

Program Product

**MVS/Information Distribution
Workstation Support
General Information Manual**

Program Number 5740-AMA

IBM

Program Product

**MVS/Information Distribution
Workstation Support
General Information Manual**

Program Number 5740-AMA



PREFACE

This publication contains an overview and planning information for the MVS/Information Distribution Workstation Support program product. It describes the program's operating characteristics, the devices and programs it supports and examples of how it is used with them, and considerations in planning for the installation and management of the program. It is intended for installation managers and system programmers responsible for evaluating this product and installing the program. Readers should be familiar with OS/VS2 MVS and the installation's system control programs with which the program will run.

First Edition (February 1979)

This edition applies to the MVS/Information Distribution Workstation Support program product, program number 5740-AMA, and all subsequent releases and modifications unless indicated in new editions or technical newsletters.

The functions and capabilities described in this edition are subject to change before the availability of the program.

Changes are continually made to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest *IBM System/370 Bibliography*, GC20-0001, for the editions that are applicable and current.

Requests for copies of IBM publications should be made to your IBM representative or the IBM branch office serving your locality.

A form for reader's comments is provided at the back of this publication. If the form has been removed, comments may be addressed to IBM Corporation, Department 6F5, 18100 Frederick Pike, Gaithersburg, Maryland 20760. IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

CONTENTS

	Page
Chapter 1. INTRODUCTION	1
OPERATING ENVIRONMENT	1
SYSTEM SECURITY AND INTEGRITY	2
OPERATIONAL CHARACTERISTICS	2
Remote Communications	2
Transmission and Routing	3
Remote Printing	3
Chapter 2. DEVICES AND PROGRAMS SUPPORTED	4
THE IBM 6670 INFORMATION DISTRIBUTOR AS A REMOTE COMMUNICATION TERMINAL	4
Online Communications	4
Text Processing	5
Printing and Copying	5
ADVANTAGES OF SYSTEM/370 HOST SUPPORT	6
Chapter 3. MVS/INFORMATION DISTRIBUTION WORKSTATION SUPPORT OPERATION	7
FUNCTIONAL DESCRIPTION	7
INTERFACES	8
Communications Interface	8
JES Process SYSOUT Interface	8
JES Internal Reader Interface	8
COMMUNICATING WITH THE PROGRAM	8
USING THE PROGRAM	9
Submitting a Job and Receiving Output	10
Choosing Output Formats	11
Obtaining a Draft Document	11
Obtaining Final Copy	14
Preparing a Presentation	16
Composing and Printing a Report from Different Sources	17
Chapter 4. PLANNING FOR THE PROGRAM	19
PLANNING CONSIDERATIONS	19
Preparing for Installation	19
Estimating Required Resources	19
MANAGING THE PROGRAM	19
Altering the Environment	20
Performance Tuning	20
System Management Data	20
Supporting Publications	21
INDEX	23

ILLUSTRATIONS

	Page
Figure 1. MVS/Information Distribution Workstation Support System Flow	2
Figure 2. Submitting an MVS Job and Receiving Output	10
Figure 3. Obtaining a Draft Document	12
Figure 4. Sample Output in Draft Format	13
Figure 5. Obtaining Final Copy	14
Figure 6. Sample Output in Final Format	15
Figure 7. Preparing a Presentation Using TSO, the IBM 6670, and the MVS/ Information Distribution Workstation Support Program	16
Figure 8. Composing and Printing a Report from Different Sources	18

Chapter 1. INTRODUCTION

MVS/Information Distribution Workstation Support is a licensed program that provides batch-oriented remote communication functions for the IBM 6670 Information Distributor with the systems network architecture (SNA) feature. The program provides transmission, routing, scheduling, command, and message functions that are specifically tailored to the features and communication protocols of the IBM 6670 and that support all data streams and media of the IBM 6770.

The MVS/Information Distribution Workstation Support program provides System/370 OS/VS2 MVS host support for the IBM 6670 for document input, output, and distribution. The program allows IBM 6670 users to access MVS application programs for document processing and archiving, and it allows MVS application program users to utilize the IBM 6670 for output. Through the program, users can combine variable data from an MVS data base with a standard document on the IBM 6670 to obtain personalized, repetitive letters in one operation.

In extending MVS remote job entry (RJE) support to the IBM 6670, the MVS/Information Distribution Workstation Support program allows IBM 6670 users to utilize MVS facilities for work entry and output processing and for document distribution through the routing facilities of the job entry subsystems.

OPERATING ENVIRONMENT

The MVS/Information Distribution Workstation Support program operates with from 1 to 255 IBM 6670 Information Distributors. The program operates under OS/VS2 Release 3.8, supporting the IBM 6670 as a SNA terminal to bring large-scale data processing system access to a multipurpose device in an office environment. Using the MVS/Information Distribution Workstation Support program, IBM 6670 users can submit jobs and data to an IBM System/370 OS/VS2 MVS host processor or receive documents and variable data generated at the MVS host processor or extracted from MVS data bases.

Access is provided over synchronous data link control (SDLC) communication lines connected to an IBM 3705 Communications Controller containing a resident network control program, the Advanced Communications Function for the Network Control Program/VS (ACF/NCP/VS, Release 1). The MVS/Information Distribution Workstation Support program accesses the communications network via the Advanced Communications Function/Virtual Telecommunications Access Method (ACF/VTAM, Release 1) and the Advanced Communications Function/Telecommunications Access Method (ACF/TCAM, Version 2, Release 2). SNA protocols are used. Other applications and terminals can use the same SDLC line simultaneously for SNA communications.

The MVS/Information Distribution Workstation Support program extends MVS remote job entry (RJE) support to the IBM 6670 by interfacing with the MVS job entry subsystem for job input and output processing. The program operates with Job Entry Subsystem 2 (JES2, Release 4.1), Network Job Entry Facility for JES2 (NJE for JES2, Release 3), and Job Entry Subsystem 3 (JES3, Release 3). The program can operate in any JES2 or NJE for JES2 processor or in a JES3 local processor or the JES3 global processor.

Within the structure of an OS/VS2 data processing system, the MVS/Information Distribution Workstation Support program fits between the SNA communications subsystem (ACF/VTAM or ACF/TCAM) and the MVS job entry subsystem. Figure 1 illustrates this general system configuration.

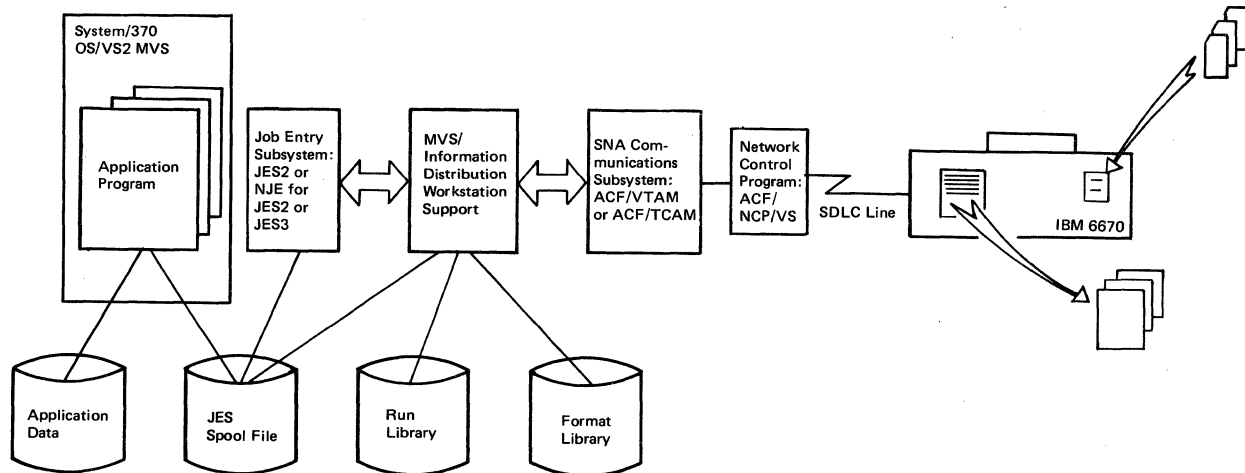


Figure 1. MVS/Information Distribution Workstation Support System Flow

SYSTEM SECURITY AND INTEGRITY

As part of an integral approach to security in the MVS/Information Distribution Workstation Support program product, the Resource Access Control Facility (RACF) can be used to provide users access to RACF protected resources in an MVS environment. In addition, facilities are provided for controlling access to SYSOUT data sets destined to the supported devices. These facilities are effective only within the context of the MVS/Information Distribution Workstation Support program itself.

OPERATIONAL CHARACTERISTICS

The MVS/Information Distribution Workstation Support program provides remote communication functions that extend System/370 host processor support to IBM 6670 terminals.

Remote Communications

A session, or communication, between the MVS/Information Distribution Workstation Support program and an IBM 6670 can be established either manually or automatically. Manual session initiation and termination typically are controlled by the IBM 6670 user through LOGON/LOGOFF commands. Automatic session initiation can occur when the MVS/Information Distribution Workstation Support program detects output to be transmitted to an IBM 6670 not in session with it. Automatic session termination can occur when there is no more output to be transmitted.

Data security and access can be controlled for both the terminal and the data owner. These are provided through logon passwords and a command associating specific owner keys with jobs. Keyed job output will not be transmitted to an IBM 6670 until the owner is present to receive it.

Transmission and Routing

Users can enter data for transmission to the MVS/Information Distribution Workstation Support program through the IBM 6670 magnetic card reader/recorder. Input can be an OS job, a command that causes the generation of an OS job, or a command to:

- Control or inquire about the status of the session
- Inquire about the status of output
- Expedite the delivery of output
- Hold, release, stop, or cancel output

Output from jobs or commands submitted from an IBM 6670 user usually will be routed back to that IBM 6670, along with any logs. Using the program and NJE for JES2 and one of the SNA communications subsystems, the IBM 6670 user can have the submitted job executed at another location or the output printed at another location or terminal. Further, through the use of system output classes or destination names, application program jobs not submitted from an IBM 6670 can route their output through the MVS/Information Distribution Workstation Support program to an IBM 6670. All output for transmission must be created as SYSOUT data sets.

The MVS/Information Distribution Workstation Support program provides user exits. Through these users may develop programming to access data other than job entry data, modify input and output data streams, or control the selection and disposition of documents in input and output queues.

Remote Printing

Through the MVS/Information Distribution Workstation Support program, users with MVS applications such as the Document Composition Facility and the Document Library Facility can use the IBM 6670 as a remote communication printer, often without changes to existing application programs. Composed and formatted documents such as reports, specifications, legal briefs, contracts, and insurance policies that are currently produced on system printers can be transmitted to the IBM 6670 for printing.

In environments where events recorded in the data processing system also necessitate personalized correspondence, users can send data captured by their application program to be merged with a standard letter at the IBM 6670. Thus, one operation can yield typewriter-like, personalized, repetitive letters such as order acknowledgments and collection letters.

The MVS/Information Distribution Workstation Support remote communication functions used in conjunction with the IBM 6670 or MVS application program word processing functions provide IBM 6670 users with an office device upon which they can receive high quality output, bypassing several operations previously required.

The IBM 6670 offers magnetic card output or printed output in a regular text format or a rotated condensed format, on one or both sides of a page, and on a choice of print media. In addition, users can select the various word processing options of the IBM 6670 for their output.

Chapter 2. DEVICES AND PROGRAMS SUPPORTED

The MVS/Information Distribution Workstation Support program offers a means by which users can combine the benefits of a large-scale data processing system with a convenient office device. Together with the IBM 6670 Information Distributor and the System/370 processor, the program links word processing and data processing to extend the advantages of a processing unit into the office environment and to provide a fast, easy means of data and document input to the processing system. In providing remote communication functions, the program enhances the capabilities and extends the possible applications of both the IBM 6670 and the System/370.

THE IBM 6670 INFORMATION DISTRIBUTOR AS A REMOTE COMMUNICATION TERMINAL

The IBM 6670 Information Distributor is a workstation for word processing and data processing applications that serves as a communication terminal, a text processor, and a convenience copier.

For operation with the MVS/Information Distribution Workstation Support program, the IBM 6670 must be equipped either with the optional integrated modem or with a separate 2000-baud, 2400-baud, or 4800-baud modem. Further, each IBM 6670 must be defined in the initialization parameters for ACF/NCP/VS and ACF/VTAM or ACF/TCAM.

Online Communications

The IBM 6670 has a communications adapter that enables it to send or receive data over switched or non-switched lines. Control of the communication activities is specified by operator control language (OCL) commands and instructions in the stored formats on the diskette storage device or entered on magnetic cards.

IBM 6670 communications may use systems network architecture (SNA) protocol or binary synchronous communications (BSC) protocol. Using the SNA protocol, the IBM 6670 can communicate with all System/370 models when connected through an IBM 3705 Communications Controller. The MVS/Information Distribution Workstation Support program operates with the IBM 6670 with the SNA feature.

As a remote communication terminal, the IBM 6670 offers text processing, recording, and printing. When transmitting, the IBM 6670 can process text locally and transmit the formatted pages, or it can transmit the text as entered for formatting elsewhere.

The IBM 6670 transmits data or documents from magnetic cards or from the diskette. The document to be transmitted is read from cards and can be transmitted immediately or stored on the diskette for transmission later. The sequence of the operation depends upon the type of communication line being used and is controlled by OCL.

When the IBM 6670 receives data or a document, it formats according to the local formatting rules in its stored formats, or to the OCL supplied with the document, or to carriage controls recorded in the document. The document is formatted one page at a time and then stored on the diskette. If the document is

to be printed, printing starts after the first page is stored. The pages are stored for the purposes of error recovery and electronic collation. If an error occurs while printing, the page can be recovered from the diskette and printed again. If the data is to be recorded on magnetic cards, all pages are processed and stored. When processing is complete, the operator pushes buttons on the panel to have the pages transferred from storage to magnetic cards.

All of the IBM 6670 text processing functions and printing features are available for documents received by communication.

Text Processing

As a text processing device, the IBM 6670 can operate both as a remote communication terminal and as a stand-alone device. Text processing is controlled by OCL commands and instructions. Stored formats are OCL commands for formatting and instructions for machine operation that are determined by the user and stored on diskette when the IBM 6670 is installed. These standards can be changed with OCL instructions recorded on a magnetic card or entered with text, according to job requirements.

OCL uses the same terms to specify text processing as those used on IBM magnetic card typewriters, for example, adjust, play, merge, record. Some of the IBM 6670 text processing options that can be specified by OCL are:

- Left and right margin settings
- Top and bottom margin settings
- Horizontal/vertical tab stops
- Right margin adjustment or justification
- Margin text insertion, such as headings and page footings
- Line text (overlay text inserted on each line)
- Line numbering, with only printed lines numbered and various numerical sequences possible
- Page numbering
- Variable line spacing
- Type style selection

Printing and Copying

The IBM 6670 can print out data or a document received through communication or recorded on magnetic cards created on any compatible recording equipment.

The IBM 6670 printer uses an electrophotographic process with a low-powered laser beam that forms the characters by selectively discharging the photoconductor. Toner is attracted to the photoconductor to develop the image and is then fused onto the paper to produce the printed output. The copier uses the same printing process, with reflected light from a document as the light source.

The IBM 6670 prints with dot patterns of up to 240 x 240 pel, corresponding to the type style and line spacing selected. Six type styles, 10-pitch, 12-pitch, and proportional, are available. Up to four type styles can be printed on the same page, excluding the Data 1/Rotated type style, which consists of reduced-size characters used to print charts and tables parallel to the long edge of the paper. Type styles and line spacing are specified by OCL instructions, as is the page format.

The IBM 6670 has two printing formats. Text format printing has the appearance of a typewritten page. Condensed format printing allows computer output typically printed on 14 x 11 inch (335.60 x 279.40 mm) fanfold paper to be printed across the long side of 8½ x 11 inch (215.90 x 279.40 mm) paper, with up to 66 lines per page and 132 columns per line.

Other printing choices on the IBM 6670 are printing on one or both sides of a page, and printing on plain or letterhead cut-sheet paper, on offset masters, or on transparencies for overhead projection.

To preserve the convenience aspect of copying on the IBM 6670, copying has priority over other functions and can interrupt transmitting, recording, or printing. The interrupted function continues running until printing is required and resumes printing automatically when the copies are completed. Separate exit pockets are provided for printer and copier output.

ADVANTAGES OF SYSTEM/370 HOST SUPPORT

The MVS/Information Distribution Workstation Support program extends IBM 6670 users the ability to:

- Enter OS/VS2 MVS jobs to gain access to the processing capability and storage volume offered by the System/370 host processor and the processing networks
- Use MVS application programs for document preparation, searching, archiving, and distribution
- Use the routing facilities of the job entry subsystems

The program provides access to the System/370 within an office environment in a language oriented to office systems. The user can focus on information processing rather than job execution. At the same time, the program allows the direct specification of OS jobs by users with data processing skills. The program defines the user as the owner of job and output data who can issue commands to request processing, routing, preparation, output queuing, and distribution of his data.

MVS application programs of special interest are those offering extensive formatting, editing, storage, and retrieval capabilities to prepare documents, such as the Document Composition Facility and the Document Library Facility. The text processing functions of these programs can be used to obtain finished, high-quality page output on the IBM 6670.

Chapter 3. MVS/INFORMATION DISTRIBUTION WORKSTATION SUPPORT OPERATION

As a batch facility for remote communications to and from the IBM 6670, the MVS/Information Distribution Workstation Support program is designed to:

- Provide for batch-oriented document input, output, and distribution
- Provide an interface to document processing and document preparation programs
- Act as a document switching center using the routing facilities of the job entry subsystems

FUNCTIONAL DESCRIPTION

The program contains remote communication functions to support terminal logon and logoff, to receive input from and transmit output to IBM 6670 workstations in session with the program, and to provide for effective user communication.

The MVS/Information Distribution Workstation Support program supports session initiation, password verification, and the establishment of attended or unattended sessions. Based on initialization parameters, the program either logs on a workstation automatically (AUTOLOGON) or processes logon requests from the workstation user. Also based on initialization parameters, the program either automatically logs off workstations when no output remains for transmission or processes logoff requests from the workstation user.

Once an IBM 6670 workstation is in session with the program, the program is prepared to receive function management, control and job input, and command and message input. Job input is submitted through the job entry subsystem (JES) internal reader interface to the MVS job queue for execution. Command input is either processed directly or routed as a message to another workstation connected to the program. The RUN command can be used to create jobs; it causes the program to copy text from a member of the program's run library, concatenate that text to SYSIN data following the command, and submit the result through the internal reader to the job entry subsystem.

The MVS/Information Distribution Workstation Support program transmits job output, messages, and command responses to IBM 6670 workstations. Output generated for workstations not in session with the program remains spooled until that workstation is logged on and prepared to receive the output, unless the workstation is specified at initialization to be capable of automatic logon. If the workstation can be logged on automatically, the program initiates a session and sends the output to the unattended device whenever output is available. Job output protected with a specific owner key will not be transmitted to an IBM 6670 until the specific owner is present to receive it. The program uses the JES process SYSOUT interface to select output, based upon scheduling parameters specified in a workstation profile or by user command. The program uses the MVS JCL forms subparameter to generate the IBM 6670 operator control language (OCL) required for device setup. In addition, the program supports the concatenation of output data sets, allowing several separate data sets to be combined into a single document or the OCL referring to a document to be separated from the document itself.

INTERFACES

The basic activity of the MVS/Information Distribution Workstation Support program is the linking of IBM 6670 workstations to the MVS job stream and application programs. This is accomplished by “moving” data through the program from one external interface to another. There are three interfaces, with optional user exits for access to customer-written function.

Communications Interface

The communications interface connects the program to the IBM 6670 workstations in session with it. Through the communications interface, the program establishes a session with a supported workstation, transmitting data to and receiving data from it. The communications interface provides the program's SNA function management for job stream data received from the workstations and for job SYSOUT data being sent to the workstations.

JES Process SYSOUT Interface

The JES process SYSOUT (PSO) interface provides for work selection and the delivery of selected work from the JES pool to the MVS/Information Distribution Workstation Support program. Existing JES2, NJE for JES2, and JES3 interfaces are used. The service competes with JES processors for selection of work. The program accesses selected data and processes it based on the type of data and the device for which the data is destined.

JES Internal Reader Interface

The JES internal reader (INTRDR) interface provides for submission of jobs received from the workstation to the job entry subsystem. It uses existing internal reader interfaces in JES2, NJE for JES2, and JES3.

COMMUNICATING WITH THE PROGRAM

The MVS/Information Distribution Workstation Support program provides for effective user communication with several commands. The program allows the workstation user to inquire about the status of the workstation or work to be transmitted to the workstation. Further, the program allows the user to cancel work in progress, reprint output, expedite the printing or recording of a certain piece or class of work, specify that output is only to be transmitted when the user is present, hold and release work, and modify workstation profiles.

To use the MVS/Information Distribution Workstation Support program, the IBM 6670 user submits commands or JCL on prerecorded magnetic cards through the IBM 6670 magnetic card reader/recorder for transmission to the program.

There are three levels of command authority in the program: general user, workstation controller, and system owner. Only the workstation controller and system owner are allowed to enter commands which actually control the MVS/Information Distribution Workstation Support program and its resources. The workstation controller is authorized to affect the operation of workstations defined to the program. The general user is authorized to submit commands affecting jobs; he is not allowed to affect global program or system operation. Only the system owner has authority to enter all program commands.

The following commands are available to the user:

Command	Function
ALTER	Changes the properties of output owned by the user (for example, print or record on cards)
CANCEL	Cancels work on the output queue
EXPEDITE	Reorders work on the output queue
IDENTIFY	Signals the presence of a user; allows the program to transmit key-protected output
MESSAGE	Sends a message to the operator or another workstation
OBTAIN	Obtains job and message logs from the program log data set
RESUME	Makes previously suspended SYSOUT eligible for transmission to the workstation
RUN	Creates and submits an MVS job using the run library and user-supplied parameters
START	Starts a workstation from another location
STATUS	Inquires about submitted work
STOP	Stops a workstation
SUSPEND	Makes SYSOUT ineligible for transmission to a workstation

USING THE PROGRAM

The examples presented here illustrate how the functions of the IBM 6670, the MVS/Information Distribution Workstation Support program, and application programs or MVS utilities can be used together. These examples are introductory and intended to give the MVS and IBM 6670 user some idea of the available applications.

Note that while the MVS/Information Distribution Workstation Support program facilitates several word processing applications, it does not itself provide word processing functions. Instead, it relies on applications at the MVS host processor or on the IBM 6670 for those functions. Nor does the program duplicate the functions of ACF/TCAM, ACF/VTAM, JES2, NJE for JES2, or JES3; rather, it provides the coordination necessary to connect the communications subsystem and the job entry subsystem in support of the IBM 6670 and its users.

Submitting a Job and Receiving Output

Submitting a job to MVS from an IBM 6670 is similar to using MVS remote job entry (RJE), except that the MVS/Information Distribution Workstation Support program acts as an interface between the job entry subsystem and the IBM 6670 user. Figure 2 identifies the components and numbers the processing steps according to the steps in this basic example.

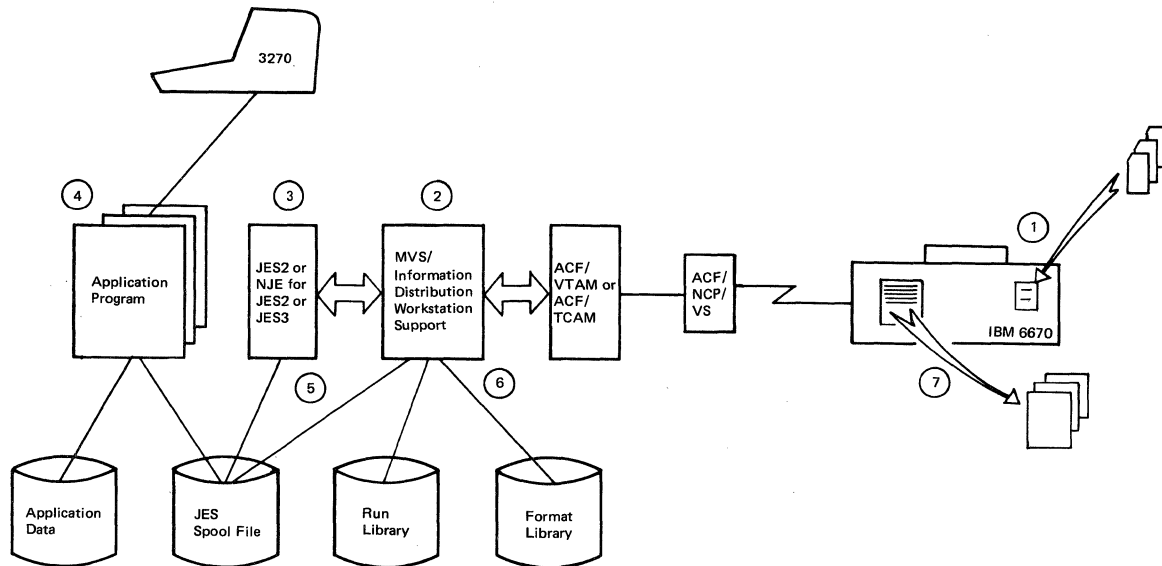


Figure 2. Submitting an MVS Job and Receiving Output

When an IBM 6670 user submits a job to MVS and receives output at the same IBM 6670, the following steps occur:

1. The user records an OCL, SEND command and JCL for the job on magnetic cards. The JCL statements must end with a carriage return and may be typed either uppercase or lowercase. The user enters these cards in the IBM 6670 magnetic card reader/recorder.
The user presses the READ and START buttons on the IBM 6670 control panel. The IBM 6670 reads the magnetic cards and transmits the data to the MVS/Information Distribution Workstation Support program.
2. The MVS/Information Distribution Workstation Support program translates the JCL to uppercase, as necessary, so that it is acceptable to job entry subsystem readers. The program does not translate SYSIN data, as it may contain legitimate lowercase data.
The program submits the job to the job entry subsystem through its internal reader interface, storing the job input on the JES spool file.
3. The job entry subsystem schedules the job for execution.

4. The job executes at the MVS host processor.
5. The job entry subsystem routes the job output back to the MVS/Information Distribution Workstation Support program.
6. The MVS/Information Distribution Workstation Support program transmits the job output to the IBM 6670 that submitted the job.
7. The IBM 6670 prints the job output or records it on magnetic cards. If the job does not have OCL commands to specify text processing, the IBM 6670 formats and prints the job according to its stored format.

This procedure to submit a job and receive output is the basis for the following examples. They illustrate more specific application situations.

Choosing Output Formats

The MVS/Information Distribution Workstation Support program enables the user to change the output format of a job simply by changing the forms subparameter on a SYSOUT DD statement. The program accomplishes this by inserting OCL or other data that has been loaded into its format library into the output data stream ahead of the SYSOUT data generated by the application program. The user specifies an output form name for the SYSOUT data set that is the same name as a member of the program's format library.

The following examples illustrate how the user can obtain different output formats for the same job using the forms subparameters corresponding to different members in the MVS/Information Distribution Workstation Support format library.

Obtaining a Draft Document

This process, as illustrated in Figure 3, is the same as submitting a job and receiving output, with a change in the JCL to obtain output in a draft format. This format is convenient for marking corrections and revisions to text, with wide interline spacing, a large right margin, line numbering, and one-side printing.

To obtain a draft document on an IBM 6670, the following steps occur in addition to the basic job input/output process:

1. The user specifies "DRAFT" for the forms subparameter in the JCL for the job and enters the job.
2. During execution, the MVS application program creates a SYSOUT data set containing the output.
3. When the MVS/Information Distribution Workstation Support program receives the output data set from the job entry subsystem, it finds the member DRAFT in its format library with the same name as the output form. The program copies the OCL data in the DRAFT member into the output data stream ahead of the SYSOUT data. The program then transmits the output to the IBM 6670.

4. The IBM 6670 formats and prints the output according to the OCL instructions that were copied from the DRAFT member. The OCL instructs the IBM 6670 to use the standards in stored format 101 on its diskette with the following changes:
 - Use type style 224 (Data 1/Rotated font)
 - Triple space output
 - Number every fifth line, starting with line 1 on each new page
 - Print the running head "DRAFT COPY" on each page

Figure 4 illustrates this output format for a draft document.

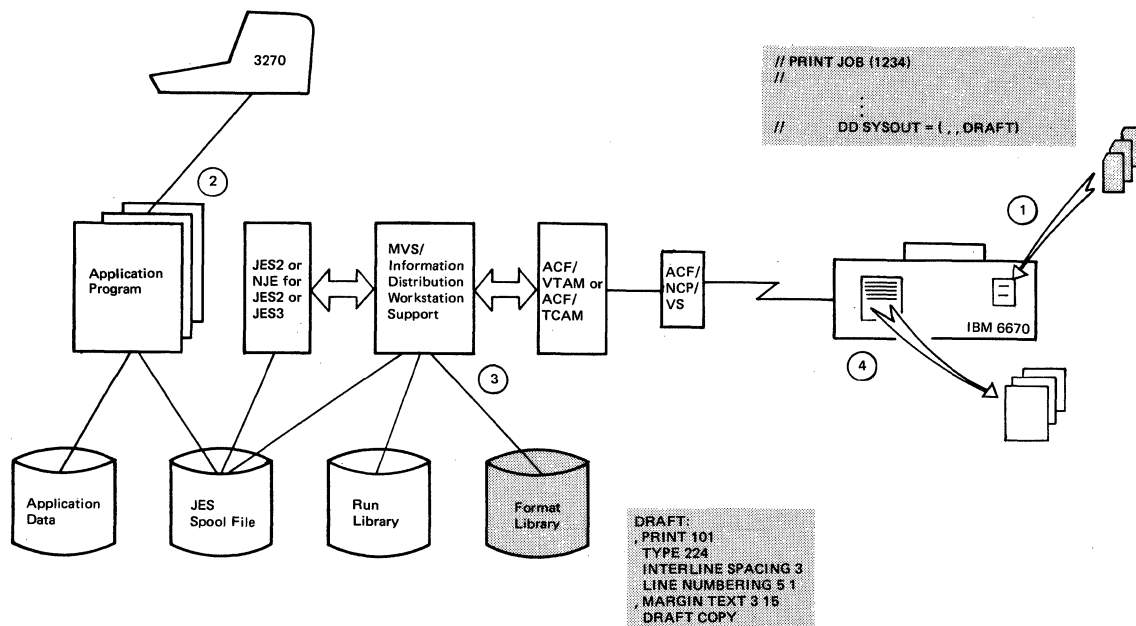


Figure 3. Obtaining a Draft Document

DRAFT COPY

5 The MVS/Information Distribution Workstation Support program product provides batch-oriented remote communication functions for the IBM 6670 Information Distributor with the systems network architecture (SNA) feature. The product provides transmission, routing, scheduling, command, and message functions that are specifically tailored to the features and communication protocols of the IBM 6670 and that support all data streams and media of the IBM 6770.

Highlights

- 10 Provides OS/VS2 MVS host support for the SNA version of the IBM 6670 Information Distributor
- Allows IBM 6670 users to access MVS application programs, such as the Document Composition Facility and the Document Library Facility for document processing and archiving
 - 15 - Allows MVS application program users to utilize the IBM 6670 for output
 - Allows users to combine variable data from an MVS data base with a standard document on the IBM 6670 to obtain personalized, repetitive letters in one operation
 - 20

Figure 4. Sample Output in Draft Form

Obtaining Final Copy

In this process, illustrated in Figure 5, the user submits the same job for output in a final format with the appearance of a typewritten or composed page. As in obtaining a draft document, the user follows the same basic job input/output process, changing the forms parameter on the SYSOUT DD statement to obtain output in a final format:

1. The user specifies "FINAL" for the forms subparameter in the JCL for the job and enters the job.
2. During execution, the MVS application program creates a SYSOUT data set containing the output.
3. This time, when the MVS/Information Distribution Workstation Support program receives the output data set from the job entry subsystem, it finds the member FINAL in its format library with the same name as the output form. The program copies the OCL data in the FINAL member into the output data stream ahead of the SYSOUT data. The program then transmits the output to the IBM 6670.
4. The IBM 6670 formats and prints this job output according to the OCL instructions that were copied from the FINAL member. This OCL instructs the IBM 6670 to change the stored format 101 standards as follows:
 - Use type style 160 (Essay standard font)
 - Single space output
 - Print the output on both sides of the page

Line numbers and running heads are not used in this copy.

Figure 6 illustrates the resulting final format.

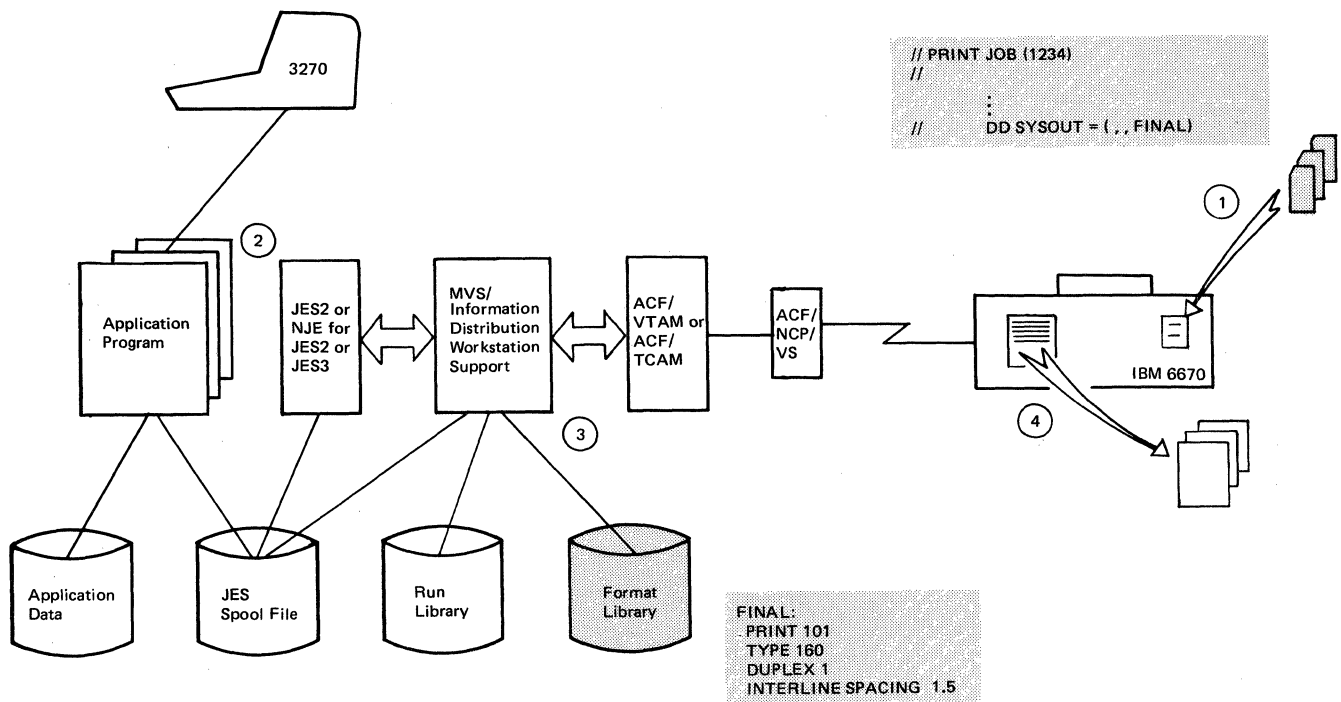


Figure 5. Obtaining Final Copy

The MVS/Information Distribution Workstation Support program product provides batch-oriented remote communication functions for the IBM 6670 Information Distributor with the systems network architecture (SNA) feature. The product provides transmission, routing, scheduling, command, and message functions that are specifically tailored to the features and communication protocols of the IBM 6670 and that support all data streams and media of the IBM 6770.

Highlights

Provides OS/VS2 MVS host support for the SNA version of the IBM 6670 Information Distributor

- Allows IBM 6670 users to access MVS application programs, such as the Document Composition Facility and the Document Library Facility for document processing and archiving
- Allows MVS application program users to utilize the IBM 6670 for output
- Allows users to combine variable data from an MVS data base with a standard document on the IBM 6670 to obtain personalized, repetitive letters in one operation

Extends MVS RJE support to the IBM 6670 by interfacing with JES2, NJE for JES2, or JES3

- Allows IBM 6670 users to utilize MVS facilities for work entry (OS JOB) and output processing (SYSOUT)

Figure 6. Sample Output in Final Format

Preparing a Presentation

This example shows a way in which the Time Sharing Option (TSO) can be used in combination with the IBM 6670 and the MVS/Information Distribution Workstation Support program, as illustrated in Figure 7. These devices are used here to produce transparencies for a presentation, along with handouts for the audience. The user prepares the source material using the EDIT facility of TSO. The user then sends the material to the IBM 6670 by using the TSO SUBMIT command to run two MVS jobs: one job to copy the prepared file and send it to the IBM 6670 for printing transparencies and one job to copy the prepared file and send it to the IBM 6670 to produce handouts.

The MVS/Information Distribution Workstation Support program is used to transmit the file. The program's format library is used to select the OCL needed to instruct the IBM 6670 to carry out the required tasks.

The steps in this job are:

1. The TSO user logs on to MVS, uses TSO EDIT to prepare the text of his presentation, and stores his file with a SAVE command. (In this example, there are no diagrams, although the Symbol font of the IBM 6670 can be used to prepare diagrams.)

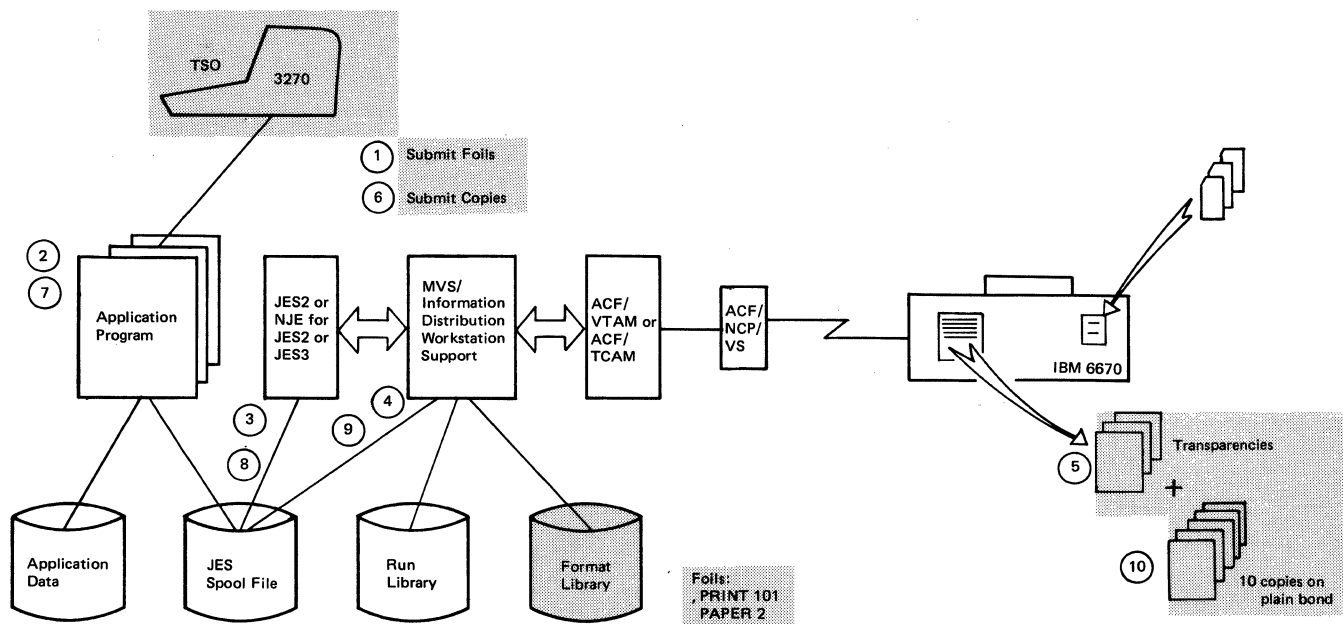


Figure 7. Preparing a Presentation Using TSO, the IBM 6670, and the MVS/Information Distribution Workstation Support Program

The TSO user then prepares an MVS job to copy his file to a SYSOUT file, specifying the IBM 6670 as the destination and FOILS as the forms subparameter on the SYSOUT DD statement, or he could use one of the MVS utilities, such as the IEBGENER utility to copy the file. The user then issues the TSO SUBMIT command for the job just prepared.

2. The job executes, and the file is copied.
3. The job entry subsystem routes the job output to the MVS/Information Distribution Workstation Support program.
4. The MVS/Information Distribution Workstation Support program inserts the OCL in the data set after checking the forms subparameter and finding the FOILS member in its format library. It transmits the prepared data set to the IBM 6670.
5. The IBM 6670 interprets the OCL and prints the output on transparency stock obtained from the alternate paper drawer.
6. The TSO user now prepares an MVS job to copy the presentation file to a SYSOUT file. He specifies the IBM 6670 as the destination and either the "COPIES" forms subparameter or COPIES=10, if the standard IBM 6670 setup is sufficient. He then issues the TSO SUBMIT command for the job just prepared.
7. Again, the job executes, and the file is copied.
8. The job entry subsystem routes the output data set to the MVS/Information Distribution Workstation Support program.
9. The MVS/Information Distribution Workstation Support program inserts the OCL from the COPIES member in the data set and transmits it to the IBM 6670.
10. The IBM 6670 formats the job output according to the OCL, prints 10 collated copies on plain bond, with each copy offset from the previous copy to allow easy separation.

Composing and Printing a Report from Different Sources

The MVS/Information Distribution Workstation Support program has a function designed to facilitate the submission of jobs to perform repetitive tasks, such as retrieving files from the MVS processor, using the processor to compose documents from MVS files, using the MVS communications capabilities to route files to other network nodes, and other tasks that may be defined by the installation. This function is invoked by the program's RUN command, which creates an MVS job using data that has been previously stored in the program's run library. Data in the run library can be specified to allow individual IBM 6670 users to supply parameters such as file names and output destinations. Through the RUN command the user also can supply data which is treated by the created job as a SYSIN data set.

In this example, the RUN command is used first to compose a report containing a mixture of host data and data submitted by the IBM 6670 user and then to transmit the composed report back to the IBM 6670 for printing. Figure 8 illustrates this process.

Assuming that the run library has been loaded with the COMPOSE member, the steps necessary to perform this task are:

1. The user enters the RUN command and associated data through the IBM 6670 magnetic card reader/recorder. The RUN command specifies the COMPOSE member of the run library, and the file parameter of that COMPOSE member is to be set to DEPT.REPORT. The data included with the RUN command is set off from the rest of the RUN command by the special MVS/Information Distribution Workstation Support program modifier DATA, which tells the program that the text following is not part of the RUN command, but data to be included in the generated job.

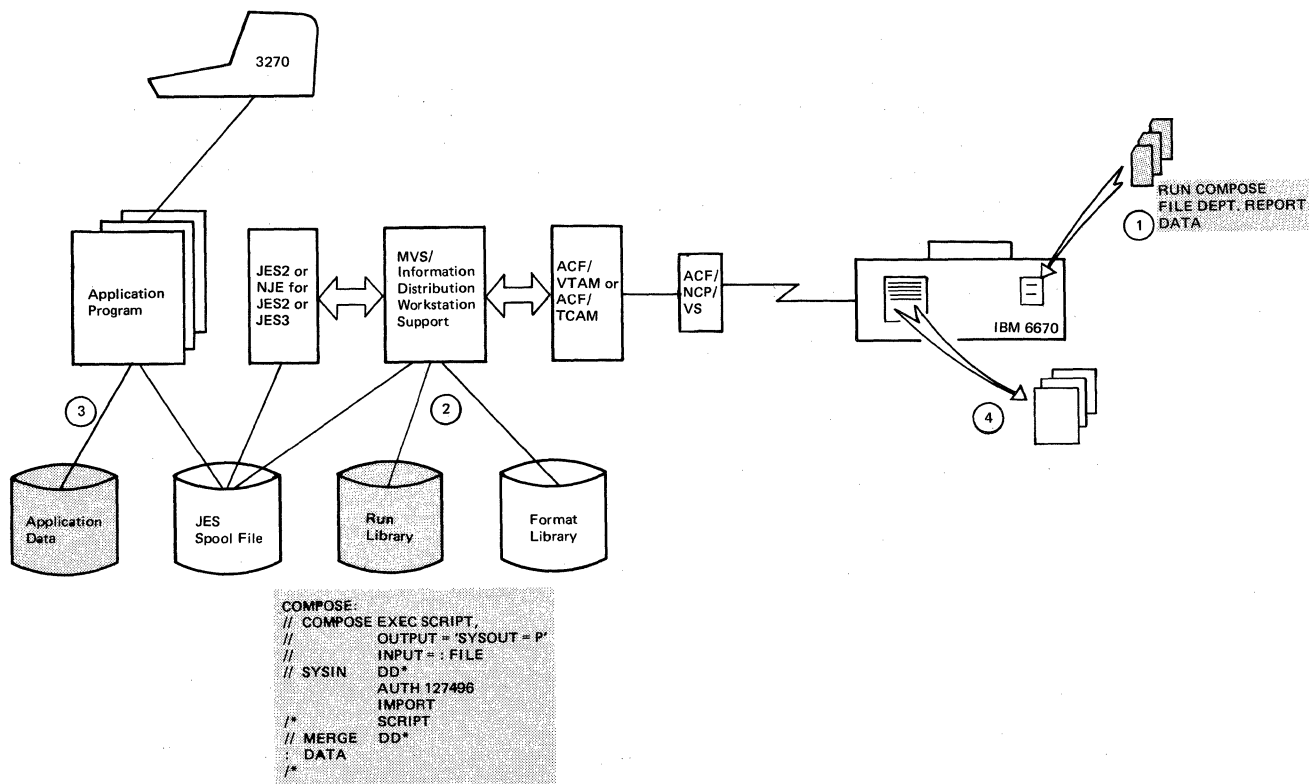


Figure 8. Composing and Printing a Report from Different Sources

2. When the MVS/Information Distribution Workstation Support program receives the RUN command from the IBM 6670, it searches the run library for a member with a matching name, it replaces parameters in the COMPOSE member with the parameters specified in the command ("FILE" is replaced by "DEPT.REPORT" in this example), copies the generated JCL into the input data stream, includes the data, and submits it as an MVS job to the job entry subsystem.
 Note that the JCL which is created by the program must reference existing application programs and MVS cataloged procedures. The RUN command does not create application programs, it only creates the JCL needed to execute them.
3. The MVS job that the MVS/Information Distribution Workstation Support program created from the RUN command is now executed. The data submitted by the user with the RUN command is combined with the data supplied by the MVS application program.
 This job output is routed by the job entry subsystem to the MVS/Information Distribution Workstation Support program. The program then transmits the output data set to the IBM 6670.
4. The IBM 6670 prints the composed report according to its stored format.

Chapter 4. PLANNING FOR THE PROGRAM

This chapter provides information to aid installation managers and system programmers in planning for the installation of the MVS/Information Distribution Workstation Support program and its efficient use in their data processing systems. The *MVS/Information Distribution Workstation Support Program Summary*, GC23-0036, provides additional information on the program's license, warranty, testing period, and program services.

PLANNING CONSIDERATIONS

The following subsections briefly describe what is required for the customer to add the MVS/Information Distribution Workstation Support program to an existing MVS system.

Preparing for Installation

To install the MVS/Information Distribution Workstation Support program on an existing MVS system, the user must place the program's object modules into an authorized library, must add the program's SYSOUT writer modules to the system link pack area, and must add a cataloged procedure for starting the program. He must also allocate direct access space for his program processing log and add any user exit modules to the program library. In addition, the user may wish to allocate data sets to contain commands for program initialization, OCL for forms processing, and JCL definitions for MVS jobs created by the program. The user must define to the job entry subsystem an extra remote terminal for each workstation that is defined to the MVS/Information Distribution Workstation Support program. If the number of defined terminals is increased, a JES2 cold start or a JES3 warm start is required.

Estimating Required Resources

This program product requires approximately 65,000 bytes of virtual storage, plus approximately 4,000 bytes of virtual storage for each attached workstation. Approximately 100,000 bytes of DASD space are required for program libraries. These requirements are in addition to the resources required by the pre-requisite programs.

MANAGING THE PROGRAM

The MVS/Information Distribution Workstation Support program provides features that aid in installation management. In addition to various commands the system owner can enter, the program provides flexibility in its starting cataloged procedure and collects accounting data for use with system management facilities.

Altering the Environment

The system owner can alter the MVS/Information Distribution Workstation Support program environment with the MVS MODIFY command. In addition, using JCL symbolic parameters in the cataloged procedure, the user can allow the program's starting environment to be varied when the MVS START command is issued. The user can allow such parameters as the parm field on the EXEC statement and the location field for the program's files on the DD statements to be varied.

The program is terminated with the MVS STOP command.

Performance Tuning

The MVS/Information Distribution Workstation Support program allows the user to alter values that can affect performance, such as buffer sizes, compression, and data selection parameters. These parameters can be altered during program initialization, session initialization, and document transmission. Parameters whose alteration can affect performance are:

- Number of JES internal readers used
- Number of output writers active simultaneously
- Number of workstations active simultaneously
- Whether or not to use compression for a given terminal
- Buffer size used to communicate with a given terminal
- Trace options to use and which trace points are to be active

The program collects data to aid the installation manager or system programmer in maximizing program performance in a specific environment.

The TRACE and DUMP commands are used to provide performance and error diagnostics. The TRACE command specifies MVS/Information Distribution Workstation Support program trace options and parameters, and the DUMP command dumps the program or displays the program control blocks.

System Management Data

The program interfaces with the system management facilities (SMF) to provide accounting data for installation management. In collecting data for SMF records, the program records the following:

- Time and date of program start
- Time and date of program stop
- Size of each transmitted data set, when it was transmitted, and the job name/account number requesting the transmission
- Each signon from a workstation
- Each signoff from a workstation
- Each unsuccessful attempt to sign on to the program from a workstation

Supporting Publications

The *MVS/Information Distribution Workstation Support Program Summary*, GC23-0036, is currently available.

The following publications will be available at the time that the MVS/Information Distribution Workstation Support program is released:

- *MVS/Information Distribution Workstation Support Licensed Program Specifications*, GC23-0035
- *MVS/Information Distribution Workstation Support System Programming Library*, SC23-0032
- *MVS/Information Distribution Workstation Support Commands and Messages*, SC23-0033
- *MVS/Information Distribution Workstation Support Program Logic Manual*, LY24-6003

INDEX

,SEND command, OCL 10

access

- customer-written function 8
- output on IBM 6670 3
- SYSOUT data set 2
- System/370 processing 6
- terminal 3

Advanced Communications Function for the Network Control Program/VS (ACF/NCP/VS) 1, 4

Advanced Communications Function/Telecommunications

Access Method (ACF/TCAM) 1, 4

Advanced Communications Function/Virtual Telecommunications Access Method (ACF/VTAM) 1, 4

ALTER command 9

altering program environment 20

application program (*see* MVS)

automatic logon/logoff 7

batch facility 7

CANCEL command 9

carriage controls 4

cataloged procedure 19, 20

command

- ALTER 9
- authority, types of 9
- CANCEL 9
- DUMP 20
- EXPEDITE 9
- IDENTIFY 9
- input processing 7
- LOGOFF 2
- LOGON 2
- MESSAGE 9
- MODIFY, MVS 20
- OBTAIN 9
- operator control language (OCL) 5
- RESUME 9
- RUN 7, 9
- SAVE, TSO 16
- START
 - MVS/Information Distribution Workstation Support 9
 - MVS 20
- STATUS 9
- STOP
 - MVS/Information Distribution Workstation Support 9
 - MVS 20
- SUBMIT, TSO 17
- SUSPEND 9
- TRACE 20
- types of 3

communication (*see* remote communication; user communication; command)

communications adapter, IBM 6670 4

communications subsystem, coordination of 9

condensed format printing 5, 6, 13

configuration, system 2

control panel, IBM 6670 4, 10

copier, IBM 6670 5, 6

correspondence 3

customer-written function, access to 8

data processing

IBM 6670 workstation 4

System/370 host processor 6

data security 2, 3

data set

concatenation 7

selection 8

SYSIN 7

SYSOUT 2, 3, 8, 11

data collection, for system management 20

Data 1/Rotated font, sample of 13

DATA modifier, RUN command 17

destination names 3, 17

direct access storage device (DASD), required space 19

diskette, IBM 6670 4-5

distribution, document 7

documents 1, 3, 12-18

Document Composition Facility 3, 6

Document Library Facility 3, 6

DUMP command 20

EDIT facility of TSO, example of use 16

Essay standard font, sample of 15

environment

operating 1-2

alteration of 20

error diagnostics 20

exits, user 3, 8

EXPEDITE command 9

format, printing on IBM 6670 6, 13, 15

formatting

by OCL on stored formats 5

examples of 12-15

text received from communications 4-5

forms subparameter 7, 11, 17

function management 7-8

function manager 8

general user, command authority 9

handout, example of preparation 16

host data, use 17

host support 1, 6

IDENTIFY command 9

initialization parameters

IBM 6670 defined in 4

session initiation/termination 7

input

batch-oriented 7

commands 3

OS job 3

processing 7

installation management 19

installation planning 19

interface

communications 8

JES internal reader (INTRDR) 7-8

JES process SYSOUT (PSO) 7-8

System Management Facility (SMF) 20

interrupted function, IBM 6670 6

- JCL (job control language)
 - forms subparameter 7, 11, 17
 - input on magnetic card reader/recorder 8, 10
 - referencing application program 18
 - specification by user 6
 - symbolic parameters in cataloged procedure 20
 - translation 10
- JES2 (Job Entry Subsystem 2)
 - definition of IBM 6670 workstations 19
 - internal reader interface 8
 - process SYSOUT interface 8
 - required program 1
- JES3 (Job Entry Subsystem 3)
 - definition of IBM 6670 workstations 19
 - internal reader interface 8
 - process SYSOUT interface 8
 - required program 1
- job
 - creation by RUN command 7, 17-18
 - input 7
 - input/output process 10-11
 - OS/VS2 MVS 3, 6
 - specification by user 6
- job entry subsystem (JES) 7, 10
(see also JES2; JES3; NJE for JES2)
- key, data owner 3, 7
- key-protected job output 3, 9
- letterhead paper 6
- letters 3
- libraries, required space for 19
- lines
 - switched and nonswitched 4
 - synchronous data link control (SDLC) 1
- logoff request 7
- LOGOFF command 2
- logon request 7
- LOGON command 2
- LOGON password 3
- machine requirements
 - IBM System/370 1
 - IBM 3705 Communications Controller 1
 - IBM 6670 Information Distributor 1
- magnetic card reader/recorder
 - entering data 3, 8
 - recording received data 5
 - transmitting data 4
- managing the program 19-20
- message, command routing as 7
- MESSAGE command 9
- modem, separate or integrated on IBM 6670 4
- MODIFY command, MVS 20
- MVS
 - application programs 3, 6
 - data base 1, 17
 - job creation with RUN command 17
 - job queue 7
 - MODIFY command 20
 - remote job entry 1
 - START command 20
 - STOP command 20
 - utilities, example of use 17
- network control program (ACF/NCP/VS) 1, 4
- Network Job Entry Facility for JES2 (NJE for JES2)
 - definition of IBM 6670 workstations 19
 - internal reader interface 8
 - process SYSOUT interface 8
 - required program 1
- OBTAIN command 9
- OCL (operator control language)
 - communications control 4
 - formatting, examples of 12
 - separate from document 7
 - text processing 5
- offset masters 6
- OS job 3, 6
- OS/VS2, required program 1
- output
 - classes 3
 - destination 3
 - formatting 11
 - key-protected 3, 9
 - routing 3
 - spooled 7
 - SYSOUT data sets 3
- owner key 3, 7
- owner, job and data 6
- parameters, altering 20
- performance tuning 20
- planning for installation 19-20
- presentation, example of preparation 14
- printing, IBM 6670
 - application program output 3
 - computer output 6
 - description of 4-6, 17
- profile, workstation 7-8
- program libraries, required space 19
- program requirements
 - ACF/NCP/VS 1
 - ACF/TCAM 1
 - ACF/VTAM 1
 - JES2 1
 - JES3 1
 - NJE for JES2 1
 - OS/VS2 1
- protocol
 - binary synchronous control (BSC) 4
 - systems network architecture (SNA) 1, 4
- publications 19, 22
- queues 3, 9
- reference material 19, 22
- remote communication
 - functions 3
 - MVS application program output printing 3
 - sessions 2, 7-8
 - terminal 4
- remote job entry (RJE) 1
(see also JES2; JES3; NJE for JES2)
- repetitive tasks, program performance of 17
- report, example of composing 17
- required programs
 - ACF/NCP/VS 1
 - ACF/TCAM 1

required programs (continued)

- ACF/VTAM 1
- JES2 1
- JES3 1
- NJE for JES2 1
- OS/VS2 1
- Resource Access Control Facility (RACF) 2
- RESUME command 9
- run library 7, 17
- RUN command 7, 9, 17
- SAVE command, TSO 16
- security
 - system 2
 - data 3
- session
 - communications interface connection 8
 - initiation/termination manual 2, 7
 - automatic 2, 7
- SNA (systems network architecture)
 - communications subsystem 2-3
 - feature of IBM 6670 1
 - function management 8
 - protocol 1, 4
- spooled output 7, 10
- START command 9
- statistics, collection 20
- STATUS command 9
- START command
 - MVS/Information Distribution Workstation Support 9
 - MVS 20
- STOP command
 - MVS/Information Distribution Workstation Support 9
 - MVS 20
- stored formats
 - description of 4-6
 - example of use 12-16
- SUBMIT command, TSO 16
- SUSPEND command 9
- SYSIN data
 - data supplied with RUN command 17
 - no program translation of 10
- SYSOUT data sets
 - controlling access 2
 - function management for 8
 - output form name, to specify output format 11
 - routing 3

System/370

- host support 1, 6
- models supported 4
- system integrity 2
- system management 20
- system management facilities (SMF) 20
- system owner, command authority 9
- system printers 3
- system output classes 3
- text format printing, IBM 6670 6
- text processing
 - application program 6
 - IBM 6670 5
- Time Sharing Option (TSO), example of use 14, 16
- trace options 20
- TRACE command 20
- translation of JCL 10
- transmission
 - interruption by IBM 6670 copier 6
 - operation of IBM 6670 4
 - with text processing 5
- transparencies, example of preparation 14
- type style
 - Data 1/Rotated, sample of 13
 - Essay standard, sample of 15
 - feature of IBM 6670 5
- user commands, types of 8-9
- user communication 6, 8
- user exits 3, 8
- varying fields in JCL 20
- virtual storage required 19
- word processing
 - application program 10
 - IBM 6670 3-4, 10
- workstation 4, 7-8
- workstation controller, command authority 9
- 3705 Communications Controller 1, 4
- 6670 Information Distributor
 - defined in initialization parameters 4
 - description of 4-7
 - maximum number of workstations supported 1

This form may be used to communicate your views about this publication. They will be sent to the author's department for whatever review and action, if any, is deemed appropriate. Comments may be written in your own language; use of English is not required.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

Note: *Copies of IBM publications are not stocked at the location to which this form is addressed. Please direct any requests for copies of publications, or for assistance in using your IBM system, to your IBM representative or to the IBM branch office serving your locality.*

Possible topics for comment are:

Clarity Accuracy Completeness Organization Coding Retrieval Legibility

If you wish a reply, give your name and mailing address:

Note: Staples can cause problems with automated mail sorting equipment.
Please use pressure sensitive or other gummed tape to seal this form.

What is your occupation? _____

Number of latest Newsletter associated with this publication: _____

Thank you for your cooperation. No postage stamp necessary if mailed in the U.S.A. (Elsewhere, an IBM office or representative will be happy to forward your comments or you may mail directly to the address in the Edition Notice on the back of the title page.)

Reader's Comment Form

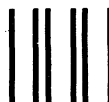
Cut or Fold Along Line

Information Distribution Workstation Support General Information M (S370/30//5740-AMA) Printed in U.S.A. GC23-0031-0

Fold and tape

Please Do Not Staple

Fold and tape



No Postage
Necessary
If Mailed
in the
United States

BUSINESS REPLY MAIL

First Class Permit No. 40 Armonk, N.Y.



POSTAGE WILL BE PAID BY ADDRESSEE

International Business Machines Corporation
Department 6F5
18100 Frederick Pike
Gaithersburg, Maryland 20760

Fold and tape

Please Do Not Staple

Fold and tape



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601