

## IBM 4300 Series

► A whole new level of data management facilities is also available with DOS/VSE. A new version of DL/1 DOS/VS supports the new 3310 and 3370 disk devices, as well as supporting RPG II applications and running with the VSE/ICCF (Interactive Computing and Control Facility). Also available is a VSE/VSAM access method, a VSE/Fast Copy Data Set utility, VSE/DITTO, and support for CICS/DOS/VS Release 1.4 and the DB/DC Data Dictionary, Release 3.

To assist the DOS/VSE user in improving productivity, IBM offers the VSE/ICCF program product, mentioned above, which is the successor to the popular DOS/VS ETSS-II (Entry Time-Sharing System) field-developed product. DMS/CICS/VS (Development Management System) replaces the Display Management System program product available to DOS/VS users. VS/APL support has been extended to the 4300 Series computers, as has support for all standard and extended IBM programming language compilers, sort/merges, and utilities available with DOS/VS.

In the new System Installation Productivity Options/Extended (System IPO/E), the IPO concept has been extended to facilitate the installation, management, and use of the 4300 Series software products. IPO/E consists of a base set of integrated program products, pre-generated, pre-configured, and pre-tested with the latest service levels pre-applied, and ready to use in specific operating environments. IPO/E is provided for DOS/VSE, OS/VS1 Release 7, and VM/370 Release 6. Optional features, such as additional program products, can be integrated into the base IPO via an interactive prompter.

In addition to supporting DL/1 DOS/VS and VSE/VSAM, VM/370 Release 6 supports VS/IFS (Interactive File Sharing), which allows multiple CMS users to share VSAM data sets; VM/Directory Maintenance, for management of the VM/370 directory; Display Management System/CMS; the Query-By-Example (QBE) interactive end-user query language; SPF/CMS (Structured Programming Facility/CMS); the DES (Display Editing System); high-level language support; and IPO/E. There is one IPO/E that supports a stand-alone and guest SCP environment, and a VM/DOS/VSE System IPO/E that supports DB/DC and DC environments.

Two of the communications-oriented enhancements available with OS/VS1 Release 7 include: RES (Remote Entry Services), a component of OS/VS1 which allows jobs and commands to be submitted from remote terminals, with output returned; and HRNES (Host Remote Node Entry System), which allows an OS/VS1 system to be a remote job entry station to any MVS/JES2 or SVS/HASP system or to another OS/VS1 system. Operation is not dedicated; batch and on-line applications can be run concurrently.

ACF/VTAM and ACF/TCAM are both supported under Release 7, as is the NCCF (Network Communication Control Facility) and the Cryptographic Subsystem. OS/VS1 Release 7 will support IMS/VS Version 1.1.5, CICS/OS/VS Version 1.4, IMS and CICS Aids, the DL/1 Data Language, VSAM, and the DB/DC Data Dictionary. DMS/CICS/VS, CIS/VS, VSPC personal computing capabilities, and CADAM (Computer-Graphic Augmented Design and Manufacturing system) can be implemented under OS/VS1. The various compilers and utilities are also supported. The System IPO for OS/VS1 includes OS/VS1 Release 7, IMS/VS, ACF/NCP/VS, ACF/VTAM, and CICS/VS.

### PRICING

**POLICY:** IBM offers the 4300 Series on a purchase, lease, or rental basis. The standard IBM lease or rental contract

includes equipment maintenance and entitles the customer to unlimited usage each month.

Prime-shift maintenance is included in the rental or lease price. The purchase option accrual equals 60 percent of the monthly charge up to 50 percent of the purchase price.

The current Agreement for Lease or Rental of IBM Machines provides users with a single contract on which they can specify mixtures of rental and leased equipment, each with various terms. CPU's rented under the plan can be terminated or downgraded on 90 days' notice, and all other rented equipment can be terminated or downgraded on 30 days' notice. Base terms and extension terms are specified for each piece of equipment obtained through a leasing agreement. The basic lease term is two years, followed by one-year extension terms.

**MAINTENANCE:** For purchased, leased, or rented systems, the IBM 4300 Series is under maintenance group D. The minimum period of maintenance service is 9 consecutive hours between 7:00 a.m. and 6:00 p.m. Monday through Friday. Charges for maintenance coverage outside this period are based upon the following percentages of the minimum monthly maintenance charge (MMC) added to the MMC:

	Consecutive hours				
	9*	12	16	20	24
Monday-Friday (until 8:00 a.m. Saturday)	10	12	14	16	18
Saturday (until 8:00 a.m. Sunday)	4	5	7	8	9
Sunday (until 8:00 a.m. Monday)	5	7	9	11	12

\*Outside of the hours 7:00 to 6:00 p.m.

For users without a maintenance contract, the 4300 Series is maintained under per-call class 3. Under this class, the per call charge during regular hours is \$83.00 per hour, and during off hours the charge is \$96.00 per hour. The hourly rate for IBM Systems Engineering service is \$66.00.

**SOFTWARE:** IBM 4300 Series users receive the basic DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 system control programs at no additional cost. All other IBM software, including the DOS/VSE Advanced Functions and other licensed program products, is priced separately. In addition, basic monthly charges have been established for maintenance of the IBM system control programs and other licensed program products. The minimum term of agreement is one year. A customer with multiple systems may choose to designate a single system for processor support. Each system control or licensed program run on a processor other than the designated processor is subject to an additional (but reduced) maintenance charge. For maintenance purposes, the problem program is transferred to the designated processor.

Support charges for the systems software products described in this report are listed at the end of the equipment price list. Local programming support for the DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 SCP is provided at the following monthly rates:

Processor	Program Support Charge	Additional Program Support Charge
4331	\$220	\$132
4341	627	376

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► An alternative to contracted software maintenance is per-call service, charged at the applicable hourly rate. Program service/programming assistance costs \$89 per hour during regular hours and \$102 per hour at other times. The initial and prime interface for software problems and their solution is the IBM Support Center, described below.

**SUPPORT CENTER:** This approach to quick problem-solving via centralized telephone support is the first level of support for the new software products announced with the 4300's as well as older software products. Support for DOS/VSE Release 34, OS/VS1 Release 6.7, and VM/370 Release 5 will also be provided from the Support Centers without separate charge until December 31, 1980, one year beyond the deadline for terminating local support. As of January 1, 1981, no further central or local support will be provided for these products. For OS/VS1 Release 6.0, centralized programming services will be available without separate charge until 12 months after the availability of OS/VS1 Release 6.7.

The centralized IBM Support Center provides 24-hour, 7-day customer access by telephone (an 800 number is provided). It utilizes the Software Support Facility data base, which incorporates every problem encountered and resolved (or unresolved) by the central support group. The customer is assisted in making out any APAR (program problem report), and he gets advice on temporary fixes or bypasses.

The Support Center is the first level of support. If it cannot resolve a problem, the customer is put in touch with the Change Team Support Specialist, who is directly familiar with the section of coding relating to the problem being reported. If, after working with this individual, the problem still cannot be resolved, the PSR (Program Support Representative) from the customer's local office will be dispatched to assist. Under the new support plan, many of the facilities that were previously provided by IBM support personnel at no charge have become billable activities.

**PREVENTIVE SERVICE ASSISTANCE PROGRAM:** This program has been enhanced to improve the handling of Program Update Tapes (PUT's). With the installation of DOS/VSE, OS/VS1 Release 7, and VM/370 Release 6, customers will be provided with integrated and customized Program Update Tapes for SCP's and specified licensed

program products. In addition, a common service application vehicle will be provided for each system control program. For DOS/VSE it is MSHP, for OS/VS1 it is SMP4, and for VM/370 it is PLC. Each system PUT will be reached against a master service data base, synchronized to the applicable SCP, field-tested as one package, customized to the SCP and program product profile, and shipped directly to the customer.

Applying system PUT's within an established installation period (normally 75 days) is recommended to increase software stability. Distribution of customized preventive maintenance service tapes including both SCP and program product corrections will be provided only to users of IBM processors on which DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 is supported. Users of other licensed products will receive the licensed program portion of the preventive service updates directly from PID (Program Information Department) on a periodic basis.

**EQUIPMENT:** The indicated prices for the following typical configurations include all the required control units and adapters, but do not include software.

**TYPICAL 4331 GROUP 1 SYSTEM:** Includes a 4331 Model J1 Processor with 1,048,576 bytes of main memory; a 3262 Printer; two 3278 Displays; two 3310 DASD's (129 megabytes); an 8809 Magnetic Tape Unit; integrated disk, tape, and communications adapters; a 1200-bps communications line, and a 3278-2A Console/Keyboard. Purchase price is \$125,551; 2-year lease, \$3,614 per month; and monthly maintenance, \$537.00.

**TYPICAL 4331 GROUP 2 SYSTEM:** Includes a 4331 Model K2 Processor with 2,097,152 bytes of main memory plus the same peripheral equipment as the 4331 Group 1 system above. Purchase price is \$215,151; 2-year lease, \$6,334 per month; and monthly maintenance, \$619.00.

**TYPICAL 4341 SYSTEM:** Includes a 4341 Processor with 2,097,152 bytes of main memory; a 3203 Model 5 Printer; two 3370 DASD's (1,140 megabytes); four 3340 DASD's (280 megabytes); a 3880 Storage Control; a card reader; a card punch; a 3278-2A Console/Keyboard. Purchase price is \$534,210; 2-year lease, \$14,473 per month; and monthly maintenance, \$1,821.■

### EQUIPMENT PRICES\*\*

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
<b>PROCESSORS</b>					
4331 I1	Processor with 524,288 bytes of main memory	\$ 68,250	\$157.00	\$2,086	\$1,775
4331 J1	Processor with 1,048, 576 bytes of main memory	76,100	168.00	2,332	1,985
4331 J2	Processor with 1,048,576 bytes of main memory	150,000	230.00	5,035	4,285
4331 K2	Processor with 2,097,152 bytes of main memory	165,700	250.00	5,527	4,705
4331 KJ2	Processor with 3,145,728 bytes of main memory	181,400	270.00	6,019	5,125
4331 L2	Processor with 4,194,304 bytes of main memory	197,100	290.00	6,511	5,545
4341 K1	Processor with 2,097,152 bytes of main memory	257,250	498.00	7,878	6,705
4341 L1	Processor with 4,194,304 bytes of main memory	288,650	540.00	8,865	7,545

\*Rental/lease prices include equipment maintenance.

\*\*See Report 70C-491-05 for prices of the System/370 peripheral equipment.  
NC—No Charge.

**IBM 4300 Series  
EQUIPMENT PRICES\*\***

		<u>Purchase Price</u>	<u>Monthly Maint.</u>	<u>Rental* (short-term lease)</u>	<u>Rental* (2-year lease)</u>
<b>COMMUNICATIONS EQUIPMENT (Continued)</b>					
3863	24-bps Modem	2,350	12.50	78	66
3864	4800-bps Modem	3,855	22.00	136	116
3865	9600-bps Modem	5,840	32.00	216	184

\*Rental and lease charges include equipment maintenance.

**SOFTWARE PRICES**

				<u>Monthly License Charge</u>	<u>Date Available</u>		
		<u>One-Time Charge</u>	<u>Monthly Charge</u>	<u>Monthly Licensed Program Support Charge</u>	<u>Monthly Additional Licensed Program Support Charge</u>		
5735-RC2	ACF/VTAM/VS Release 3 under MVS		\$ 264		4th qtr. 1980		
5735-RC2	Under OS/VS1		264		2nd qtr. 1981		
5746-RC3	Under DOS/VSE		93		1st qtr. 1981		
5746-RC3/02	ACF/VTAM/VS Release 3 Networking feature under MVS		660		4th qtr. 1980		
5746-RC3/02	Under OS/VS1		660		2nd qtr. 1981		
5746-RC7	Under DOS/VSE		176		1st qtr. 1981		
5735-RC3	ACF/TCAM/Version 2 R3 under MVS		495		4th qtr. 1980		
5735-RC3	Under OS/VS1		495		1st qtr. 1981		
5735-RC3/02	ACF/TCAM Version 2 R3 Networking feature under MVS		880		4th qtr. 1980		
5735-RC3/02	Under OS/VS1		880		1st qtr. 1981		
5735-XX1	ACF/NCP/VS R2.1		132		2nd qtr. 1980		
5735-XX1	ACF/NCP/VS R3		132		2nd qtr. 1981		
5735-XX7	NTO Release 2		110		1st qtr. 1981		
5735-XX8	NPDA		32		3rd qtr. 1980		
	Support programs for installation of NCP programming		35		—		
5746-XE8	VSE/Advanced Functions, Releases 1 and 2	\$ —	\$ 143	\$ 48	\$ 28		
5746-RC7	Advanced Communications Function for VTAM Entry ACF/VTAM	—	104	61	37		
5746-TS1	VSE/Interactive Computing and Control Facility	—	66	22	13		
5746-CE3	VSE/POWER Releases 1 and 2	—	—	12	7		
5746-RC9	DOS/VSE Remote Job Entry Workstation	—	82	—	—		
5746-AM5	VSE/3270 Bisync Pass Through	—	110	—	—		
5746-AM2	VSE/VSAM Releases 1 and 22; VSE/VSAM Space Management for SAM feature	—	38	18/7	11/4		
5746-AM4	VSE/Fast Copy Data Set Program	330	—	—	—		
5746-UT3	VSE/Data Interfile Transfer, Testing and Operations Utility (VSE/DITTO)	—	28	5	3		
5746-XE7	VSE/Access Control—Logging and Reporting	—	38	17	11		
5746-SA1 1	VSE/Interactive Problem Control System	—	27	5	3		
5746-RC5	Basic Telecommunications Access Method Extended Support	—	22	5	3		
5746-AM3	VSE/IBM System/3-3340 Data Import	1,320	—	—	—		
—	IBM Systems 1401/1440/1460 Emulator	—	—	5	3		
5748-XX8	VM/Basic System Extensions	—	104	33	19		
5748-XE1	VM/System Extensions	—	1,170	148	89		
5748-XP1	Remote Spooling Communications Subsystem (RSCS) Networking	—	66	28	17		
5748-XXC	VM/Interactive File Sharing	—	27	12	7		
5748-XXB	Display Management System/CMS	—	22	7	4		
5748-XE4	VM/Directory Maintenance	—	77	23	14		
5478-XT3	VM/CMS-3270 Display Support and Structured Programming Facility	—	302	—	—		
5748-SA1	VM/Interactive Problem Control System Extension	—	33	5	3		
5748-MS1	Interactive Productivity Facility	—	33	5	3		
5746-XX3	CICS/VS/DOS Enhanced	—	357	165	99		
5740-XX1	CICS/OS/VS Enhanced	—	1,100	—	—		
5740-XC5	Development Management System/CICS/VS-OS	—	253	—	—		
5746-XC4	Development Management System/CICS/VS-DOS	—	110	57	34		
5740-XXF	DB/DC Data Dictionary for OS/VS	—	638	—	—		
5746-XXC	DB/DC Data Dictionary for DOS/VS	—	253	66	39		
5746-LM3	DOS FORTRAN IV Library Option I	—	30	5	3		
5746-CB1	DOS/VS COBOL Compiler and Library	—	137	17	11		
5746-LM4	DOS/VS COBOL Library	—	25	5	3		
5736-PL1	DOS PL/1 Optimizing Compiler	—	187	44	26		
5736-LM4	DOS PL/1 Resident Library	—	44	5	3		
5736-LM5	DOS PL/1 Transient Library	—	25	5	3		
5736-PL3	DOS PL/1 Optimizing Compiler and Library	—	256	55	33		
5746-RG1	DOS/VS RPG II	—	104	5	3		
5746-SM2	DOS/VS Sort/Merge (Version 2)	—	126	22	13		

## IBM 4300 Series New Product Announcement

IBM announced a series of significant new hardware and software products on June 11, 1980. Although the announcement was directed primarily toward the large-scale 303X Series computers, 4300 Series users will also be able to utilize the new 3375 Direct Access Storage and a number of new and enhanced software facilities. (The new, high-performance 3380 Direct Access Storage will not be available for use with the 4300 Series computers.)

**IBM 3375 DIRECT ACCESS STORAGE:** The 3375 is a new count-key-data formatted disk drive that provides 819 million bytes of storage capacity. Designed primarily for use with the IBM 3031, 4341, and 4331 Model Group 2 processors, it can also be used with the larger 303X Series processors as a complementary product to the larger-capacity 3380 disks.

The 3375 is similar in most respects to the 3370 Direct Access Storage that was introduced with the 4300 Series computers in January 1979. The principal differences between the two devices are in storage capacity and data format. The 3375's 819-megabyte capacity is 43 percent larger than the 3370's 571 megabytes, and the 3375 uses the count-key-data format employed in the 3380, the 3350, and other large-capacity IBM disk drives in contrast to the fixed 512-byte blocks used in the 3370 and 3310.

Each 3375 drive contains one nonremovable head and disk assembly (HDA). The HDA has two actuators, each providing independent access to approximately 409 million bytes of data. Average seek time is 19 milliseconds, average rotational delay is 10.1 milliseconds, and data is transferred at the rate of 1.859 million bytes per second. There are two models of the 3375. Model A1 contains a storage control interface and connects to a 3880 Model 1 or 2 Storage Control. Up to three 3375 Model B1 drives can be attached to a 3375 Model A1 for a maximum string capacity of 3.27 billion bytes.

The 3375 can be used with any of the following IBM processors: 3031, 3032, 3033, 3042 Model 2, 4331 Model Group 2, or 4341. Connection is via a 3880 Model 1 or 2 Storage Control to a standard block multiplexer channel on the 4341 or to the high-speed block multiplexer channel on the 4331 Model Group 2. Up to four 4-unit strings of 3375 storage, or a total of 32 actuators, can be connected to each of the two storage directors on the 3880 Model 1 Storage Control, or to one of the two storage directors on the new 3880 Model 2. The String Switch feature (#8150) allows a 3375 Model A1 to be connected to two 3880 storage directors on the same or different processors and switched under program control.

The 3375 provides significant savings in floor space, power, heat output, and cost per byte when installed in place of existing IBM 3340 or 3350 disk storage. The new subsystem also offers numerous improvements in reliability, availability, and serviceability. No scheduled preventive maintenance is required. Data error bursts of up to 16 bits are detected and corrected automatically if the bursts do not span more than two contiguous bytes. First customer shipments of the 3375 are planned for the third quarter of 1981.

**STORAGE MANAGEMENT SOFTWARE:** IBM used the term "Total Storage Management" to describe the new 3375 and 3380 Direct Access Storage devices as well as a number of new and enhanced software products designed to support them. Three of the new program products are available to OS/VS1 users:

- Data Facility/Device Support supplies the OS/VS1 data management support for the new disk drives and provides a new indexed volume table of contents (VTOC) for improved system performance.
- Data Facility/Data Set Services is a new dump/restore program for both OS/VS1 and MVS that supports the new disk drives and provides full-volume, partial-volume, and data set dump and restore facilities.
- Direct Access Storage Device (DASD) Migration Aid is a software tool designed to reduce the manual effort involved in converting OS/VS1 or MVS data and programs from earlier IBM disk devices to the new 3375 and 3380.

Programs that have been enhanced to support the new disk drives include the Hierarchical Storage Manager, OS/Sort/Merge, Device Support Facilities, VSE/Advanced Functions, and OS/VS1 Basic Program Extensions.

**VM/SYSTEM PRODUCT EXTENSIONS:** IBM announced that the VM/System Product (VM/SP), a separately priced group of enhancements for the VM/370 operating system, will contain a number of new functions in addition to those announced in January 1980. The new functions include: support for the 3042

## IBM 4300 Series New Product Announcement

Model 2 Attached Processor, the 4331 Model Group 2 Processor, and the 3375 and 3380 Direct Access Storage; support for the 3800 Printing Subsystem as a virtual spooling device; enhanced DASD support; enhanced support for the 3270 Information Display System; new functions to enhance the integrity, security, and reliability of the VM/SP system; enhanced SPTAPE command support; support for MVS/SP-JES2 and MVS/SP-JES3 as guest operating systems; CMS support for the LKED command for OS application program development; and an upgrade of CMS/DOS program execution support to the Release 2 levels of the VSE/Advanced Functions and VSE/VSAM.

VM/SP, scheduled for release in September 1980, will also contain all of the functions currently available in Release 2 of both the VM/Basic System Extensions and VM/System Extensions program products, as well as the following previously announced capabilities: multiprocessor support, enhanced support for attached processors, a new CMS editor and EXEC interpreter, an enhanced CMS HELP facility, a CMS OS LOADER capability, full screen console support via an SIO interface, enhanced CP spooling, a single console image facility, an IPL command enhancement, a new inter-user communication capability, and support for the 3278 Model 5 and 3279 display terminals.

**PRICE INCREASES:** On June 27, IBM announced another semi-annual round of price increases. Selective increases of approximately 5 percent on monthly rental and lease charges, 5 percent on purchase prices, and 5 to 10 percent on maintenance charges were announced for many—but by no means all—of the 4300 Series processors, features, and peripheral devices. The increased purchase prices were effective immediately, and the increased rental and lease prices will be effective on October 1, 1980. Charges for Field Engineering/Customer Engineering hourly services and for Systems Engineering services were increased by approximately 10 percent, effective immediately. The IBM 4300 Series price list that precedes this New Product Announcement has been updated to reflect the new prices.

### EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
3375	Direct Access Storage; 819.7 megabytes per unit Model A1; contains logic and power for up to three Model B1 units	46,450	130.00	1,269	1,080
8150	Model B1; connects to a 3375 Model A1 String Switch feature for 3375 Model A1	31,000 4,095	98.50 1.50	846 126	720 107

\*Rental/lease prices include equipment maintenance.

### SOFTWARE PRICES

		One-Time Charge	Monthly Charge	Monthly Licensed Program Support Charge	Monthly Additional Licensed Program Support Charge
5664-167	VM/System Product	—	250	50	30
5740-AM6	Data Facility/Device Support Release 1 (OS/VS1)	—	57	18	11
5740-UT3	Data Facility/Data Set Services Release 1 (OS/VS1 and MVS)	—	75	—	—
5668-002	Direct Access Storage Device Migration Aid Release 1 (OS/VS1 and MVS)	1,000	—	—	—

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5664-167	VM/System Product	—	250	50	30
5740-AM6	Data Facility/Device Support Release 1 (OS/VS1)	—	57	18	11
5740-UT3	Data Facility/Data Set Services Release 1 (OS/VS1 and MVS)	—	75	—	—
5668-002	Direct Access Storage Device Migration Aid Release 1 (OS/VS1 and MVS)	1,000	—	—	—

## IBM 4300 Series

► A whole new level of data management facilities is also available with DOS/VSE. A new version of DL/1 DOS/VS supports the new 3310 and 3370 disk devices, as well as supporting RPG II applications and running with the VSE/ICCF (Interactive Computing and Control Facility). Also available is a VSE/VSAM access method, a VSE/Fast Copy Data Set utility, VSE/DITTO, and support for CICS/DOS/VS Release 1.4 and the DB/DC Data Dictionary, Release 3.

To assist the DOS/VSE user in improving productivity, IBM offers the VSE/ICCF program product, mentioned above, which is the successor to the popular DOS/VS ETSS-II (Entry Time-Sharing System) field-developed product. DMS/CICS/VS (Development Management System) replaces the Display Management System program product available to DOS/VS users. VS/APL support has been extended to the 4300 Series computers, as has support for all standard and extended IBM programming language compilers, sort/merges, and utilities available with DOS/VS.

In the new System Installation Productivity Options/Extended (System IPO/E), the IPO concept has been extended to facilitate the installation, management, and use of the 4300 Series software products. IPO/E consists of a base set of integrated program products, pre-generated, pre-configured, and pre-tested with the latest service levels pre-applied, and ready to use in specific operating environments. IPO/E is provided for DOS/VSE, OS/VS1 Release 7, and VM/370 Release 6. Optional features, such as additional program products, can be integrated into the base IPO via an interactive prompter.

In addition to supporting DL/1 DOS/VS and VSE/VSAM, VM/370 Release 6 supports VS/IFS (Interactive File Sharing), which allows multiple CMS users to share VSAM data sets; VM/Directory Maintenance, for management of the VM/370 directory; Display Management System/CMS; the Query-By-Example (QBE) interactive end-user query language; SPF/CMS (Structured Programming Facility/CMS); the DES (Display Editing System); high-level language support; and IPO/E. There is one IPO/E that supports a stand-alone and guest SCP environment, and a VM/DOS/VSE System IPO/E that supports DB/DC and DC environments.

Two of the communications-oriented enhancements available with OS/VS1 Release 7 include: RES (Remote Entry Services), a component of OS/VS1 which allows jobs and commands to be submitted from remote terminals, with output returned; and HRNES (Host Remote Node Entry System), which allows an OS/VS1 system to be a remote job entry station to any MVS/JES2 or SVS/HASP system or to another OS/VS1 system. Operation is not dedicated; batch and on-line applications can be run concurrently.

ACF/VTAM and ACF/TCAM are both supported under Release 7, as is the NCCF (Network Communication Control Facility) and the Cryptographic Subsystem. OS/VS1 Release 7 will support IMS/VS Version 1.1.5, CICS/OS/VS Version 1.4, IMS and CICS Aids, the DL/1 Data Language, VSAM, and the DB/DC Data Dictionary. DMS/CICS/VS, CIS/VS, VSPC personal computing capabilities, and CADAM (Computer-Graphic Augmented Design and Manufacturing system) can be implemented under OS/VS1. The various compilers and utilities are also supported. The System IPO for OS/VS1 includes OS/VS1 Release 7, IMS/VS, ACF/NCP/VS, ACF/VTAM, and CICS/VS.

### PRICING

**POLICY:** IBM offers the 4300 Series on a purchase, lease, or rental basis. The standard IBM lease or rental contract

includes equipment maintenance and entitles the customer to unlimited usage each month.

Prime-shift maintenance is included in the rental or lease price. The purchase option accrual equals 60 percent of the monthly charge up to 50 percent of the purchase price.

The current Agreement for Lease or Rental of IBM Machines provides users with a single contract on which they can specify mixtures of rental and leased equipment, each with various terms. CPU's rented under the plan can be terminated or downgraded on 90 days' notice, and all other rented equipment can be terminated or downgraded on 30 days' notice. Base terms and extension terms are specified for each piece of equipment obtained through a leasing agreement. The basic lease term is two years, followed by one-year extension terms.

**MAINTENANCE:** For purchased, leased, or rented systems, the IBM 4300 Series is under maintenance group D. The minimum period of maintenance service is 9 consecutive hours between 7:00 a.m. and 6:00 p.m. Monday through Friday. Charges for maintenance coverage outside this period are based upon the following percentages of the minimum monthly maintenance charge (MMC) added to the MMC:

	Consecutive hours				
	9*	12	16	20	24
Monday-Friday (until 8:00 a.m. Saturday)	10	12	14	16	18
Saturday (until 8:00 a.m. Sunday)	4	5	7	8	9
Sunday (until 8:00 a.m. Monday)	5	7	9	11	12

\*Outside of the hours 7:00 to 6:00 p.m.

For users without a maintenance contract, the 4300 Series is maintained under per-call class 3. Under this class, the per call charge during regular hours is \$83.00 per hour, and during off hours the charge is \$96.00 per hour. The hourly rate for IBM Systems Engineering service is \$66.00.

**SOFTWARE:** IBM 4300 Series users receive the basic DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 system control programs at no additional cost. All other IBM software, including the DOS/VSE Advanced Functions and other licensed program products, is priced separately. In addition, basic monthly charges have been established for maintenance of the IBM system control programs and other licensed program products. The minimum term of agreement is one year. A customer with multiple systems may choose to designate a single system for processor support. Each system control or licensed program run on a processor other than the designated processor is subject to an additional (but reduced) maintenance charge. For maintenance purposes, the problem program is transferred to the designated processor.

Support charges for the systems software products described in this report are listed at the end of the equipment price list. Local programming support for the DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 SCP is provided at the following monthly rates:

Processor	Program Support Charge	Additional Program Support Charge
4331	\$220	\$132
4341	627	376

## IBM 4300 Series

► An alternative to contracted software maintenance is per-call service, charged at the applicable hourly rate. Program service/programming assistance costs \$89 per hour during regular hours and \$102 per hour at other times. The initial and prime interface for software problems and their solution is the IBM Support Center, described below.

**SUPPORT CENTER:** This approach to quick problem-solving via centralized telephone support is the first level of support for the new software products announced with the 4300's as well as older software products. Support for DOS/VSE Release 34, OS/VS1 Release 6.7, and VM/370 Release 5 will also be provided from the Support Centers without separate charge until December 31, 1980, one year beyond the deadline for terminating local support. As of January 1, 1981, no further central or local support will be provided for these products. For OS/VS1 Release 6.0, centralized programming services will be available without separate charge until 12 months after the availability of OS/VS1 Release 6.7.

The centralized IBM Support Center provides 24-hour, 7-day customer access by telephone (an 800 number is provided). It utilizes the Software Support Facility data base, which incorporates every problem encountered and resolved (or unresolved) by the central support group. The customer is assisted in making out any APAR (program problem report), and he gets advice on temporary fixes or bypasses.

The Support Center is the first level of support. If it cannot resolve a problem, the customer is put in touch with the Change Team Support Specialist, who is directly familiar with the section of coding relating to the problem being reported. If, after working with this individual, the problem still cannot be resolved, the PSR (Program Support Representative) from the customer's local office will be dispatched to assist. Under the new support plan, many of the facilities that were previously provided by IBM support personnel at no charge have become billable activities.

**PREVENTIVE SERVICE ASSISTANCE PROGRAM:** This program has been enhanced to improve the handling of Program Update Tapes (PUT's). With the installation of DOS/VSE, OS/VS1 Release 7, and VM/370 Release 6, customers will be provided with integrated and customized Program Update Tapes for SCP's and specified licensed

program products. In addition, a common service application vehicle will be provided for each system control program. For DOS/VSE it is MSHP, for OS/VS1 it is SMP4, and for VM/370 it is PLC. Each system PUT will be reached against a master service data base, synchronized to the applicable SCP, field-tested as one package, customized to the SCP and program product profile, and shipped directly to the customer.

Applying system PUT's within an established installation period (normally 75 days) is recommended to increase software stability. Distribution of customized preventive maintenance service tapes including both SCP and program product corrections will be provided only to users of IBM processors on which DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6 is supported. Users of other licensed products will receive the licensed program portion of the preventive service updates directly from PID (Program Information Department) on a periodic basis.

**EQUIPMENT:** The indicated prices for the following typical configurations include all the required control units and adapters, but do not include software.

**TYPICAL 4331 GROUP 1 SYSTEM:** Includes a 4331 Model J1 Processor with 1,048,576 bytes of main memory; a 3262 Printer; two 3278 Displays; two 3310 DASD's (129 megabytes); an 8809 Magnetic Tape Unit; integrated disk, tape, and communications adapters; a 1200-bps communications line, and a 3278-2A Console/Keyboard. Purchase price is \$125,551; 2-year lease, \$3,614 per month; and monthly maintenance, \$537.00.

**TYPICAL 4331 GROUP 2 SYSTEM:** Includes a 4331 Model K2 Processor with 2,097,152 bytes of main memory plus the same peripheral equipment as the 4331 Group 1 system above. Purchase price is \$215,151; 2-year lease, \$6,334 per month; and monthly maintenance, \$619.00.

**TYPICAL 4341 SYSTEM:** Includes a 4341 Processor with 2,097,152 bytes of main memory; a 3203 Model 5 Printer; two 3370 DASD's (1,140 megabytes); four 3340 DASD's (280 megabytes); a 3880 Storage Control; a card reader; a card punch; a 3278-2A Console/Keyboard. Purchase price is \$534,210; 2-year lease, \$14,473 per month; and monthly maintenance, \$1,821.■

## EQUIPMENT PRICES\*\*

## PROCESSORS

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
4331 I1	Processor with 524,288 bytes of main memory	\$ 68,250	\$157.00	\$2,086	\$1,775
4331 J1	Processor with 1,048, 576 bytes of main memory	76,100	168.00	2,332	1,985
4331 J2	Processor with 1,048,576 bytes of main memory	150,000	230.00	5,035	4,285
4331 K2	Processor with 2,097,152 bytes of main memory	165,700	250.00	5,527	4,705
4331 KJ2	Processor with 3,145,728 bytes of main memory	181,400	270.00	6,019	5,125
4331 L2	Processor with 4,194,304 bytes of main memory	197,100	290.00	6,511	5,545
4341 K1	Processor with 2,097,152 bytes of main memory	257,250	498.00	7,878	6,705
4341 L1	Processor with 4,194,304 bytes of main memory	288,650	540.00	8,865	7,545

\*Rental/lease prices include equipment maintenance.

\*\*See Report 70C-491-05 for prices of the System/370 peripheral equipment.

NC—No Charge.

## IBM 4300 Series

## EQUIPMENT PRICES\*\*

		<u>Purchase Price</u>	<u>Monthly Maint.</u>	<u>Monthly Rental Charge*</u>	<u>Monthly Lease Charge (2-Year Lease)*</u>
<b>PROCESSOR FEATURES &amp; CHANNELS</b>					
Many of the features listed below include microcode as well as hardware. Microcode is supplied on diskettes.					
Features for the 4331:					
1001	Adapter Power Prerequisite	2,520	7.00	78	66
1002	Adapter Logic Prerequisite	4,620	12.50	143	122
1421	Block Multiplexer Channel	4,620	1.50	143	122
1422	Block Multiplexer Channel, Additional (Model Group 2 only)	4,620	1.50	143	122
1431	High-Speed Block Multiplexer Channel (Model Group 2 only)	6,600	2.00	222	189
1901	Control Store Expansion; 65,536 bytes (Model Group 1 only)	5,355	36.00	167	142
2001	Display/Printer Adapter Expansion	1,275	1.50	34	29
3201	DASD Adapter, for 3310/3340/3370	3,780	3.50	118	100
3202	DASD Adapter, Additional (Model Group 2 only)	3,780	3.50	118	100
3401	Diskette Drive; reads IBM Type 1 Diskettes	3,695	19.00	115	98
3898	External Signals; for external interrupt	315	0.50	9	8
3901	5424 Adapter	6,930	8.50	216	184
3950	1401/1440/1460 Compatibility	NC	NC	NC	NC
4910	8809 Mag Tape Unit Adapter	3,780	3.50	118	100
5248	Byte Multiplexer channel	3,695	1.50	115	98
5531	Power interface	2,310	1.00	71	60
5532	Power Interface, Additional	1,115	1.00	35	30
5550	Printer-Keyboard Mode	NC	NC	NC	NC
6305	System/3 Data Import	NC	NC	NC	NC
7851	3340 Direct Attachment	NC	NC	NC	NC
7901	2311/2314/2319/3310 Direct-Access Storage Compatibility	NC	NC	NC	NC
8701	ECPS:VM/370	NC	NC	NC	NC
Features for the 4341:					
1850	Channel-to-channel adapter	22,050	26.50	691	588
1870	Optional channel group; three additional channels	16,950	5.50	532	453
1890	Channel control unit positions, additional	2,625	9.00	82	70
Console for the 4331 or 4341:					
3278 2A	CRT display/keyboard	2,680	24.50	90	77
4633	75-key operator console keyboard (4341)	560	6.50	32	27
4631	75-key operator console keyboard with I/O interface (4341)	1,160	7.00	6	1
4632	Same as 4631 without I/O interface (4341)	1,080	7.00	35	30
4634	Same as 4631 without I/O interface (4331)	1,080	7.00	5	30
6340	Security keylock	35	NC	NC	NC
<b>MASS STORAGE</b>					
3310 A1	Single disk drive, 64.5 megabytes; with controller; for 4331 only	14,280	61.00	474	404
3310 A2	Two disk drives, 64.5 megabytes each; with controller; for 4331 only	23,730	163.00	786	670
3310 B1	Single disk drive, 64.5 megabytes (for attachment to Model A2)	11,300	46.00	374	319
3310 B2	Two disk drives, 64.5 megabytes each (for attachment to Model A2)	20,750	88.50	686	585
	Model A1 to A2 Upgrade	9,000	—	—	—
	Model B1 to B2 Upgrade	9,000	—	—	—
3340	Direct Access Storage Facility; 34.9 or 69.8 MB per drive:				
	Model A2; Two drives plus control	37,800	101.00	1,234	1,050
	Model B1; One drive	20,790	53.50	690	587
	Model B2; Two drives	26,460	86.50	870	740
3344 B2	Add-on Dual Disk Drive for 3340 Direct-Access Storage Facility; 279.6 MB per drive	31,680	128.00	1,106	941
3344 B2F	Add-on Dual Disk Drive for 3340 Direct-Access Storage Facility with 2 MB fixed-head storage; 279.6 MB per drive	41,600	179.00	1,451	1,235
4301	Fixed-Head Feature (for 3340 A2 or B2)	1,795	1.50	52	44
6201	Rotational Position Sensing (for 3340 B1)	718	0.50	21	18
6202	Rotational Position Sensing (for 3340 or A2 or B2)	907	0.50	27	23
6148	Remote Switch Attachment	NC	NC	NC	NC
8150	String Switch	7,560	13.00	246	209

\*Rental/lease prices include equipment maintenance.

\*\*See Report 70C-491-05 for prices of the System/370 peripheral equipment.

NC—No Charge.

IBM 4300 Series

EQUIPMENT PRICES\*\*

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
<b>MASS STORAGE (Continued)</b>					
3348	Data Module (for 3340 drives):				
	Model 35; 34,944,768 bytes	1,600	Time & mat'l.	59	50
	Model 70; 69,889,536 bytes	2,200	Time & mat'l.	82	70
	Model 70F; 69,889,536 bytes, of which 502,080 are served by fixed heads	4,400	Time & mat'l.	165	140
3370 A1	Single Disk Drive, for 4331 or 4341; 571.3 megabytes	38,690	126.00	1,187	1,010
3370 B1	Add-On Single Disk Drive for attachment to Model A1; 571.3 megabytes	25,790	94.50	791	673
	8150 String Switch	4,295	1.50	132	112
3880	Storage Control, Model 1	68,730	176.00	1,909	1,625
	6148 Remote Switch Attachment	NC	NC	NC	NC
	6149 Remote Switch Attachment, additional	NC	NC	NC	NC
	8170 Two-Channel Switch Pair	7,105	11.00	197	168
	8171 Two-Channel Switch Pair, additional	18,960	38.50	526	448
<b>MAGNETIC TAPE EQUIPMENT</b>					
8809	Magnetic Tape Units (for 4331 only):				
	1A First drive; connects to the I/O attachment feature of the 4331	11,500	55.00	382	325
	2 Second, fourth, or sixth drive that attaches to Model 1A or 3	10,210	49.50	340	289
	3 Third or fifth drive that attaches to Model 2	11,500	55.00	382	325
<b>PRINTERS</b>					
3203 5	Line Printer, 1200 lpm	38,320	391.00	1,733	1,475
3289 4	Line Printer, 230 to 400 lpm (print speed is character set-dependent)	13,910	205.00	653	556
	5821 48-char. EBCDIC Print Belt	160	—	—	—
	5822 64-char. EBCDIC Print Belt	160	—	—	—
	5823 94-char. EBCDIC Print Belt	160	—	—	—
3262 1	Line Printer; 650 lpm	15,430	157.00	459	391
	5951 0.079-inch char. height	—	—	—	—
	5950 0.095-inch char. height	—	—	—	—
	5940 48-char. EBCDIC Set	186	—	—	—
	5944 64-char. EBCDIC Set	186	—	—	—
	5946 64-char. EBCDIC Set	186	—	—	—
	5948 96-char. EBCDIC Set	186	—	—	—
<b>PUNCHED CARD EQUIPMENT</b>					
5424 A1	Multi-Function Card Unit, 96-col.	8,200	251.00	450	—
	A2 Multi-Function Card Unit, 96-col.	10,850	378.00	678	—
	6510 5424 Multi-Function Card Unit Attachment; for 4331 only	2,670	6.00	60	—
<b>COMMUNICATIONS EQUIPMENT</b>					
For the 4331 Processor:					
	1020 Autocall Unit Interface	462	2.00	13	11
	1601 Communications Adapter, base	3,230	1.50	100	85
	3701 EIA/CCITT interface	462	2.00	13	11
	4695 Line Attachment Base; for clocked modems	462	0.50	13	11
	4696 Line Attachment Base; for non-clocked modems	546	0.50	15	13
	4720 High-Speed Modem Adapter	1,385	2.00	36	31
	4781 1200-bps Integrated Modem; non-switched	701	3.50	20	17
	4782 1200-bps Integrated Modem; switched, with auto-answer	903	3.50	27	23
	4787 1200-bps Integrated Modem; non-switched, with switch network backup and manual answer	955	3.50	28	24
	4788 1200-bps Integrated Modem; non-switched, with switch network backup and auto-answer	1,065	4.00	32	27
	4801 Local attachment interface	1,155	3.00	32	27
	5650 Digital data service adapter	882	2.50	26	22

\*Rental/lease prices include equipment maintenance.

For complete pricing data on the IBM 3704 and 3705 Communications Controllers see Report 70C-491-05 for System/370 peripheral equipment costs.

NC—No Charge.

## IBM 4300 Series EQUIPMENT PRICES\*\*

		Purchase Price	Monthly Maint.	Rental* (short-term lease)	Rental* (2-year lease)
<b>COMMUNICATIONS EQUIPMENT (Continued)</b>					
3863	24-bps Modem	2,350	12.50	78	66
3864	4800-bps Modem	3,855	22.00	136	116
3865	9600-bps Modem	5,840	32.00	216	184

\*Rental and lease charges include equipment maintenance.

## SOFTWARE PRICES

				Monthly License Charge	Date Available
5735-RC2	ACF/VTAM/VS Release 3 under MVS			\$264	4th qtr. 1980
5735-RC2	Under OS/VS1			264	2nd qtr. 1981
5746-RC3	Under DOS/VSE			93	1st qtr. 1981
5746-RC3/02	ACF/VTAM/VS Release 3 Networking feature under MVS			660	4th qtr. 1980
5746-RC3/02	Under OS/VS1			660	2nd qtr. 1981
5746-RC7	Under DOS/VSE			176	1st qtr. 1981
5735-RC3	ACF/TCAM/Version 2 R3 under MVS			495	4th qtr. 1980
5735-RC3	Under OS/VS1			495	1st qtr. 1981
5735-RC3/02	ACF/TCAM Version 2 R3 Networking feature under MVS			880	4th qtr. 1980
5735-RC3/02	Under OS/VS1			880	1st qtr. 1981
5735-XX1	ACF/NCP/VS R2.1			132	2nd qtr. 1980
5735-XX1	ACF/NCP/VS R3			132	2nd qtr. 1981
5735-XX7	NTO Release 2			110	1st qtr. 1981
5735-XX8	NPDA			32	3rd qtr. 1980
	Support programs for installation of NCP programming			35	—
		One-Time Charge	Monthly Charge	Monthly Licensed Program Support Charge	Monthly Additional Licensed Program Support Charge
5746-XE8	VSE/Advanced Functions, Releases 1 and 2	\$ —	\$ 143	\$ 48	\$ 28
5746-RC7	Advanced Communications Function for VTAM Entry ACF/VTAM	—	104	61	37
5746-TS1	VSE/Interactive Computing and Control Facility	—	66	22	13
5746-CE3	VSE/POWER Releases 1 and 2	—	—	12	7
5746-RC9	DOS/VSE Remote Job Entry Workstation	—	82	—	—
5746-AM5	VSE/3270 Bisync Pass Through	—	110	—	—
5746-AM2	VSE/VSAM Releases 1 and 22; VSE/VSAM Space Management for SAM feature	—	38	18/7	11/4
5746-AM4	VSE/Fast Copy Data Set Program	330	—	—	—
5746-UT3	VSE/Data Interfile Transfer, Testing and Operations Utility (VSE/DITTO)	—	28	5	3
5746-XE7	VSE/Access Control—Logging and Reporting	—	38	17	11
5746-SA11	VSE/Interactive Problem Control System	—	27	5	3
5746-RC5	Basic Telecommunications Access Method Extended Support	—	22	5	3
5746-AM3	VSE/IBM System/3-3340 Data Import	1,320	—	—	—
—	IBM Systems 1401/1440/1460 Emulator	—	—	5	3
5748-XX8	VM/Basic System Extensions	—	104	33	19
5748-XE1	VM/System Extensions	—	1,170	148	89
5748-XP1	Remote Spooling Communications Subsystem (RSCS) Networking	—	66	28	17
5748-XXC	VM/Interactive File Sharing	—	27	12	7
5748-XXB	Display Management System/CMS	—	22	7	4
5748-XE4	VM/Directory Maintenance	—	77	23	14
5478-XT3	VM/CMS-3270 Display Support and Structured Programming Facility	—	302	—	—
5748-SA1	VM/Interactive Problem Control System Extension	—	33	5	3
5748-MS1	Interactive Productivity Facility	—	33	5	3
5746-XX3	CICS/VS/DOS Enhanced	—	357	165	99
5740-XX1	CICS/OS/VS Enhanced	—	1,100	—	—
5740-XC5	Development Management System/CICS/VS-OS	—	253	—	—
5746-XC4	Development Management System/CICS/VS-DOS	—	110	57	34
5740-XXF	DB/DC Data Dictionary for OS/VS	—	638	—	—
5746-XXC	DB/DC Data Dictionary for DOS/VS	—	253	66	39
5746-LM3	DOS FORTRAN IV Library Option I	—	30	5	3
5746-CB1	DOS/VS COBOL Compiler and Library	—	137	17	11
5746-LM4	DOS/VS COBOL Library	—	25	5	3
5736-PL1	DOS PL/1 Optimizing Compiler	—	187	44	26
5736-LM4	DOS PL/1 Resident Library	—	44	5	3
5736-LM5	DOS PL/1 Transient Library	—	25	5	3
5736-PL3	DOS PL/1 Optimizing Compiler and Library	—	256	55	33
5746-RG1	DOS/VS RPG II	—	104	5	3
5746-SM2	DOS/VS Sort/Merge (Version 2)	—	126	22	13

## IBM 4300 Series

## EQUIPMENT PRICES\*\*

		<u>Purchase Price</u>	<u>Monthly Maint.</u>	<u>Monthly Rental Charge*</u>	<u>Monthly Lease Charge (2-Year Lease)*</u>
<b>PROCESSOR FEATURES &amp; CHANNELS</b>					
Many of the features listed below include microcode as well as hardware. Microcode is supplied on diskettes.					
Features for the 4331:					
1001	Adapter Power Prerequisite	2,520	7.00	78	66
1002	Adapter Logic Prerequisite	4,620	12.50	143	122
1421	Block Multiplexer Channel	4,620	1.50	143	122
1422	Block Multiplexer Channel, Additional (Model Group 2 only)	4,620	1.50	143	122
1431	High-Speed Block Multiplexer Channel (Model Group 2 only)	6,600	2.00	222	189
1901	Control Store Expansion; 65,536 bytes (Model Group 1 only)	5,355	36.00	167	142
2001	Display/Printer Adapter Expansion	1,275	1.50	34	29
3201	DASD Adapter; for 3310/3340/3370	3,780	3.50	118	100
3202	DASD Adapter, Additional (Model Group 2 only)	3,780	3.50	118	100
3401	Diskette Drive; reads IBM Type 1 Diskettes	3,695	19.00	115	98
3898	External Signals; for external interrupt	315	0.50	9	8
3901	5424 Adapter	6,930	8.50	216	184
3950	1401/1440/1460 Compatibility	NC	NC	NC	NC
4910	8809 Mag Tape Unit Adapter	3,780	3.50	118	100
5248	Byte Multiplexer channel	3,695	1.50	115	98
5531	Power interface	2,310	1.00	71	60
5532	Power Interface, Additional	1,115	1.00	35	30
5550	Printer-Keyboard Mode	NC	NC	NC	NC
6305	System/3 Data Import	NC	NC	NC	NC
7851	3340 Direct Attachment	NC	NC	NC	NC
7901	2311/2314/2319/3310 Direct-Access Storage Compatibility	NC	NC	NC	NC
8701	ECPS:VM/370	NC	NC	NC	NC
Features for the 4341:					
1850	Channel-to-channel adapter	22,050	26.50	691	588
1870	Optional channel group; three additional channels	16,950	5.50	532	453
1890	Channel control unit positions, additional	2,625	9.00	82	70
Console for the 4331 or 4341:					
3278 2A	CRT display/keyboard	2,680	24.50	90	77
4633	75-key operator console keyboard (4341)	560	6.50	32	27
4631	75-key operator console keyboard with I/O interface (4341)	1,160	7.00	6	1
4632	Same as 4631 without I/O interface (4341)	1,080	7.00	35	30
4634	Same as 4631 without I/O interface (4331)	1,080	7.00	5	30
6340	Security keylock	35	NC	NC	NC
<b>MASS STORAGE</b>					
3310 A1	Single disk drive, 64.5 megabytes; with controller; for 4331 only	14,280	61.00	474	404
3310 A2	Two disk drives, 64.5 megabytes each; with controller; for 4331 only	23,730	163.00	786	670
3310 B1	Single disk drive, 64.5 megabytes (for attachment to Model A2)	11,300	46.00	374	319
3310 B2	Two disk drives, 64.5 megabytes each (for attachment to Model A2)	20,750	88.50	686	585
	Model A1 to A2 Upgrade	9,000	—	—	—
	Model B1 to B2 Upgrade	9,000	—	—	—
3340	Direct Access Storage Facility; 34.9 or 69.8 MB per drive:				
	Model A2; Two drives plus control	37,800	101.00	1,234	1,050
	Model B1; One drive	20,790	53.50	690	587
	Model B2; Two drives	26,460	86.50	870	740
3344 B2	Add-on Dual Disk Drive for 3340 Direct-Access Storage Facility; 279.6 MB per drive	31,680	128.00	1,106	941
3344 B2F	Add-on Dual Disk Drive for 3340 Direct-Access Storage Facility with 2 MB fixed-head storage; 279.6 MB per drive	41,600	179.00	1,451	1,235
4301	Fixed-Head Feature (for 3340 A2 or B2)	1,795	1.50	52	44
6201	Rotational Position Sensing (for 3340 B1)	718	0.50	21	18
6202	Rotational Position Sensing (for 3340 or A2 or B2)	907	0.50	27	23
6148	Remote Switch Attachment	NC	NC	NC	NC
8150	String Switch	7,560	13.00	246	209

\*Rental/lease prices include equipment maintenance.

\*\*See Report 70C-491-05 for prices of the System/370 peripheral equipment.

NC—No Charge.

IBM 4300 Series

EQUIPMENT PRICES\*\*

		<u>Purchase Price</u>	<u>Monthly Maint.</u>	<u>Monthly Rental Charge*</u>	<u>Monthly Lease Charge (2-Year Lease)*</u>
<b>MASS STORAGE (Continued)</b>					
3348	Data Module (for 3340 drives):				
	Model 35; 34,944,768 bytes	1,600	Time & mat'l.	59	50
	Model 70; 69,889,536 bytes	2,200	Time & mat'l.	82	70
	Model 70F; 69,889,536 bytes, of which 502,080 are served by fixed heads	4,400	Time & mat'l.	165	140
3370 A1	Single Disk Drive, for 4331 or 4341; 571.3 megabytes	38,690	126.00	1,187	1,010
3370 B1	Add-On Single Disk Drive for attachment to Model A1; 571.3 megabytes	25,790	94.50	791	673
	8150 String Switch	4,295	1.50	132	112
3880	Storage Control, Model 1	68,730	176.00	1,909	1,625
	6148 Remote Switch Attachment	NC	NC	NC	NC
	6149 Remote Switch Attachment, additional	NC	NC	NC	NC
	8170 Two-Channel Switch Pair	7,105	11.00	197	168
	8171 Two-Channel Switch Pair, additional	18,960	38.50	526	448
<b>MAGNETIC TAPE EQUIPMENT</b>					
8809	Magnetic Tape Units (for 4331 only):				
	1A First drive; connects to the I/O attachment feature of the 4331	11,500	55.00	382	325
	2 Second, fourth, or sixth drive that attaches to Model 1A or 3	10,210	49.50	340	289
	3 Third or fifth drive that attaches to Model 2	11,500	55.00	382	325
<b>PRINTERS</b>					
3203 5	Line Printer, 1200 lpm	38,320	391.00	1,733	1,475
3289 4	Line Printer, 230 to 400 lpm (print speed is character set-dependent)	13,910	205.00	653	556
	5821 48-char. EBCDIC Print Belt	160	—	—	—
	5822 64-char. EBCDIC Print Belt	160	—	—	—
	5823 94-char. EBCDIC Print Belt	160	—	—	—
3262 1	Line Printer; 650 lpm	15,430	157.00	459	391
	5951 0.079-inch char. height	—	—	—	—
	5950 0.095-inch char. height	—	—	—	—
	5940 48-char. EBCDIC Set	186	—	—	—
	5944 64-char. EBCDIC Set	186	—	—	—
	5946 64-char. EBCDIC Set	186	—	—	—
	5948 96-char. EBCDIC Set	186	—	—	—
<b>PUNCHED CARD EQUIPMENT</b>					
5424 A1	Multi-Function Card Unit, 96-col.	8,200	251.00	450	—
	A2 Multi-Function Card Unit, 96-col.	10,850	378.00	678	—
	6510 5424 Multi-Function Card Unit Attachment; for 4331 only	2,670	6.00	60	—
<b>COMMUNICATIONS EQUIPMENT</b>					
For the 4331 Processor:					
	1020 Autocall Unit Interface	462	2.00	13	11
	1601 Communications Adapter, base	3,230	1.50	100	85
	3701 EIA/CCITT interface	462	2.00	13	11
	4695 Line Attachment Base; for clocked modems	462	0.50	13	11
	4696 Line Attachment Base; for non-clocked modems	546	0.50	15	13
	4720 High-Speed Modem Adapter	1,385	2.00	36	31
	4781 1200-bps Integrated Modem; non-switched	701	3.50	20	17
	4782 1200-bps Integrated Modem; switched, with auto-answer	903	3.50	27	23
	4787 1200-bps Integrated Modem; non-switched, with switch network backup and manual answer	955	3.50	28	24
	4788 1200-bps Integrated Modem; non-switched, with switch network backup and auto-answer	1,065	4.00	32	27
	4801 Local attachment interface	1,155	3.00	32	27
	5650 Digital data service adapter	882	2.50	26	22

\*Rental/lease prices include equipment maintenance.

For complete pricing data on the IBM 3704 and 3705 Communications Controllers see Report 70C-491-05 for System/370 peripheral equipment costs.

NC—No Charge.

## IBM 4300 Series New Product Announcement

IBM announced a series of significant new hardware and software products on June 11, 1980. Although the announcement was directed primarily toward the large-scale 303X Series computers, 4300 Series users will also be able to utilize the new 3375 Direct Access Storage and a number of new and enhanced software facilities. (The new, high-performance 3380 Direct Access Storage will not be available for use with the 4300 Series computers.)

**IBM 3375 DIRECT ACCESS STORAGE:** The 3375 is a new count-key-data formatted disk drive that provides 819 million bytes of storage capacity. Designed primarily for use with the IBM 3031, 4341, and 4331 Model Group 2 processors, it can also be used with the larger 303X Series processors as a complementary product to the larger-capacity 3380 disks.

The 3375 is similar in most respects to the 3370 Direct Access Storage that was introduced with the 4300 Series computers in January 1979. The principal differences between the two devices are in storage capacity and data format. The 3375's 819-megabyte capacity is 43 percent larger than the 3370's 571 megabytes, and the 3375 uses the count-key-data format employed in the 3380, the 3350, and other large-capacity IBM disk drives in contrast to the fixed 512-byte blocks used in the 3370 and 3310.

Each 3375 drive contains one nonremovable head and disk assembly (HDA). The HDA has two actuators, each providing independent access to approximately 409 million bytes of data. Average seek time is 19 milliseconds, average rotational delay is 10.1 milliseconds, and data is transferred at the rate of 1.859 million bytes per second. There are two models of the 3375. Model A1 contains a storage control interface and connects to a 3880 Model 1 or 2 Storage Control. Up to three 3375 Model B1 drives can be attached to a 3375 Model A1 for a maximum string capacity of 3.27 billion bytes.

The 3375 can be used with any of the following IBM processors: 3031, 3032, 3033, 3042 Model 2, 4331 Model Group 2, or 4341. Connection is via a 3880 Model 1 or 2 Storage Control to a standard block multiplexer channel on the 4341 or to the high-speed block multiplexer channel on the 4331 Model Group 2. Up to four 4-unit strings of 3375 storage, or a total of 32 actuators, can be connected to each of the two storage directors on the 3880 Model 1 Storage Control, or to one of the two storage directors on the new 3880 Model 2. The String Switch feature (#8150) allows a 3375 Model A1 to be connected to two 3880 storage directors on the same or different processors and switched under program control.

The 3375 provides significant savings in floor space, power, heat output, and cost per byte when installed in place of existing IBM 3340 or 3350 disk storage. The new subsystem also offers numerous improvements in reliability, availability, and serviceability. No scheduled preventive maintenance is required. Data error bursts of up to 16 bits are detected and corrected automatically if the bursts do not span more than two contiguous bytes. First customer shipments of the 3375 are planned for the third quarter of 1981.

**STORAGE MANAGEMENT SOFTWARE:** IBM used the term "Total Storage Management" to describe the new 3375 and 3380 Direct Access Storage devices as well as a number of new and enhanced software products designed to support them. Three of the new program products are available to OS/VS1 users:

- **Data Facility/Device Support** supplies the OS/VS1 data management support for the new disk drives and provides a new indexed volume table of contents (VTOC) for improved system performance.
- **Data Facility/Data Set Services** is a new dump/restore program for both OS/VS1 and MVS that supports the new disk drives and provides full-volume, partial-volume, and data set dump and restore facilities.
- **Direct Access Storage Device (DASD) Migration Aid** is a software tool designed to reduce the manual effort involved in converting OS/VS1 or MVS data and programs from earlier IBM disk devices to the new 3375 and 3380.

Programs that have been enhanced to support the new disk drives include the Hierarchical Storage Manager, OS/Sort/Merge, Device Support Facilities, VSE/Advanced Functions, and OS/VS1 Basic Program Extensions.

**VM/SYSTEM PRODUCT EXTENSIONS:** IBM announced that the VM/System Product (VM/SP), a separately priced group of enhancements for the VM/370 operating system, will contain a number of new functions in addition to those announced in January 1980. The new functions include: support for the 3042

## IBM 4300 Series New Product Announcement

Model 2 Attached Processor, the 4331 Model Group 2 Processor, and the 3375 and 3380 Direct Access Storage; support for the 3800 Printing Subsystem as a virtual spooling device; enhanced DASD support; enhanced support for the 3270 Information Display System; new functions to enhance the integrity, security, and reliability of the VM/SP system; enhanced SPTAPE command support; support for MVS/SP-JES2 and MVS/SP-JES3 as guest operating systems; CMS support for the LKED command for OS application program development; and an upgrade of CMS/DOS program execution support to the Release 2 levels of the VSE/Advanced Functions and VSE/VSAM.

VM/SP, scheduled for release in September 1980, will also contain all of the functions currently available in Release 2 of both the VM/Basic System Extensions and VM/System Extensions program products, as well as the following previously announced capabilities: multiprocessor support, enhanced support for attached processors, a new CMS editor and EXEC interpreter, an enhanced CMS HELP facility, a CMS OS LOADER capability, full screen console support via an SIO interface, enhanced CP spooling, a single console image facility, an IPL command enhancement, a new inter-user communication capability, and support for the 3278 Model 5 and 3279 display terminals.

**PRICE INCREASES:** On June 27, IBM announced another semi-annual round of price increases. Selective increases of approximately 5 percent on monthly rental and lease charges, 5 percent on purchase prices, and 5 to 10 percent on maintenance charges were announced for many—but by no means all—of the 4300 Series processors, features, and peripheral devices. The increased purchase prices were effective immediately, and the increased rental and lease prices will be effective on October 1, 1980. Charges for Field Engineering/Customer Engineering hourly services and for Systems Engineering services were increased by approximately 10 percent, effective immediately. The IBM 4300 Series price list that precedes this New Product Announcement has been updated to reflect the new prices.

### EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
3375	Direct Access Storage; 819.7 megabytes per unit Model A1; contains logic and power for up to three Model B1 units	46,450	130.00	1,269	1,080
	Model B1; connects to a 3375 Model A1	31,000	98.50	846	720
8150	String Switch feature for 3375 Model A1	4,095	1.50	126	107

\*Rental/lease prices include equipment maintenance.

### SOFTWARE PRICES

		One-Time Charge	Monthly Charge	Monthly Licensed Program Support Charge	Monthly Additional Licensed Program Support Charge
5664-167	VM/System Product	—	250	50	30
5740-AM6	Data Facility/Device Support Release 1 (OS/VS1)	—	57	18	11
5740-UT3	Data Facility/Data Set Services Release 1 (OS/VS1 and MVS)	—	75	—	—
5668-002	Direct Access Storage Device Migration Aid Release 1 (OS/VS1 and MVS)	1,000	—	—	—