900 Series HP 3000 Computer Systems

MPE/iX Glossary of Terms & Acronyms

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Preface

This manual is written to serve a wide range of users of the MPE/iX documentation set, from the occasional MPE/iX user, to the experienced system manager.

Note

MPE/iX, Multiprogramming Executive with Integrated POSIX, is the latest in a series of forward-compatible operating systems for the HP 3000 line of computers.

In HP documentation and in talking with HP 3000 users, you will encounter references to MPE XL, the direct predecessor of MPE/iX. MPE/iX is a superset of MPE XL. All programs written for MPE XL will run without change under MPE/iX. You can continue to use MPE XL system documentation, although it may not refer to features added to the operating system to support POSIX (for example, hierarchical directories).

Finally, you may encounter references to MPE V, which is the operating system for HP 3000s, not based on the PA-RISC architecture. MPE V software can be run on the PA-RISC (Series 900) HP 3000s in what is known as *compatibility mode.*

The information in this manual is presented as follows:

- Chapter 1 of this book contains a glossary of terms defining many Hewlett-Packard specific and industry-wide terms. In some cases, there may be references to terms associated with a previous Hewlett-Packard operating system, MPE V. Those terms are only useful to MPE V users who have migrated to MPE/iX.
- Many acronyms and abbreviations are used in discussing computer products and processes. Chapter 2 of this book provides a list of acronyms and abbreviations and identifies the meaning for each (the complete definition of each is provided in the Glossary of Terms, chapter 1).

Conventions

`UPPERCASE` In a syntax statement, commands and keywords are shown in uppercase characters. The characters must be entered in the order shown; however, you can enter the characters in either uppercase or lowercase. For example:

```
COMMAND
```

can be entered as any of the following:

```
command        Command        COMMAND
```

It cannot, however, be entered as:

```
comm           com_mand       comamnd
```

italics In a syntax statement or an example, a word in italics represents a parameter or argument that you must replace with the actual value. In the following example, you must replace *filename* with the name of the file:

`COMMAND` *filename*

bold italics In a syntax statement, a word in bold italics represents a parameter that you must replace with the actual value. In the following example, you must replace ***filename*** with the name of the file:

`COMMAND(`***filename***`)`

punctuation In a syntax statement, punctuation characters (other than brackets, braces, vertical bars, and ellipses) must be entered exactly as shown. In the following example, the parentheses and colon must be entered:

(*filename*):(*filename*)

underlining Within an example that contains interactive dialog, user input and user responses to prompts are indicated by underlining. In the following example, yes is the user's response to the prompt:

```
Do you want to continue? >>  yes
```

`{ }` In a syntax statement, braces enclose required elements. When several elements are stacked within braces, you must select one. In the following example, you must select either `ON` or `OFF`:

`COMMAND` $\left\{ \begin{matrix} \texttt{ON} \\ \texttt{OFF} \end{matrix} \right\}$

`[ ]` In a syntax statement, brackets enclose optional elements. In the following example, `OPTION` can be omitted:

`COMMAND` *filename* `[OPTION]`

When several elements are stacked within brackets, you can select one or none of the elements. In the following example, you can select `OPTION` or *parameter* or neither. The elements cannot be repeated.

`COMMAND` *filename* $\left[\begin{matrix} \texttt{OPTION} \\ \textit{parameter} \end{matrix} \right]$

`[ ... ]` In a syntax statement, horizontal ellipses enclosed in brackets indicate that you can repeatedly select the element(s) that appear within the immediately preceding pair of brackets or braces. In the example below, you can select *parameter* zero or more times. Each instance of *parameter* must be preceded by a comma:

`[,`*parameter*`][...]`

In the example below, you only use the comma as a delimiter if *parameter* is repeated; no comma is used before the first occurrence of *parameter*:

`[`*parameter*`][,...]`

`| ... |` In a syntax statement, horizontal ellipses enclosed in vertical bars indicate that you can select more than one element within the immediately preceding pair of brackets or braces. However, each particular element can only be selected once. In the following example, you must select **`A, AB, BA`**, or **`B`**. The elements cannot be repeated.

$$\left\{ \begin{matrix} \texttt{A} \\ \texttt{B} \end{matrix} \right\} \texttt{| ... |}$$

`...` In an example, horizontal or vertical ellipses indicate where portions of an example have been omitted.

`Δ` In a syntax statement, the space symbol `Δ` shows a required blank. In the following example, *parameter* and *parameter* must be separated with a blank:

`(`*parameter*`)Δ(`*parameter*`)`

`[ ]` The symbol `[ ]` indicates a key on the keyboard. For example, [RETURN] represents the carriage return key or [Shift] represents the shift key.

[CTRL]*character* [CTRL]*character* indicates a control character. For example, [CTRL]`Y` means that you press the control key and the Y key simultaneously.

Contents

1

Glossary of Terms

This chapter contains a glossary of terms defining many Hewlett-Packard-specific and industry-wide computer terms.

The term appears in bold type in the left column. The definition for the term appears in the right column. If a term has more than one definition, they are listed in numerical sequence. The numbering does not imply order of importance.

abort
A procedure that terminates a program or session if an irrecoverable error, mistake, or malfunction occurs, or if the system manager requests termination.

access
The process of obtaining data from files or acquiring the use of a device. Access implies an input/output (I/O) operation and is used as a synonym for I/O.

access codes
Access codes are assigned by the system manager to accounts and by the account manager to groups, and users. Access codes specify which users have the ability to read, write, append, lock, or execute a given file.

access control definitions (ACDs)
An ACD is how the owner of a file defines *who* can do *what* with the file. ACDs take precedence over other access controls namely the MPE file access matrix and lockwords. The types of access are read (R), write (W), append (A), lock (L), execute (X), none (NONE), and read and copy the ACD permission file (RACD).

access method
The way in which data is moved between main storage and input/output devices.

access port (AP)
The MPE/iX system console interfaces the host system through the access port (AP) located in the channel I/O (CIO) section of the system card cage. The AP provides a user support interface for issuing hard and soft resets through software commands from the console. It allows a remote console to be enabled and to switch between console and session modes.

access rights field (ARF)
A field containing the type of memory access. It is compared with the user's privilege level to determine if the type of access the user is requesting (READ, WRITE, EXECUTE, or GATEWAY) is allowed for that page of memory.

account
A collection of users and groups. Each account has a unique name on the system. It is the method used to organize a system's users and files and track use of system resources such as central processor time, online connect time, and file space. Accounts are the principal billing entity for the use of these resources. Every user must specify an account to access the system.

account level security
The types of file access assigned by the system manager to the account when it is created. The types of access are READ, LOCK, APPEND, WRITE, and EXECUTE, abbreviated R, L, A, W, and X respectively. They may be assigned to any user (ANY), members of the account only (AC), or members of the group only (GU). The types of file access permitted are the first level of system security. The account manager may further restrict groups and users within an account by assigning them a limited set of file access modes.

account librarian capability (AL capability) A capability assigned by the account manager to a user within the account. An account librarian can be allowed special file access to maintain specified files within the account.

account manager capability (AM capability) A capability assigned to one user within each account who is then responsible for establishing users and groups.

account member A person who has been granted access to the system through the use of a valid user name within an account. Account members are created by the account manager, who defines the user name and assigns the user appropriate capabilities and security restrictions.

account structure The account structure provides organization, security, and billing for the system. It is used to allocate system resources such as central processor time, online connect time, and file space. The account is the principal billing entity for the use of system resources.

acknowledge To answer or reply to a polling, an address, or a message.

acoustic modem A data communications device. An acoustic modem has a cradle and form-fitting rubber cups to hold a telephone handset. The opposite of direct-connect modem.

ACTIVE state The status of either an input or output spoolfile (defined differently for each). During input spooling, an ACTIVE file is a spoolfile being created, indicating that the input spooler is still collecting data from the input device. An ACTIVE output spoolfile is the only file being output to a device. For example, when the standard output device is the system printer the file being printed is ACTIVE.

actual file designator The file name provided by the user. The system then uses the file name in place of the formal file designator to accomplish some task. The actual file designator is the file name listed in the directory. See **formal file designator**.

address **1)** A number identifying an exact location in memory. A process can send data to, or retrieve data from, this address.

2) A set of values identifying a specific peripheral (I/O) device to the computer. The exact details on the formation of an address differ between systems.

address bus The electrical conductors within a computer. They carry addresses from the CPU to components under CPU control. The 900 Series HP 3000 address bus is 32-bits wide.

advanced terminal processor (ATP) An intelligent hardware interface between terminals and the HP 3000. The ATP handles character processing and eliminates CPU interrupts. It supports full-duplex asynchronous modems and direct memory access of user data.

AdvanceNet See **HP AdvanceNet**.

algorithm A step-by-step procedure for solving a problem in a finite amount of time.

ALLBASE/SQL A Hewlett-Packard database management system. It provides both network and relational interfaces.

allocate **1)** To locate and reserve disk space for a particular file.

2) To use the `ALLOCATE` command to update table entries and resolve pointers necessary for a program to execute. However, the program is not actually loaded into memory until run time.

alpha character A character in the range of A through Z (or a-z).

alphanumeric character A character in the range of A through Z (or a-z), or 0 through 9.

alpha test The designation given when the reliability of a computer system is tested by internal users. For example, internal Hewlett-Packard users test and verify a new product before external customer tests are conducted.

alternate boot path The hardware path used when booting the system from a boot tape. See **boot path**.

American National Standards Institute (ANSI) A nongovernmental agency that establishes standards, including those for data processing.

American Standard Code for Information Interchange (ASCII, USASCII) The standard method of representing character data (seven data bits plus one that is sometimes used for parity). This method was established by the American National Standards Institute (ANSI) to achieve compatibility between data devices when they are interchanging information.

analog Data that varies continuously rather than in discrete steps. When used in reference to circuits, it means those circuits that produce an output varying as an uninterrupted function of the input. The opposite of **digital**.

append To join all or part of one existing file to the end of another existing file.

application A set of computer instructions or programs that accomplish tasks for the end user, rather than control the computer (that is what the operating system does). Examples of applications include spreadsheets, word processing programs, graphics, database management, and communications.

application layer Layer seven of the Open Systems Interconnection (OSI) network model. Application layer tasks include the user interface to remote services.

application program A set of computer instructions that guides the computer through a specific set of tasks (usually for the end user). Applications include spreadsheets, word processing, graphics, database management, and data communication programs.

architecture

1) The unique set of machine instructions, registers, and components, as well as the way they interact, that provides the basis of the operation of the computer's CPU.

2) In networking, a structured modular network design in which different data communications tasks are assigned to different layers or levels. See **Open Systems Interconnection**.

archive mode

A DBCore mode of logging that enables both rollback and rollforward recovery for HP SQL databases.

archiving

Storing infrequently used or out-of-date files onto tape and permanently removing them from the system disks at the same time.

arithmetic logic unit (ALU)

The part of a system that performs arithmetic and logic operations as part of the central processing unit (CPU). The CPU may contain one or more arithmetic logic units.

array

An ordered collection of letters, numbers, or words defined by the user. The computer stores the data in an array in continuous memory.

ASCII

American Standard Code for Information Interchange (ASCII) is the standard method of representing character data (seven bits plus one that can be used for parity). This method was established by the American National Standards Institute (ANSI) to achieve compatibility between data devices when they are exchanging information.

assembly language

A programming language in which each operation performed by the central processing unit (CPU) is written as a symbolic instruction. Assembly language is a convenient means of representing machine language (one instruction represents exactly one operation). A program known as an assembler translates instructions written in assembly language into machine language.

associated device

A device associated with a user by way of the `ASSOCIATE` command. Thereafter, the associated user has operator control of the designated device until the user logs off or gives up control of the device, or until the operator issues the `DISASSOCIATE` command.

asynchronous

A method of transmitting data serially without sending a clock signal. Each character consists of one start bit, five to eight data bits, an optional parity bit, and one or more stop bits. The opposite of synchronous.

asynchronous I/O

An I/O operation. The user process need not wait for completion before continuing execution. There are two forms, user asynchronous I/O and system asynchronous I/O.

asynchronous serial communications (ASC)

A part of the fundamental operating software package for the 900 Series HP 3000. It works in conjunction with the Datacommunications and Terminal Controller

	(DTC) to provide data transmission functions. The ASC software handles handshaking between the host system and its asynchronous devices, including character echoing, multiplexing, and input character buffering.
attachment unit interface (AUI)	A cable joining the local area network interface controller (LANIC) to the media attachment unit (MAU) for coaxial cable IEEE 802.3 local area network links.
attributes	Characteristics assigned to users, groups, and accounts which determine what can be done in the groups and accounts, or by the user. Attributes include file access codes and special capabilities. They enable the computer to determine what functions it will or will not allow a user, group, or account to perform.
authorization group	A security feature of HP SQL. A collection of users and groups with the same authorities within a DBEnvironment.
automatic calling unit (ACU)	A device that automatically places a telephone call after receiving instructions from the calling device.
automatic in	A computer-to-PBX connection sequence. It allows the computer to initiate an incoming connection on a specified channel from a specified device through the PBX. No telephone number is given; the device location (telephone number) is associated with the given channel by an administrative process on the PBX.
automatic master data set	A data set within a database. It contains only one data item (the key item). It is related to at least one detail data set. When a new search item value is added to a related detail set, a new entry is automatically added to the master with that item value as a key. When the last entry containing that search item is deleted from all related child data sets, the master entry is automatically deleted.
automatic out	A computer-to-PBX connection sequence. It allows the computer to initiate an outgoing connection on a specified channel to a specified device through the PBX. No telephone number is given; the device location (telephone number) is associated with the given channel by an administrative process on the PBX.
automatic restart	Main memory battery backup to automatically restart the system after a power failure. Temporary power line interruptions can be tolerated with no data loss and without needing to restart the system.
backplane	Wiring blocks or units that provide most of the interconnecting circuits of a system. Individual printed-circuit boards plug into the backplane. Every backplane contains multiple card cages.

backreference — The technique of using an asterisk (*) before a formal file designator to indicate that it has been previously defined with the `FILE` command.

backup — The process that duplicates computer data to offline media, such as magnetic tape. Backups protect data if a system problem should occur.

backup devices — System peripherals that allow you to write information to, and read information from, backup media.

battery backup unit — A box within the SPU that contains a battery to supply power to main memory during a power failure.

BASIC — Beginner's All-purpose Symbolic Instruction Code. A computer programming language.

batch processing — A method of submitting a job for processing. A job, which is submitted as a single entity, can consist of multiple commands such as program compilation and execution, file manipulation, or utility functions. Once submitted, no further interaction between the user and the job is necessary.

batch access capability (BA capability) — A default capability. It is assigned to accounts and users, allowing users to submit batch jobs.

baud — A measure of the speed at which information travels between devices. This signal speed is equal to the number of discrete conditions or signal event changes per second. When one bit represents each signal change, baud is the same as bits per second. Terminal speed settings are the most familiar references to baud rate.

beginning of tape (BOT) — A mark on a magnetic tape indicating where the tape drive will start reading or writing data.

beta test — The designation given to a product test in a limited customer environment. For example, Hewlett-Packard tests its products at selected external customer sites before they are publicly released.

binary — A method of representing numbers, alphabetic characters, and symbols in digital computers. Binary is the base two numbering system that uses only two digits, 0's and 1's, to express numeric quantities.

binary coded decimal (BCD) — A decimal notation in which individual decimal digits are each represented by a group of four bits.

binary synchronous communications (BSC) — A data link protocol, also referred to as BISYNC. A line control station in a data communications system.

bit — A binary digit; the number 0 or 1 in the base 2 numbering system (0 represents OFF, and 1 represents ON). Usually eight bits equal one byte. A bit is the smallest unit of information in a digital computer.

bit bucket Computer jargon referring to a nonexistent computer storage area. The bit bucket is used when the system-defined `$NULL` file is specified in a command line as an output file. The associated write request is accepted by MPE/iX, but no physical output is actually performed.

bit-oriented protocol (bop) A communications protocol that does not recognize a character as sequences of bits.

bit rate The speed at which bits are transmitted. The bit rate is usually kilobits per second (Kb/s) or megabits per second (Mb/s).

bits per inch (bpi) A measurement of data density. It expresses the number of bits recorded per inch of recording surface.

bits per second (bps) A measure of transmission speed over a communications channel.

block A group of one or more logical records treated as a single piece of data.

blocked A state of suspension for a process.

blocked record A physical record that contains more than one logical record. The opposite of unblocked record.

block mode A terminal processing mode. It transmits groups, or blocks of characters all at once, instead of one character at a time.

board A piece of fiberglass that holds integrated circuits (ICs or chips) and contains the connections between chips. A board is also called a **card** or **circuit board**.

Boolean A data type with a value that is either TRUE or FALSE (binary 1 or 0).

boot The process of loading and initializing an operating system. The term booting is derived from the phrase "pulling yourself up by your bootstraps."

boot path Boot paths are used to bring up the system from disk or tape. The primary boot path is used for booting the system from disk resident software. The alternate boot path is used for booting the system from a boot tape. The console boot path is used to determine if the system can autoboot without operator intervention.

boot ROM Performs tests on the computer's hardware, finds all devices that are accessible through the computer, and then loads either a specified operating system or the first operating system found according to a specific search algorithm.

boot tape A tape created by backing up the system with the system generator (SYSGEN) utility program. The tape is then used to reload the system. Also referred to as a system load tape. Equivalent to MPE V/E coldload tape.

bottleneck A system resource that is being completely used and is compromising system performance.

branch A machine instruction that alters the sequence of instructions being executed by the CPU.

break **1)** An operation that interrupts (suspends or aborts) an executing process and allows the user to initiate some other operation.

2) To press the (Break) key on the terminal or call the `CAUSEBREAK` intrinsic. If a process is only suspended, it may be resumed with the `RESUME` command.

broadcast A communication method of sending a message to all devices on a link simultaneously.

broadcast bus network A network in which nodes are connected by a linear run of cable. Messages are simultaneously transmitted to every node. Typically, the nodes process only those messages addressed to them and ignore all other messages. The opposite of point-to-point network.

broadcast space An implementation to address multiple processors on a bus. Local broadcast address space is used when all processors on a bus with the I/O module are to be interrupted. A global broadcast address space is used when all processors system-wide are to be interrupted.

b-tree index An index type supported by DBCore that maintains tuples in sorted order by key value and is used for accessing a particular tuple in a set of tuples.

buffer The part of a computer or device memory where data is held temporarily until it can be processed or transmitted elsewhere. A buffer usually refers to a memory area that is reserved for I/O operations.

bug Computer industry jargon for a computer problem.

bundled systems A pricing option. It allows a group of products to be purchased at a lower cost than if they were each purchased separately.

bus A common group of hardware lines that are used to transmit information between digitally based devices or components.

bus address A number that is part of the address used to find a particular device. The bus address is determined by a setting on a peripheral device that allows the computer to distinguish between two devices connected to the same interface. A bus address is also referred to as a **device address**.

BYE An MPE command used to terminate an interactive session on the HP 3000.

byte	A combination of eight consecutive bits treated as a unit. A byte represents one letter or number. The size of memory and disk storage is measured in bytes.
bytes per inch (BPI)	A measurement of data density; usually for tapes. It expresses the number of bytes recorded per inch of recording surface.
C	A high-level computer programming language that can do low-level manipulations. It allows great flexibility with type declarations.
cable	A connector between computers and peripheral devices.
cache	A small, high-speed memory buffer unit. The cache is continually updated to contain recently accessed data to reduce access time. There may be one cache or separate caches for instructions and data. HP Precision Architecture has separate caches.
cache miss	When an instruction or data required by the CPU is not stored in a cache, the procedure that occurs is called a cache miss. The required code or data is then retrieved from the main memory modules.
capability	A type of access right assigned to a subject (user, group, or account) affecting what the subject can do to an object (file, device, command) on the system.
card	A printed circuit assembly (PCA). See **board**.
card cage	The structure used to hold cards in their proper place inside the computer. Card cage and **I/O bay** are sometimes used interchangeably. However, the I/O bay usually refers to the entire cabinet containing one or more card cages used to store the cards that control I/O devices.
card image	The representation of data in the standard columns found on a punched card, which is a fixed-length record of 80 characters.
carriage-control characters (CCTL)	Carriage-control characters determine such things as double spacing, vertical line spacing, and page ejects.
catalog	A file that acts as a directory of specific objects (files, commands, messages, users, etc.) on the system.
catenet	Several networks that are joined, or concatenated, to form a network of networks. A catenet is also called an internetwork.
cathode ray tube (CRT)	The video display part of a terminal or PC.
CCITT	Comite Consultatif International Telephonique et Telegraphique (International Telegraph and Telephone Consultative Committee); an international standards group for establishing communication protocols.
central bus (CTB)	The communication path between the CPU main memory modules and the channel I/O adapters.

central processing unit (CPU) The part of a system that interprets and executes machine instructions. The central processor contains an execution unit and a control unit. See also **SPU**.

channel A path within a data communications line through which data flows.

channel I/O (CIO) Input/output instructions for a channel.

channel I/O adapter Provides the interface between the central bus (CTB) and the channel I/O buses. Each channel I/O adapter serves as a high performance channel multiplexer. It provides a full direct memory access (DMA) for all HP-IB and LAN I/O channels and synchronizes the differing speeds and bandwidths of the CTB and channel I/O buses.

channel I/O buses (CIB) Provides a synchronous bidirectional data path between the central bus (CTB) and I/O devices.

channel number The number assigned to the device controller board in the I/O card cage. It is used to calculate the logical address of the device, or device reference table (DRT) number.

character A letter, number, or symbol represented by one byte of data.

character-oriented protocol A communications protocol that uses special control characters to relay instructions for controlling data transmission.

character set A series of characters to substitute for a single character to name a group of files.

characters per inch (cpi) A measurement of print density of various printers.

checksum The combination of all binary digits in a block. The checksum is used to verify correct transmission of the block.

child process A new process created by an existing process. The new process is thereafter known to the preexisting process as its child process. The preexisting process is called the parent process.

chip A slice of silicon containing an integrated circuit. RAM, ROM, PROM, CPU, and EPROM are commonly used chips.

CIO adapter (CA) The interface slot number containing the adapter for the CIO bus and central bus (CTB).

CIO expander The channel input/output expander provides eight additional peripheral card slots to the SPU.

circuit board See **board**.

circular file 1) A wraparound file structure that functions as a sequential file until it is full. As records are written to a circular file, they are appended to the tail of the file. When the file is full, the next record causes the block at the head of the file to be deleted and all other blocks to be logically shifted toward the head of the file. Circular files are useful as history files when

you are more interested in information recently written to the file and less concerned about earlier material.

2) A file that can be reused (DBCore nonarchive log files are circular files).

class — A user-defined collection of objects.

class name — **1)** A label that is either unique to, or associated with, one or more devices in the system's I/O configuration, used to reference a particular device or class of devices. Device class names may be up to eight alphanumeric characters long, beginning with a letter. A single logical device may have multiple device class names. The HP 2680 Laser Printer, for example, is referred to as `EPOC` (electro-photographic output for computers), `PP` (page printer), or `SLP` (system line printer), or any other defined name. Directing output to any of these class names sends the output to a laser printer.

2) An abstract entity that can own objects in an HP SQL DBEnvironment.

clipping — To restrict plotting or drawing to a rectangular portion (window) of the total available area.

closing a file — Terminating access to a file. A file is closed by calling the `FCLOSE` intrinsic or terminating process execution.

cluster — A physical storage organization method supported by DBCore that can help minimize disk accesses. If a relation is clustered, the physical placement of its rows is controlled by a key value; this key is called the cluster index key.

COBOL — Common business-oriented language. A high-level computer language primarily used for business applications.

code — Code consists of the executable instructions that make up a program or subprogram.

code segment — The instructions to the CPU contained in a single logical module; one or more code segments comprise a complete program or subprogram. Code segments remain unchanged during program execution, and may be overwritten with a new code segment once the current segment has executed completely. In this way, programs larger than the maximum code segment size can execute without user intervention or a large amount of memory.

code segment table (CST) — A table that keeps track of all code segments currently being used. CST is used only in compatibility mode (CM) on MPE XL.

cold dump — See **memory dump**.

coldload — See **system load tape**.

coldload tape — See **boot tape**.

COLDSTART — See **UPDATE**.

color palette — In plotting terminology, a specific set of pen colors and line widths as defined by the pen color instructions of the graphics system being used.

column — A named collection of data in an HP SQL table or view with a particular data type and size.

command — A system-reserved word that directs the operating system, a subsystem, or a utility program to perform a specific operation.

command file — **1)** A set of one or more MPE/iX commands in a file that are executed by specifying the file name. See also **HPPATH or UDC**.

2) A set of one or more SQL or ISQL commands in a file that can be executed with the ISQL `START` command.

command interpreter (CI) — CI: A program that reads command lines entered at the standard input device, interprets them, determines if they are valid, and, if so, executes them.

command line history stack — See **history stack** (also called command history stack).

command set '80 protocol (CS/80 or CS-80) — A family of mass storage devices from Hewlett-Packard that communicate using the C/80 protocol. Examples are the HP 7911, HP 7912, HP 7914 disk/tape drives.

communication — The ability of one computer system to access or talk to other computer systems by way of telecommunication devices.

communication link — The software and hardware that moves data from the driver and card of one computer to the driver of an adjacent computer.

communications subsystem capability (CS) — Allows users to obtain exclusive access to a communications device such as a DSN/RJE line or a DSN/DS line. The capability is required to use DSN/RJE subsystems.

compatibility — The ability of software developed for one computer to work on another computer. See **compatibility mode**.

compatibility mode (CM) — Compatibility mode provides object code compatibility between MPE V/E-based systems and the 900 Series HP 3000. Compatibility mode allows current Hewlett-Packard customers to move applications and data to the 900 Series HP 3000 without changes or recompilation.

compile — The process of changing a program written in a source language (for example, BASIC, C, FORTRAN) into machine executable instructions. The compiled routine is then ready to be link-edited and then loaded into storage and run.

compiler — A program that translates source code written by a programmer into machine instructions. The compiler also diagnoses and reports syntax errors found in the application program.

completion list

A linked list of four-word entries made by a direct memory access (DMA) I/O card before interrupting the processor. Each DMA adapter or module (which may have more than one DMA device associated with it) has its own completion list.

complex instruction set computer (CISC)

A computer based on an architecture that uses microprogramming and complex instructions.

component name

A name identifying an object within the context of a directory object.

compound item

A named group of identically defined, adjacent items within the same data entry; an array. A compound item is subdivided into subitems.

compression

The process of translating data into a more compact form so that it can be transmitted more economically or efficiently.

computer

A device that accepts information, processes it, and supplies an output. A computer usually contains memory, a control unit, arithmetic and logical units, and a means for input and output.

concurrent directories

A decentralized system directory scheme. Each disk attached to the system contains its own directory of the files on that disk. This provides faster file access by eliminating the physical or logical serialization of a centralized directory.

configuration

1) The way in which computer and peripheral devices are programmed to interact with each other.

2) The layout of the computer system, including MPE table, memory, and buffer sizes. The configuration tells which peripheral devices are connected to the computer and how they can be accessed. The system is configured by the system supervisor, who works with the Hewlett-Packard applications engineer (AE).

connect time

The amount of time, in minutes, that a user, group, or account has used the CPU for a session or job. It is determined by executing the MPE `REPORT` command.

console

A terminal given unique status by the operating system. The operator uses the console to monitor and manage jobs, sessions and resources, respond to requests, and communicate with other user terminals. It is used to boot the system and receive system loader error messages, system error messages, and system status messages.

console boot path

Used to determine if the system can autoboot without operator intervention. See **boot path**.

console command

A command that is executable only from the system console at the `=` prompt (generated by pressing CTRL and the A key on the console keyboard). Console commands cannot be distributed to MPE users, since CTRL`A` has no meaning on

a standard terminal. The logical console, however, can be moved to a standard terminal.

console logging — A system logging event. It records console commands in the system log file.

console message — A message sent to the system console by the system, an application, or a user.

constant — A fixed value (as opposed to a variable which is a symbol for a changing valuex)..

continuation character — An ampersand (&) character entered as the last character of a command line. A continuation character tells the command interpreter that the command is longer than one line and is continuing onto a second or more subsequent lines.

continuation line — See **subline**.

control character — A member of a character set that produces action in a device rather than printing or displaying a character. In the ASCII character set, control characters are those in the range 0 through 31, and 127. Control characters are generated by pressing the CTRL key and a character key simultaneously (for example D). In documentation these two-key sequences are shown as CTRL D.

control codes — Special codes contained in data sent to a peripheral device. These codes control how the device operates.

control program — The program responsible for handling I/O for terminals and file storage, establishing processing priorities, maintaining waiting lists of work in process, activating operational programs, and performing other supervisory functions in a real-time system. Other terms used synonymously to designate such a program are driver, executive, monitor, kernel, and supervisor.

control register — A 32-bit register on the register file board, used for memory access protection, interrupt control, and processor state control.

control unit — A part of the CPU that regulates the execution unit and oversees the instruction cycle.

control-Y — A break function activated by simultaneously pressing the CTRL key and the Y key on a terminal's keyboard. It is typically a subsystem break and does not affect MPE commands. In documentation this two-key sequence is shown as CTRL Y.

COOLSTART — See **START**.

coprocessor — A special purpose processor that works with the CPU to speed up specialized operations such as floating-point arithmetic and graphics processing.

coupled environment The MPE/iX file system's use of the MPE V/E file system in compatibility mode to perform functions that MPE/iX does not currently handle.

CPU time The amount of time, in seconds, that a user, group, or account has used the CPU. It is displayed by executing the MPE `REPORT` command.

crash **1)** The unexpected shutdown of a program or system. If the operating system crashes, it is called a system crash, and the system must be rebooted.

2) A head crash or disk crash. This occurs when the read/write heads on a disk drive (that normally ride on a thin cushion of air above the disk) make physical contact with the disk surface, destroying data and the disk track. The extent of damage to the system depends on which disk crashed and how much of the disk was corrupted. A crash of the system disk is serious, since it contains the directory of user files as well as operating system programs, the I/O configuration, and the account structure.

CRC-CCITT An error detection scheme defined by the Comite Consultatif International Telephonique et Telegraphique (CCITT).

CRC-16 An error detection scheme used in data communications.

create volumes capability (CV capability) The ability to define and access nonsystem domain disks with the `NEWSET` command of VOLUTIL.PUB.SYS (use `NEWVSET` command for private volumes on MPE V/E). Users and accounts assigned CV capability are automatically given use volumes (UV) capability.

cursor **1)** A flashing rectangle or blinking underline character on a display screen. It marks the position where text or data can be entered, changed, or deleted.

2) In HP SQL, the pointer to one tuple in a set of tuples from an application program.

customer engineer (CE) A Hewlett-Packard field representative responsible for the installation, troubleshooting, and maintenance of computer hardware and operating systems.

custom performance consulting Using an outside performance expert to locate and evaluate performance problems.

cyclic redundancy check (CRC) An error detection scheme in which the checking character is generated by taking the remainder after dividing all the serialized bits in a block of data by a predetermined binary number. An equal comparison indicates no errors, while an unequal comparison indicates an error in the transmission.

cylinder A portion of a disk pack that consists of vertically aligned tracks on each disk platter within the pack. The first track on the first platter is directly above the first track on the second platter, which is aligned with the first track on the

	third platter, and so on. These tracks, taken together, are considered a cylinder. Therefore, cylinder 1 refers to track 1 on each of the platters in the disk.
daisy wheel printer	A printer that forms characters by striking metal or plastic images of characters against a ribbon onto paper. The name comes from the shape of the print wheel, which looks like a daisy.
database (DB)	A collection of logically related data files, and structural information about the data and/or files.
database management system (DBMS)	A software package designed to protect the consistency and security of data in computer-stored files (databases). It allows a user to define a database structure and manipulate the contents by storing, retrieving, deleting, modifying, and sorting data.
data cache	A high-speed CPU cache implemented on the 900 Series HP 3000. It operates in parallel with the instruction cache. Data is transferred by load and store instructions between the general purpose registers of the execution unit and the data cache. It is a write-to cache, so the main memory modules are updated only as required. See **instruction cache**.
data circuit terminating equipment (DCE)	Equipment used to send information between locations, such as a modem. DCE is also known as data communications equipment.
data communications	The transmission of information from one computer or terminal to another. It is sometimes shortened to datacomm.
Datacommunications and Terminal Controller (DTC)	An MPE/iX intelligent controller, with microprocessors to handle communications with 900 Series HP 3000 systems. Each DTC may contain connection cards allowing access to X.25 networks, as well as connection cards allowing asynchronous device connections.
data communications and terminal subsystem (DTS)	The methodology used to connect all asynchronous devices to a 900 series HP 3000, except for the system console.
data dictionary	A database used as a programmer's tool to store information about data. It does not contain the data itself, but describes the type, location, usage, and relationships of the data resources of an organization.
data endpoint	The point at which the digital multiplexer interface (DMI) data channel protocol is terminated. Data endpoints can be at the host computer or at the PBX. Data endpoints are classified by the physical serial interface they would present such as terminal or communication equipment. See **data circuit-terminating equipment** and **data terminal equipment**.
data entry	A task that involves entering information into a computer.

data item — The smallest accessible data element in a database. A data item corresponds to a column in relational database terminology.

data link layer — Layer two of the Open Systems Interconnection (OSI) network model. The data link layer checks for and corrects transmission errors over the physical link.

data recovery — The process of using special utilities to recover data that cannot be used by the operating system from disks (due primarily to disk addressing problems).

data segment table (DST) — A table that identifies and provides pointer information to all data segments, including those used by MPE and user's data stacks. On the 900 Series HP 3000 the DST is used only in compatibility mode (CM).

data set — A file used in a database. There are different types of data sets: detail, manual master, and automatic master.

data switch — A dynamic port allocator. Allows access from any terminal to any system that is connected (see PBX).

data terminal equipment (DTE) — The local node or the user terminal where information enters into and exits from a data link or the computer itself.

DBCore/XL — The common services that HP SQL uses on the MPE/iX operating system.

DBEFile — The basic unit of storage used by DBCore. A DBEFile is a file on the host operating system. DBCore stores relations in DBEFileSets.

DBEFileSet — A logical grouping of DBEFiles. A relation can span DBEFiles within a DBEFileSet.

DBEnvironment (DBE) — The scope of transactions and recovery for HP SQL databases. A DBE is a collection of one or more databases.

deadlock — A condition that arises when multiple processes are waiting for resources held by other processes. A process cannot release the resources it holds until it can acquire the resources it is waiting for, but it cannot acquire these resources until another process releases them.

debug — **1)** To find and correct mistakes in a computer program.

2) Debug/XL is the debug facility supplied with MPE/iX. It provides debug information at the machine instruction (object code) level. It can be used to debug programs written in any Hewlett-Packard-supported language, both in native mode and compatibility mode.

decimal code — The decimal representation of an ASCII character. For example, the character A has the ASCII binary code value 01000001 and the decimal code value 65.

default A predefined value or condition that is assumed, and used if no other value or condition is specified.

defined volume A member volume that is not yet physically available to a volume set, but has its name, class assignments, and space allocation specified on the volume set information table (VSIT) of a system master volume. See **initialized volume**.

delimiter A special character used to mark the end of a string of characters. Common delimiters are a comma (`,`), semicolon (`;`), equal sign (`=`), or a Return.

delta A term used to express an incremental change. Refers to a release of the operating system with only minor changes from the previous release.

dereferencing Dereferencing substitutes the value of a variable in place of the variable name. See also **explicit dereferencing** and **implicit dereferencing**.

descriptor A set of data structures that collectively represent the characteristics of an open file. The data structures contain the file's attributes, identification, access control, and accounting information, and are maintained by the file system routines.

destructive testing A deliberate attempt to cause the system or program to fail by including a test specifically designed for that purpose.

detail data set A data set in a database whose entries contain one or more search items but not a key item. Entries with the same search item value are chained together; this chain can be linked to entries in master data sets that have matching key item values. A detail data set is equivalent to a child relation that does not have a key item.

device See **peripheral**.

device adapter A device that manages communications between the computer and a peripheral device. It is the same as an I/O interface card or a printed circuit assembly.

device address See **bus address**.

device class A collection of devices. The MPE/iX file system supports a means of maintaining collections of devices.

device configuration See **system configuration**.

device file A physical device that the system treats as a file by writing to it or reading from it. Examples of device files are `$STDIN` and `$STDLIST`, the default input and output device files for the keyboard and terminal screen, respectively.

device independence A characteristic of the operating system that allows users to selectively redirect input/output from a program, session, or job with the `FILE` command without regard to the nature of the device. File equations created with the `FILE` command are

	in effect only for the duration of the job or session in which they are defined.
device reference table (DRT)	A table containing the logical address of disks, tape drives, and other peripheral devices.
device subtype	A number ranging from 0 to 15, defining a specific device and its associated software driver. There can be several device subtypes within one basic type. For example, a graphics terminal and one without graphics capabilities can share the same device type, but they are assigned different subtype numbers.
device type	Device types are defined by a number. For example, 0 represents a moving-head disk and 16 is the class type number assigned to line printers.
diagnostician capability (DI capability)	A capability usually assigned only to the Hewlett-Packard customer engineer (CE). It allows the CE to conduct certain CPU and diagnostic tests.
Diagnostic Support Monitor (DSM)	The online diagnostic package for the Intelligent Network Processor (INP).
diagnostic user interface (DUI)	A means by which a user can communicate with the diagnostic system.
diagnostic utility system (DUS)	A set of utilities used to diagnose a system failure. The DUS is loaded from standalone serial storage media into the main memory of the shutdown system.
diagnostics	A set of programs that test for hardware faults.
dibit	A two-bit signal unit.
digital	A method of representing all information stored, processed, or transferred in discrete values or symbols. For example, the set of integers constitute a set of digital values. The opposite of analog.
digital multiplexed interface (DMI)	A specification for interfacing a host computer to a private branch exchange (PBX).
digitize	To convert a continuous function to one containing a finite number of discrete levels.
direct access	To read from or write to a random access device (usually a disk) by addressing a specific logical record. Direct record access is not possible on serial storage media (such as magnetic tapes) since data can only be read sequentially from the first record (or byte) to the nth record (or byte).
direct connect modem	A data communications device. A direct connect modem has a built-in phone jack, allowing the phone line to be plugged directly into the modem. The opposite of acoustic modem.
direct memory access (DMA)	A technique that allows a peripherals device to gain direct access to the main memory of the computer. This method allows extremely high data transfer rates.

directory — A system table showing in what group or account each file is located, as well as its disk address, so that it can be accessed. A directory may contain other information such as size of the file, its creation date, any modification dates, file creator, or file security information.

DISCFREE — An MPE/iX utility supplying information about a system's disk free space, transient and permanent space, and the volumes total space capacity. The information is supplied in either a histogram or a condensed format. Equivalent to the MPE V/E FREE5 utility.

DISCUTIL utility — An MPE/iX utility that is used primarily to recover data from disks that cannot be used by the operating system.

disk — A circular plate, coated with material which holds a magnetic charge, used to store computer data. A disk may be fixed, removable, hard, or flexible.

disk drive — A peripheral device that reads information from and writes information to the disk.

disk failure — A disk-related problem that causes a disk to be unavailable for use.

disk file — A file stored on disk.

disk I/O — The electromechanical process of transferring the code and data that are stored on disk into main memory.

disk loaded — See **mounting**.

disk pack — A set of one or more disk platters stacked inside a plastic cylindrical container.

disk platter — An aluminum disk coated with magnetic material. One or more platters are mounted on a central spindle, and together they form a complete disk pack. Information may be recorded on one or both sides of each platter within the pack.

disk sector — A section of a disk's surface (256 contiguous bytes). A file is stored in one or more sectors.

disk space — The space available on a disk to store data.

disk status — The state of a disk recognized by the system. See **MEMBER, MASTER, LONER, SCRATCH**, and **UNKNOWN**.

disk swapping — The process of moving data segments from memory to disk and from disk to memory; and for moving code segments from disk to memory.

diskette — See **flexible disk**.

dismounted — A disk not recognized by the system.

distributed database — A database whose data is located on a number of different computers, which may be in different geographic locations.

distributed systems — Systems in which some or all of the processing functions are in different places and connected by transmission facilities.

distributed system line (DS line) — The communications line between two computers, controlled by the distributed system network.

distributed system network (DSN) — A system of hardware and software data communications products spanning multiple Hewlett-Packard product lines.

dot matrix printer — A printer in which each character is represented by a pattern of dots.

download — The process of transferring a block of information from one computer system to another.

driver — **1)** In hardware, driver refers to a circuit that is capable of supplying specific current and voltage requirements.

2) In software, driver refers to a program that is capable of controlling a specific input/output device. See **control program**.

DRT number — Device reference table number. The physical I/O address of a device controller, displayed in the second column of the I/O configuration table listed during the SYSDUMP dialog. An MPE V/E index into the DRT.

dumb terminal — A terminal which can only display and transmit data.

DUMP — **1)** The MPE/XL ISL DUMP utility writes system main memory and secondary storage to tape. DUMP also, optionally, attempts a software reboot from disk.

2) See **cold dump**.

Dump Analysis (DPAN) — See **dump analysis tool (DAT)**

Dump Analysis Tool (DAT) — An MPE/iX program. It produces a formatted listing of the contents of main memory after a system failure or shutdown. This aids in the analysis of fatal system events such as process hangs, system failures, or hardware failures. This tool is similar to the MPE V dump analysis program (DPAN).

duplex — The method of transmission that allows simultaneous two-way communication. Duplex is usually called full-duplex. The opposite of half-duplex.

duplicative — **1)** To echo input operations to a corresponding display without intervention by the operating system software.

2) The name of an MPE/iX command that writes to $STDLIST.

dynamic backup — Dynamic backup means that the STORE file set and structures are accessible for any access while the backup is taking place. Any modifications made to the STORE file set during the backup are logged and saved along with the data on the backup medium. On RESTORE, the data and log file are used to recover the data to a consistent state.

echo — What the computer does when it sends data typed on the keyboard back to the terminal screen. If echo is turned off, the computer receives the data, but does not send it back, so nothing appears on the screen.

echoplex — A mode in the full-duplex communication channel in which any character transmitted by a terminal is echoed back to it.

EDIT/3000 — An HP 3000 text editor, supplied with MPE/iX. It is used to create and manipulate ASCII files.

editor — A word processing application used to prepare, modify, or delete text and program files. EDIT/3000 is the text editor used with MPE/iX.

EIA 232-C — **See RS 232-C**.

EIA 422-A — **See RS 422**.

electronic mail — The transmission of a message from one person to another by way of computers.

Electronics Industries Association (EIA) — An organization that creates North American data communication standards.

electrostatic discharge (ESD) — The electric charge given by the release of integrated circuits.

end of file (EOF) — The marker that indicates the logical end of a file. An end-of-file marker may be a control character embedded in the data.

end of line (EOL) — The mechanism for indicating the end of a line.

end of tape (EOT) — A marker on the back of a tape, sensed by the tape drive, indicating the supply of tape is running low.

entry — An element of information in a table, list, queue, or other organized structure of data.

environment file — A disk file containing the formatting specifications for a printed page of data. These specifications, which are not part of the data, may include the page size, character fonts, forms, and other requirements to be used in conjunction with the Hewlett-Packard Laser Printing System.

erasable programmable read-only memory chip (EPROM) — An EPROM chip can be programmed, erased, and reprogrammed.

error checking code — On an MPE/iX system, the internal memory word size is 39 bits. There are 32 bits for data and seven bits dedicated to error detection and correction. Single-bit errors are automatically detected and corrected ensuring data integrity. Multi-bit errors are automatically detected resulting in a high-priority interrupt to the system software for appropriate action.

error listing — A report generated by the system describing the step by step processing of the job.

error messages Messages describing errors that occur during either an interactive session or a batch job. The messages are reported to the standard list device, which is usually a terminal (for a session) or a line printer (for a job).

escape key A special terminal key that is used in combination with other characters to give those characters different functions that modify a session or terminal. The escape key is represented by (ESC) or (Escape).

escape sequences A sequence of characters beginning with the escape character and used to control printers, plotters, or the display screen.

EXCLUSIVE access A restriction limiting file access to one user at a time.

execute What the computer does when it carries out the instructions or performs the routine indicated.

executing state The state of a job/session, displayed when the `SHOWJOB` command is executed. Possible states are `INTRO`, `WAIT`, `EXEC*`, `EXEC`, and `SUSP`.

execution unit (EU) The part of the CPU containing the arithmetic logic unit (ALU) and the registers. Data is held in registers and manipulated in the ALU.

executive See **control program**.

execution unit (EU) The part of the CPU containing the arithmetic logic unit (ALU) and the registers. Data is held in registers and manipulated in the ALU.

executor A procedure responsible for executing an operating system command.

explicit dereferencing When the command interpreter encounters an exclamation point immediately before a variable name, it substitutes the value for the variable name. Explicit dereferencing may be used in any MPE/iX command. See also **implicit dereferencing**.

expression A statement consisting of variables, constants, and operators.

extended binary-coded decimal interchange code (EBCDIC) An 8-bit code that is an extension of binary-coded decimal (BCD) notation. EBCDIC can represent up to 256 different characters.

extended code segment table (CSTX or XCST) A table containing information about code segments that come from users' program files and those segments that are assigned by running a program. CSTX (or XCST) is used in MPE/iX only in compatibility mode (CM).

extended large addressing MPE/iX can be implemented with either 48-bit or 64-bit virtual addressing. The 48-bit addressing provides a virtual address space consisting of 65,000 individual spaces each 4GB (four billion bytes) in size. This is 65,000 times larger than a typical 32-bit system.

extent A group of one or more contiguous sectors of disk space allocated for a single file. Extents can be variable length; any number of extents can exist for a given file.

external interrupt message (EIM) A mechanism used by a module to signal to the processor that the module has completed a requested operation and is ready for another.

extra data segment capability (DS capability) A capability assigned by the system manager to users and accounts to use extra data segments. DS capability is normally restricted to only a few users, since allowing many processes to use extra data segments can easily overload the system, requiring large amounts of main memory, a large virtual storage area on the system disk, frequent disk swapping, or all three.

Facility/Link An MPE communications subsystem. It allows users to access a mainframe computer in interactive mode using a Hewlett-Packard distributed systems network (DSN). It is usually known as Interactive Mainframe Facility/Link.

FCOPY An HP 3000 subsystem that allows the user to copy, append, translate data from one type to another (for example, ASCII to EBCDIC), verify, and compare files. The subsystem is activated with the MPE/iX `FCOPY` command.

fiber optics The technology of transmitting data over communication lines made from flexible strands of glass or plastic through which laser beams or light from light emitting diodes are passed to transfer data. The strands are formed into cables and can carry many more times the amount of data than traditional copper wire.

field replaceable unit (FRU) An assembly that is replaced when any of its components fail.

file A group of related records that represents ASCII text (text files) or binary data (such as executable code). Every file must have a file name so the user can access the file's contents.

file access permission The determination whether a process may perform a requested operation on a file. Every file in the file system has a set of access permissions. These permissions are broken down according to whether a file may be read, written, or executed.

file code A four-digit integer that identifies the special function of a file. Users may assign a file code between 0 and 1023 to a file they create to classify it according to its purpose.

file creation time The time when a file is created.

file directory A directory maintained by the system containing each file's name, who created it, its location, and other defining characteristics.

file equation A method of equating a name with a specific device or file. This name serves as an "alias" for another device or file whose characteristics are defined in the file equation. The

MPE/iX `FILE` command is used to define the file equation. File equations are often used to direct the input to or output from a program, job, or session to a particular device or file.

file identifier A number associating a name with a file system object. For example, when you "open" a file using its name, the operating system returns a unique number for your use. This number is the file identifier.

file independence File independence means that data files are shareable among all the Hewlett-Packard programming languages. For instance, an HP Pascal/iX program can read files created using any of the other supported programming languages.

file information display (FID) A display of file characteristics, an error message, an error number, and current `FOPEN` intrinsic parameters provided when certain file input/output errors occur.

file label A descriptive entry on disk containing the file name, file code, record size, file format, current end-of-file mark, maximum number of records, blocking factor, number of disk sectors in use, number of extents currently allocated, and maximum number of extents. Use the `LISTF,2` command to display the file label.

file mark A uniquely formatted area on a magnetic tape used to separate files. Also referred to as a tape mark.

file name An MPE/iX file name is a string of up to eight alphanumeric characters, the first of which must be an alphabetic character.

file number An integer value assigned by the `FOPEN` intrinsic that is used to refer to a file in a user program. File numbers zero through seven are reserved for the MPE/iX operating system.

file pointer A logical record pointer kept by the operating system to indicate the next sequential record to be accessed in a file. The pointer is set to the first record when the file is opened.

file space The number of sectors of disk space that a group, or account is using. It is displayed by executing the MPE/iX `REPORT` command.

file specification The "full" name of a file. This includes the file name, group, and account.

file state The condition of a file. This can include `OPEN`, `READY`, `ACTIVE`, `LOCKED`, or `WAIT`. An `OPEN` file, for example, is one currently being accessed by a user or a program.

file system The part of the operating system that handles access to input/output devices, data blocking, buffering, data transfers, and deblocking.

firmware A set of microcode instructions that are executable by the CPU. These are permanently stored in read-only memory (ROM) or writable control store (WCS).

fixed disk — A large capacity disk that is fixed inside a disk drive and cannot be removed.

fixed-length record — A record that always contains the same number of characters or words. Fixed-length records within a single file are always the same length.

fixed space font — A typeface in which each character occupies the same amount of space. The space between characters is uniform for all nonproportional fonts.

flexible disk — A random access storage device, also called a diskette or floppy disk. Data may be written to or read from one or both sides with a special disk drive intended only for diskettes. Flexible disks are often used with personal computers.

floating-point operations per second (FLOPS) — A measurement of the speed of a processor.

foreign tapes — A tape or tapes not created on an HP 3000.

formal file designator — The name that commonly appears on the left side of a file equation for the purpose of redirecting input/output to or from a file/device, or defining the characteristics of a file/device. This is the name that processes will refer to, rather than to the actual file or device.

formatting — **1)** Part of a process of preparing a disk for use.

2) To prepare a file to be output with a certain organization. Formatting includes such processes as setting page length and width, specifying printing fonts, and adding headers and footers.

FORTRAN — Formula translator. A high-level computer programming language often used in scientific and engineering applications.

frame — A unit of information used in packet switching. A frame contains no more than one packet.

frame checking sequence (FCS) — A 16-bit sequence derived from an algorithm common to data circuit-terminating equipment (DCE) and data terminal equipment (DTE). The sequence is appended to each frame and used as a verification of data transmission.

free space map — A map of allocated and available disk sectors on the volume set.

full-duplex — A method of transmission that allows simultaneous two-way communication. Full-duplex is also called duplex. It is the opposite of half-duplex.

fully qualified file name — A complete file description that includes the file name, the group to which the file belongs, and the account to which the group belongs. The fully qualified file name of the `LETTER` file in the `PUB` group of the `SYS` account is expressed as `LETTER.PUB.SYS`.

function keys Special keys on the terminal keyboard that are labelled sequentially, F1, F2, F3, and correspond to the windows that appear at the bottom of the terminal screen. Function keys perform various activities.

fundamental operating software (FOS) The programs, utilities, and subsystems supplied on the master installation tape (MIT) for MPE/iX.

gate A circuit with one or more input signals to produce a single output of binary 1 or 0 depending on the type of logic built into it.

gateway **1)** A special instruction used to increase the user's privilege level and perform a branch. It is required to access the operating system.

2) In data communications, a method used to access one type of network from another type. A gateway is a member of two or more networks and allows communication between the networks to which it belongs. For example, a gateway is used to go to a local area network (LAN) from X.25.

general register A 32-bit register available to all processes at all privilege levels for general computation and data manipulation.

Glance/XL A software product which can help in locating and evaluating performance problems. This is equivalent to the MPE/VE system measurement tools.

global A term used to define scope. A global item is widely accessible.

global variable A variable whose value is valid throughout a program, job, or session. Global is the opposite of local, which means that a variable is useful only in a limited area.

Governmental Agency Hardware Certification The testing conducted for the purpose of passing governmental agency (FCC and VDE) and safety regulations (UL, CSA, IEC). Tests conducted include electromagnetic compatibility, conducted emissions, radiated emissions, and various safety tests.

group **1)** A group is part of an account that is used to organize the account's files. All files must be assigned to a group, and within an account each group has a unique name. A `PUB` (public) group is established for each account when it is created. Additional groups are created within the account, as needed, by the account manager.

2) For the ALLBASE/SQL group, see **authorization group**.

group-level security The file access modes, and the types of users to whom they are available, as specified by the account manager when the group is created.

group librarian capability (GL capability) Assigned by the account manager, to a user within an account. A group librarian can be assigned special file access

modes for the maintenance of certain files within the user's home group.

half-duplex Communication system or equipment capable of transmission in either direction, but not in both directions simultaneously. The transmission flow must be halted each time the direction of travel is reversed. This halt is called turnaround time and typically requires from 50 to 250 milliseconds, depending upon line length. The halt is required to reverse the direction of the echo suppressers in the telephone line and to allow modems to stabilize. The opposite of full-duplex.

handshaking A communications protocol between devices, or between a device and the CPU. The signals indicate that information was received, more is on the way, or it was not received correctly.

hard copy The output from a printer or plotter, usually onto paper.

hard disk A device used to store information. A hard disk has more storage than a floppy disk without being susceptible to the same hazards (for example, being bent or having the media corrupted by physical handling). A hard disk generally comes in packs consisting of several platters instead of just one. Some disk packs can be removed from the disk drive.

hard reset A method to reset the computer or a terminal. A hard reset erases all information in memory. See **soft reset**.

hardware All the physical components of the computer, including the CPU cabinet, tape drives, disk drives, terminals, and other peripherals.

hardware installation The process of physically connecting the hardware of a computer system together.

hard-wired In a hard-wired computer, the instruction set is implemented directly in the CPU.

hard-wired direct connection A direct connection between a computer and a terminal or between two computers over a relatively short distance using copper wire pairs, coaxial cable, or fiber optics. The signals are transmitted in digital format.

hard-wired terminal A terminal directly connected to the computer system by a length of cable.

head The physical mechanism on a disk or tape drive that reads data from, and writes data to, the disk or tape. The head on a disk drive does not normally make physical contact with the surface of the media, but the tape head does.

header The first page printed when output is directed to a line printer. It contains the session name (if designated), the session number, logon identification, day of the week, date, and time. It corresponds to the trailer printed as the last page of the output.

Help facility	An online utility providing information on all MPE commands. Information can be accessed by topic areas and tasks.
Hewlett-Packard (HP)	A Fortune 500 company founded by Bill Hewlett and Dave Packard in 1939. Hewlett-Packard is a producer of computers and headquarters is located in Palo Alto, California, U.S.A.
Hewlett-Packard Data-Link Control II (HP-DLC-II)	A Hewlett-Packard high-level data-link (HDLC) standard that defines the elements and procedures for a balanced, bit-oriented, Level II of the Open Systems Interconnection (OSI) model protocol.
Hewlett-Packard Graphics Language (HP-GL)	The graphics instruction set for Hewlett-Packard film recorders and plotters.
Hewlett-Packard Interface Bus (HP-IB)	The HP-IB channel consists of an HP-IB cable connected to an HP-IB interface card that is connected to the system's backplane. It performs protocol translation between the CPU and HP-IB. For the 900 Series HP 3000 up to six devices can be connected to a single HP-IB channel. Disk drives, tape drives, and system printers are connected by an HP-IB which is HP's implementation of the IEEE standard 488-1975 interface.
Hewlett-Packard Precision Architecture (HP-PA)	A computer architecture expressly designed for performance, extensibility, and scalability. It can be implemented on low-end and high-end computers across a complete family of computers. Precision Architecture incorporates reduced instruction set computer (RISC) technology in its architecture. Advantages include fewer components and PC boards, high reliability, and small power supplies.
Hewlett-Packard Structured Query Language (ALLBASE/SQL)	The Hewlett-Packard relational database management system (DBMS) that uses the industry standard Structured Query Language (SQL).
hexadecimal	The base 16 numbering system. The first 10 digits are 0 through 9, and the last 6 are A through F. When a number is written in base 16 it is preceded by a dollar sign ("$"). For example, $F3 is the hexadecimal representation for the decimal number 243.
hierarchical topology	A point-to-point network topology. The hierarchical topology is sometimes used with supervisory-control application, in which large databases exist at one node, possibly along with control programs that are accessed by nodes lower in the hierarchy. Hierarchical topologies are also used for distributed database applications.
High Level Data-Link Control (HDLC)	Types of protocols that eliminate much of the handshaking (and resultant time-consuming line turnarounds).
histogram	A graphical representation of data.

history stack The history stack is a CI table that contains, by default, the 20 most recent commands entered at the system prompt during a session. The history stack is used with the `REDO` and `DO` commands. To display the commands in the history stack use the `LISTREDO` command.

home group A default group, within an account, where a user logs on when no specific group is indicated.

host computer **1)** A computer running a process for a user logged onto a different computer. For example, a user logs onto system A and then uses data communication software to start a session with system B and run a program. System B is the host computer.

2) In a network, the computer that primarily provides services such as computation, database access, or special programs or programming languages, to other users on the network.

HP AdvanceNet A family of communication products, hardware and software, that allow HP systems to communicate with each other and with equipment made by other vendors.

HP Desk Hewlett-Packard's electronic mail product.

HPSlate An HP 3000 screen editor used to create and manipulate files.

HPSORT An HP 3000 utility program that sorts records in a file(s) and then merges the sorted files.

HP-UX An operating system based on AT&T Bell Laboratories' implementation of UNIX System V and containing other features. These features include Hewlett-Packard capabilities (such as graphics) and those from other UNIX systems, such as 4.2 BSD from the University of California at Berkeley. UNIX is a registered trademark of AT&T Bell Laboratories.

HPPATH A predefined, user-modifiable MPE/iX variable that controls where the system searches for command and program files. By default these files are searched for in the user's group, followed by the .PUB group of the user's account, followed by the .PUB group of the .SYS account.

IF-THEN-ELSE statement A programming statement. When the IF condition is true, the THEN action is performed. When the IF condition is false, the ELSE action is performed.

implicit dereferencing A way of substituting the value of a variable in place of the variable name. Implicit dereferencing is used with the `CALC, IF, SETVAR,` and `WHILE` commands. See also **explicit dereferencing**.

IMAGE A network database management system. It consists of a set of programs and procedures used to define, create, access, and maintain a database.

implied RUN The ability to run a program without explicitly using the `RUN` command. In MPE/iX it is not necessary to specify `RUN EDITOR.PUB.SYS` to invoke and run the EDIT/3000 program. It is only necessary to enter `EDITOR`.

independent files Files that require only single-file consistency.

index In database terminology, a list of the contents of a file, with keys or references for locating the contents. An index facilitates data retrieval.

indirect file A text file containing the parameters for a `STORE` or `RESTORE` command that you execute regularly.

INITIAL See **system generator (SYSGEN)**

initialization state The state of a job/session when it begins to execute on its own stack. Indicated by `EXEC*` when the `SHOWJOB` command is issued.

initialize To set to beginning values.

initialized volume After a member volume is defined with the `NEWVOL` command, it can be made physically available to the volume set by giving it a volume label, label table, and free space map with the `INITVOL` command of VOLUTIL.PUB.SYS. See **defined volumes**.

initial system loader (ISL) ISL is the software used to bring up MPE/iX or perform a memory dump to tape. It provides a user interface to obtain information about the bootpath or to alter the bootpath. It is used to boot MPE/iX or perform a memory dump to tape.

ink-jet printer A printer that forms characters by spraying ink through a tiny jet onto paper.

input The data to be processed, or the process of transferring data from external storage to the computer.

input/output (I/O) The process of, or equipment used in, transmitting information to or from the computer.

input priority A number in the range of 1 (lowest priority) to 14 (highest priority) assigned to input jobs. The input priority can be assigned by the system (default is 14) or by the user. Jobs with an input priority less than or equal to the system jobfence (default 8) are deferred.

INSTALL The MPE/iX Initial System Loader (ISL) INSTALL utility performs a system load from tape and builds essential operating system files and data structures on disk. Equivalent to the MPE V/E RELOAD operation.

instruction cache A high-speed cache implemented on the 900 Series HP 3000. It operates in parallel with the data cache to enhance processing efficiency. For example, data can be loaded from the data cache while the next instruction is fetched from the instruction cache. See **data cache**.

instruction set — The set of all possible machine instructions understood by the computer.

instruction unit — A part of the MPE/iX CPU to control instruction sequencing. It executes branch instructions, maintains processor status, and handles traps and interrupts.

integer — A data type that is either a positive or negative whole number, or zero.

integer value — A sequence of digits preceded by a plus sign (+), minus sign (-), dollar sign ($), or percent sign (%). When neither a plus sign nor minus sign is provided, a positive number is assumed. A dollar sign indicates a hexadecimal integer and a percent sign indicates an octal integer.

integrated circuit (IC) — A silicon chip on which electrical connections are etched to form electrical components. An IC may contain as many as 100,000 gates depending on the technology used. Chips are mounted on boards and connected to form processing and memory functions for a computer.

intelligent network processor (INP) — A communications input/output board used with Hewlett-Packard data communications products.

intelligent terminal — A terminal that can edit, perform error checking, and respond to programmatic instructions. An intelligent terminal may be as simple as a CRT terminal capable of block transmissions and minor editing, or as complex as a terminal that is fully user-programmable.

interactive — An interactive session allows users to enter commands and data at the terminal and receive an immediate response. Sessions are useful for data entry and retrieval, text editing, or program development where direct dialog with the computer is preferred.

interactive access capability (IA capability) — A capability assigned to accounts and users allowing users to initiate sessions with the `HELLO` command.

interactive mainframe facility (IMF) — An MPE communications subsystem allowing users to access a mainframe computer in interactive mode using a Hewlett-Packard distributed system network (DSN).

interactive user — A user who enters commands at a terminal.

interface — **1)** The connecting circuitry linking the central processor of a computer system to its peripheral devices.

2) Standards that allow systems to connect to each other (for example, RS 232-C).

interleave — A method of writing data to a disk device that improves data access speed.

International Association of Hewlett-Packard Computer Users (INTEREX) — An independent organization formed for the purpose of exchanging techniques and ideas among users of Hewlett-Packard computers.

International Standards Organization (ISO) An organization established to promote the development of standards and to facilitate the international exchange of goods and services. ISO created the Open Systems Interconnection (OSI), a seven-layer approach to network architecture.

internetwork communication Communication between networks. See **catenet**.

internetwork protocol (IP) The network services (NS) protocol based on the Defense Advanced Research Projects Agency's (DARPA) standard. IP is primarily used to route messages between networks using gateways. It provides gateway-to-gateway routing, store-and-forward service between gateways, and message fragmentation and reassembly between source and destination networks.

interprocess communication (IPC) An MPE file system facility that allows processes to communicate with one another.

interrupt A signal that stops the current process and demands immediate attention (so that it gets processed).

intrinsic A system routine accessible by user programs providing interface to operating system resources and functions. Intrinsics perform common tasks such as file access, message formatting, or data conversion.

intrinsic call The method used to invoke, or call, an intrinsic from within a program.

I/O bay A cabinet containing the card cages and device controller boards for peripherals connected to the HP 3000. See **card cage**.

I/O dependent code (IODC) Contains I/O module dependent data, and code used by processor-dependent code (PDC) in configuring the I/O module and booting the system.

I/O error A data transmission error between a computer and peripheral. Examples of I/O errors are baud rate or parity mismatch, and incorrect syntax in device-control instructions.

I/O interface card See **device adapter**.

I/O path The address of the interface hardware and the physical path to reach a device. It is constructed top down from where the device is physically attached to the system. The path is determined by the CIO adapter module number, the device adapter (DA) slot number, and the device address.

ISQL The interactive interface to ALLBASE/SQL, the relational interface to ALLBASE/SQL.

job A job is a method of submitting multiple operating system and utility commands for processing with a single command. Once submitted, the job executes independently of the user's session. Jobs are used to compile source programs, modify

files, or perform other functions not requiring user interaction. See also **batch processing** and **stream**.

job control word (JCW) A 16-bit logical word residing in an MPE-managed table. It's used to control command execution within a job or a session. See **variable** or **MPE/iX variable**.

jobfence A limit established to manage jobs. If a job has an input priority higher than the jobfence, it executes. If it has an input less than or equal to the jobfence, it does not execute.

job file A file that contains commands that will be executed noninteractively. A job file begins with the `JOB` command and ends with the `EOJ` command.

job limit A limit set to manage jobs. The system manager or operator can restrict system usage by limiting the number of jobs allowed to run on the system. If the `LIMIT` command is used to set the job limit to `0` (zero), no additional jobs can log onto the system.

job listing See **listing**.

job number A system assigned identification number given to each job when it is submitted for processing.

job state A generic term for the preliminary stages, excluding initial validation, a new job or session must pass through during its lifespan. See **executing states**.

JSMAIN An MPE/iX process that handles the logon dialog, maintains session tables, and creates a command interpreter (CI).

K Kilo (1000). In computer terminology, K is commonly a symbol representing the number 1024, or 2 raised to the 10th power. Frequently used as a synonym for thousand.

kernel A set of routines in the operating system. The kernel is the executable code responsible for overall control of the computer's resources, such as allocating memory, creating processes, and scheduling programs for execution. See **control program**.

key In ALLBASE/SQL, a column used in an index definition.

keyboard A keyboard is attached to a terminal and is a means of inputting data to communicate with the system.

keyed file A file whose records can be read in logical sequence or directly accessed by a key associated with each record.

keyed sequential access method (KSAM) A file access method supported on the HP 3000 (and included with the fundamental operating software) in which records may be accessed either sequentially or randomly by primary or alternate record keys.

keyword A word assigned a specific meaning by the operating system, a subsystem, computer language, or utility.

keyword parameters Words that have special meaning to the command interpreter and are used to modify the intent or effect of an MPE/iX command. Keyword parameters, unlike positional parameters, may appear in any order after a command has been entered on the command line. An entire keyword parameter group, such as `PASS=password`, must be separated from other keyword parameters by a semicolon (`;`).

K file A recovery file created by EDIT/3000, with a name in the form `Kdddhhmm`, where the first three characters (`ddd`) show the Julian day, and the next four (`hhmm`) characters show the time in hours and minutes when work began on the file. A new K file is created every time a new file is created or an existing file is loaded for editing. If a system problem occurs, the data in the new or loaded file is saved to the K file for recovery purposes.

label table A table that contains file labels for the files residing on the volume set.

LAN 3000/XL LINK Provides the hardware and communications software needed to connect 900 Series HP 3000 machines to a network for system-to-system communication.

LAN cables Cables used to connect the Datacommunications and Terminal Controller (DTC) and the system. See **Thick LAN cable** and **Thin LAN cable**.

language construct A command grouping (for example, IF-ENDIF) used to control the flow of commands.

laser printer A printer that uses a laser to produce an image on a page.

laser printing A method of printing in which a rotating drum has a raster image transferred onto it by a laser. As it rotates further, it is dusted with a fine black plastic powder called toner which adheres to the drum where it was struck by the laser. When the drum comes in contact with the paper, the toner pattern is transferred onto it and the toner is melted (fused) to make the printing permanent.

layers The division in network architecture models. In network architecture, different transmission and communications tasks are assigned to each layer. Each layer is a logically distinct module. One example of layers is the seven-layer Open Systems Interconnection (OSI) network model developed by the International Standards Organization (ISO).

LDEV number See **logical device number**.

library A file containing a set of procedures that may be accessed by programs.

line editor A line editor requires you to press Return to end one line of text and to begin another. EDIT/3000 is an example of a line editor.

line printer A hardware device used for system output. A line printer prints output one line at a time.

link To set up pointers and table entries for a compiled file and its libraries. This creates an executable file that allows a program to run.

link access protocol (LAP) A subset of high-level data-link control (HDLC) protocol that governs the exchanges between a user and the access node of a public data network. LAP uses asynchronous response mode (ARM) of HDLC and is now used in limited applications.

link access protocol-balanced (LAP-B) The current version of link access protocol (LAP) that uses asynchronous balanced mode (ABM) of high-level data-link control (HDLC).

link editor See **linker.**

linker A system program. It combines one or more object programs into one program, searches libraries to resolve user program references, and builds an executable file. This executable file is ready for execution through the program loader. Also referred to as link editor.

listing A listing is the output of a job usually in the form of a printed document.

load A machine instruction requesting the CPU to take data from memory and place it in a register.

loading To prepare a program for execution by allocating primary memory and putting the job in a queue for execution.

local area network (LAN) A computer network confined to a single location. For example, connecting two or more computer systems within a single office together creates a LAN.

local area network interface controller (LANIC) A hardware card that fits into the backplane of the HP 3000 and provides a physical layer for IEEE 802.3 local area networks.

localizable That quality of software or documentation that facilitates changes to the punctuation characters, key words, and command names to fit a particular language so that applications can be used in different countries. The user interface is in the country's native language.

local mode A standalone method of terminal operation. A terminal is operating in local mode when it is not connected to the computer. See also **remote mode**.

local network The network to which the local node belongs.

local node The node where you are physically located and logged on, and at which you enter commands.

local system console See **system console**.

local variable — A variable that appears as a UDC or a command file parameter. A local variable is valid only in a certain section of code. This is the opposite of global, which has value throughout an entire program.

LOCKED state — The status of an output spoolfile when it is being accessed by the SPOOK utility, and is therefore unavailable for printing.

lockword — A word used as a security device on files. A lockword can be assigned to a file when it is created or renamed, and must be supplied to regain access to the file. The word may be from one to eight alphanumeric characters long and must begin with an alphabetic character.

log file — A file that maintains a record of events. Each event is recorded in a separate log record, and is correlated with the job or session causing the event.

logging — **1)** The process of recording all system modifications to a tape or disk file for the purpose of recovery or accountability. If the system fails, the log file can be used to restore the system to its state prior to the failure.

2) The process used by DBCore to record the activity of a DBEnvironment to enable either rollback or rollforward recovery if necessary.

logging shutdown — A shutdown marking the end of the logging cycle. In most cases, it is performed just prior to either system or database backup.

logic unit (LU) — **1)** A part of the CPU that executes arithmetic statements.

2) A program or set of programs providing access to a network for an end user.

logical device (LDEV) — The logical representation of a physical device. The representation includes a numeric identifier and a set of parameters that define the device and its address.

logical device number — An LDEV number is assigned to all hardware components of a computer system and is used for identification purposes.

logical interchange format (LIF) — A standard format for mass storage implemented on many Hewlett-Packard computers to aid in media transportability.

logical record — A collection of fields or related data, treated as a unit, residing in a file. A logical record is defined in a user program. Its length is smaller than or equal to the length of the physical record in which it resides.

log off — A method of terminating a session. To log off MPE/iX, enter the `BYE` or `EXIT` command.

log on — A method of initiating a session. To log on to MPE/iX, enter the `HELLO` command and a valid user and account name, plus a group name if necessary, and any required passwords.

logon group The group accessed by defining a group name when logging on using the `HELLO` command. The syntax is *username.accountname, groupname*. Once the desired group is accessed, resident files may be referenced without fully qualifying them.

logon identity A security device used to verify users to the system. A logon identity includes a valid user name and account name in the form *user.account*.

logon prompt A system prompt (`MPE/iX:`) that indicates the computer is ready to initiate a session. See also **prompt**.

logon session The online interaction between a user and the computer. The session occurs between logging on and logging off.

logon UDC A user-defined command (UDC) automatically executed at logon. Specified with an `OPTION LOGON` statement within the UDC.

LONER A duplicate of a member volume currently online, or a volume recognized by MPE/iX as a member volume but without a master volume online. The `VSCLOSE` command puts all master and member volumes of a set in the `LONER` state.

machine cycle The period of time required by a computer to perform the most fundamental operation.

machine instruction The smallest resolvable piece of a code segment. Machine instructions are used by the CPU to accomplish a single task, such as moving an item of data to the CPU, moving it from the CPU to memory, or performing a single calculation using data in the CPU.

machine language Binary code that is executable by the CPU. All programs must eventually be translated into machine language before they can be processed by the computer.

magnetic tape A data storage media that comes on reels.

mainframe computer A computer that generally has a large amount of memory and operates at high-speed, servicing multiple users and/or batch jobs.

main memory The fast, volatile, random access storage containing all currently executing code and data segments, including portions of the operating system and any utilities in use.

maintenance word A protection word restricting access to certain utility functions of a database. The creator can define a maintenance word for a database or a database space with HPIUtil and SQLUtil.

management information systems (MIS) A system using equipment and certain procedures to aid the managerial decision-making process.

manual master data set A data set in a database containing a key item and possibly other data items. A manual master does not have to be linked

	to a detail data set. Entries in a manual master data set must be explicitly added or deleted (compare to automatic master data set).
mapped file	The disk files that are mapped directly into the virtual address space memory, bypassing the file system and I/O routines that other disk files must use.
mapped file access	A method of transferring data to/from a disk file by implicitly using virtual pointers and primitive `LOAD` and `STORE` instructions, rather than by explicitly reading/writing using file system primitives. Mapped files are accessible by obtaining a pointer to the file that is mapped to the user's address space.
MASTER	The state of a disk recognized by the system as a master volume.
master data set	A data set with one or more data items, one of which must be a key item. A master data set is generally used as an index to one or more detail data sets. The two types of master data sets are manual and automatic.
master device	A peripheral device containing the device controller board used to control it and other slave devices.
master installation tape (MIT)	A tape containing the MPE/iX operating system, utilities, and subsystems for the HP 3000. It may be either a new version of the software, a backup of the user's system, or the original installation tape for a new site. MIT may also refer to a particular release of MPE.
master/slave	A relation between two processes in which one initiates the execution of the other, and controls all subsequent communications between them.
master volume	A master volume is the only volume needed to define a volume set. It contains the configuration data, the root directory, a free space map, file label table, and a volume label with a unique volume set ID for the volume set. See **system volume**.
mean time between failures (MTBF)	A statistic that predicts how often failures will occur.
mean time to recovery (MTTR)	A statistic that predicts how long a certain repair service will take.
media	Devices capable of storing data, such as disks or magnetic tapes.
medium attachment unit (MAU)	A device attached to a coaxial cable for a local area network. The MAU provides physical and electrical connection from the attachment unit interface (AUI) cable to the coaxial cable.
megabyte	A measure of memory or storage space equal to 1,048,576 bytes of characters.

member volume A volume containing a volume label indicating it belongs to an MPE/iX volume set. It may be used by one or more volume classes.

memory An area of the computer's circuitry that holds applications and any data generated with those applications. Information held in random access memory (RAM) is erased whenever the computer is turned off. Information held in read-only memory (ROM) is retained even when the computer is off.

memory dump The contents of memory stored on disk or tape. A memory dump is usually used for analysis and trouble shooting.

memory error logging A facility that records all memory errors. It begins automatically when the system is initialized.

memory-mapped I/O A configuration in which each device or I/O interface card is assigned a set of memory locations, or memory-mapped I/O registers.

menu A display on the terminal screen showing the options available within a program. Many application programs use menus to show the options a user can select.

message A unit of information sent from one device or computer to another in a form that is understandable to the receiving device.

message file A special type of file with features ideal for managing messages between processes. They also allow processes in different jobs and sessions to communicate with one another.

metadata A data dictionary term that means data that describes other data.

microcode Directions that define machine language instructions. Each machine instruction is a complete microprogram. Microcode directly controls how the hardware functions. Microcode runs in a fast memory called a control store.

microcomputer A small computer, based on a microprocessor, designed to serve one user at a time.

microprocessor A computer chip containing the circuitry the computer needs to interpret and execute instructions and to perform calculations. Some microprocessors contain a small amount of memory. The microprocessor is the heart of every personal computer.

millicode The 900 Series HP 3000 utilizes millicode routines to perform some of the more frequently executed complex tasks. Millicode routines are sequences of instructions that can be accessed and executed very efficiently by MPE/iX.

million instructions per second (MIPS) A term used to measure how fast a CPU can operate. For example, one machine might be rated to operate at 4.5 MIPS, another at 6.7 MIPS.

minicomputer — A medium-sized computer that can serve many users and peripherals.

modem — Modulator/demodulator. A device allowing communication between computer systems. The modem converts digital signals generated by the sending (initiating) computer into a form that can be transmitted by telephone (modulation). At the receiving facility, the telephone signal is reconverted into a digital signal (demodulation) and is input to the computer.

module — **1)** A hardware device that sits on a bus, such as an I/O interface card. Each has its own set of memory-mapped registers to which it responds.

2) Within a software context, a piece of code.

monitor — See **control program**.

motherboard — A printed circuit assembly into which circuit boards are plugged. The motherboard provides an organized means to transmit data and control information/power between the components and devices controlled by the circuit boards.

mountable volumes — See **nonsystem volumes**.

mounting — The act of making a data storage device accessible. To physically mount the device, you load the media onto the device. To logically mount the device, you tell the operating system which device you want to use and it allows you access to that resource.

multileaving remote job entry (MRJE) — A distributed system network (DSN) product that provides a link between an HP 3000 and a mainframe computer using remote job entry communications protocol.

multiple RIN capability (MR capability) — The ability to use more than one RIN at a time; for example, locking more than one file at a time.

multiplexer (MUX) — A device or interface that allows a number of separate input or output lines to funnel into a single computer.

multiprocessing — The appearance of simultaneous execution of two or more processes.

multiprocessor — A processor that can be added to the main processor to increase computing power.

multiprogramming — The concurrent execution of multiple programs by a single processing unit.

Multiprogramming Executive (MPE) — The HP 3000 MPE V/E operating system. MPE consists of programs that handle exchanges between HP terminals, printers, storage devices, memory, and executing programs.

MPE/iX — Multiprogramming executive with integrated POSIX. The operating system for the 900 Series HP 3000 computers. MPE/iX manages all system resources and coordinates the execution of all programs running on the system.

multiple RINs Allowing an account, group, or user multiple RINs (by specifying multiple RIN (MR) capability with the `ALTACCT`, `ALTGROUP`, or `ALTUSER` commands) allows users to lock more than one resource at a time.

multiuser mode The state of an ALLBASE/SQL DBEnvironment that allows more than one user to access it concurrently. The maximum number of users is set by the maximum transactions parameter stored in the DBECon file.

multiuser state The condition of an operating system in which terminals and the system console allow communication between the system and its users.

multiuser system A system that may have more than one user actively communicating with the system when it is in a multiuser state.

nailed device A device permanently assigned an LDEV number.

native language support (NLS) MPE/iX utilities and intrinsics that facilitate the development of applications for users in different countries. NLS includes such features as currency symbol handling and character translation.

native mode (NM) The native run-time environment of MPE/iX. In native mode, source code has been compiled into the native instruction set of the 900 Series HP 3000.

network A group of computer systems connected so that they can exchange information and share resources.

network administrator capability (NA capability) A user, selected by the system manager, who is assigned to manage the data communications subsystem at a specified location.

network architecture A structured, modular design for networks.

network boundary The division between networks in a catenet or internetwork.

network file transfer (NFT) A network services (NS) user service that allows you to copy files from one node to another interactively or programmatically.

network interprocess communication (NetIPC) A network services (NS) user service that allows autonomous processes running concurrently at different nodes to exchange information in a peer-to-peer manner.

network layer Layer three of the Open Systems Interconnection (OSI) network model. Network layer tasks include determining the routes messages take to get from one node to another.

network map A diagram of the links, nodes, and networks in a catenet. A network map should include node information (system type and resources, peripherals, amount of memory, and services supported) and linked information (location of coaxial cables, terminators, repeaters, attachment unit interface (AUI) cables, and media attachment unit (MAUs).

network remote job entry (NRJE) A facility to provide batch systems network architecture (SNA) communications. SNA NRJE allows users to transmit large batch jobs and files from an HP 3000 to an IBM mainframe for processing and to receive output and files from an IBM mainframe.

network services (NS) Network services (NS) software products provide user interface to the network. They allow batch job submittals, file transfers, virtual terminal access, and other services.

$NEWPASS Temporary file created automatically, typically during compiling, to which newly generated compiled code is written. This is a system-defined file and only one may exist during a single job or session. When this file is closed, its name changes to `$OLDPASS`.

node One end of a communications link or a computer system in a network. For example, if two HP 3000 computers are connected by a DS line, each system is considered a node.

node manager capability (NM capability) A capability assigned to users allowing them to control communication subsystems at their node.

node name A string of up to 31 characters, not including control characters or spaces, that uniquely identifies a node in a network or internetwork.

noise Undesirable signals on a communication channel. Noise can interfere with or distort data signals.

nonremovable disks Disks that cannot be removed from the disk drive.

nonshareable device capability (ND capability) A capability assigned to accounts and users allowing account members to own nonshareable devices such as unspooled printers, serial disks, private volumes (on MPE V/E), and foreign disks.

nonsystem volumes Volumes that do not need to be mounted for the operating system to run. Also called mountable volumes. These volumes are equivalent to MPE V/E private volumes.

NS Common Services A group of network services including network file transfer (NFT), network interprocess communication (NetIPC), remote process management (RPM), and virtual terminal (VT).

$NULL Temporary file that is empty when used as input and meaningless when used as output (the output essentially disappears into what is referred to as the *bit bucket*). When referenced as an input file by a program, that program receives only an end-of-file mark upon first access. When referenced as an output file, the associated write request is accepted by MPE/iX but no physical output is actually performed. `$NULL` can be used to discard unneeded output from an executing program.

null value A value consisting only of binary zeros. Null values are neither blanks nor ASCII zeros. They do not print.

object code Machine executable instructions. Object code is the result of source code compilation.

octal The base eight numbering system, in which digits 0 through 7 are used. One octal digit can be represented by three binary digits. Octal numbers are preceded by a percent sign (for example, %775).

offline state The condition of a device when it is not available to the system, for example, not under the direct control of the CPU.

$OLDPASS Temporary file created automatically when compiling is complete. It is used to hold compiled code. This is a system-defined file and only one may exist during a single job or session. This file results when the `$NEWPASS` file closes.

online state The condition of a device when it is available to the system. An online device allows the user to interact with the system.

open The act of obtaining access to a resource.

OPEN state The state of a file when it is being accessed by a user program or MPE/iX. An `OPEN` input spoolfile occurs when data is being collected from the input device (usually a terminal or tape drive). An `OPEN` output spoolfile is the disk file being created by the output spooler.

Open Systems Interconnection (OSI) A seven-layer network architecture model developed by the International Standards Organization (ISO). In the OSI model, transmission and communication tasks are assigned to logically distinct modules called layers. Each layer communicates with the layer directly above and below it, and through the layers below it to its peer in the remote computer. The OSI model defines the seven layers as the following: 1. physical, 2. data link, 3. network, 4. transport, 5. session, 6. presentation, 7. application.

operating system The software that operates the computer. It consists of programs such as basic file and I/O manipulators. All subsystems run upon the operating system.

operator command MPE/iX commands executed at the system console by the system operator. Operator commands may be distributed to specific users at the operator's discretion with the `ALLOW`, `ASSOCIATE`, and `JOBSECURITY` commands.

OPERATOR.SYS The user and account that MPE/iX automatically logs on to at the console when the system is started. `OPERATOR.SYS` may or may not be assigned special capabilities. Unlike the system supervisor (who is assigned OP capability), or the system manager (who is assigned SM capability), there is no mnemonic that entitles the operator to execute a special subset of commands. The operator's power and responsibilities derive solely from control of the system console and any capabilities assigned to it by the account manager of the `SYS` account.

optimizing compiler A sophisticated compiler that intelligently translates high-level language programs to object code by removing inefficiencies and unnecessary instructions. With an optimizing compiler, a program generally runs faster and uses less memory.

optional parameter A parameter that is not required when entering a command or calling an intrinsic. In reference manuals, optional parameters are surrounded by square brackets ([ ]).

original equipment manufacturer (OEM) A manufacturer of equipment that may be marketed by another manufacturer.

outclass priority A value in the range of 1 to 13 used to determine if a job's error listing prints. If the outclass priority is higher than the system outfence, the error listing will print.

outfence The system outfence is a number in the range of 1 (lowest priority) to 14 (highest priority), used to control access to the system printer. If a job does not have an output priority higher than the system outfence (default 7), it does not print.

output Data transferred from internal to secondary (external) storage in a computer. Also, the process of transferring information from the computer to a peripheral device.

output priority A number in the range of 1 (lowest priority) to 13 (highest priority) assigned to an output spoolfile either by the system (a default value) or by a user. If the output priority is higher than the system outfence, the job's output prints.

overflow To exceed the capacity of a register or buffer's storage space. When an overflow occurs, the excess data is lost.

overwrite To replace a disk file. If a file is saved under a name that already exists on a disk, the new file overwrites the old file.

owner In ALLBASE/SQL the user ID, group, or class name that owns a table, view, module, or group.

pack A set of one or more disk platters stacked inside a plastic cylindrical container. A pack is usually called a disk pack. A disk pack stores data.

packet A unit of information passed between Levels II and III (data link layer and network layer) of the Open Systems Interconnection (OSI) model.

packet assembler/disassembler (PAD) A device that converts asynchronous character streams into packets that can be transmitted over a packet-switching network.

packet switching A data communications transmission technique. Long messages are divided into smaller packets and sent on a dynamically allocated path to their destination.

packet switching network Refer to **value added network**.

page — In MPE/iX a page is defined as a set of 2048 contiguous bytes (2KB) that is used as the basic unit for memory mapping. All swapping is done in multiples of pages.

parallel devices — A set of backup devices to which you are able to store information simultaneously.

parallel interface — An interface type in which a separate line is used for each data bit in a byte or word, and all of those bits are transferred simultaneously.

parameter — A value in a list of values that is passed to a procedure. The parameter is used in calculations or operations in the procedure.

parent process — An existing process that creates a subsequent process, thereafter known as the child process. A parent process may create one or more child processes.

parity — In computing, the condition of a bit being odd or even.

parity checking — A form of redundancy checking during data transmittal. An odd or even parity for a particular receiving device is selected. The sending device checks the value of the parity bit to make sure it's the appropriate parity for the receiving device. If the parity is not correct, the sending device adds a 1 to the bit. The receiving device then checks the parity of the incoming data, indicates any parity errors, and requests retransmission of data, if necessary. Parity checking detects the loss, or unwanted inclusion, of an odd number of bits.

parser — A routine that subdivides an instruction, command, or programming statement into components that the computer system can more easily understand and use.

partitioning data — See **subdividing data**.

Pascal — A computer language that is used for many types of applications. It is a very flexible language that is useful when different structures of data types are needed.

password — A string of ASCII characters required for a user to log on to a particular group or account. Passwords are associated with users, groups, and accounts.

patch — A piece of software code that corrects a defect.

path — The course within a computer that a message takes, typically through software protocol handlers.

performance tuning — Essentially is a matter of locating a bottleneck and then eliminating or reducing it.

peripheral — A hardware device attached to and controlled by a computer, such as a terminal, a tape or disk drive, or a printer.

permanent file — A disk file that continues to exist even after a job or session logs off. To delete the permanent file, it must be erased from

	the system with the PURGE command or with the FCLOSE intrinsic.
permanent space	Disk space reserved for use by permanent structures such as files, the label table, or the free space map.
personal computer (PC)	A portable microcomputer usually sold with software packages useful in word processing, financial management, storing lists, and other general usage business/personal activities.
physical layer	Layer one of the Open Systems Interconnection (OSI) network model. The physical layer transmits the electrical signals over the link.
physical record	One or more logical records, treated as a unit when transmitted to or from devices. The number of logical records contained in a single block is determined by the blocking factor, specified when the file is first created with the BUILD command or the FOPEN intrinsic.
physical unit (PU)	In systems network architecture (SNA), the component that manages and monitors the resources of a node.
pipelining	A computer design technique that gives an effective execution rate of one instruction per cycle. Pipelining exploits the fact that it is not necessary to wait until one instruction has completed before the next can begin. Fetch, execute, and load/store instructions can be executed on a three-stage pipeline.
pixel	A contraction for picture element. Any of the tiny elements that form a digitized picture such as on a CRT screen. Each pixel represents the degree of brightness assigned to a point in the picture.
platter	A single disk coated with magnetic material. One or more platters are mounted on a central spindle, and together they form a disk pack. Information may be recorded on one or both sides of each platter within the pack.
pointer	The address of a piece of data or a data structure used by the programmer in data manipulation.
point-to-point network	A network in which communication travels from one node (point) to another by a unique, unshared physical link. The opposite of broadcast bus network.
polling	In electronic mail or data communications, the systematic calling of terminals to determine if messages are waiting to be transmitted or if the terminal is ready to accept messages.
port	An outlet from the computer used to connect the computer to peripheral devices. A cable runs between the outlet and the device.
positional parameters	One or more terms, appearing in a specific order on the command line, that modify the intent or effect of the

command. If a positional parameter is omitted, the user must supply a comma in its place.

power down To turn the system power off.

power up To turn the system power on.

Precision Architecture Refer to **Hewlett-Packard Precision Architecture**.

preprocessor A component of the ALLBASE/SQL relational interface that converts code containing SQL commands into code compatible with the source code language.

presentation layer Layer six of the Open Systems Interconnection (OSI) network model. Presentation layer tasks include manipulation of user data such as text compression and encryptions.

preventive maintenance (PM) The regular housecleaning chores performed to keep the system from suffering performance degradation and to prevent problems from developing on the system.

primary boot path The primary boot path is used to boot the system from disk resident software. See **boot path**.

printed circuit assembly (PCA) An I/O interface card. Refer to **device adapter**.

priority request The use of the optional parameter `;HIPRI` in the `HELLO` and `JOB` commands. This capability, granted to system supervisors and system managers, allows a job to be dispatched or a session to be initiated, overriding the current jobfence or execution limit.

private branch exchange (PBX) An installed telephone exchange at a given site. A PBX may be upgraded to handle computer data traffic.

private volumes See **removable packs** (MPE V/E only).

privileged mode capability (PM capability) A capability assigned to accounts, groups, or users allowing unrestricted memory access, access to privileged CPU instructions, and the ability to call privileged procedures. This capability overrides MPE/iX safeguards.

process The unique execution of a program or procedure by a particular user at a particular time. If several users execute the same program, each is a separate process. Similarly, if the same user runs several programs, each execution is also considered a distinct process.

process control block (PCB) A main-memory resident table containing status information for each process running on the system such as monitor memory management, dispatching, the stack number, what extra segments a process is using and their location, whether the process is waiting for a resource or waiting for a response from another process, and other information.

process group A collection of processsing its name, the operating system returns a unique number for your use. This number is the file identifier.

process handling capability (PH capability) A capability optionally assigned to accounts, groups, and users, allowing a currently executing process to create other processes. PH capability also allows process suspension, interprocess communication, and process deletion. Since the proliferation of processes results in heavy system resource usage, PH capability is typically restricted to only a few users.

process identification number (PIN) A number assigned to a process by MPE/iX when the process is created. It is used internally in the process control block (PCB) table, and during requests for system resources at the console (when the operator responds to requests by referencing the PIN in the `REPLY` command).

process local file descriptor table The table containing the file descriptors for each process. There is one table per process.

processor-dependent code (PDC) An MPE/iX hardware routine to read and initialize the I/O paths used for booting or rebooting the system.

processor status word (PSW) Processor status words control the order of instruction execution and contain various information about the state of a process.

program A sequence of instructions that tells the computer how to perform a specific task.

program counter (PC) A pointer in memory that points to the instruction to be executed.

programmable read-only memory (PROM) A PROM chip contains programs that remain permanently in the computer.

programmatic sessions capability (PS capability) A capability allowing a user to execute the `STARTSESS` command and to call the `STARTSESS` and `ABORTSESS` intrinsics.

program-to-program communications (PTOP) A network service that allows programs residing on different nodes to exchange information with one another in a master/slave relationship.

prompt The character(s) displayed at the terminal screen indicating that the system is ready for a command. The MPE/iX command interpreter's prompt may be changed by the user. The default value is a colon (:). Subsystems have different prompts.

protocol A set of rules that enables two or more data processing entities to exhange information. In networks, protocols are the rules and conventions that govern each layer of network architecture. They define what functions are to be performed and how messages are to be exchanged.

PUB group A group, created when an account is created, whose files are usually accessible to all users within the account.

public data network (PDN) A networking service. It fulfills all communications needs between the host computer and other processes and terminals.

PUB.SYS — The public group of the system account. `PUB.SYS` is where programs and applications available to all users of the system reside.

purge — To delete a permanent file from the system with the `PURGE` command. The `PURGE` command is also used to delete an account structure entry such as a user name, group name, or an account.

query — A data retrieval request.

queue — A list that allows additions at one end and deletions at the opposite end. Items in a queue are usually processed on the first in, first out (FIFO) principle, in that the first item entered is the first item to be processed. For example, the output produced by a program is generally stored on disk in a queue until a printer becomes available. As each output is printed the next in priority is selected and processed.

quiet mode — A session mode in which messages sent from other jobs or sessions to a terminal are not displayed. Users control quiet mode with the `SETMSG` command. To determine who is running quietly, execute the `SHOWJOB` command. Those sessions not receiving messages are indicated by the word `QUIET` in the third column of the listing. A `WARN` message from the system console overrides quiet mode and should be used for all critical communication, such as informing the user of an impending system shutdown.

random access — The direct access to data stored in a device. For example, if a user or program requires the 17th record in a file stored on random access media, that record may be selected for the read/write operation without scanning the preceding 16 records. Typical random access storage devices include main memory and disk drives.

random access memory (RAM) — A part of memory that contains information that is temporarily stored in the computer. When the computer is turned off, random access memory is erased. The opposite of read-only memory.

read — To request and accept input data from a source.

read-only memory (ROM) — The memory used for storing firmware. A ROM contains information that cannot be modified and is not erased when the computer is turned off. The opposite of random access memory.

ready state — The condition of an input spoolfile when it is available for access by the spooler program or user. `READY` output spoolfiles are complete files waiting to be printed. They may also be manipulated with the SPOOK utility.

real time — An operating system feature that enables it to react very quickly to external and internal events as they occur.

record — A collection of fields or related data treated as a unit, residing in a file. A contiguous group of bytes whose structure is known by the file system.

recognizing a disk — See **mounting**.

record width — The amount of data that is transmitted to and from a device at one time. For example, the standard record width for terminals is 80 bytes. The record width for disk devices is 128 words.

recursion — The ability of a procedure or function to call itself.

redo file — An MPE/iX disk file containing the commands entered by the user.

reduced instruction set computer (RISC) — A computer whose architecture features a simplified, hard-wired instruction set.

register — An area in the CPU used for storage or mathematical operations.

relation — A data structure having a table-like format; also referred to as a table in relational terminology.

relational — A type of data model (offered by Hewlett-Packard as ALLBASE/SQL that stores data in independent two-dimensional tables, thus increasing access and restructuring flexibility.

relative I/O (RIO) — A direct file access method that allows individual records to be deactivated. These inactive records remain on disk, but are ignored in a logical read operation.

relative record number — A number representing the position of a logical record in relation to the first record in the file. The first record is numbered either 0 or 1, depending on the subsystem or utility being used.

RELOAD — To coldload the entire HP 3000 system, including all MPE files, the accounting structure, I/O configuration tables, and user files from the backup medium. A RELOAD is normally used when no other coldload option has succeeded. MPE/iX equivalent is the ISL INSTALL utility.

relocatable binary module (RBM) — The smallest unit of output from a compiler. The compiler determines how RBMs are separated and their content may vary depending on the compiler used. Data constants are stored in the RBM along with the code and are non-modifiable.

remote database — A centrally located database which users throughout a network can access and update.

remote job entry (RJE) — A Hewlett-Packard program, executed with the RJE command. It provides an interface between the HP 3000 and other computers using the IBM 2780/3780 communications protocol. RJE makes the HP 3000 appear to be either an

	IBM 2780 Data Transmission Terminal or 3780 Data Communications Terminal to the host system, and provides a complete multiprogramming environment.
remote mode	A mode in which a terminal transmits and receives data from a remote (or host) computer.
remote network	Any network in the catenet to which the local node does not belong.
remote node	A node that is not physically located where you are and which you communicate with using data communication.
remote session	A session on a different machine.
remote system	A computer system physically separated from other computer systems.
remote system console	A terminal that provides remote access to the SPU as a system console or terminal session.
remote terminal	A terminal that is indirectly connected to the computer, using a modem and telephone hook up.
removable disk	A disk that can be removed from disk drives and transported to another disk drive.
removable packs	See private volumes.
repeater	A data transmission device used to amplify a signal.
report	A display of information about accounts, groups, and users, generated with the `REPORT` command. The information, listed in columns, contains both the current value and maximum limit for file space (in sectors), CPU time (in seconds), and connect time (in minutes). System managers may report on all groups in all accounts; account managers may report on all groups in their own account; standard users may report on only their logon group.
report program generator (RPG)	A computer programming language designed to provide report-writing functions.
required parameter	A parameter that is required when entering a command or calling an intrinsic. In reference manuals, required parameters are surrounded by braces (`{}`).
rerouting	Ability to reroute messages around inoperative links in a network.
resolution	A measure of image sharpness; it can be expressed as a number of lines or pixels per unit length.
resource	Any device or item used by a computer, for example, I/O devices, disk files, or programs.
resource identification number (RIN)	A number identifying a user-defined resource. Users are normally allowed to lock only a single RIN, which means they may have exclusive access to one resource at a time, such as an I/O device, a file, or a program.

resource sharing — A network that makes elements at each node accessible from other nodes in the network. These elements may include disk files, printers, magnetic tapes, terminals, and other programs.

response center support (RCS) — An HP support agreement coverage that provides telephone assistance with software usage and problems.

restricting data — A way of limiting access to data by grouping data into volumes, volume classes, and volume sets.

restore — The process of retrieving user files from tapes or serial disk and writing them to disk. Restoring is executed with the `RESTORE` command.

resume — To restart execution of a procedure or program after it has been suspended.

ring — A point-to-point network topology. The ring is a string topology with an additional link between the end nodes. The store-and-forward delay is half that of a string topology because the maximum number of intervening nodes is halved. The ring topology is suited for accessible from all nodes. Ring networks are less vulnerable than string networks. If any one link fails, all the nodes can still communicate by rerouting around the failure. The opposite of string.

rollback recovery — In ALLBASE/SQL and IMAGE database management systems, a process that ensures all completed transactions are made permanent and that all incomplete transactions are undone.

rollforward recovery — A database process that reconstructs a DBEnvironment (ALLBASE/SQL) or database (IMAGE) from backups by processing completed transactions from a log file.

route — The course through the network that a message takes from a source node to a destination node. A route can pass through intervening nodes.

row — In ALLBASE/SQL a single occurrence of one or more columns in a table.

RS 232-C — The "recommended standard" electrical interface (American National Standards Institute specification) for communication among computers and peripherals, such as terminals and printers. This standard specifies mechanical and electrical requirements. It uses a standard interface in a data communications network, with lettered pin assignments for ground, data, control, and timing circuits. The data signaling rate is from 0 to 20,000 bps in bit-serial operation, synchronous, and asynchronous.

RS 422 — A "recommended standard" for balanced voltage digital interface circuits. It is used between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) or as a point-to-point interconnection of serial binary signals between

digital equipment. The data signaling rate is up to 10 Mbit per second (Mbps).

run — To execute a program.

run time — The time a program is run.

save files capability (SF capability) — The capability allowing users to save the files they create. It is assigned by default to accounts and users.

savepoint — A place within a DBCore transaction to which you can rollback (partially undo) then continue with same transaction.

scaling — To divide the graphics area into units convenient for your application.

scanner/parser — A routine that subdivides an instruction into components that the operating system (or another subsystem) can more easily understand and use.

scratch a volume — To make data unavailable on a volume so that the volume can be reinitialized. In effect, to delete data on a volume.

scratch tapes — Used tapes containing information that is no longer needed.

SCRATCH volume — A volume whose data is no longer needed that has been marked as available for a new volume or volume set. The `SCRATCHVOL` command marks the volume. The `UNSCRATCHVOL` unmarks the volume without losing any data or label information, provided the disk has not been written to.

scrolling — The act of adding a new line of data to a video terminal's screen by adding it to the bottom of the screen and shifting all previous lines upward.

search path — An MPE/iX mechanism that controls which file is opened once a command is determined not to be a UDC nor an MPE command.

sector — A portion of a track on a disk, and the smallest addressable piece of the disk. MPE-formatted disks use 128-word sectors (256 bytes).

security — **1)** The provisions that prevent unauthorized users from entering the system, accessing data, or using resources, programs, or capabilities.

2) The provisions included in MPE to protect the system from unauthorized use. MPE offers several means to create a secure environment. The most basic level of security includes organizing files into groups and users into accounts, either of which may be assigned a password. Security also refers to the ability to read, write, append, lock, and execute files, optionally assigned to accounts by the system manager and to groups and users by the account manager.

segmented library (SL) — A file containing code segments that are shareable, general-use MPE, utility, and subsystem procedures not unique to a particular process. The three levels of segmented libraries

	are: LIB=G (group library), LIB=P (public library), LIB=S (system library). G, P, and S refer to the location of the CM program being run. If *program.group.account* is run with LIB=G, then SL.*group.account* is used. If *program.group.account* is run with LIB=P, then `SL.PUB.`*account* is used. Otherwise, `SL.PUB.SYS` (LIB=S) is used. The SL resolves external procedure calls not contained in the program itself. The group SL is available to any user who can access the group; the public SL is available to all account users; and the system SL is available to all system users.
segmenter	A subsystem of the MPE V/E operating system that performs all execution. Its primary function is to gather and link into segments most of the resources needed to form an executable program file.
self-clocking data	The transmission of data when the clock information is part of the data.
separator	A symbol that separates the parameters of an instruction. Some examples of separators are commas, spaces, and semicolons.
sequential	The order (ascending or descending) in which data items are physically stored and accessed.
serial	See **sequential**.
serial disk	A serially-accessed disk that is configured as a magnetic tape. Flexible diskettes, disk packs, and cartridge tape (MPE V/E) may all be used as serial disks. They are designed to store system data (backups), load subsystems, and to perform standalone CPU and non-CPU diagnostics.
serial interface	A single data line that transfers data bytes sequentially between devices.
server	A node unit of a network that provides a specific service to network users.
session	A mode in which the HP 3000 is used interactively by entering commands and data through a terminal's keyboard and receiving immediate responses to input. A session is initiated with the `HELLO` command. A session is ended with the `BYE` command, or a second `HELLO` command that logs the user off the first session and onto another session.
session layer	Layer five of the Open System Interconnection (OSI) network model. The session layer provides the means for cooperative presentation entities to organize and synchronize their dialog and manage their data exchange.
signal	The software interrupt sent to processes, informing them of special situations or events.

simplex The operation of a channel only in one direction, with no reverse capability.

single-cycle execution Simple, hard-wired instructions that are efficiently pipelined to allow RISC architecture to execute an instruction on virtually every machine cycle.

single file consistency Single file consistency is the preservation of the internal state of a file. The backup system ensures that a file is in a logically consistent state before it stores the file.

single-user mode A DBEnvironment startup mode that allows only one DBE session to be active at a time.

single-user state A condition of the MPE/iX operating system in which the system console provides the only communication mechanism between the system and its user.

single-user system A system that can communicate with only one fixed terminal.

slave device A peripheral device not directly connected to the HP 3000. A slave device does not have its own device controller, but instead is controlled through a master device.

small computer system interface (SCSI) A SCSI is an interface designed to connect small computer systems to devices such as disk storage, printers, and other peripherals.

softcopy The display on a video terminal. The opposite of hardcopy.

soft reset A reset that initializes a variety of terminal functions but does not reset the memory. Refer to **hard reset**.

software A set of programs, instructions, rules, and procedures concerned with the operation of a computer. The opposite of hardware.

software dump facility (SDF) A facility that gives the system operator the capability of writing all main memory to a serial storage medium. It operates in a standalone environment (without MPE/iX), and is used following a system failure or a system halt.

Software Status Bulletin A Hewlett-Packard publication supplying customers with information on Hewlett-Packard software enhancements.

source code One or more files containing the language used by programmers to write a program. It must be compiled into machine-readable data (object code) before it can be executed by the computer.

span To spread related data across volume sets.

spoolfile A file awaiting printing. This file can reside on disk or can be moved to tape. A spoolfile may be either `OPEN`, `ACTIVE`, `READY`, or `LOCKED`. These states describe different stages of the spooling process depending upon whether the file is an input or output spoolfile.

spool SPOOL is an acronym for "simultaneous peripheral operations online". Spooling allows many processes to simultaneously write output for a single printer.

spreadsheet A program that allows the user to enter data into row and column positions (known as "cells"). A spreadsheet program provides mathematical manipulation of the values in the cells.

stack A data structure in which items are added at the end of a sequential list and can only be retrieved from the same end.

standard input A system-defined file that provides input for programs. This file can be a device (for example, a keyboard or printer), or an actual data file. The formal file designator for standard input is `$STDIN` or `$STDINX`.

standard output A system-defined file that holds output from a batch job (including the job statements and error messages). This file can be a device (for example, a terminal screen or printer), or an actual file. The formal file designator for standard output is `$STDLIST`.

star network A point-to-point network topology. The star topology is often used for centralized data collection or supervisory control. It is also used when a central node has a large database or control program that is accessed by the other nodes. In a star network, there is at most one intervening node between any two nodes. Star networks are vulnerable to failure of the central node. If the central node fails, no network communication is possible.

START An initial system loader (ISL) utility, and its options, used to start the system from disk, building the system data structures. This utility is used to recover from a hang or failure or to reboot the system after scheduled downtime. The `START RECOVERY` option is equivalent to the MPE V/E WARMSTART procedure, and the `START NORECOVERY` option is equivalent to the MPE V/E COOLSTART procedure.

static backup Backup is static when the files and structures are inaccessible during the time that they are being stored. That is, they are locked exclusively by the backup subsystem.

status bits or words Bits (or words, if status words are used) that indicate the condition of a device. The status bits or word can be checked by a program or microcode and, based upon the value, a specific sequence of instructions executed.

$STDIN A system-defined file name referring to the standard input "file" (which can be an actual file or a device). $STDIN often refers to the keyboard for interactive sessions and a file for batch jobs or programs. `$STDIN` treats a colon (:) appearing in the first column of input data as an end-of-file. See **standard input**.

$STDINX Same as `$STDIN`. However, unlike `$STDIN`, `$STDINX` treats the colon (:) prompt appearing in the first column of input data as part of the data file, rather than an end-of-file indicator.

$STDLIST A system-defined file name referring to the standard output "file" (which can be file or a device). `$SDTLIST` often refers to the terminal for interactive sessions and the printer for batch jobs. See **standard output**.

stop bits When two computers communicate information over an asynchronous connection, the sending computer adds one or more stop bits to the end of each byte that it sends. The stop bits tell the receiving computer that an entire byte has been sent and that a separate byte is on its way.

storage device A device (such as a disk pack, a disk cartridge, a flexible disk, magnetic tape, or cartridge tape) onto which data can be stored and subsequently retrieved.

STORE **1)** The process of saving HP 3000 files to tape or serial disk. Storing is executed by using the `STORE` command.

2) A machine instruction that tells the CPU to take information from a register and put it in memory.

store-and-forward A method of forwarding messages in a network. In a store-and-forward network, a node can send a message to another node to which there is no direct link. Intermediate nodes can forward the message to the correct destination node. Messages can be stored and forwarded between several nodes.

stream To execute a batch job by using the MPE `STREAM` command.

stress testing To test a system by executing a maximum load, over time, to verify that the system will continue to operate given maximum levels of interactive and batch processing.

string A point-to-point network topology. The string topology requires fewer communication links than there are computers in the network, and requires the fewest number of links. For communication between non-adjacent nodes, messages are stored and forwarded by intervening nodes. If a link fails, the nodes separated by the failure are not able to communicate.

Structured Query Language (SQL) The industry standard relational database language.

subdividing data A way of limiting access to data by grouping data into volumes, volume classes, and volume sets.

subline A portion of the command line that occurs only if the command was continued on the input line by terminating it with an ampersand. Also referred to as a continuation line.

subqueue priority The priority of a job, session, or system process, with the five system queues (A, B, C, D, or E). The subqueue priority

	determines the priority of CPU usage. A lower subqueue priority indicates a higher priority for CPU time.
subsystem	That part of the operating system that performs specific functions for applications (for example, IMAGE database management system).
supervisor	See **control program**.
swapping	See **disk swapping**.
switch subsystem	The MPE/iX switch subsystem determines whether code is in native mode or compatibility mode, and automatically switches between modes as needed while an application is running.
synchronous	A method of transmitting data using a clock signal to coordinate timing. The opposite of asynchronous.
synchronous data link control (SDLC)	The protocol used in a systems network architecture (SNA) network to transmit data over a communications link. SDCL is a bit-oriented protocol that transmits data in frames.
syntax	The rules governing the structure of a language or instruction.
syntax error	An error in an instruction due to a misspelled word, a missing character, or improper punctuation.
SYS account	A special account on the HP 3000, included with the system when it is first installed. It contains all MPE files (stored in the segmented library), supported subsystems, utility programs, and compilers.
system	A group of one or more CPUs that communicate through buses without the use of data communications software.
system asynchronous I/O	A method of performing I/O whereby a process informs a driver or subsystem that it wants to know when data has arrived or when it is possible to perform a write request. The driver or subsystem maintains a set of buffers through which the process performs I/O. System asynchronous I/O frees the process's buffers upon return from the I/O request.
system buffers	Any buffer used by the system to send messages to the console.
system call	An operating system kernel function available to the user through a high-level language (such as COBOL, FORTRAN, or Pascal). Also referred to as an **intrinsic** or a **system intrinsic**.
system catalog	A file containing UDC information for each user and accounts using UDCs on a particular system.
system configuration	The process of defining for the operating system the current physical layout and workload of a particular installation. The configuration is typically modified when new terminals, another line printer, or a disk drive are added. The system also may be reconfigured to assign new class names to

existing devices, change the size of the system tables or virtual memory, modify system logging, or alter any other configuration parameter.

system console The terminal, usually logical device 20, the system operator uses to monitor system activity, respond to resource requests, and send messages to users' terminals. The console (and most of its associated privileges and responsibilities) may be transferred to another logical device with the `CONSOLE` command.

system control panel A panel on the computer, containing control switches and status indicator lights.

system crash See **crash**.

system-defined files The files defined by MPE and made available to all users to indicate standard input or output devices, special temporary files, and files opened for output that do not perform an actual write operation.

system directory A directory maintained by MPE that records the name, group, and account of each permanent file on the system. The directory contains the size of each file, its location on the disk, who may access it, and other information.

system disk The disk volume, mounted as logical device 1. It contains MPE, I/O configuration information, the accounting structure and file directory, and utilities and subsystems. It also contains an area reserved for virtual memory and may be used to store user files.

system domain See **system volume**.

system event log See **system logging**.

system failure An internally detected error from which recovery is not possible. Rather than continue to operate, risking data integrity, the operating system halts the computer.

system file directory A directory maintained by MPE that records the name, group, and account of each permanent file on the system. The directory contains the size of each file, its location on the disk, who may access it, and other information.

System generator (SYSGEN) The MPE/iX utility used to create or modify system and I/O configurations; add, remove, and replace program files and boot files; replace system libraries; generate a full system backup, and create a boot tape to bring up an MPE/iX system with the new configuration. Equivalent to MPE V/E SYSDUMP and INITIAL.

system halt The condition of MPE following a system shutdown or system failure, indicated by no response at the system console or to any user command.

system image See **system configuration**.

system loader — A piece of software that brings a program into memory and binds it to addresses before execution.

system load tape — A system load tape, also referred to as a boot tape, contains the system load utilities, base system files, and user files. It is generated with the system generator (SYSGEN) utility. Equivalent to the MPE V/E coldload tape.

system logging — The MPE/iX system logging facility records details of system resource requests in a series of log files on disk. The system manager or operator can select which system events to record such as job/session initiation/termination, program termination, file closing, file spooling completion, and system shutdown. I/O device failures are recorded in the system log and are used to detect problems before they interfere with overall system operation.

system manager — The person who manages the computer installation, responsible for creating accounts and assigning capabilities and resource-use limits to each user/account.

system manager capability (SM capability) — A capability that allows execution of all commands necessary to manage the system. This capability is usually only given to a system manager, since that is the person responsible for the structure, security, and overall operation of the system.

system master volume — Any disk volume that has to be mounted for the system to boot. This is different from nonsystem volumes, which can be removed while the system is up and the system remains running. A system volume is always named MPEXL_SYSTEM_MASTER.

system measurement tools (SMT) — See **Glance/XL**.

system performance — The efficiency of the system as measured by response time and transaction throughput.

system processor unit (SPU) — The chip in which all the processor boards and cards reside.

system services control point (SSCP) — A focal point within a system network architecture (SNA) network for managing the configuration, coordinating network operator problem requests, and providing directory support and other session services for end users of the network.

systems network architecture (SNA) — An IBM architectural model. It defines the rules, protocols, and procedures for communication between devices within a network.

systems programming language (SPL) — A programming language for the HP 3000 Series 37 through 70 that provides control of machine instructions in a code segment. It is used for many applications, including MPE V itself. Most SPL programs execute in MPE/iX compatibility mode.

system startup — To load the MPE operating system from either disk or tape by bringing a subset of the MPE initiator program into memory.

system supervisor capability (OP capability) A capability assigned by the system manager to the system supervisor's user name and account. The system supervisor is responsible for performing backups, altering the system configuration, and in general, tuning the computer so that it continues to perform well and meet the needs of users.

system volume An MPE/iX system volume set. It contains a bootable system image and system configuration on its master volume. It is the only volume needed to load and start the system. It is always mounted and named MPEXL_SYSTEM_VOLUME_SET. This is equivalent to an MPE V/E system domain.

tape mark The uniquely formatted area on a magnetic tape that is used to separate files; it also may be used to delimit the end of the tape (two file or tape marks).

tape request A printed message at the console asking for a backup device to be assigned to a user.

temporary file A file that exists only for the duration of a session or job.

terminal A hardware device connected to a computer, used for entering and receiving data. A terminal consists of a keyboard and a display screen.

Text and Document Processor/V (TDP/V) An HP 3000 line editor (with a screen editor option) used to create, manipulate, and format ASCII text files.

thermal printer A printer that forms characters by heating paper. The printer requires special heat-sensitive paper.

ThickLAN cables ThickLAN cables (IEEE802.3 10BASE5) are used to connect Datacommunications and Terminal Controllers (DTCs) to the system. Thicknet cables require a media attachment unit (MAU) for each DTC. Use of ThickLAN cabling is most appropriate when the DTCs are distributed throughout the facility.

ThinLAN cables ThinLAN cables (IEEE802.3 10BASE2) are used to connect Datacommunications and Terminal Controllers (DTCs) to the system. Use of ThinLAN cabling is most appropriate when the DTCs are in close proximity to the system.

throughput A measurement of the amount of useful work performed by a system in a given amount of time.

Toolset/XL Toolset/XL provides an integrated programming environment for COBOL II/XL and Pascal/iX programming.

topology The physical structure of a network (for example, star or ring network).

track A data area on disk that forms a concentric circle, divided into sectors. One full track passes under the disk head during each rotation of the disk.

trailer The last page printed every time output is directed to a line printer. It contains the session number, session name, logon identification, day of the week, date, and time. It corresponds to the header printed as the first page.

TRANSACT A high-level programming language for MPE V and MPE/iX.

transaction A logical unit of work. It may consist of one or more operations, but either all or none of them will be performed.

transaction logging The process of keeping track of all database operations occurring within defined transactions. The resulting transaction log file can be used to recover data and ensure database integrity when a program aborts or the system crashes.

transaction management facility Ensures data consistency and integrity by providing transaction locking. Transaction locking ensures that only one transaction at a time is allowed to update given data, and all changes that are part of a transaction must be completed before the changes are committed to a permanent record.When a transaction abnormally ends (before it is actually complete), the changes made from the beginning of the transaction to the abort point are undone. The database is restored to the state it was in just prior to the beginning of the transaction.

transient space Disk space used for temporary processes such as stacks and operating system data structures.

translation lookaside buffer (TLB) The translation lookaside buffer (TLB) is a high-speed random access memory (RAM) buffer. It optimizes the task of translating virtual addresses to physical addresses. The MPE/iX processor generates 48-bit virtual addresses and memory access is provided by 28-bit physical (real) addresses.

transparent Unseen by the user. A process or action with which the user need not be concerend.

transport backup Transport refers to the movement of files between MPE V/E and MPE/iX systems using backup media. MPE/iX backup and recovery provides a compatibility option with which an MPE V/E-compatible tape may be created or read.

transport layer Layer four of the Open Systems Interconnection (OSI) network model. The transport layer provides for transport of messages between end-users.

tuple A row, record, or data entry in a DBCore relation.

unconfiguring a device The process of logically removing a device from the system.

unblocked record A physical record that contains just one logical record. The opposite of blocked record.

undefined-length records See **variable-length records**.

unit number — A part of an address used for devices. A number whose meaning is software-dependent and device-dependent, but which is often used to specify a particular disk drive in a device with a multidrive controller.

UNIX — An operating system developed by AT&T Bell Laboratories. Hewlett-Packard's implementation of UNIX is called HP-UX.

UNKNOWN — A disk pack without a volume label recognized by MPE/iX.

unscratch a volume — To make data available on a previously "scratched" volume. See scratch a volume.

UPDATE — **1)** The MPE/XL ISL UPDATE utility performs a system load from tape. It replaces the current base system files on disk, and optionally replaces configuration files. The ISL `UPDATE CONFIG` option is equivalent to the MPE V/E COLDSTART procedure, and the `UPDATE NOCONFIG` option is equivalent to the MPE V/E UPDATE operation.

2) An MPE V/E coldload option that loads all files in the `PUB` group of the `SYS` account from the backup media. I/O configuration data, the directory, and user files are loaded from the system disk. UPDATE is typically used to install a new version of system software or to load MPE from another computer. Equivalent to the MPE/XL ISL UPDATE utility `UPDATE NOCONFIG` option.

use communications subsystems capability (CS capability) — A capability assigned to accounts and users allowing access to the MPE communications subsystems.

user — Anyone logged onto a session, using a local or remote terminal to interact with the computer. Each user identified by a user and account name can access files in the logon group.

user asynchronous I/O — A method of performing I/O whereby a process launches an I/O request and continues to execute while the I/O is performed. The process's buffers should not be changed or used by the process until the system informs the process that they are free.

user command — A set of MPE/iX commands that a user has grouped together to perform a specific task. A user command is stored in a command file or UDC. UDCs are first in MPE's search path for commands.

user-defined command (UDC) — A command that executes a set of one or more commands that the user has grouped together into a single, named procedure file to perform a specific task. See also **command file**.

user-level security — The file access modes permitted the user. User-level security must duplicate, or be a subset of, the file access permitted the user's account and group.

user logging — A facility that enables users and subsystems to record additions and modifications to files. If necessary, user logging also provides the means whereby recorded entries can be used to recover the files themselves.

use volumes capability (UV capability) — A capability assigned at the account and user level allowing users to access nonsystem disk volumes.

utility program — A program that performs specific functions such as file copying, sorting and merging, memory dump analysis, or monitoring available disk space.

value added network (VAN) — A common carrier service that has been upgraded by a communications service. Also referred to as a packet switching network.

variable — A value that can be changed, as opposed to a constant, usually represented by a letter or a group of alphanumeric characters.

variable-length record — A record whose length (in bytes or words) can vary and is defined only by a maximum allowable file size. A file with undefined length records must have a blocking factor of one, and is written without buffering.

One of a set of records that varies in size with respect to each other.

VINIT — An MPE V/E volume initialization subsystem (accessed with the `VINIT` command). It contains several commands for online initialization and formatting of private volumes, serial disks, and foreign disks. Equivalent to the MPE/XL VOLUTIL utility.

virtual memory — MPE/iX virtual memory refers to providing programmers with the appearance that the available memory space is many times larger than the actual amount of main or even disk memory. MPE/iX provides this capability by taking advantage of the system's extremely large addressing potential.

virtual terminal (VT) — An NS3000/XL service that provides interactive access to other systems on a network.

VLSI — Very large scale integrated circuit technology. VLSI technology puts over 100,000 gates on a single chip and is used for CPUs and memories.

volume — A volume is one disk pack. Each volume is a member of a volume set and contains a volume label, a label table, and a free space map.

volume class — Volume classes are used for the allocation and restriction of disk space. A volume class is a logical subset or partition within a volume set and can include any number of physical member volumes of a volume set.

volume name The name given to a volume set or volume class with the `NEWSET` command. The name may be assigned only by a user with CV (create volume) capability, usually the system manager or account manager. The volume name is an ASCII character string of up to eight alphanumeric characters, beginning with an alphabetic character.

volume failure See disk failure.

volume management A facility of MPE used to manage disk storage using volumes, volume sets, and volume classes.

volume number A number used to specify a particular volume on a multivolume disk drive.

volume set A volume set is a group of from 1 to 255 related disk packs. One volume of the volume set must be designated as the master volume for the set. Each volume set is assigned a name by which it is identified and referenced. MPE/iX recognizes both system volume sets and nonsystem or mountable, volume sets.

volume set information table (VSIT) A part of a master volume of a volume set containing description and address information about volume sets.

volume states The states in which a volume can exist on a system. Accessible: MASTER and MEMBER. Inaccessible: LONER, UNKNOWN, and SCRATCH.

volume testing The verification that the system will continue to operate when loaded to each individual limit, the determination of what occurs when those limits are exceeded, and the determination of what occurs when the system is emptied after being in a full state.

VOLUTIL The MPE/iX volume utility that provides volume initialization and maintenance, volume label and membership inquiries, and volume space/sector status. Equivalent to the MPE V/E VINIT subsystem.

VPLUS/V An application designed to simplify forms design and screen handling for interactive applications. VPLUS/V is included in the fundamental operating software (FOS) for the 900 Series HP 3000.

WARMSTART The process of restarting the HP 3000 by loading MPE V/E from the system disk. A WARMSTART is used if incompletely processed spooled jobs and spooled files must be recovered, since other startup options do not permit the recovery of spoolfiles. MPE/iX equivalent is the `START RECOVERY` option of the ISL START utility.

WELCOME message The message that appears when a user logs on to the system.

wildcard A symbol that represents a variety of characters. In MPE, the at sign (`@`), the pound sign (`#`), and the question mark (`?`)

	are used as wildcard characters. Other subsystems may use different symbols.
window	A portion of a file or image displayed on selected portions of a CRT screen.
word	A word consists of 32 bits (4 bytes) of information in the 900 Series HP 3000. A word consists of 16 bits (2 bytes) of information in other HP 3000 systems.
word processor	A program that creates, stores, recalls, and edits text (used for letters, memos, reports, and other documents).
work around	A "scratch file" used for intermediate data storage by a subsystem or program. It is usually purged when the subsystem or program terminates.
work file	A temporary file created when a text editor is invoked. A work file is a copy of a permanent disk file. Any changes to the work file are lost unless the user saves the updated version of the file.
workstation	Terminals, personal computers, or serial printers that communicate with a host computer but have inherent processing capabilities.
write	What a computer does when it writes information to a device.
write-enable	To remove write-protection, allowing data to be written upon a floppy disk or a tape.
write-protect	To protect stored data so that it can not be overwritten.
write ring	A plastic ring that fits onto the inner groove of a reel-to-reel tape, enabling you to write information onto the tape.
XON/XOFF	An industry standard protocol used by a peripheral device to regulate data transmission. XON starts data transmission and XOFF stops it.
X.25	A type of communication link that provides connection of packet switching networks (PSNs), also known as value added networks (VANs). X.25 links are useful for long-distance communication and can be more economical than leased lines in some applications.

2

Acronyms and Abbreviations

Below is a listing of many commonly used acronyms and abbreviations, each followed by the complete non-abbreviated term it represents. A definition for each acronym and abbreviation can be found in the glossary of terms in chapter 1 of this book.

ABM	asynchronous balanced mode
ACD	access control definition
ACU	automatic calling unit
AL	account librarian capability
ALU	arithmetic logic unit
AM	account manager capability
ANSI	American National Standards Institute
AP	access port
ARF	access rights field
ARM	asynchronous response mode
ASC	asynchronous serial communications
ASCII	American Standard Code for Information Interchange
ATP	advanced terminal processor
AUI	attachment unit interface
BA	batch access capability
BASIC	Beginners All-purpose Symbolic Instruction Code
BCD	binary coded decimal
bop	bit-oriented protocol
BOT	beginning of tape
BPI	bytes per inch
bpi	bits per inch
bps	bits per second
BSC	binary synchronous communication
CA	CIO adapter
CCITT	Comite Consultatif International Telephonique Telegraphique
CCTL	carriage control
CE	customer engineer

CI	command interpreter
CIB	channel I/O buses
CIO	channel I/O
CISC	complex instruction set computer
CM	compatibility mode
COBOL	common business-oriented language
cpi	characters per inch
CPU	central processing unit
CRC	cyclic redundancy check
CRT	cathode ray tube
CS	communications subsystems capability
CS/80 or CS-80	command set '80 protocol
CST	code segment table
CSTX or XCST	extended code segment table
CTB	central bus
CV	create volume capability
DAT	dump analysis tool
DB	database
DBE	DBEnvironment
DBMS	database management system
DCE	data circuit-terminating equipment
DI	diagnostician capability
DMA	direct memory access
DMI	digital multiplexed interface
DPAN	dump analysis program
DRT	device reference table
DS	extra data segment capability or distributed system line
DSM	diagnostic support monitor
DSN	distributed systems network
DST	data segment table
DTC	Datacommunications and Terminal Controller
DTE	data terminal equipment
DTS	data communications and subsystem terminal
DUI	diagnostic user interface
DUS	diagnostic utility system

EBCDIC	extended binary coded decimal interchange code
ECC	error checking code
EIA	Electronics Industries Association
EIM	external interrupt message
EOF	end-of-file
EOL	end-of-line
EOF	end-of-tape
EPROM	erasable programmable read-only memory
ESD	electrostatic discharge
EU	execution unit
FCS	frame checking sequence
FID	file information display
FLOPS	floating-point operations per second
FORTRAN	FORmula TRANslator
FOS	Fundamental Operating Software
FRU	field replaceable unit
GL	group librarian capability
HDLC	high-level data-link control
HP	Hewlett-Packard
HP-DLC-II	Hewlett-Packard Data-Link Control II
HP-GL	Hewlett-Packard Graphics Language
HP-IB	Hewlett-Packard Interface Bus
HP-PA	Hewlett-Packard Precision Architecture
HP-UX	Hewlett-Packard implementation of UNIX
IA	interactive access capability
IAR	interrupt address register
IC	integrated circuit
IIR	interrupt instruction register
IMF	interactive mainframe facility
INP	intelligent network processor
INTEREX	International Association of Hewlett-Packard Computer Users
I/O	input/output
IODC	I/O-dependent code
IP	internetwork protocol
IPC	interprocess communication

IPSW	interrupt processor status word
ISL	initial system loader
ISO	International Standards Organization
ISR	interruption space register
IVA	interrupt vector address
JCW	job control word
K	kilo
KSAM	Keyed Sequential Access Method
LAN	local area network
LANIC	local area network interface controller
LAP	link access protocol
LAP-B	link access protocol-balanced
LDEV	logical device
LIF	logical interchange format
LU	logic unit
MAU	media attachment unit
MIPS	million instructions per second
MIS	management information systems
MIT	master installation tape
MODEM	modulator/demodulator
MPE	multiprogramming executive
MPE/iX	multiprogramming executive with integrated POSIX
MR	multiple RIN capability
MRJE	multileaving remote job entry
MTBFF	mean time between failure
MTTR	mean time to recovery
MUX	multiplexer
NA	network administrator capability
ND	nonshareable device capability
NetIPC	network interprocess communication
NLS	native language support
NFT	network file transfer
NM	native mode or node manager capability
NRJE	network remote job entry
NS	network services

OEM	original equipment manufacturer
OP	system supervisor capability
OSI	Open Systems Interconnection
PAD	packet assembly and disassembly
PBX	private branch exchange
PC	personal computer or program counter
PCA	printed circuit assembly
PCB	process control block
PCR	parent-child relationship
PDC	processor dependent code
PDN	public data network
PH	process handling capability
PIN	process identification number
PM	privileged mode capability or preventive maintenance
PROM	progammable read-only memory
PS	programmatic sessions capability
PSW	processor status word
PTOP	program-to-program communications
PU	physical unit
RAM	random access memory
RCS	Response Center Support
RIN	resource identification number
RIO	relative I/O
RISC	reduced instruction set computer
RJE	remote job entry
ROM	read-only memory
RPG	report program generator
SCSI	small computer system interface
SDF	software dump facility
SDLC	synchronous data link control
SF	save file capability
SL	segmented library
SM	system manager capability
SMT	system measurement tools
SNA	systems network architecture

SPL	System Programmming Language
SPOOL	simultaneous peripheral operations online
SQL	Structured Query Language
SSCP	system services control point
SYSGEN	system generator
TDP/V	Text and Document Processor
TLB	translation lookaside buffer
UDC	user defined command
USASCII	American Standard Code for Information Exchange
UV	use volumes capability
VAN	value added network
VINIT	volume initialization subsystem
VLSI	very large scale integrated circuit technology
VOLUTIl	volume utility
VSIT	volume set information table
VT	virtual terminal
XCST or CSTX	extended code segment table