IBM 4300 Series

Product Enhancement

In October and November 1981, IBM announced a number of significant enhancements to the 4300 Series product line. Four new processor models were introduced: the 4321, the 4331 Model Group 11, the 4341 Model Group 10, and the 4341 Model Group 11. IBM also announced increased memory capacity for the 4341 Model Group 2; two new models of the 3880 Storage Control, which can be used with the 4341 processors as well as with IBM's large-scale systems; the Remote Operator Console Facility (ROCF), a feature designed for 4300 Series systems operating as nodes in a communications network; and the Small Systems Executive/VSE (SSX/VSE), a pregenerated end-user-oriented operating system. In addition, IBM has introduced a volume purchase discount plan for 4300 Series customers. A 6 percent discount will be offered for the purchase of 5 to 9 processors, while a 9 percent discount will be offered for the purchase of 10 or more processors.

4321 PROCESSOR: The 4321 is a purchase-only, entry-level processor with the same internal performance as the 4331 Model Group 1, which is now in limited new production and has been withdrawn from marketing. The 4321 is a preconfigured workstation-oriented system that is designed for ease of installation and ease of use by non-EDP personnel. It can be used as a standalone system or in a remote computing environment. All input/output devices are attached to the system by integrated adapters. No multiplexer channels or other options are available. The 4321 system consists of a processor with 1 megabyte of main memory, 128K bytes of control storage, a Display/Printer Adapter with 16 ports, a 3310 DASD Adapter for up to 16 drives, an 8809 Magnetic Tape Unit Adapter for up to 6 drives, and an integrated communications adapter that supports 3 BSC or SDLC communications lines. A 3278 Model 2A Display Station or 3279 Model 2C Color Display Station is required as a system console. The 4321, which is scheduled for delivery in March 1982, can be field-upgraded to a 4331 Model Group 11.

The 4321 can operate in ECPS: VSE mode under the new SSX/VSE operating system or in System/370 mode under VM/370. However, IBM recommends that VM/370 be used only in a CMS environment.

4331 MODEL GROUP 11: The 4331 Model Group 11 falls between the Model Group 1 and the Model Group 2 in capacity and performance. According to IBM, the 4331 Model Group 11 provides from 1.4 to 1.6 times the internal performance of a 4331 Model Group 1 for commercial workloads and approximately 2.5 times the internal performance of a Model Group 1 for scientific and engineering workloads. The 4331 Model Group 11 is equipped with 1 or 2 megabytes of main memory, 128K bytes of reloadable control storage plus 12K bytes of read-only control storage, and 4K bytes of buffer storage. Many features that are optional on the Model Group 1 and Model Group 2 are standard on the Model Group 11, including 1 byte and 1 block multiplexer channel, a Display/Printer Adapter with 16 ports, a DASD Adapter for up to 4 strings of 3310, 3340/3344, or 3370 disk drives, an 8809 Magnetic Tape Unit Adapter for up to 6 drives, and an integrated communications adapter that supports 3 BSC or SDLC communications lines. A 3278 Model 2A Display Station or 3279 Model 2C Color Display Station is required as a system console. Options include support for 5 additional communications lines and a diskette drive with a capacity of 242,944 bytes. The 4331 Model Group 11, which can be field-upgraded to a 4331 Model Group 2, is supported by the current versions of SSX/VSE, DOS/VSE, and VM/370. Deliveries are scheduled to begin in March 1982.

4341 PROCESSORS: The new 4341 Model Group 10 is an entry-level 4341 processor that provides approximately 0.85 times the performance of a 4341 Model Group 1 for typical commercial applications or 0.95 times the Model Group 1 for engineering and scientific applications. The 4341 Model Group 10 is available with a 4K-byte buffer and 2 or 4 megabytes of main memory. One byte multiplexer channel and two block multiplexer channels are standard. Three additional block multiplexer channels are optional.

The 4341 Model Group 11 offers 1.25 times the internal performance of the 4341 Model Group 1. The Model Group 11 is available with an 8K-byte buffer and 2, 4, or 8 megabytes of main memory. One byte and five block multiplexer channels or two byte and four block multiplexer channels are standard. The 4341 Model Group 10 can be field-upgraded to a 4341 Model Group 11, which in turn can be field-upgraded to a 4341 Model Group 2. The 4341 Model Groups 10 and 11 are supported by the current versions of DOS/VSE, OS/VS1, MVS, and VM/370. Initial deliveries are scheduled for March 1982.

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▷ IBM has also doubled the maximum memory capacity of the 4341 Model Group 2 processors. The Model Group 2 is now available with 12 or 16 megabytes of main memory. In addition, ECPS: MVS has been enhanced to include cross memory services, the page fault assist function, and the ADD FRR (Functional Recovery Routine) instruction. Memory upgrades for currently installed 4341 Model Group 2 processors and new versions of the Model Group 2 processors with 12 or 16 megabytes of memory will be available in the first quarter of 1982. The ECPS: MVS enhancements will be included as a no-charge option on all 4341 Model Group 2 processors shipped after December 30, 1981. Engineering changes for installed Model Group 2 processors will be available in January 1982.

3880 STORAGE CONTROL MODELS 11 AND 13: Available for 4341 processors only, the 3880 Model 11 is a paging subsystem designed for use with 3350 Direct Access Storage Devices, while the 3880 Model 13 is a non-paging subsystem used with 3380 Direct Access Storage Devices. The Model 11 consists of two storage directors. The first storage director, called the Paging Storage Director, dynamically manages an eight-megabyte solid-state storage unit for paging and swapping data. The storage unit is divided into a cache and a directory. Recently referenced pages are stored in the cache; other pages are maintained on the 3350 DASD. The second storage director operates in a conventional manner as a DASD storage director. Up to four 3350 DASDs can be connected to the 3880 Model 11 Paging Director, and up to 16 IBM 3330/3333 or 3350 DASDs can be connected to the second storage director. The 3880 Model 11 attaches to a 2- or 3-megabyte-per-second block multiplexer channel on any 4341 processor. The 3880 Model 11 is scheduled for delivery in April 1982.

The 3880 Storage Control Model 13 consists of a cache unit that is attached to a 3880 Storage Control Model 3 to form a two-level storage hierarchy with 3380 DASDs. The 3880 Model 13 includes two Cache Storage Directors with either four (Model B13) or eight (Model D13) megabytes of solid-state storage. Like the 3880 Model 11, the Model 13's cache unit consists of a cache and a directory. The 3880 Model 13 Cache Storage Directors connect to a 3-megabyte-per-second data streaming channel on the 4341 processors. The 3880 Model 13 supports one or two strings of 3380 DASDs, each consisting of one 3380 Model AA4 and up to three 3380 Model B4 units. Initial shipments of the 3880 Model 13 are scheduled for the third quarter of 1982.

REMOTE OPERATOR CONSOLE FACILITY (ROCF): The ROCF, an extension of the 4300 Remote Support Facility, is designed to facilitate dial-up and initialization of a remote 4300 Series processor from a real or emulated 3275 Model 2 Display Station at the host site. A network can include a 4300 Series processor with ROCF installed and an IBM System/370, 303X, 3081, or 4300 Series host processor running either of two new software products that provide 3275 emulation: the MVS/Operator Communications Control Facility (MVS/OCCF) or the VM/Pass-Through Facility Release 2. MVS/OCCF is designed to operate on any IBM host computer that supports MVS/SP Version 1, while the VM/Pass-Through Facility Release 2 requires the new VM/SP Release 2 program product. No software support is required if a real 3275 Model 2 Display Station is available at the host site or if both the host and the remote systems are 4331 processors. In the latter instance, 3275 emulation is performed by microcode in the host 4331.

The following 4300 system operations can be performed from the host site: initial microcode load (IML), initial program load (IPL), reset, restart, compare/trace, and alter/display. Power-on for the remote 4300 processor must be performed at the remote site. A password verification function is provided to help protect against unauthorized access to the remote 4300 system. ROCF supports bisynchronous communications at 1200 bits per second.

After a remote 4300 is initialized from the host, communications control should continue through the existing network facilities of the host processor. ROCF is not designed to perform interactive jobs. On a 4321 or 4331 system, ROCF suppresses the activities of all devices attached to the Display/Printer Adapter. When MVS/OCCF is used to initialize a remote 4341 MVS or DOS/VSE system, continued control can be provided by MVS/OCCF in conjunction with the Network Communications Control Facility. After a remote 4341 VM system has been initialized, continued control can be provided by the Programmable Operator Facility of VM/SP Release 2. ▷

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▷ The ROCF will be provided at no charge as an engineering change on installed 4300 systems. It will be included on all new procesors shipped after December 31, 1981. MVS/OCCF is scheduled for delivery in September 1982. The VM/Pass-Through Facility Release 2 and the prerequisite VM/SP Release 2 are scheduled for delivery in June 1982.

SMALL SYSTEMS EXECUTIVE/VSE (SSX/VSE): A subset of DOS/VSE, SSX/VSE is a pregenerated, preconfigured operating system designed for use by personnel with limited data processing skills. SSX/VSE supports batch, interactive, and on-line applications on 4321 or 4331 processors operating in standalone or distributed environments. Prompts and procedures are provided to aid in installation, operation, program development, and service related activities. According to IBM, a standalone SSX/VSE system can be installed in two hours or less.

SSX/VSE consists of components that are unique to SSX/VSE and components that are based on DOS/VSE. SSX/VSE unique functions include: 1) system installation and initialization; 2) system administration and operation functions, including library maintenance support, program development support, data set management support, CICS/VS table maintenance, and system operation support such as job creation and submission and backup and recovery; 3) problem determination aid; 4) an application installation interface that aids in adapting applications programs to SSX/VSE; and 5) a network installation interface that allows the integration of SSX/VSE into an SNA cross domain environment.

Pregenerated DOS/VSE-based components include: basic system control; spooling and RJE networking based on VSE/POWER Version 2; on-line control based on CICS/DOS/VS; interactive control based on VSE/ICCF and IPF; terminal and network control based on ACF/VTAME; data management based on VSE/VSAM; utilities based on DOS/VS Sort/Merge, VSE/DITTO, and VSE/Fast Copy Data Set Program; operator support based on VSE/OCCF; and problem determination support based on VSE/IPCS.

The standard programming language is DOS/VS Cobol. Also available are SSX/VSE prompter-supported program products, which are DOS/VSE licensed programs that have been adapted to, and tested under, SSX/VSE. These prompter-supported program products include the SSX/VSE PL/1 Optimizing Compiler and Libraries, SSX/VSE PL/1 Transient Library, SSX/VSE RPG II, and DL/1 SSX/VSE. RPG II is supported for batch programming only.

The minimum hardware configuration required for the installation and operation of SSX/VSE consists of a 4321 or 4331 processor with one megabyte of main memory, one 3278 or 3279 System Console, one additional 3278 or 3279 Display Station, one 3289 Model 4 or 3262 Line Printer, one 8809 Magnetic Tape Unit, either two 3310 Direct Access Storage Devices or, on the 4331 only, one 3370 Direct Access Storage Device, and the associated integrated I/O adapters.

SSX/VSE will be available on a "phased build-up plan" from March 1982 through September 1982. IBM states that the phased build-up period is being implemented to ensure that all necessary resources are available. ▷

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EQUIPMENT PRICES

		Purchase	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
▷ 4321 J11	Processor with 1,048,576 bytes of main memory, one DASD Adapter, one 8809 Magnetic Tape Unit Adapter, one Display/Printer Adapter, one Communications Adapter Base, and three Line Adapter Bases	$ 85,000	$ 295.00	$ —	$ —
4331 J11	Processor with 1,048,576 bytes of main memory, 4K-byte buffer, one byte and one block multiplexer channel, one DASD Adapter, one 8809 Magnetic Tape Unit Adapter, one Display/Printer Adapter, one Communications Adapter Base, and three Line Adapter Bases	109,650	324.00	4,520	3,850
4331 K11	Same as 4331 J11, but with 2,097,152 bytes of main memory	125,350	350.00	5,036	4,290
1605	Line Group, Additional	6,070	31.50	223	191
3401	Diskette Drive	3,140	25.50	122	104
4341 K10	Processor with 2,097,152 bytes of main memory	178,000	575.00	8,560	7,285
4341 L10	Processor with 4,194,304 bytes of main memory	209,400	627.00	9,592	8,165
4341 K11	Processor with 2,097,152 bytes of main memory	275,000	750.00	11,256	9,580
4341 L11	Processor with 4,194,304 bytes of main memory	306,400	802.00	12,288	10,460
4341 M11	Processor with 8,388,608 bytes of main memory	369,200	906.00	14,352	12,220
4341 N2	Processor with 12,582,912 bytes of main memory	516,000	1,139.00	18,731	15,950
4341 P2	Processor with 16,777,216 bytes of main memory	578,800	1,243.00	20,795	17,710
3880	Storage Control:				
	Model 11	251,520	676.00	7,145	6,080
	Model B13	202,640	576.00	5,765	4,905
	Model D13	260,880	711.00	7,410	6,305

SOFTWARE PRICES

		Initial Charge		Monthly Charges		Monthly Licensed Program Support	Monthly Additional Licensed Program Support
		Basic License	DSLO	Basic License	DSLO		
5666-265	SSX/VSE	$20,000	$15,000	$1,000	$750	$90	$54
5666-274	SSX/VSE RPG II	—	—	114	86	5	3
5666-276	SSX/VSE PL/1 Optimizing Compiler and Library	—	—	281	211	41	25
5666-277	SSX/VSE PL/1 Transient Library	—	—	28	20	5	3
5666-275	DL/1 SSX/VSE	—	—	324	243	110	66

*Includes equipment maintenance.□