved price/performance over IBM's venerable 3033, and can be field upgraded to the top-end 3081 Model Group K. IBM also announced purchase price cuts of up to 17 percent on selected 3033 models.

RELATIONSHIP TO CURRENT PRODUCT LINE:

Providing an effective gateway to the company's bigger 3081 systems, the 3083 models are seen as the successors to IBM's 3033 product line. The entry-level 3083 Model E has about 2.8 times the performance of the IBM 4341-2, and approximately half the power of the 3083 Model J. The 3083E is comparable in performance to the IBM 3033N, and costs about 11 percent less. The mid-range 3083 Model B has 1.4 to 1.5 times the power of the Model E, is comparable in performance and costs about five percent less than the 3033U. The 3083 Model J has approximately half the performance of IBM's 3081 Model K processor, and about 1.3 times the power of the 3083B. The 3083J doesn't have a comparable 3033 model, unless either the 3033AP or 3033MP versions are considered. The 3083J has about 15 percent less power than these two systems, but costs about *half* the price of the two-processor 3033s. ▶

PRODUCT ANNOUNCED: The IBM 3083 family of processors includes three models: the 3083 Model Groups E, B, and J. All are single-processor derivatives of the dual-processor IBM 3081. The new systems can have from 8 to 32 megabytes of main memory and 8 to 24 channels.

COMPETITION: Amdahl 470 Series, Burroughs B 7800, Honeywell DPS 8/70, NCR V-8600 Series, and Univac 1100/80 Series.

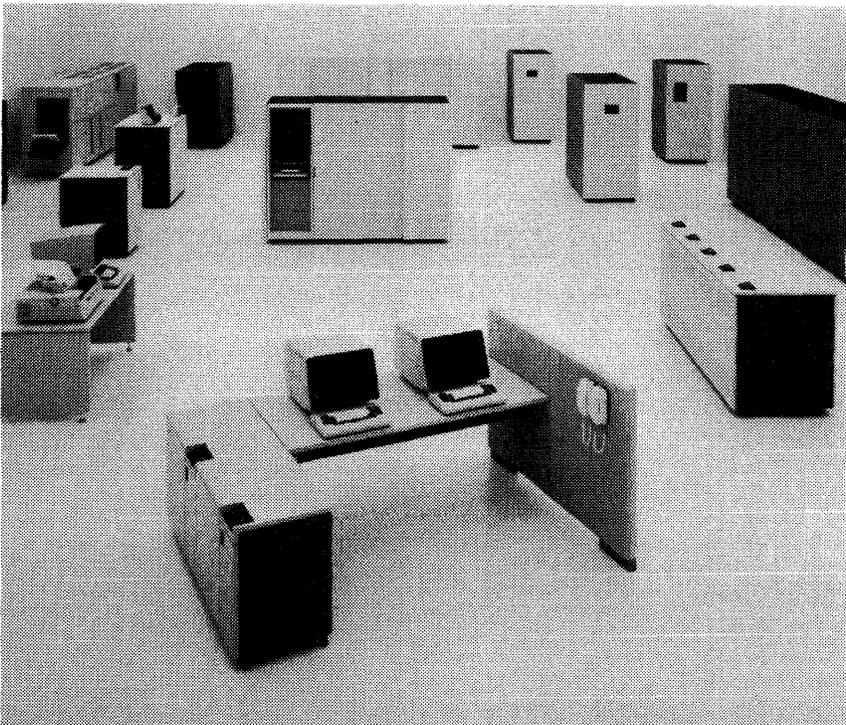
DATE ANNOUNCED: March 31, 1982.

SCHEDULED DELIVERY: 3083 Model E—2nd Quarter 1983; 3083 Models B and J (over 8 megabytes and 8 channels)—1st Quarter 1983; 3083 Models B and J (8 megabytes/8 channels)—2nd Quarter 1984.

BASIC SPECIFICATIONS

MANUFACTURER: International Business Machines Corporation, National Accounts Division, 1133 Westchester Avenue, White Plains, New York 10604. Telephone (914) 696-1900.

CONFIGURATION: The 3083 Processor Complex consists of a 3083 Processor Unit, a 3082 Processor Controller, a 3087 Coolant Distribution Unit, a 3089 Power Unit or other appropriate 400-Hz source of power, and a 3278 Model 2A Display Console. In addition, the system control program requires one or more operator consoles. Main memory is available in 8- to 32-megabyte capacities ▶



IBM's newest high-performance system, the 3083, has three models that are comparable in performance to its 3033 product line, but can be field upgraded to the top-of-the-line 3081. The new models use the same operating systems as the 3081, and can support the same I/O devices.

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➤ The 3083 systems are single-processor versions of the dyadic-processor 3081 systems, and feature the same technology in component design and implementation. Logic circuits are built around Thermal Conduction Modules (TCMs), the same as on the 3081. All three CPUs have a cycle time of 26 nanoseconds, as on the 3081s. Microcoded performance functions such as the 3033 Extension and Extended Addressing are standard. The new models are capable of operating in both the 24-bit System/370 and 31-bit 370/Extended Architecture modes. Programs written in either of these modes will execute on the new systems, with certain restrictions.

The 3083 Model E has 8 megabytes of main memory as standard, and can be increased to 16 megabytes. Both the 3083 Models B and J start at 8 megabytes of memory, and can be expanded to 16, 24, and 32 megabytes. All three systems can have from 8 to 16 high-speed channels, and the Models B and J can have a maximum of 24 channels. All channels can support the 3.0-megabytes-per-second data streaming feature, when configured as block multiplexer units. The 3083 supports the same I/O devices as the 3081.

IBM states that the 3083 Model E can be field upgraded to the Model B, and the Model B can be field upgraded to the Model J, both in about five hours. The 3083 Model J can be field upgraded to the IBM 3081 Model K in about eight hours.

IBM also announced a new optional air-cooled Coolant Distribution Unit, the 3087 Model 2, which can dissipate the 3083's heat into the computer room's air, rather than into the building's chilled water supply. The new unit supports the 3083 models exclusively.

Software support for the 3083 systems is the same as the 3081. Included in this array of system control programs (SCPs) are MVS/SP Version 1 Releases 1.1, 3.0, 3.1, 3.2, and 3.3; MVS/SP Version 2; VM/Extended Architecture Migration Aid; VM/SP High Performance Option Release 2; and the Airline Control Program/Transaction Processing Facility (ACP/TPF).

All models of the 3083 Model E will be available starting in the second quarter of 1983. The 3083 Models B and J (with more than 8 megabytes of memory and 8 channels) will be available in the first quarter of 1983. These same systems in 8-megabyte and 8-channel configurations will be available the second quarter of 1983. Field upgrades from Models E to B and Models B to J will start in the third quarter of 1983, while field upgrades from the 3083 Model J to the 3081 Model K are scheduled for the fourth quarter of 1983.

COMPETITIVE POSITION: Of the major plug-compatible mainframe (PCM) manufacturers, only Amdahl (Report 70E-044-01) and NAS (Report 70C-655-01) compete in the 3083/3081 performance range. In terms of processor performance, the 3083E competes ➤

and channel capacity is 8 to 24 channels, depending on the processor model.

CENTRAL PROCESSORS: Like the 3081 central processors, the 3083 processor units are microcode-controlled, include high-speed buffer storage, and have a cycle time of 26 nanoseconds. Three basic 3081 models are available: the Model Group E, with 8 or 16 megabytes of main memory and 8 or 16 channels, the Model Group B, with 8, 16, 24, or 32 megabytes of memory and 8, 16, or 24 channels; and the Model Group J, with 8, 16, 24, or 32 megabytes of memory and 8, 16, or 24 channels. All models are identical in function, but vary in instruction rate. A Model Group E can be upgraded to a Model Group B, which in turn can be upgraded to a Model Group J. A Model Group J can be upgraded to a 3081 Model Group K.

Standard features on all 3083 models include System/370 or System/370-Extended Architecture mode, System/370 Extended Facility, 3033 Extension Feature, Extended Addressing, extended control mode, key-controlled storage protection, page protection, dynamic address translation, Virtual Machine Assist, and Preferred Machine Assist.

3082 PROCESSOR CONTROLLER: This is a unique, free-standing processor that concurrently supervises and monitors all ongoing activities in the 3083 complex. Three models are available, depending on the number of channels present: Model 8, for 8 channels; Model 16, for 16 channels; and Model 24, for 24-channel systems. The 3082 acts as the controller for the system console (an IBM 3278 Model 2A), the service support console, an optional printer, and an optional programming support console. The system console interacts directly with the 3083, displays system status, and performs all standard console functions. The service support console interacts with the diagnostic routines built into the 3083 and can also function as a backup console. The programming support console is a 3278 Model 2 equipped with a switch to change from a programming support device to a diagnostic console. The optional printer can be a 3230 Model 2, 3268 Model 2, or 3287 Model 1 or 2.

3087 COOLANT DISTRIBUTION UNIT: In conjunction with the 3083 announcement, IBM also introduced the 3087 Model 2 for use with 3083 systems only. The 3087 Model 2 dissipates the heat generated by the 3083 into the air of the computer room, rather than transferring the heat into the building's chilled water supply. The 3087 Model 1 can also be used with the 3083.

INPUT/OUTPUT CONTROL: The 3083 uses an External Data Controller (EXDC) to handle all I/O operations. A fully integrated I/O processor, the EXDC contains eight channels as standard. One optional additional 8-channel group is available on 3083E models, while two additional 8-channel groups are available on 3083B and J models.

Channels can be configured as either byte or block multiplexer channels. A maximum of four byte multiplexer channels per system is possible. All block multiplexer channels can operate in the 3-megabytes-per-second data streaming mode. Up to eight I/O control units can be attached to either a byte or block multiplexer channel, and each channel can address up to 256 I/O devices (each on its own subchannel). The 3083 Processor Complex supports all I/O devices that can be connected to the 3081 Processor Complex.

SOFTWARE SUPPORT: MVS/SP Version 1 Releases 1.1, 3.0, 3.1, 3.2, and 3.3 will support all models of the 3083. This support ➤

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➤ with the Amdahl 470/V7A and the NAS AS/7000, the 3083B tangles with the 470/V7 and the AS/7000 DPC, and the 3083J goes one-on-one with the 470/V8 and the AS/9000N. All systems are fairly close to one another in price. As is traditional with the PCMs, once IBM has placed its bid, it's usually only a matter of a few days to a week or so before they make their counter-offers. It will indeed be interesting to see their responses. Among the major mainframe manufacturers, the Burroughs B 7800, Honeywell's DPS 8/70, NCR's V-8600, and Univac's 1100/80 Series can compete in the 3083 performance range. □

➤ will be available by the first customer shipment of the 3083, with the exception of Release 3.3, which will be available in the third quarter of 1983. MVS/SP Version 2 will support all models of the 3083 and will be available in the first quarter of 1983. The VM/XA Migration Aid and VM/SP High Performance Option Release 2 and 3 can also be used with all 3083 processors. The VM/XA Migration Aid will be available in the fourth quarter of 1983. The VM/SP High Performance Option Release 2 will be available in June 1982, and Release 3 will be available in the first quarter of 1983.

PRICING: The 3083 systems are available for purchase, a monthly rental basis, and a four-year lease. All rental and lease prices shown in the following price list include equipment maintenance charges.

EQUIPMENT PRICES

	<u>Purchase</u>	<u>Monthly Maint.</u>	<u>Monthly Rental Charge*</u>	<u>Monthly Lease Charge (4-year lease)*</u>	
3083	Processor complex; includes one CPU, buffer storage unit, 8 integrated channels, and main memory as specified:				
	Model E8; 8,388,608 bytes	\$1,120,000	\$3,050	\$46,750	\$37,400
	Model E16; 16,777,216 bytes	1,320,000	3,375	53,700	42,960
	Model B8; 8,388,608 bytes	1,820,000	3,530	74,870	59,900
	Model B16; 16,777,216 bytes	2,020,000	3,855	81,820	65,460
	Model B24; 25,165,824 bytes	2,220,000	4,180	88,770	71,020
	Model B32; 33,554,432 bytes	2,420,000	4,505	95,720	76,580
	Model J8; 8,388,608 bytes	2,420,000	4,430	99,120	79,300
	Model J16; 16,777,216 bytes	2,620,000	4,755	106,070	84,860
	Model J24; 25,165,824 bytes	2,820,000	5,080	113,020	90,420
	Model J32; 33,554,432 bytes	3,020,000	5,405	119,970	95,980
3082	Processor Controller; supports Processor Complex with:				
	8 channels	170,000	1,025	5,735	4,590
	16 channels	220,000	1,080	7,425	5,940
	24 channels	270,000	1,135	9,110	7,290
3087	Coolant Distribution Unit:				
	Model 1	60,000	65	2,025	1,620
	Model 2	72,000	65	3,000	2,400
3089	Power Unit	38,000	70	1,282	1,025
1545/1550	Additional Channel Group	100,000	95	3,750	3,000

*Includes equipment maintenance. ■