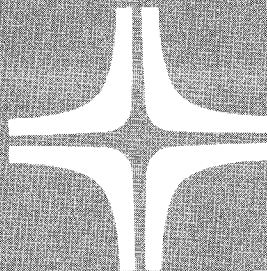


Information Management System (IMS)

OS/3



Introduction

This document contains the latest information available at the time of preparation. Therefore, it may contain descriptions of functions not implemented at manual distribution time. To ensure that you have the latest information regarding levels of implementation and functional availability, please consult the appropriate release documentation or contact your local Sperry Univac representative.

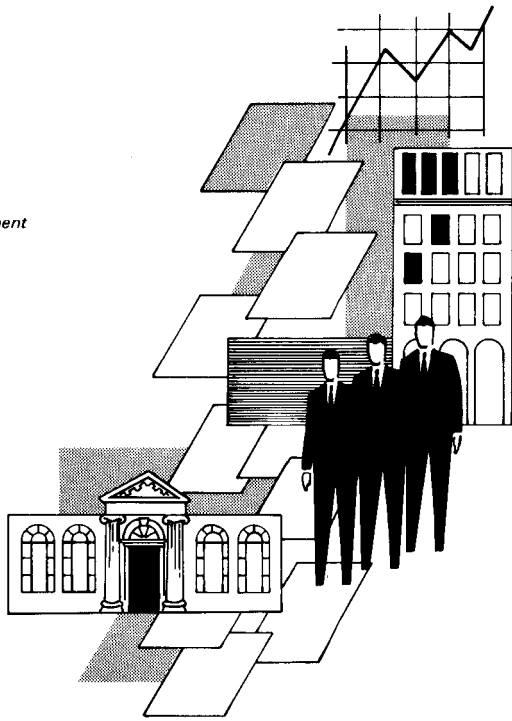
Sperry Univac reserves the right to modify or revise the content of this document. No contractual obligation by Sperry Univac regarding level, scope, or timing of functional implementation is either expressed or implied in this document. It is further understood that in consideration of the receipt or purchase of this document, the recipient or purchaser agrees not to reproduce or copy it by any means whatsoever, nor to permit such action by others, for any purpose without prior written permission from Sperry Univac.

Sperry Univac is a division of Sperry Corporation.

FASTRAND, SPERRY UNIVAC, UNISCOPE, UNISERVO, and UNIVAC are registered trademarks of the Sperry Corporation. AccuScan, ESCORT, PAGEWRITER, PIXIE, and UNIS are additional trademarks of the Sperry Corporation.

This document was prepared by Systems Publications using the SPERRY UNIVAC UTS 400 Text Editor. It was printed and distributed by the Customer Information Distribution Center (CIDC), 555 Henderson Rd., King of Prussia, Pa., 19406.

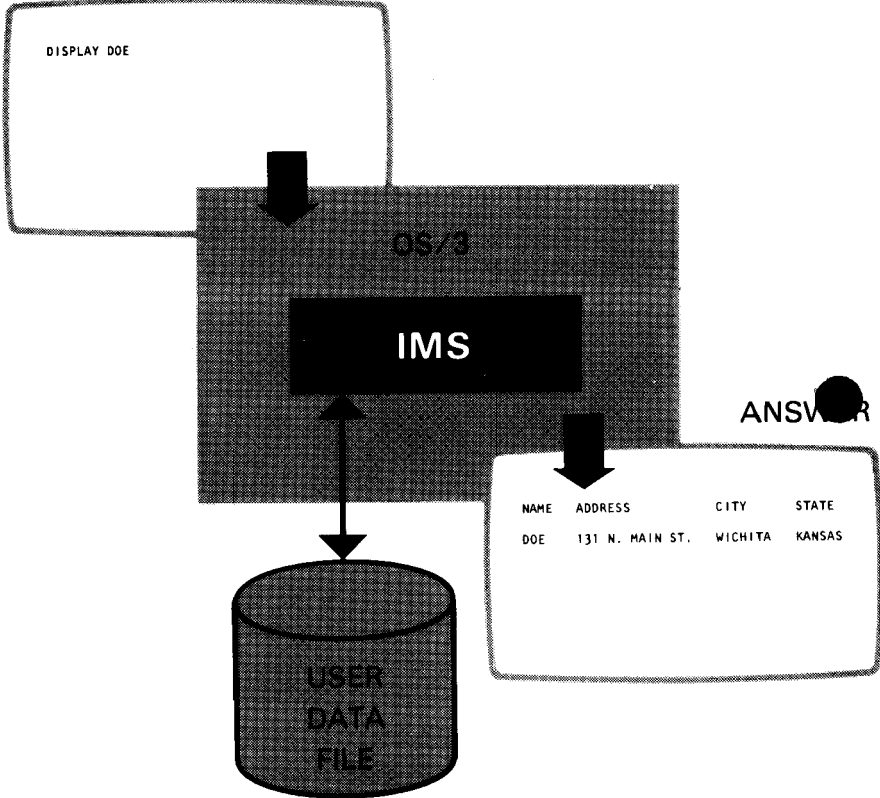
Banking
Schools
Colleges
Hospitals
Insurance
Personnel Management
Sales Analysis
Sales Management
Credit
Inventory Control
Production Control
Order Entry
Government
Mass Media
Brokerages



If one of your employees in another state, another town, or only another room asked for certain information from the central files, how long would it take to get an answer? an hour? a minute? how about a few seconds? With the SPERRY UNIVAC Information Management System, this eye-blink response is possible.

QUESTION-AND-ANSWER DIALOG

QUESTION



what is IMS?

The SPERRY UNIVAC Information Management System (IMS) is an interactive, transaction-oriented file processing system that accesses your data files via a simple inquiry/update language. IMS is interactive because it maintains a question-and-answer dialog with the terminal operator. It is transaction-oriented because all processing is triggered by input messages. For each question (input message) submitted, the terminal operator receives an answer (output message) so that he is quickly and constantly informed of the results of his inquiries.

what does IMS offer?

IMS IS EASY TO USE. IMS was designed with you in mind. It handles a wide range of applications, and you need not have special knowledge of computers. Anyone can request data at a terminal; however, IMS provides file security and protection against files being inadvertently destroyed or accessed by unauthorized personnel.

IMS IS FLEXIBLE. IMS expands to support your communications network as your network expands. It provides an inquiry language for general-purpose file processing, and it supports specialized file processing via application programs written in COBOL, RPG II, or basic assembly language (BAL).

IMS SUPPORTS INTERACTIVE TERMINALS. You can use a full range of display and hard-copy terminals as well as local workstations with IMS.

IMS PROVIDES STARTUP/SHUTDOWN PROCEDURES AND RESTART/RECOVERY SUPPORT. An audit capability speeds restart and recovery. When a transaction terminates in error or is cancelled by an operator, IMS automatically restores any file modified before termination. In addition, IMS provides offline recovery utilities.

IMS IS CONFIGURABLE. You can tailor IMS to fit your specific information processing needs on a small or large system.

IMS SIMPLIFIES PROGRAMMING. You need not write communications or file accessing programs because IMS handles those functions.

IMS OFFERS UNIQUE. The Uniform Inquiry Update Element (UNIQUE) is the set of file processing programs that Sperry Univac supplies with IMS. UNIQUE simplifies your file processing. You sit down at a terminal and issue commands to process your files and let UNIQUE do the rest.

IMS PROCESSES MULTIPLE TRANSACTIONS CONCURRENTLY. You can enter input messages from several different terminals, and IMS will process them concurrently.

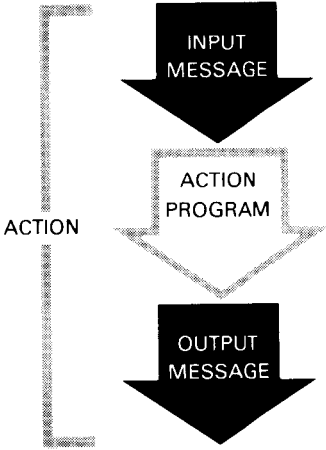
IMS PROVIDES A BATCH PROCESSOR. It accepts transactions from punched cards, disks, or diskettes. It also tests new transactions and prints your files in addition to updating files at terminals.

move into action with . . . actions, transactions, and action programs

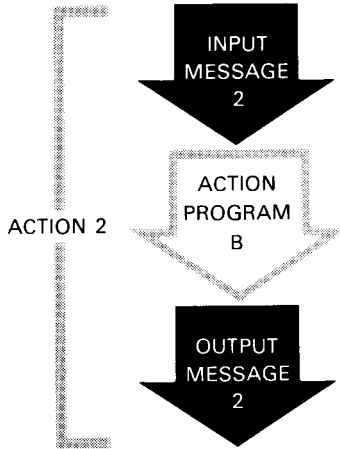
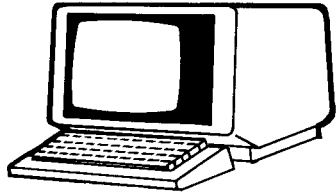
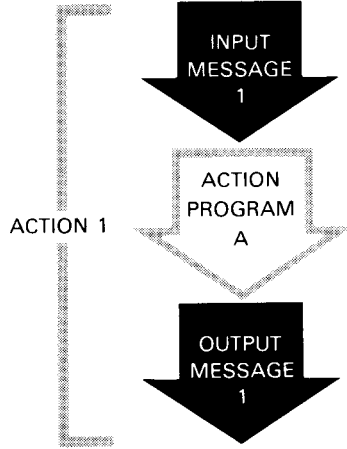
The basic unit of work in IMS is the *action*. An action begins when you enter a message from a terminal and ends when a response to your message appears on a terminal. Input messages are processed by application programs you write or that IMS supplies. These application programs are called *action programs*, and you can write them in COBOL, RPG II, and BAL. The IMS set of action programs is called UNIQUE.

Transactions consist of one action or a sequence of related actions. Transactions can be simple or dialog. A simple transaction consists of a single action. Dialog transactions consist of two or more related actions.

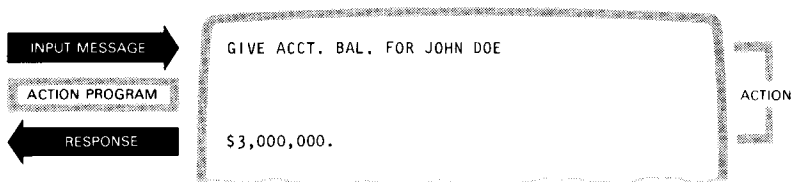
SIMPLE TRANSACTION



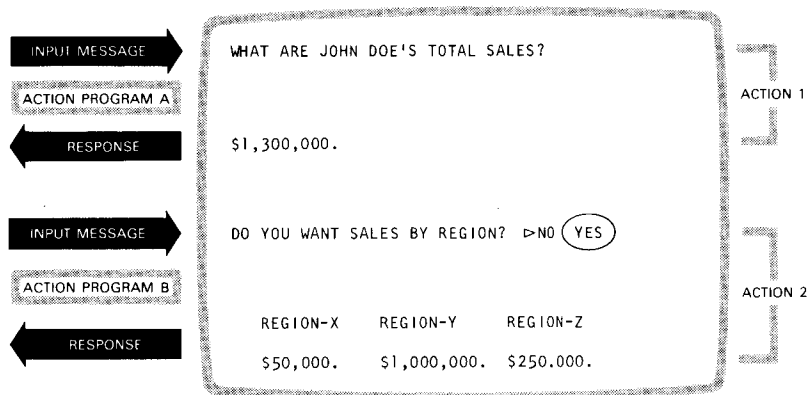
DIALOG TRANSACTION



EXAMPLE OF SIMPLE TRANSACTION

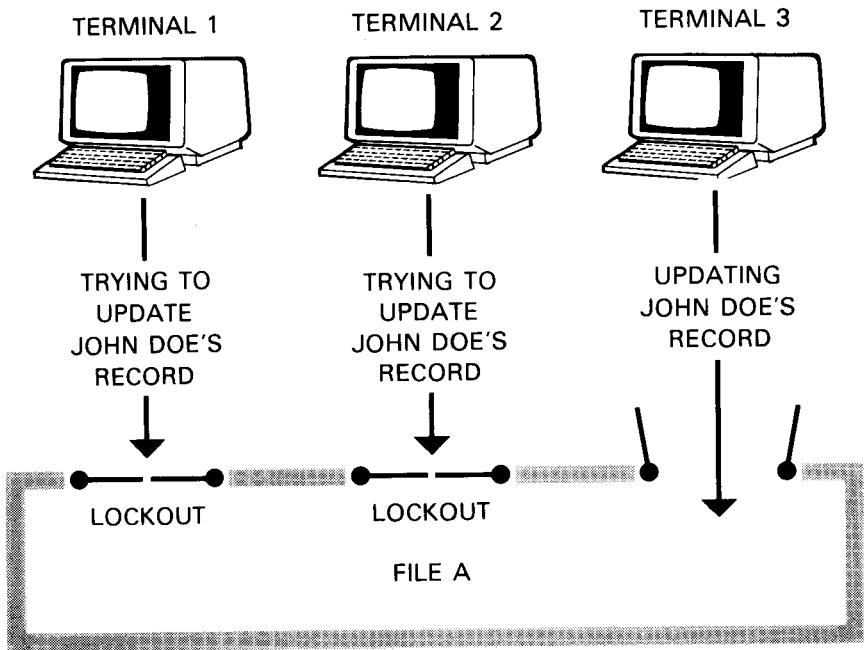


EXAMPLE OF DIALOG TRANSACTION



IMS can process transactions from a number of different terminals concurrently. Only one transaction at a time can update a given record. When two or more terminal operators are trying to access the same file, your files are fully protected by a record lockout facility. When updating is complete, the lock is released and other transactions may access the record.

RECORD LOCKOUT FACILITY



use UNIQUE to simplify message processing

UNIQUE is the set of action programs within IMS that provides a standard file inquiry and update capability to online terminal operators. UNIQUE commands are flexible and easy to learn. By keying in various commands at a terminal, you direct IMS to manage your files. The UNIQUE command you key in depends on the information you're looking for.

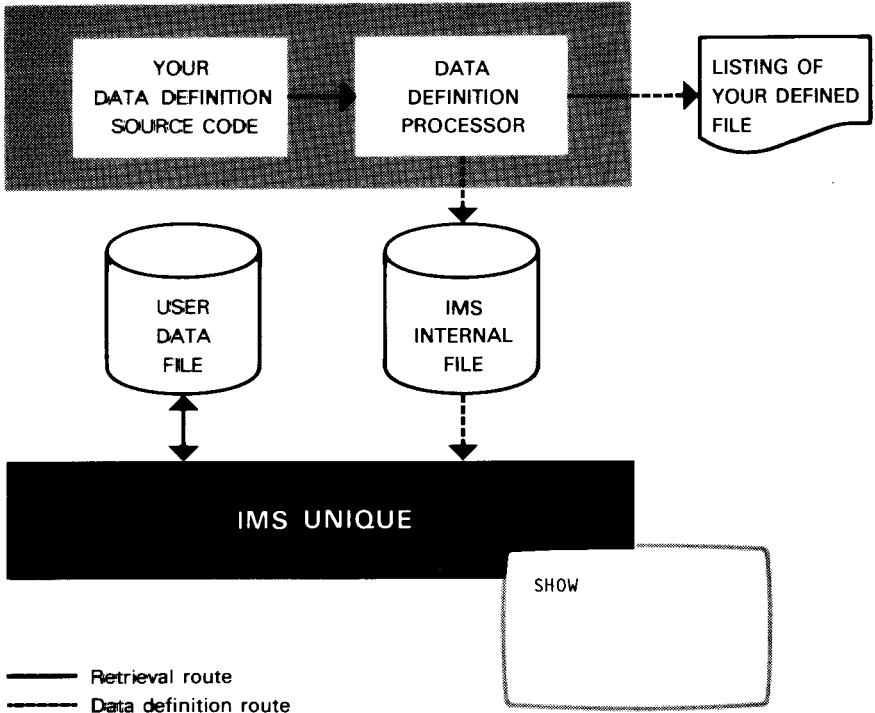
Your UNIQUE command is processed by one or more UNIQUE action programs, which access your data files and then return an output (response) message to you. This simplifies your message processing by giving this responsibility to UNIQUE instead of your action programs.

define your data

If you use UNIQUE, you must define a logical file, called a *defined file*, that you access with UNIQUE. Using your data definition, IMS extracts data from your disk files during access and treats this data as the defined file. To describe a defined file to IMS, you use COBOL-like statements. The data definition processor processes your file definition and creates the data definition that IMS uses at run time. You can protect your defined files by using passwords. Only persons knowing the password can access the files that are protected.

If you write your own application programs to process input messages, you have an option to access your data via a data definition or access your data files directly.

DATA DEFINITION COMPILES YOUR DATA DEFINITION AND PRODUCES A LISTING



USING UNIQUE, YOU CAN DISPLAY THE
DEFINED FILE AT A TERMINAL.

use terminal commands to control the IMS system

You need a means to operate and control this powerful file processing tool. Two sets of terminal commands provided by IMS give you this capability. One set of terminal commands for user terminals resolves various administrative or operational problems, such as cancelling current transactions or suspending output to a terminal temporarily not ready to receive it. Another set of terminal commands for master terminals assists in monitoring the system and controlling the IMS network. Some of the operations that master terminal commands perform include opening and closing files, bringing terminals online or down, and testing a terminal to determine if it is ready to receive output.

One useful application of terminal commands is that you can tell IMS to send messages to other terminals or to printers connected to those terminals.

In addition, you can place your terminal in test mode and issue inquiry and update commands without actually updating your files. This feature is extremely useful as a training aid for introducing new terminal operators to IMS.

configure IMS

What configuration should your system have? What are your requirements? When you determine what configuration meets your needs, you specify your system requirements as parameter values, which become source input to the IMS configurator program.

In your configuration, you define the SPERRY UNIVAC Integrated Communications Access Method (ICAM) network that will support your IMS system, and you can select optional IMS modules as needed. For each data file accessed by IMS, you describe format, sizes, and other file options. In addition, you identify and define all terminals used in your IMS system. If you use your own action programs, you must also identify and describe them in your configuration.

You can choose from or default to a large group of parameters to configure your IMS system. This gives you the advantage of tailoring the IMS system you need.



ask IMS your questions

When you have configured your IMS system, you are ready to go online. To do this, you execute your configured IMS system like any other program. Now, you are ready to process transactions using UNIQUE or your action programs.



Suppose you want to use UNIQUE to obtain data from a defined file called CITY. You can use the UNIQUE LIST command alone to display all of the records, or you can specify the LIST command with selected records or parts of records for display on your terminal. What is actually displayed depends on data you supply along with the command. For example, you may want to display specific elements of a file or select records by the results of comparisons. Thus, the display may start with a specific record or it may first require that certain statistical functions be calculated.

Assume that the defined file CITY contains such items as the city name, city population, state name, state population, capital city name, and capital population. You open the file with the OPEN command, followed by the LIST command:

```
OPEN CITY
LIST
```

These two commands display the following data:

```

                                     >MORE LIST
*CITY      CITY-POP  STATE      STATE-POP  CAPITAL    CAP-POP
*ABILENE   88,433    TEXAS      11,196,730 HOUSTON    1,232,802
*ABINGTON  8,594      PENNSYLVANIA 11,793,909 HARRISBURG 68,061
*AKRON     273,266    OHIO       10,652,017 COLUMBUS   540,025
*ALAMEDA   66,031     CALIFORNIA 19,953,134 SACRAMENTO 257,105
```

On the upper right-hand corner of your screen is MORE LIST. This is automatically supplied by IMS - it tells you that there is more data in the response than is shown on the screen. If you want to see the additional data, press the TRANSMIT button and you'll get the next screenful of data:

*CITY	CITY-POP	STATE	STATE-POP	CAPITAL	CAP-POP
*ALTOONA	62,900	PENNSYLVANIA	11,793,909	HARRISBURG	68,061
*ANN ARBOR	99,979	MICHIGAN	8,875,083	LANSING	131,546
*ARVADA	46,814	COLORADO	2,207,259	DENVER	514,678

▷END LIST◁

Maybe you're only interested in the capital city of the state of Ohio and its population. Key in:

```
OPEN CITY
LIST CAPITAL, CAP-POP IF STATE=OHIO
```

IMS responds with:

*CITY	CAPITAL	CAP-POP
*AKRON	COLUMBUS	540,025

Suppose you want to look at one city record. Key in the UNIQUE OPEN command and the DISPLAY command:

```
OPEN CITY  
DISPLAY ALAMEDA 7
```

The response appears at the terminal and looks like this:

CITY	CITY-POP	STATE	STATE-POP	CAPITAL	CAP-POP
ALAMEDA	66,031	CALIFORNIA	19,953,134	SACRAMENTO	257,105

If you do not need other information at this time, key in the CLOSE command. IMS replies CLOSE COMPLETE and terminates the transaction.

```
CLOSE 7  
CLOSE COMPLETE
```

summary

IMS is the total information tool. Its ease and flexibility of use combined with response speed and accuracy make it an indispensable part of any efficient information system.

