TOPS-20
Operator's Command Language
Reference Manual

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This manual describes all operator
commands that use the Operator Interface
Command Language (OPR), LCP, Privileged
Commands, and PTYCON commands.

Change bars in margins indicate material
that has been added or changed since the
previous release of this manual.
Bullets indicate that material has been
deleted.

This manual supersedes the manual of the
same name and order number, AA-H600C-TM.

OPERATING SYSTEM: TOPS-20 (KL Model B) Version 7.0

SOFTWARE: GALAXY Version 6

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PREFACE

The commands described in the <u>TOPS-20 Operator's Command Language Reference Manual</u> are arranged in an alphabetical order within the command language being described: OPR, ^E privileged commands, or PTYCON.

This manual is designed primarily for the beginning operator as well as the experienced operator who needs additional information about the various TOPS-20 operator commands. It assumes that the reader has OPERATOR, SEMI-OPERATOR, or WHEEL privileges and knows how to login as an operator.

This manual assumes that you, the operator, have read all or parts of the following manuals:

<u>TOPS-20 User's Guide</u>

<u>TOPS-20 Operator's Guide</u>

In addition, you may need to reference the following manuals for information related to the operational tasks you must perform:

<u>TOPS-20 KL Model B Installation Guide</u>

<u>TOPS-20 Utilities Guide</u>

<u>TOPS-20 Commands Reference Manual</u>

<u>TOPS-20 IBM Emulation/Termination Manual</u>

<u>DECnet/SNA TOPS-20 Remote Job Entry User's and Operator's Guide</u>

<u>DECnet/SNA Gateway Management Guide</u>.

<u>DECnet-20/PSI-20 System Manager's Guide</u>

<u>TOPS-20 DECnet Reference Manual</u>

The contents of this manual are as follows:

1. Chapter 1 briefly introduces OPR, ^E privileged commands, and PTYCON.

2. Chapter 2 is an introduction to OPR, the Operator Interface.

3. Chapter 3 describes all OPR commands, their keywords, arguments, switches, and values. The OPR commands are listed in alphabetical order.

4. Chapter 4 contains an introduction to LCP, the LAT Control Program, and describes all LCP commands, their keywords, arguments, switches, and values. The LCP command descriptions are in alphabetical order.

5. Chapter 5 describes all ^E (<CTRL/E>) privileged commands for special operator tasks.

6. Chapter 6 describes all PTYCON commands.

Conventions Used In This Manual

Symbol   Meaning

<RET>   Press the key labeled RETURN or CR.

<ESC>   Press the key labeled ESC, ESCAPE, ALT, or PRE.

<CTRL/C>   Press the keys labeled CTRL and C simultaneously.

<CTRL/E>   Press the keys labeled CTRL and E simultaneously.

<CTRL/I>   Press the keys labeled CTRL and I simultaneously
                or press the key labeled TAB.

<CTRL/X>   Press the keys labeled CTRL and X simultaneously.

<CTRL/H>   Press the keys labeled CTRL and H simultaneously.

o ^ESET – sets system-wide and local parameters

o ^ESPEAK – gives commands to SYSJOB

^E commands are described in Chapter 5 in alphabetical order. PTYCON is a program that allows you to RUN more than one job simultaneously, without requiring each job to have an associated timesharing terminal. PTYCON runs each job as a subjob controlled by a pseudo-terminal (PTY). PTYCON can send information to each PTY and receive information from each PTY. Each PTY is in effect a software simulation of a timesharing terminal.

PTYCON allows the many operator jobs, such as GALAXY, OPR, and NMLT20, to be run from a single terminal, under the control of the operator.

PTYCON commands are described in Chapter 6 in alphabetical order. Chapter 6 also contains an introduction to using PTYCON.

CHAPTER 1

INTRODUCTION

OPR is the operator interface. The operator's command language allows you to communicate with certain components of TOPS-20, to control the batch streams and the input and output devices. You also use OPR to send messages to jobs, terminals, and batch-streams, and to respond to requests for operator action, such as from the PLEASE program. Chapter 2 contains a thorough introduction to using OPR. Chapter 3 describes all OPR commands in alphabetical order. LCP is the LAT Control Program. LAT (Local Area Transport) is a protocol to control communication between LAT terminal servers and LAT hosts on the Ethernet. Chapter 4 contains a detailed introduction to LAT functions that you can control with LCP, and also describes the LCP commands, in alphabetical order.

^E (Control-E) privileged commands are commands that can affect the entire system, and therefore can be used only by those with OPR or WHEEL privileges enabled. The first character of each command is <CTRL/E> (typed in by pressing the keys labeled CTRL and E simultaneously), which echoes on your terminal as ^E.

^E privileged commands allow you to shut down the system, create accounts, define system-wide logical names, and send messages to all users simultaneously. ^E privileged commands and their functions are:

o ^ECEASE – shuts down the system

o ^ECREATE – creates a directory

o ^EDEFINE – defines system-wide logical names

o ^EEDDT – debugs the EXEC

o ^EPRINT – displays directory parameters

o ^EQUIT – halts the EXEC

o ^ESEND – sends system-wide messages

CHAPTER 2

THE OPERATOR INTERFACE, OPR

2.1 INTRODUCTION TO THE OPERATOR INTERFACE

OPR, the Operator Interface, is both a component and the main command
language used in the TOPS-20 operating system.   This component
provides you, the operator, with the language to communicate with the
following components of the TOPS-20 operating system:

    1.   QUASAR, the GALAXY Scheduler

    2.   BATCON, the Batch Controller

    3.   LPTSPL, the Line-Printer Spooler

    4.   SPRINT, the Reader Interpreter

    5.   CDRIVE, the Card-Reader Spooler

    6.   SPROUT, the Card-Punch, Paper-Tape-Punch, and Plotter Spooler

    7.   MOUNTR, the Tape-Drive and Disk-Drive Controller

    8.   NEBULA, the Cluster GALAXY Message Router

Further information on these components can be found in the TOPS-20
Operator's Guide.

You also use the OPR command language to communicate with:

    o Any program requesting operator action (such as the PLEASE
       program)

    o Any user on the system

    o All users on a remote system in the cluster

The component that receives the OPR commands and communicates with all
the other operating system components is ORION.

2.2 RUNNING OPR AND EXITING FROM IT

To start OPR, you must have WHEEL or OPERATOR privileges.   (See your
System Manager to get these privileges if you do not already have
either of them.)

To handle all batch software tasks and all PLEASE, MOUNT, and DISMOUNT
requests, you must have OPR running.   Normally, commands in the
PTYCON.ATO file start OPR automatically as a PTYCON subjob.   An
example of this command file is shown on the next page.

```
SILENCE
LOG
DEFINE ^$OPR
CONNECT OPR
LOG OPERATOR FOO OPERATOR
ENABLE
!NEW OPERATOR INTERFACE PARSER
OPR
TAKE SYS:SYSTEM.CMD
PUSH
ENABLE
^ESET LOGIN ANY
^ESEND SYSTEM IN OPERATION
POP
```

The command TAKE SYS:SYSTEM.CMD in the above PTYCON.ATO example can
contain any number of OPR commands to set and start devices and
streams automatically. An example of a SYSTEM.CMD command file is
shown below.

```
SET BATCH-STREAM 0 TIME-LIMIT 5
SET BATCH-STREAM 1 TIME-LIMIT 10
SET BATCH-STREAM 2:3 TIME-LIMIT 11000
SET BATCH-STREAM 3 PRIORITY-LIMITS 20:63
SET BATCH-STREAM 0:1 PRIORITY-LIMITS 1:19
START BATCH-STREAM 0:3
SET PRINTER 0 PAGE-LIMIT 20000
SET PRINTER 1 PAGE-LIMIT 500
START PRINTER 0:1
START READER 0
START CARD-PUNCH 0
```

These commands are described in various sections of the TOPS-20
Operator's Guide and in Chapter 3 of this manual.

                              NOTE

       It is the responsibility of your System Manager to
       determine whether OPR is to run as a subjob of PTYCON.
       In addition, your System Manager should determine
       whether any other program or utility should be started
       as a PTYCON subjob.

To start OPR yourself under a job with OPERATOR privileges, all you need to do is to type ENABLE and then type OPR.

```
@ENABLE<RET>
$OPR<RET>
OPR>
```

OPR is your primary interface with the operating system and its devices. Thus, it is recommended that if your installation has a hardcopy central terminal (CTY), it should be dedicated to OPR. To do this, LOGIN and ATTACH to PTYCON; the OPR> prompt then appears at the CTY. In the following example, your password is FOO and your account number is OPERATOR.

```
<CTRL/C>
 CLOYD Development System, TOPS-20 Monitor 7(20753)
@LOG OPERATOR FOO OPERATOR<RET>
 Job 12 on TTY21 30-Apr-79 07:10:32
@ENABLE<RET>
$SYSTAT OPERATOR<RET>

    0   DET  SYSJOB   OPERATOR
    1   205  PTYCON   OPERATOR
    2   207  BATCON   OPERATOR
    3   210  EXEC     OPERATOR
    4   211  OPR      OPERATOR
                  .
                  .
$ATTACH OPERATOR 1<RET>
 [Attached to TTY205, confirm]<RET>
 Detaching Job # 12
Password: FOO<RET>
<RET>
OPR>
```

If your installation has more than one terminal assigned to its operators, you can run separate OPRs from different terminals. (See Section 2.2.2.) Thus, OPR can run as a subjob under PTYCON at one terminal and as a job by itself at another terminal. All OPRs have the same functionality as the OPR running as a subjob of PTYCON and CONNECTed to the CTY. ORION, the OPR-controlling component, can handle an unlimited number of terminals running OPR. Multiple OPRs are discussed in Section 2.2.2.

If you want OPR as a subjob under PTYCON and the PTYCON.ATO file did not automatically start OPR, you can either CONNECT to a subjob to start OPR or DEFINE a subjob as OPR and then CONNECT to it. The examples below show both methods of creating an OPR subjob.

```
PTYCON> CONNECT 0<RET>
[CONNECTED TO SUBJOB 0]
```

```
 CLOYD Development System, TOPS-20 Monitor 7(20753)
@LOG OPERATOR FOO OPERATOR<RET>
 Job 37 on TTY211 2-DEC-79 09:23:01
@ENABLE<RET>
$OPR<RET>
OPR>
```

or

```
PTYCON> DEFINE 0 OPR<RET>
PTYCON> OPR-LOG OPERATOR FOO OPERATOR<RET>
PTYCON>

**** OPR(0)  09:32:01  ****

 CLOYD Development System, TOPS-20 Monitor 7(20753)
@LOG OPERATOR OPERATOR
@
PTYCON> CONNECT 0<RET>
[CONNECTED TO SUBJOB OPR(0)]
<RET>
@ENABLE<RET>
$OPR<RET>
OPR>
```

When you issue a command to OPR, OPR validates the syntax of the command and generates error messages for any errors it may find. If there are no errors, the command is passed to the correct process to be executed.

If you receive an error message, you can retype the entire OPR command, or press <CTRL/H> to reprint the command up to the point where the error occurred in the command. (Refer to Section 2.4.2.)

To exit from OPR at any time, simply issue the command EXIT. You immediately return to TOPS-20 command level and you are prompted by the dollar-sign ($). For example:

```
OPR>EXIT<RET>
$
```

If OPR is a subjob of PTYCON, you can type <CTRL/X> to return to PTYCON command level. For example:

```
OPR>^X
     ↑
     |
  <CTRL/X>
PTYCON>
```

In addition, you can give the PUSH command to OPR to return to TOPS-20 command processor level. Then, you can execute any program or task

and then give the POP command to return to OPR. However, you cannot
LOGOUT while PUSHed to OPR.

```
OPR>PUSH<RET>

 TOPS-20 Command processor 7(4138)
@ENABLE<RET>
$DUMPER<RET>
DUMPER>
          .
          .
          .
$DISABLE<RET>
@POP<RET>
OPR>
```

2.2.1 Issuing OPR Commands to and from Remote Stations

In a data networking environment, a DECSYSTEM-20 communicates with one
or more separate computer processors. Each processor in a network is
called a "node." The DECSYSTEM-20, running TOPS-20, is a "host" node.
The host node is the only type of node in the TOPS-20 network that can
support interactive users on a timesharing basis. The operator at the
host node is the system operator. The system operator controls the
devices connected to his host node and those connected to the remote
stations that are controlled by his host node.

In a DECnet network, two or more hosts may communicate.   The host
operator logs into his "local" host.   The other hosts are called
"remote" hosts. The host operator cannot control devices at remote
hosts.

The processors in the TOPS-20 network, other than host nodes, are
known as remote stations.   These remote stations do not support
interactive users, and usually have one card reader and one line
printer. Remote stations are used for remote submission of batch jobs
to a host node.   The operator at a remote station is a remote
operator.   The remote operator can control only those devices
connected to his remote station. He cannot control devices at the
host node.

The remote station is an IBM-type node. Your remote station operators
should have additional documentation.   The following manual is
available for remote station operators: IBM Emulation/Termination
Manual is useful for IBM-type remote stations.

This manual helps the remote station operator determine those
functions he can perform at the remote station. The commands that the
remote station operator uses will work on his remote station; no
further specification is necessary.

The system operator can perform any of the functions in this manual.
However, no operator can control devices at a remote host node.

The OPR program allows the operator to specify a remote node as the
destination for a command.   Many OPR commands recognize the /NODE
switch. The /NODE switch can specify either a DECnet or IBM-type
remote station, or it can specify the operator's host node; any node
name may be specified.   However for remote DECnet nodes, these
commands have no effect. To use the /NODE switch, type the following
in the command line:

```
/NODE:node-name::
```

Two colons (::) following the node name are optional.

2.2.2 Multiple OPRs on the System

You can have more than one OPR running on the same operating system.
ORION keeps track of each OPR and sends the appropriate
acknowledgement messages to the OPR that sent the command.

Only the host system can have more than one OPR running
simultaneously. Remote stations can only have one OPR running. Thus,
if you have remote stations at your installation, any message sent
from a remote station to the host system displays at all OPR's running
at the host. If a message is sent to a remote station from the host
(the /NODE: switch), the message displays only at that node.

Each OPR that is processing can be set to enable or disable the types
of messages to be displayed at that OPR console. For example, one OPR
could be responsible for only tape and disk mounts and dismounts, and
another OPR could be responsible for everything else. Refer to the
detailed descriptions of the DISABLE and ENABLE commands elsewhere in
this manual.

2.3 RUNNING SEMI-OPR

SEMI-OPR is a new user privilege that permits a designated user to use
a subset of OPR commands.   This subset of OPR commands are those
commands for accessing information (such as SHOW) and controlling
certain devices (such as FORWARDSPACE).   A user may be given the
SEMI-OPR privilege by another user who has WHEEL or OPERATOR
privileges.

The System Administrator can enable the SEMI-OPR privilege for a
particular user with the ^ECREATE command (or BUILD command) at EXEC
command level. For example, you can authorize user <BROWN> to have
the SEMI-OPR privilege by performing the following:

```
$^ECREATE <EBROWN><RET>
[Old]
$$SEMI-OPERATOR<RET>
$$<RET>
$
```

The System Administrator can also determine which devices a SEMI-OPR can control when a GALGEN is performed. The devices are printer, card-reader, tape drive, plotter, card punch, and paper-tape-punch.

The operator of your system can turn on or turn off SEMI-OPR system wide with the OPR commands ENABLE and DISABLE. For example, to ENABLE SEMI-OPR:

```
OPR>ENABLE SEMI-OPR<RET>
OPR>
13:06:10      --SEMI-OPERATOR enable--
OPR>
```

To DISABLE SEMI-OPR:

```
OPR>DISABLE SEMI-OPR<RET>
OPR>
13:06:19      --SEMI-OPERATOR disable--
OPR>
```

When the user activates SEMI-OPR by typing OPR at EXEC command level followed by a carriage-return, the SEMI-OPR> prompt appears. When the user types a "?" for the SEMI-OPR> prompt, only those commands applicable to SEMI-OPR appear.

```
@ENABLE<RET>
$OPR<RET>
SEMI-OPR>?

    ALIGN         BACKSPACE      CONTINUE      EXIT
    FORWARDSPACE  HELP           IDENTIFY      PUSH
    SHOW          SHUTDOWN       START         STOP
    SUPPRESS      TAKE           WAIT

SEMI-OPR>
```

2.3.1 SEMI-OPR Limitations and Restrictions

The following limitations and restrictions should be remembered when designating and using SEMI-OPR:

   o The user must ENABLE capabilities at EXEC command level to run SEMI-OPR.

   o The system must be running a Release 7 monitor and GALAXY 6.

   o SEMI-OPR can execute only certain OPR commands.

   o SEMI-OPR cannot run LCP and NCP (ENTER command), or another application program by way of OPR.

2.3.2 SEMI-OPR Commands

For users to utilize SEMI-OPR, they must have SEMI-OPERATOR privileges enabled and SEMI-OPR must be enabled. SEMI-OPR commands allow a user to access information and to have limited control over devices. The following are the permitted SEMI-OPR commands:

```
    ALIGN         BACKSPACE      CONTINUE      EXIT
    FORWARDSPACE  HELP           IDENTIFY      PUSH
    SHOW          SHUTDOWN       START         STOP
    SUPPRESS      TAKE           WAIT
```

                        NOTE

        The above list contains all the possible SEMI-OPR
        commands. However, the System Administrator can
        define a subset of the SEMI-OPR commands based on
        device types. Therefore, when a SEMI-OPR requests a
        list of available commands by typing a "?", only
        commands enabled by the System Administrator are
        displayed.

For a more detailed description of the above commands, refer to Chapter 3, and remember the limitations and restrictions listed in Section 2.3.1.

2.4 OPR COMMAND FEATURES

The OPR command language has three command features that allow you to do the following:

   1. List available commands - ?

   2. Use recognition - <ESC>

   3. Reprint faulty commands - <CTRL/H>

These features are described in detail in the following sections of this chapter.

If you are a remote station operator (that is, if your installation

has DECnet software), you will not have the above features. However, you can obtain help with the HELP command at OPR command level. Refer to Chapter 3 for a description of the HELP command.

In addition, CTRL/character commands such as CTRL/R and CTRL/U function at OPR command level as they do at TOPS-20 command level.

2.4.1 ? (Question Mark) - Listing Available Commands

You can type a question mark at command level or while in the process of typing a command.

When you type a question mark to the OPR> prompt, it lists the available OPR commands. When you type a question mark in the process of entering an OPR command, it lists the available keywords to that command. When you type a question mark after the keyword, OPR lists the available values, arguments, and/or switches to that keyword. If you type a question mark after an entire OPR command, OPR replies with the message: "confirm with carriage return", retypes your entire command, and waits for you to press the carriage return key.

----- Restriction -----

If you type a question mark after an OPR command argument or switch and there are no additional arguments that can be supplied, OPR responds with the message: "confirm with carriage return" and then retypes your complete OPR command and waits for you to press the carriage return key. (All OPR commands must end with a carriage return; the ESCape, <CTRL/H>, and ? features do not require the carriage return.)

----- Examples -----

1. Start OPR and, after the system prompts you with OPR>, type a
    question mark.

    @ENABLE<RET>
    $OPR<RET>
    OPR>? one of the following
     ABORT   ALIGN   BACKSPACE   CANCEL   CLOSE
     CONTINUE   DEFINE   DISABLE   DISMOUNT   ENABLE
     ENTER   EXIT   FORWARDSPACE HELP   HOLD
     IDENTIFY   MODIFY   MOUNT   NEXT   PUSH
     RELEASE   REPORT   REQUEUE   RESPOND   ROUTE
     SEND   SET   SHOW   SHUTDOWN   START
     STOP   SUPPRESS   SWITCH   TAKE   UNDEFINE
     WAIT
      or one of the following:
     LCP   NCP
     OPR>

                          NOTE

        The NCP command appears in the above example
        when your installation has DECnet software
        and your system has been generated for
        network communication. Refer to the TOPS-20
        DECnet Reference Manual for a description of
        NCP commands.

2. Type a question mark after typing a letter. OPR responds
    with the commands that begin with that letter.

    OPR>A? one of the following:
     ABORT   ALIGN
    OPR>A

3. Type a question mark after typing the ABORT command to the
    OPR> prompt; OPR then lists the available arguments for the
    ABORT command, retypes your command, and waits for one of the
    arguments.

    OPR>ABORT ?
     BATCH-STREAM   CARD-PUNCH   PAPER-TAPE-PUNCH
     PLOTTER   PRINTER   READER
    OPR>ABORT PRINTER 0<RET>
    OPR>
    08:56:41   Printer 0 --Aborting--
                      Job BATCH9 Req #133 for BHARDY
    OPR>
    08:56:47   Printer 0 --End--
                      Job BATCH9 Req #133 for BHARDY
                      -- Job Aborted by Operator --
    OPR>

4. Type the same ABORT command as above with the argument
    PRINTER and then type a question mark. OPR replies with the
    following:

    OPR>ABORT PRINTER ? unit number
      or one of the following:
     CLUSTER   DQS   LAT
    OPR>ABORT PRINTER

    Supply the unit number (0) and then type another question
    mark. OPR replies with any additional switches that may be
    supplied.

    OPR>ABORT PRINTER 0 ? /PURGE
      or /REASON:
      or confirm with carriage return
    OPR>ABORT PRINTER 0 /REASON:PRINTER JAM<RET>
    OPR>

```
09:30:45          Printer 0  --Aborting--
                  Job BATCH9 Req #133 for BHARDY
OPR>
09:30:53          Printer 0  --End--
                  Job BATCH9 Req #133 for BHARDY
                  -- Job Aborted by Operator --

OPR>
```

2.4.2 ESCape – Using Recognition

The ESCape feature allows recognition input and guide words to appear
on your console when you give an OPR command.

To give the ESCape feature, you must press the key labeled ESC, SEL,
PRE, or ALT depending on the type of terminal at your installation.

<div align="center">NOTE</div>

> All OPR commands accept recognition input when you
> press the ESCape key, and most OPR commands provide
> guide words within parentheses.   However,   only this
> section of the manual describes this ESCape feature of
> the OPR command language.

> ESCape is not available at remote station terminals.
> If you are at a remote station, use the HELP command.

To use the ESCape key for recognition, type the first one or more
letters of an OPR command to make it unique from all other OPR
commands, such as REQ (for the REQUEUE command), and press the ESCape
key.   OPR responds with the remainder of the command REQUEUE, the
guide words within parentheses (current job on), and waits for an
argument for the REQUEUE command.

```
          <ESC>
            |
            V
        OPR>REQUEUE (current job on)
```

Now type the first one or more letters of a REQUEUE argument, such as
PR (for PRINTER) and press the ESCape key. OPR responds with the
remainder of the keyword PRINTER, the guide words within parenthesis
(unit number or remote printer type), and waits for a unit number to
be specified.

```
                    <ESC>
                      |
                      V
OPR>REQUEUE (current job on) PRINTER (unit number or remote printer
type)
```

Now type the unit number of the line printer followed by the REASON
switch to the REQUEUE command. After you type the slash and the first

---

letter of the switch, press the ESCape key.   OPR responds with the
remainder of the switch name.

```
OPR>REQUEUE (current job on) PRINTER (unit number or remote printer
type) 0

  <ESC>
   |
   V
/REASON:PRINTER JAM<RET>
OPR>
09:04:33          Printer 0  --Requeued--
                  Job CBUILD Req #188 for SAMBERG

OPR>
09:04:45          Printer 0  --End--
                  Job CBUILD Req #188 for SAMBERG
                  -- Job Requeued by OPERATOR --

OPR>
```

<div align="center">----- Examples -----</div>

1. Type the OPR command DISABLE using the ESCape key for
    recognition.

```
            <ESC><ESC>                   <ESC>
              |    |                        |
              V    V                        V
    OPR>DISABLE OUTPUT-DISPLAY (of) FILE-RETRIEVAL-MESSAGES<RET>
    OPR>
```

2. Type the OPR command ABORT with the use of the ESCape key for
    recognition and guide words.

```
          <ESC>                 <ESC>
            |                      |
            V                      V
    OPR>ABORT (Current Job on) BATCH-STREAM (Stream Number) 1

      <ESC>
       |
       V
    /NOERROR-PROCESSING<RET>
    OPR>
    10:23:02          Batch-stream 1  --Aborted--
                      Job TBUILD Req #127 for HURLEY
                      No Reason Given with Noerror-processing

    OPR>
    10:23:17          Batch-stream 1  --End--
                      Job TBUILD Req #127 for HURLEY
                      -- Job Aborted by Operator --

    OPR>
```

2.4.3 <CTRL/H> – Reprinting Faulty Commands

The <CTRL/H> feature prints the command you issued that resulted in an
OPR error message.   An OPR error message occurs when a command does
not have the correct format, syntax, switch, or value.

When you press <CTRL/H> after the error message appears on your
terminal, OPR retypes your entire command up to the point you entered
the incorrect command input.

To use the <CTRL/H> feature, type an OPR command such as SET with the
argument BATCH-STREAM but misspell the word STREAM.

```
    OPR>SET BATCH-STRAEM 0 NOOPR-INTERVENTION<RET>
    ? Does not match switch or keyword:"BATCH-STRAEM"
    <CTRL/H>
       |
       V
    OPR>SET
```

Now retype the keyword BATCH-STREAM correctly, but type an O instead
of a 0 (zero) for the same command.

```
    OPR>SET BATCH-STREAM O NOOPR-INTERVENTION<RET>
    ? First nonspace character is not a digit:
    <CTRL/H>
       |
       V
    OPR>SET BATCH-STREAM
```

Now retype the correct stream number of 0 and misspell the parameter
NOOPR-INTERVENTION. After the error message appears, you complete the
command correctly.

```
    OPR>SET BATCH-STREAM 0 NOPR-INTERVENTION<RET>
    ? Does not match switch or keyword
    <CTRL/H>
    ACCNAM<RET>
       |
       V
    OPR>SET BATCH-STREAM 0 NOOPR-INTERVENTION<RET>
    OPR>
    11:32:34       Batch-stream 0  --Set Accepted--

    OPR>
```

                    ----- Example -----

You specify the OPR command to show the status of printers on
cluster-node GIDNEY, but you mispell GIDNEY as GIDDNEY. After you
press <CTRL/H>, you type the correct node name.

```
    OPR>SHOW STATUS PRINTER /CLUSTER-NODE:GIDDNEY<RET>
```

```
? Does not match switch or keyword: "GIDDNEY"
<CTRL/H>
   |
   V
OPR>SHOW STATUS PRINTER /CLUSTER-NODE:GIDNEY<RET>
OPR>
12:15:28                         -- System Device Status --

Printer Status:

Local printers
   Alias     Unit      Status
   -----     -----     ----------
   FOO       0         Idle

DQS printers
   Alias          DQS queue name            Node    Status
   -----          -------------------------  ------  ------
   BAR                            SI$8700    JUNIPR  Idle
   BINN                           SWE$LN03   LATOUR  Idle


OPR>
```

2.4.4 Continuing OPR Command Lines

While you are using the OPR program, you may find it necessary to type
a command line that is longer than the maximum line length allowed by
your terminal. You may continue typing the command past the end of
the line and onto the next line, without pressing RETURN. OPR will
accept arguments which are divided between lines. Note the divided
word, ACCESS-NAME, in this example:

```
    OPR>DEFINE NODE IBMNOD:: SNA-WORKSTATION GATEWAY IBMNAM ACCESS-N
    AME ACCNAM<RET>
```

If you want to avoid divided words, you may use the continuation
feature.   At the end of the first line, type a space, then a hyphen
(-), and press RETURN. Then finish the command on the next line.

```
    OPR>DEFINE NODE IBMNOD:: SNA-WORKSTATION GATEWAY IBMNAM -<RET>
    ACCESS-NAME ACCNAM <RET>
```

Note that the OPR> prompt does not appear on the second line, after
you press RETURN the first time. The space and hyphen indicate that
you wish to continue typing on the next line.

2.5 OPR MESSAGES

There are two types of messages that can appear at your OPR terminal:

1. ORION-to-OPR messages (Section 2.4.1)

2. OPR error messages (Section 2.4.2)

2.5.1 ORION-To-OPR Messages

The types of messages from ORION to OPR that can appear at your OPR terminal are messages about:

1. Errors generated when ORION accepts an OPR command, but does not have the appropriate devices, streams, nodes, or jobs

2. Jobs that start processing within a stream or device

3. Jobs that end processing within a stream or device

4. Actions that you must perform for various devices, streams, or jobs

5. Information you must respond to

6. Results from TAKE command files

Each OPR command that is sent to ORION is time stamped by ORION when the command is accepted and executed. The acceptance and execution of the command is then returned to the OPR terminal in the form of a message with the time stamp as the first eight characters of the message. For example, the OPR command:

    OPR>SET PRINTER 0 FORMS-TYPE NARROW<RET>

returns to your terminal an ORION message in the format:

    hh:mm:ss   Printer 0 --Set Accepted--

where hh is the hour, mm is the minutes, and ss is the seconds that the command was accepted and executed.

Likewise, when ORION accepts an OPR command but returns an error message, that message also contains a time stamp. For example, the OPR command:

    OPR>SHOW MESSAGES<RET>

displays the following information message when there are no outstanding messages to respond to:

    hh:mm:ss   --No Outstanding Messages--

When a particular job starts to process within a batch stream or on a device, ORION displays a message at your OPR terminal to notify you that the stream or device is active. For example:

    hh:mm:ss   Batch-stream 0 --Begin--
                    Job TEST Req #274 for ZINA

    OPR>

appears on your terminal when a job named TEST begins to process in batch stream 0 for user ZINA. The hh:mm:ss at the beginning of this message is the time that the job started to process (hours, minutes, seconds).

Likewise, when a particular job ends its processing within a batch stream or on a device, ORION displays a message at your OPR terminal to notify you that the stream or device is not active and the job has completed. For example:

    hh:mm:ss   Batch-stream 0 --End--
                    Job TEST Req #274 for ZINA
    OPR>

appears on your terminal when a job named TEST ends the process in batch stream 0 for user ZINA. The hh:mm:ss at the beginning of this message is the time that the job ended the process (hours, minutes, seconds).

2.5.2 OPR Error Messages

In the course of using OPR to enter commands, you will probably encounter some error messages. All OPR error messages begin with a question mark. Error messages can not be abbreviated with system switches or parameters as in some system programs. In addition, the question mark does not represent a fatal error in OPR as it does in some other system programs.

When you receive an error message, you can press CTRL/H (to retype your OPR command up to the point where you entered the incorrect keyword, switch, or value) and then specify the correct input to the command.   As with all OPR commands, if you do not know the command format or you have forgotten the keywords, switches, or values, type a question mark and OPR lists the command arguments that you can specify.

Each error message described below and on the following pages explains the error message and a possible solution.

ERROR: **? Ambiguous:**

Reason: You abbreviated a keyword or switch but it is not
                unique; one or more other keywords or switches also
                have the same abbreviation.

Recovery: Press CTRL/H or retype the command and include enough
                letters   of   the   keyword   or switch to make the
                abbreviation unique.

ERROR: **? Does not match switch or keyword: "argument"**

Reason: You have specified a switch or keyword for an OPR
                command that does not take the switch or keyword
                specified. The invalid switch or keyword is displayed
                in quotes.

Recovery: Type the command again and specify the correct switch
                or keyword.

ERROR: **? File not found "file"**

Reason: You have specified an OPR command that takes a file
                specification as a keyword or switch value, but the
                file was not found.

Recovery: Press CTRL/H or retype the command and specify the
                correct file specification.

ERROR: **? First nonspace character is not a digit:
                "character"**

Reason: You have specified a keyword or switch value that must
                be numeric, but the first character is an alphabetic or
                is a special character.

Recovery: Press CTRL/H or retype the command and specify a
                numeric keyword or switch value with any alphabetic
                character.

ERROR: **? Invalid character in number**

Reason: You have specified a numeric value to an argument or
                switch that is less than or greater than the allowed
                value range.

Recovery: Press CTRL/H or retype the command and specify a
                numeric value that is within the allowable range of
                values.

ERROR: **? Invalid device terminator: "device name"**

Reason: You have specified a device with an illegal character
                in its name or you did not include the colon at the end
                of the device name.

Recovery: Press CTRL/H or retype the command and specify the
                device name with the correct characters and include the
                colon.

ERROR: **? Invalid guide word**

Reason: You have specified a guide word that does not pertain
                to   the   OPR command that you specified, or you
                misspelled the guide word, or you used recognition (you
                pressed the ESCape key) and then pressed <CTRL/W>
                before you pressed the carriage return.

Recovery: Press CTRL/H or retype the command. If you must have
                guide words with the OPR command, use recognition with
                the ESCape key.

ERROR: **? Invalid node name**

Reason: You have specified a node name or number to a /NODE:
                switch that has not been enabled, does not exist, is
                currently off-line, or has been misspelled.

Recovery: Press CTRL/H or retype the command and specify the
                correct node name or number to the /NODE: switch. You
                might have to ENABLE the node before you reissue the
                command.

ERROR: **? Invalid OPR Command Specified "command"**

Reason: You have specified an invalid OPR command.

Recovery: Type a question mark to the OPR prompt to get a list of valid OPR commands.

ERROR: **? Invalid wildcard designator**

Reason: You have specified a wildcard character (* or %) within a file specification for a keyword or switch value.

Recovery: Press CTRL/H or retype the command and specify the file specification without any wildcard characters. OPR/ORION will not accept wildcard characters within the file specifications.

ERROR: **% No help available for "command"**

Reason: You have specified an invalid OPR command as a keyword to the HELP command.

Recovery: Give the HELP HELP command to get a list of valid keywords (OPR commands) to the HELP command.

ERROR: **? No such filename**

Reason: You have specified a filename as a keyword or switch value, but the filename does not exist as you specified it.

Recovery: Press CTRL/H or retype the command and specify the correct filename as the keyword or switch value.

ERROR: **? No such file type "file-name"**

Reason: You have specified a file type as a keyword or switch value, but the file type does not exist as you specified it.

Recovery: Press CTRL/H or retype the command and specify the correct file type as the keyword or switch value.

ERROR: **? Not a quoted string – does not begin with double quote**

Reason: You have specified a message text, but did not include it within double quotes ("message text").

Recovery: Press CTRL/H or retype the command and specify the message text within the required double quotes.

ERROR: **? Not confirmed**

Reason: You have specified too many keywords or switches to an OPR command. OPR expected a carriage return after one of the keywords or switches specified.

Recovery: Press CTRL/H; OPR will retype the command up to the point where a carriage return is expected. Then press carriage return.

ERROR: **? Null switch or keyword given**

Reason: You have specified an OPR command without giving the required switch or keyword to the command.

Recovery: Press CTRL/H; OPR will retype the command up to the point where you omitted the required switch or keyword. If you do not know the required switch or keyword for the command, type a question mark and OPR will display the necessary arguments.

ERROR: **? Number must be positive "negative-number"**

Reason: You have specified a negative value for a device or stream number. OPR will not accept negative numbers.

Recovery: Press CTRL/H or retype the command and specify a positive integer as a device or stream number.

ERROR: **? Only one file allowed**

Reason: You have specified the BACKSPACE or FORWARDSPACE command with the /FILE switch and a numeric value greater than 1.

Recovery: Press CTRL/H; OPR will retype the command up to the point where you entered the number of files. You can then enter 1 or press carriage return. The /FILE switch value defaults to 1.

ERROR: **? Priority not in range "nn"**

Reason: You have specified a priority number in the SET
                JOB-PRIORITY command that is not in the range from 0 to
                63.

Recovery: Press CTRL/H or retype the command and specify a
                priority number from 0 to 63.

ERROR: **? Too many characters in node name "node-name"**

Reason: You have specified too many characters in a node name
                specification to the /NODE: switch. The /NODE:
                switch can only have from one to six alphanumeric
                characters.

Recovery: Press CTRL/H or retype the command and specify the
                correct node name for the /NODE: switch with six
                characters or less.

CHAPTER 3

OPR COMMAND DESCRIPTIONS

This chapter describes each of the OPR commands in detail.   All OPR
commands must end with a carriage return (that is, you must press the
key labeled RETURN or CR).

The OPR commands are in alphabetical order.

ABORT - Aborting Jobs

Function

    The ABORT command terminates a job request that is in progress on
an input/output device or in a batch stream.

Format

    OPR>ABORT keyword nn /switch<RET>

    where keyword can be one of the following:

                BATCH-STREAM
                CARD-PUNCH
                PAPER-TAPE-PUNCH
                PLOTTER
                PRINTER argument
                READER

    followed by its stream/unit number:

                nn

    or the argument for the PRINTER keyword:

| aliasname
followed by: CLUSTER nn
                n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                SERVER "name"
or followed by: PORT "name"
                SERVER "name"

    and, one or more of the following switches:

| /CLUSTER-NODE:cluster-node-name
                /NODE:node-name::
                /PURGE
                /REASON:comment

    or one of these switches (BATCH-STREAM only):

/ERROR-PROCESSING
/NOERROR-PROCESSING

Keywords

BATCH-STREAM   specifies a particular batch stream that has a
                    job currently active within it. A batch
                    stream is a pseudo-terminal that interacts
                    with the system to execute a batch job.

CARD-PUNCH   specifies a particular card-punch device that
                    has a job currently being output on it.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                    that has a job currently being output on it.

PLOTTER   specifies a particular plotter device that has
                    a job currently being output on it.

PRINTER argument   specifies a particular line printer device or
                    a range of line printer devices. You can use
                    an alias name defined with the DEFINE ALIAS
                    command to reference a printer specification
                    in this command. The argument can be:

    nn   specifies the unit number of the line printer.
                    You must specify this unit number; there is no
                    default.

    CLUSTER nn   specifies a printer, or a range of printers,
            n:m   on a remote node within a TOPS-20 cluster. A
                    TOPS-20 cluster is a loosely coupled
                    configuration of between two and four TOPS-20
                    processors.   Each   processor   in   the
                    configuration is identified by a node name.
                    For example, HUEY::, DEWEY::, and LOUIE:: can
                    be three nodes within a cluster of TOPS-20
                    processors.

        NODE node-name::

                    specifies that the printer device for a
                    cluster be started. The double colon (::)
                    following the node name is not needed.

                    For the CLUSTER argument, NODE node-name::
                    specifies a node within the cluster and cannot
                    be the local node or an alias.

    DQS queuename

                    specifies the Distributed Queue Service
                    allowing users to queue print requests to VMS
                    systems using DECnet. DQS accepts the user
                    specified print request and transmits it to
                    the remote VMS node.   The   "queuename"
                    specifies the VMS queuename and can be a
                    string of 1 to 31 characters, consisting of
                    alphanumeric   characters,   underscores, and
                    dollar signs.

NODE node-name::

                    specifies the VMS node where the print request
                    is processed. The double colon (::) following
                    the node name is not needed.

                    For the DQS   argument, NODE   node-name::
                    specifies the VMS nodename and cannot be an
                    alias.

LAT   specifies the Local Area Transport service
                    used to control communication between LAT
                    hosts and terminals on the Ethernet. With the
                    LAT keyword, you specify the SERVICE or PORT
                    and its SERVER name to establish communication
                    between your system, running LAT software, and
                    the resource printer terminal.

                    You   cannot   use   the   following
                    SERVICE/PORT/SERVER specifications:

                            SERVICE name only
                            SERVER name only
                            PORT name only
                            SERVICE name and PORT name
                            SERVICE, SERVER, and PORT names

                    Refer to Chapter 4 for additional information
                    about LAT communications.

PORT "name"

                    specifies the communication path between the
                    host system and the printer resource or the
                    access point that the node represents to the
                    user.   The "name" is the port name and can
                    have from 1 to 16 characters consisting of
                    alphanumeric characters, underscores, dashes,
                    and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

READER specifies a particular card-reader device that has a job currently being read into the system. Jobs read through the card reader become job requests in the batch input queue.

nn specifies the stream number of the batch stream to be aborted or the unit number of the input/output device that is currently processing a job. You must specify this stream/unit number.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The double colon (::) following the node name is optional.

/ERROR-PROCESSING specifies the default of the ABORT BATCH-STREAM command if you do not specify either the /NOERROR-PROCESSING or /PURGE switch. The /ERROR-PROCESSING switch specifies that if a user provides error recovery procedures in his batch job, the error recovery procedures are not ignored.

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/NOERROR-PROCESSING

specifies that, if the user who submitted the batch job provided error recovery procedures, these procedures are ignored when the batch job is aborted.

/PURGE specifies that the entire job be removed from the system. All output from the job is also aborted. That is, there will be no header and/or trailer pages from the line printer. The job is completely flushed from the system. When you purge a batch job, no log file is printed.

/REASON:comment allows you to include a comment as to why the job has been aborted. This comment appears in the batch log file and at the user's terminal. If the comment is more than one line in length, you can end the first line with a hyphen and a carriage return and continue the comment on the next line. If you press carriage return immediately after the colon, OPR responds with the instruction: ENTER TEXT AND TERMINATE WITH ^Z. You can then enter as many lines of text as necessary. When your comment(s) have been entered, press the CTRL key and the key labeled Z simultaneously (CTRL/Z) and the OPR> prompt reappears.

Restrictions

When you use the READER keyword, the only switches available are the /NODE: and /REASON: switches. This is because a reader input job does not become a request until the last card ($EOJ card) has been read.

The /ERROR-PROCESSING and /NOERROR-PROCESSING switches are valid only with the BATCH-STREAM keyword.

Examples

1. Specify the ABORT command to abort a batch-stream job with NOERROR-PROCESSING because you were instructed to do so by the user who submitted the job.

```
OPR>ABORT BATCH-STREAM 2 /NOERROR-PROCESSING/REASON: <RET>
ENTER TEXT AND TERMINATE WITH ^Z
AS OPERATIONS WAS INSTRUCTED TO DO SO BY USER<P.HURLEY><RET>
```

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```
^Z
 ^
 |
<CTRL/Z>
OPR>
12:31:05        Batch-stream 2  --Aborted--
                Job TEST09 Req #132 for P.HURLEY
                AS OPERATIONS WAS INSTRUCTED TO DO SO BY USER
                <P.HURLEY> with Noerror-processing
OPR>
12:31:17        Batch-stream 2  --End--
                Job TEST09 Req #132 for P.HURLEY
                -- Job Aborted by Operator --
OPR>
```

2. Specify the ABORT command to abort a job currently being read
    through the card reader.

    ```
    OPR>ABORT READER 0<RET>
    OPR>
     9:34:45        Reader 0  --Aborted--
    OPR>
    ```

ALIGN - Aligning Printer Paper

Function

The ALIGN command prints a "forms-alignment" file on the line
printer so that you can align the paper.

At various times, you may have to align special forms for a
particular line printer job, such as payroll checks or invoices.
The ALIGN command allows you, at these times, to adjust the forms
and the line printer, if need be, as many times as necessary to
print the job correctly.

Format

```
OPR>ALIGN keyword nn (or) LAT /switch (or) argument<RET>
```

where keyword must be: PRINTER

| followed by its alias name

or followed by its unit number:

                              nn

| optionally followed by the switch:

                              /NODE:node-name::

or   LAT

followed by: SERVICE "name"
                              SERVER "name"
or followed by: PORT "name"
                              SERVER "name"

and, optionally, one or more of the following switches:

| /CLUSTER-NODE:cluster-node-name
                              /PAUSE:nnnn
                              /REPEAT-COUNT:nnnn
                              /STOP

or, optionally, the following argument:

                              alignment-filespec

Keywords

PRINTER
: specifies the line printer (output device). You can use an alias name defined with the DEFINE ALIAS command to reference a printer specification in this command.

nn
: specifies the unit number of the line printer that will print the forms to be aligned (for example, 0 for LPT0, 1 for LPT1, and so forth). You must specify this unit number.

LAT
: specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"
: specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"
: specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"
: specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

Switches

/CLUSTER-NODE:cluster-node-name
: specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name::
: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The double colon (::) following the node name is optional.

/PAUSE:nnnn
: specifies the time in seconds (nnnn) that the line printer waits between repeats of the particular print job. The default of the /PAUSE: switch is 10 seconds.

/REPEAT-COUNT:nnnn
: specifies the number of times to print the file (starting from the beginning). The default of the /REPEAT-COUNT: is 25.

/STOP
: specifies that normal printing be resumed and stops the alignment of forms on the line printer.

Argument

alignment-filespec
: specifies a file to be printed for aligning the forms. This file is usually supplied by those individuals at your installation who are responsible for the applications the file would be used for. The default file specification is SYS:formsname.ALP, where

formsname is the name of the form to be
aligned, such as NARROW. This alignment file
(or any supplied by an application individual)
has a format of one printed page of output
that can be repeated on the line printer so
that you can align the paper.

Restrictions

If you specify the ALIGN command and the alignment file cannot be
found, the following error message appears:

    hh:mm:ss   Printer n --Alignment Error--
                Cannot read ALIGN file 'filespec'

If you specify the ALIGN command with the /STOP switch while the
print request is printing, the following error message appears:

    hh:mm:ss   Printer n --/STOP Illegal--
                Alignment not in Progress

If you specify the ALIGN command while an alignment is in
progress, the following error message appears:

    hh:mm:ss   Printer n --Alignment already in Progress--

Examples

1. Specify line printer 0 in the ALIGN command to align some
    special forms and specify a repeat-count of 15.

    OPR>ALIGN PRINTER 0 /REPEAT-COUNT:15<RET>
    OPR>
    10:12:07   Printer 0 --Alignment Scheduled--
    OPR>

2. Specify line printer 0 in the ALIGN command for forms
    alignment with the use of the alignment file PAYCHK.ALP. By
    default values of the /REPEAT-COUNT and the /PAUSE
    switches, the ALIGN command repeats the file 25 times with a
    pause of 10 seconds between repeats.

    OPR>ALIGN PRINTER 0 PAYCHK.ALP<RET>
    OPR>
     9:34:12   Printer 0 --Alignment Scheduled--
    OPR>

3. Specify line printer 3 in the ALIGN command for forms
    alignment with a pause of 30 seconds between repeats. The
    forms are aligned after one repeat and you stop the alignment

of forms on line printer 3.

OPR>ALIGN PRINTER 3 /PAUSE:30<RET>
OPR>
10:34:03   Printer 3 --Alignment Scheduled--
OPR>ALIGN PRINTER 3 /STOP<RET>
OPR>
10:38:29   Printer 3 --Alignment Discontinued--
OPR>

BACKSPACE – Backspacing Files by Page

Function

The BACKSPACE command reprints pages in the file currently printing on the line printer.

At various times, you may have to backspace a particular file that is currently being printed on the line printer, for example when the forms become jammed in the printing mechanism. The BACKSPACE command allows you to backspace the print file so that the pages of the file that were jammed or miscorrectly printed can be repeated.

Format

OPR>BACKSPACE keyword nn (or) LAT /switch<RET>

where keyword must be: PRINTER

| followed by its alias name

or followed by its unit number:

                                nn
or   LAT
followed by: SERVICE "name"
                                SERVER "name"
or followed by: PORT "name"
                                SERVER "name"

and, optionally, one or more of the following switches:

| /CLUSTER–NODE:cluster-node-name
                                /COPIES:nnnn
                                /FILE
                                /PAGES:nnnn

Keywords

PRINTER   specifies the line printer (output device).
| You can use an alias name defined with the
| DEFINE ALIAS command to reference a printer
| specification in this command.

nn   specifies the unit number of the line printer
                 that will backspace the file currently
                 printing (for example, 0 for LPT0, 1 for LPT1,
                 and so forth). You must specify this unit
                 number; there is no default.

LAT   specifies the Local Area Transport service
                 used to control communication between LAT
                 hosts and terminals on the Ethernet. With the
                 LAT keyword, you specify the SERVICE or PORT
                 and its SERVER name to establish communication
                 between your system, running LAT software, and
                 the resource printer terminal.

                 You cannot use the following
                 SERVICE/PORT/SERVER specifications:

                         SERVICE name only
                         SERVER name only
                         PORT name only
                         SERVICE name and PORT name
                         SERVICE, SERVER, and PORT names

                 Refer to Chapter 4 for additional information
                 about LAT communications.

PORT "name"

                 specifies the communication path between the
                 host system and the printer resource or the
                 access point that the node represents to the
                 user. The "name" is the port name and can
                 have from 1 to 16 characters consisting of
                 alphanumeric characters, underscores, dashes,
                 and dollar signs.

SERVICE "name"

                 specifies the resource and establishes the LAT
                 access path to the resource. The "name" is
                 the service name and can have from 1 to 16
                 characters consisting of alphanumeric
                 characters, underscores, dashes, and dollar
                 signs.

SERVER "name"

                 specifies the server name of the resource
                 printer terminal. This name can be the LAT
                 box with the proper LAT software running in
                 it. The name can be from 1 to 6 alphanumeric

characters in length.

Switches

You must specify one of the following switches:

/COPIES:nnnn   specifies the number of additional copies to
                    be printed.   The number you specify is added
                    to the number of copies that the user queued
                    with the PRINT command.   For example, if a
                    user issues the command:

                        PRINT FOO.BAR/COPIES:25

                    and you issue the BACKSPACE command with
                    /COPIES:10 while FOO.BAR is printing on the
                    line printer, the total number of copies
                    printed will be 35.

/FILE   specifies that one file be backspaced when a
                    multifile PRINT request has been given by a
                    user. For example, if a user issues the
                    command:

                        PRINT FOO1.BAR,FOO2.BAR,FOO3.BAR

                    and you issue the BACKSPACE command with /FILE
                    while FOO3.BAR is printing on the line
                    printer, FOO2.BAR will be printed again.

/PAGES:nnnn   specifies the number of pages to be backspaced
                    for the file that is currently being printed.
                    The /PAGES: switch is the default of the
                    BACKSPACE command.   If you do not specify
                    either the /COPIES: or the /FILE switch, then
                    you must specify the /PAGES: switch.   The
                    number (nnnn) you specify refers to   the
                    physical number of pages and not to the number
                    of pages that contains the file on disk.

Followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

                    specifies the particular cluster node within
                    the TOPS-20 cluster where the command is
                    processed. The "cluster-node-name" qualifier
                    can be any node name within the cluster or an
                    asterisk (*).   The asterisk specifies all
                    nodes within the cluster.

Restrictions

When you give a BACKSPACE PRINTER command, the system prints the
output in the printer buffer (which may contain on or more
printed pages) before BACKSPACing the number of pages you
specify. Therefore, when you use the /PAGES: switch, you should
add two or three pages to the total number of pages you wish to
BACKSPACE.

Examples

1. Specify line printer 0 in the BACKSPACE command to add an
    additional 15 copies to a print request of 15 copies.

    OPR>BACKSPACE PRINTER 0 /COPIES:15<RET>
    OPR>
    13:43:53   Printer 0 --Backspaced 15 Copies--
    OPR>

2. Specify line printer 2 in the BACKSPACE command to backspace
    one file from the file currently printing.

    OPR>BACKSPACE PRINTER 2 /FILE<RET>
    OPR>
    11:34:23   Printer 2 --Backspaced 1 File--
    OPR>

3. Specify line printer 1 in the BACKSPACE command to backspace
    12 pages from the page currently printing because of a paper
    jam.

    OPR>BACKSPACE PRINTER 1 /PAGE:12<RET>
    OPR>
    10:23:50   Printer 1 --Backspaced 12 Pages--
    OPR>

CANCEL - Canceling Requests

Function

The CANCEL command cancels any job request that is being
processed or is waiting to be processed. In addition, the CANCEL
command can be used to cancel any user's request for a tape or
structure mount.

When a user submits a request for a job to be processed or a
request to mount a tape or structure, the system assigns a
request number to the request. To display the requests at any
time, give the OPR command SHOW QUEUES. The requests will be
displayed with the request numbers and the names of the users who
submitted the jobs. You cancel requests by specifying either the
request number or the user name. Optionally, you can cancel all
requests for a particular device or those of a particular type on
the specified device.

Format

| OPR>CANCEL keyword argument /switch<RET>

where keyword can be one of the following:

                       BATCH-REQUEST
                       CARD-PUNCH-REQUEST
                       MOUNT-REQUEST
                       PAPER-TAPE-PUNCH-REQUEST
                       PLOTTER-REQUEST
                       PRINTER-REQUEST

followed by one of these arguments:

                       request-id-number
                       user-name
                       *

and for MOUNT-REQUEST, the argument:

                       structure-name:

and, optionally, the switch: /REASON:comment

and, optionally for the * argument, followed by the switch:

                       /NODE:node-name::

followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

Keywords

BATCH-REQUEST   specifies either a job in the batch queue
                     waiting to be processed or a batch job that is
                     currently processing in a batch stream.

CARD-PUNCH-REQUEST

                     specifies either a job for the card punch
                     waiting to be processed or a job that is
                     currently being output on the card punch.

MOUNT-REQUEST   specifies either a mount request for a tape
                     mount or a structure mount. With the
                     MOUNT-REQUEST keyword, you can specify a
                     single mount request-id-number or a structure
                     name, and an optional /REASON:. If you
                     specify a structure name, the CANCEL command
                     cancels all requests for that structure.

PAPER-TAPE-PUNCH-REQUEST

                     specifies either a job for the paper-tape
                     punch waiting to be processed or a job
                     currently being output on the paper-tape
                     punch.

PLOTTER-REQUEST   specifies either a job for the plotter waiting
                     to be processed or a job currently being
                     output on the plotter.

PRINTER-REQUEST   specifies either a job for the line printer
                     waiting to be processed or a job currently
                     printing on a line printer.

Arguments

request-id-number   cancels a single request as specified by the
                     appropriate keyword for a particular user.
                     The number can be a job that is either waiting
                     to be processed or is currently processing on
                     a device or in a batch stream.

user-name   cancels all jobs as specified by the
                     appropriate keyword for a particular user.

The user name can be from 1 to 39 alphanumeric
characters (normally the user's surname) that
identifies the user and his logged-in
directory. Do not enclose the user name in
angle brackets. This argument cannot be used
with the MOUNT-REQUEST keyword.

*   cancels all jobs as specified by the
                     appropriate keyword for all requests, waiting
                     and processing, from all users. This argument
                     cannot be used with the MOUNT-REQUEST keyword.

structure-name: specifies a 1- to 6-character structure name
                     that users have requested you to mount. The
                     name must end with a colon (:). When you
                     cancel a MOUNT-REQUEST for a structure name,
                     all requests for that structure mount are
                     canceled providing that the requests are in
                     the waiting status. (Refer to the description
                     of the SHOW QUEUES MOUNT-REQUESTS command in
                     this chapter.) If the structure is in the
                     dismount status, you must cancel the structure
                     separately, using the request-id-number with
                     the CANCEL command.

Switches

/CLUSTER-NODE:cluster-node-name

                     specifies the particular cluster node within
                     the TOPS-20 cluster where the command is
                     processed. The "cluster-node-name" qualifier
                     can be any node name within the cluster or an
                     asterisk (*). The asterisk specifies all
                     nodes within the cluster.

/NODE:node-name::   specifies the name of your host node, a remote
                     station, a VMS node, or a LAT server. The
                     double colon (::) following the node name is
                     optional. This switch can only be used with
                     the * argument.

/REASON:comment   allows you to include a comment as to why the
                     MOUNT-REQUEST to mount a tape or structure has
                     been canceled. This comment appears in the
                     batch log file and at the user's terminal. If
                     the comment is more than one line in length,
                     you can end the first line with a hyphen and a
                     carriage return and continue the comment on
                     the next line. If you press carriage return

immediately after the colon, OPR responds with the instruction: ENTER TEXT AND TERMINATE WITH ^Z. You can then enter as many lines of text as necessary. When your comment(s) have been entered, press the CTRL key and the key labeled Z simultaneously (CTRL/Z) and the OPR> prompt reappears.

Restrictions

You cannot cancel any mount request after the tape or structure has been mounted on the device. If you need to do this, you must ABORT the job and DISMOUNT the tape or structure.

Examples

1. Specify the CANCEL MOUNT-REQUEST command to cancel all requests for the mounting of structure SNOOPY:. All mount requests for this structure are in the waiting status.

    OPR>CANCEL MOUNT-REQUEST SNOOPY: /REASON:<RET>
    [Enter text and terminate with ^Z]
    CANNOT FIND STRUCTURE SNOOPY<RET>
    THANK YOU – OPERATIONS^Z
                                     ^
                                     |
                            <CTRL/Z>
    OPR>
    15:32:08   --3 Mount Requests Canceled--
    OPR>

2. Specify the CANCEL BATCH-REQUEST for all batch requests from user HOVSEPIAN.

    OPR>CANCEL BATCH-REQUEST HOVSEPIAN<RET>
    OPR>
    12:09:34   --2 Jobs Canceled--
    OPR>

3. Specify the CANCEL PAPER-TAPE-PUNCH-REQUEST to cancel all requests from all users for that device.

    OPR>CANCEL PAPER-TAPE-PUNCH *<RET>
    OPR>
    09:34:56   --7 Jobs Canceled--
    OPR>

CLOSE – Closing the Log Buffer File

Function

The CLOSE command closes the current ORION log buffer file and creates a new log buffer file. The closed log file is written to disk so that you can copy or print an up-to-date file.

The ORION log buffer file records all OPR-to-ORION commands and transactions performed at the operator's console. When the CLOSE command is issued, these commands and transactions are transferred to the ORION-SYSTEM.LOG file and the buffer file is cleared. You can then print the ORION-SYSTEM.LOG file on the line printer to obtain a hard-copy of all the operating processes for a given time period.

You may choose a name other than ORION-SYSTEM.LOG for the ORION log buffer file at GALGEN time. Please see your System Manager in reference to GALGEN.

Format

| OPR>CLOSE keyword /switch<RET>

    where keyword must be: LOG

| followed optionally by the switch:

| /CLUSTER-NODE:cluster-node-name

Keyword

LOG   specifies the ORION log buffer file that was created with the start-up of ORION. For this logging facility to occur, you must have previously given the ENABLE LOGGING command. The ENABLE LOGGING command is described in this chapter.   To stop the logging facility, you must give the DISABLE LOGGING command. The DISABLE LOGGING command is described in this chapter.

Switch

| /CLUSTER-NODE:cluster-node-name

                specifies the particular cluster node within

the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

Example

1. Specify the CLOSE command in its full context to close the
   ORION log file and open a new log file automatically.

   OPR>CLOSE LOG<RET>
   OPR>

CONTINUE – Restarting a Stopped Job

Function

The CONTINUE command continues a job request on a device that was
temporarily stopped with the STOP command.

Format

OPR>CONTINUE keyword nn /switch<RET>

where keyword can be one of the following:

                        BATCH-STREAM
                        CARD-PUNCH
                        PAPER-TAPE-PUNCH
                        PLOTTER
                        PRINTER argument
                        READER

followed by the stream/unit number:

                        nn

or a range of numbers: n:m

and, optionally, one or both of the following switches:

                        /CLUSTER-NODE:cluster-node-name
                        /NODE:node-name::

or the argument for the PRINTER keyword:

followed by its alias name

or followed by its unit number:

                        nn

optionally followed by the switch:

                        /NODE:node-name::

                        CLUSTER nn
                                n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

```
or                        LAT
followed by:              SERVICE "name"
                          SERVER "name"
or followed by:           PORT "name"
                          SERVER "name"

followed optionally by the switch:

                          /CLUSTER-NODE:cluster-node-name
```

Keywords

BATCH-STREAM   specifies a particular batch stream (or range
                    of batch streams) that was temporarily stopped
                    from processing a batch job. A batch stream
                    is a pseudo-terminal that interacts with the
                    system to execute a batch job.

CARD-PUNCH   specifies a particular card-punch device (or
                    range   of   card-punch   devices)   that was
                    temporarily stopped from processing   a
                    card-punch job.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                    (or range of paper-tape-punch devices) that
                    was temporarily stopped from processing a
                    paper-tape-punch job.

PLOTTER   specifies a particular plotter device (or
                    range of plotter devices) that was temporarily
                    stopped from processing a plotter job.

PRINTER argument   specifies a particular line printer device or
                    a range of line printer devices. You can use
                    an alias name defined with the DEFINE ALIAS
                    command to reference a printer specification
                    in this command. The argument can be:

    CLUSTER nn   specifies a printer, or a range of printers,
            n:m   on a remote node within a TOPS-20 cluster. A
                    TOPS-20   cluster   is   a   loosely coupled
                    configuration of between two and four TOPS-20
                    processors.   Each   processor   in   the
                    configuration is identified by a node name.
                    For example, HUEY::, DEWEY::, and LOUIE:: can
                    be three nodes within a cluster of TOPS-20
                    processors.

    NODE node-name::

                    specifies that the printer device for a
                    cluster be started.   The double colon (::)
                    following the node name is not needed.

                    For the CLUSTER argument, NODE node-name::
                    specifies a node within the cluster and cannot
                    be the local node or an alias.

    DQS queuename

                    specifies the Distributed Queue Service

allowing users to queue print requests to VMS systems using DECnet. DQS accepts the user specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

NODE node-name::

specifies the VMS node where the print request is processed. The double colon (::) following the node name is not needed.

For the DQS argument, NODE node-name:: specifies the VMS nodename and cannot be an alias.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

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specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

READER   specifies a particular card-reader device (or range of card-reader devices) that was temporarily stopped from processing a card-reader job.

nn   specifies the stream number of the batch stream to be continued or the unit number of the input/output device that has been temporarily stopped. You must specify this stream/unit number.

n:m   specifies a range of stream/unit numbers. You can specify this range instead of a single stream/unit number. The colon must separate the two numbers. The n represents the low-order number and the m represents the high-order number.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The default is your own node. The double colon (::) following the node name is optional.

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Examples

1. Specify the CONTINUE command to continue the card reader after it was stopped to prevent a card-reader jam.

   ```
   OPR>CONTINUE READER 0<RET>
   OPR>
    9:23:19        Reader 0  --Continued--
   OPR>
   ```

2. Specify the CONTINUE command to continue a batch stream that was previously stopped.

   ```
   OPR>CONTINUE BATCH-STREAM 2<RET>
   OPR>
   12:10:12        Batch-stream 2  --Continued--
   OPR>
   ```

3. Specify the CONTINUE command to continue all line printers after they were stopped temporarily.

   ```
   OPR>CONTINUE PRINTER 0:1<RET>
   OPR>
   11:40:23        Printer 0  --Continued--
   OPR>
   11:40:24        Printer 1  --Continued--
   OPR>
   ```

DEFINE - Defining a Node

Function

The DEFINE command specifies the name and characteristics of a node that is to perform IBM communications. DEFINE sets the node's parameters to the default parameters of the SET NODE command. Refer to the SET NODE command.

The DEFINE command is applicable only if your installation has IBM communications software. For more information about IBM communications software, refer to the TOPS-20 IBM Emulation/Termination Manual.

For information about SNA workstations, refer to the DECnet/SNA TOPS-20 Remote Job Entry User's and Operator's Guide and the DECnet/SNA Gateway Management Guide.

Format

OPR>DEFINE NODE node-name[::] keyword /switch arguments<RET>

where:

node-name must be: a valid node name in your network, optionally followed by two colons (::).

keyword, switch and argument format is:

```
  2780           /                                          \
  3780          /  /SIGNON-REQUIRED    mode  port  line    \
  HASP          \  /NO-SIGNON-REQUIRED                     /
  SNA-WORKSTATION \ ACCESS-NAME name GATEWAY gateway-name /
```

keyword is one of: 2780
                              3780
                              HASP
                              SNA-WORKSTATION

switch (for 2780, 3780, AND HASP) is one of:

                              /SIGNON-REQUIRED
                              /NO-SIGNON-REQUIRED

arguments (for 2780, 3780, AND HASP) are all of the following, separated by spaces:

        mode is one of: EMULATION
                               TERMINATION

        port is a valid portnumber:

                               nn

        line is a valid line number:

                               n

     arguments (for SNA-WORKSTATION) are all of the following,
     separated by spaces:

                               ACCESS-NAME name
                               GATEWAY gateway-name::

DEFINE NODE parameters are further described below:

     node-name   specifies the node name of the node to perform
                        IBM communications. The double colon (::)
                        following the node name is optional.

Keywords

     2780, 3780, HASP, or SNA-WORKSTATION

                        specifies a protocol to use (2780, 3780,
                        SNA-WORKSTATION, or HASP multileaving). HASP
                        is the default.

Switches (for 2780, 3780, AND HASP):

     /SIGNON-REQUIRED   specifies that the remote station must sign on
                         when starting up the node. For emulation, a
                         signon card must be sent to the IBM system.
                         For termination, a signon card must be
                         verified from the station (node) and the card
                         must be the first one read. In addition, a
                         signon file must exist in the <DN60> area in
                         the format of <node-name>.SON.

     /NO-SIGNON-REQUIRED

                        specifies that the user at the node does not
                        need to sign on when starting up the node (see
                        /SIGNON-REQUIRED).   The   default   is
                        /SIGNON-REQUIRED.

Arguments (for 2780, 3780, AND HASP)

     EMULATION or TERMINATION

                        specifies the mode. EMULATION specifies that
                        the node is to communicate with a host.
                        TERMINATION specifies that the node is to
                        communicate   with   a   remote   station.
                        TERMINATION is the default.

     nn   specifies the port number from the front end
                        to the TOPS-20 host.

     n   specifies the line number from the front end
                        to the modem communicating with the remote
                        site.

                        CAUTION

     For a KL10, the port number can be either 11 (for
     DTE1), 12 (for DTE2), or 13 (for DTE3). For a KS10,
     the port number can be either 0 (for KMC/DMC line 0)
     or 1 (for KMC/DMC line 1). Never use port 0 on a
     KL10.

     For a KL10, the line number must be from 0 to 5; for a
     KS10, the line number must be either 0 or 1.

Arguments (for SNA-WORKSTATION only):

     ACCESS-NAME name   is the name of a list of access information,
                        as defined in the .CFG file for the SNA
                        gateway.

     GATEWAY gateway-name::

                        is the name of the SNA gateway optionally
                        followed by a double colon (::).

Examples

1. You use the DEFINE command to define node IBM2.

    OPR>DEFINE NODE IBM2:: HASP EMULATION 11 0<RET>
    OPR>
     9:18:34   -- Define for Node IBM2 Accepted --
    OPR>

2. You use the DEFINE command to define a remote station as an
    IBM 3780 to communicate from the host.

    OPR>DEFINE NODE IBM3:: 3780 TERMINATION 12 1<RET>
    OPR>
    15:32:09   -- Define for Node IBM3 Accepted --
    OPR>

3. You use the DEFINE command to define a node as an
    SNA-WORKSTATION.
    OPR>DEFINE NODE IBM4:: SNA-WORKSTATION ACCESS-NAME-<RET>
     RJE GATEWAY TOIBM<RET>
    OPR>
    16:32:09   -- Define for Node IBM4 Accepted --
    OPR>

DEFINE - Defining Aliases for Printer Specifications

Function

The DEFINE ALIAS command allows you to define, redefine, or
undefine an alias name for printer specifications for DQS, LAT,
local, and cluster printers. Once an alias is defined for a
printer, that printer can be specified either by its alias or its
printer specification.

The SHOW ALIAS command displays each printer alias name relative
to its printer specification.

Once you have defined an alias name for a printer, you can
reference that printer by its alias in the syntax of the
following commands:

ABORT PRINTER
ALIGN PRINTER
BACKSPACE PRINTER
CONTINUE PRINTER
DEFINE ALIAS
FORWARDSPACE PRINTER
NEXT PRINTER
REQUEUE PRINTER
ROUTE PRINTER
SET PRINTER
SHOW ALIAS
SHOW PARAMETERS PRINTER
SHOW STATUS PRINTER
SHUTDOWN PRINTER
START PRINTER
STOP PRINTER
SUPPRESS PRINTER

Format

OPR>DEFINE ALIAS alias-name keyword nn argument /switch<RET>

where:

alias-name   is a unique name up to six
                                alphanumeric   characters long,
                                including   the   non-alphabetic
                                characters: '$', '.', or '_'. The
                                first character of an alias name
                                must be a non-numeric character and
                                cannot begin with a 'C', 'D', or

'L'.

and, optionally, one or both of the following switches:

                        /CLUSTER-NODE:cluster-node-name
                        /NODE:node-name::

where keyword is one of the following:

                        CLUSTER nn
                              n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT

followed by: SERVICE "name"
                        SERVER "name"

or followed by: PORT "name"
                        SERVER "name"

followed by the unit number:

                        nn

followed optionally by the switch:

                        /CLUSTER-NODE:cluster-node-name

Keywords

CLUSTER nn   specifies a printer on a remote node within a
                TOPS-20 cluster.   A TOPS-20 cluster is a
                loosely coupled configuration of between two
                and four TOPS-20 processors. Each processor
                in the configuration is identified by a node
                name.   For example, HUEY::, DEWEY::, and
                LOUIE:: can be three nodes within a cluster
                of TOPS-20 processors.

        NODE node-name::

                specifies that the printer device for a
                cluster be started.   The double colon (::)
                following the node name is not needed.

                For the CLUSTER argument, NODE node-name::

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                        specifies a node within the cluster and cannot
                        be the local node or an alias.

DQS queuename   specifies the Distributed Queue Service
                    allowing users to queue print requests to VMS
                    systems using DECnet. DQS accepts the user
                    specified print request and transmits it to
                    the remote VMS node.   The   "queuename"
                    specifies the VMS queuename and can be a
                    string of 1 to 31 characters, consisting of
                    alphanumeric characters, underscores, dashes,
                    and dollar signs.

        NODE node-name::

                    specifies the VMS node where the print request
                    is processed. The double colon (::) following
                    the node name is not needed.

                    For the DQS   argument, NODE   node-name::
                    specifies the VMS nodename and cannot be an
                    alias.

LAT   specifies the Local Area Transport service
                    used to control communication between LAT
                    hosts and terminals on the Ethernet. With the
                    LAT keyword, you specify the SERVICE or PORT
                    and its SERVER name to establish communication
                    between your system, running LAT software, and
                    the resource printer terminal.

                    You   cannot   use   the   following
                    SERVICE/PORT/SERVER specifications:

                            SERVICE name only
                            SERVER name only
                            PORT name only
                            SERVICE name and PORT name
                            SERVICE, SERVER, and PORT names

                    Refer to Chapter 4 for additional information
                    about LAT communications.

        PORT "name"

                    specifies the communication path between the
                    host system and the printer resource or the
                    access point that the node represents to the
                    user.   The "name" is the port name and can
                    have from 1 to 16 characters consisting of
                    alphanumeric characters, underscores, dashes,

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and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT
access path to the resource. The "name" is
the service name and can have from 1 to 16
characters consisting of alphanumeric
characters, underscores, dashes, and dollar
signs.

SERVER "name"

specifies the server name of the resource
printer terminal. This name can be the LAT
box with the proper LAT software running in
it. The name can be from 1 to 6 alphanumeric
characters in length.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

Examples

1. Use the DEFINE ALIAS command to define an alias to a printer
    specification.

    OPR>DEFINE ALIAS FOO CLUSTER 1 NODE GIDNEY::<RET>
    OPR>
     9:18:34   -- Alias FOO Defined --
    OPR>

    This command assigns the alias FOO to the CLUSTER printer 1
    for node GIDNEY.

2. Use the DEFINE ALIAS command to redefine the alias FOO to
    alias BAR.

    OPR>DEFINE ALIAS BAR FOO<RET>
    OPR>
    15:32:09   -- Alias FOO Defined --

OPR>

This command changes the alias name from FOO to BAR.

3. Use the DEFINE ALIAS command to undefine the alias BAR.

    OPR>DEFINE ALIAS BAR<RET>
    OPR>
    16:32:09   -- Alias BAR Undefined --
    OPR>

DISABLE – Stopping System Process Features

Function

The DISABLE command allows you to turn off (or stop) the following features:

1. Automatic Volume Recognition feature (AVR) for magnetic tape mounts.

2. Class scheduling for various job processings and the accounting of CPU time assigned to different job classes.

3. File retrieval requests for off-line files.

4. The ORION logging facility for recording OPR/ORION commands and transactions.

5. The output display of various groupings of messages that were enabled with the ENABLE command.

6. Queue requests so that users can request jobs to be processed.

7. Limit the output display for unprivileged users at a remote node.

8. Printing of log files on specific local printer(s).

9. DECnet connection attempts by NEBULA to remote NEBULAs in the TOPS-20 cluster.

10. Reporting by NEBULA of DECnet connection failures to remote NEBULAs in the cluster.

11. SEMI-OPR commands for accessing information and limited control of some output devices.

12. The sending of ORION messages to one or more remote nodes in a TOPS-20 cluster.

13. Unprivileged users from seeing all queued print jobs on a remote node in the TOPS-20 cluster.

Format

OPR>DISABLE keyword argument /switch<RET>

where keyword can be one of the following:

```
            AUTOMATIC-VOLUME-RECOGNITION
|           BROADCAST-MESSAGES
            CLASS-SCHEDULER
            DECNET-CONNECTION-ATTEMPTS
            FILE-RETRIEVAL-WAITS
            LOGFILES-TO-SPECIFIC-PRINTERS
            LOGGING
            OUTPUT-DISPLAY
            PRINT-LOGFILES n
            QUEUE-REQUESTS
            REPORT-CONNECTION-FAILURES
            SEMI-OPR
            UNPRIVILEGED-USER-ENTIRE-REMOTE-OUTPUT-DISPLAY
```

followed by one of these arguments: (AVR only)

```
                TAPE-DRIVES
                tape-drive-name:
```

or followed by one of these arguments: (OUTPUT-DISPLAY only)

```
                ALL-MESSAGES
                BATCH-MESSAGES
                BUGCHK-MESSAGES
                BUGINF-MESSAGES
                CARD-PUNCH-MESSAGES
                CARD-READER-INTERPRETER-MESSAGES
                DECNET-EVENT-MESSAGES
                DECNET-LINK-MESSAGES
                FILE-RETRIEVAL-MESSAGES
                LCP-MESSAGES
                MOUNT-MESSAGES
                NCP-MESSAGES
                PAPER-TAPE-PUNCH-MESSAGES
                PLOTTER-MESSAGES
                PRINTER-MESSAGES
                READER-MESSAGES
                SYSTEM-MESSAGES
                USER-MESSAGES
```

and, optionally, one or more of these switches: (OUTPUT-DISPLAY keyword only, not for BUGCHK-, BUGINF-, DECNET-, or SYSTEM-MESSAGES arguments)

```
                /INFORMATION-MESSAGES
                /JOB-MESSAGES
                /OPR-ACTION-MESSAGES
```

| and optionally the following keyword for the OUTPUT-DISPLAY

keyword:

NODE

or for DECNET-CONNECTION-ATTEMPTS and
REPORT-CONNECTION-FAILURES, the optional switch:

/NODE:node-name::

or the optional switch (except for OUTPUT-DISPLAY):

/CLUSTER-NODE:cluster-node-name

Keywords

AUTOMATIC-VOLUME-RECOGNITION

specifies that this AVR system feature be
disabled. AVR allows you to mount labeled
tapes without the need to IDENTIFY the tapes
to the system with a keyin. When this AVR
feature is disabled, you must IDENTIFY each
labeled tape you mount. Unlabeled tapes must
always be identified to the system with the
IDENTIFY command. (Refer to the description
of the IDENTIFY command.)

BROADCAST-MESSAGES

specifies to disable broadcast messages, which
allows ORION messages generated on the local
node to be sent to one or more remote nodes.
It also allows selective sending of these
messages.

CLASS-SCHEDULER   specifies a system program be disabled that
allocates portions (or percentages) of the
central processor unit (CPU) to individual
groups of users. These groups are called
classes and are set up by your System Manager
in the n-CONFIG.CMD file at system generation
time. When the CLASS-SCHEDULER is disabled,
all jobs entered into the system receive an
equal amount of CPU time; allocation is on a
first-come-first-served basis.

DECNET-CONNECTION-ATTEMPTS

specifies to disable DECnet connections from
being made by NEBULA to remote systems within
the TOPS-20 cluster or to a particular remote

system.

FILE-RETRIEVAL-WAIT

specifies that when a user or batch job
requests a file that is off-line due to an
archival or a migration, the job does not wait
until the request has been satisfied. (Refer
to the TOPS-20 Operator's Guide for a
discussion of archived and migrated files.)
Instead, the user receives an error message
indicating that the file cannot be retrieved
and the batch job ends in an error (if error
recovery has not been specified in the control
file). If error recovery has been specified
in the control file, the job continues to
process.

LOGFILES-TO-SPECIFIC-PRINTERS

specifies to return from enabled printers
(ENABLE PRINT-LOGFILES n), thus disabling the
printing of batch log files and spooled files
on specific local printers. (See ENABLE
LOGFILES-TO-SPECIFIC-PRINTERS.)

LOGGING   specifies that the centralized logging
facility of ORION be disabled (this facility
logs all messages passing through the
operating system and stores these messages in
a log file buffer). When this facility is
disabled, there are no records kept of the
messages and interactions between ORION and
the system. However, the CTY shows all
messages and interactions if you have not
DISABLEd the OUTPUT-DISPLAY of ALL-MESSAGES at
the CTY.

OUTPUT-DISPLAY   specifies that the display of specified
message groupings on your console be disabled.
The groupings are specified as the valid
arguments and switches to this keyword.

NODE   allows you to selectively choose which ORION
messages from the indicated node in the
cluster are displayed on the operator
terminal. You can specify the local node or
an asterisk (*). The asterisk specifies all
nodes within the cluster.

PRINT-LOGFILES n specifies to stop an enabled local printer (n)

from printing batch log files and spooled
files. (See ENABLE PRINT-LOGFILES.)

QUEUE-REQUESTS   specifies that all users be disabled from
                    making any queue request. When queue requests
                    are disabled, no user can submit a batch or
                    reader job, a card-punch, paper-tape-punch,
                    plotter, or a printer request to the system.
                    If the user attempts to submit a job of any
                    kind, the message "?Operator Has Restricted
                    Queue Entry Commands" appears at the user's
                    terminal.

REPORT-CONNECTION-FAILURES

                    specifies to discontinue reporting DECnet
                    connection failures to remote systems or a
                    specific remote system in the cluster.

SEMI-OPR   specifies to disallow users with SEMI-OPERATOR
                    privilege to have limited control of certain
                    output devices and to access operator
                    information. The OPR commands permitted and
                    their limitations are defined in Chapter 2.

UNPRIVILEGED-USER-ENTIRE-REMOTE-OUTPUT-DISPLAY

                    specifies that an unprivileged user may only
                    view his own print requests on a remote node
                    in the cluster as a result of that user giving
                    an @INFORMATION OUTPUT /DESTINATION-NODE:
                    command.

Arguments

The following arguments are valid for the AUTOMATIC-VOLUME-
RECOGNITION keyword:

TAPE-DRIVES   specifies that all tape drives on the system
                    be disabled from using AVR.

tape-drive-name: specifies the tape drive name that is disabled
                    from using AVR. The colon must be included.
                    The name is in the format of MTAn:, where n is
                    the tape drive number.

The following arguments are valid with the OUTPUT-DISPLAY
keyword. Each argument suppresses the printing of a type of
message on your OPR terminal.

Message Type	Cause
ALL-MESSAGES	all the types of messages defined by the following arguments
BATCH-MESSAGES	users requesting BATCH processing
BUGCHK-MESSAGES	BUGCHKs encountered by the system
BUGINF-MESSAGES	BUGINFs encountered by the system
CARD-PUNCH-MESSAGES	users requesting card punch output
CARD-READER-INTERPRETER-MESSAGES	card reader file processing or batch jobs submitted with the /READER switch
DECNET-EVENT-MESSAGES	DECnet events generated by NMLT20
DECNET-LINK-MESSAGES	failure of an attempt to establish a link to another node
FILE-RETRIEVAL-MESSAGES	users requesting retrieval of files that have been archived or migrated to tape
LCP-MESSAGES	LAT events noted by LCP
MOUNT-MESSAGES	users requesting tape and structure mounts and dismounts
NCP-MESSAGES	users starting and shutting down network nodes (valid only if your installation has DECnet software)
PAPER-TAPE-PUNCH-MESSAGES	users requesting paper-tape-punch output
PLOTTER-MESSAGES	users requesting plotter output
PRINTER-MESSAGES	users requesting line printer output

READER-MESSAGES   users requesting card reader input (card reader jobs become batch requests)

SYSTEM-MESSAGES   various system messages such as: job 0 crashes, swapping space, SPT space, disk space, and parity error conditions encountered by the system

USER-MESSAGES   users making requests to you through the PLEASE program

Switches

You can specify the following switches with any of the OUTPUT-DISPLAY arguments except BUGCHK-, BUGINF-, DECNET-, and SYSTEM-MESSAGES. If you do not specify one of these switches with any OUTPUT-DISPLAY argument, all three are assumed by default.

/INFORMATION-MESSAGES

prohibits the printing of messages that are informational, such as errors due to problems in an application program. Note that one-way PLEASE messages from users are considered information messages, since no response from you is necessary.

/JOB-MESSAGES   prohibits the printing of messages that notify you when a device or stream has begun to process a job request and when the job request has ended its processing.

/OPR-ACTION-MESSAGES

prohibits the printing of messages that notify you of some action to be performed as requested by a user or a processing job. Also included are messages that require action to be taken, but are not job or WTOR related. All operator-action messages must be answered with the RESPOND command.

NODE prohibits an operator from selectively filtering which WTOs and WTORs from remote nodes are displayed on the operator terminal.

You can specify the following switch with the DECNET-CONNECTION-ATTEMPTS and REPORT-CONNECTION-FAILURES keywords:

/NODE:node-name::   specifies the name of a remote node in the cluster. The double colon (::) following the node name is optional.

You can specify the following switch with all keywords except the OUTPUT-DISPLAY keyword:

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

Examples

1. You have scheduled a system shutdown in two hours and your
    queues have approximately two hours' worth of jobs left to be
    processed. You disable queue requests so that the queues can
    be emptied before the system shutdown.

    OPR>DISABLE QUEUE-REQUESTS<RET>
    OPR>
    16:34:03   --System Queue's Entry Processing Disabled--
    OPR>

2. You have started OPR and want to display only information
    messages. By default when OPR is started, all messages are
    displayed. Therefore, you must disable all messages except
    information messages.

    @ENABLE<RET>
    $OPR<RET>
    OPR>DISABLE ALL-MESSAGES /JOB-MESSAGES/USER-MESSAGES<RET>
    OPR>
     8:45:18   Output display for OPR modified --
    OPR>

3. You DISABLE AVR on tape drive MTA2: before you mount and
    ready a scratch tape to be initialized.

    OPR>DISABLE AUTOMATIC-VOLUME-RECOGNITION MTA2:<RET>
    OPR>

DISMOUNT - Dismounting a Structure or Tape-drive

Function

The DISMOUNT command allows you to dismount (and remove) a
structure currently mounted on a disk drive or a magnetic tape
currently mounted on a tape drive.

You can dismount a structure without removing the structure from
the disk drive. The structure is then dismounted from the local
system and users on the system are prevented from mounting the
structure from the EXEC.

You can also dismount a structure and remove the structure from
the disk drive. When the DISMOUNT WITH REMOVAL command is
issued, the structure is queued for removal. If other local or
remote users have mounted the structure, a message asks you if
you want to proceed. If you answer NO, the request is canceled.
If you answer YES, the structure is dismounted from every system
in the cluster, and you are asked to remove it.

When you issue the DISMOUNT command for a tape drive, the tape
rewinds itself completely from the take-up wheel, providing that
no user is currently using the tape. If a user is using the tape
on the specified tape drive, OPR will reject the DISMOUNT
command.

Format

OPR>DISMOUNT keyword argument /switch<RET>

where keyword can be: STRUCTURE
                                 TAPE-DRIVE

followed by the argument: structure-name:

or the argument: tape-drive-name:

optionally followed by one of   NO-REMOVAL
these arguments: (STRUCTURE only) REMOVAL

optionally followed by the
switch: /CLUSTER-NODE:cluster-node-name

Keywords

STRUCTURE
specifies a disk structure currently mounted on a disk drive.

TAPE-DRIVE
specifies a tape drive that has a magnetic tape mounted and ready on it.

Arguments

structure-name:
specifies the logical name of the structure to dismount and remove. The colon must be included with the structure name specified. An example of a logical name is DSKC: for Disk C.

REMOVAL
specifies that the system giving the DISMOUNT command is to have exclusive control of the structure. The system checks for use of the structure by users on another system within the cluster. If users on another system within the cluster have mounted the structure, a message asks you whether or not to proceed with the dismount. If the response is PROCEED, then the structure is automatically dismounted with NO REMOVAL from all the other systems within the cluster, and then the structure is dismounted for removal on the local system.

If the structure is not in use by another system, the structure is dismounted and you are asked to remove it.

On a non-cluster system, REMOVAL is the default to the STRUCTURE keyword.

NO-REMOVAL
dismounts the structure without checking for use of the structure by users on another CFS system and prints a message telling you not to physically remove the structure.

On a CFS system, NO-REMOVAL is the STRUCTURE keyword default.

tape-drive-name:
specifies the logical name of the tape drive which currently has the desired tape to dismount on it. The colon must be included with the tape drive name. The name is in the format of MTAn:, where n is the tape drive

number.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Restrictions

If there are other users who have mounted the structure and you really wish to remove the structure, it is recommended that you send a message to all users of the system before you respond with YES, to allow all users to complete their tasks on that structure.

A structure can be DISMOUNTed only if set ACKNOWLEDGED; you cannot DISMOUNT a structure that is set IGNORED.

Examples

1. Specify the DISMOUNT with REMOVAL command to dismount the structure DEMO: from all systems within the cluster.

```
OPR>DISMOUNT STRUCTURE DEMO: REMOVAL<RET>
OPR>
10:14:41  <1>     -- DISMOUNT QUERY --
                  Structure DEMO: (Alias DEMO:) is in use by
                  RONCO::, GIDNEY::, THEP::
                  and can't be removed from the cluster
                  unless it's dismounted with NO-REMOVAL
                  from the systems.
                  Respond with PROCEED to dismount
                  the structure from the above systems or
                  Respond with ABORT to terminate
                  the dismount request

OPR>RESPOND 1 PROCEED<RET>
OPR>
10:15:00          -- REMOTE DISMOUNT STATUS --
                  Structure DEMO: dismounted from RONCO::,
                   GIDNEY::, THEP::
```

```
OPR>
10:15:01          -- STRUCTURE DISMOUNTED --
                  Structure DEMO dismounted

10:15:01          -- DISMOUNT STRUCTURE --
Remove DEMO: (alias DEMO:)
User OPERATOR, Job 66, Terminal 233

DISK DRIVE INFORMATION                 DISK PACK INFO...
     Chan-Cont  Disk    Mount   Mount              Usage
 Type  Drive    Status  Status  Count  Name        Options
 ----  -------- -------- ------- -----  ----------- -------
 RA81 7,03,12   Avail    Free           DEMO  (1/1)
Structure cannot be mounted again unless MOUNTed via OPR
 or until removed

OPR>
```

2. Specify the DISMOUNT command to dismount the tape volume
    currently mounted on tape drive MTA0:.

```
OPR>DISMOUNT TAPE-DRIVE MTA0:<RET>
OPR>
16:45:01          -- MTA0:  Unloaded --
OPR>
```

ENABLE – Allowing System Process Features

Function

The ENABLE command allows you to turn on (or start) the following
features:

1. Automatic Volume Recognition feature (AVR) for magnetic tape
    mounts.

2. Class scheduling for various job processings and   the
    accounting of CPU time assigned to different job classes.

3. File retrieval requests for off-line files.

4. The ORION logging facility for recording OPR/ORION commands
    and transactions.

5. The output display of various groupings of messages that were
    enabled with the ENABLE command.

6. Queue requests so that users can request jobs to be
    processed.

7. Limit the output display for unprivileged users at a remote
    node.

8. Printing of log files on specific local printer(s).

9. DECnet connection attempts by NEBULA to remote NEBULAs in the
    TOPS-20 cluster.

10. Reporting by NEBULA of DECnet connection failures to remote
     NEBULAs in the cluster.

11. SEMI-OPR commands for accessing information and limited
     control of some output devices.

12. The sending of ORION messages to one or more remote nodes in
     a TOPS-20 cluster.

13. Unprivileged users from seeing all queued print jobs on a
     remote node in the TOPS-20 cluster.

Format

```
OPR>ENABLE keyword argument /switch<RET>
```

where keyword can be one of the following:

```
                     AUTOMATIC-VOLUME-RECOGNITION
                     BROADCAST-MESSAGES
                     CLASS-SCHEDULER
                     DECNET-CONNECTION-ATTEMPTS
                     FILE-RETRIEVAL-WAITS
                     LOGFILES-TO-SPECIFIC-PRINTERS
                     LOGGING
                     OUTPUT-DISPLAY
                     PRINT-LOGFILES n
                     QUEUE-REQUESTS
                     REPORT-CONNECTION-FAILURES
                     SEMI-OPR
                     UNPRIVILEGED-USER-ENTIRE-REMOTE-OUTPUT-DISPLAY
```

followed by one of these arguments (AVR only):

```
                          TAPE-DRIVES
                          tape-drive-name:
```

or followed by one or more of these switches:
(CLASS-SCHEDULER only)

```
                    /CLASS-ASSIGNMENTS:ACCOUNT
                                       POLICY-PROGRAM

                    /WINDFALL:ALLOCATED
                              WITHHELD
```

or followed by one of these arguments: (OUTPUT-DISPLAY only)

```
                          ALL-MESSAGES
                          BATCH-MESSAGES
                          BUGCHK-MESSAGES
                          BUGINF-MESSAGES
                          CARD-PUNCH-MESSAGES
                          CARD-READER-INTERPRETER-MESSAGES
                          DECNET-EVENT-MESSAGES
                          DECNET-LINK-MESSAGES
                          FILE-RETRIEVAL-MESSAGES
                          LCP-MESSAGES
                          MOUNT-MESSAGES
                          NCP-MESSAGES
                          PAPER-TAPE-PUNCH-MESSAGES
                          PLOTTER-MESSAGES
                          PRINTER-MESSAGES
                          READER-MESSAGES
                          SYSTEM-MESSAGES
                          USER-MESSAGES
```

and, optionally, one or more of these switches: (OUTPUT-DISPLAY
keyword only, not for BUGCHK-, BUGINF-, DECNET-, or

SYSTEM-MESSAGES arguments)

```
                                    /INFORMATION-MESSAGES
                                    /JOB-MESSAGES
                                    /OPR-ACTION-MESSAGES
```

and optionally the following keyword for the OUTPUT-DISPLAY
keyword:

```
                          NODE
```

or for DECNET-CONNECTION-ATTEMPTS and
REPORT-CONNECTION-FAILURES, the optional switch:

```
                     /NODE:node-name::
```

or the optional switch (except for OUTPUT-DISPLAY):

```
                     /CLUSTER-NODE:cluster-node-name
```

Keywords

AUTOMATIC-VOLUME-RECOGNITION

> specifies that this AVR system feature be
> enabled. AVR allows you to mount labeled
> tapes without the need to identify each tape
> to the system with a keyin. However,
> unlabeled tapes must always be identified to
> the system with the IDENTIFY command. (Refer
> to the description of the IDENTIFY command.)

BROADCAST-MESSAGES

> specifies to enable broadcast messages. This
> allows ORION messages generated on the local
> node to be sent to one or more remote nodes.
> It also allows selective sending of these
> messages. For example, if the local node is
> generating an excessive amount of BUGCHKS, you
> may want to send all messages except BUGCHKs.

CLASS-SCHEDULER   specifies a system program be enabled that
                  allocates portions (or percentages) of the
                  central processor unit (CPU) to individual
                  groups of users. These groups are called
                  classes and are set up by your System Manager
                  in the n-CONFIG.CMD file at system generation
                  time. When the CLASS-SCHEDULER is enabled,
                  all jobs entered into the system are executed

according to their class. You should consult
your System Manager before you ENABLE or
DISABLE the CLASS-SCHEDULER as this action
affects the performance of your system.

DECNET-CONNECTION-ATTEMPTS

specifies to enable NEBULA to attempt DECnet
connections to remote NEBULAs in the TOPS-20
cluster. The remote systems must be running
cluster GALAXY in order for the connection to
be successful.

FILE-RETRIEVAL-WAIT

specifies that when a user or batch job
requests a file that is off-line due to an
archival or a migration, the job waits until
the request has been satisfied, provided that
the user has given the TOPS-20 command SET
RETRIEVAL-WAIT. (Refer to the TOPS-20
Operator's Guide for a discussion of archived
and migrated files, and to the ^TOPS-20
Commands Reference Manual for a description of
the SET RETRIEVAL-WAIT command.) Once the
request has been satisfied, the job (batch or
timesharing) continues to process.

LOGFILES-TO-SPECIFIC-PRINTERS

specifies to direct the printing of batch log
files and spooled files to specific local
printers. Normally, printing of spooled files
(batch or otherwise) is scheduled for the
first available local printer. With
LOGFILES-TO-SPECIFIC-PRINTERS enabled, you can
specify the printer with the OPR command
ENABLE PRINT-LOGFILES n. In this way, only
the local printer(s) specified print batch log
or spooled files. To check if this keyword is
enabled, use the OPR command SHOW PARAMETER
PRINTER.

If LOGFILES-TO-SPECIFIC-PRINTERS is directed
to specific printers (ENABLE PRINT-LOGFILES
n), and you issue the OPR command DISABLE
LOGFILES-TO-SPECIFIC-PRINTERS, the ENABLEd
printer(s) are remembered by OPR. Therefore,
if LOGFILES-TO-SPECIFIC-PRINTERS is ENABLEd
later during system operation, you do not have
to re-issue ENABLE PRINT-LOGFILES command(s).

LOGGING   specifies that the centralized logging
                      facility of ORION be enabled (this facility
                      logs all messages passing through the
                      operating system and stores these messages in
                      a log file buffer). When this facility is
                      enabled, there are records kept of the
                      messages and interactions between ORION and
                      the system.

OUTPUT-DISPLAY   specifies that the display of specified
                      message groupings on your console be enabled.
                      The groupings are specified as the valid
                      arguments and switches to this keyword.

   NODE   allows you to selectively choose which ORION
                      messages from the indicated node in the
                      cluster are displayed on the operator
                      terminal. You can specify the local node or
                      an asterisk (*). The asterisk specifies all
                      nodes within the cluster.

PRINT-LOGFILES n   specifies the local printer "n" to print batch
                      log files and spooled files. The OPR command
                      ENABLE LOGFILES-TO-SPECIFIC-PRINTERS must
                      precede this command. If
                      LOGFILES-TO-SPECIFIC-PRINTERS is reverted
                      (DISABLEd) and then ENABLEd at a later time
                      during system operation, OPR remembers the
                      printer as ENABLEd, thus you do not have to
                      re-issue the ENABLE PRINT-LOGFILES command.

QUEUE-REQUESTS   specifies that all users be enabled to make
                      any queue request. When queue requests are
                      enabled, a user can submit a batch or reader
                      job, a card-punch, paper-tape-punch, plotter,
                      or a printer request to the system.

REPORT-CONNECTION-FAILURES

                      specifies that NEBULA is to report DECnet
                      connection attempt failures to remote NEBULAs
                      in the cluster on your terminal.

SEMI-OPR   specifies to allow users with SEMI-OPERATOR
                      privilege to have limited control of certain
                      output devices and to access operator
                      information. The OPR commands permitted and
                      their limitations are defined in Chapter 2.

UNPRIVILEGED-USER-ENTIRE-REMOTE-OUTPUT-DISPLAY

                      specifies that an unprivileged user may view
                      all print requests on a remote node in the

cluster as a result of that user giving an
@INFORMATION OUTPUT /DESTINATION-NODE:
command.

Arguments

The following arguments can be used with the AUTOMATIC-VOLUME-
RECOGNITION keyword:

TAPE-DRIVES   specifies that all tape drives on the system
                   be enabled with AVR.

tape-drive-name: specifies the tape-drive name that is enabled
                   with AVR. The colon must be included. The
                   name is in the format of MTAn:, where n is the
                   tape-drive number.

The following arguments are valid with the OUTPUT-DISPLAY
keyword. Each argument allows a type of message to be displayed
on your OPR terminal.

Message Type   Cause

ALL-MESSAGES   all the types of messages defined by the
                   following arguments

BATCH-MESSAGES   users requesting BATCH processing

BUGCHK-MESSAGES   BUGCHKs generated by the system

BUGINF-MESSAGES   BUGINFs generated by the system

CARD-PUNCH-MESSAGES

                   users requesting card punch output

CARD-READER-INTERPRETER-MESSAGES

                   card reader file processing or batch jobs
                   submitted with the /READER switch

DECNET-EVENT-MESSAGES

                   DECnet events generated by NMLT20

DECNET-LINK-MESSAGES

                   failure of an attempt to establish a link to
                   another node

FILE-RETRIEVAL-MESSAGES

---

                   users requesting retrieval of files that have
                   been archived or migrated to tape

LCP-MESSAGES   LAT events noted by LCP

MOUNT-MESSAGES   users requesting tape and structure mounts and
                   dismounts

NCP-MESSAGES   users starting and shutting down network nodes
                   (valid only if your installation has DECnet
                   software)

PAPER-TAPE-PUNCH-MESSAGES

                   users requesting paper-tape-punch output

PLOTTER-MESSAGES   users requesting plotter output

PRINTER-MESSAGES   users requesting line printer output

READER-MESSAGES   users requesting card reader input (Card
                   reader jobs become batch requests.)

SYSTEM MESSAGES   various system messages such as: job 0
                   crashes, swapping space, SPT space, disk
                   space, and parity error conditions encountered
                   by the system

USER-MESSAGES   users making requests to you through the
                   PLEASE program

Switches

The following switches can be used as arguments of the
CLASS-SCHEDULER keyword:

/CLASS-ASSIGNMENTS:

                   specifies that users of the system have been
                   divided into classes and have been allocated a
                   certain amount of CPU time. The two arguments
                   available with this switch are ACCOUNTS and
                   POLICY-PROGRAM.

    ACCOUNTS   specifies that class assignments are assigned
                   by the accounts set up in the n-CONFIG.CMD
                   file and the ACCOUNTS-TABLE.BIN file.

    POLICY-PROGRAM specifies that your System Manager or System
                   Programmer has initiated the Access Control

Job to assign a user to a class upon login. The Access Control Job is a user written program that provides the accounting functions for your installation.

/WINDFALL: specifies what happens with the unused CPU time. You can specify either ALLOCATED or WITHHELD.

ALLOCATED   specifies that excess CPU time is awarded proportionately to the active classes (users currently requesting CPU time).

WITHHELD   specifies that excess CPU time is withheld from all users and becomes idle time.

You can specify the following switches with all OUTPUT-DISPLAY arguments except BUGCHK-, BUGINF-, DECNET-, or SYSTEM-MESSAGES. If you do not specify one of these switches with an OUTPUT-DISPLAY argument, all three are assumed by default.

/INFORMATION-MESSAGES

specifies that messages be displayed that are informational, such as errors that occur due to an application problem. Also, one-way PLEASE messages from users are considered information messages, since no response from you is necessary.

/JOB-MESSAGES   specifies that messages be displayed that notify you when a device or stream has begun to process a job request and when the job request has ended its processing.

/OPR-ACTION-MESSAGES

specifies that messages be displayed that notify you of some action to be performed as requested by a user or a processing job. Also included are messages that require action to be taken, but are not job or WTOR related. All operator action messages must be answered with the RESPOND command.

You can specify the following switch with the DECNET-CONNECTION-ATTEMPTS and REPORT-CONNECTION-FAILURES keywords:

/NODE:node-name::   specifies the name of a remote node in the cluster. The double colon (::) following the node name is optional.

You can specify the following switch with all keywords except the OUTPUT-DISPLAY keyword:

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. You have previously disabled queue requests to allow those requests in the queues to be processed before a shift turnover. You can now enable queue requests.

   OPR>ENABLE QUEUE-REQUESTS<RET>
   OPR>
   16:34:03   --System Queue's Entry Processing Enabled--
   OPR>

2. You have started OPR on a terminal to display only mount messages. By default when OPR is started, all messages are displayed. Therefore, you must disable all messages and then enable mount messages.

   OPR>DISABLE OUTPUT-DISPLAY ALL-MESSAGES<RET>
   OPR>
    8:45:18   -- Output display for OPR modified --
   OPR>ENABLE OUTPUT-DISPLAY MOUNT-MESSAGES<RET>
   OPR>
    8:45:47   -- Output display for OPR modified --
   OPR>

3. You ENABLE AVR on tape drive MTA2: after you have disabled AVR and initialized some scratch tapes.

   OPR>ENABLE AUTOMATIC-VOLUME-RECOGNITION MTA2:<RET>
   OPR>

ENTER – Entering Another Command Level

Function

The ENTER command exits OPR and enters another command interface, such as:

o LCP   the LAT Control Program

o NCP   the Network Control Program

to perform control and monitor functions appropriate to the selected command interface.

Format

OPR>ENTER keyword<RET>

where keyword is one of the following: LCP
                                        NCP

Keywords

LCP specifies that you exit OPR and enter LCP (the LAT Control Program) to control and monitor LAT (Local Area Transport) activity at a TOPS-20 node.

When you enter LCP, your prompt becomes the LCP prompt, LCP>. You can use the ESCAPE key and command recognition for LCP commands as for OPR commands.

LCP commands and functions are described in a separate chapter of this manual.

NCP specifies that you exit OPR and enter NCP (the Network Control Program for DECnet. This keyword is applicable only if your installation has DECnet software.

When you specify the ENTER command to enter DECnet, your prompt becomes the DECnet prompt, NCP>. Once you are in NCP, you can use the ESCAPE key and recognition on NCP commands as you can for OPR commands.

NCP commands and functions are described in the DECnet-20/PSI-20 System Manager's Guide.

Use the ENTER command when you need to give many commands at the other (non-OPR) command level. If you need to give only a few commands, you

can give them from OPR without entering the new command level. To do this, type the command-level keyword (and a space) followed by the command to the other interface, as:

OPR>LCP SHOW CHARACTERISTICS<RET>

EXIT - Leaving OPR Level

Function

> The EXIT command exits OPR command level and returns to TOPS-20 command level.
>
> You can return to OPR command level with the TOPS-20 CONTINUE command, providing that you do not alter memory. Refer to the <u>TOPS-20 User's Guide</u> or the <u>TOPS-20 Commands Reference Manual</u> for additional information about the CONTINUE command.
>
> The EXIT command has no keywords, arguments, or switches.

Format

> OPR>EXIT<RET>

Restrictions

> Because OPR takes time to respond to some commands, the EXIT command may prevent you from seeing output from previously issued commands. However, the processing of the previous commands will not be interrupted when you EXIT from OPR.

Examples

> 1. Specify the EXIT command to leave OPR and return to TOPS-20 command level.
>
>   OPR><u>EXIT<RET></u>
>
> $
>
> 2. After completing your task with commands that do not alter memory, you now give the TOPS-20 command CONTINUE to return to OPR.
>
> $<u>CONTINUE<RET></u>
>
>   OPR>

FORWARDSPACE - Forward Spacing into Pages

Function

> The FORWARDSPACE command spaces the print file on the line printer in a forward direction, so that you can skip the printing of a job, file, or page(s). The FORWARDSPACE command allows you to forwardspace the print file so that you can save paper and print only what is needed as output.
>
> At various times, you may have to forwardspace a particular file that is currently being printed on the line printer, for example when a user requires only a portion of some printed output.

Format

> OPR>FORWARDSPACE keyword nn (or) LAT /switch<RET>
>
> where keyword must be: PRINTER
>
> followed by its alias name
>
> or followed by its unit number:
>
>   nn
>
> followed optionally by the switch:
>
>   /NODE:nodename::
>
> or   LAT
>
> followed by: SERVICE "name"
>   SERVER "name"
> or followed by: PORT "name"
>   SERVER "name"
>
> and, optionally, one or more of the following switches:
>
>   /CLUSTER-NODE: cluster-node-name
>   /COPIES:nnnn
>   /FILE
>   /PAGES:nnnn

Keywords

> PRINTER   specifies the line printer (output device). You can use an alias name defined with the

DEFINE ALIAS command to reference a printer specification in this command.

nn   specifies the unit number of the line printer that can forwardspace the forms currently printing (for example, 0 for LPT0, 1 for LPT1, and so forth). You must specify this unit number.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

              You cannot use the following SERVICE/PORT/SERVER specifications:

                   SERVICE name only
                   SERVER name only
                   PORT name only
                   SERVICE name and PORT name
                   SERVICE, SERVER, and PORT names

              Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

              specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

              specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

              specifies the server name of the resource

printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

Switches

You must specify one of the following switches:

/CLUSTER-NODE:cluster-node-name

              specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/COPIES:nnnn specifies the number of copies to be skipped from printing. The number you specify is subtracted from the number that was queued with the PRINT command. For example, if a user issued the command

              PRINT FOO.BAR/COPIES:25

              and you issue the FORWARDSPACE command with /COPIES:10 while FOO.BAR is printing on the line printer, the total number of copies printed will be 15.

/FILE   specifies that you forward space one file when a multifile PRINT request has been given by a user. For example, if a user issues the command

              PRINT FOO1.BAR,FOO2.BAR,FOO3.BAR

              and you issue the FORWARDSPACE command with /FILE while FOO1.BAR is printing on the line printer, FOO2.BAR starts printing on the line printer. The remaining pages of FOO1.BAR are skipped.

/NODE:node-name:: specifies the name of a remote node in the cluster. The double colon (::) following the node name is optional.

/PAGES:nnnn   specifies the number of pages to be forwardspaced for the file that is currently

being printed. If you do not specify either
the /COPIES: or the /FILE switch, then you
must specify the /PAGES: switch. The number
(nnnn) you specify refers to the physical
number of pages and not to the number of pages
that contains the file on disk.

Restrictions

When you give the FORWARDSPACE PRINTER command, the system prints
the output in the printer buffer (which may contain one or more
printed pages) before FORWARDSPACing the number of pages you
specify.   Therefore, when you use the /PAGES:nn switch, you
should subtract two or three pages from the total number of pages
you wish to FORWARDSPACE.

Examples

1. Specify line printer 0 for the FORWARDSPACE command to skip
    15 copies of a print request of 25 copies.

    OPR>FORWARDSPACE PRINTER 0 /COPIES:15<RET>
    12:34:34   Printer 0 --Forward Spaced 15 Copies--
    OPR>

2. Specify line printer 2 with the FORWARDSPACE command to
    forwardspace one file from the file currently printing.

    OPR>FORWARDSPACE PRINTER 2 /FILE<RET>
    13:21:09   Printer 2 --Forward Spaced 1 File--
    OPR>

3. Specify the FORWARDSPACE command to forwardspace twelve pages
    from the page currently printing on line printer 1 because of
    a user request.

    OPR>FORWARDSPACE PRINTER 1 /PAGE:12<RET>
    10:20:30   Printer 1 --Forward Spaced 12 Pages--
    OPR>

HELP - Getting Help on OPR Commands

Function

The HELP command displays information about an OPR command.

Format

OPR>HELP command<RET>

where command can be any available OPR command

Restrictions

If you specify an invalid OPR command as a keyword with the HELP
command, OPR responds with:

%No help available for "command"

You can then press CTRL/H or retype the HELP command and specify
a correct OPR command as a keyword with HELP.

Examples

1. Specify the HELP command itself to get help on the HELP
    command.

    OPR>HELP HELP<RET>
                        -- Help for HELP command --
    The HELP command allows you to display the function, format,
    arguments, and
    switches of any OPR command.

    The format is:

    HELP keyword

    where keyword can be any of the following OPR commands:

    ABORT   ALIGN   BACKSPACE   CANCEL   CLOSE
    CONTINUE   DEFINE   DISABLE   DISMOUNT   ENABLE
    ENTER   EXIT   FORWARDSPACE   HELP   HOLD
    IDENTIFY   MODIFY   MOUNT   NEXT   PUSH
    RELEASE   REPORT   REQUEUE   RESPOND   ROUTE
    SEND   SET   SHOW   SHUTDOWN   START
    STOP   SUPPRESS   SWITCH   TAKE   UNDEFINE
    WAIT

  or one of the following:
  LCP   NCP

OPR>

2. Specify the HELP command with TAKE as its keyword.

    OPR>HELP TAKE<RET>
                    -- Help for TAKE command --
    The TAKE command allows you to execute a series of OPR
    commands from a specified command file.

    The format is:

    TAKE filespec

    where filespec is the name of the command file,

    followed by one of these optional switches:

            /DISPLAY
            /NODISPLAY

    OPR>

HOLD - Holding Job Requests in the Queue

Function

    The HOLD command keeps job requests in a queue from being
    processed.

    The jobs that are held with the HOLD command can be rescheduled
    with the RELEASE command. Refer to the description of the
    RELEASE command in this chapter.

    To examine any jobs waiting in a queue to be processed, give the
    SHOW QUEUES command. Refer to the description of the SHOW QUEUES
    command in this chapter.

Format

    OPR>HOLD keyword argument /switch<RET>

    where keyword can be one of the following:

                    BATCH-JOBS
                    CARD-PUNCH-JOBS
                    PAPER-TAPE-PUNCH-JOBS
                    PLOTTER-JOBS
                    PRINTER-JOBS

    followed by one of these arguments:

                    request-id-number
                    user-name
                    *

    and optionally for the * argument, followed by the switch:

                    /NODE:node-name::

    or optionally the switch:

                    /CLUSTER-NODE:cluster-node-name

Keywords

    BATCH-JOBS   specifies one or more jobs in the batch input
                        queue waiting to be processed.

    CARD-PUNCH-JOBS   specifies one or more jobs in the card-punch
                        output queue waiting to be processed.

PAPER-TAPE-PUNCH-JOBS

        specifies one or more jobs in the paper-tape-punch output queue waiting to be processed.

PLOTTER-JOBS   specifies one or more jobs in the plotter output queue waiting to be processed.

PRINTER-JOBS   specifies one or more jobs in the line printer output queue waiting to be processed.

Arguments

request-id-number specifies that a single job be held as specified by the appropriate keyword, for a particular user.

user-name   specifies that all jobs be held as specified by the appropriate keyword for a particular user. The user name can be from 1 to 39 alphanumeric characters (normally the user's surname) that identifies the user and his logged-in directory. You do not need to enclose the user name in angle brackets.

*   specifies that all jobs be held as specified by the appropriate keyword for all jobs waiting to be processed, from all users.

Switches

/CLUSTER-NODE:cluster-node-name

        specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The default is your own node. The double colon (::) following the node name is optional. This switch can only be used with the * argument.

Restrictions

The HOLD command is effective only for the jobs currently waiting to be processed. Any jobs submitted after the HOLD command was issued are not held.

You cannot hold any job that is currently processing in a batch stream or on an output device. If you need to stop the job from processing, give the STOP command. Refer to the description of the STOP command in this chapter.

Examples

1. Specify the OPR command to HOLD a line printer job whose request-id-number is 127. This particular job will not become rescheduled again until you issue a RELEASE command for this job.

   ```
   OPR>HOLD PRINTER-JOBS 127<RET>
   10:54:07          --1 Job Held--
   OPR>
   ```

2. Specify the OPR command to HOLD all card-punch jobs.

   ```
   OPR>HOLD CARD-PUNCH-JOBS *<RET>
   11:34:35          --10 Jobs Held--
   OPR>
   ```

3. Specify the OPR command to HOLD all batch jobs for user HOVSEPIAN.

   ```
   OPR>HOLD BATCH-JOBS HOVSEPIAN<RET>
   12:20:32          --15 Jobs Held--
   OPR>
   ```

IDENTIFY – Identifying Tape Mounts

Function

The IDENTIFY command services tape mount requests by enabling you to:

o Satisfy a user's mount request for an unlabeled tape.

o Satisfy a user's request for a labeled tape that is mounted on a drive that has AVR disabled.

o Pre-place and identify an unlabeled tape.

When a user issues a mount request for an unlabeled tape, you must physically locate, mount, and ready the requested tape on an available tape drive and then 'IDENTIFY' the tape-mount request to the tape drive.

When more than one user issues a mount request for a scratch tape, the IDENTIFY SCRATCH command applies to the first request received. If you need to service a request other than the first, use the IDENTIFY REQUEST-ID command.

If you have AVR enabled and your installation uses labeled tapes, you do not need to give the IDENTIFY command after you mount and ready a tape on a tape drive.

Format

OPR>IDENTIFY keyword argument /switch<RET>

where keyword must be the tape-drive name:

MTAn:

followed by one of these arguments:

REQUEST-ID nn
SCRATCH
VOLUME-ID volid

followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

Keyword

MTAn: specifies the physical tape drive unit (n) where you mounted and readied the tape. You must specify this colon at the end of the unit number.

Arguments

REQUEST-ID nn   specifies that you are attempting to use the tape on drive MTAn: to satisfy tape-mount-request number nn.

SCRATCH   specifies that a user has requested that a scratch tape be mounted. The tape must be unlabeled, or the label must have expired.

VOLUME-ID volid specifies the volume identifier (volid) of the tape volume you have mounted on the tape drive. The volid can consist of from 1 to 6 alphanumeric characters. If the volid contains nonalphanumeric characters (characters other than A through Z and 0 through 9), the volid must be enclosed in double quotes.

In addition, this argument allows you to pre-place an unlabeled tape or an expired labeled tape on a drive with AVR disabled (see Example 4 below).

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. A user requests that you mount an unlabeled scratch tape. After the tape-mount request appears, you mount and ready a write enabled, scratch tape and then identify the tape as a scratch tape.

```
     OPR>
     14:34:20          --Tape Mount Request # 43--
                       Mount scratch tape, WRITE-ENABLED
                       User R.ACE, Job 27, Terminal 9
     OPR>
     14:36:12          --MTA2: Unlabeled tape mounted--
     OPR>IDENTIFY MTA2: SCRATCH<RET>
     OPR>
     14:36:15          --MTA2: Given To Request 43--
                       scratch tape now in use by
                       User R.ACE, Job 27, Terminal 9
     OPR>
```

2. A user requests that you mount a labeled tape. However, you
    have AVR disabled and you must identify the labeled tape to
    the system.

```
     OPR>
     13:29:04          --Tape Mount Request # 87--
                       Mount ANSI volume 100555, READ-ONLY
                       User HOVSEPIAN, Job 19, Terminal 9
     OPR>
     13:32:14          --MTA0: tape mounted--
     OPR>IDENTIFY MTA0: VOLUME-ID 100555<RET>
     OPR>
     13:32:18          --MTA0: Given To Request 87--
                       Volume 100555 now in use by
                       User HOVSEPIAN, Job 19, Terminal 9
     OPR>
```

3. A user has requested an unlabeled tape to be mounted.   After
    you mount and ready the requested tape, you use the IDENTIFY
    command to associate the tape mount request-id with the tape
    drive.

```
     OPR>
     16:30:00          --Tape Mount Request # 127--
                       Mount Unlabeled volume DUMP01, WRITE-ENABLED
                       User SARTINI, Job 43, Terminal 7
                       Volumes in set DUMPER: DUMP01,DUMP02
     OPR>
     16:33:45          --MTA1: Unlabeled tape mounted--
     OPR>IDENTIFY MTA1: REQUEST-ID 127<RET>
     OPR>
     16:33:49          --MTA1: Given To Request 127--
                       Volume DUMP01 now in use by
                       User SARTINI, Job 43, Terminal 7
     OPR>
```

4. You load an unlabeled tape on tape drive MTA1: and pre-place
    it for a future user request.

```
     17:22:10          --MTA1: Unlabeled tape mounted--
     OPR>IDENTIFY MTA1: VOLUME-ID NOVA01<RET>
     OPR>
```

At some time in the future, a user will issue a mount request
for tape NOVA01. The system will automatically satisfy the
request with the tape NOVA01 on tape drive MTA1:.

MODIFY - Modifying the Priority of Requests

Function

The MODIFY command changes the priority of a job request waiting
in a queue for processing. The higher the priority number is in
the MODIFY command, the greater the importance of the job
request.

When any job request is submitted for processing by a user, its
priority number defaults to a value that is set at GALGEN time.
The user who requests the job can set the priority value with the
/PRIORITY: switch.   However, the MODIFY command permits you to
change the priority value for any job request.

Format

OPR>MODIFY keyword argument /switch PRIORITY nn /switch<RET>

where keyword can be one of the following:

                        BATCH-REQUEST
                        CARD-PUNCH-REQUEST
                        PAPER-TAPE-PUNCH-REQUEST
                        PLOTTER-REQUEST
                        PRINTER-REQUEST

followed by one of these arguments:

                        request-id-number
                        user-name
                        *

and optionally for the * argument, followed by the switch:

                        /NODE:node-name::

followed by the argument: PRIORITY nn

followed optionally by the switch:

                        /CLUSTER-NODE:cluster-node-name

Keywords

BATCH-REQUEST   specifies one or more batch job requests
                       waiting in the batch input queue to be
                       processed.

CARD-PUNCH-REQUEST specifies one or more card-punch job requests
                   waiting in the card-punch

PAPER-TAPE-PUNCH-REQUEST

                       specifies one or more paper-tape-punch job
                       requests waiting in the paper-tape-punch
                       output queue to be processed.

PLOTTER-REQUEST   specifies one or more plotter job requests
                       waiting in the plotter output queue to be
                       processed.

PRINTER-REQUEST   specifies one or more line printer job
                       requests waiting in the line printer output
                       queue to be processed.

Switches

/CLUSTER-NODE:cluster-node-name

                       specifies the particular cluster node within
                       the TOPS-20 cluster where the command is
                       processed. The "cluster-node-name" qualifier
                       can be any node name within the cluster or an
                       asterisk (*).   The asterisk specifies all
                       nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote
                   station, a VMS node, or a LAT server. The
                   default is your own node.   The double colon
                   (::) following the node name is optional.
                   This switch can only be used with the *
                   argument.

Arguments

request-id-number specifies that a single request   from   a
                   particular user be modified as specified by
                   the appropriate keyword.

user-name   specifies that all requests from a particular
                   user   be   modified   as   specified by the
                   appropriate keyword.

*   specifies that all requests from all users be
                   modified   as specified by the appropriate
                   keyword.

PRIORITY nn   specifies the priority number (nn) that the
                   request(s) will be set to. The number can be
                   in the range from 1 to 63.   The higher the

number is, the greater the importance of the
request.

Restriction

You cannot MODIFY the priority of a job request once it has begun
to process in a batch stream or on an output device.

Examples

1. Modify a printer request so that its priority will be greater
   than the next request to be printed. Thus, if print request
   13 was the next print request and you modify print request 15
   to be 50, print request 15 prints before print request 13.

   OPR>MODIFY PRINTER-REQUEST 15 PRIORITY 50<RET>
   OPR>
   13:54:19   --1 Job Modified--
   OPR>

2. Modify all card-punch requests for user CARLSON so that these
   requests will output on the card punch before any other
   card-punch requests.

   OPR>MODIFY CARD-PUNCH-REQUEST CARLSON PRIORITY 63<RET>
   OPR>
   16:13:20   --8 Jobs Modified--
   OPR>

MOUNT - Mounting Structures

Function

The MOUNT command mounts a structure and allows users to access
it. Give the MOUNT command after physically mounting a structure
or after a physically mounted structure has been DISMOUNTed but
not removed from the disk drive. The MOUNT command also allows
you to assign the structure an alias name when two file
structures have the same name.

Unlike the EXEC MOUNT command, the OPR MOUNT command does not
place a mount request in the mount queue or identify you as a
user of the structure. If the structure is physically mounted in
the drive, the MOUNT command is executed immediately. If the
structure is not mounted in the drive, you receive a MOUNT
request. The MOUNT command is then executed automatically when
the structure is physically mounted.

The structure is MOUNTed only when it is physically mounted in a
disk drive and has AVAILABLE and ACKNOWLEDGED attributes.

Format

OPR>MOUNT keyword argument /switch<RET>

where keyword must be: STRUCTURE

followed by the argument: alias:

optionally followed by the switches:

                /STRUCTURE-ID:structure-name:
                /CLUSTER-NODE:cluster-node-name

Keyword

STRUCTURE   specifies a disk structure that is on a disk
                 drive and has been DISMOUNTed.

Arguments

alias: specifies the name to be used in referencing
                 the mounted structure. The alias must be 1 to
                 6 alphanumeric characters in length followed
                 by a colon.

See the <u>TOPS-20</u> <u>System</u> <u>Manager's</u> <u>Guide</u> for
more information on alias names.

Switches

/STRUCTURE-ID:structure-name:

> specifies the physical name of the structure.
> Specify this switch when the alias is not the
> same as the physical structure name.   The
> structure name must be followed by a colon.

/CLUSTER-NODE:cluster-node-name

> specifies the particular cluster node within
> the TOPS-20 cluster where the command is
> processed. The "cluster-node-name" qualifier
> can be any node name within the cluster or an
> asterisk (*).   The asterisk specifies all
> nodes within the cluster.

> NOTE

If a structure was previously dismounted on behalf of
a remote system within the cluster, by way of the
DISMOUNT STRUCTURE name: REMOVAL command,   only that
remote system can successfully use the MOUNT
/CLUSTER-NODE: command to remount the structure on
the remote system.   Once this is accomplished, all
other systems within the cluster can use   the
/CLUSTER-NODE: switch   to   remotely remount the
structure.

Examples

1. Give the MOUNT command to mount the DISMOUNTed structure
    WORK:

    OPR><u>MOUNT</u> <u>STRUCTURE</u> <u>WORK:</u><RET>

    OPR>
    11:32:15   -- Mount request by operator completed --
              Structure WORK: mounted as alias WORK

    OPR>

2. Give the MOUNT command to mount structure SHARE: with the
    alias MISC:

OPR><u>MOUNT</u> <u>STRUCTURE</u> <u>MISC:</u> <u>/STRUCTURE-ID:SHARE</u><RET>
OPR>
11:32:15   -- Mount request by operator completed --
          Structure SHARE: mounted as alias MISC

NEXT - Specifying the Next Request to Run

Function

The NEXT command specifies the request that will be serviced next
by the specified device. After you issue this command, the
request that you specified will start immediately.

Format

OPR>NEXT keyword nn /switch REQUEST-ID mm /switch<RET>

where keyword can be one of the following:

                        BATCH-STREAM
                        CARD-PUNCH
                        PAPER-TAPE-PUNCH
                        PLOTTER
                        PRINTER argument

followed by the stream/unit number:

                        nn

optionally followed by the switch:

                        /NODE:node-name::

or the argument for the PRINTER keyword:

                        aliasname

or   CLUSTER nn
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                        SERVER "name"
or followed by: PORT "name"
                        SERVER "name"

and the word: REQUEST-ID

followed by the request identification number:

                        mm

optionally followed by the switch:

                        /CLUSTER-NODE:cluster-node-name

Keywords

BATCH-STREAM   specifies the batch stream in which the job
                  will run.

CARD-PUNCH   specifies the card punch that will punch the
                  job.

PAPER-TAPE-PUNCH specifies the paper tape punch that will punch
                  the job.

PLOTTER   specifies the plotter that will plot the job.

PRINTER argument specifies a particular line printer device or
                  a range of line printer devices. You can use
                  an alias name defined with the DEFINE ALIAS
                  command to reference a printer specification
                  in this command.   The argument can be:

  CLUSTER nn   specifies a printer on a remote node within a
                  TOPS-20 cluster. A TOPS-20 cluster is a
                  loosely coupled configuration of between two
                  and four TOPS-20 processors. Each processor
                  in the configuration is identified by a node
                  name.   For example, HUEY::, DEWEY::, and
                  LOUIE:: can be three nodes within a cluster
                  of TOPS-20 processors.

    NODE node-name::

                  specifies that the printer device for a
                  cluster be started.   The double colon (::)
                  following the node name is not needed.

                  For the CLUSTER argument, NODE node-name::
                  specifies a node within the cluster and cannot
                  be the local node or an alias.

    DQS queuename

                  specifies the Distributed Queue   Service
                  allowing users to queue print requests to VMS
                  systems using DECnet. DQS accepts the user

specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

NODE node-name::

specifies the VMS node where the print request is to be processed. The double colon (::) following the node name is not needed.

For the DQS argument, NODE node-name:: specifies the VMS nodename and cannot be an alias.

LAT specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is

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the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The default is your own node. The double colon (::) following the node name is optional.

Restriction

The NEXT command ignores most attributes of a request. For example, if a print request has the attribute /UNIT:0, the NEXT command can print the request on a different printer.

You should attempt to honor request attributes when possible.

Example

A user has requested that his job be printed as soon as possible. Use the NEXT command to queue job HURRY to be printed after the current job is finished.

```
OPR>NEXT PRINTER 0 REQUEST-ID 107<RET>
OPR>
15:39:51       Printer 0 -- NEXT request #107 scheduled --
OPR>
15:40:20       Printer 0 -- End --
```

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                    Job D60SPD Req # 105 for PERKINS
OPR>
15:40:32   Printer 0 -- Begin --
                Job HURRY Req #107 for OPERATOR

OPR>

PUSH - Pushing Out of OPR Command Level

Function

       The PUSH command leaves OPR command level and enters a new
       operating system (EXEC) command level. You can then perform any
       software task or run any utility. To return to OPR, type the POP
       command.   (Refer to the TOPS-20 Commands Reference Manual for
       further information on the POP command.)

                                   NOTE

              Do not run OPR at the new EXEC command level.
              Return to OPR by using the TOPS-20 POP command.

       You can use the PUSH command to create a lower copy of an EXEC of
       your choice.   Normally, PUSH creates the EXEC defined by the
       system logical name, DEFAULT-EXEC:. Use the TOPS-20 DEFINE
       command to define the job-wide logical name DEFAULT-EXEC:, with
       the filespec for the EXEC you want to use each time you PUSH.

Format

       OPR>PUSH<RET>

Restriction

       When you have used the PUSH command, you cannot logout. If you
       attempt to do so, the following error message will appear:

       ?LOG capability required
        Not logged off

       To logout, you must POP to OPR, EXIT from OPR, and then LOGOUT.

Examples

       1. You give the PUSH command to enter operating system command
           level and mount a tape for the DUMPER program.

           OPR>PUSH<RET>

            TOPS-20 Command processor 4(554)
           @MOUNT TAPE DUMPER: /LABEL-TYPE:UNLABELED/SCRATCH/NOWAIT<RET>
           13:45:00   --Tape Mount Request # 60--
                             Mount Unlabeled scratch tape, WRITE-ENABLED

User OPERATOR, Job 6, Terminal 1

```
                          .
                          .
                          .
@DUMPER<RET>
DUMPER>
                          .
                          .
                          .
```

2. After completing the DUMPER tasks, you can dismount the tape
    and type POP to return to OPR command level.

```
DUMPER>EXIT<RET>
$POP<RET>
OPR>
```

RELEASE – Releasing Job Requests Held in the Queue

Function

> The RELEASE command releases job requests that were held with the
> HOLD command. When you RELEASE any previously held job request,
> the job is rescheduled for processing. Refer to the description
> of the HOLD command in this chapter.
>
> To examine any jobs waiting in the queue to be processed or any
> jobs being held, give the SHOW QUEUES command with the /ALL
> switch. Refer to the description of the SHOW QUEUES command in
> this chapter.

Format

> OPR>RELEASE keyword argument /switch<RET>
>
> where keyword can be one of the following:
>
> > > BATCH–JOBS
> > > CARD–PUNCH–JOBS
> > > PAPER–TAPE–PUNCH–JOBS
> > > PLOTTER–JOBS
> > > PRINTER–JOBS
>
> followed by one of these arguments:
>
> > > request–id–number
> > > user–name
> > > *
>
> and optionally for the * argument, followed by the switch:
>
> > > /NODE:node–name:
>
> or optionally the switch:
>
> > > /CLUSTER–NODE:cluster–node–name

Keywords

> BATCH–JOBS   specifies one or more jobs held in the batch
>   input queue.
>
> CARD–PUNCH–JOBS   specifies one or more jobs held in   the
>   card–punch output queue.

PAPER-TAPE-PUNCH-JOBS

specifies one or more jobs held in the paper-tape-punch output queue.

PLOTTER-JOBS   specifies one or more jobs held in the plotter output queue.

PRINTER-JOBS   specifies one or more jobs held in the line printer output queue.

Arguments

request-id-number specifies that a single job for a particular user be released as specified by the appropriate keyword.

user-name   specifies that all jobs held for a particular user be released as specified by the appropriate keyword. The user name can be from 1 to 39 alphanumeric characters (normally the user's surname) that identifies the user and his logged-in directory. You do not need to enclose the user name in angle brackets.

*   specifies that all jobs held for all users be released as specified by the appropriate keyword.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the request is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The default is your own node. The double colon (::) following the node name is optional. This switch can only be used with the * argument.

Examples

1. Specify the RELEASE command to release a line printer request for user C.MULLEN.

   ```
   OPR>RELEASE PRINTER-JOBS C.MULLEN<RET>
   OPR>
   14:23:45          --1 Job Released--
   OPR>
   ```

2. Specify the RELEASE command to release all card-punch job requests held in the queue.

   ```
   OPR>RELEASE CARD-PUNCH-JOBS *<RET>
   OPR>
   15:23:01          --10 Jobs Released--
   OPR>
   ```

3. Specify the RELEASE command to release batch job request 117.

   ```
   OPR>RELEASE BATCH-JOBS 117<RET>
   OPR>
   17:18:20          --1 Job Released--
   OPR>
   ```

REPORT - Reporting Comments to SYSERR

Function

    The REPORT command enters various comments or error conditions into the system error file ERROR.SYS. To list these entries, you can run the SPEAR program. (Refer to the TOPS-10/TOPS-20 SPEAR Manual for more information.)

Format

    OPR>REPORT user-name device: /switch text<RET>

    where user-name is the name of the user making the report

    followed by the subject of the report (device:)

    followed optionally by the switch:

        /CLUSTER-NODE:cluster-node-name

    followed by a single- or multiple-line message (text)

Keywords

user-name	identifies the user making the report, or the user that the report refers to. Only the first six characters of the user name are entered into the file ERROR.SYS.
device	specifies one of the system devices that is the subject of the report.
text	after specifying the device, you can enter a single- or multiple-line response and confirm with a carriage return, or you can confirm with carriage return immediately after the user name or device. OPR responds with Enter text and terminate with ^Z. You then enter as many lines of text for a response as you need. When you press CTRL/Z, the OPR> prompt returns and your report is logged into the ERROR.SYS file.

Switch

    /CLUSTER-NODE:cluster-node-name

                specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. Specify the REPORT command for a previous cancellation of a job being read into the system through the card reader.

    OPR>REPORT SARTINI CDR260: TOO MANY PICK CHECKS<RET>
    OPR>
    12:19:00   --Entry made in ERROR.SYS--
    OPR>

2. Specify the REPORT command to describe a possible hardware problem that seems serious.

    OPR>REPORT LEAD-OPERATOR<RET>
    Enter text and terminate with ^Z
    THERE WAS JUST A HEAD CRASH ON STRUCTURE MISC:<RET>
    ALL FILES WILL BE RESTORED^Z
                    ^
                    |
                  <CTRL/Z>
    OPR>
    15:18:01   --Entry made in ERROR.SYS--
    OPR>

REQUEUE - Rescheduling Job Requests

Function

    The REQUEUE command stops a job request that is in progress and
puts it back in the queue in the HOLD state. You can reschedule
the request with the RELEASE command.

Format

    OPR>REQUEUE keyword nn /switch argument /switch<RET>

    where keyword can be one of the following:

                BATCH-STREAM
                CARD-PUNCH
                PAPER-TAPE-PUNCH
                PLOTTER
                PRINTER argument

    followed by the stream/unit number:

                nn

    and, optionally, one or more of the following switches:

                /NODE:node-name::
                /REASON:comment

    or the argument for the PRINTER keyword:

                aliasname

                CLUSTER nn
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                SERVER "name"
or followed by: PORT "name"
                SERVER "name"

    or one of the following arguments (not valid for BATCH-STREAM):

                BEGINNING-OF COPY
                      FILE
                      JOB
                CURRENT-POSITION

    followed optionally by the switch:

                /CLUSTER-NODE:cluster-node-name

Keywords

    BATCH-STREAM   specifies a particular batch stream that has a
                              job currently active within it.

    CARD-PUNCH   specifies a particular card-punch device that
                              has a job currently being output on it.

    PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                              that has a job currently being output on it.

    PLOTTER   specifies a particular plotter device that has
                              a job currently being output on it.

    PRINTER argument   specifies a particular line printer device or
                              a range of line printer devices. You can use
                              an alias name defined with the DEFINE ALIAS
                              command to reference a printer specification
                              in this command. The argument can be:

      CLUSTER nn   specifies a printer on a remote node within a
                              TOPS-20 cluster.   A TOPS-20 cluster is a
                              loosely coupled configuration of between two
                              and four TOPS-20 processors. Each processor
                              in the configuration is identified by a node
                              name.   For example, HUEY::, DEWEY::, and
                              LOUIE:: can be three nodes within a cluster
                              of TOPS-20 processors.

      NODE node-name::

                              specifies that the printer device for a
                              cluster be started.   The double colon (::)
                              following the node name is not needed.

                              For the CLUSTER argument, NODE node-name::
                              specifies a node within the cluster and cannot
                              be the local node or an alias.

      DQS queuename

specifies the Distributed Queue Service allowing users to queue print requests to VMS systems using DECnet. DQS accepts the user specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

NODE node-name::

specifies the VMS node where the print request is to be processed. The double colon (::) following the node name is not needed.

For the DQS argument, NODE node-name:: specifies the VMS nodename and cannot be an alias.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the request is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, a VMS node, or a LAT server. The default is your own node. The double colon (::) following the node name is optional.

/REASON:comment   allows you to include a comment as to why the job has been requeued. This comment will appear in the batch log file and at the user's terminal. If the comment is more than one line long, you can end the first line with a hyphen and a carriage return and continue the comment on the next line. If you press RETURN immediately after the colon, OPR responds with the instruction: ENTER TEXT AND TERMINATE WITH ^Z. You can then enter as many lines of text as necessary. When you finish entering the text, type a CTRL/Z and the OPR> prompt reappears.

Arguments

BEGINNING-OF   specifies the requeuing starts at the beginning of the COPY, FILE, or JOB. This

argument is valid when you requeue a job
currently processing on a device, such as the
line printer. This argument is invalid with
the BATCH-STREAM keyword.

COPY   specifies the requeuing starts at the
                  beginning of the current copy being processed.
                  (Refer to the BACKSPACE and FORWARDSPACE
                  commands.)

FILE   specifies the requeuing starts at the
                  beginning of the current file being processed.
                  (Refer to the BACKSPACE and FORWARDSPACE
                  commands.)

JOB   specifies the requeuing starts at the
                  beginning of the current job being processed.
                  With JOB, the entire job is requeued.

CURRENT-POSITION specifies the current position (line number)
                  of the job on unit number nn at the time you
                  issue the REQUEUE command.

Restriction

The REQUEUE PRINTER command immediately stops sending a job
request to the printer. However, the printer finishes printing
the data already in its buffer. Therefore, when you give the
REQUEUE PRINTER command, the printer may continue to print a few
more pages of a job request before it stops or prints another
request.

Examples

1. Specify the REQUEUE command to hold and cancel a job in batch
    stream 5.

    OPR>REQUEUE BATCH-STREAM 5 <RET>
    OPR>
    10:23:56   Batch Stream 5 --Requeued--
                     Job TEST Req #56 for BROWN
    OPR>
    10:23:57   Batch Stream 5 --End--
                     Job TEST Req #56 for BROWN
                     -- Job Requeued by Operator --
    OPR>

2. Specify the REQUEUE command to hold and cancel the current
    processing job on the card punch.

OPR>REQUEUE CARD-PUNCH 0 BEGINNING-OF JOB /REASON:<RET>
Enter text and terminate with ^Z
JOB REQUEUED BECAUSE OF CARD PUNCH JAM.<RET>
FIELD SERVICE CALLED.<RET>
OPERATOR-JONES.^Z
                 ^
                 |
              <CTRL/Z>
OPR>
16:09:43   Card-punch 0 --Requeued--
                 Job PUNCH9 Req #99 for HOVSEPIAN
OPR>
16:09:44   Card-punch 0 --End--
                 Job PUNCH9 Req #99 for HOVSEPIAN
                 -- Job Requeued by Operator --
OPR>

3. Specify the REQUEUE command to hold and cancel the current
    processing job on the line printer, unit number 0, at the
    current position.

    OPR>REQUEUE PRINTER 0 CURRENT-POSITION<RET>
    OPR>
    12:34:09   Printer 0 --Requeued--
                     Job BATCH1 Req #177 for HURLEY
    OPR>
    12:34:10   Printer 0 --End--
                     Job BATCH1 Req #177 for HURLEY
                     -- Job Requeued by Operator --
    OPR>

RESPOND – Responding to Messages

Function

The RESPOND command to replies to any message sent to you via
WTOR (Write To Operator with Response) from a user or from a
software task.

When a user or software task sends you a message that requires a
response, OPR assigns the message a number so that you can keep
track of all messages sent to operations. With the use of the
SHOW MESSAGES command, you can find out at any time if there are
any outstanding messages.

There are no keywords or switches for the RESPOND command, but
you must specify the message number. Also, you may be required
to include a message; therefore you may specify a message in the
RESPOND command.

Format

OPR>RESPOND nnn /switch text<RET>

where nnn is the outstanding message number

followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

and text is a single- or multiple-line response

Keywords

nnn   specifies the message number of a message that
                        was sent to you via WTOR (Write To Operator
                        with Response).

text   specifies a single- or multiple-line response,
                        which you terminate with a carriage return.
                        If you press carriage return immediately after
                        the message number, OPR responds with ENTER
                        TEXT AND TERMINATE WITH ^Z.   You can then
                        enter as many lines of text as needed. To end
                        the text input, press CTRL/Z and the OPR>
                        prompt returns.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*).   The asterisk specifies all
nodes within the cluster.

Examples

1. Specify the RESPOND command to reply to message number 23,
    which was a Page Limit Exceeded message for printer 1.

    12:30:00 <23> Printer 1 --Page Limit Exceeded--
                    Job OPRC Req #147 for REILLY
                    Type 'Respond <Number> CANCEL' to Cancel the
                    Job
                    Type 'Respond <Number> IGNORE' to Ignore the
                    Error
    OPR>RESPOND 23 IGNORE<RET>
    OPR>

2. Specify the RESPOND command to reply to message number 67,
    which was a request to remove a structure (TOPS-20 DISMOUNT
    command).

    13:57:01 <67>   --DISMOUNT QUERY--
                    Removal of structure PERF20: (Alias PERF20:)
                    requested.
                    Other jobs are currently using it. Should
                    removal request be processed (YES or NO)?
                    User KONEN, Job 26, Line 115
    OPR>RESPOND 67 NO<RET>
    OPR>

3. Specify the RESPOND command to reply to message number 12,
    which was a user's inquiry to whether timesharing is
    available after 18:00.

     9:32:54 <12>   --Message from Timesharing User--
                    JOB 31 PTAYLOR at Terminal 121
                    WILL TIMESHARING BE AVAILABLE AFTER 18:00
    OPR>RESPOND 12<RET>
    TIMESHARING IS AVAILABLE UNTIL 23:00 TONIGHT^Z
                                                 ^
                                                 |
                                           <CTRL/Z>

OPR>

ROUTE - Routing Output Between Nodes

Function

The ROUTE command changes the destination of output requests, so that the output intended for a specific unit (the source unit) will automatically be output on another unit (the destination unit). The source and destination units may be on the same node, or they may be on different nodes.

This function is useful when a unit malfunctions and the output from that device is immediately necessary.

If you are an operator at a central site, you can route output from one unit to another, on the same or any other node. However, output cannot be processed on another host system. If output is routed to another host node, the request(s) will remain in the queue indefinitely, because the request cannot be processed. If you are an operator at a remote node, you can route requests from one unit to another on your node.

All device routing is entered into the system route table, which can be examined using the OPR command SHOW ROUTE-TABLE, described in this chapter. The ROUTE command also allows you to end routing and delete the entry from the system route table, by omitting the information pertaining to the destination unit(s) and node.

Format

OPR>ROUTE keyword source-argument destination-argument<RET>

where keyword can be one of the following:

                    ALL-DEVICES
                    CARD-PUNCH
                    PAPER-TAPE-PUNCH
                    PLOTTER
                    PRINTER

followed by one of these source arguments:

                    unit-number
                    ALL-UNITS

or the argument for the PRINTER keyword:

| aliasname

```
                              CLUSTER nn
followed by:                  NODE node-name::

or                            DQS queuename
followed by:                  NODE node-name::

or                            LAT
followed by:                  SERVICE "name"
                              SERVER "name"
or followed by:               PORT "name"
                              SERVER "name"

optionally followed by the switches:

                              /CLUSTER-NODE:cluster-node-name
                              /NODE:node-name::
```

ALL-DEVICES is followed by one of these source arguments:

```
                              node-name::
                              ALL-NODES
```

followed by one of these destination arguments:

```
                              unit-number
                              ALL-UNITS
```

or the argument for the PRINTER keyword:

```
                              aliasname

                              CLUSTER nn
followed by:                  NODE node-name::

or                            DQS queuename
followed by:                  NODE node-name::

or                            LAT
followed by:                  SERVICE "name"
                              SERVER "name"
or followed by:               PORT "name"
                              SERVER "name"

optionally followed by the switches:

                              /CLUSTER-NODE:cluster-node-name
                              /NODE:node-name::
```

ALL-DEVICES is followed by this destination argument:

```
                              node-name::
```

The source-information is always required. It specifies the
source unit and node from which routing is to occur.

The destination-information is optional, and specifies the
destination unit and node to which routing is to occur. If you
omit the destination-information, any existing entries in the
system route table that refer to the source will be deleted, and
the appropriate routing will be ended.

Because the format and arguments used with the ROUTE depend
largely on the keyword you use, it is highly recommended that you
use the recognition feature (<ESC>) until you feel comfortable
with the command format.

Keywords

ALL-DEVICES	specifies all device output (card punch, paper tape punch, plotter, and printer) at the node.
CARD-PUNCH	specifies card-punch output.
PAPER-TAPE-PUNCH	specifies paper-tape-punch output.
PLOTTER	specifies plotter output.
PRINTER	specifies printer output. You can use an alias name defined with the DEFINE ALIAS command to reference a printer specification in this command.

Arguments (for ALL-DEVICES)

source-information

specifies the node(s) from which the output is
to be routed. The source-information for
ALL-DEVICES is specified by the node name
followed by two colons (for example:
KL2102::) or by the keyword ALL-NODES.

destination-information

specifies the node(s) to which the output will
be routed. For ALL-DEVICES, the
destination-information is specified by the
node name, followed by two colons (for
example: KL2102::).

Arguments (for keywords CARD-PUNCH, PAPER-TAPE PUNCH, and PLOTTER)

source information

specifies the unit and node from which the output will be routed. The unit number is specified as either n (for a specific unit) or ALL-UNITS, to designate that all output for the appropriate device is to be routed. Note that if you specify a unit number, only the requests made for that specific unit (with the /UNIT switch) will be routed. The node is specified by the switch /NODE:name:: (described below). If you omit the node specification, the node to which you are connected is assumed.

destination-information

specifies the unit and node to which the output will be routed. The unit is specified by n, the unit number, or ALL-UNITS. The node is specified by the switch /NODE:name::, which is described below. If you omit the /NODE switch, the node to which you are connected is assumed.

Arguments (for the PRINTER keyword)

aliasname   specifies an alias name defined with the DEFINE ALIAS command to reference a printer specification.

CLUSTER nn   specifies a printer on a node within a cluster. A cluster is a configuration of processors with similar internal characteristics. Each processor in the configuration is identified by a node name. For example, HUEY::, DEWEY::, and LOUIE:: can be three nodes within a cluster of TOPS-20 processors.

NODE node-name::

specifies that the printer device for a cluster be started. The double colon (::) following the node name is not needed.

For the CLUSTER argument, NODE node-name:: specifies a node within the cluster and cannot

be the local node or an alias.

DQS queuename specifies the Distributed Queue Service allowing users to queue print requests to VMS systems using DECnet. DQS accepts the user specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

NODE node-name::

specifies the VMS node where the print request is to be processed. The double colon (::) following the node name is not needed.

For the DQS argument, NODE node-name:: specifies the VMS nodename and cannot be an alias.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

> specifies the resource and establishes the LAT
> access path to the resource. The "name" is
> the service name and can have from 1 to 16
> characters consisting of alphanumeric
> characters, underscores, dashes, and dollar
> signs.

SERVER "name"

> specifies the server name of the resource
> printer terminal. This name can be the LAT
> box with the proper LAT software running in
> it. The name can be from 1 to 6 alphanumeric
> characters in length.

Switches

/CLUSTER-NODE:cluster-node-name

> specifies the particular cluster node within
> the TOPS-20 cluster where the request is
> processed. The "cluster-node-name" qualifier
> can be any node name within the cluster or an
> asterisk (*). The asterisk specifies all
> nodes within the cluster.

/NODE:node-name:: specifies the node(s) from and to which
> output is to be routed. In the
> source-information, /NODE designates the
> source node. In the destination-information,
> /NODE designates the destination node. The
> double colon (::) following the node name is
> optional.

Restriction

You cannot route output from ALL-UNITS to a specific unit number.
If you type this command, the following error occurs:

OPR>ROUTE PRINTER ALL-UNITS/KL2102:: 0<RET>
OPR>
15:15:36   --Cannot Route a Generic Unit--
OPR>

This error is produced to prevent output from being processed on
a unit that does not have certain necessary characteristics. For

example, if printer 0 does not have lowercase capability, and if
the requests being routed require a printer with lowercase
capability, then the requests cannot be processed on printer 0.

Examples

1. To route the output that is destined for printer unit 0 to
    printer unit 1, on the same node, use the following command:

    OPR>ROUTE PRINTER 0 1<RET>
    OPR>
    15:33:12 --Printer 0 [KL2102] Routed to Printer 1 [KL2102]--
    OPR>

2. To end the routing for printer 0 and to delete the entry from
    the routing table, use the following command:

    OPR>ROUTE PRINTER 0<RET>
    OPR>
    15:40:10   --Routing for Printer 0 [KL2102] Deleted--
    OPR>

3. To route all the output that is going to node DN200 to node
    KL2102, use the following command:

    OPR>ROUTE ALL-DEVICES GIDNEY:: KL2102::<RET>
    OPR>
    15:43:08   --Node DN200 Routed to KL2102--
    OPR>

SEND - Sending Messages

Function

The SEND command sends single- or multiple-line messages to a
specific destination as defined by the keyword. The SEND command
allows you to specify a one-line message terminated with a
carriage return or a multiple-line message terminated with a
CTRL/Z.

If you specify SEND ALL, you can only specify a single-line
message terminated by a carriage return.

Format

| OPR>SEND keyword nn /switch message<RET>

where keyword can be one of the following:

                        ALL
                        BATCH-STREAM
                        JOB
                        OPERATOR
                        TERMINAL

followed by a stream/unit number:

                        nn

and optionally, for the BATCH-STREAM and OPERATOR keywords:

                        /NODE:node-name::
                        /CLUSTER-NODE:cluster-node-name

followed by a single- or multiple-line message

Keywords

ALL   specifies that a message be sent to all
                terminals in the entire system. If you
                specify   the   ALL   keyword   with   the
                /CLUSTER-NODE: switch, all terminals for that
                node receive the text.   You can give only
                single-line messages when you specify ALL.

BATCH-STREAM   specifies that a message be sent to a
                particular batch job, or over an IBM emulation

node to a remote IBM host. The stream number
must be supplied with this keyword.

JOB   specifies that a message be sent   to   a
                    particular job that is currently processing
                    under timesharing or within the batch system.
                    The job number must be supplied with this
                    keyword.

OPERATOR   specifies a message be sent to another
                    operator at another node with the /NODE:
                    switch. If you do not specify the /NODE:
                    switch, the message is sent to all operators
                    at all nodes.

TERMINAL   specifies that a message be sent   to   a
                    particular logged-in terminal. The terminal
                    number must be supplied for this keyword.

Switches

/NODE:node-name:: specifies the name of your host node, a remote
                   station, a VMS node, or a LAT server. The
                   default is your own node.   The double colon
                   (::) following the node name is optional.
                   This switch cannot be used with the ALL
                   keyword.

/CLUSTER-NODE:cluster-node-name

                   specifies the particular cluster node within
                   the   system cluster that your message is sent.
                   The "cluster-node-name" qualifier can be any
                   node name within the cluster or an asterisk
                   (*). The asterisk specifies all nodes within
                   the cluster.   (This switch is valid only for
                   the ALL keyword.)

Examples

1. Specify the SEND command to notify all users that timesharing
    ends in 30 minutes.

    OPR>SEND ALL TIMESHARING ENDS IN 30 MINUTES<RET>
    OPR>
    14:57:05   --SEND Command Completed--
    OPR>

2. Specify the SEND command to notify all operators that a new
    stand-alone schedule has been posted.

    OPR>SEND OPERATOR NEW STAND-ALONE SCHEDULE IS POSTED<RET>
    OPR>
    12:05:35
    From Operator Terminal 1: NEW STAND-ALONE SCHEDULE IS POSTED
    OPR>
    12:05:39   --SEND Command Completed--
    OPR>

3. Specify the SEND command to notify job 32 to stop queueing
    print requests due to a problem with the line printer at the
    central site.

    OPR>SEND JOB 32 DO NOT QUEUE-<RET>
     ANY PRINT JOBS UNTIL NOTIFIED<RET>
    OPR>
    10:39:05   --SEND Command Completed--
    OPR>

SET – Setting Parameters for System Devices

Function

The SET command sets various system parameters for the system's devices and features.

In addition, the SET command can be issued before a particular device (queue) or stream has been started or becomes active. In particular, the SET command is very useful within the PTYCON.ATO file for system start-up and it can be used during normal system operation as well.

Because the SET command is complex with multiple keywords, arguments, switches, and numeric values, each SET keyword command is described in the same format as individual OPR commands.

Format

OPR>SET keyword<RET>

where keyword can be one of the following:

```
                    BATCH-STREAM
                    CARD-PUNCH
                    DISK-DRIVE
                    JOB
                    NODE
                    ONLINE
                    PAPER-TAPE-PUNCH
                    PLOTTER
                    PORT
                    PRINTER
                    SCHEDULER
                    STRUCTURE
                    TAPE-DRIVE
```

followed by one or keywords, arguments, switches, and values described in the SET command subsections.

SET BATCH-STREAM – Setting Batch Stream Parameters

Function

The SET BATCH-STREAM command sets the characteristics of a particular stream or a range of streams. These characteristics remain in effect until you reissue the SET BATCH-STREAM command.

Format

| OPR>SET BATCH-STREAM nn /switch argument /switch<RET>

where nn must be the stream number

or a range: n:m

and, optionally, the switch:

                        /NODE:node-name::

followed by one of these arguments:

```
                    ATTRIBUTE BATCON
                            SITGO
                    NOOPR-INTERVENTION
                    OPR-INTERVENTION
                    PRIORITY-LIMITS nn
                            n:m
                    TIME-LIMITS nn
                            n:m
```

| followed optionally by the switch:

                        /CLUSTER-NODE:cluster-node-name

Arguments

nn   specifies a batch-stream number. The number is usually from 0 to 5, but can be larger if your installation uses additional batch streams.

n:m   specifies a range of batch streams.

ATTRIBUTE   specifies whether the batch stream operates with the BATCON or with the SITGO program.

BATCON   specifies that the batch stream use the BATCON
                  controller. This is the system default batch
                  controller.

SITGO   specifies the SITGO batch processor, which
                  consists of a fast FORTRAN compiler for
                  compiling FORTRAN programs in a batch stream.

NOOPR-INTERVENTION specifies that a user cannot make any requests
                  in the batch job that require you to perform
                  an action of some kind or require you to send
                  a message. If a batch job has
                  NOOPR-INTERVENTION set, any messages it sends
                  are ignored and you are not asked to perform
                  any action. If the batch job requests
                  mountable devices, and if the job must wait
                  until the device is mounted, the job will
                  receive an error.

OPR-INTERVENTION specifies that the user can pass messages to
                  you and that you are available to perform
                  actions that a user or batch job requests.

PRIORITY-LIMITS nn specifies the priority limits of a batch
                  stream or a range of batch streams at the
                  central site or at a node. The numeric value
                  associated with this argument means that only
                  batch jobs submitted by users with the
                  /PRIORITY: switch specifying the number (or
                  range) you set for the batch stream can
                  execute in that stream. The numeric value for
                  the PRIORITY-LIMITS argument can be from 1 to
                  63. The higher the number, the higher the
                  priority.

TIME-LIMITS nn   specifies the maximum execution time limit for
                  a given batch stream or a range of batch
                  streams. When a batch job enters a batch
                  stream, it receives a default execution time,
                  such as five minutes. If the job exceeds this
                  time limit and if the user who submitted the
                  batch job set up his control file to handle
                  time limits, the batch system gives the job an
                  additional 10% of the allocated time. If the
                  job exceeds this additional 10%, the job is
                  canceled. The TIME-LIMITS argument allows you
                  to specify that batch jobs that are set to run
                  a certain length of time will run in the
                  specified batch-stream number (or range). The
                  numeric value for the TIME-LIMITS argument can
                  be from 0 to 99999, representing minutes.

Switches

/CLUSTER-NODE:cluster-node-name

                  specifies the particular cluster node within
                  the TOPS-20 cluster where the request is
                  processed. The "cluster-node-name" qualifier
                  can be any node name within the cluster or an
                  asterisk (*). The asterisk specifies all
                  nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote
                  station, a VMS node, or a LAT server. The
                  default is your own node. The double colon
                  (::) following the node name is optional.

Examples

1. Specify the SET BATCH-STREAM command to set stream number 3
   to have a priority limit of 63.

   OPR>SET BATCH-STREAM 3 PRIORITY-LIMITS 63<RET>
   OPR>
   13:20:54   Batch-stream 3 --Set Accepted--
   OPR>

2. Specify the SET BATCH-STREAM command to set streams 0 through
   2 for no operator intervention.

   OPR>SET BATCH-STREAM 0:2 NOOPR-INTERVENTION<RET>
   OPR>
   16:11:17   Batch-stream 0 --Set Accepted--
   16:11:21   Batch-stream 1 --Set Accepted--
   16:11:24   Batch-stream 2 --Set Accepted--
   OPR>

SET CARD-PUNCH – Setting Card Punch Parameters

Function

The SET CARD-PUNCH command specifies what kind of jobs are scheduled on this device. You can set the form type, output limits (card limits), priority limits, and the action to be taken when a job exceeds the output limit that you specify. This command allows you to change the parameters that are set at GALGEN time. You can specify a specific unit number or a range of unit numbers.

The card-punch device handles standard 12-row 80-column cards.

The defaults for the card punch are set by your System Manager at software-installation time through the generation of the <SYSTEM>SPFORM.INI file.

Format

OPR>SET CARD-PUNCH nn /switch argument /switch<RET>

where nn must be a unit number

or a range: n:m

and, optionally, the switch:

                     /NODE:node-name::

followed by one of these arguments:

                     DESTINATION quoted string
                     FORMS-TYPE name
                     LIMIT-EXCEEDED-ACTION word
                     OUTPUT-LIMITS cards
                     PRIORITY-LIMITS nn
                                       n:m

followed optionally by the switch:

                     /CLUSTER-NODE:cluster-node-name

Arguments

nn   specifies a card-punch unit number. The
                   number is usually from 0 to 5, but can be

                   larger if your installation has acquired more
                   card-punch devices.

n:m   specifies a range of card-punch unit numbers.

DESTINATION node"user password account"::device:[directory]

                   specifies the destination to receive IBM card
                   punch output. This is valid only if node has
                   been defined as an SNA-WORKSTATION with the
                   DEFINE NODE command. See the DECnet/SNA
                   TOPS-20 Remote Job Entry User's and Operator's
                   Guide for more information.

FORMS-TYPE name   specifies the name of the type of card-punch
                   forms. Your installation can have different
                   names for different types of card-punch forms.
                   By setting the FORMS-TYPE, you are specifying
                   the type of forms in the card punch.

LIMIT-EXCEEDED-ACTION word

                   specifies what action, if any, should be taken
                   if a card-punch job that is currently punching
                   on the unit number you specify exceeds the set
                   limit of output. The limit is set by the
                   OUTPUT-LIMITS argument. There are three
                   possible words associated with the
                   LIMIT-EXCEEDED-ACTION argument. They are:

ASK   specifies that you are asked what to do if the
                   card-punch job exceeds the card limit on
                   output. You then have the option to continue
                   or abort the card-punch job.

CANCEL   specifies that the card-punch job is
                   automatically canceled when the limit has been
                   exceeded.

IGNORE   specifies that the card-punch job continues
                   automatically and the set output (card) limit
                   is ignored.

OUTPUT-LIMITS cards

                   specifies the maximum card limit for punched
                   output. This argument can also specify a
                   range of card limits. The card limit refers
                   to the number of output cards that are
                   punched. This command restricts the size of

jobs that is sent to the card punch you specify.

PRIORITY-LIMITS nn specifies the priority limits (numeric importance) of a card punch or a range of card punches at the central site or at a node. The numeric value associated with this argument means that only card-punch jobs submitted by users with the /PRIORITY: switch specifying the number (or range) you set for the card punch can execute on that card punch. The numeric value for the PRIORITY-LIMITS argument can be from 1 to 63. The higher the number is, the higher the priority is.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote station, or an SNA workstation. The default is your own node. The double colon (::) following the node name is optional.

Examples

1. Specify the SET CARD-PUNCH command to set the forms type to 5081s for all card-punch devices at your installation.

   ```
   OPR>SET CARD-PUNCH 0:2 FORMS-TYPE 5081<RET>
   OPR>
   10:13:17          Card-Punch 0  --Set Accepted--

   10:13:20          Card-Punch 1  --Set Accepted--

   10:13:23          Card-Punch 2  --Set Accepted--

   OPR>
   ```

2. Specify the SET CARD-PUNCH command to set all card-punch jobs for a maximum output limit of 200 cards per job.

```
OPR>SET CARD-PUNCH 0:2 OUTPUT-LIMIT 200<RET>
OPR>
10:30:16          Card-Punch 0  --Set Accepted--

10:30:19          Card-Punch 1  --Set Accepted--

10:30:22          Card-Punch 2  --Set Accepted--

OPR>
```

SET DISK-DRIVE – Setting Disk-Drive Parameters

Function

The SET DISK-DRIVE command sets the availability characteristics
of a particular disk drive device. With the use of this command,
you can allow or disallow users from mounting and dismounting
structures on the disk drive. You must specify the channel and
drive numbers, and either the AVAILABLE or UNAVAILABLE argument.

Format

OPR>SET DISK-DRIVE CHANNEL nn argument DRIVE nn argument<RET>

where nn must be the channel number

optionally followed by the argument:

                    CONTROLLER nn

followed by the drive unit number

and either of the following arguments:

                    AVAILABLE
                    UNAVAILABLE

optionally followed by the switch:

                    /CLUSTER-NODE:cluster-node-name

Keywords

CHANNEL nn   specifies the channel number that connects the
                    disk drive with the central processing unit.
                    The SHOW STATUS DISK-DRIVE command displays
                    the available channels on your system.

DRIVE nn   specifies the physical unit number of the disk
                    drive. The SHOW STATUS DISK-DRIVE command
                    displays the drive numbers that are associated
                    with the channels on your system.

Arguments

CONTROLLER nn   specifies the number of the disk drive

                    controller. The SHOW STATUS DISK-DRIVE
                    command displays the controller numbers that
                    are associated with the disk drives on your
                    system.

AVAILABLE   specifies that users can now MOUNT structures
                    on this particular disk drive. This argument
                    cancels the effect of the UNAVAILABLE
                    argument. The PTYCON.ATO file determines
                    whether each of the disk drives at your
                    installation are available or unavailable at
                    system start-up.

UNAVAILABLE   specifies that users cannot MOUNT structures
                    on this particular disk drive. This argument
                    cancels the effect of the AVAILABLE argument.
                    If a user is currently using a structure on
                    this disk drive, the disk drive becomes
                    unavailable after the user completes his work.
                    If the system crashes or is shutdown, the
                    command SET DISK-DRIVE CHANNEL nn DRIVE nn
                    UNAVAILABLE remains in effect after the system
                    is in operation again.

                    When you specify the UNAVAILABLE argument, you
                    can enter a single- or multiple-line response
                    and confirm with a carriage return, or you can
                    confirm with a carriage return immediately
                    after the UNAVAILABLE argument and OPR
                    responds with ENTER TEXT AND TERMINATE WITH
                    ^Z. You then enter as many lines of text for
                    a response as you need. When you press
                    CTRL/Z, the OPR> prompt returns and your
                    report is logged into the ERROR.SYS file.

Switch

/CLUSTER-NODE:cluster-node-name

                    specifies the particular cluster node within
                    the TOPS-20 cluster where the command is
                    processed. The "cluster-node-name" qualifier
                    can be any node name within the cluster or an
                    asterisk (*). The asterisk specifies all
                    nodes within the cluster.

Examples

1. Specify the SET DISK-DRIVE command to set drive 2 on channel
   2 to be unavailable. Any users currently using this device
   are allowed to finish their work before the device becomes
   unavailable to them. Any users requesting a structure mount
   on this device receives a message notifying them that the
   structure is unavailable.

   OPR>SET DISK-DRIVE CHANNEL 2 DRIVE 2 UNAVAILABLE<RET>
   Enter Text and Terminate with ^Z
   DRIVE MUST BE ADJUSTED^Z
                           ^
                           |
                        <CTRL/Z>
   OPR>
   10:23:56   --Disk Drive Set Unavailable--
        Chan 2 Drive 2 set unavailable for mounting by MOUNTR
   OPR>

2. Specify the SET DISK-DRIVE command to make any structure on
   disk drive 2 on channel 2 available for mounts and dismounts.

   OPR>SET DISK-DRIVE CHANNEL 2 DRIVE 2 AVAILABLE<RET>
   OPR>
   12:02:24   --Disk Drive Set Available--
        Chan 2 Drive 2 set available for mounting by MOUNTR
   OPR>

SET JOB - Setting Characteristics for Jobs

Function

The SET JOB command sets the characteristics for a particular job
number. You can set the job for operator intervention allowed,
no operator intervention allowed, or you can change the scheduler
class of the job.

Format

| OPR>SET JOB nn argument /switch<RET>

where nn must be the job number

followed by one of these arguments:

                        NOOPR-INTERVENTION
                        OPR-INTERVENTION
                        SCHEDULER-CLASS n

| optionally followed by the switch:

| /CLUSTER-NODE:cluster-node-name

Arguments

nn   specifies a job number currently in the
                    system.   The numeric value can be from 0 to
                    99999.

NOOPR-INTERVENTION specifies that a user cannot make any requests
                    in the job that require you to perform an
                    action of some kind and/or produce a message
                    to be answered by you.   If the job has a
                    NOOPR-INTERVENTION setting, the messages are
                    ignored; you are not asked to perform any
                    action.

OPR-INTERVENTION   specifies that a user associated with the
                    specified job number can pass messages to you
                    and you can perform the requested actions.

SCHEDULER-CLASS n   specifies the scheduler class for the job be
                    changed.   This keyword can be used only when
                    POLICY-PROGRAM   is   controlling   your
                    class-scheduling.   Refer to your System

Manager about a POLICY-PROGRAM accounting
system before you issue this command.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

Restrictions

If you attempt to set the SCHEDULER-CLASS for a particular job
without the POLICY-PROGRAM initiated at your installation, you
will receive the following error message:

hh:mm:ss   --Set Job Scheduler Error: Cannot change class--

Examples

1. Specify the SET JOB command to allow operator intervention
    for job number 100.

        OPR>SET JOB 100 OPR-INTERVENTION<RET>
        OPR>
        15:55:15   Job 100 --Modified--
        OPR>

2. Specify the SET JOB command to not allow operator
    intervention for job number 50.

        OPR>SET JOB 50 NOOPR-INTERVENTION<RET>
        OPR>
        16:43:34   Job 50 --Modified--
        OPR>

SET NODE - Setting Node Parameters

Function

The SET NODE command is applicable only if your installation has
IBM communications software.

The SET NODE command sets the modem-related and
data-transfer-related parameters for DN60 nodes, and sets the
characteristics for SNA workstations.

Before you set the parameters for a node, you must define the
node name, type, and mode with the DEFINE command. Refer to the
DEFINE command in this chapter.

Format

OPR>SET NODE keyword arguments <RET>

where keyword is: node-name::

followed by one of these arguments:

                                BYTES-PER-MESSAGE b
                                CLEAR-SEND-DELAY d
                                RECORDS-PER-MESSAGE r
                                TIMEOUT-CATEGORY PRIMARY
                                                 SECONDARY
                                TRANSPARENCY ON
                                             OFF

or for SNA workstations, one of these arguments:

                                APPLICATION name
                                CHARACTER-SET filespec
                                CIRCUIT circuit-id
                                DATA string
                                LOGON-MODE name

Keyword

node-name::   specifies the node name of the remote station
                   for IBM communications. The double colon (::)
                   following the node name is optional.

Arguments

BYTES-PER-MESSAGE b

> specifies the number of bytes, b, per message
> that the front end uses to communicate with
> the remote site. There is no limit to the
> number of bytes you can supply.

CLEAR-SEND-DELAY d

> specifies a clear-to-send delay, where d = 0,
> 1, 3, 9, or 13 milliseconds. The default is 3
> milliseconds.

RECORDS-PER-MESSAGE r

> specifies the number of records per message,
> where r can equal:

> 0 for unlimited number of records (the default
>   for 3780)

> 2 for a unit with no multirecord feature

> 7 for a unit like an IBM 2780 with the
>   multirecord feature (the default for 2780)

TIMEOUT-CATEGORY PRIMARY
                 SECONDARY

> specifies the timeout category used by the BSC
> protocol to determine how connecting systems
> bid for use of the line. Two systems bidding
> for the use of a line must not be in the same
> timeout category, since this condition can
> result in simultaneous bids for a line and a
> "deadly embrace". To prevent this, one system
> is placed in the PRIMARY (p) category and the
> other in the SECONDARY (s) category.

> The timeout category for the HASP spooler is
> always SECONDARY so when the TOPS-20 host
> connects to a HASP system, it must be placed
> in the PRIMARY timeout category. The timeout
> category for IBM 2780s and 3780s is usually
> hardwired as PRIMARY, so when the TOPS-20 host
> connects to stations like these, it must
> usually be placed in the SECONDARY timeout
> category. The timeout category for the ASP
> spooler may be PRIMARY. The default timeout

> category is PRIMARY.

TRANSPARENCY ON   specifies a transmission mode where the
             OFF   specifies a transmission mode where the
                   recognition of most control characters is
                   suppressed (TRANSPARENCY ON argument). The
                   argument can only be specified when using
                   HASP. The default TRANSPARENCY is OFF.

Arguments (for SNA workstations)

For more information about SNA workstations, refer to the <u>DECnet/SNA</u>
<u>TOPS-20</u> <u>Remote</u> <u>Job</u> <u>Entry</u> <u>User's</u> <u>and</u> <u>Operator's</u> <u>Guide</u>.

APPLICATION name   Specifies the name of the
                      application in the IBM host to
                      which the workstation connects.

CHARACTER-SET filespec Specifies the name of the file that
                        contains the ASCII/EBCDIC
                        translation table used by the
                        workstation.

CIRCUIT circuit-id   Specifies the name of the circuit
                       that the Gateway uses to reach the
                       IBM host.

DATA string   Supplies additional log-on
                      information required by the job
                      entry subsystem in the IBM host.

LOGON-MODE name   Specifies a name that the IBM host
                      uses to obtain predefined
                      characteristics for the session
                      being established.

These arguments for the SET NODE command correspond to parameters set
by the IBM host's system manager. The SET NODE command gives you the
option of changing or adding to information associated with the access
name you specified in the DEFINE command. If you specify a null
argument for any parameter, the parameter is automatically cleared and
reset to the information specified in the access name.

To use the APPLICATION parameter, you must know the name of the IBM
application to which you want to connect. Contact your IBM system
manager for this information.

Examples

1. You specify the SET NODE command to change the TRANSPARENCY from the OFF default to ON for node IBM2::.

   OPR>SET NODE IBM2:: TRANSPARENCY ON<RET>
   OPR>
   16:32:43   -- Set for Node IBM2 Accepted --
   OPR>

2. You specify the SET NODE command to set the clear-to-send delay of 3 milliseconds for node IBM1::.

   OPR>SET NODE IBM1:: CLEAR-SEND-DELAY 3<RET>
   OPR>
   17:23:45   -- Set for Node IBM1 Accepted --
   OPR>

SET ONLINE – Setting a Device On-Line

Function

The SET ONLINE command sets the devices listed below on-line when the device has been newly installed at your operations site. This command is valid only if your site has a DX20 channel controller installed and on-line.

The devices that are interfaced through the DX20 are:

1. TX01 – tape controller

2. TX03 – channel selector

3. TX05 – tape drive selector

4. TU70 – tape drive

5. TU71 – tape drive

6. TU72 – tape drive

In addition, this command is helpful when Field Service takes one of these devices off-line for repair and then returns the device back to you for your control.

The SET ONLINE command's arguments are channel number, device unit number, and controller number, separated by commas. If the device has no controller number, type –1.

NOTE

This command currently accepts an alternate channel number, device unit number, and controller number separated by commas. However, these alternate arguments are not used by the system and are provided for future use.

Format

| OPR>SET ONLINE ch,unit,cntrlr /switch<RET>

where ch is the channel number

unit is the device unit number

cntrlr is the controller number

optionally followed by the switch:

/CLUSTER-NODE:cluster-node-name

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

Restriction

Once the monitor has been reloaded, you do not need to SET the
device ONLINE again. The device is automatically recognized by
the monitor as being on-line.

Examples

1. You set the hardware device TX05 on-line after it has been
   installed during timesharing with an address of channel 1,
   unit 1, controller 1.

   OPR>SET ONLINE 1,1,1<RET>
   OPR>
    8:32:13   --Set Online Accepted--
   OPR>

2. You set the hardware device TU70 on-line after Field Service
   repaired the tape unit.

   OPR>SET ONLINE 1,2,1<RET>
   OPR>
   14:43:09   --Set Online Accepted--
   OPR>

SET PAPER-TAPE-PUNCH – Setting Paper-Tape-Punch Parameters

Function

The SET PAPER-TAPE-PUNCH command specifies what kind of jobs will
be scheduled on this device. You can set the forms type, output
limits (fold limits), priority limits, and the action to be taken
when a job exceeds the output limit that you specify. This
command allows you change the parameters that are set at GALGEN
time. You can specify a specific unit number or a range of unit
numbers.

The defaults for the paper-tape punch are set by your System
Manager at software-installation time through the generation of
the <SYSTEM>SPFORM.INI file. These defaults are normally
referred to as NORMAL in most installations.

Format

OPR>SET PAPER-TAPE-PUNCH nn /switch argument /switch<RET>

where nn must be a unit number

or a range: n:m

and, optionally, the switch:

/NODE:node-name::

followed by one of these arguments:

FORMS-TYPE name
LIMIT-EXCEEDED-ACTION word
OUTPUT-LIMITS folds
PRIORITY-LIMITS nn
                   n:m

followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

Arguments

nn   specifies a paper-tape-punch unit number. The
              number is usually from 0 to 5, but can be
              larger if your installation has acquired more
              paper-tape-punch devices.

n:m   specifies a range of paper-tape punches.

FORMS-TYPE name   specifies the name of the type of paper-tape
                    forms.   Typically in some installations, the
                    normal paper-tape form is referred to as a
                    1-inch wide fan-fold, and can be abbreviated
                    as 1WFF or NORMAL. Your installation can have
                    different form names for different types of
                    paper-tape. By setting the FORMS-TYPE, you
                    are specifying the type of forms in the
                    paper-tape punch.

LIMIT-EXCEEDED-ACTION word

                    specifies what action, if any, should be taken
                    if a paper-tape job that is currently punching
                    on the unit number you specify exceeds the set
                    limit of output.   The limit is set with the
                    OUTPUT-LIMITS argument.   There   are   three
                    possible   words   associated   with   the
                    LIMIT-EXCEEDED-ACTION argument. They are:

     ASK   specifies that you are asked what to do if the
                    paper-tape job exceeds the fold limit on
                    output. You then have the option to continue
                    or abort the paper-tape job.

     CANCEL   specifies   that   the   paper-tape   job   is
                    automatically canceled when the limit has been
                    exceeded.

     IGNORE   specifies that the paper-tape job continues
                    automatically and the specified output fold
                    limit will be ignored.

OUTPUT-LIMITS folds

                    specifies the maximum fold limit for punched
                    paper-tape output.   This argument can also
                    specify a range of fold limits.   The fold
                    limit refers to the number of output folds
                    that are punched. This command restricts the
                    size of jobs that are sent to the paper-tape
                    punch you specify.

PRIORITY-LIMITS nn
                 n:m

                    specifies   the   priority   limits   (numeric
                    importance) of a paper-tape punch or a range
                    of paper-tape punches at the central site or

at a node. The numeric value associated with
this argument means that only paper-tape jobs
submitted by users with the /PRIORITY: switch
specifying the number (or range) you set for
the paper-tape punch can execute on that
paper-tape punch. The numeric value for the
PRIORITY-LIMITS argument can be from 1 to 63.
The higher the number is, the higher the
priority is.

Switches

/NODE:node-name:: specifies the name of your host node, a remote
                   station, a VMS node, or a LAT server. The
                   default is your own node.   The double colon
                   (::) following the node name is optional.

/CLUSTER-NODE:cluster-node-name

                   specifies the particular cluster node within
                   the TOPS-20 cluster where the commmand is
                   processed. The "cluster-node-name" qualifier
                   can be any node name within the cluster or an
                   asterisk (*).   The asterisk specifies all
                   nodes within the cluster.

Examples

1. Specify the SET PAPER-TAPE-PUNCH command to set the default
    form type to 1WFF for a paper-tape-punch device at your
    installation.

        OPR>SET PAPER-TAPE-PUNCH 0 FORMS-TYPE 1WFF<RET>
        OPR>
        12:45:09   Papertape 0 --Set Accepted--
        OPR>

2. Specify the SET PAPER-TAPE-PUNCH command form, to set all
    paper-tape-punch jobs for a maximum output limit of 25 folds
    per job.

        OPR>SET PAPER-TAPE-PUNCH 0:1 OUTPUT-LIMIT 25<RET>
        OPR>
        13:45:07   Papertape 0 --Set Accepted--
        OPR>

SET PLOTTER – Setting Plotter Parameters

Function

The SET PLOTTER command specifies what kind of jobs are scheduled on this device. You can set the forms type, output limits (step limits), priority limits, and the action to be taken when a job exceeds the output limit that you specify. This command allows you change the parameters that are set at GALGEN time. You can specify a specific unit number or a range of unit numbers.

The plotter device draws (or plots) ink plots of computer-generated data. Its movement in producing the output is measured in "steps". The steps refer to the speed per second of the plotter and the distance (or size) that the pencils move on the output paper. The paper for the plotter is either drum feed or bed feed.

The defaults for the plotter are set by your System Manager at software-installation time through the generation of the <SYSTEM>SPFORM.INI file. At some installations, the default settings for the plotter are referred to as NORMAL.

Format

OPR>SET PLOTTER nn /switch argument /switch<RET>

where nn must be a unit number

or a range: n:m

and, optionally the switch:

                    /NODE:node-name::

followed by one of these arguments:

                    FORMS-TYPE name
                    LIMIT-EXCEEDED-ACTION word
                    OUTPUT-LIMITS steps
                    PRIORITY-LIMITS nn
                                    n:m

followed optionally by the switch:

                    /CLUSTER-NODE:cluster-node-name

Arguments

nn   specifies a plotter unit number. The number is usually from 0 to 5, but can be larger if your installation has more plotter devices.

n:m   specifies a range of plotter unit numbers.

FORMS-TYPE name specifies the name of the type of plotter forms. Typically, the normal plotter paper form is referred to as roll feed or bed feed. This can be referred to as type ROLL, DRUM, or BED. Your installation can have different form names for different plotter types.

LIMIT-EXCEEDED-ACTION word

                specifies what action, if any, should be taken if a plotter job that is currently plotting on the unit number you specify exceeds the set limit of output. The limit is set with the OUTPUT-LIMITS argument. There are three possible words associated with the LIMIT-EXCEEDED-ACTION argument. They are:

    ASK   specifies that you are asked what to do if the plotter job exceeds the step limit on output. You then have the option to continue or abort the plotter job.

    CANCEL   specifies that the plotter job is automatically canceled when the limit has been exceeded.

    IGNORE   specifies that the plotter job continues automatically and the specified output (step) limit will be ignored.

OUTPUT-LIMIT steps

                specifies the number of plotter steps per second. A step is the horizontal and vertical movement of the pen within the grid on the paper. This is referred to as the size (or distance). The number you specify represents nnK steps (K = 1000). For example, OUTPUT-LIMIT 3 is equal to 3000.

```
PRIORITY-LIMITS nn
               n:m
```

    specifies the priority limits (numeric
importance) of a plotter or a range of
plotters at the central site or at a node.
The numeric value associated with this
argument means that only plotter jobs
submitted by users with the /PRIORITY: switch
specifying the number (or range) you set for
the plotter can execute on that plotter. The
numeric value for the PRIORITY-LIMITS argument
can be from 1 to 63. The higher the number
is, the higher the priority is.

Switches

/CLUSTER-NODE:cluster-node-name

    specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

/NODE:node-name:: specifies the name of your host node, a remote
station, a VMS node, or a LAT server. The
default is your own node. The double colon
(::) following the node name is optional.

Examples

1. Specify the SET PLOTTER command to change the forms type of
   the plotter.

   ```
   OPR>SET PLOTTER 1 FORMS-TYPE ROLL<RET>
   OPR>
    9:34:12        Plotter 1  --Set Accepted--
   OPR>
   ```

2. Specify the SET PLOTTER command to change the output limit.

   ```
   OPR>SET PLOTTER 0 OUTPUT-LIMIT 8<RET>
   OPR>
   10:11:12        Plotter 0  --Set Accepted--
   OPR>
   ```

SET PORT CI - Controlling the CI port

Function

The SET PORT CI command allows or disallows using the CI20 port.
You can use this command only if your system has a CI20.

Set the CI port UNAVAILABLE to run diagnostics on the CI hardware
or to remove a TOPS-20 system from a CFS cluster. Never set the
CI port UNAVAILABLE without approval from your system manager.
See the TOPS-20 System Manager's Guide for more information.

Setting the CI port UNAVAILABLE helps you perform an orderly
TOPS-20 shutdown in a CFS configuration.

Format

OPR>SET PORT keyword argument /switch<RET>

where keyword must be: CI

and argument is one of the following:

        AVAILABLE
        UNAVAILABLE

optionally followed by the switch:

        /CLUSTER-NODE:cluster-node-name

Keyword

CI   specifies the CI port.

Arguments

AVAILABLE   specifies that TOPS-20 start using the CI20
again. When you give this command, the system
asks you whether there is another TOPS-20 node
in the cluster. If yes, you will be
instructed to reboot the system. If you
answer no and the system discovers another
TOPS-20 system on the CI, one of the systems
will BUGHLT.

    This argument cancels the effect of the

UNAVAILABLE argument. Once this command is given and the CI20 microcode is successfully loaded, the CI port remains AVAILABLE until it is set UNAVAILABLE.

AVAILABLE is the default.

UNAVAILABLE   specifies that TOPS-20 should stop using the CI.

When you SET PORT CI UNAVAILABLE, the system lists the structures that will be affected and asks you to respond with ABORT, PROCEED or FORCE. You must be sure that all multiaccess structures are dismounted properly, or the users will be "hung." Notify the users to dismount the affected structures.

The SET PORT CI UNAVAILABLE command remains in effect until you use the SET PORT CI AVAILABLE command, even if the system crashes or is shut down and rebooted.

If a massbus disk drive is dualported, it may be necessary to switch to single port so access to the drive can continue on one system.

After giving the users time to dismount the structure, use the RESPOND command with one of the following options:

ABORT   cancels the command without changing the status of the CI or any structures.

PROCEED   begins the procedure to set the CI port unavailable.

FORCE   dismounts all structures and sets the CI port unavailable. (Use caution with this response; structures are dismounted whether or not users are accessing the structure.)

If a massbus drive is dualported, the system informs you with a message. Respond by manually setting the port switch to a single system. Then type the PROCEED response.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. Set the CI UNAVAILABLE to stop using the CI20.

    OPR>SET PORT CI UNAVAILABLE <RET>
    OPR>
    12:14:48 <1>   -- Port Unavailable Procedure Notice --
    Setting CI Port 7 UNAVAILABLE

    The following structure(s) need to be dismounted or removed.

    DISK DRIVE INFORMATION DISK PACK INFO...

Type	Chan-Cont Drive	Disk Status	Mount Status	Mount Count	Name	Usage Options
*RP06	0, ,2	Avail	Mounted	1	AP02	(1/1)
RA81	7,07,5	Avail	Mounted	1	EXODUS	(1/1)
RA60	7,07,254	Avail	Mounted	1	DRV354	(1/1)
RA81	7,07,18	Avail	Mounted	0	DRV18	(1/1)

    NOTE: Channel 7 indicates CI channel
    (*) indicates dual ported disk drives

    Type 'RESPOND <number> option' where 'option' is one of the following:

    ABORT   To cancel Port Unavailable Procedure.
    PROCEED   To follow normal port unavailable procedure verifying each structure change.
    FORCE   To proceed with no further notification. Use this option with extreme caution.

    OPR>RESPOND 1 PROCEED <RET>
    OPR>
    12:15:33   -- Port Unavailable Procedure Notice --
             Structure CHIP set exclusive due to
             port unavailable operation
                         .

```
                       .
                       .
12:21:24     -- Port Unavailable Operation Completed --
             Port Set Unavailable
OPR>
```

2. Set the CI AVAILABLE to allow use of the CI20 (single CI
   system).

   ```
   OPR>SET PORT CI AVAILABLE <RET>
   OPR>
   17:40:31  <16>     -- Port Available Procedure Notice --
           Is there another TOPS-20 system
            currently running on the CI?
           'RESPOND <number> Yes or No'

   OPR>RESPOND 16 NO <RET>
   OPR>
   17:40:42      -- Port Available Operation Completed --
           The following disk structures have been
           returned to available:
           Structure DISK1 set shared due to
           port available operation
           Channel 7 Controller 1 Drive 1 set available
           Channel 7 Controller 7 Drive 8 set available
           Channel 7 Controller 7 Drive 9 set available
           Channel 7 Controller 8 Drive 254 set available
           Port set available
   ```

3. Set the CI AVAILABLE to allow use of the CI20 (multiple CI
   system).

   ```
   OPR>SET PORT CI AVAILABLE <RET>
   OPR>
   17:42:33  <18>     -- Port Available Procedure Notice --
           Is there another TOPS-20 system
           currently running on the CI?
           'RESPOND <number> Yes or No'

   OPR>RESPOND 18 YES <RET>
   OPR>

   17:42:46     -- Port Available Procedure Notice --
           CI port will not be in use until system is reloaded


   17:42:46     -- Port Available Operation Completed --
           The following disk structures have been
           returned to available:
           Structure DISK1 set shared due to
           port available operation
   ```

```
Channel 7 Controller 1 Drive 1 set available
Channel 7 Controller 7 Drive 8 set available
Channel 7 Controller 7 Drive 9 set available
Channel 7 Controller 8 Drive 254 set available
Port not found but status set to available
```

SET PORT NI - Controlling the NI Port

Function

> You can use the SET PORT NI command only if your installation has an Ethernet interface.
>
> The SET PORT NI command allows or disallows using the NI port.
>
> Set the NI port UNAVAILABLE to run diagnostics on the NI hardware. Do not set the NI port UNAVAILABLE without approval from the system manager. See the TOPS-20 System Manager's Guide for more information.

Format

> OPR>SET PORT keyword argument /switch<RET>
>
> where keyword must be: NI
>
> and argument is one of the following:
>
>> AVAILABLE
>> UNAVAILABLE
>
> optionally followed by the switch:
>
>> /CLUSTER-NODE:cluster-node-name

Keyword

> NI   specifies the NI port.

Arguments

> AVAILABLE   specifies that users are allowed to access the Ethernet interface. This argument cancels the effect of the UNAVAILABLE argument.
>
>> AVAILABLE is the default setting.
>
> UNAVAILABLE   specifies that users cannot access the Ethernet interface. This includes DECnet, LAT, and the NI% JSYS.

Switch

> /CLUSTER-NODE:cluster-node-name
>
>> specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

SET PRINTER – Setting Line Printer Parameters

Function

    The SET PRINTER command specifies what kind of jobs are scheduled on this device. You can set the forms type, page limits, priority limits, and the action to be taken when a job exceeds the output limit that you specify. This command allows you to change the parameters that are set at GALGEN time. You can specify a specific unit number or a range of unit numbers. In addition, you can specify ranges for the page and priority limits.

    You can use an alias name defined with the DEFINE ALIAS command to reference a printer specification in this command.

    The defaults for the line printers at your installation are set by your System Manager at software-installation time through the generation of the <SYSTEM>n-CONFIG.CMD file (where n is the TOPS-20 software generation number) and the <SYSTEM>LPFORM.INI file. These defaults are usually referred to as NORMAL in most installations.

    The printer is also commonly referred to as the line printer.

    There are two basic types of line printers, those that print in uppercase characters only (64 character print drum) and those that print in both uppercase and lowercase characters (96 character print drum).

Format

    OPR>SET PRINTER nn arguments /switch<RET>

    followed by the alias name

    or followed by the unit number:

                          nn

    or a range of numbers: n:m

    or optionally, one of these arguments:

                          CLUSTER nn
                              n:m
    followed by: NODE node-name::

---

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                        SERVER "name"
                        or followed by: PORT "name"
                        SERVER "name"

followed by one of these arguments:

                        DESTINATION quoted string
                        FORMS-TYPE name
                        LIMIT-EXCEEDED-ACTION word
                        PAGE-LIMITS pages
                        PRIORITY-LIMITS nn
                                  n:m

optionally followed by the switch:

                      /CLUSTER-NODE:cluster-node-name

Arguments

    aliasname   specifies an alias name defined with the DEFINE ALIAS command to reference a printer specification.

    nn   specifies a printer unit number. The number is usually from 0 to 5, but can be larger if your installation has acquired more printer devices.

    n:m   specifies a range of printer unit numbers.

    CLUSTER nn   specifies a printer, or range of printers, on
         n:m   a node within a cluster. A cluster is a configuration of processors with similar internal characteristics. Each processor in the configuration is identified by a node name. For example, HUEY::, DEWEY::, and LOUIE:: can be three nodes within a cluster of TOPS-20 processors.

    DQS queuename   specifies the Distributed Queue Service allowing users to queue print requests to VMS systems using DECnet. DQS accepts the user specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a

string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

        SERVICE name only
        SERVER name only
        PORT name only
        SERVICE name and PORT name
        SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"   specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name" specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name" specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

NODE node-name:: specifies that the printer and reader device for a node within the system's network be started. The double colon (::) following the node name is optional. Before you start an IBM node, you must define the node and set the parameters for the node. Refer to the DEFINE

and SET NODE commands in this chapter.

For the CLUSTER argument, NODE node-name:: specifies a node within the cluster and cannot be the local node or an alias.

For the DQS argument, NODE node-name:: specifies the VMS node-name and cannot be an alias.

DESTINATION node"user password account"::device:[directory]

specifies the destination to receive IBM printer output. This is valid only if node has been defined as an SNA-WORKSTATION with the DEFINE NODE command. See the DECnet/SNA TOPS-20 Remote Job Entry User's and Operator's Guide for more information. The DESTINATION argument is valid only with the specification of unit number "nn" or a range of unit numbers "n:m".

FORMS-TYPE name specifies the name of the type of printer forms. Typically, the normal paper form for the printer is referred to as 1-ply-wide or 1-ply-narrow. These can be abbreviated as 1W or 1N, or can be given some other name by your System Manager. Your installation can have different names for different types of line printer forms. By setting the FORMS-TYPE, you are specifying the type of forms in the line printer. The FORMS-TYPE argument is valid with the unit number argument and the LAT (PORT or SERVICE) arguments. FORMS-TYPE cannot be used if the CLUSTER or DQS arguments are specified.

LIMIT-EXCEEDED-ACTION word

specifies what action, if any, should be taken if a printer job that is currently printing on the unit number you specify exceeds the specified limit of output. The limit is set with the PAGE-LIMITS argument. There are three possible words associated with the LIMIT-EXCEEDED-ACTION argument. They are:

ASK   specifies that you are asked what to do if the printer job exceeds the page limit on output. You then have the option to continue or abort the printer job.

CANCEL   specifies that the print job is automatically
                canceled when the limit has been exceeded.

IGNORE   specifies that the print job continues
                automatically and the specified output page
                limit is ignored.

PAGE-LIMITS pages specifies the maximum page limit for printed
                output.   This argument can also specify a
                range of page limits.   The page limit refers
                to   the   number of output pages that are
                printed. This command restricts the size of
                jobs that are sent to the printer you specify.

PRIORITY-LIMITS nn
        n:m

                specifies   the   priority   limits   (numeric
                importance) of a line printer or a range of
                line printers at the central site or at a
                node.   The numeric value associated with this
                argument means   that   only   printer   jobs
                submitted by users with the /PRIORITY: switch
                specifying the number (or range) you set for
                the line printer can execute on that printer.
                The numeric value for the PRIORITY-LIMITS
                argument can be from 1 to 63. The higher the
                number is, the higher the priority is.

Switch

/CLUSTER-NODE:cluster-node-name

                specifies the particular cluster node within
                the TOPS-20 cluster where the command is
                processed. The "cluster-node-name" qualifier
                can be any node name within the cluster or an
                asterisk (*).   The asterisk specifies all
                nodes within the cluster.

Examples

1. Specify the SET PRINTER command to set the default printer's
   forms type to 1-ply-wide for all line printers at your
   installation. NORMAL has been previously defined in the
   LPFORM.INI file as 1-ply-wide paper.

   OPR>SET PRINTER 0:2 FORMS-TYPE NORMAL<RET>

   OPR>

13:10:10   Printer 0 --Set Accepted--

13:10:11   Printer 1 --Set Accepted--

13:10:12   Printer 2 --Set Accepted--
OPR>

2. Specify   the   SET   PRINTER   command   to   set   the
   LIMIT-EXCEEDED-ACTION to IGNORE. This means that all queued
   printer jobs that exceed their output page limit continue to
   print and are not aborted.   In addition, there is no required
   operator action to take except loading paper in the line
   printer.

   OPR>SET PRINTER 0:1 LIMIT-EXCEEDED-ACTION IGNORE<RET>
   OPR>
   15:43:17   Printer 0 --Set Accepted--

   15:43:18   Printer 1 --Set Accepted--
   OPR>

SET SCHEDULER - Setting System Performance

Function

The SET SCHEDULER command changes the scheduling scheme (or allocation of system resources) for batch jobs and timesharing jobs.

Normally, if your installation is making use of the TOPS-20 class scheduling of jobs, the scheduling classes are set up in the n-CONFIG.CMD file at system startup. The SET SCHEDULER command allows you to change these classes during timesharing, such as when first shift ends and second shift begins.

You should refer to your System Manager about job scheduling before you use this command with any of its available arguments.

Format

OPR>SET SCHEDULER argument /switch<RET>

where argument can be one of the following:

                    BATCH-CLASS BACKGROUND
                                NONE
                                scheduler-class

                    BIAS-CONTROL nn

                    CLASS n nn

optionally followed by the switch:

                    /CLUSTER-NODE:cluster-node-name

Arguments

BATCH-CLASS   specifies that the class be changed for all
                    batch jobs submitted to your system for
                    processing. With this argument you can
                    specify BACKGROUND, NONE, or a scheduler-class
                    number. To check the current batch class
                    setting, give the SHOW SCHEDULER command.

    BACKGROUND   specifies that batch jobs for a particular
                    class be processed in your system using the
                    CPU time that has not been allocated to any

                    other class.

                    If you are not using the class scheduler, the
                    BACKGROUND argument causes batch jobs to run
                    in the lowest priority queue.

    NONE   specifies that batch jobs entered into the
                    system be processed whenever CPU time becomes
                    available and is not assigned to a particular
                    class that has been allocated a percentage of
                    CPU time.

    scheduler-class

                    specifies that batch jobs be processed in a
                    particular class number that has been
                    allocated a certain percentage of CPU time.

BIAS-CONTROL nn   specifies that the allocation of system
                    resources between compute-bound jobs and
                    interactive jobs be changed. The "nn" is a
                    integer from 1 to 20 that determines which job
                    grouping receives the higher or lower
                    priority. To allocate a higher priority to
                    compute-bound jobs, set the integer in the 11
                    to 20 range with 20 being the highest
                    priority. To allocate a higher priority to
                    interactive jobs, set the integer in the 1 to
                    10 range with 1 being the highest priority.
                    The default is set by your System Manager at
                    system installation time. To check the
                    current setting of the bias control, give the
                    SHOW SCHEDULER command.

CLASS n nn   specifies the percentage of CPU time for a
                    particular job class be changed. The
                    percentage (nn) cannot exceed a 100% total for
                    all classes in the system. The class number
                    (n) can be from 0 to 7. To check the current
                    settings of the classes in your system, give
                    the SHOW SCHEDULER command.

Switch

/CLUSTER-NODE:cluster-node-name

                    specifies the particular cluster node within
                    the TOPS-20 cluster where the command is
                    processed. The "cluster-node-name" qualifier
                    can be any node name within the cluster or an
                    asterisk (*). The asterisk specifies all

| nodes within the cluster.

Examples

1. You change the batch class and percentage at the end of first
    shift to allow for more CPU time for production jobs that
    process in the batch mode.

    OPR>SET SCHEDULER BATCH-CLASS 1<RET>
    OPR>
    15:31:09   --Scheduler Setting Modified--
    OPR>SET SCHEDULER CLASS 1 60<RET>
    OPR>
    15:31:45   --Scheduler Setting Modified--
    OPR>

2. You set the scheduler bias-control to 15 to allow
    compute-bound (production) jobs a greater allocation of
    system resources than interactive jobs.

    OPR>SET SCHEDULER BIAS-CONTROL 15<RET>
    OPR>
    16:30:09   --Scheduler Bias set to 15--
    OPR>

SET STRUCTURE – Setting Structure Parameters

Function

The SET STRUCTURE command enters a new structure or changes the
parameters of an existing structure.

The SET STRUCTURE command enters the parameters of a structure
into the system's structure data base. The structure data base
contains a catalog of all the system's mountable structures and
their parameters. Whenever a structure is mounted, the
parameters in the structure data base take effect. These
parameters do not change if the system crashes or is shut down.

You can display the contents of the structure data base with the
SHOW STATUS STRUCTURE command.

Format

| OPR>SET STRUCTURE keyword argument /switch<RET>

where keyword is the structure's name:

                    structure-name:

and argument must be one of the following:

                    ACKNOWLEDGED
                    AVAILABLE
                    DOMESTIC
                    DUMPABLE
                    EXCLUSIVE
                    FOREIGN
                    IGNORED
                    NODUMPABLE
                    REGULATED
                    SHARED
                    UNAVAILABLE
                    UNREGULATED

| optionally followed by the switch:

                    /CLUSTER-NODE:cluster-node-name

Keyword

structure-name: specifies the alias for the structure. The

alias is the mounted structure-name. The structure-name must be from 1 to 6 characters in length and must include the colon. The alias is normally the same as the physical identification unless a privileged user has specified a different alias.

Arguments

ACKNOWLEDGED   specifies that structure attributes can be changed only with the SET STRUCTURE command. If a structure attribute is changed by some other means, the Mountable D.

The opposite state of ACKNOWLEDGED is IGNORED. When a new structure is entered into the structure data base, its default state is ACKNOWLEDGED.

AVAILABLE   specifies that the structure is available so that users can MOUNT the structure.

The opposite state of AVAILABLE is UNAVAILABLE. When a new structure is entered into the structure data base, its default state is AVAILABLE.

DOMESTIC   specifies that the structure with its alias is to be DOMESTIC. A user can ACCESS or CONNECT to his directory on a DOMESTIC structure without giving a password.

The opposite state of DOMESTIC is FOREIGN. When a new structure is entered into the structure data base, its default state is FOREIGN.

DUMPABLE   specifies to allow continuable dumps when Dump-On-BUGCHK is enabled. Dump-On-BUGCHK (DOB) allows the system to take a dump at a time specified by the System Manager, without discontinuing system process time. This is referred to as a "continuable" dump. The structure must be up and spinning, but the structure need not be MOUNTed. The structure must have a valid <SYSTEM>DUMP.EXE file. If this file does not exist or is invalid, the structure is ignored when a continuable dump occurs.

This SET command makes the structure dumpable regardless of any system reloads, because GALAXY saves the dumpable status of the structure.

EXCLUSIVE   specifies that the structure in a CFS configuration is available only to users on the system that set the structure EXCLUSIVE.

The opposite state of EXCLUSIVE is SHARED. When a new structure is mounted, its default state is SHARED. A structure set EXCLUSIVE on one CFS system should be set UNAVAILABLE on all other systems in the CFS configuration.

FOREIGN   specifies the structure with the alias to be FOREIGN. A user must always give a password to ACCESS or CONNECT to a directory on a FOREIGN structure.

The opposite state of FOREIGN is DOMESTIC. When a new structure is entered into the structure data base, its default state is FOREIGN. The primary public structure is always DOMESTIC. An attempt to set this structure FOREIGN is ignored by the system.

IGNORED   specifies that the structure is not under the control of the Mountable Device Allocator. Only privileged users can change structure attributes and mount the structure, and only by using direct monitor calls.

While the structure is in an IGNORED state, SET STRUCTURE commands are accepted but do not take effect until the structure is set ACKNOWLEDGED. Also, a structure cannot be DISMOUNTED through the mountable device allocator unless it is set ACKNOWLEDGED.

If the structure has already been MOUNTED by a user when the structure is set IGNORED, users can continue to MOUNT the structure. If the structure is not MOUNTed when it is set IGNORED, users cannot MOUNT the structure.

The opposite state of IGNORED is ACKNOWLEDGED. When a new structure is entered into the structure data base, its default state is ACKNOWLEDGED.

NONDUMPABLE   specifies to disallow continuable dumps when Dump-On-BUGCHK is enabled. Refer to the DUMPABLE argument for a description of this feature.

REGULATED   specifies that the structure has accounting and that prior incrementing of the mount count is required to use the structure.

The opposite state of REGULATED is UNREGULATED. When a new structure is entered into the structure data base, its default state is REGULATED. The primary public structure is always UNREGULATED. An attempt to set this structure REGULATED is ignored by the system.

SHARED   specifies that the structure in a CFS configuration is available to users on any system.

The opposite state of SHARED is EXCLUSIVE. When a new structure is entered into the structure data base, its default state is SHARED.

UNAVAILABLE   specifies that the structure cannot be mounted, but allows those users who currently have the structure mounted to finish their work on it.

The opposite state of UNAVAILABLE is AVAILABLE. When a new structure is entered into the structure data base, its default state is AVAILABLE.

UNREGULATED   specifies that the structure does not have accounting and that prior incrementing of the mount count is not required to use this structure.

The opposite state of UNREGULATED is REGULATED. When a new structure is entered into the structure data base, its default state is REGULATED.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. Specify the SET STRUCTURE command to set structure DSKA1: as unavailable for any MOUNT requests from users.

```
OPR>SET STRUCTURE DSKA1: UNAVAILABLE<RET>
OPR>
15:27:03          -- Set Structure Command --
                  Structure DSKA1: set UNAVAILABLE

OPR>
```

2. Specify the SET STRUCTURE command to prevent the structure TEST: from being mounted by OPR/ORION.

```
OPR>SET STRUCTURE TEST: IGNORED<RET>
OPR>
10:45:40          -- Set Structure Command --
                  Structure is currently set IGNORED.
                  Attributes will be applied when
                  structure is set to ACKNOWLEDGED.
                  Structure PACK: set IGNORED

OPR>
```

Later, to allow the structure to be mounted by OPR/ORION:

```
OPR>SET STRUCTURE TEST: ACKNOWLEDGED<RET>
OPR>
15:26:43          --Set Structure Command --
                  Structure TEST: set ACKNOWLEDGED

OPR>
```

3. Specify the SET STRUCTURE command to set structure MOON: as FOREIGN.

```
OPR>SET STRUCTURE MOON: FOREIGN<RET>
OPR>
15:35:42          -- Set Structure Command --
                  Structure MOON: set FOREIGN

OPR>
```

SET TAPE-DRIVE - Setting Tape-Drive Parameters

Function

The SET TAPE-DRIVE command sets the availability characteristics of a particular tape-drive device. With the use of this command, you can allow or disallow users from requesting tapes to be mounted on the tape drives. In addition, you can initialize tapes with the SET TAPE-DRIVE command. You must specify the logical tape-drive name, and either the keyword AVAILABLE, INITIALIZE, or UNAVAILABLE.

Format

OPR>SET TAPE-DRIVE MTAn: argument /switch<RET>

where MTAn: is the logical tape-drive name

followed by one of these arguments:

                        AVAILABLE
                        INITIALIZE
                        UNAVAILABLE

the INITIALIZE keyword has the following switches:

                        /CLUSTER-NODE:cluster-node-name
                        /COUNT:nn
                        /DENSITY:nn
                        /INCREMENT:nn
                        /LABEL-TYPE:type
                        /OVERRIDE-EXPIRATION:YES
                                            NO
                        /OWNER:name
                        /PROTECTION:nnnnnn
                        /TAPE-DISPOSITION:condition
                        /VOLUME-ID:volid

Keyword

MTAn: specifies the logical tape-drive name; the colon must be included. The tape-drive name: is in the format of MTAn:, where n is the tape-drive number. An example of a logical tape-drive name is MTA0: for Magnetic Tape Drive 0.

Arguments

AVAILABLE   specifies that this particular tape drive can be used to satisfy user tape mount requests. This argument cancels the effect of the UNAVAILABLE argument. Once this command is given, the tape drive remains AVAILABLE until it is set UNAVAILABLE.

INITIALIZE   specifies that the tape drive is unavailable for user mount requests and that the drive is being used by you to initialize tapes. A labeled tape is initialized when you write a volume identification at the beginning of the tape. An unlabeled tape is initialized when you write a record of 80 null characters at the beginning of the tape. When the specified number of tapes have been INITIALIZEd, the tape drive automatically becomes available for user mount requests. You specify the number of tapes to be initialized with the /COUNT: switch.

UNAVAILABLE   specifies that this particular tape drive cannot be used to satisfy user tape mount requests. This argument cancels the effect of the AVAILABLE argument. If the user is currently using a tape on this tape drive, the tape drive becomes unavailable after the user completes his work. If the system crashes or is shutdown, the command SET TAPE-DRIVE MTAn: UNAVAILABLE remains in effect after the system is in operation again.

                                NOTE

Drives that are set UNAVAILABLE can be ASSIGNed by user jobs. This could pose a security problem, as no label processing or verification is performed by the system when using a tape on an UNAVAILABLE drive.

When you specify UNAVAILABLE, you can enter a single- or multiple-line reason and terminate with a carriage return, or you can terminate immediately with a carriage return after the UNAVAILABLE keyword and OPR responds with ENTER TEXT AND TERMINATE WITH ^Z. You then enter as many lines of text for a reason as you need. When you press CTRL/Z, the OPR>

prompt returns and your report is logged into
the ERROR.SYS file.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

/COUNT:nn   specifies the number (nn) of tapes to be
initialized. The /COUNT: switch, when
specified, provides a mechanism for
initialization of multiple tapes with the same
attributes. Each tape prompts you with a WTOR
message for the volume identification. After
initialization, the tape is automatically
unloaded and the tape drive is ready to accept
the next tape to initialize. When as many
tapes as specified by the /COUNT: switch have
been initialized, the tape drive returns to
the AVAILABLE state.

/DENSITY:nn   specifies the BPI (bits-per-inch) density of
the tapes to be initialized. The number (nn)
can be 200, 556, 800, 1600, or 6250. If you
do not specify the /DENSITY: switch, the
density defaults to 1600 BPI.

/INCREMENT:nn specifies the numeric value (nn) by which to
increment the tape volumes. This switch is
ignored unless you also use the /COUNT:
switch and specify a numeric volume
identification (see the /VOLID: switch) that
contains no leading zeros. If you do not
include this switch but do specify a numeric
volume identification that contains no leading
zeros, the default numeric value is 1.

/LABEL-TYPE:type specifies the type of label to be written on
the tape. The type can be ANSI, EBCDIC,
TOPS-20, or UNLABELED. If you do not specify
the /LABEL-TYPE: switch, the default is
TOPS-20.

/OVERRIDE-EXPIRATION: (YES or NO)

specifies whether to check for expiration date
of the data on the tape. If you specify NO
and attempt to re-initialize a labeled tape
whose first file is not expired, the system
issues an error message and does not
re-initialize the tape. If you specify YES,
each tape is re-initialized unconditionally.
If you are initializing brand new tapes, you
should specify YES to prevent the tape drive
from "running away" when MOUNTR tries to read
a label from the tape. If you do not specify
this switch, the default is NO.

/OWNER:name   specifies the name of the owner of the tape(s)
to be initialized. This switch affects only
to TOPS-20 label types. If you do not specify
the /OWNER: switch, the tape is initialized
as a scratch tape.

/PROTECTION:nnnnnn

specifies a 6-digit octal number as the
protection number of the tape. The number is
usually from 000000 (so that no one can use
the tape) through 777777 (where anyone can use
the tape). If you do not specify the
/PROTECTION: switch, the default is 777777.
This switch is ignored if the label type is
ANSI, EBCDIC, or UNLABELED.

/TAPE-DISPOSITION:condition

specifies what is to be done to the tape after
it is initialized. The condition can be
either HOLD or UNLOAD. If you specify HOLD,
the tape is initialized and is not unloaded.
A user requesting the tape can use it without
your having to reload it. If you specify
UNLOAD, the tape is initialized and is
unloaded from the tape drive. The default is
UNLOAD. If a value greater than 1 is
specified by the /COUNT: switch, the
/TAPE-DISPOSITION: switch is ignored and
UNLOAD is assumed.

/VOLUME-ID:volid specifies a volume identification for the
tape. The volid must be from 1 to 6
characters. The volid must contain only
alphanumeric characters. If the volid

contains leading zeros it is considered
nonnumeric, and the /INCREMENT: switch is
ignored. This switch is not necessary if the
tape is being initialized as an unlabeled
tape.

Restrictions

If you set a tape drive to be UNAVAILABLE before you set the tape
drive to INITIALIZE, the following error message appears:

hh:mm:ss   --Tape Drive MTAn: is Not Under Operator
Control--

The SET TAPE-DRIVE command to INITIALIZE must be given for a tape
drive that is AVAILABLE. When the initialization is complete,
the tape drive is left AVAILABLE.

Examples

1. A user (J.JONES) has requested a tape mount of an ANSI tape
   with a volid of TAPE01 and has requested that you initialize
   the tape first. The volume is initialized with ANSI labels
   and a volid of TAPE01. The system default for density (1600
   BPI) is used. When the tape is mounted on the drive, the
   tape is initialized and the drive then becomes available to
   the user (/TAPE-DISPOSITION:HOLD). AVR takes over and
   satisfies the mount request for TAPE01.

   OPR>   --Tape Mount Request # 31--
   12:11:34   Mount ANSI volume TAPE01, 9-track,
                   1600 BPI, WRITE-ENABLED
                   User J. JONES, Job 39, Terminal 13
                   User's remark: PLEASE INITIALIZE TAPE FIRST
   OPR>SET TAPE-DRIVE MTA3: INITIALIZE /LABEL-TYPE:ANSI-<RET>
   /TAPE-DISPOSITION:HOLD/VOLUME-ID:TAPE01<RET>
   OPR>
   12:12:01   --Mount Tape To Be Initialized--
                   Mount tape volume TAPE01 for initialization
   on MTA3:
   OPR>

   You now load the tape on drive MTA3:. When the initializing
   is completed, OPR types the following message:

   12:13:14   --MTA3: Volume TAPE01 Initialized--
                   Label type: ANSI   Density: 1600
   OPR>
   12:13:19   --INITIALIZE Completed--

                   MTA3: available for user tape requests
   OPR>
   12:13:30   --MTA3: Volume TAPE01, ANSI labeled tape
   mounted--
   OPR>
   12:13:33   --MTA3: Given to Request 31--
                   Volume TAPE01 now in use by
                   User J.JONES, Job 39, Terminal 13

   OPR>

2. Specify the SET TAPE-DRIVE command to set tape drive MTA1:
   to be unavailable. Any user job currently using this device
   is allowed to finish his work and dismount the tape before
   the device becomes unavailable.

   OPR>SET TAPE-DRIVE MTA1: UNAVAILABLE<RET>
   Enter Text and Terminate with ^Z
   TAPE DRIVE IS NEEDED BY FIELD SERVICE^Z
                                       ^
                                       |
                                   <CTRL/Z>
   OPR>
   10:23:56   --Tape Drive Set Unavailable--
                   MTA1: set unavailable for assignment by
   MOUNTR
   OPR>

3. Specify the SET TAPE-DRIVE command to make tape drive MTA3:
   available for tape mounts.

   OPR>SET TAPE-DRIVE MTA3: AVAILABLE<RET>
   OPR>
   12:02:24   --Tape Drive Set Available--
                   MTA3: set available for assignment by MOUNTR
   OPR>

SHOW - Displaying System Information

Function

The SHOW command shows (or displays) information from the system.
The SHOW command does not alter or change any jobs, queues, or
devices. The SHOW command can be issued before a particular job,
queue, or device has been changed; and then it can be issued
after the change to check to see if the particular change was
satisfactory.

Because the SHOW command is complex, having multiple keywords,
subkeywords, parameters, switches, and numeric values, each SHOW
keyword command is described in the same format as an individual
OPR command.

Format

OPR>SHOW keyword<RET>

where keyword can be one of the following:

                    ALIAS
                    BROADCAST-MESSAGES
                    CLUSTER-GALAXY-LINK-STATUS
                    CONFIGURATION
                    CONTROL-FILE
                    MESSAGES
                    OPERATORS
                    PARAMETERS
                    QUEUES
                    ROUTE-TABLE
                    SCHEDULER
                    STATUS
                    TIME

followed by one or more of the keywords, arguments, switches, and
values described in the SHOW command subsections.

SHOW ALIAS - Displaying Printer Alias Names

Function

The SHOW ALIAS command displays the alias to printer
specification mappings that were previously defined.

Format

OPR>SHOW ALIAS keyword argument /switch<RET>

where keyword can be one of the following:

                    CLUSTER
                    DQS
                    LAT
                    LOCAL

followed by a unit number:

                    nn

or a range: n:m

followed optionally by the switch:

                    /NODE:node-name
or
                    CLUSTER nn
                            n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                    SERVER "name"
or followed by: PORT "name"
                    SERVER "name"

followed optionally by the switch:

                    /CLUSTER-NODE:cluster-node-name

Arguments

CLUSTER nn
n:m

specifies a printer, or a range of printers, on a remote node within a TOPS-20 cluster. A TOPS-20 cluster is a loosely coupled configuration of between two and four TOPS-20 processors. Each processor in the configuration is identified by a node name. For example, HUEY::, DEWEY::, and LOUIE:: can be three nodes within a cluster of TOPS-20 processors.

NODE node-name::

specifies that the printer device for a cluster be started. The double colon (::) following the node name is not needed.

For the CLUSTER argument, NODE node-name:: specifies a node within the cluster and cannot be the local node or an alias.

DQS queuename

specifies the Distributed Queue Service allowing users to queue print requests to VMS systems using DECnet. DQS accepts the user specified print request and transmits it to the remote VMS node. The "queuename" specifies the VMS queuename and can be a string of 1 to 31 characters, consisting of alphanumeric characters, underscores, dashes, and dollar signs.

NODE node-name::

specifies the VMS node where the print request is to be processed. The double colon (::) following the node name is not needed.

For the DQS argument, NODE node-name:: specifies the VMS nodename and cannot be an alias.

LAT

specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following

SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

LOCAL

specifies to display the line printer parameters for your local logged-in system.

nn

specifies a numeric value representing a batch-stream number or a device unit number. The number is usually from 0 to 5, but can be larger if your installation has acquired additional devices.

n:m

specifies a range of unit numbers.

Switch

/CLUSTER-NODE:cluster-node-name

> specifies the particular node in the TOPS-20
> cluster where the command is processed. The
> "cluster-node-name" can be any node name
> within the cluster or an asterisk (*). The
> asterisk specifies all nodes within the
> cluster.

/NODE:node-name:: specifies the name of your host or a remote
> station. The double colon (::) following the
> node name is optional.

Examples

1. Specify the SHOW ALIAS command to display the alias names for
    CLUSTER, DQS, and LAT printer specifications.

    ```
    OPR>SHOW ALIAS<RET>
    OPR>
    14:45:37        -- Alias Printer Mappings --

    Cluster printers
      Alias     Unit   Node
      ------    ----   ------
      RONCO      0     RONCO

    DQS printers
      Alias          DQS queue name            Node
      ------    ------------------------------  ------
      NATASH                       TOPS$LN03   GALLO
      XEROX                         SI$8700    JUNIPR
      PLVD                         LVD$LN03     MED
      XPLOT                        SI$87PLOT   MRSVAX
      BENSON                       SI$BENSON   MRSVAX

    LAT PORT printers
      Alias       Port name        Server
      ------    ---------------    ------
      ROCKY       24004_LN03A       LAT1
      BULLW       24004_LN03B       LAT70
      BORIS            LN03         LAT71
    ```

2. Specify the SHOW ALIAS command with the /CLUSTER-NODE switch
    to display which printer specifications on all the nodes in
    the cluster use the alias name BORIS.

```
OPR>SHO ALIAS BORIS /CLUSTER-NODE: *<RET>

14:46:04        -- Alias Printer Mappings --

LAT PORT printers
  Alias       Port name        Server
  ------    ---------------    ------
  BORIS            LN03         LAT71
OPR>
14:46:04  Received message from RONCO::
14:45:58        -- Alias Printer Mappings --

LAT PORT printers
  Alias       Port name        Server
  ------    ---------------    ------
  BORIS            LN03         LAT71

14:46:05  Received message from CLOYD::
14:45:53        -- Alias Printer Mappings --

LAT PORT printers
  Alias       Port name        Server
  ------    ---------------    ------
  BORIS            LN03         LAT71
```

SHOW BROADCAST-MESSAGES - Displaying Status of Remote Broadcasting of ORION Messages

Function

The SHOW BROADCAST-MESSAGES command displays whether or not remote broadcasting of ORION messages are enabled or disabled to a particular node or nodes.

Format

OPR>SHOW BROADCAST-MESSAGES keyword argument /switch<RET>

where keyword is the optional keyword NODE

followed by either of the arguments:

                    cluster-node-name
                    *

followed optionally by the switch:

                /CLUSTER-NODE:cluster-node-name

Keyword

NODE   specifies the particular node in the TOPS-20 cluster to display or an asterisk (*) to display all nodes in the cluster.

Switch

/CLUSTER-NODE:cluster-node-name

                specifies the particular node in the TOPS-20 cluster where the command is processed. The "cluster-node-name" can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Example

OPR>SHOW BROADCAST-MESSAGES<RET>

OPR>

17:01:54   -- Broadcast Messages --

CLOYD	GIDNEY	Message type
Ena	Ena	BATCH-MESSAGES
Ena	Ena	CARD-PUNCH-MESSAGES
Ena	Ena	CARD-READER-INTERPRETER-MESSAGES
Ena	Ena	FILE-RETRIEVAL-MESSAGES
Ena	Ena	MOUNT-MESSAGES
Ena	Ena	PAPER-TAPE-PUNCH-MESSAGES
Ena	Ena	PLOTTER-MESSAGES
Ena	Ena	PRINTER-MESSAGES
Ena	Ena	READER-MESSAGES
Ena	Ena	USER-MESSAGES
Ena	Ena	BUGCHK-MESSAGES
Ena	Ena	BUGINF-MESSAGES
Ena	Ena	DECNET-EVENT-MESSAGES
Ena	Ena	DECNET-LINK-MESSAGES
Ena	Ena	SYSTEM-MESSAGES
Ena	Ena	LCP-MESSAGES
Ena	Ena	NCP-MESSAGES

SHOW CLUSTER-GALAXY-LINK-STATUS- Displaying Cluster Link Status

Function

The SHOW CLUSTER-GALAXY-LINK-STATUS command displays NEBULA's
DECnet connections to remote NEBULAs in the cluster.

Format

OPR>SHOW CLUSTER-GALAXY-LINK-STATUS /switch<RET>

where switch can be: /NODE:node-name::
                              /CLUSTER-NODE:cluster-node-name

Switches

/NODE:node-name:: specifies the name of a remote node in the
                   cluster.   The double colon (::) following the
                   node name is optional.

                   If you do not specify the /NODE: switch,
                   NEBULA's link status to every remote node in
                   the cluster is displayed.

/CLUSTER-NODE:cluster-node-name

                   specifies the particular node in the TOPS-20
                   cluster where the command is processed. The
                   "cluster-node-name" can be any node   name
                   within the cluster or an asterisk (*). The
                   asterisk specifies all nodes   within   the
                   cluster.

Example

You are logged in to GIDNEY and you wish to display NEBULA's
DECnet link status to the remote NEBULAs in the cluster.

OPR>SHOW CLUSTER-GALAXY-LINK-STATUS<RET>
OPR>
19:28:26   -- Cluster Status --

        Node   Sender Link Status Listener Link Status
        ------   -----------------   --------------------
        THEP   Connected   Connected
        CLOYD   Connected   Connected

        RONCO   Connected   Connected

SHOW CONFIGURATION – Displaying Disk Drive Configuration

Function

The SHOW CONFIGURATION command displays information that uniquely identifies disk drives.

Format

OPR>SHOW CONFIGURATION (of) keyword /switch<RET>

where keyword must be: DISK-DRIVE

followed by one of these switches:

/ALL
/FREE
/MOUNTED

and, optionally the switch:

/CLUSTER-NODE:cluster-node-name

Keyword

DISK-DRIVE   specifies to display information about disk drives.

Switches

/ALL   specifies that both free disk drives and mounted disk drives be displayed. This switch is the default.

/FREE   specifies that only those disk drives that are available for structure mounts be displayed.

/MOUNTED   specifies that only those disk drives that are currently mounted and being accessed be displayed.

/CLUSTER-NODE:cluster-node-name

specifies the particular node in the TOPS-20 cluster where the command is processed. The "cluster-node-name" can be any node name

within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Example

You are logged in on cluster node CLOYD and wish to display configuration information about mounted disk drives on cluster node GIDNEY.

OPR>SHOW CONFIGURATION DISK-DRIVE /MOUNTED –<RET>
/CLUSTER-NODE:GIDNEY<RET>
OPR>
09:12:39 Received message from GIDNEY::
09:12:32   -- Disk Drive Configuration --

MOUNTED DRIVES

```
      Chan-Cont                        Mount
Type   Drive   Drive Serial Number   Status   Name
----  --------  --------------------  -------  -----------
RP06 0,  ,0      17170432  1156        Mounted  GIDNEY (1/1)
*RP07 2,  ,0     17235968  8965        Mounted  CHOP   (1/1)
*RP07 2,  ,2     17235968  10337       Mounted  REL7   (1/1)
*RP07 2,  ,3     17235968  14402       Mounted  SLICE  (1/1)
RA81 7,00,2     33882112  17697       Mounted  WORK   (2/2)
RA81 7,01,11    33882112  4005        Mounted  WHITE  (1/1)
RA81 7,01,12    33882112  3029        Mounted  LINK   (1/1)
RA81 7,01,14    33882112  4258        Mounted  SNARK  (1/2)
RA81 7,01,19    33882112  18036       Mounted  MOOSE  (1/1)
RA81 7,01,21    33882112  4201        Mounted  WORK   (1/2)
RA81 7,01,22    33882112  3411        Mounted  MORDOR (1/1)
RP06 7,05,1     17170432  1368        Mounted  THEP   (1/1)
RP06 7,06,1     17170432  370         Mounted  CLOYD  (1/1)
RA81 7,01,8     33882112  18289       Mounted  MKT    (1/1)
RA81 7,00,17    33882112  2463        Mounted  GREEN  (1/1)
RA81 7,00,20    33882112  18035       Mounted  RIP    (1/1)
RA60 7,00,16    33816576  1023        Mounted  DBMS20 (1/1)
RA81 7,00,18    33882112  17878       Mounted  IGUANA (1/1)
RA81 7,00,36    33882112  18053       Mounted  GALAXY (1/1)
RA81 7,01,4     33882112  2003        Mounted  FTN    (1/1)
RA81 7,00,15    33882112  4002        Mounted  SNARK  (2/2)
RA81 7,00,13    33882112  3675        Mounted  SOFT   (1/1)
RA81 7,01,0     33882112  17610       Mounted  COMMON (1/1)
*RP06 1,  ,2     17170432  388         Mounted  APATCH (1/1)
RA81 7,00,3     33882112  2014        Mounted  EXODUS (1/1)
RA60 7,00,7     33816576  14375       Mounted  ROCKET (1/1)
*RP06 1,  ,4     17170432  263         Mounted  JAWS   (1/1)
*RP06 1,  ,6     17170432  1874        Mounted  GALKL  (1/1)
RP07 7,06,546   17235968  9501        Mounted  DICE   (1/1)
```

```
RP06 1,  ,3     17170432  1317         Mounted  B20     (1/1)
RA81 7,02,6     33882112  4009         Mounted  RANDOM  (1/1)

09:12:39  Received message from GIDNEY::
09:12:32            -- Disk Drive Configuration --

RA81 7,03,7     33882112  4255         Mounted  MOLD    (1/1)
RA81 7,02,1     33882112  4274         Mounted  PUBLIC  (1/1)
RA81 7,00,9     33882112  18264        Mounted  GUMBY   (1/1)
RA81 7,03,11    33882112  18466        Mounted  POKEY   (1/1)
RA81 7,03,12    33882112  18293        Mounted  DEMO    (1/1)
RP06 7,11,1     17170432  8192         Mounted  RONCO   (1/1)
RP06 7,11,2     17170432  775          Mounted  RDUMP   (1/1)
RA60 7,02,10    33816576  12148        Mounted  DML60   (1/1)
     NOTE: Channel 7 indicates CI channel
     (*) indicates potential external port

OPR>
```

SHOW CONTROL-FILE - Displaying Batch Control Files

Function

The SHOW CONTROL-FILE command displays the control file of a batch job that is processing in a particular batch stream. The only keyword for this command is BATCH-STREAM followed by the stream number. You must specify the BATCH-STREAM keyword.

Some of the advantages of this command is that it enables you to display a particular stream while the job is processing, to see any possible problems that might come about due to an incorrect command, and to check whether there are any commands that require an operator action of some kind.

Format

OPR>SHOW CONTROL-FILE keyword nn /switch<RET>

where keyword must be the following: BATCH-STREAM

followed by a stream number: nn

and, optionally, the switch: /LINES:number

Keywords

BATCH-STREAM   specifies a particular batch input stream.

nn   specifies the stream number of the batch stream to be displayed by OPR. You must specify this stream number.

Switch

/LINES:number   specifies the number of lines you want displayed of the control file in the batch stream. If you do not specify the /LINES: switch, the default is ten lines.

Examples

1. Specify the SHOW CONTROL-FILE command to display four lines of a control file in batch stream 2.

```
OPR>SHOW CONTROL-FILE BATCH-STREAM 2/LINES:4<RET>
OPR>
16:42:20   Batch-Stream 2  JOB #3  --SHOW-CONTROL-FILE--
           Job MYFILE Req #121 for ADLEY

           @MOUNT TAPE REEL1:
           @COMPILE TEST2/FORTRAN
           @EXECUTE
           @DISMOUNT TAPE REEL1:

OPR>
```

2. Specify the SHOW CONTROL-FILE command to display ten lines in
    batch stream 0.

```
OPR>SHOW CONTROL-FILE BATCH-STREAM 0<RET>
OPR>
13:20:30   Batch-Stream 0  JOB #12  --SHOW-CONTROL-FILE--
           Job EDIT01 Req #211 for LATTA

           *F.PG^[
           *M.
           *D.
           *E
           @IF (ERROR) @GOTO DEL1
           @EDIT
           *F.PG^[
           *M.
           *D.
           *E

OPR>
```

SHOW MESSAGES – Displaying Outstanding Messages

Function

The SHOW MESSAGES command displays any outstanding messages for
which you must perform an action and/or reply with the RESPOND
command.

With the SHOW MESSAGES command, you can specify an outstanding
message number or a node. If you do not specify either a message
number or a node, OPR responds with all outstanding messages that
you are enabled to receive.

Use the RESPOND command to respond to any outstanding message
displayed by this SHOW command. (Refer to the description of the
RESPOND command in this chapter.)

Format

OPR>SHOW MESSAGES nnnn /switch<RET>

where, optionally, the message number is:

                              nnnn

or, optionally, the switch: /NODE:node-name::

or the switch: /CLUSTER-NODE:cluster-node-name

Keyword

nnnn   specifies the outstanding message number.
                Valid message numbers can range from 0 to
                9999. If you do not specify a message number,
                all outstanding messages with their sequence
                numbers, if any, are displayed.

Switches

/NODE:node-name:: specifies the name of a remote node in the
                   cluster.   The double colon (::) following the
                   node name is optional.

                   If you do not specify the /NODE: switch, all
                   outstanding   messages   with their sequence
                   numbers, if any, are displayed, provided that

you have enabled the messages to appear at the
OPR terminal.

/CLUSTER-NODE:cluster-node-name

specifies the particular node in the cluster
where   the   command   is   processed.   The
"cluster-node-name" can be any node   name
within the cluster or an asterisk (*). The
asterisk specifies all nodes   within   the
cluster.

Examples

1. Specify the SHOW MESSAGES command to display all outstanding
   messages with their sequence numbers. You are enabled to
   receive the output display of all messages.

   OPR>SHOW MESSAGES<RET>
   OPR>   ** MESSAGES REQUIRING OPERATOR ACTION **

   15:25:35 <2>   Printer 1   JOB #13
                  LPTSPL: Please load forms type 'NARROW'
                  Respond 'CONTINUE' when ready.

   17:23:40 <15> Card-Punch 0   JOB #45
                  SPROUT: Please load 5081's
                  RESPOND GO when ready.

   23:20:50 <31> Batch-stream 2   JOB #23
                  BATCON: Please mount the PAYROLL-MASTER-TAPE.
                  RESPOND GO when ready.

   OPR>

2. Specify the SHOW MESSAGES command to display an outstanding
   message with the message number 47.

   OPR>SHOW MESSAGES 47<RET>
   OPR>   ** MESSAGES REQUIRING OPERATOR ACTION **

   12:30:30 <47> Batch-stream 1   JOB #19
                  SPRINT: Please START the card-reader.
                  SEND message to User: McElmoyle when done.
   OPR>

SHOW OPERATORS – Displaying Operators on the System

Function

The SHOW OPERATORS command displays the terminal and job numbers
of all users on the system who are running OPR. The display
shows the node, terminal number, job number, and user's name.

In addition, you can specify the /NODE: switch to display the
operators at a remote station. The /ALL switch includes whether
or not operators will receive particular message types.

Format

OPR>SHOW OPERATORS /switch<RET>

where /switch can be one of the following:

                          /ALL
                          /CLUSTER-NODE:cluster-node-name
                          /NODE:node-name::

Switches

/NODE:node-name:: specifies the name of a remote node in the
                   cluster.   The double colon (::) following the
                   node name is optional.

/CLUSTER-NODE:cluster-node-name

                   specifies the particular node in the cluster
                   where   the   command   is   processed.   The
                   "cluster-node-name" can be any node   name
                   within the cluster or an asterisk (*). The
                   asterisk specifies all nodes   within   the
                   cluster.

/ALL   specifies whether or not operators receive
                   particular message types.   It displays if a
                   particular message type is enabled or disabled
                   for the operators listed.   If any of the
                   switches: /INFORMATION-MESSAGES,
                   /JOB-MESSAGES,   or /OPR-ACTION-MESSAGES are
                   enabled for a message type that supports these
                   switches, then that message type is considered
                   enabled.

Restriction

If there are no users running OPR at the node you specify in the
SHOW OPERATORS command, OPR responds with:

hh:mm:ss   --No Operators at Node name--

where name is the node name or number.

If you do not specify the /NODE: switch, all operators on the
system (all nodes included) are displayed.

Examples

1. Specify the SHOW OPERATORS command to display all operators
    on cluster node THEP.

    ```
    OPR>SHOW OPERATORS /CLUSTER-NODE:THEP<RET>
    OPR>
    09:21:39  Received message from THEP::
    09:21:29        -- Operators --

        Node      Type    Terminal    Job       User
    ----------  ------  --------    ---   ---------------
    THEP        system      236     197   OPERATOR
    THEP        system      434     205   WONG

    **** SEMI-OPR is enabled ****
    OPR>
    ```

2. Specify the SHOW OPERATORS command with the /ALL switch to
    display what types of messages are enabled for the operators
    listed.

    ```
    OPR>SHOW OPERATORS /ALL<RET>
    OPR>
    17:02:12        -- Operators --

        Node      Type    Terminal    Job     User
    ----------  ------  --------    ---   --------------
    RONCO       system      236      69   OPERATOR

                RONCO   Message type
                ------  ------------
                Ena    BATCH-MESSAGES
                Ena    CARD-PUNCH-MESSAGES
                Ena    CARD-READER-INTERPRETER-MESSAGES
                Ena    FILE-RETRIEVAL-MESSAGES
                Ena    MOUNT-MESSAGES
    ```

```
            Ena    PAPER-TAPE-PUNCH-MESSAGES
            Ena    PLOTTER-MESSAGES
            Ena    PRINTER-MESSAGES
            Ena    READER-MESSAGES
            Ena    USER-MESSAGES

            Dis    BUGCHK-MESSAGES
            Dis    BUGINF-MESSAGES
            Dis    DECNET-EVENT-MESSAGES
            Dis    DECNET-LINK-MESSAGES
            Ena    SYSTEM-MESSAGES

            Ena    LCP-MESSAGES
            Ena    NCP-MESSAGES

RONCO       system      434      78  WONG
            RONCO   Message type
            ------  ------------
            Ena    BATCH-MESSAGES
            Ena    CARD-PUNCH-MESSAGES
            Ena    CARD-READER-INTERPRETER-MESSAGES
            Ena    FILE-RETRIEVAL-MESSAGES
            Ena    MOUNT-MESSAGES
            Ena    PAPER-TAPE-PUNCH-MESSAGES
            Ena    PLOTTER-MESSAGES
            Ena    PRINTER-MESSAGES
            Ena    READER-MESSAGES
            Ena    USER-MESSAGES

            Ena    BUGCHK-MESSAGES
            Ena    BUGINF-MESSAGES
            Ena    DECNET-EVENT-MESSAGES
            Ena    DECNET-LINK-MESSAGES
            Ena    SYSTEM-MESSAGES

            Ena    LCP-MESSAGES
            Ena    NCP-MESSAGES

    SEMI-OPR is enabled
```

SHOW PARAMETERS – Displaying Device Settings

Function

The SHOW PARAMETERS command displays information about a
particular device or range of devices, showing its current
defaults and values. The device can be a batch stream, an
input/output unit number, or all devices known to the system.

The SHOW PARAMETERS command is very useful when you want to
change the defaults of a particular device. You can issue this
command to check the parameters before and after the changes have
been made.

If you do not specify any keyword with the SHOW PARAMETERS
command, the command defaults to all devices.

Format

OPR>SHOW PARAMETERS keyword nn /switch<RET>

where keyword can be one of the following:

```
                      BATCH-STREAM
                      CARD-PUNCH
                      NETWORK-NODE
                      PAPER-TAPE-PUNCH
                      PLOTTER
                      PRINTER argument
```

followed by a stream/unit number:

```
                      nn
```

or a range: n:m

or the argument for the PRINTER keyword:

```
                      CLUSTER nn
                          n:m
followed by:          NODE node-name::

or                    DQS queuename
followed by:          NODE node-name::

or                    LAT
followed by:          SERVICE "name"
                      SERVER "name"
```

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```
or followed by:            PORT "name"
                           SERVER "name"
```

and, optionally, the switches: /NODE:node-name::
                               /CLUSTER-NODE:cluster-node-name

The NETWORK-NODE argument can only be followed by the node name;
no switches or stream/unit numbers. For example, to specify the
node named KL2102, type NETWORK-NODE KL2102::. You must type two
colons (::) after the node name.

Keywords

BATCH-STREAM   specifies a particular batch input stream or a
                    range of batch streams. If no unit number or
                    range is specified, all batch streams are
                    displayed.

CARD-PUNCH   specifies a particular card-punch device or a
                    range of card-punch devices. If no unit
                    number or range is specified, all card-punch
                    devices are displayed.

NETWORK-NODE   specifies that the IBM network parameters of
                    the nodes currently known to the system be
                    displayed. This argument displays information
                    only if your installation has DN60 software.
                    The display shows the value of the arguments
                    that can be altered with the DEFINE and SET
                    NODE commands.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                    or a range of paper-tape-punch devices. If no
                    unit number or range is specified, all
                    paper-tape-punch devices are displayed.

PLOTTER   specifies a particular plotter device or a
                    range of plotter devices. If no unit number
                    or range is specified, all plotter devices are
                    displayed.

PRINTER argument   specifies a particular line printer device or
                    a range of line printer devices. You can use
                    an alias name defined with the DEFINE ALIAS
                    command to reference a printer specification
                    in this command. The argument can be:

     CLUSTER nn   specifies a printer, or a range of printers,
         n:m   on a remote node within a TOPS-20 cluster. A
                    TOPS-20 cluster is a loosely coupled

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configuration of between two and four TOPS-20
processors. Each processor in the
configuration is identified by a node name.
For example, HUEY::, DEWEY::, and LOUIE:: can
be three nodes within a cluster of TOPS-20
processors.

NODE node-name::

specifies that the printer device for a
cluster be started. The double colon (::)
following the node name is not needed.

For the CLUSTER argument, NODE node-name::
specifies a node within the cluster and cannot
be the local node or an alias.

DQS queuename

specifies the Distributed Queue Service
allowing users to queue print requests to VMS
systems using DECnet. DQS accepts the user
specified print request and transmits it to
the remote VMS node. The "queuename"
specifies the VMS queuename and can be a
string of 1 to 31 characters, consisting of
alphanumeric characters, underscores, dashes,
and dollar signs.

NODE node-name::

specifies the VMS node where the print request
is processed. The double colon (::) following
the node name is not needed.

For the DQS argument, NODE node-name::
specifies the VMS nodename and cannot be an
alias.

LAT   specifies the Local Area Transport service
used to control communication between LAT
hosts and terminals on the Ethernet. With the
LAT keyword, you specify the SERVICE or PORT
and its SERVER name to establish communication
between your system, running LAT software, and
the resource printer terminal.

You cannot use the following
SERVICE/PORT/SERVER specifications:

SERVICE name only

SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information
about LAT communications.

PORT "name"

specifies the communication path between the
host system and the printer resource or the
access point that the node represents to the
user. The "name" is the port name and can
have from 1 to 16 characters consisting of
alphanumeric characters, underscores, dashes,
and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT
access path to the resource. The "name" is
the service name and can have from 1 to 16
characters consisting of alphanumeric
characters, underscores, dashes, and dollar
signs.

SERVER "name"

specifies the server name of the resource
printer terminal. This name can be the LAT
box with the proper LAT software running in
it. The name can be from 1 to 6 alphanumeric
characters in length.

LOCAL   specifies to display the line printer
parameters for your local logged-in system.

nn   specifies a numeric value representing a
batch-stream number or a device unit number.
The number is usually from 0 to 5, but can be
larger if your installation has acquired
additional devices.

n:m   specifies a range of batch streams or unit
numbers.

Switches

/NODE:node-name:: specifies the name of a remote node in the

                    cluster. The double colon (::) following the
                    node name is optional.

    /CLUSTER-NODE:cluster-node-name

                    specifies the particular node in the cluster
                    where   the   command   is processed.   The
                    "cluster-node-name" can be any node   name
                    within the cluster or an asterisk (*). The
                    asterisk specifies all nodes   within   the
                    cluster.

Examples

    1. Specify the SHOW PARAMETERS command to display the current
        parameters of all batch streams.

        OPR>SHOW PARAMETERS BATCH-STREAM<RET>
        OPR>
        18:25:07   -- System Device Parameters--

        Batch-Stream Parameters:
           Strm   Minutes   Prio Opr-Intvn
           ---- ----------- ----- ---------
             0   0:3600   1:63   Yes
             1   0:10   1:19   Yes
             2   0:11000   1:19   Yes
             3   0:11000   20:63   Yes
             4   0:3600   1:63   No

        OPR>

    2. Specify the SHOW PARAMETERS command to display the current
        parameters of the card punch.

        OPR>SHOW PARAMETERS CARD-PUNCH 0<RET>
        OPR>
        19:43:30   -- System Device Parameters--

        Card-Punch Parameters:
           Unit Card-Limits   Form   Prio Lim-Ex Dev-Chars
           ---- -----------   ------ ----- ------ ---------
             0   1:500   NORMAL 1:63   Ask

        OPR>

    3. Specify the SHOW PARAMETERS command to display the current
        parameters of all cluster printer devices within the cluster.

        OPR>SHOW PARAMETERS PRINTER CLUSTER /CLUSTER-NODE:*<RET>

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    OPR>
    09:31:19   -- System Device Parameters --

    Cluster printers
       Alias   Unit   Node   Page Limits   Prio Lim-Ex
       ----   -------   ------   -----------   ----- ------
      CHARLI   0   GIDNEY   0:10000   1:63   Ask
      BARR   0   THEP   0:10000   1:63   Ask

    OPR>
    09:31:20 Received message from RONCO::
    09:31:18   -- System Device Parameters --

    Cluster printers
       Alias   Unit   Node   Page Limits   Prio Lim-Ex
       -----   ----   ------   -----------   ----- ------
      BINN   0   THEP   0:5000   1:63   Ask

    09:31:20 Received message from THEP::
    09:31:10   -- There are no devices started --

    09:31:21 Received message from GIDNEY::
    09:31:13   -- There are no devices started --
    OPR>

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SHOW QUEUES – Displaying Queued Job Requests

Function

The SHOW QUEUES command displays the job requests that are active, that are waiting to be processed, and that are being held and must be rescheduled. You can specify all jobs in all queues or only those jobs in a particular queue. The default for the SHOW QUEUES command is ALL-JOBS.

A queue is a list of jobs for a particular device or stream that are processing, are waiting to be processed, or are being held for rescheduling.

The asterisk (*) before the job name in the output display of the SHOW QUEUES command indicates that the job request is currently active.

Format

OPR>SHOW QUEUES keyword /switch<RET>

where keyword can be one of the following:

                        ALL-JOBS
                        BATCH-JOBS
                        CARD-PUNCH-JOBS
                        MOUNT-REQUESTS
                        PAPER-TAPE-PUNCH-JOBS
                        PLOTTER-JOBS
                        PRINTER-JOBS
                        RETRIEVAL-REQUESTS

and, optionally, one or more of the following switches:

                        /NODE:node-name::
                        /ALL
                        /SHORT
                        /USER:name
or the switch: /CLUSTER-NODE:cluster-node-name

Keywords

ALL-JOBS   specifies all queues for the entire system.
                 This is the default of the SHOW QUEUES command
                 if you do not specify any other keyword

                 described below.

BATCH-JOBS   specifies all batch jobs currently processing,
                  waiting, or being held in the batch input
                  queue.

CARD-PUNCH-JOBS   specifies all   card-punch   jobs   currently
                  processing, waiting, or being held in the
                  card-punch output queue.

MOUNT-REQUESTS   specifies all requests for tape and disk
                  structure mounts, all requests that are
                  currently using tape drives, whether or not
                  the tapes are labeled, and all requests
                  waiting for a disk structure to be dismounted.
                  You cannot use the /NODE: switch with
                  MOUNT-REQUESTS.

PAPER-TAPE-PUNCH-JOBS

                  specifies all paper-tape-punch jobs currently
                  processing, waiting, or being held in the
                  paper-tape-punch output queue.

PLOTTER-JOBS   specifies all plotter jobs currently
                  processing, waiting, or being held in the
                  plotter output queue.

PRINTER-JOBS   specifies all line printer jobs currently
                  processing, waiting, or being held in the line
                  printer output queue.

RETRIEVAL-REQUESTS specifies all file retrievals for archived
                  and/or migrated files waiting to be retrieved
                  from the retrieval request queue. You cannot
                  use the /NODE: switch with
                  RETRIEVAL-REQUESTS.

Switches

/NODE:node-name:: specifies the name of a remote node in the
                  cluster. The double colon (::) following the
                  node name is optional. This switch cannot be
                  used with the MOUNT-REQUESTS and
                  RETRIEVAL-REQUESTS keywords.

/ALL   specifies that the following be added to the
                  display: the   /ASSISTANCE,   /PRIORITY,
                  /RESTARTABLE, /NOTE, /SEQUENCE, /UNIQUE, and
                  /REMARK switches, whether a tape mount request

	is for a labeled tape, and the tape volume-set name.
/SHORT	specifies that only the job name be displayed, along with the request number, the scheduled run time, and the user name of each job in the queue. There are no column headers and there are no switches displayed in the output queue list.
/USER:name	specifies that the request number and scheduled runtime of a particular user be displayed.

/CLUSTER-NODE:cluster-node-name

specifies the particular node in the cluster where the command is processed. The "cluster-node-name" can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. Specify the SHOW QUEUES command to display batch jobs that are processing or waiting to be processed by the batch system.

   OPR>SHOW QUEUES BATCH-JOBS /ALL<RET>

   10:17:24   -- System Queues Listing --

   Batch Queue:
   Job Name   Req   Run Time   User
   --------   ------   --------   ------------------------
     CLDDAY   14 00:20:00 WIZARD
             /After:25-Mar-88 05:30
                     /Uniq:Yes /Restart:No   /Assist:Yes
   /Output:Nolog
                     /Batlog:Super /Seq:1208
     CLOYD   3 02:00:00 GSCOTT
             /After:26-Mar-88 00:10
                     /Uniq:Yes /Restart:Yes /Assist:Yes
   /Output:Nolog
                     /Batlog:Super /Seq:151
     EASY20   15 00:15:00 MONITOR
             /After:31-Mar-88 06:00
                     /Uniq:Yes /Restart:Yes /Assist:Yes
   /Output:Nolog
                     /Batlog:Super /Seq:1209
     CLDWEK   16 00:29:00 WIZARD

             /After:31-Mar-88 07:30
                     /Uniq:Yes /Restart:Yes /Assist:Yes
   /Output:Nolog
                     /Batlog:Super /Seq:1210
   There are 4 jobs in the queue (none in progress)

   OPR>

2. Specify the SHOW QUEUES command with the /SHORT switch to display all jobs in the line printer queue.

   OPR>SHOW QUEUES PRINTER /SHORT<RET>
   OPR>
     8:27:41   -- System Queues Listing --

   Printer Queue:
   * DAPFIL   23   624 LSCD
     MEM50   5   672 LOFGREN
     MS-OUT   6   6 GUNN
   OPR>

SHOW ROUTE-TABLE – Displaying Node Routing Tables

Function

The SHOW ROUTE-TABLE command displays the routing tables of the nodes whose output has been transferred by means of the ROUTE command. (Refer to the ROUTE command description in this chapter.)

The SHOW ROUTE-TABLE command has no keywords and no switches.

The SHOW ROUTE-TABLE command is applicable at your installation only if your installation has remote station communication software.

Format

OPR>SHOW ROUTE-TABLE<RET>

and, optionally the switch: /CLUSTER-NODE:cluster-node-name

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular node in the cluster where the command is processed. The "cluster-node-name" can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Examples

1. Specify the SHOW ROUTE-TABLE command to display the current routing on cluster node CLOYD.

    OPR>SHOW ROUTE-TABLE /CLUSTER-NODE:CLOYD<RET>
    OPR>
    10:34:55   -- System Device Routing Table --

    Printer 0 [CLOYD] (Alias:FOO) Routed to Cluster Printer 0
    [GIDNEY] (Alias:BAR)

    OPR>

2. Specify the SHOW ROUTE-TABLE command, but no routing has been performed.

    OPR>SHOW ROUTE-TABLE<RET>
    OPR>
    16:30:23   --No Routing has been performed--
    OPR>

SHOW SCHEDULER – Displaying the System Scheduler

Function

The SHOW SCHEDULER command displays the current settings of the scheduling scheme for your system. The parameters and values shown in the display are set by your System Manager in the n-CONFIG.CMD file at system installation time. You can optionally change these settings with the SET SCHEDULER and ENABLE CLASS-SCHEDULER commands.

The scheduler information display shows the following:

1. the class scheduler setting (on or off)

2. the bias control setting

3. the batch class setting

4. the class number with its share (percentage) of CPU time, its use percentage, and load averages in intervals of 1, 5, and 15 minutes

5. windfall setting (allocated or withheld)

6. the classes setting (by account or by policy program)

Refer to the SET SCHEDULER and ENABLE CLASS-SCHEDULER commands for a description of these parameters and values.

Format

OPR>SHOW SCHEDULER<RET>

and, optionally the switch: /CLUSTER-NODE:cluster-node-name

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular node in the cluster where the command is processed. The "cluster-node-name" can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Example

Type SHOW SCHEDULER to display the current settings of the scheduling scheme for cluster node GIDNEY.

```
OPR>SHOW SCHEDULER /CLUSTER-NODE:GIDNEY<RET>
OPR>
10:28:14              -- System scheduler information --
                           For node GIDNEY::
                    Class scheduler: off  Bias control: 11
                          Batch class: none set
OPR>
```

SHOW STATUS – Displaying Device/System Information

Function

The SHOW STATUS command displays the current information about a
particular device or range of devices, showing its current status
within the system. The device can be a batch stream, an
input/output unit number, a tape-drive name, a structure name, a
node, or all current devices known to the system.

The SHOW STATUS command is useful when you want to know the
current status of the system. You can issue this command to
check whether any devices are active or idle.

If you do not specify any keyword with the SHOW STATUS command,
the command defaults to batch streams, printers, and readers. If
your installation has a card punch, paper-tape punch, or plotter,
the status of these devices are also displayed when no keyword is
specified.

Format

OPR>SHOW STATUS keyword nn /switch<RET>

where keyword can be one of the following:

                        BATCH-STREAM
                        CARD-PUNCH
                        DISK-DRIVE
                        NETWORK-NODE
                        PAPER-TAPE-PUNCH
                        PLOTTER
                        PRINTER argument
                        READER
                        STRUCTURE
                        TAPE-DRIVE

followed by a stream/unit number:

                        nn

or a range: n:m

or the argument for the PRINTER keyword:

                        aliasname

or   CLUSTER nn
                                 n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                        SERVER "name"
or followed by: PORT "name"
                        SERVER "name"

or a structure name: structure-name:

or a tape-drive logical name: MTAn:

and, optionally, the switches: /NODE:node-name::
                               /SHORT
                               /CLUSTER-NODE:cluster-node-name

DISK-DRIVES has these optional switches:

                        /ALL
                        /FREE
                        /MOUNTED

STRUCTURE has these optional switches:

                        /ALL
                        /MOUNTED
                        /UNMOUNTED

TAPE-DRIVE has these optional switches:

                        /ALL
                        /CHARACTERISTICS
                        /FREE

The NETWORK-NODE argument can only be followed by the node name;
no switches or stream/unit numbers. For example, to specify the
node named KL2102, type NETWORK-NODE BOSTON::. You must type two
colons (::) after the node name.

Keywords

BATCH-STREAM   specifies one or more batch input streams.

CARD-PUNCH   specifies one or more card-punch devices.

DISK-DRIVE   specifies all the disk drives currently known
                    to the system. With this keyword, you can
                    optionally specify the /ALL, /FREE, or
                    /MOUNTED switch. The /ALL switch is assumed
                    if you do not specify a switch.

NETWORK-NODE   specifies the status of all nodes currently
                      known to the system be displayed. The display
                      shows each node name and whether the node is
                      off-line or on-line.

PAPER-TAPE-PUNCH   specifies   one   or   more   paper-tape-punch
                      devices.

PLOTTER   specifies one or more plotter devices.

PRINTER argument   specifies a particular line printer device or
                      a range of line printer devices. You can use
                      an alias name defined with the DEFINE ALIAS
                      command to reference a printer specification
                      in this command. The argument can be:

   CLUSTER nn   specifies a printer, or a range of printers,
           n:m   on a remote node within a TOPS-20 cluster.   A
                      TOPS-20   cluster   is   a   loosely   coupled
                      configuration of between two and four TOPS-20
                      processors.   Each   processor   in   the
                      configuration is identified by a node name.
                      For example, HUEY::, DEWEY::, and LOUIE:: can
                      be three nodes within a cluster of TOPS-20
                      processors.

      NODE node-name::

                      specifies that the printer device for   a
                      cluster be started.   The double colon (::)
                      following the node name is not needed.

                      For the CLUSTER argument, NODE node-name::
                      specifies a node within the cluster and cannot
                      be the local node or an alias.

   DQS queuename

                      specifies the Distributed Queue   Service
                      allowing users to queue print requests to VMS
                      systems using DECnet. DQS accepts the user
                      specified print request and transmits it to
                      the remote VMS node.   The   "queuename"
                      specifies the VMS queuename and can be a
                      string of 1 to 31 characters, consisting of
                      alphanumeric characters, underscores, dashes,
                      and dollar signs.

      NODE node-name::

                      specifies the VMS node where the print request
                      is to be processed.   The double colon (::)
                      following the node name is not needed.

                      For the DQS   argument, NODE   node-name::
                      specifies the VMS nodename and cannot be an
                      alias.

LAT   specifies the Local Area Transport service
                      used to control communication between LAT
                      hosts and terminals on the Ethernet. With the
                      LAT keyword, you specify the SERVICE or PORT
                      and its SERVER name to establish communication
                      between your system, running LAT software, and
                      the resource printer terminal.

                      You   cannot   use   the   following
                      SERVICE/PORT/SERVER specifications:

                            SERVICE name only
                            SERVER name only
                            PORT name only
                            SERVICE name and PORT name
                            SERVICE, SERVER, and PORT names

                      Refer to Chapter 4 for additional information
                      about LAT communications.

   PORT "name"

                      specifies the communication path between the
                      host system and the printer resource or the
                      access point that the node represents to the
                      user. The "name" is the port name and can
                      have from 1 to 16 characters consisting of
                      alphanumeric characters, underscores, dashes,
                      and dollar signs.

   SERVICE "name"

                      specifies the resource and establishes the LAT
                      access path to the resource. The "name" is
                      the service name and can have from 1 to 16
                      characters   consisting   of   alphanumeric
                      characters, underscores, dashes, and dollar
                      signs.

   SERVER "name"

                      specifies the server name of the resource
                      printer terminal.   This name can be the LAT
                      box with the proper LAT software running in
                      it.   The name can be from 1 to 6 alphanumeric
                      characters in length.

LOCAL   specifies to display the local line printer
                      parameters.

READER   specifies one or more punched-card input
                    devices.

STRUCTURE   specifies all structures in the system's
                    structure data base. With this keyword, you
                    can optionally specify a structure name, or
                    the /ALL, /MOUNTED, or /UNMOUNTED switch. The
                    /ALL switch is assumed if you do not specify a
                    switch.

                    When you specify a structure name, the display
                    shows the names of all users who have mounted
                    the structure, accessed the structure, and
                    connected to the structure. In addition, the
                    disk drive status for the structure is
                    displayed.

TAPE-DRIVE   specifies one or more magnetic tape-drive
                    units known to the system. With this keyword,
                    you can optionally specify a tape-drive name
                    (in the format of MTAn:), the /ALL switch, the
                    /CHARACTERISTICS switch, or the /FREE switch.

nn   specifies a batch stream number or a device
                    unit number. The number is usually from 0 to
                    5, but can be larger if your installation has
                    acquired additional devices.

n:m   specifies a range of batch streams or unit
                    numbers.   The n represents the low-order
                    number; and the m represents the high-order
                    number.

structure-name: specifies the name of a structure.

MTAn: specifies the logical tape-drive name.   The
                    colon must be included with the name
                    specified. The name is in the format of
                    MTAn:, where n is the tape-drive number.

Switches

/NODE:node-name::   specifies the name of a remote node in the
                    cluster.   The double colon (::) following the
                    node name is optional.

/SHORT   specifies that the status display list only
                    the stream/unit number, the current status,
                    the job name, the request-id number, and the
                    user name with column headers. If you do not
                    specify the /SHORT switch, additional
                    information such as the job number and the
                    runtime appears in the display for each job

                    request.   This switch is not valid with the
                    DISK-DRIVES or TAPE-DRIVE keyword.

/CLUSTER-NODE:cluster-node-name

                    specifies the particular node in the cluster
                    where the command is processed.   The
                    "cluster-node-name" can be any node name
                    within the cluster or an asterisk (*). The
                    asterisk specifies all nodes within the
                    cluster.

The following switches are optional for the DISK-DRIVE keyword:

/ALL   specifies that both free disk drives and
                    mounted disk drives be displayed. This switch
                    is assumed if you do not specify a switch.

/FREE   specifies that only those disk drives that are
                    available for structure mounts be displayed.

/MOUNTED   specifies that only those disk drives that are
                    currently mounted and being accessed be
                    displayed.

The following switches are optional for the STRUCTURE keyword:

/ALL   specifies that both mounted and unmounted
                    structures be displayed.   This switch is
                    assumed if you do not specify a switch.

/MOUNTED   specifies that only those structures that are
                    currently mounted be displayed.

/UNMOUNTED   specifies that only those structures that are
                    free for mounting be displayed.

The following switches are optional for the TAPE-DRIVE keyword:

/ALL   specifies that all tape drives known to the
                    system be displayed.   The status display also
                    provides additional information, such as the
                    AVR status, the label-type, and the density
                    (BPI). If you do not specify the /ALL switch,
                    the additional information does not appear in
                    the status display.

/CHARACTERISTICS   specifies that the status display contain the
                    characteristics of all tape drives or one tape
                    drive if you specify the tape drive name

```
                        (MTAn:).   The  characteristics  include  the
                        drive name, the model name (TU45, TU78  etc.),
                        the  type  of  drive (7-track or 9-track), and
                        the tape densities the drive accepts.

   /FREE                specifies that the status display contain  all
                        tape  drives  that  are currently unloaded and
                        available  for  mounting  tape  volumes.   The
                        /FREE  switch  also displays those tape drives
                        that are loaded, but are not being accessed by
                        any user.
```

Examples

```
   1.  Specify the SHOW STATUS command to display the status of  all
       printers on all nodes within the cluster.

       OPR>SHOW STATUS PRINTER /CLUSTER-NODE:*<RET>
       OPR>
       10:51:32  Received message from RONCO::
       10:51:30          -- System Device Status --

       Printer Status:

       Cluster printers
          Alias     Unit     Node        Status
          -----     ----     ------      ---------------
          BINN       0       THEP        Idle


       DQS printers

          Alias           DQS queue name       Node    Status
          -----     ----------------------     ------   ------
          LARRY                   SI$8700      JUNIPR    Idle
           JOE                   SWE$LN03      LATOUR    Idle

       LAT PORT printers
          Alias     Port name     Server       Status
          -----     ----------    ------       ---------------
          LAT1         LN03       LAT100       Idle

       10:51:32  Received message from THEP::
       10:51:22          -- System Device Status --
```

```
   Printer Status:

   Local printers
     Alias  Unit       Status
     -----  ----   ---------------
      BAR    0     Idle

   DQS printers
     Alias           DQS queue name          Node   Status
     -----     ----------------------       ------   ------
     CURLIE                  SI$8700        JUNIPR    Idle
     SHEMP                  SWE$LN03        LATOUR    Idle

   LAT PORT printers
     Alias     Port name     Server      Status
     -----     ----------    ------      ---------------
     LAT2        F00-NN      BAR--M      Idle
     LAT3         LN03       LAT100      Idle


   10:51:32   Received message from GIDNEY::
   10:51:25          -- System Device Status --

   Printer Status:

   Local printers
     Alias Unit       Status
     ----- ----   -----------
     RUND   0     Idle

   DQS printers
     Alias           DQS queue name          Node   Status
     -----     ----------------------       ------   ------
     CURLIE                  SI$8700        JUNIPR    Idle
     SHEMP                  SWE$LN03        LATOUR    Idle

   LAT PORT printers
     Alias     Port name     Server      Status
     -----     ----------    ------      ---------------
     LAT1         LN03       LAT100      Idle

   10:51:32          -- System Device Status --

   Printer Status:

   Cluster printers
     Alias    Unit     Node        Status
     -----    -----    ------      ---------------
      FOO      0       GIDNEY      Idle
      BINN     0       THEP        Idle
```

```
    DQS printers
      Alias          DQS queue name          Node   Status
      -----      ----------------------      ------ ---------
      CURLIE                  SI$8700         JUNIPR Idle
      SHEMP                   SWE$LN03        LATOUR Idle

    LAT PORT printers
      Alias     Port name   Server      Status
      -----    ----------   ------  ---------------
      LAT3          LN03   LAT100  Idle

    OPR>
```

2. Give the SHOW STATUS command to display the status of free
    disk drives on cluster node GIDNEY.

```
    OPR>SHOW STATUS DISK-DRIVE /FREE /CLUSTER-NODE:GIDNEY<RET>
    OPR>
    10:55:34  Received message from GIDNEY::
    10:55:28           -- Disk Drive Status --

                      FREE DRIVES

    DISK DRIVE INFORMATION                 DISK PACK
    INFORMATION
          Chan-Cont  Disk   Mount  Mount            Usage
      Type Drive    Status Status Count   Name     Options
      ---- --------- ------- ------- ----- ----------- -------
      RP06 0,  ,1    Avail   Offline
      RA81 7,00,0    Avail   Offline
      RA81 7,00,4    Avail   Offline
      RA81 7,01,3    Avail   Offline
      RA60 7,01,7    Avail   Offline
      RA81 7,01,13   Avail   Offline
      RA81 7,01,15   Avail   Offline
      RA60 7,01,16   Avail   Offline
      RA81 7,01,17   Avail   Offline
      RA81 7,01,18   Avail   Offline
      RA81 7,01,20   Avail   Offline
      RA81 7,01,36   Avail   Offline
      RA81 7,00,22   Avail   Offline
      RA81 7,00,14   Avail   Offline
      RA81 7,00,12   Avail   Offline
      RA81 7,01,2    Avail   Offline
      RA81 7,00,21   Avail   Offline
      RA81 7,00,11   Avail   Offline
      RA81 7,00,19   Avail   Offline
      RP06 1,  ,5    Avail   Offline
      RA81 7,03,6    Avail   Offline
      RA81 7,03,1    Avail   Offline
      RA81 7,00,8    Avail   Offline
```

```
      RA81 7,01,9    Avail   Offline
      RA60 7,03,10   Avail   Offline
      RA81 7,02,12   Avail   Offline
          NOTE: Channel 7 indicates CI channel

    OPR>
```

SHOW TIME – Displaying Date and Time

Function

The SHOW TIME command displays the date and time.

The date is shown in the format of dd-mmm-yy (dd=day, mmm=month, yy=year).

The time is shown in the format of hh:mm:ss (hh=hour, mm=minutes, ss=seconds).

Format

OPR>SHOW TIME<RET>

Example

Type SHOW TIME and confirm with a carriage return. OPR responds with the display of the current date and time.

OPR>SHOW TIME<RET>
20-Apr-88 11:55:38
OPR>

SHUTDOWN – Terminating Device Scheduling

Function

The SHUTDOWN command terminates scheduling for a device. The SHUTDOWN command is the opposite of the START command.

When you issue this command, the job currently processing continues until it has been completed. When the job has completed, the stream or device is terminated and no further jobs requiring the stream or device are processed.

Format

OPR>SHUTDOWN keyword nn /switch<RET>

where keyword can be one of the following:

```
                           BATCH-STREAM
                           CARD-PUNCH
                           NODE
                           PAPER-TAPE-PUNCH
                           PLOTTER
                           PRINTER argument
                           READER
```

followed by the stream/unit number:

```
                           nn
```

or a range: n:m

or for the NODE keyword: node-name::

and, optionally, the following switches:

```
                           /NODE:node-name::
|                          /CLUSTER-NODE:cluster-node-name
```

or the argument for the PRINTER keyword:

```
|                          aliasname
```

or   CLUSTER nn
```
                              n:m
```
followed by: NODE node-name::

or   DQS queuename

followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                          SERVER "name"
or followed by: PORT "name"
                          SERVER "name"

Keywords

BATCH-STREAM   specifies a particular batch input stream or a
                    range of batch-input streams.

CARD-PUNCH   specifies a particular card-punch device or a
                    range of card-punch devices.

NODE node-name::   specifies to shutdown the printer and reader
                    device for a node within the system's network
                    for remote station communication. The double
                    colon (::) following   the node name is
                    optional.

                    For the CLUSTER argument, NODE node-name::
                    specifies a node within the cluster and cannot
                    be the local node or an alias.

                    For the DQS   argument, NODE   node-name::
                    specifies the VMS node-name and cannot be an
                    alias.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                    or a range of paper-tape-punch devices.

PLOTTER   specifies a particular plotter device or a
                    range of plotter devices.

PRINTER argument   specifies a particular line printer device or
                    a range of line printer devices. You can use
                    an alias name defined with the DEFINE ALIAS
                    command to reference a printer specification
                    in this command. The argument can be:

    CLUSTER nn   specifies a printer, or a range of printers,
            n:m   on a remote node within a TOPS-20 cluster. A
                    TOPS-20 cluster is a loosely coupled
                    configuration of between two and four TOPS-20
                    processors.   Each   processor   in   the
                    configuration is identified by a node name.
                    For example, HUEY::, DEWEY::, and LOUIE:: can
                    be three nodes within a cluster of TOPS-20

---

                    processors.

DQS queuename

                    specifies the Distributed Queue Service
                    allowing users to queue print requests to VMS
                    systems using DECnet. DQS accepts the user
                    specified print request and transmits it to
                    the remote VMS node.   The   "queuename"
                    specifies the VMS queuename and can be a
                    string of 1 to 31 characters, consisting of
                    alphanumeric characters, underscores, dashes,
                    and dollar signs.

LAT   specifies the Local Area Transport service
                    used to control communication between LAT
                    hosts and terminals on the Ethernet. With the
                    LAT keyword, you specify the SERVICE or PORT
                    and its SERVER name to establish communication
                    between your system, running LAT software, and
                    the resource printer terminal.

                    You   cannot   use   the   following
                    SERVICE/PORT/SERVER specifications:

                          SERVICE name only
                          SERVER name only
                          PORT name only
                          SERVICE name and PORT name
                          SERVICE, SERVER, and PORT names

                    Refer to Chapter 4 for additional information
                    about LAT communications.

PORT "name"

                    specifies the communication path between the
                    host system and the printer resource or the
                    access point that the node represents to the
                    user.   The "name" is the port name and can
                    have from 1 to 16 characters consisting of
                    alphanumeric characters, underscores, dashes,
                    and dollar signs.

SERVICE "name"

                    specifies the resource and establishes the LAT
                    access path to the resource. The "name" is
                    the service name and can have from 1 to 16
                    characters   consisting   of   alphanumeric
                    characters, underscores, dashes, and dollar

signs.

SERVER "name"

specifies the server name of the resource
printer terminal. This name can be the LAT
box with the proper LAT software running in
it. The name can be from 1 to 6 alphanumeric
characters in length.

READER   specifies a particular card-reader (input)
device or a range of card-reader devices.

nn   specifies the stream number or unit number to
be shutdown.

n:m   specifies a range of stream/unit numbers. You
can specify this range instead of a single
stream/unit number. The colon must separate
the two numbers. The n represents the
low-order number and the m represents the
high-order number.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

/NODE:node-name:: specifies the name of your host or a remote
station. The double colon (::) following the
node name is optional.

Examples

1. Specify the SHUTDOWN command to terminate the card punch at
the central site.

    OPR>SHUTDOWN CARD-PUNCH 0<RET>
    OPR>
    13:23:33   Card-punch   0 --Shutdown at EOJ Scheduled--
    OPR>

---

2. Specify the SHUTDOWN command to terminate all batch streams.

    OPR>SHUTDOWN BATCH-STREAM 0:2<RET>
    OPR>
    12:30:15   Batch-stream 0 --Shutdown--
    12:30:16   Batch-stream 1 --Shutdown at EOJ Scheduled--
    12:30:17   Batch-stream 2 --Shutdown at EOJ Scheduled--
    OPR>

3. Specify the SHUTDOWN command to terminate the line printers
at your site.

    OPR>SHUTDOWN PRINTER 0:1<RET>
    OPR>
    16:23:45   Printer 0 --Shutdown at EOJ Scheduled--
    16:23:46   Printer 1 --Shutdown--
    OPR>

START - Starting Device Scheduling

Function

The START command starts the scheduling for the specified
devices. The START command is the opposite of the SHUTDOWN
command.

Format

OPR>START keyword nn /switch<RET>

where keyword can be one of the following:

                                BATCH-STREAM
                                CARD-PUNCH
                                NODE identifier::
                                PAPER-TAPE-PUNCH
                                PLOTTER
                                PRINTER argument
                                READER

followed by the stream/unit number:

                                nn

or a range: n:m

optionally, followed by this switches:

                                /NODE:node-name::
                                /CLUSTER-NODE:cluster-node-name

optionally followed by (PRINTER keyword only):

                                /DEVICE:MTAn:
                                        TTYn:

or the argument for the PRINTER keyword:

                                aliasname

or   CLUSTER nn
                                n:m
followed by: NODE node-name::

or   DQS queuename
followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                         SERVER "name"
or followed by: PORT "name"
                         SERVER "name"

and, for SERVER, the switch: /TERMINAL-CHARACTERISTIC:

Keywords

BATCH-STREAM   specifies a particular batch input stream or a
                      range of batch input streams. The maximum
                      number of batch streams is 63. Note that this
                      maximum can be lowered by the system manager
                      using Galgen.

CARD-PUNCH   specifies a particular card-punch device or a
                      range of card-punch devices.

NODE node-name::   specifies that the printer and reader device
                      for a node within the system's network be
                      started. The double colon (::) following the
                      node name is optional. Before you start an
                      IBM node, you must define the node and set the
                      parameters for the node. Refer to the DEFINE
                      and SET NODE commands in this chapter.

                      For the CLUSTER argument, NODE node-name::
                      specifies a node within the cluster and cannot
                      be the local node or an alias.

                      For the DQS   argument, NODE   node-name::
                      specifies the VMS node-name and cannot be an
                      alias.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                      or a range of paper-tape-punch devices.

PLOTTER   specifies a particular plotter device or a
                      range of plotter devices.

PRINTER argument   specifies a particular line printer device or
                      a range of line printer devices. You can use
                      an alias name defined with the DEFINE ALIAS
                      command to reference a printer specification
                      in this command. The argument can be:

     CLUSTER nn   specifies a printer, or a range of printers,
            n:m   on a remote node within a TOPS-20 cluster. A
                      TOPS-20   cluster   is   a   loosely coupled

configuration of between two and four TOPS-20
processors. Each processor in the
configuration is identified by a node name.
For example, HUEY::, DEWEY::, and LOUIE:: can
be three nodes within a cluster of TOPS-20
processors.

DQS queuename

specifies the Distributed Queue Service
allowing users to queue print requests to VMS
systems using DECnet. DQS accepts the user
specified print request and transmits it to
the remote VMS node. The "queuename"
specifies the VMS queuename and can be a
string of 1 to 31 characters, consisting of
alphanumeric characters, underscores, dashes,
and dollar signs.

LAT   specifies the Local Area Transport service
used to control communication between LAT
hosts and terminals on the Ethernet. With the
LAT keyword, you specify the SERVICE or PORT
and its SERVER name to establish communication
between your system, running LAT software, and
the resource printer terminal.

You cannot use the following
SERVICE/PORT/SERVER specifications:

                 SERVICE name only
                 SERVER name only
                 PORT name only
                 SERVICE name and PORT name
                 SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information
about LAT communications.

PORT "name"

specifies the communication path between the
host system and the printer resource or the
access point that the node represents to the
user. The "name" is the port name and can
have from 1 to 16 characters consisting of
alphanumeric characters, underscores, dashes,
and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT
access path to the resource. The "name" is
the service name and can have from 1 to 16
characters consisting of alphanumeric
characters, underscores, dashes, and dollar
signs.

SERVER "name"

specifies the server name of the resource
printer terminal. This name can be the LAT
box with the proper LAT software running in
it. The name can be from 1 to 6 alphanumeric
characters in length.

READER   specifies a particular card-reader (input)
device or a range of card-reader devices.

nn   specifies the stream number or unit number to
be started. You must specify a stream or unit
number.

n:m   specifies a range of stream or unit numbers.
You can specify this range instead of a single
stream or unit number. The colon must
separate the two numbers. The n represents
the low-order number and the m represents the
high-order number.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all
nodes within the cluster.

/DEVICE:MTAn: or TTYn:

specifies that printer output is to be written
to tape, on device MTAn:, or to a terminal, on
device TTYn:. The "n" is the tape drive
number or the terminal line number. The MTAn:
specification allows you to spool printer
output to tape. This is particularly helpful
when printer hardware problems exist. The
TTYn: specification must be a hardwired

dedicated terminal line.

Before you use START PRINTER/DEVICE:MTAn:, you
must specify SET TAPE-DRIVE MTAn:
UNAVAILABLE. Refer to the TOPS-20 Operator's
Guide, for more information.

/NODE:node-name:: specifies the name of your host or a remote
station. The double colon (::) following the
node name is optional.

/TERMINAL-CHARACTERISTIC:

specifies the printer terminal type of the
server. The printer terminal type is defined
by your System Manager. For example, LA50,
LA100, and LN03 are printer terminal types.

Examples

1. Specify the START command to start the line printer at the
   central site.

   OPR>START PRINTER 0<RET>
   OPR>
   20:31:09   Printer 0 --Startup Scheduled--
   OPR>

2. Specify the START command to start all batch streams.

   OPR>START BATCH-STREAM 0:3<RET>
   OPR>
   12:15:32   Batch-stream 0 --Startup Scheduled--
   OPR>
   12:15:38   Batch-stream 1 --Startup Scheduled--
   OPR>
   12:15:44   Batch-stream 2 --Startup Scheduled--
   OPR>
   12:15:50   Batch-stream 3 --Startup Scheduled--
   OPR>

3. Specify the START command to start the card-punch devices at
   your site.

   OPR>START CARD-PUNCH 0:1<RET>
   OPR>
   13:17:23   Card-punch 0 --Startup Scheduled--
   OPR>
   13:17:30   Card-punch 1 --Startup Scheduled--
   OPR>

STOP - Stopping Devices Temporarily

Function

The STOP command temporarily stops one of six possible devices
that are currently idle or processing a particular job.

The STOP command only temporarily stops the device and the device
is still active. The device has not been terminated and jobs
requesting that device can still be scheduled.

To re-activate the particular device after a STOP command has
been issued, give the CONTINUE command. Refer to the description
of the CONTINUE command in this chapter.

Format

OPR>STOP keyword nn argument /switch<RET>

where keyword can be one of the following:

                              BATCH-STREAM
                              CARD-PUNCH
                              PAPER-TAPE-PUNCH
                              PLOTTER
                              PRINTER argument
                              READER

followed by the stream/unit number:

                              nn

or a range: n:m

optionally followed by the switches:

                              /CLUSTER-NODE:cluster-node-name
| /NODE:node-name::

or the argument for the PRINTER keyword:

| aliasname

or   CLUSTER nn
                              n:m
followed by: NODE node-name::

or   DQS queuename

followed by: NODE node-name::

or   LAT
followed by: SERVICE "name"
                               SERVER "name"
or followed by: PORT "name"
                               SERVER "name"

and, optionally, one of the following arguments:

                               AFTER CURRENT-REQUEST
                                 EVERY-REQUEST
                               IMMEDIATELY

Keywords

BATCH-STREAM   specifies a particular batch input stream or a
                    range of batch input streams.

CARD-PUNCH   specifies a particular card-punch device or a
                    range of card-punch devices.

PAPER-TAPE-PUNCH   specifies a particular paper-tape-punch device
                    or a range of paper-tape-punch devices.

PLOTTER   specifies a particular plotter device or a
                    range of plotter devices.

PRINTER argument   specifies a particular line printer device or
                    a range of line printer devices. You can use
                    an alias name defined with the DEFINE ALIAS
                    command to reference a printer specification
                    in this command. The argument can be:

    CLUSTER nn   specifies a printer, or a range of printers,
            n:m   on a remote node within a TOPS-20 cluster. A
                    TOPS-20 cluster is a loosely   coupled
                    configuration of between two and four TOPS-20
                    processors.   Each   processor in   the
                    configuration is identified by a node name.
                    For example, HUEY::, DEWEY::, and LOUIE:: can
                    be three nodes within a cluster of TOPS-20
                    processors.

        NODE node-name::

                    specifies that the printer device for a
                    cluster be started. The double colon (::)
                    following the node name is not needed.

                    For the CLUSTER argument, NODE node-name::
                    specifies a node within the cluster and cannot
                    be the local node or an alias.

DQS queuename

                    specifies the Distributed Queue Service
                    allowing users to queue print requests to VMS
                    systems using DECnet. DQS accepts the user
                    specified print request and transmits it to
                    the remote VMS node.   The "queuename"
                    specifies the VMS queuename and can be a
                    string of 1 to 31 characters, consisting of
                    alphanumeric characters, underscores, dashes,
                    and dollar signs.

    NODE node-name::

                    specifies the VMS node where the print request
                    is to be processed.   The double colon (::)
                    following the node name is not needed.

                    For the DQS argument, NODE node-name::
                    specifies the VMS nodename and cannot be an
                    alias.

LAT   specifies the Local Area Transport service
                used to control communication between LAT
                hosts and terminals on the Ethernet. With the
                LAT keyword, you specify the SERVICE or PORT
                and its SERVER name to establish communication
                between your system, running LAT software, and
                the resource printer terminal.

                You   cannot   use   the   following
                SERVICE/PORT/SERVER specifications:

                        SERVICE name only
                        SERVER name only
                        PORT name only
                        SERVICE name and PORT name
                        SERVICE, SERVER, and PORT names

                Refer to Chapter 4 for additional information
                about LAT communications.

    PORT "name"

                    specifies the communication path between the
                    host system and the printer resource or the
                    access point that the node represents to the

user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

READER   specifies a particular card-reader (input) device or a range of card-reader devices.

nn   specifies the stream number or unit number to be stopped. You must specify a stream or unit number.

n:m   specifies a range of stream or unit numbers. You can specify this range instead of a single stream or unit number. The colon must separate the two numbers. The n represents the low-order number and the m represents the high-order number.

Arguments

AFTER CURRENT-REQUEST

specifies that the device must stop after the current request is finished.

AFTER EVERY-REQUEST

specifies that the device stop after every request. This setting will remain in effect until you use the SHUTDOWN and START commands to shut the device down and restart the device.

IMMEDIATELY   specifies that the device stop processing immediately. Any job in progress is stopped. This action is the default for the STOP command.

Switches

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name::   specifies the name of your host or a remote station. The double colon (::) following the node name is optional.

Examples

1. Specify the STOP command to stop the card reader while it was processing to prevent a card-reader jam.

    OPR>STOP READER 0<RET>
    OPR>
    09:20:10   Reader 0 --Stopped--
    OPR>

2. Specify the STOP command to stop a batch stream that was currently processing a job.

    OPR>STOP BATCH-STREAM 2<RET>
    OPR>
    18:23:55   Batch-stream 2 --Stopped--
    OPR>

3. Specify the STOP command to stop the line printer that was currently processing.

    OPR>STOP PRINTER 1<RET>
    OPR>
    11:37:02   Printer 1 --Stopped--
    OPR>

SUPPRESS – Suppressing Printer Form-Feeds

Function

The SUPPRESS command converts all vertical-form-feed motion characters to single space characters. All form feeds and multiple line feeds are converted to a single line feed. Thus, the paging motion in a printer-job request is ignored. However, this command does not cause printing to occur across the forms page burst (perforation).

The SUPPRESS command is very useful when you want to stop a user's program that caused a print loop, for example when bad code causes too many form feeds. When this happens, you can stop the printer, issue the SUPPRESS command, and then continue the printer, thus saving a lot of paper.

The SUPPRESS command's only keyword is PRINTER with its unit number and, optionally, the node name or number. You must specify the PRINTER keyword.

Format

OPR>SUPPRESS keyword nn (or) LAT /switch<RET>

where keyword must be: PRINTER

followed by it alias name

or followed by its unit number:

nn

followed optionally by the switch:

/NODE:node-name::

or   LAT

followed by: SERVICE "name" SERVER "name"
or followed by: PORT "name"
                              SERVER "name"

and one of the following switches:

/FILE
/JOB

/STOP

or, optionally the following switch:

/CLUSTER-NODE:cluster-node-name

Keywords

PRINTER   specifies a particular line printer device. You can use an alias name defined with the DEFINE ALIAS command to reference a printer specification in this command.

nn   specifies the unit number of the line printer that will have its vertical motion suppressed (for example, 0 for LPT0, 1 for LPT1, and so forth). You must specify this unit number.

LAT   specifies the Local Area Transport service used to control communication between LAT hosts and terminals on the Ethernet. With the LAT keyword, you specify the SERVICE or PORT and its SERVER name to establish communication between your system, running LAT software, and the resource printer terminal.

You cannot use the following SERVICE/PORT/SERVER specifications:

SERVICE name only
SERVER name only
PORT name only
SERVICE name and PORT name
SERVICE, SERVER, and PORT names

Refer to Chapter 4 for additional information about LAT communications.

PORT "name"

specifies the communication path between the host system and the printer resource or the access point that the node represents to the user. The "name" is the port name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVICE "name"

specifies the resource and establishes the LAT access path to the resource. The "name" is the service name and can have from 1 to 16 characters consisting of alphanumeric characters, underscores, dashes, and dollar signs.

SERVER "name"

specifies the server name of the resource printer terminal. This name can be the LAT box with the proper LAT software running in it. The name can be from 1 to 6 alphanumeric characters in length.

Switches

You must specify one of the following switches:

/FILE   specifies the current file being printed that was originally queued to process multiple files. (Refer to the BACKSPACE and FORWARDSPACE commands.)

/JOB   specifies the current job being printed. With the /JOB switch, the entire job is suppressed, regardless of how many files or switches were specified when the job was originally queued to print. The /JOB switch is the default of the SUPPRESS command.

/STOP   specifies a switch used to resume normal printing and stop the suppression of carriage control on the line printer. When you specify this switch, the job that is currently printing reverts to the print job format that occurred before the SUPPRESS command was issued.

You can optionally specify the following switches:

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

/NODE:node-name:: specifies the name of your host or a remote station. the double colon (::) following the node name is optional.

Examples

1. Specify the SUPPRESS command to stop the waste of paper on line printer 0 that is printing a run-away print program. This SUPPRESS command affects the entire job that is currently printing.

   OPR>SUPPRESS PRINTER 0<RET>
   OPR>
    6:37:41   Printer 0 --Carriage control suppressed--
                   Job DUMP01 Req # 23 For: OPERATOR
   OPR>

2. Specify the SUPPRESS command to stop the suppression of form feeds and carriage returns on line printer 0 after a run-away job has completed printing. The line printer is now free to print the next job in the queue.

   OPR>SUPPRESS PRINTER 0 /STOP<RET>
   OPR>
    7:32:12   Printer 0 --Carriage control activated--
                   Job DUMP01 Req # 23 For: OPERATOR
   OPR>

SWITCH – Switching Tape Drives and Volids

Function

The SWITCH command switches a tape-mount request from one volume to another that is on another tape drive. This command should be used when a user program wishes to switch volumes without issuing another tape MOUNT request.

In particular, this command is useful when you want to handle tape volume switching for unlabeled tapes used by certain COBOL programs.

Format

OPR>SWITCH nnn volid MTAn: /switch<RET>

where nnn is the tape-mount request number

followed by the new tape-volume identification (volid)

followed by the tape-drive name (MTAn:)

followed optionally by the switch /CLUSTER-NODE:cluster-node-name

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within the TOPS-20 cluster where the command is processed. The "cluster-node-name" qualifier can be any node name within the cluster or an asterisk (*). The asterisk specifies all nodes within the cluster.

Restrictions

The following list are the restrictions for the SWITCH command:

1. You must specify a new volid.

2. The tape drive name is optional. If specified, it must be a drive other than the drive that the request is

currently using. If not specified, the drive must be the same tape drive.

3. If you give a drive name, you must have the new volume mounted and ready on the tape drive.

4. The switched tape and tape drive must be the same track-type and density.

Example

A user has requested that you SWITCH volid COBOL1 to COBOL2. You have already mounted and made ready COBOL2 on tape drive MTA1:.

```
OPR>SWITCH 90 COBOL2 MTA1:<RET>
OPR>
 7:45:06          --Tape Drive Released By User--
                  MTA0: Volume COBOL1 Being unloaded
OPR>
 7:45:06          --MTA1: Given To Request 90--
                  Volume COBOL2 now in use by
                  User BROWN, Job 16, Terminal 114
OPR>
```

TAKE - Executing OPR Commands Automatically

Function

    The TAKE command executes a series of commands that reside in a TAKE command file. This command serves as an aid to you when you execute the same commands over and over again. You can create a command file that consists of the commands used most frequently and then execute these commands by issuing the TAKE command.

    There is no minimum or maximum limit on the number of OPR commands that you can put in a TAKE command file.

Format

    OPR>TAKE filespec /switch<RET>

    where filespec is the input-file specification

    and, optionally, /switch can be: /DISPLAY
                                        /NODISPLAY

Keywords

    filespec   specifies the input filename and file type of the file that contains the executable OPR commands. If you do not specify the dev:, OPR defaults to DSK:.

Switches

    /DISPLAY   specifies that OPR displays all messages from the TAKE command file, any error messages that occur, and the OPR commands once they have been executed.

    /NODISPLAY   specifies that OPR does not display the OPR commands that exist in the TAKE command file after their execution. All other messages appear with the /NODISPLAY switch specified. This switch is the default of the TAKE command.

Examples

1. Specify the TAKE command to execute a series of OPR commands that are in OPR-TAKE01.CMD, which resides in your directory.

```
OPR>TAKE <OPERATOR>OPR-TAKE01.CMD<RET>
OPR>
14:54:10          Batch-stream 0  --Startup Scheduled--

14:54:12          Batch-stream 1  --Startup Scheduled--

14:54:15          Batch-stream 2  --Startup Scheduled--

START BATCH-STREAM 0:2
OPR>
14:54:18          Printer 0  --Startup Scheduled--

14:54:21          Printer 1  --Startup Scheduled--

START PRINTER 0:1
OPR>
```

2. Specify the TAKE command to execute a series of OPR commands from SYS:OPRCMD.CMD. You do not specify SYS: as this is the default device type.

```
OPR>TAKE OPRCMD.CMD /NODISPLAY<RET>
OPR>
16:43:07          Card-punch 0  --Shutdown Scheduled--

16:43:11          Plotter 0  --Shutdown Scheduled--

16:43:15          Reader 0  --Shutdown Scheduled--

16:43:18          Paper-tape-punch 0 --Shutdown Scheduled--

OPR>
```

UNDEFINE - Removing Structure Parameters

Function

The UNDEFINE command removes a structure's attribute definition from the structure data base. The structure data base contains a list of all the system's structures and their parameters. You can display the contents of the structure data base with the SHOW STATUS STRUCTURE command.

Use the UNDEFINE command when a structure in the structure data base is no longer used. You can also use the UNDEFINE command if you incorrectly enter a new structure name with the SET STRUCTURE command.

Format

OPR>UNDEFINE keyword argument /switch<RET>

where keyword must be: STRUCTURE

followed by the argument: structure-name:

followed optionally by the switch:

/CLUSTER-NODE:cluster-node-name

Keywords

STRUCTURE   specifies a disk structure.

Arguments

structure-name: specifies the alias name of the disk structure
                   to remove from the structure table.

Switch

/CLUSTER-NODE:cluster-node-name

specifies the particular cluster node within
the TOPS-20 cluster where the command is
processed. The "cluster-node-name" qualifier
can be any node name within the cluster or an
asterisk (*). The asterisk specifies all

nodes within the cluster.

Restrictions

The UNDEFINE command functions only if the structure is not mounted.

Examples

Specify the SHOW STATUS STRUCTURE command to verify that structure JACK: is not mounted. Then specify the UNDEFINE STRUCTURE command to remove structure JACK: from the structure data base.

```
OPR>SHOW STATUS STRUCTURE JACK:<RET>
OPR>
10:14:21             -- Structure Status --

                 Mount   Mount File
Alias  Name     State   Count Count Status          Access...
------ ------  ------- ----- ----- -------- ------------...
JACK                                Unavail  Shared    ...

Structure is not mounted on a disk drive

OPR>UNDEFINE STRUCTURE JACK:<RET>
OPR>
10:14:22         -- Undefine Structure Command --
                 Structure JACK: deleted from data base

OPR>
```

WAIT - Controlling Input from Batch Jobs

Function

The WAIT command causes OPR to wait a specified number of seconds before accepting input.

The WAIT command is used in batch control files to try to prevent OPR from accepting a command before a previously issued command has been processed.

The OPR program is designed to accept and process commands immediately, and the batch system (BATCON) will send commands to OPR as soon as the previous command is accepted.

Most OPR commands require processing by other modules of the operating system. OPR can accept a command, dispatch it to the appropriate module, and accept another command from the batch file before the output from the first command returns to OPR. For example, it is possible for an EXIT command in the batch file to be processed before the response to previously issued command is displayed. The WAIT command should be entered between the previous command and the EXIT command, to allow the first command to finish processing before the EXIT command is sent to OPR.

Format

OPR>WAIT n<RET>

where n is the number of seconds that OPR should wait before accepting the next command in the batch file. The value of n must be between 1 and 60.

Warning

Using the WAIT command does NOT guarantee that the output from the first command will be successfully displayed before the EXIT command is accepted and processing by OPR. OPR will, however, WAIT the specified number of seconds, and the output from the first command will be displayed if it is ready before the specified number of seconds is up.

Example

The following batch file may be submitted to the batch system:

```
@ENABLE
$OPR
*SHOW STATUS TAPE-DRIVE
*EXIT
```

When this job is processed, the SHOW STATUS command is issued and accepted by OPR, passed to ORION for processing, and then the output is passed back through OPR to BATCON. However, BATCON will send the EXIT command immediately after OPR dispatches the SHOW STATUS command. When OPR receives the EXIT command, it causes the batch job to exit from OPR immediately, before the output from SHOW STATUS is received by OPR.

The WAIT command is used to cause OPR to WAIT for the specified number of seconds before accepting the EXIT command. The following batch file would probably work successfully:

```
@ENABLE
$OPR
*SHOW STATUS TAPE-DRIVE
*WAIT 10
*EXIT
```

CHAPTER 4

LCP COMMANDS

4.1 INTRODUCTION

LCP is the LAT Control Program. LAT is the Local Area Transport protocol, used to control communication between LAT hosts and terminals on the Ethernet. LCP allows you to perform LAT host management functions at a TOPS-20 host.

WARNING

The LCP commands described in this chapter can seriously affect system performance. If you are not sure of what you are doing, do not use LCP commands to set or clear LAT parameters.

NOTE

This introduction describes the LAT protocol as it pertains to TOPS-20 LAT hosts. The LCP command descriptions in this chapter apply only to LAT host management functions on TOPS-20 nodes. For more information about LAT architecture and LAT Terminal Server Configuration Guidelines see the Local Area Transport (LAT) Architecture Network Manager's Guide and the TOPS-20 System Manager's Guide.

To run LCP, you must first run OPR, and therefore must have OPR or WHEEL privileges enabled.

Many hundreds of hosts and terminals can be connected on the same Ethernet. LAT terminal servers allow terminal users to connect to TOPS-20 hosts that are connected to the same Ethernet. There must be corresponding server software in the host. The host server and the terminal server use the LAT protocol to enable the (potentially) thousands of communications links to efficiently utilize the Ethernet. Users do not need to be aware of the LAT servers.

Three types of parameters control the action of a TOPS-20 LAT host

---

server:

o permanent

o static

o dynamic

You can change permanent parameters only by rebuilding the monitor. You can change static parameters by editing n-CONFIG.CMD and reloading the monitor. You can change dynamic parameters with LCP commands. LAT operation and some dynamic parameters are discussed below.

There is one physical connection between all hosts and LAT terminal servers: the Ethernet. All communication is transmitted on that one physical connection. All communication between users of a particular LAT terminal server and a particular host is transmitted on a logical connection known as a virtual circuit. Software in the terminal server and in the host ensures that each message is delivered to the correct destination.

Each message received (by a host or a terminal server) must be acknowledged by the receiver. The acknowledgement can be included in a data message, or can be sent as a separate message when there is no data. If a host does not receive an acknowledgement from a server, the host can send one more message to that server, at which time the host starts its retransmit timer. When the host receives an acknowledgement from the server, this timer is stopped. If the host receives no acknowledgement and the host's retransmit timer expires, the host retransmits all unacknowledged messages to the server and restarts the timer. The host can retransmit these messages a specified number of times, known as the retransmit limit. You can use LCP commands to change the host's retransmit timer and retransmit limit in response to network load.

Hosts present themselves to users of terminal servers as "services". Dynamic parameters associated with the services, such as service-name, group, and service-rating, let you control access to the hosts. A host can offer more than one service. For example, a host can offer one service that is the host itself, and another service that is the host as part of a cluster.

Service-names identify the services to users of the terminal servers. The service-name can be the host's node name. More than one host can use the same service-name, letting you identify a cluster of hosts as one service. The fact that two or more services have the same service-name is transparent to the user.

The ratings of identically named services determine to which host the connection will be made. You can set the rating to be an integer between 0 and 255, or you can set it to be dynamic. The host

periodically updates a dynamic rating to be

$$255 - (4 * 15\text{-minute load average})$$

When a user requests a connection to a service that is offered by two hosts, the connection is made to the service with the highest rating. Terminal servers and host services are organized into logical categories called groups. Each group is identified by an integer between zero and 255 that controls access to the service by the terminal server. A service or a terminal server can be in more than one group. Terminal servers can connect only to services with which they have a group in common. For example, a terminal server that is in group 2 (only) can connect to a service only if that service is also a member of group 2. By default, all terminal servers are in group zero. Therefore, a service that is in group zero (the TOPS-20 default) is accessible to all terminal servers unless you clear the terminal server from group zero.

At intervals determined by its multicast-timer, each host broadcasts a multicast message (a message to all terminal servers on the Ethernet), listing the services that the host offers. This message also contains information about service-ratings and the host's groups. Before sending the multicast message, the host updates any dynamic service-ratings.

In response to a user request, a terminal server displays a list of services that consists of only those services to which the terminal server can connect. Each service is identified by a service-name and a service-identification string. When the user logs in to the service (using the servicename), the host displays the service-identification string. This is a descriptive message about the service, such as "Node A of cluster ABC". You can set and change the service-name and service-identification with LCP commands.

4.2 LOADING AND DUMPING LAT TERMINAL SERVERS

You load and dump LAT terminal servers with the NCP LOAD and DUMP commands. See the DECnet-20/PSI-20 System Manager's Guide for information on using these commands.

4.3 OPR COMMANDS AVAILABLE IN LCP

Certain OPR commands can be executed from LCP.

   o ENTER (command subset) name

---

   o EXIT (to monitor level)

   o PUSH (to EXEC level)

   o RETURN (to Operator Command Level)

   o TAKE (commands from) file /DISPLAY
                                    /NODISPLAY

   o WAIT (for) seconds

These OPR commands are described briefly on the next page. You can find complete descriptions of these commands in Chapter 3 (OPR Command Descriptions) of this manual.

Command	Function
ENTER name	enters another command level such as NCP.
EXIT	exits from LCP and returns to TOPS-20 command level. For example:

```
OPR>ENTER LCP<RET>
LCP>EXIT<RET>
$
```

Command	Function
PUSH	exits LCP enters a new TOPS-20 command level. You can then perform any software task or run a utility. To return, give the TOPS-20 POP command. For example:

```
LCP>PUSH<RET>

 TOPS-20 Command processor 7.0(186)
@ENABLE<RET>
$DUMPER<RET>
DUMPER>
          .
          .
DUMPER>EXIT<RET>
$POP<RET>
LCP>
```

| RETURN | returns immediately to OPR command level. You do not lose any commands or actions that you specified in LCP. |

```
LCP>RETURN<RET>
OPR>
```

TAKE input-filespec

executes a series of commands in a command file automatically. The commands in the TAKE command file can be both OPR and LCP commands.

```
LCP>TAKE LCP.CMD<RET>
LCP>
```

The TAKE command works in LCP the same way as in OPR. You can specify either the /DISPLAY switch or the /NODISPLAY switch. The /NODISPLAY switch is the default if you do not specify either switch.

| WAIT n | waits from 1 to 60 seconds before executing the next command. This is useful when you TAKE (see above) commands from a file, to give each command time to execute. |

4.4 LCP COMMANDS

The LAT Control Program (LCP) enables you to control and monitor LAT

activity associated with the host on which you are running LCP. For example, LCP commands:

- o Clear LAT parameters.

- o Set LAT parameters.

- o Show the current parameters, terminal connections, counter and server information.

- o Change certain counter settings to zero.

This chapter explains how to enter and exit LCP, and describes the LCP commands listed below.

- o CLEAR

- o SET

- o SHOW

- o START

- o STOP

- o ZERO

<div align="center">WARNING</div>

The LCP commands described in this chapter can seriously affect system performance. If you are not sure of what you are doing, do not use LCP commands to set or clear LAT parameters.

You start the LCP program from within OPR. To enter LCP use the OPR command, ENTER, as shown below.

```
OPR>ENTER LCP<RET>

LCP>
```

There are three ways to exit LCP:

- o You can exit LCP and return to OPR command level.

- o You can exit LCP and return to monitor command level.

- o You can exit LCP by entering another command level, such as NCP.

To return to OPR command level, use the RETURN command as below:

LCP>RETURN<RET>

OPR>

To return to EXEC command level, use the EXIT command as below:

LCP>EXIT<RET>

The LCP commands are in alphabetical order on the following pages.

CLEAR – Clearing LAT host parameters

Function

The CLEAR command resets parameters specified with the SET command.

Format

LCP>CLEAR keyword argument<RET>

Keywords:

```
              _           _
          /  |             |  \
GROUPS  /  n  |,n1, ....    |   \
       \  m:n |,m1:n1, .... |   /
        \     |_           _|  /
  IDENTIFICATION
          /           \
MAXIMUM /  ACTIVE-CIRCUITS \
        \  SESSIONS        /
         \               /
MULTICAST-TIMER
NUMBER
          /       \
RETRANSMIT /  LIMIT \
           \  TIMER /
            \       /
SERVICE-NAME text
```

Keywords

GROUPS n   clears the specified GROUPS setting. You can
                    clear the current setting for single groups or
                    a range of groups. You can specify a number
                    from 0 to 255, a range of numbers (m:n) from 0
                    to 255, or a list of both.

                    For example:

                    CLEAR GROUPS 7

                    CLEAR GROUPS 8:10, 22

IDENTIFICATION   resets the host identification information to
                    the system banner as defined in MONNAM.TXT.

MAXIMUM ACTIVE-CIRCUITS

                  changes to 20 the maximum number of virtual circuits that can simultaneously be connected to your host.

MAXIMUM SESSIONS   changes the maximum number of active LAT terminals allowed to connect to the host. The new value is the maximum number of LAT terminals allowed in the host system configuration.

MULTICAST-TIMER   changes the time period set on the multicast-timer to 30 seconds. The multicast-timer specifies the interval at which the host transmits a multicast message announcing host services that are available to LAT terminal servers.

NUMBER   resets the host identification number to that specified in n-CONFIG.CMD.

RETRANSMIT LIMIT   changes to 30 the number of times that a LAT host can retransmit unacknowledged messages to the server. After the last message transmission, the host detaches all jobs associated with the virtual circuit to that server.

RETRANSMIT TIMER   changes the setting of the LAT host retransmit-timer to 1000 milliseconds (1 second). The retransmit-timer specifies the amount of time before the host retransmits any unacknowledged messages to the terminal server.

SERVICE-NAME text cancels the service identified by service-name text. The CLEAR SERVICE-NAME command also clears all RATING and IDENTIFICATION information associated with service text.

                           NOTE

                If there is only one service associated with a host, you cannot CLEAR that service.

Examples

1. You no longer wish the host to serve groups 2, 4, 14, 15, 16, or 20.

   LCP>CLEAR GROUPS 2,4,14:16,20<RET>
   LCP>

2. You reset the multicast timer to the default value.

   LCP>CLEAR MULTICAST-TIMER<RET>
   LCP>

3. You no longer wish the host to provide the service named KLUDGE.

   LCP>CLEAR SERVICE-NAME KLUDGE<RET>
   LCP>

SET - Setting LAT host parameters

Function

       You can specify LCP parameters with the SET command. The
       parameters that you can set and the LCP commands to do it are:

       o Host Id   SET IDENTIFICATION

       o Host Number   SET NUMBER

       o Maximum Active Circuits   SET MAXIMUM ACTIVE-CIRCUITS

       o Maximum Sessions   SET MAXIMUM SESSIONS

       o Retransmit Limit   SET RETRANSMIT LIMIT

       o Retransmit Timer   SET RETRANSMIT TIMER

       o Multicast Timer   SET MULTICAST-TIMER

       o Groups   SET GROUPS

       o Service Name(rating)   SET SERVICE-NAME/RATING:

       o Service Id   SET SERVICE-NAME /IDENTIFICATION:

       You can clear the current settings for each of these parameters
       with the CLEAR command.

Format

       LCP>SET keyword argument /switch<RET>

       where keyword, argument, and switch syntax is:

```
                      _            _
            GROUPS / n  |,n1, ....  | \
                   \ m:n |,m1:n1, .... | /
                     \   |_          _| /
              IDENTIFICATION "quoted string"
                     / ACTIVE-CIRCUITS n \
            MAXIMUM /                      \
                   \ SESSIONS n           /
              MULTICAST-TIMER n
```

       NUMBER n
                      /   \
       RETRANSMIT / LIMIT n \
                  \ TIMER n /
                      \   /

```
                                      _  _            _ _
       SERVICE-NAME service-name  |/RATING:  |n          | |
                                  |          |DYNAMIC    | |
                                  |                     _| |
                                  |/IDENTIFICATION:"quoted string" |
                                  |_                           _|
```

Keywords

       GROUPS n   specifies for the host a group, a range of
                           groups, or a list that can contain both
                           single groups and group ranges.   Only
                           terminal servers that have the corresponding
                           groups set can connect to the host.   Groups
                           can be integers from 0 to 255. You can
                           specify any combination of ranges or single
                           numbers, separated by commas. Zero is the
                           default. For example:

                               SET GROUPS 7:9, 22, 45:49
                               SET GROUPS 8, 12, 14:17

       IDENTIFICATION "quoted string"

                           specifies host identification information.
                           This   host   identification   is   purely
                           descriptive, and is displayed when a LAT
                           terminal server displays information about
                           the host node. You can specify a string of
                           up to 64 characters. You can include any
                           printable characters. You must enclose the
                           string in double quotes ("). This string
                           defaults to the system banner defined in
                           MONNAM.TXT

       MAXIMUM ACTIVE-CIRCUITS n

                           sets the maximum number of LAT virtual
                           circuits that can exist simultaneously at
                           the host.   MAXIMUM ACTIVE-CIRCUITS can be an
                           integer between 1 and 173, inclusive. The
                           default is 20.

       MAXIMUM SESSIONS n   sets the maximum number of active LAT

terminals that can be connected to the host at one time. MAXIMUM SESSIONS can be an integer between 1 and 50, inclusive. The default is the maximum number of terminals allowed in your system configuration.

MULTICAST-TIMER n   sets the interval (in seconds) at which the host transmits to all servers a multicast message announcing the services available from that host. You can set the MULTICAST-TIMER to an integer between 8 and 48, inclusive. The default is 30 seconds.

NUMBER n   specifies a unique host identification number.

RETRANSMIT LIMIT n   sets the maximum number of times that the host retransmits unacknowledged messages to the server. If the final transmission is not acknowledged, the host detaches all jobs associated with the virtual circuit to the server. The RETRANSMIT LIMIT can be an integer between 0 and 64, inclusive. The default is 60.

RETRANSMIT TIMER n   sets the host retransmit-timer. This timer determines the amount of time (in milliseconds) before the host retransmits any unacknowledged messages to the server. The RETRANSMIT TIMER can be set to an integer between 100 (.1 second) and 100000 (100 seconds). The default is 2000 milliseconds (1 second).

SERVICE-NAME text   specifies that the host offers a service named text. Users select the name of the service, rather than the name of the host when they request the server to initiate a terminal session. The SERVICE-NAME (text) can be up to 16 characters long, and can contain any alphanumeric characters, dollar sign ($), hyphen (-), and underscore (_).

Switches

```
         _      _
        |        |
/RATING: |n       |
        |DYNAMIC  |
        |_      _|
```

specifies the rating assigned to the service. When you select a service name that is used by more than one available host, the server connects you to the host with the highest rating. You can specify n as an integer in the range 0-255, inclusive, or you can specify DYNAMIC. When you use the SET command to specify a service but do not specify a rating, the default rating is zero.

/IDENTIFICATION: "quoted string"

specifies a descriptive phrase that will display when a user connects to the service (specified by SERVICE-NAME). You can specify a string of up to 64 characters. You can include any printable characters. You must enclose the string in double quotes (").

Examples

1. You wish the host to serve groups 2, 4, 14, 15, 16, and 20.

   LCP>SET GROUPS 2,4,14:16,20<RET>
   LCP>

2. You set the host to retransmit unacknowledged messages 30 times.

   LCP>SET RETRANSMIT-LIMIT 30<RET>
   LCP>

3. You set the identification string for a service named ALPHA, and allow the service-rating to default to DYNAMIC.

   LCP>SET SERVICE-NAME ABClustr/IDENTIFICATION:-<RET>
   "Alpha of ABClustr"<RET>
   LCP>

SHOW - Displaying LAT Host and Terminal Server Parameters

The SHOW command displays the following LAT information:

   o Dynamic and permanent parameters of the LAT host

   o Active LAT terminal server connections to the LAT host

o Server information

o Counter information

Format

    LCP>SHOW keyword /switch argument<RET>

    Keywords:

        CHARACTERISTICS
        COUNTERS [/SERVER:server-name]
        HOST-INITIATED-REQUESTS
        PENDING-REQUESTS
                 _   _
                | |
        SERVER |server-name|
                |/ALL |
                |_   _|
        SESSIONS

Keywords

    CHARACTERISTICS   displays the dynamic parameters and many of
                       the permanent LAT parameters.

    COUNTERS   displays the counter totals for all servers on
                       the system.

                       To display the counters for a particular
                       server, use the /SERVER: switch and supply a
                       server name.

    HOST-INITIATED-REQUESTS

                       displays all the currently active outgoing LAT
                       connections.

    PENDING-REQUESTS   displays all the currently pending outgoing
                       LAT connections.

    SERVER server-name displays information about the servers that
                       have connected to the local LAT host. SHOW
                       SERVER with no switch displays a summary of
                       server information including the server name,
                       number and Ethernet address. SHOW SERVER
                       followed by a server name displays additional
                       information about the specified   server
                       including the server location, type, status

                       and timers.

    server-name   specifies the server for which to display
                       information.

    SESSIONS   displays information about the current LAT
                       terminal connections including:

                           o Job number

                           o Line number

                           o Program name

                           o Server name

                           o Port name

                           o User

Switches

    /SERVER: server-name

                       displays counters for the specified server.
                       You must specify a server name with this
                       switch. Use this switch only with the SHOW
                       COUNTERS command.

    server-name   specifies the server for which to display
                       information.

    /ALL   displays summary information about the
                       specified server.   Use this switch only with
                       the SHOW SERVER command.

Examples

    1. You display the LAT host parameters.

        LCP>SHOW CHARACTERISTICS<RET>
        LCP>
        13:12:44 [LCP] -- Host Characteristics --

        LAT Access State: ON
        Host Name: CLOYD
        Host id: Cloyd, TOPS-20 Monitor 7(20172)
        Host number: 140
        Retransmit Limit: 60

```
     Retransmit Timer: 1000
     Multicast Timer: 30
     Groups: 3:4,7,10,18,21:23,29,45,47


                      Current   Maximum
                      -------   -------
     Allocated circuits    12        32
     Active circuits        9        32
     Sessions              16       128

     Service name    Rating       Identification
     -----------    ------    -----------------------
       CLOYD           1      CLOYD - The toe tag has been removed
       TOPS20          D      Software Engineering Cluster
     LCP>
```

2. You display a list of all LAT terminal sessions connected to
    the host.

    ```
    LCP>SHOW SESSION /ALL<RET>
    LCP>
    13:13:18 [LCP]  -- Active LAT Sessions --

    Job Line Program    Server Name       Port Name        User
    --- ---- -------  ----------------  ----------------  ---------
    140  326 EXEC     LAT95             RASPUZZI_2        RASPUZZI
    141  327 EXEC     LAT96             DAWN_EVANS        EVANS
    134  330 EXEC     LAT1              GREG_SCOTT        GSCOTT
    133  331 EXEC     LAT99             H_MAYBERRY        MAYBERRY
    138  333 EXEC     LAT1              J_DUSSEAULT       DUSSEAULT
    142  334 EXEC     LAT1              D_LOMARTIRE       LOMARTIRE
    144  335 EXEC     LAT1              TIPH_WORLEY       WORLEY
    145  336 MS       LAT1              LAT1_PORT23       GAGNE
    146  337 EXEC     LAT98             JACK_WONG         WONG
    147  340 OPR      LAT97             E_BROWN           EBROWN
    148  341 EMACS    LAT92             RUTH_FONG         FONG
    149  342 EXEC     LAT1              JIM_MCCOLLUM      MCCOLLUM
    151  343 EXEC     LAT308            TSN_IN_308_1      KSTEVENS
    152  345 EXEC     LAT49             DIALIN_49_17      WORLEY
    LCP>
    ```

3. You display information about LAT terminal server CICERO.

    ```
    LCP>SHOW SERVER CICERO<RET>
    LCP>
    16:57:39        [LCP] Information about server CICERO

    Server Number: 6
    Server Location: MRO1-2 Pole J9
    Server Type: Ethernet Terminal Server
    Ethernet Address: AA-00-03-00-01-0E
    ```

```
     Server Status: Connected
     Max Slots: 33
     Data Link Size: 1514
     Circuit Timer(ms): 80
     Keep-alive Timer(s): 12
     LCP>
```

4. You display the counters for LAT terminal server CICERO.

    ```
    LCP>SHOW COUNTERS /SERVER: CICERO<RET>
    LCP>
    16:57:00        [LCP] Counters for server CICERO

    Messages received: 1315
    Messages transmitted: 1398
    Messages retransmitted: 0
    Sequence errors received: 0
    Illegal messages received: 0
    Illegal slots received: 0
    Resource failures: 0
    LCP>
    ```

5. You display the counters for all LAT terminal servers
    connected to the host.

    ```
    LCP>SHOW COUNTERS<RET>
    LCP>
    16:57:13        [LCP] Counter totals for all servers

    Messages received: 7502
    Messages transmitted: 8167
    Messages retransmitted: 0
    Sequence errors received: 0
    Illegal messages received: 0
    Illegal slots received: 0
    Resource failures: 0
    LCP>
    ```

START – Making the LAT Host Available

Function

    The START command notifies all servers that the host is
available, and sets the LAT-ACCESS-STATE to ON. See the STOP
command for information about restricting access to the local
host.

Format

    LCP>START<RET>

STOP – Making the LAT Host Unavailable

Function

    The STOP command terminates all existing LAT terminal sessions
and rejects any new connections from servers. See the START
command for information on permitting access to the local host.

Format

    LCP>STOP<RET>

ZERO - Resetting LAT Counters to Zero

Function

      The ZERO COUNTERS command changes specified LAT counters to zero.

Format

      LCP>ZERO keyword /switch argument<RET>

Keyword:

      ZERO [/SERVER: server-name]

Switch

      /SERVER: sets the counters for a particular server to
                         zero.   This   switch   does   not   affect the
                         counters for the combined server totals.   You
                         must specify a server name with this switch.

         server-name   specifies the server for which to set the
                       counters to zero.

Examples

      1. You reset all counters to zero.

          LCP>ZERO COUNTERS<RET>
          LCP>

      2. You reset counters for LAT terminal server CICERO to zero.

          LCP>ZERO COUNTERS /SERVER:CICERO<RET>
          LCP>

5.1 INTRODUCTION

The commands in this chapter must be given with a ^E (<CTRL/E>)
preceding the command and these commands can affect the entire system
or a specific user. Thus, these commands are called ^E Privileged
Commands.

Because these commands can easily destroy your system security, their
usage is restricted to users who have WHEEL or OPERATOR capability.
WHEEL capability allows you to execute all privileged commands.
OPERATOR capability allows you to execute only the privileged commands
relevant to system operations.

WHEEL and OPERATOR capabilities can be granted when you create or
change a directory.   Normally, the user name OPERATOR, which you
should be using, has the OPERATOR capability.

Before you can successfully issue a privileged command, you must type
the ENABLE command to enable your capabilities. If you are using
recognition input, the command is ENABLE (CAPABILITIES). Once you are
enabled, the prompt character changes from @ to $. For example,

    @<u>ENABLE (CAPABILITIES)</u><RET>
    $

                    NOTE

    Even if you do not have WHEEL or OPERATOR capability,
    ENABLE changes the prompt to $.

Once you are at privileged command level, you must type <CTRL/E>
before each command.   The <CTRL/E> prints as ^E on your terminal.
Then type the remainder of the command. There are nine (9) privileged
commands and most of them have subcommands.

If you do not have the privileges needed to execute the command or you
have not typed ENABLE, you get the message:

    ?Unrecognized command

and your terminal is at operating system command level.

When you complete a privileged command, disable your   special
capabilities by typing DISABLE. The prompt character changes to @.
For example,

    $<u>DISABLE</u><RET>
    @

                    NOTE

    It is very important that you give the DISABLE command
    after you use a privileged command. This safeguard
    protects you against accidentally damaging part of the
    system.

In the following sections of each privileged command, <CTRL/E> is
indicated by ^E. Where you would press the RETURN key is indicated by
the <RET> symbol. You can abbreviate a privileged command by typing
as few of the beginning characters as are needed to make the command
unique. Recognition with guide words is given with the command
formats.

You can easily get a list of all ^E commands by typing ENABLE<RET> AND
THEN <CTRL/E>? (question mark).   The following is printed on your
terminal.

    @<u>ENABLE</u><RET>
    $<u>^E?</u> one of the following:
      CEASE CREATE   DEFINE   EDDT   PRINT   QUIT   SEND
      SET   SPEAK
    $

5.2 PRIVILEGED COMMAND DESCRIPTIONS

The following descriptions of the ^E privileged commands are listed in
alphabetical order.

^ECEASE – Scheduling System Shutdown

Function

The ^ECEASE command schedules system shutdown at a specified time
to end timesharing.

Format

^ECEASE (TIMESHARING AT) downtime (RESUMING AT) uptime

Arguments

downtime   NOW
                  TODAY +hh:mm
                  day-of-week +hh:mm
                  +hh:mm
                  date-and-time

                  Legal formats for dates are:

                  FRIDAY
                  6 DEC 79
                  7-APR-79
                  11 JULY 1979
                  24-OCTOBER-1979
                  NOV 26, 79
                  APRIL 30, 1979

                  Other date formats might be accepted; however,
                  they are not recommended because of their
                  ambiguity.

                  Legal formats for times are:

                  +1:00   (1 hour from now)
                  day-of-week +8:00   (8 hours after midnight)
                  1630   (4:30 p.m.)
                  1200   (noon)
                  116   (1:16 a.m.)
                  16:30   (4:30 p.m.)
                  00:00   (midnight)
                  1:12:13   (13 seconds after 1:12
                  a.m.)
                  23:59:59   (1 second before
                  midnight)

uptime   date and time given in the same format as for
                  downtime. The uptime argument is optional and
                  does not need to be specified.

Characteristics

After you type the ^ECEASE command and press RETURN, the system
outputs the name of the system to be shutdown (displayed only if
the system is part of a DECnet or INTERNET network) and the time
of the scheduled shutdown. For example:

    BADGER Shutdown scheduled for 4-Apr-84 18:00:00

If the output is not what you expected, type CTRL/C to abort the
command. Otherwise, confirm the command by pressing RETURN.

When the command is in effect, downtime and uptime, if specified,
are reported to users when they first type CTRL/C or RETURN on a
terminal. They receive a message similar to:

    System shutdown scheduled for 22-Apr-84 18:00:00,
    Up again at 22-Apr-84 20:00:00

When you issue the command, you and users already logged in
receive one of the following messages.

If downtime is more than one hour away, the message is similar
to:

    [System going down at 2-Apr-84 11:30:00]

If the downtime is 60 or fewer minutes away, the message is
similar to:

    [System going down in 30 minutes at 2-Apr-84 11:30:00]

When the downtime is one minute away, the message is:

    [System going down in one minute!!]

One of the preceding messages is also printed at hourly intervals
before downtime and 30 minutes, 15 minutes, 10 minutes, 5
minutes, and 1 minute before downtime to indicate how long it is
before the actual shutdown.

In addition, if:

 o your system is part of a CFS cluster   AND

o   any other system in the cluster has access to any of your
    disks through the MSCP server   AND

o   you issue this command with downtime scheduled within 60
    minutes

the following message appears on the CTY and on the terminal of
anyone who is running OPR:

    Check other cluster systems for possible structure dismount
    instructions.

If your system is part of a CFS cluster and another system in the
cluster has access to your disks as described above, the above
message also appears on the CTY and on the terminal of anyone who
is running OPR at 30 minutes, 15 minutes, 10 minutes, 5 minutes,
and 1 minute before downtime. See the TOPS-20 Operator's Guide
for more information.

When downtime is reached, if you specified uptime, a message such
as the following is printed.

    [System down, up again at 2-Apr-84 12:00:00]

When downtime occurs, SHUTDOWN COMPLETE is printed on the CTY.
All jobs are then logged out, except the CTY, so PTYCON continues
to run. Processes under SYSJOB continue to run, but PTYCON
subjobs are logged out.   Then, no further LOGINs are allowed
except from the CTY.

To cancel an existing plan for a shutdown, type ^ECEASE and press
RETURN. Then you and all users receive the message:

    [Shutdown cancelled]

If you do not know the uptime, omit it by pressing RETURN after
(RESUMING AT). The message output to users before they log in is
similar to:

    System shutdown scheduled for 2-Apr-84 16:30:00

The uptime is only informational; it does not initiate any
automatic startup. To resume timesharing, you should use ^ESEND
to say that the system is being reloaded, enter the PARSER with
<CTRL/\>, type SHUTDOWN, and reload via a load switch.

Hints

After giving the command, look at the output message to check the
dates and times. The output times are based on a 24-hour clock

for example, twelve is added to the hours between noon and
midnight. The times are given as hh:mm:ss, where hh is the hour,
mm is the minute, and ss is the second.

If you use AM or PM in the time, do not put a space before either
of them. For example, 6:00 PM causes the error message "INVALID
DATE FORMAT" explained in the Restrictions section below.   You
must use 6:00PM.

For the time, you must specify minutes if you are also specifying
hours, for example, for 6p.m. you must use 6:00PM or 1800. If
you use 6PM, it is interpreted as 12:06p.m..

If you give the command with an incorrect date or time, retype
the command correctly.

Restrictions

Error messages associated with the ^ECEASE command are:

?Downtime has already passed

    The time you specified for downtime has already gone by.

?Downtime cannot be more than 7 days in the future

    You specified a downtime that was too far in the future.

?Invalid date format

    You typed an unacceptable date or you typed a space before
    AM or PM, which causes the time specified not to be
    recognized as time format.

?Invalid time format

    You typed an unacceptable time.

?Timesharing will resume before it ends

    You typed an uptime that comes before the downtime.

Examples

1. By using recognition input and typing ?, you get the prompt
    for downtime:

    @ENABLE<RET>
    $^ECEASE (TIMESHARING AT) ? Date/time, or NOW for immediately,

or null to cancel shutdown
or "+" to enter amount of time from now
or day of the week or TODAY

Then, if you type ? for uptime, you get:

(RESUMING AT) ? Date and time of restart of null if unknown
or "+" to enter amount of time from now
or day of the week or TODAY

2. To stop timesharing at 6 p.m. on July 16, 1984, and have it
    resume at 8 p.m. the same day:

    @ENABLE<RET>
    $^ECEASE (TIMESHARING AT) 16 JUL 88 1800 -<RET>
    (RESUMING AT) 16 JUL 84 2000<RET>
    GIDNEY Shutdown scheduled for 16-Jul-84 18:00:00
    [Confirm]<RET>
    [System going down at 16-Jul-84 18:00:00]
    $DISABLE<RET>

3. To stop timesharing at the end of the day July 23, 1984 and
    resume at noon July 24, 1984.

    @ENABLE<RET>
    $^ECEASE 24-JUL-84 12:00AM 24-JUL-84 12:00PM<RET>
    BOSTON Shutdown scheduled for 24-Jul-84 00:00:00
    [Confirm]<RET>
    [System going down at 24-Jul-84 00:00:00]
    $DISABLE<RET>

4. To stop timesharing one hour from the current time without
    knowing when the system resumes timesharing:

    @ENABLE<RET>
    $^ECEASE +1:00<RET>
    Shutdown scheduled for 4-Apr-84 16:30:00
    [Confirm]<RET>
    [System going down in 60 minutes at 4-Apr-84 16:30:00]
    $DISABLE<RET>

5. To cancel a shutdown:

    @ENABLE<RET>
    $^ECEASE<RET>
    [Shutdown cancelled]
    $DISABLE<RET>
    @

^ECREATE - Creating/Removing Directories

Function

The ^ECREATE command is used to:

1. Create a directory for a user.

2. Create a files-only directory.

3. Create a directory on a mountable structure.

4. Change the parameters for an existing directory.

5. Remove a user from the system.

6. Remove a user and his files from the system.

Format

^ECREATE (DIRECTORY NAME) structure:<directory>

or

^ECREATE (DIRECTORY NAME) structure:<directory>
                            (PASSWORD) password

Arguments

structure: specifies the 1- to 6-character alphanumeric
                name or logical name for the structure on
                which you want to create or alter a directory.
                You must type a colon (:) after the name.
                Also, you must MOUNT the structure using this
                name, unless the structure is the public
                structure or an unregulated structure.
                (Regulated and unregulated structures are
                discussed in Chapter 3, in the SET STRUCTURE
                command description.) If you do not specify
                structure:, you can create or alter a
                directory   on   your   currently-connected
                structure. If you have not connected to a
                specific structure, you are connected by
                default to the public structure. Note that a
                user must have a directory on the public
                structure to be able to log in.

<directory>   specifies the name of the directory that you
                     want to create or alter. The name is 1 to 39
                     alphanumeric characters, including hyphens,
                     underlines, and dollar signs. Angle or square
                     brackets must enclose the name. This name is
                     used when a user tries to log in to the
                     system, connect to a directory, access a
                     directory, or change directory parameters.
                     You can use recognition on this name if the
                     directory already exists.

password   specifies 1 to 39 letters, digits, or hyphens.
                     You can omit the password here and specify it
                     later in a subcommand. You can omit the
                     password   completely   for   a   files-only
                     directory. The password is used when a user
                     tries to log in to the system, connect to a
                     directory, access a directory, or   change
                     directory parameters.

Characteristics

To create a directory on a structure, the directory name in the
^ECREATE command must be different from any existing directory
name on the structure and must be enclosed in angle brackets. If
the directory name contains one or more periods (.), for example
<T.YOW>, the directory is a subdirectory. Before you can create
a subdirectory, you must first create its superior directory, in
this case <T>. You can determine the superior directory for a
subdirectory   by   using   the   name of the subdirectory and
eliminating the last period (.) and the characters after it. For
example, the superior directory for <FP.BONS> is <FP>, and the
superior directory for <R.ACE.LT.MEM> is <R.ACE.LT>.

After you type the ^ECREATE command using either format and press
RETURN, the system outputs [NEW] or [OLD] on the next line and $$
on the following line. Be sure you check this output. If [NEW]
is printed, you are creating a directory. If [OLD] is printed,
you are altering an existing directory. If the output is not
what you expected, type ABORT<RET> and retype the ^ECREATE
command. The $$ (double-dollar-signs) indicates that you can
give a subcommand or press RETURN to finish the command. The
^ECREATE subcommands are described under Subcommands in this
section.

If you are creating a directory and you press RETURN at
subcommand level without giving any subcommands, you create a
directory with default parameters. (Refer to Table 5-1 in this
section for the default parameters.)

For example, using recognition input,

    $^ECREATE (DIRECTORY NAME) <TES><RET>
    [New]
    $$<RET>
    $

or simply

    $^ECREATE <TES><RET>
    [New]
    $$<RET>
    $

If you use the second format of the ^ECREATE command (see Format
section below), to create a directory and you press RETURN at
subcommand level without giving any subcommands, you create a
directory with default parameters except for the password.

For example,

    $^ECREATE (DIRECTORY NAME) <TES> (PASSWORD) XAP<RET>
    [New]
    $$<RET>
    $

or simply

    $^ECREATE <TES> XAP<RET>
    [New]
    $$<RET>
    $

To change the password for an existing directory, you can use
either ^ECREATE command format. However, one format requires the
PASSWORD subcommand. For example,

    $^ECREATE SQM:<HOGAN> (PASSWORD) JOHNQ<RET>
    [Old]
    $$<RET>
    $

or

    $^ECREATE SQM:<HOGAN><RET>
    [Old]
    $$PASSWORD JOHNQ<RET>
    $$<RET>
    $

Also, see Hint under PASSWORD subcommand, described later, for
another way of changing a password.

Subcommands

To create a directory with some nondefault parameters or to alter
some directory parameters of an existing directory, you must give
the appropriate subcommands to ^ECREATE. You can list the
subcommands available with ^ECREATE by typing a ? (question
mark) at subcommand level.

```
$^ECREATE <SAMPLE><RET>
[New]
$$? confirm with carriage return
  or one of the following:
 ABORT                          ABSOLUTE-INTERNET-SOCKETS
 ACCOUNT-DEFAULT                ARCHIVE-ONLINE-EXPIRED-FILES
 CONFIDENTIAL                   DECNET-ACCESS
 DEFAULT-FILE-PROTECTION        DIRECTORY-GROUP
 DISABLE                        ENABLE
 ENQ-DEQ                        FILES-ONLY
 GENERATIONS                    INTERNET-ACCESS
 INTERNET-WIZARD                IPCF
 KILL                           LIST
 MAINTENANCE                    MAXIMUM-SUBDIRECTORIES
 NOT                            NUMBER
 OFFLINE-EXPIRATION-DEFAULT     ONLINE-EXPIRATION-DEFAULT
 OPERATOR                       PASSWORD
 PERMANENT                      PRESERVE
 PROTECTION                     PUSH
 REPEAT-LOGIN-MESSAGES          SEMI-OPERATOR
 SUBDIRECTORY-USER-GROUP        TOPS10-PROJECT-PROGRAMMER...
 USER-OF-GROUP                  WHEEL
 WORKING
$$
```

Table 5-1: Summary of ^ECREATE Subcommands

_____

Subcommand	Default	Help Text
ABORT	–	<RET>(1)
ABSOLUTE-INTERNET-SOCKETS (CAPABILITY)	NOT	<RET>
ACCOUNT-DEFAULT (FOR LOGIN)	NONE SET	DEFAULT ACCOUNT FOR USERS LOGGING INTO THIS DIRECTORY
ARCHIVE-ONLINE-EXPIRED-FILES	NOT	<RET>
CONFIDENTIAL (INFORMATION ACCESS CAPABILITY)	NOT	<RET>
DECNET-ACCESS (CAPABILITY)	NOT	<RET>
DEFAULT-FILE-PROTECTION (NUMBER)	777700	6-DIGIT OCTAL NUMBER
DIRECTORY-GROUP (NUMBER)	NONE SET	DECIMAL GROUP NUMBER
DISABLE (CAPABILITIES)	ENABLE	<RET>
ENABLE (CAPABILITIES)	ENABLE	<RET>
ENQ-DEQ (CAPABILITY)	NOT	<RET>
FILES-ONLY	NOT	<RET>
GENERATIONS (TO KEEP)	1	DECIMAL NUMBER OF GENERATIONS TO RETAIN PER FILE
INTERNET-ACCESS (CAPABILITY)	NOT	<RET>
INTERNET-WIZARD (CAPABILITY)	NOT	<RET>
IPCF (CAPABILITY)	NOT	<RET>
KILL (THIS DIRECTORY)	–	<RET>
LIST	–	ONE OF THE FOLLOWING: FAST NAME-ONLY VERBOSE
MAINTENANCE (CAPABILITY)	NOT	
MAXIMUM-SUBDIRECTORIES (ALLOWED)	NONE SET	DECIMAL NUMBER OF SUBDIRECTORIES ALLOWED UNDER THIS DIRECTORY
NOT	–	ONE OF THE FOLLOWING: ABSOLUTE-ARPANET-SOCKETS ARCHIVE-ONLINE-EXPIRED... ARPANET-ACCESS ARPANET-WIZARD CONFIDENTIAL DECNET-ACCESS DIRECTORY-GROUP ENQ-DEQ FILES-ONLY IPCF KILL

_____

(1) <RET> in this column means to press the RETURN key.

Table 5-1 (Cont.) Summary of ^ECREATE Subcommands

_____

Subcommand	Default	Help Text
		MAINTENANCE
		OPERATOR
		REPEAT-LOGIN-MESSAGES
		SUBDIRECTORY-USER-GROUP
		USER-GROUP
		WHEEL
NUMBER (OF DIRECTORY)	FREE ONE	OCTAL DIRECTORY NUMBER
OFFLINE-EXPIRATION-DEFAULT	90	EXPIRATION DATE OR "+n"
ONLINE-EXPIRATION-DEFAULT	60	EXPIRATION DATE OR "+n"
OPERATOR (CAPABILITY)	NOT	<RET>
PASSWORD	NONE SET	1 TO 39 ALPHANUMERIC CHARACTERS OR HYPHENS
PERMANENT (DISK STORAGE PAGE LIMIT)	250	DECIMAL NUMBER OF PAGES OR INFINITY
PRESERVE (SUPERIOR QUOTAS)		<RET>
PROTECTION (OF DIRECTORY)	777700	6-DIGIT OCTAL NUMBER
PUSH	–	<RET>
REPEAT-LOGIN-MESSAGES	NOT	<RET>
SEMI-OPERATOR	NOT	<RET>
SUBDIRECTORY-USER-GROUP (ALLOWED)	NONE SET	DECIMAL GROUP NUMBER
TOPS10-PROJECT-PROGRAMMER-NUMBER (FOR COMPATIBILITY)	NONE SET	OCTAL NUMBER IN RANGE 10-377777, 6-DIGIT OCTAL NUMBER
USER-OF-GROUP (NUMBER)	NONE SET	DECIMAL GROUP NUMBER
WHEEL (CAPABILITY)	NOT	<RET>
WORKING (DISK STORAGE PAGE LIMIT)	250	DECIMAL NUMBER OF PAGES OR INFINITY

_____

Subcommand Characteristics

When you give a subcommand, you need to type only the beginning characters up to the point that the abbreviation is unique. If you want to see the guide words, press the ESCape key after you give the subcommand or its abbreviation. You can also see the help text for the argument by typing ? (question mark) in place of the argument. After the help text is printed, the subcommand is repeated up to the argument. At any point before you end the subcommand, you can delete the subcommand line by typing CTRL/U.

To end the subcommand, press RETURN or LINE FEED. When you finish giving subcommands to alter, kill, or create a directory, you must type an extra RETURN or LINE FEED for confirmation.

For the system to ignore the creation of a directory or any changes to an old directory since the last ^ECREATE, type a CTRL/C any time during the ^ECREATE, or type ABORT at subcommand level, instead or waiting to give the final RETURN or LINE FEED.

NOTE

Remember that you need to use a subcommand only if you want to assign a nondefault value when you are creating a directory or if you want to change any value for an existing directory. See the Subcommands Table for a list of all the subcommands and their defaults. You can also print the defaults on your terminal by giving the LIST subcommand to ^ECREATE before you specify any other subcommands (or you can use the INFORMATION DIRECTORY command at TOPS-20 command level).

If you change a directory parameter for a logged-in user and the user complains that the change has not occurred, tell the user to log out and log in again. Some directory parameters do not take effect until a user logs in.

The ^ECREATE subcommands and their guide words, functions, arguments, and defaults are given on the following pages. The discussion of a subcommand also contains the explanation of any corresponding negative function.

ABORT

This subcommand returns you to system command level immediately. It is equivalent to typing CTRL/C at any time before you give the final <RET> to the ^ECREATE command. As a result, the system ignores the creation of a directory or any changes to an old directory since the last ^ECREATE command was given.

----- Example -----

If you give an incorrect name, you can simply abort and type ^ECREATE again with the correct name.

$^ECREATE (DIRECTORY NAME) <TESTING><RET>
[New]
$$ABORT<RET>

```
$^ECREATE (DIRECTORY NAME) FORT:<TESTING><RET>
[Old]
$$<RET>
$
```

ABSOLUTE-INTERNET-SOCKETS(CAPABILITY)

This subcommand grants a user the ABSOLUTE INTERNET SOCKETS capability. This capability allows a user to specify absolute socket numbers in a certain privileged monitor call on a system running TCP/IP.

Give this capability only to those users who need it and who can be trusted, because a user with this capability can break system security.

NOT ABSOLUTE-INTERNET-SOCKETS, which is the default, withholds this capability from the user.

----- Example -----

To give a TCP/IP user the ABSOLUTE INTERNET SOCKETS capability:

```
$^ECREATE <CIRINO><RET>
[New]
$$ABSOLUTE-INTERNET-SOCKETS (CAPABILITY)<RET>
$$<RET>
$
```

ACCOUNT-DEFAULT (FOR LOGIN) account

This subcommand specifies the default account for users logging into this directory. A user with a default account can press RETURN for the account in the LOGIN command when logging into this directory, and the account specified in this subcommand is used.

If this subcommand is not given, no default account is set. To eliminate a default account, give this subcommand without an argument. To change a default account, give this subcommand with the new default account as the argument. At some installations, a user can also change an account default with the command SET DIRECTORY ACCOUNT-DEFAULT.

----- Hint -----

You can also use ENABLE and the SET DIRECTORY ACCOUNT-DEFAULT command to change the default account. When you have OPERATOR capability enabled, you can type a fictitious password in the command.

----- Example -----

If user J.SMITH wants his default account to be PAYROLL.TEST, type the following:

```
$^ECREATE <J.SMITH><RET>
[Old]
$$ACCOUNT-DEFAULT (FOR LOGIN) PAYROLL.TEST<RET>
$$<RET>
$
```

ARCHIVE-ONLINE-EXPIRED-FILES

This subcommand specifies that expired disk files are to be automatically marked for archiving. The TOPS-20 Operator's Guide discusses archiving.

NOT ARCHIVE-ONLINE-EXPIRED-FILES, which is the default, causes all files in the directory to remain on the disk regardless of the expiration date.

----- Example -----

To ensure that user GORE's files are archived some time after the expiration date is reached, give the following command:

```
$^ECREATE <GORE><RET>
[Old]
$$ARCHIVE-ONLINE-EXPIRED-FILES<RET>
$$<RET>
$
```

CONFIDENTIAL (INFORMATION ACCESS CAPABILITY)

This subcommand grants a user the confidential information access capability. This capability lets a user obtain some confidential information within the system via certain monitor calls.

Give this capability only to those users who need it and who can be trusted, because a user with this capability can break system security.

NOT CONFIDENTIAL, which is the default, withholds this capability from the user.

----- Example -----

If you need to give a user the confidential information access capability, give the CONFIDENTIAL subcommand.

```
$^ECREATE (DIRECTORY NAME) <TESS><RET>
[New]
$$CONFIDENTIAL (INFORMATION ACCESS CAPABILITY)<RET>
$$<RET>
$
```

DECNET-ACCESS (CAPABILITY)

This subcommand, in conjunction with pre-established system manager controls, grants a user the capability to establish DECnet network connections. Note that this is the default in the absence of system manager controls.

NOT DECNET-ACCESS denies access to the network. This is the default if the system manager has exercised control over network access.

----- Example -----

To enable access to the DECnet network, type the following:

```
$^ECREATE <CURRY><RET>
[Old]
$$DECNET-ACCESS (CAPABILITY)<RET>
$$<RET>
$
```

DEFAULT-FILE-PROTECTION(NUMBER) 6-digit octal number

This subcommand specifies the default file-access protection for files within this directory. (You can find an explanation of file-access protection in the TOPS-20 User's Guide.) The argument for this command is a 6-digit octal number. If you do not use this subcommand, the default protection is 777700.

To change the default file protection for an existing directory, give this subcommand with the new protection. A user can also change this default with the command SET DIRECTORY FILE-PROTECTION-DEFAULT.

Do not confuse this value with the protection of the directory, which is set with the PROTECTION (OF DIRECTORY) subcommand.

----- Hint -----

You can also use ENABLE and the SET DIRECTORY FILE-PROTECTION-DEFAULT command to change the default file protection. When you have OPERATOR capability enabled, you can type a fictitious password in the command.

----- Example -----

To make the default file protection 775252 for user TES:

```
$^ECREATE <TES><RET>
[New]
$$DEFAULT-FILE-PROTECTION 775252<RET>
$$<RET>
$
```

DIRECTORY-GROUP (NUMBER) decimal group number

This subcommand specifies a group number for a directory. If the group number is n, users in group n have group-level access to this directory. (See the subcommand USER-OF-GROUP to put a user into a group.) The group-level access is determined by the directory- and file-access protection. (Refer to the TOPS-20 User's Guide for an explanation of access protection.)

The argument is a decimal number from 1 to 262143 (2**18-1). Because you can specify only one number for the argument, you must repeat the subcommand for each group that is allowed to access the files in the directory. You can specify a maximum of 40 different group numbers for a directory.

NOT DIRECTORY prevents the directory from being accessed at the group level by users in that group. Because a directory does not belong to any group by default, NOT DIRECTORY is needed to prohibit group access only if DIRECTORY had been given for that group. You must repeat the subcommand for each group for which you want access prohibited.

----- Examples -----

1. To make a directory accessible to groups 4 and 9:

    ```
    $^ECREATE <WHITE><RET>
    [New]
    $$DIRECTORY-GROUP (NUMBER) 4<RET>
    $$DIRECTORY-GROUP (NUMBER) 9<RET>
    $$<RET>
    $
    ```

2. If you want to create a directory of library subroutines called <LIBRARY>, which is accessible to users in group 6, give the subcommand DIRECTORY 6 when you create <LIBRARY>.

    ```
    $^ECREATE <LIBRARY><RET>
    ```

```
    [New]
    $$DIRECTORY-GROUP (NUMBER) 6<RET>
    $$<RET>
    $
```

Then, to allow a user to access the library, put the user in user group 6 (see USER subcommand).

```
    $^ECREATE (NAME) <ROSEN><RET>
    [Old]
    $$USER-GROUP (NUMBER) 6<RET>
    $$<RET>
    $
```

DISABLE (CAPABILITIES)

This subcommand disables any capabilities that you may have activated with the ENABLE subcommand or the ENABLE TOPS-20 command.

ENABLE (CAPABILITIES)

This subcommand allows you to activate any privileged capabilities that the system manager has given you and that you may need during the ^ECREATE session. This is the default setting.

ENQ-DEQ (CAPABILITY)

This subcommand gives a user the ability to do certain ENQUEUE and DEQUEUE functions.

Give this capability only to those users who need it and who can be trusted, because a user with this capability can break system security.

NOT ENQ-DEQ, which is the default, withholds this ability from a user.

----- Example -----

```
    $^ECREATE <UPDATE><RET>
    [New]
    $$ENQ-DEQ<RET>
    $$<RET>
    $
```

FILES-ONLY

This subcommand makes the directory simply a storage place for files. A user cannot give the LOGIN or ACCESS commands for this directory. A user can gain owner privileges to this directory by giving the CONNECT command. The

subdirectories of a FILES-ONLY directory must be FILES-ONLY. A FILES-ONLY directory cannot receive mail.

NOT FILES-ONLY, which is the default, allows a user to give the LOGIN and ACCESS commands for the directory.

If a FILES-ONLY directory does not have a password, connecting to it depends on directory protection and user groups.

----- Hint -----

To temporarily disable a user from logging in and leave his files intact, simply make his directory FILES-ONLY. Then, to restore his log-in privilege, make his directory NOT FILES-ONLY. This method does not change any of the other directory parameters.

----- Example -----

To make the directory <LIBRARY> on structure FORT FILES-ONLY:

```
    $^ECREATE FORT:<LIBRARY><RET>
    [New]
    $$FILES-ONLY<RET>
    $$<RET>
    $
```

GENERATIONS (TO KEEP) decimal number

This specifies the default number of generations that a file can have in this directory. The argument must be a decimal number from 0 to 63, where 0 means an infinite number. The default is 1. Currently, it is advisable to use this default to limit disk usage.

To change the number of default generations, use this subcommand and specify a new number. At some installations, a user can also change this default with the command SET DIRECTORY GENERATION-RETENTION-COUNT-DEFAULT.

----- Hint -----

You can also use ENABLE and the SET DIRECTORY GENERATION-RETENTION-COUNT-DEFAULT command to change the default number of generations to keep. When you have OPERATOR capability enabled, you can type a fictitious password in the command.

----- Example -----

To allow a user two generations of a file by default:

```
$^ECREATE (DIRECTORY NAME) <TRESS><RET>
[New]
$$GENERATIONS (TO KEEP) 2<RET>
$$<RET>
$
```

| **INTERNET-ACCESS (CAPABILITY)**

This subcommand, in conjunction with pre-established system manager controls, grants a user the capability to establish | INTERNET network connections. Note that this is the default in the absence of system manager controls.

| NOT INTERNET-ACCESS denies access to the network. This is the default if the system manager has exercised control over network access.

----- Example -----

| To enable access to the INTERNET network, type the | following:

```
$^ECREATE <SIMMONS><RET>
[Old]
$$INTERNET-ACCESS (CAPABILITY)<RET>
$$<RET>
$
```

| **INTERNET-WIZARD (CAPABILITY)**

This subcommand grants a user the INTERNET WIZARD capability. This capability allows a user to execute | certain privileged monitor calls on a system running TCP/IP.

Give this capability only to those users who need it and who can be trusted, because a user with this capability can break system security.

| NOT INTERNET-WIZARD, which is the default, withholds this capability from the user.

----- Example -----

| To give a TCP/IP user the INTERNET WIZARD capability:

```
$^ECREATE <CROSSLAND><RET>
[New]
$$INTERNET-WIZARD (CAPABILITY)<RET>
$$<RET>
```

```
$
```

IPCF (CAPABILITY)

This subcommand grants a user the capability of executing all privileged IPCF functions.

Give this capability only to those users who need it and who can be trusted, because a user with this capability can break system security.

NOT IPCF, which is the default, withholds this capability from the user.

----- Example -----

To give a user the IPCF capability:

```
$^ECREATE <COMMUNICATOR><RET>
[New]
$$IPCF<RET>
$$<RET>
$
```

KILL (THIS DIRECTORY)

This subcommand allows you to eliminate a directory from the system. After you give the subcommand, you are asked to [CONFIRM]. [CONFIRM] warns you that KILL also deletes all the files in the directory. At this time be sure that you typed the correct directory. If you did not, type CTRL/C to abort immediately. If it is the right directory, press RETURN after [CONFIRM]. When you get the next $$ (double-dollar-signs), you can continue with the KILL by pressing RETURN again or cancel the KILL by typing NOT KILL.

NOT KILL, which is the default, cancels a KILL subcommand when it is given before the ^ECREATE command is completed.

----- Hints -----

Do not kill a directory that is logged in, because the system is not able to use that user's job number until TOPS-20 is reloaded. If you must kill that directory, log out the user first and then kill the directory.

When you kill a directory, you lose all the files in the directory.

If you try to kill a directory and get:

?Directory file is mapped

the directory is being used. You cannot kill the directory
until it is not in use.

If you try to kill a directory and get:

?Internal format of directory is incorrect

refer to the <u>TOPS-20</u> <u>Operator's</u> <u>Guide</u> to delete   the
directory.

----- Examples -----

1. To eliminate the user ALPHONSE from the system:

    $<u>^ECREATE</u> <u>PS:<ALPHONSE><RET></u>
    [<u>Old</u>]
    $$<u>KILL<RET></u>
    [<u>Confirm</u>]<RET>
    $$<u><RET></u>
    $

2. To prevent killing a directory when you discover that
    you typed the wrong name:

    $<u>^ECREATE</u> <u><ROSENBURG><RET></u>
    [<u>Old</u>]
    $$<u>KILL<RET></u>
    [<u>CONFIRM</u>]^C
                 ^
                 |
            <CTRL/C>
    $

LIST argument

This subcommand lets you check the directory parameters.
Consequently, it helps to use it before you terminate the
^ECREATE command, so you can make any necessary changes.

The acceptable arguments are FAST, NAME-ONLY, and VERBOSE.
If no argument is typed, FAST is assumed.

----- Arguments -----

If you type LIST FAST or LIST<RET>, the output is a short
list equivalent to the output from the ^EPRINT command.
Items not listed have default values.

If you type LIST NAME-ONLY, the output gives the name of the

directory that you specified after the ^ECREATE command.
This is equivalent to the output from the ^EPRINT command
with the NAME-ONLY subcommand.

If you type LIST VERBOSE, the output lists all   the
parameters except PASSWORD, NOT ABSOLUTE-INTERNET-SOCKETS,
and NOT INTERNET-WIZARD. This is equivalent to the output
from the ^EPRINT command with the VERBOSE subcommand,
providing the directory was previously completed.

----- Hint -----

If you typed KILL as a subcommand, the LIST output is simply
KILLED. For example,

    $$<u>KILL<RET></u>
    [<u>Confirm</u>]<RET>
    $$<u>LIST<RET></u>
    Killed
    $$

----- Examples -----

1. To get a brief list of parameters for <SMITH>:

    $<u>^ECREATE</u> <u><SMITH><RET></u>
    [<u>Old</u>]
    $$<u>LIST<RET></u>
    Name <SMITH>
    Working disk storage page limit 800
    Permanent disk storage page limit 600
    WHEEL
    Number of directory 142
    Account default for LOGIN BASIC
    Last interactive login 10-AUG-83 07:58:28
    Last non-interactive login Never
    TOPS10 project-programmer number 27-5434

    $$<u><RET></u>
    $

2. To get a complete list of parameters for <SMITH> and
    increase the permanent disk storage page limit by 200
    pages:

    $<u>^ECREATE</u> <u><SMITH><RET></u>
    [<u>Old</u>]
    $$<u>LIST</u> <u>VERBOSE<RET></u>
    Name <SMITH>
    Working disk storage page limit 800
    Permanent disk storage page limit 400

```
                    WHEEL
                    not OPERATOR
                    not CONFIDENTIAL INFORMATION ACCESS
                    not MAINTENANCE
                    not IPCF
                    not ENQ-DEQ
                    not SEMI-OPERATOR
                    not FILES-ONLY
                    SECURE
                    Number of directory 142
                    Default file protection 777700
                    Account default for LOGIN BASIC
                    Protection of directory 777700
                    Generations to keep 1
                    Maximum subdirectories allowed 0
                    Last interactive login 10-Jun-90 07:58:28
                    Last non-interactive login Never
                    Password expiration date is 1-Jul-90 15:41:37
                    No interactive login failures
                    No non-interactive login failures
                    User of groups - none set
                    Directory groups - none set
                    Subdirectory user groups allowed - none set
                    Online expiration default 60 days
                    Offline expiration default 90 days
                    TOPS10 project-programmer number 27-5434

            $$PERMANENT (DISK STORAGE PAGE LIMIT) 600<RET>
            $$<RET>
            $
```

3. To list just the name of the directory.

```
        $^ECREATE <SMITH><RET>
        [Old]
        $$LIST NAME-ONLY<RET>
         NAME <SMITH>
        $$<RET>
        $
```

MAINTENANCE (CAPABILITY)

This subcommand grants a user the MAINTENANCE capability.
It allows the user to execute certain system maintenance
functions.

Give this capability only to those users who need it and who
can be trusted, because a user with this capability can
break system security.

NOT MAINTENANCE, which is the default, withholds this
capability from the user.

                    ----- Example -----

To give the field service directory   the   MAINTENANCE
capability:

```
$^ECREATE <FIELD-SERVICE><RET>
[New]
$$MAINTENANCE<RET>
$$<RET>
$DISABLE<RET>
@
```

MAXIMUM-SUBDIRECTORIES(ALLOWED) decimal number

This subcommand specifies a limit for the sum of the number
of subdirectories that can be created in the directory and
the number of subdirectories that can currently be delegated
to subdirectories in the directory. The limit can be from 0
to 262143.

A number of subdirectories is delegated when the value for
MAXIMUM-SUBDIRECTORIES is specified for a subdirectory in
the directory.   After subdirectories are delegated, the
value for MAXIMUM-SUBDIRECTORIES in the superior directory
is automatically decremented by the number delegated.

The default value is zero. You can change the value for
this parameter by giving the subcommand with a new value.

                    ----- Example -----

To let user WIZARD create two subdirectories and allow those
subdirectories to create a total of four subdirectories:

```
$^ECREATE <WIZARD><RET>
[Old]
$$MAXIMUM-SUBDIRECTORIES (ALLOWED) 4<RET>
$$<RET>
$DISABLE<RET>
@
```

NOT subcommand

The NOT must be followed by one of the following
subcommands:

```
        ABSOLUTE-INTERNET-SOCKETS
        ARCHIVE-ONLINE-EXPIRED-FILES
```

```
                    CONFIDENTIAL
                    DECNET-ACCESS
                    DIRECTORY-GROUP
                    ENQ-DEQ
                    FILES-ONLY
                    INTERNET-ACCESS
                    INTERNET-WIZARD
                    IPCF
                    KILL
                    MAINTENANCE
                    OPERATOR
                    REPEAT-LOGIN-MESSAGES
                    SEMI-OPERATOR
                    SUBDIRECTORY-USER-GROUP
                    TOPS10-PROJECT-PROGRAMMER-NUMBER
                    USER-OF-GROUP
                    WHEEL
```

The function for NOT subcommand is discussed under each
subcommand, for example, NOT USER-GROUP is described under
the subcommand USER-GROUP.

----- Examples -----

1. To take away the ENQ-DEQ capability from JONES:

    $**^ECREATE** <u><JONES></u>**<RET>**
    [<u>O</u>ld]
    $$<u>NOT</u> <u>ENQ-DEQ</u>**<RET>**
    $$<u><RET></u>
    $<u>DISABLE</u>**<RET>**
    @

2. To prohibit the directory <GAMES> on structure FUN from
    being accessed by users in group 9 when the directory
    protection does not allow all users to access <GAMES>:

    $**^ECREATE** <u>FUN:<GAMES></u>**<RET>**
    [<u>O</u>ld]
    $$<u>NOT</u> <u>DIRECTORY-GROUP</u> <u>9</u>**<RET>**
    $$<u><RET></u>
    $<u>DISABLE</u>**<RET>**
    @

NUMBER (OF DIRECTORY) octal directory number

This subcommand allows you to assign an unused directory
number to the directory that you are creating. The number
must be octal. Certain programs use a specific directory
number. Also, directory numbers 1 through 17 are reserved
for use by DIGITAL. Currently, <ROOT-DIRECTORY>, <SYSTEM>,

<SUBSYS>, <ACCOUNTS>, <OPERATOR>, and <SPOOL> must have
directory numbers 1 to 6, respectively.

If you do not use this subcommand, a default number is
chosen by TOPS-20. You should always use the default number
unless the directory must have a specific number.

While creating a new directory, you can change a directory
number you specified by repeating the subcommand with a new
number or by giving the subcommand NUMBER 0 to get the
default. However, once you create the directory, you cannot
change this number.

----- Example -----

To re-create the directory <OPERATOR>, which must have
directory number 5:

$**^ECREATE** <u><OPERATOR></u>**<RET>**
[<u>N</u>ew]
$$<u>NUMBER</u> (OF DIRECTORY) <u>5</u>**<RET>**
$$<u><RET></u>
$

OFFLINE-EXPIRATION-DEFAULT(IS) date or +n

This subcommand establishes the tape expiration date for
files in your directory that are to go off line because of
migration or archiving. To generate a relative date, give
the "+n" argument, where n represents the number of days
from the removal date.

After issuing this subcommand, you may receive the error
message:

        ?Offline expiration time cannot exceed system maximum.

In this situation, you have requested a longer interval of
time than that established by the system manager. Issue the
INFORMATION (ABOUT) SYSTEM-STATUS command to learn what the
system default is. (Refer to the description of the PUSH
subcommand, below, for information on entering and exiting
from TOPS-20 command level during the ^ECREATE session.)

----- Example -----

To indicate that all off-line files can be expunged from
tape two months after the removal date, give the following
command:

$**^ECREATE** <u><ANDERSON></u>**<RET>**
[<u>N</u>ew]
$$<u>OFFLINE-EXPIRATION-DEFAULT</u> (IS) <u>±60</u>**<RET>**

```
$$<RET>
$
```

ONLINE-EXPIRATION-DEFAULT(IS) date or +n

This subcommand establishes the expiration date for disk
files that are to be created in the directory. Upon
expiration, the files will be automatically marked for
archiving if you previously specified the
ARCHIVE-ONLINE-EXPIRED-FILES subcommand. To indicate a
relative date, give the "+n" argument, where n represents
the number of days from the creation date.

----- Example -----

If user HILL wants all newly created files to expire on
Labor Day, issue the following:

```
$^ECREATE (DIRECTORY NAME) <HILL><RET>
[New]
$$ONLINE-EXPIRATION-DEFAULT (IS) 6-SEP-82<RET>
$$<RET>
$
```

OPERATOR (CAPABILITY)

This subcommand grants a user the OPERATOR capability.
Normally, it is given to the operator's directory
<OPERATOR>.

NOT OPERATOR, which is the default, withholds the capability
from a user.

SEMI-OPERATOR capability is a subset of the OPERATOR
capability (see SEMI-OPERATOR).

----- Example -----

To give <2-OPERATOR> the OPERATOR capability:

```
$^ECREATE <2-OPERATOR><RET>
[New]
$$OPERATOR<RET>
$$<RET>
$DISABLE<RET>
@
```

PASSWORD 1 to 39 alphanumeric characters or hyphens

This subcommand specifies the password for the directory. A
user must give his correct password to log in to the system.
The identifier may be 1 to 39 letters, digits, or hyphens.

If this subcommand is not given and the password is not
specified on the same line as ^ECREATE, no password is set.
To eliminate a password, give this subcommand without an
argument.

You can change an existing password by giving this
subcommand with the new password. At some installations, a
user can also change a password with the command SET
DIRECTORY PASSWORD.

----- Hint -----

You can also ENABLE your WHEEL or OPERATOR capability to
change the password with the SET DIRECTORY PASSWORD command.
This method has the advantage of not echoing the new
password.

----- Examples -----

1. To change a user's password to NEW-ONE:

```
$^ECREATE <JONES><RET>
[Old]
$$PASSWORD NEW-ONE<RET>
$$<RET>
$DISABLE<RET>
@
```

2. To create a new directory named ELLIS with a password of
   JOAN:

```
$^ECREATE <ELLIS><RET>
[New]
$$PASSWORD JOAN<RET>
$$<RET>
$DISABLE<RET>
@
```

PERMANENT (DISK STORAGE PAGE LIMIT) argument

This subcommand specifies the limit of the sum of disk space
that the directory can have for permanent storage and the
disk space that can be delegated to subdirectories in the
directory for permanent storage.

Disk space for permanent storage is delegated when the value
for PERMANENT is specified for a subdirectory in the
directory. After permanent storage is delegated, the value
for PERMANENT in the superior directory is automatically
decremented by the amount delegated.

You should make permanent storage less than or equal to
working storage. You can change the value for this
parameter by giving the subcommand with a new value.

The arguments are the number of pages or INFINITY.

----- Arguments -----

The number of pages argument is a decimal number where a
page is 512 36-bit words. The default value is 250 pages.

The INFINITY argument allocates an unlimited number of pages
to the directory. The permanent storage of the superior
directory must also be INFINITY. The number of pages that
can be used by the user is limited to the number of free
pages on the structure. This argument is intended for
special system directories; it is not intended for general
users.

----- Example -----

To give user FOX 200 pages of permanent storage:

$^ECREATE <FOX><RET>
[NEW]
$$PERMANENT (DISK STORAGE PAGE LIMIT) 200<RET>
$$<RET>
$DISABLE<RET>
@

PRESERVE (SUPERIOR QUOTAS)

This subcommand preserves the values of the superior
directory's PERMANENT, WORKING and MAXIMUM-SUBDIRECTORIES
parameters. Normally, when you create a subdirectory, the
PERMANENT, WORKING, and MAXIMUM-SUBDIRECTORIES subcommands
subtract equal values from the permanent superior directory.
The PRESERVE subcommand, when used with the PERMANENT,
WORKING, and MAXIMUM-SUBDIRECTORIES subcommands, stops this
subtraction.

----- Hint -----

This subcommand allows you to create a subdirectory without
first increasing the pages in the superior directory.

----- Example -----

To create a subdirectory for user FOX with 100 pages of
permanent and working storage without subtracting 100 pages
from the permanent and working quotas of the superior

directory:

$^ECREATE <FOX.SUB><RET>
[New]
$$PERMANENT (DISK STORAGE PAGE LIMIT) 100<RET>
$$WORKING (DISK STORAGE PAGE LIMIT) 100<RET>
$$PRESERVE (SUPERIOR QUOTAS)<RET>
$$<RET>
$

PROTECTION (OF DIRECTORY) 6-digit octal number

This subcommand specifies the access protection for a
directory. (You can find an explanation of directory-access
protection in the TOPS-20 User's Guide.) The argument for
this command is a 6-digit octal number. If you do not use
this subcommand, the directory protection is 777700.

To change the protection of an existing directory, give this
subcommand with the new protection. A user can also change
the protection of a directory with the command SET DIRECTORY
PROTECTION.

----- Hint -----

You can also use ENABLE and the SET DIRECTORY PROTECTION
command to change the protection. When you have OPERATOR
capability enabled, you can type a fictitious password in
the command.

----- Example -----

To make the <LIBRARY> directory protection 775252 on
structure APPL:

$^ECREATE APPL:<LIBRARY><RET>
[New]
$$PROTECTION (OF DIRECTORY) 775252<RET>
$$<RET>
$

PUSH (COMMAND LEVEL)

This subcommand creates a level of TOPS-20 inferior to the
one from which you issued the ^ECREATE command, and leaves
your terminal at this new level. You can issue any TOPS-20
command from this level. Give the POP command to return to
your ^ECREATE session.

With this subcommand you can leave the ^ECREATE command
sequence in order to issue a user, operator, or other
privileged command. Following this, you can resume ^ECREATE
activities, with your previous work intact.

You can use the PUSH subcommand to create an inferior EXEC
of your choice. Normally, PUSH creates the EXEC defined by
the system logical name DEFAULT-EXEC:.   You can use the
DEFINE command to define a job definition of DEFAULT-EXEC:
with the name of the EXEC you want to create each time you
PUSH.

Note that many TOPS-20 programs have their own PUSH
commands.   However,   only the EXEC and OPR PUSH commands
refer to the job definition of DEFAULT-EXEC:; all other PUSH
commands refer to the system definition.

----- Examples -----

1. You may be called upon to perform some unscheduled
    software task, such as initializing tapes or handling
    tape mount requests while you are in the middle of a
    ^ECREATE session.   The PUSH subcommand allows you to do
    this:

    $^ECREATE (DIRECTORY NAME) <TUCKER><RET>
    [Old]
    $$ARCHIVE-ONLINE-EXPIRED-FILES <RET>
    $$ONLINE-EXPIRATION-DEFAULT (IS) ±180<RET>
    $$ACCOUNT-DEFAULT (FOR LOGIN) 172<RET>
    $$PUSH (COMMAND LEVEL)<RET>
     TOPS-20 Command processor 5(702)
    @ENABLE (CAPABILITIES)<RET>
    $OPR<RET>
    OPR>SET TAPE-DRIVE MTA3: INITIALIZE
    /LABEL-TYPE:TOPS-20-<RET>
    /OVERRIDE-EXPIRATION:YES /TAPE-DISPOSITION:HOLD-<RET>
    /VOLUME-ID:SAMPLE<RET>
    OPR>

    When you are notified of a successful initialization,
    exit from OPR; give the POP command to return to the
    ^ECREATE session; then continue issuing ^ECREATE
    subcommands:

    OPR>EXIT<RET>
    $POP<RET>
    [Continuing BUILD of directory PS:<TUCKER>]
    $$DEFAULT-FILE-PROTECTION (NUMBER) 770000<RET>
    $$PERMANENT (DISK STORAGE PAGE LIMIT) 600<RET>
    $$WORKING (DISK STORAGE PAGE LIMIT) 600<RET>
    $$<RET>
    $

2. Suppose you gave an unacceptable argument to the WORKING
    subcommand, as follows:

$^ECREATE (DIRECTORY NAME) <TUCKER.OPERATOR>-<RET>
 (PASSWORD) TEST<RET>
[Old]
$$WORKING (DISK STORAGE PAGE LIMIT) 30<RET>
$$PERMANENT (DISK STORAGE PAGE LIMIT) 21<RET>
$$<RET>
?Working space insufficient for current allocation.
Please fix incorrect subcommands.

$$

The error message above indicates that the number of
pages currently assigned to your directory exceeds the
working space quota that you desire.   Give the PUSH
subcommand.   Then, while at this new level of TOPS-20,
give the INFORMATION (ABOUT) DISK-USAGE command to
display the current page assignment:

$$PUSH<RET>

 TOPS-20 Command processor 5(703)
@INFORMATION (ABOUT) DISK-USAGE (OF DIRECTORY)<RET>
 PS:<TUCKER.OPERATOR>
 37 Pages assigned
 75 Working pages, 75 Permanent pages allowed
 4452 Pages free on PS:, 147548 pages used.
@

If you are unwilling for the working space quota to
equal or exceed the current page assignment, you can
delete files to sufficiently reduce the current page
assignment:

@DELETE (FILES) .QXAMPLE<RET>
 CREATE.QXAMPLE.2 [OK]
 OPR-POP.QXAMPLE.1 [OK]
 OPR-PUSH.QXAMPLE.5 [OK]
 POP-RETURN.QXAMPLE.5 [OK]
 PUSH-ERROR.QXAMPLE.4 [OK]
 SYSJ.QXAMPLE.7 [OK]

@EXPUNGE (DIRECTORY) <RET>
 PS:<TUCKER.OPERATOR> [30 pages freed]

Only seven pages are assigned to the directory now.
Return to your ^ECREATE session, and respecify the
working space quota.

@POP<RET>
[Continuing BUILD of directory PS:<TUCKER.OPERATOR>]
$$WORKING (DISK STORAGE PAGE LIMIT) 30<RET>

```
    $$<RET>
    $
```

REPEAT-LOGIN-MESSAGES

This subcommand allows the user, when logging onto the
system, to read all messages in SYSTEM:MAIL.TXT. Thus, when
a   user   logs   into   his   directory   with   the
REPEAT-LOGIN-MESSAGES attribute enabled, all messages from
SYSTEM:MAIL.TXT will be displayed at his terminal.

NOT REPEAT-LOGIN-MESSAGES, which is the default, withholds
this attribute from the user.

----- Example -----

To give a user the REPEAT-LOGIN-MESSAGES attribute:

```
$^ECREATE <BROWN><RET>
[Old]
$$REPEAT-LOGIN-MESSAGES<RET>
$$<RET>
$
```

SEMI-OPERATOR

This subcommand allows the user to execute a sub-set of OPR
commands.   The subset are those OPR commands for accessing
information and controlling certain devices.   (The devices
are determined by the System Administrator when a GALGEN is
performed.)

After this subcommand is issued for a particular user, the
operator must turn-on SEMI-OPR with the OPR command ENABLE.

----- Example -----

```
$^ECREATE <BROWN><RET>
[Old]
$$SEMI-OPERATOR (CAPABILITY)<RET>
$$<RET>
$
```

SUBDIRECTORY-USER-GROUP(ALLOWED) decimal group number

This subcommand specifies what user groups can be specified
in the USER-OF-GROUP or SUBDIRECTORY-USER-GROUP subcommands
for a subdirectory in this directory.

The argument is a decimal number from 1 to 262143 (2**18-1).
You can specify a maximum of 40 different groups. Because

you can give only one number for the argument, however, you
must repeat the subcommand for each different group. If
this subcommand is being specified for a subdirectory, the
user-group number must be in the list of subdirectory user
groups allowed in the superior directory.

NOT SUBDIRECTORY-USER-GROUP removes a group from the list of
groups allowed.   To remove more than one group from the
list, you must repeat the subcommand for each group.

----- Example -----

To allow the subdirectories of directory <A> to specify user
groups or subdirectory user groups of 1, 2, 3, or 4:

```
$^ECREATE <A><RET>
[New]
$$SUBDIRECTORY-USER-GROUP (ALLOWED) 1<RET>
$$SUBDIRECTORY-USER-GROUP (ALLOWED) 2<RET>
$$SUBDIRECTORY-USER-GROUP (ALLOWED) 3<RET>
$$SUBDIRECTORY-USER-GROUP (ALLOWED) 4<RET>
$$<RET>
$
```

TOPS10-PROJECT-PROGRAMMER-NUMBER(FOR COMPATIBILITY) n,n

This subcommand sets a TOPS-10 project-programmer number
(PPN) to the directory. This allows TOPS-10 programs that
require PPNs to be compatible with TOPS-20.

The project-programmer number consists of two octal numbers,
separated by a comma, that identify the user and his file
storage area on a TOPS-10 file structure.

To change the PPN in an existing directory, give this
subcommand with the new PPN.

----- Example -----

To assign user JONES a TOPS-10 PPN:

```
$^ECREATE <JONES><RET>
[Old]
$$TOPS10-PROJECT-PROGRAMMER-NUMBER 27,5434<RET>
$$<RET>
$
```

USER-OF-GROUP (NUMBER) decimal group number

This subcommand places the user of the directory in a group
and gives the user group-level access to other directories

with the same directory group number. (See the subcommand
DIRECTORY-GROUP to specify a directory group number.)

The argument is a decimal number from 1 to 262143 (2**18-1).
A user can belong to a maximum of 40 different groups.
However, because you can give only one number for the
argument, you must repeat the subcommand for each different
group. If this subcommand is being specified for   a
subdirectory, the user group number must be in the list of
subdirectory user groups allowed in the superior directory.

NOT USER-OF-GROUP removes a user from the group number
specified.   To remove a user from more than one group, you
must repeat the subcommand for each group.

----- Examples -----

1. To put a user in groups 3, 9, and 27:

    $^ECREATE <TES><RET>
    [New]
    $$USER-OF-GROUP 3<RET>
    $$USER-OF-GROUP 9<RET>
    $$USER-OF-GROUP 27<RET>
    $$<RET>
    $

2. To allow an instructor whose directory is <TEACH> to
    have group-level access to his students' directories,
    which have a directory group number of 5:

    $^ECREATE <TEACH><RET>
    [New]
    $$USER-OF-GROUP 5<RET>
    $$<RET>
    $

3. To remove a user from group 3:

    $^ECREATE <TES><RET>
    [Old]
    $$NOT USER-OF-GROUP 3<RET>
    $$<RET>
    $

WHEEL (CAPABILITY)

This subcommand grants the WHEEL capability to a user.

NOTE

Be very cautious about giving this capability,
because it allows a user to do anything on the
system and possibly destroy system security.

NOT WHEEL, which is the default, withholds this capability
from a user.

----- Example -----

To give user <SYSTEM-ACE> WHEEL capability:

$^ECREATE <SYSTEM-ACE><RET>
[New]
$$WHEEL<RET>
$$<RET>
$

WORKING (DISK STORAGE PAGE LIMIT) argument

This subcommand specifies the limit of the sum of temporary
working space that a user of the directory can have on disk
while logged in and the temporary working space that can be
delegated to subdirectories in the directory.

Temporary working space is delegated when the value for
WORKING is specified for a subdirectory in the directory.
After temporary working space is delegated, the value for
WORKING   in   the   superior   directory is automatically
decremented by the amount delegated.

You should allow at least as much working storage as
permanent storage.   You can change the value for this
parameter by giving the subcommand with a new value.

The arguments are the number of pages or INFINITY.

----- Arguments -----

The number of pages argument is a decimal number where a
page is 512 36-bit words. The default value is 250 pages.

The INFINITY argument allocates an unlimited number of pages
to the directory.   The working storage of the superior
directory must also be INFINITY. The number of pages that
can be used by the user is limited to the number of free
pages on the structure.   This argument is intended for
special system directories; it is not intended for general
users.

----- Example -----

To give user FOX 400 pages of working storage:

$^ECREATE <FOX><RET>
[New]
$$WORKING (DISK STORAGE PAGE LIMIT) 400<RET>
$$<RET>
$DISABLE<RET>
@

Restrictions

The following are error messages associated with the ^ECREATE command and its subcommands.

After some of the following error messages, you will also get the message:

Please fix incorrect subcommands.

After any error, you automatically return to subcommand level with the prompt $$. You can then give more subcommands to correct the error, specify additional directory parameters, or type ABORT and then correct the problem.

?6-digit value only

The maximum value accepted is six octal digits.

?Can't add new group; buffer full

You specified over 40 directory groups or user groups.

?Carriage return or subcommand required
?Does not match switch or keyword

You typed an invalid subcommand.

?Directory file is mapped

You tried to kill a directory that was being used.

?Directory still contains subdirectory.

You cannot delete a directory that has subdirectories.

?First nonspace character is not a digit - "character"

You must type a numeric argument.

?Group already exists

The group number that you typed was previously given.

?Group numbers must be between 1 and 262143.

A user group number or directory group number must be between 1 and 262143, inclusive.

?Illegal to create non-files-only subdirectory under files-only directory.

You cannot create a non-FILES-ONLY subdirectory under a FILES-ONLY directory.

?Illegal to delete connected directory.

You cannot delete your connected directory.To delete a specific directory, first connect to a different directory.

?Illegal to delete logged-in directory.

You cannot delete your logged-in directory. To delete a specific directory you must log in to a different directory.

?Internal format of directory is incorrect

You tried to kill a directory whose internal format is incorrect. (See Hints under the KILL subcommand.)

?Invalid character in number

You typed a nondigit in a numeric argument or you typed a nonoctal digit in an octal argument.

?Invalid directory number.

The number that you tried to give to a new directory has already been given to another directory.

?Invalid directory specification

You typed a directory incorrectly. Perhaps you forgot the right angle bracket (>).

?Invalid structure name - "name"

You specified a structure name incorrectly. Perhaps you omitted the angle brackets around a directory name, or you omitted the colon after the structure name.

?Invalid user group.

You specified a number for USER-GROUP or SUBDIRECTORY-USER-GROUP that is not in the superior directories list of subdirectory user groups allowed.

?Must be 0-63

The default number of generations to keep must be 0 to 63.

?No group to remove

You tried to remove a group number that was never assigned.

?Not confirmed

You must press RETURN or LINE FEED at the end of the command.

?Overflow (number is greater than 2**35)

The argument you specified is too large.

?Request exceeds superior directory permanent quota.

The number of pages you specified for a subdirectory's permanent disk-storage page limit exceeds the permanent disk-storage page limit remaining for the superior directory.

?Request exceeds superior directory subdirectory quota.

You tried to create a subdirectory when the superior directory allows no more subdirectories, or you specified a value for MAXIMUM-SUBDIRECTORIES that exceeds what is allowed by the superior directory.

?Request exceeds superior directory working quota.

The number of pages you specified for a subdirectory's working disk-storage page limit exceeds the working disk-storage page limit remaining for the superior directory.

?Structure str: not mounted

The structure you specified, str:, has not been mounted. Be sure you typed the structure name correctly. Also, MOUNT a structure before you create a directory on it.

?Subdirectory quota insufficient for existing subdirectories.

You tried to specify a value for MAXIMUM-SUBDIRECTORIES that

is less than the number of subdirectories already created and delegated.

?Superior directory does not exist.

You tried to create the subdirectory <directory.xxx>, but <directory>, the superior directory, does not exist.

?Superior directory full

Either <ROOT-DIRECTORY> on the structure where you are trying to create a directory cannot contain any more directories, or you are trying to create <directory.xxx> and <directory> cannot contain any more directories.

?Working space insufficient for current allocation.

You tried to specify a value for WORKING that is less than the current disk space already being used by the directory. Refer to Example 2 of the PUSH subcommand description for help.

?You can't change the number of an old directory

You cannot change the number of an existing directory.

Examples

1. To create a directory with all default values:

```
@ENABLE<RET>
$^ECREATE <STUDENT-1> S1<RET>
[New]
$$<RET>
$DISABLE<RET>
@
```

2. To create a new directory with some nondefault parameters:

    @ENABLE<RET>
    $^ECREATE (DIRECTORY NAME) <WHITEMAN><RET>
    [New]
    $$PASSWORD PAULAM<RET>
    $$ACCOUNT-DEFAULT (FOR LOGIN) BANK.MC<RET>
    $$WORKING (DISK STORAGE PAGE LIMIT) 500<RET>
    $$PERMANENT (DISK STORAGE PAGE LIMIT) 300<RET>
    $$USER-GROUP (NUMBER) 9<RET>
    $$DIRECTORY-GROUP (NUMBER) 5<RET>
    $$LIST<RET>
     Name <WHITEMAN>
     Working disk storage page limit 500
     Permanent disk storage page limit 300
     Account default for LOGIN BANK.MC
     User of groups 9
     Directory groups 5
     TOPS10 project-programmer number – none set

    $$LIST VERBOSE<RET>
     Name <WHITEMAN>
     Working disk storage page limit 500
     Permanent disk storage page limit 300
     not WHEEL
     not OPERATOR
     not CONFIDENTIAL INFORMATION ACCESS
     not MAINTENANCE
     not IPCF
     not ENQ-DEQ
     not FILES-ONLY
     not SERCURE
     No directory number
     Default file protection 777700
     Account default for LOGIN BANK.MC
     Protection of directory 777700
     Generations to keep 1
     Maximum subdirectories allowed 0
     Never logged in interactively
     Never logged in non-interactively
     Password expiration date not set
     No interactive loging failures
     No non-interactive login failures
     User of groups 9
     Directory groups 5
     Subdirectory user groups allowed – none set
     Online expiration default 60 days
     Offline expiration default 90 days
     TOPS10 project-programmer number – none set

    $$<RET>

    $DISABLE<RET>
    @

3. To alter a parameter for a directory:

    $^ECREATE <WHITEMAN><RET>
    [Old]
    $$CONFIDENTIAL (INFORMATION ACCESS CAPABILITY)<RET>
    $$SEMI-OPERATOR (CAPABILITY)<RET>
    $$LIST VERBOSE<RET>
     Name <WHITEMAN>
     Working disk storage page limit 500
     Permanent disk storage page limit 300
     not WHEEL
     not OPERATOR
     CONFIDENTIAL INFORMATION ACCESS
     not MAINTENANCE
     not IPCF
     not ENQ-DEQ
     SEMI-OPERATOR
     not FILES-ONLY
     not SECURE
     Number of directory 606
     Default file protection 777700
     Account default for login BANK.MC
     Protection of directory 777700
     Generations to keep 1
     Maximum subdirectories allowed 0
     Last interactive login 11–May–90 15:30:47
     Last non-interactive login 22–Feb–90 18:28:21
     Password expiration date is 15–Aug–90 17:35:14
     No interactive login failures
     No non-interactive login failures
     Never logged in non-interactively
     Password expiration date not set
     No interactive loging failures
     No non-interactive login failures
     Last LOGIN
     User of groups 5, 9
     Directory groups 5
     Subdirectory user groups allowed – none set
     Online expiration default 60 days
     Offline expiration default 90 days
     TOPS10 project-programmer number – none set

    $$<RET>
    $DISABLE<RET>
    @

4. To delete a directory from the system:

    ```
    $^ECREATE <WHITEMAN><RET>
    [Old]
    $$KILL<RET>
    [Confirm]<RET>
    $$<RET>
    $DISABLE<RET>
    @
    ```

5. To create the files-only directory <MANUALS> on structure
    DSKA with DSKA previously MOUNTed:

    ```
    $^ECREATE DSKA:<MANUALS><RET>
    [New]
    $$FILES-ONLY<RET>
    $$<RET>
    $DISABLE<RET>
    @
    ```

6. To create PS:<P> and allow it to have 50 subdirectories in
    user groups 3 and/or 4:

    ```
    $^ECREATE PS:<P><RET>
    [New]
    $$WORKING 12500<RET>
    $$PERMANENT 12500<RET>
    $$MAXIMUM-SUBDIRECTORIES 50<RET>
    $$SUBDIRECTORY-USER-GROUP (ALLOWED) 3<RET>
    $$SUBDIRECTORY-USER-GROUP (ALLOWED) 4<RET>
    $$<RET>
    $DISABLE<RET>
    @
    ```

7. To create the subdirectory <P.HURLEY> in user group 3 when
    <P> already exists:

    ```
    $^ECREATE <P.HURLEY><RET>
    [New]
    $$PASSWORD YUIOP<RET>
    $$USER-GROUP 3<RET>
    $$<RET>
    $DISABLE<RET>
    @
    ```

^EDEFINE – Defining and Deleting System Logical Names

Function

The ^EDEFINE command creates or deletes system logical names. A
system logical name applies to all users on the system. A system
logical name is a list of system directories that tells the
system where and in what order to search for a file for all
users.

Format

^EDEFINE (SYSTEM LOGICAL NAME) lognam: (AS) filespec

Arguments

lognam: specifies a 1- to 39-character alphanumeric
                 abbreviation or system logical name to be
                 defined or deleted, or * to delete all system
                 logical names.

filespec   specifies one or more file specifications
                 separated by commas. A file specification is
                 any combination of device or structure name,
                 directory name, filename, file type,
                 generation number, and wild cards. If you are
                 deleting a system logical name, do not type
                 any file specification.

Hints

Whenever you give this command, you are asked to CONFIRM. If you
have typed the command correctly, press RETURN. Otherwise, type
CTRL/U and retype the command.

Do not confuse the ^EDEFINE command with the TOPS-20 EXEC DEFINE
command. The DEFINE command defines a logical name for only the
user that issues the command. (See the TOPS-20 User's Guide
and/or TOPS-20 Commands Manual for a complete description of the
DEFINE command.)

To check the current list of system logical names, use the
command INFORMATION (ABOUT) LOGICAL NAMES with the argument
SYSTEM. You should use this command before and after you add or
delete a system logical name. For example:

```
@INFORMATION (ABOUT) LOGICAL-NAMES (OF) SYSTEM<RET>
CR: => CDR:
DS: => DSK:
HLP: => SYS:
LP: => LPT:
NEW: => PS:<LOADTEST>,PS:<NEXT-RELEASE>
SY: => SYS:
SYS: => PS:<LOADTEST>,PS:<NEXT-RELEASE>,
PS:<FIELD-IMAGE>,PS:<UNSUPPORTED>,PS:<REL>
TT: => TTY:
```

Restrictions

The following is a warning message associated with the ^EDEFINE command:

%Logical name lognam: was not defined

> The system logical name "lognam:" that you tried to delete was not defined.

The following are error messages associated with the ^EDEFINE command:

?Directory terminating delimiter is not preceded by a valid beginning delimiter

> You made an error in typing the file specification. Perhaps you forgot a comma between two directory names.

?Invalid character in filename

> You typed an invalid character in the file specification.

?More than one name field is not allowed

> You made an error in the file specification. You probably typed a period instead of a comma.

Examples

1. To define SYS: as PS:<SUBSYS> and PS:<NEW> using all guide words and prompts:

    ```
    @ENABLE<RET>
    $^EDEFINE (SYSTEM LOGICAL NAME) ?
     LOGICAL NAME TO DEFINE OR DELETE,
     OR "*" TO DELETE ALL
    $^EDEFINE (SYSTEM LOGICAL NAME) SYS: (AS) ?
    ```

```
 DEFINITION LIST OR NULL TO DELETE
$^EDEFINE (SYSTEM LOGICAL NAME) SYS: -<RET>
(AS) PS:<SUBSYS>,PS:<NEW><RET>
[CONFIRM]<RET>
$DISABLE<RET>
@
```

2. To define BAS: as PS:<BASIC>:

    ```
    @ENABLE<RET>
    $^EDEFINE (SYSTEM LOGICAL NAME) BAS: (AS) PS:<BASIC><RET>
    [CONFIRM]<RET>
    $DISABLE<RET>
    @
    ```

3. To delete the logical name BAS:

    ```
    @ENABLE<RET>
    $^EDEFINE (SYSTEM LOGICAL NAME) BAS: (AS)<RET>
    [CONFIRM]<RET>
    $DISABLE<RET>
    @
    ```

4. To define TEST: as PS:<TEST>TSTPAK.FOR.3:

    ```
    @ENABLE<RET>
    $^EDEFINE TEST: PS:<TEST>TSTPAK.FOR.3<RET>
    [CONFIRM]<RET>
    $DISABLE<RET>
    @
    ```

^EEDDT – Debugging the EXEC

Function

The ^EEDDT command transfers control to DDT looking at the
TOPS-20 EXEC with symbols.

Format

^EEDDT

Characteristics

The ^EEDDT command should be used only by a system programmer.
If necessary, it gets DDT from the file SYS.UDDT.EXE and stores a
symbol table pointer into it. Normally, this command is used
only by a system programmer to debug the EXEC.

Hint

If you get into EDDT by mistake, type $G to get back to the EXEC.
For example,

      @ENABLE<RET>
      $^EEDDT<RET>
      DDT<RET>
      $G<RET>
      $DISABLE<RET>
      @

Restriction

You must have WHEEL capability to execute the ^EEDDT command. If
you issue the ^EEDDT command without WHEEL capability, an error
message appears and the enabled prompt reappears. For example,

      @ENABLE<RET>
      $^EEDDT<RET>
      ?Insufficient privileges
      $DISABLE<RET>
      @

^EPRINT – Print Directory Parameters

Function

The ^EPRINT command prints on your terminal the parameters
associated with the directory specified.

Format

$^EPRINT (DIRECTORY NAME) structure:<directory>,<RET>
$$subcommand<RET>

Arguments

structure   specifies a 1- to 6-character alphanumeric
                  name   or   logical name for the structure
                  containing the directory for which you want
                  directory information. If you do not specify
                  a structure name, your currently-connected
                  structure is assumed.   If you have   not
                  connected to a specific structure, you are
                  connected by default to the public structure.
                  You cannot use recognition on the structure
                  name.

<directory>   specifies 1 to 39 letters, digits, hyphens, or
                  periods representing the name of the directory
                  for which you want information. The directory
                  name must be embedded in angle brackets. You
                  can use recognition on this name.

Subcommands

FAST   specifies the output be a short list
                  equivalent to the LIST FAST subcommand
                  of the ^ECREATE command.   If you omit
                  the comma and the subcommand, FAST is
                  assumed.

NAME-ONLY   specifies the output be the name of the
                  directory.   This is equivalent to the
                  LIST NAME-ONLY subcommand of the
                  ^ECREATE command.

VERBOSE   specifies the output be all the
                  parameters   except   PASSWORD,   NOT

ABSOLUTE-INTERNET-SOCKETS, and NOT
INTERNET-WIZARD. This is equivalent to
the LIST VERBOSE subcommand of the
^ECREATE command.

Characteristics

This command is equivalent to the EXEC command INFORMATION
DIRECTORY.

When you specify the NAME-ONLY subcommand, the structure and
directory name that you specified after ^EPRINT are output. When
you specify the VERBOSE subcommand, all the parameters listed
on the next page are printed except the following:

    Not ABSOLUTE-INTERNET-SOCKETS
    Not INTERNET-ACCESS
    Not ARCHIVE-ONLINE-EXPIRED-FILES
    Not DECNET-ACCESS

If you use the FAST subcommand or no argument, certain
default-value parameters are suppressed as indicated below. The
values are set when you use ^ECREATE.

PARAMETER	SUPPRESSED BY "FAST" IF
Name	–
Password	always suppressed
Working disk storage page limit	–
Permanent disk storage page limit	–
WHEEL	not WHEEL
OPERATOR	not OPERATOR
CONFIDENTIAL INFORMATION ACCESS	not CONFIDENTIAL INFORMATION ACCESS
MAINTENANCE	not MAINTENANCE
IPCF	not IPCF
ENQ-DEQ	not ENQ-DEQ
SEMI-OPERATOR	not SEMI-OPERATOR
DECNET-ACCESS	not DECNET-ACCESS
INTERNET-ACCESS	not INTERNET-ACCESS
INTERNET-WIZARD	not INTERNET-WIZARD
ABSOLUTE-INTERNET-SOCKETS	not ABSOLUTE-INTERNET-SOCKETS
FILES-ONLY	not FILES-ONLY
SECURE	not SECURE
Archive-online-expired-files	not ARCHIVE-ONLINE-EXPIRED-FILES
Number of directory	–
Default file protection	777700
Account default for login	none set

Protection of directory	777700
Generations to keep	1
Maximum subdirectories allowed	0
Last interactive login	never logged in
Last non-interactive login	never logged in
Password expiration date	none set
Interactive login failures	no failures
Non-interactive login failures	no failures
User of groups	none set
Directory groups	none set
Subdirectory user groups allowed	none set
Online expiration default	SYSTEM DEFAULT (USUALLY 60 DAYS)
Offline expiration default	–
TOPS10 project-programmer number	–

(See ^ECREATE for a definition of the parameters.)

Hints

If you want to see the values of all the parameters, except the
ARPANET ones, use the VERBOSE subcommand. Once you are familiar
with default values, you seldom need to use VERBOSE.

You can also use the EXEC command, INFORMATION (ABOUT) DIRECTORY,
instead of ^EPRINT.

If you need to change a parameter, use ^ECREATE.

Restrictions

The following are error messages associated with the ^EPRINT
command:

?Invalid structure name

    You specified a structure name incorrectly. Perhaps you
    omitted the angle brackets around a directory name, or you
    omitted the colon after the structure name.

?No such directory

    The user name that you typed does not exist. Type the
    command again with a valid user name; try recognition input.

Examples

1. To print a brief list of parameters for directory <PETER>:

    @ENABLE<RET>
    $^EPRINT <PETER><RET>
     Name PS:<PETER>
     Working disk storage page limit 100
     Permanent disk storage page limit 70
     MAINTENANCE
     Number of directory 523
     Account default for LOGIN INVENTORY
     Last interactive LOGIN 24-Aug-88 13:05:52
     Last non-interactive LOGIN 12-Sep-88 15:22:48
     TOPS10 project-programmer number 12,3553

    $DISABLE<RET>
    @

2. To print all the parameters for directory <PETER>:

    $^EPRINT <PETER>,<RET>
    $$VERBOSE<RET>
    $$<RET>
     Name PS:<PETER>
     Working disk storage page limit 100
     Permanent disk storage page limit 70
     not WHEEL
     not OPERATOR
     not CONFIDENTIAL INFORMATION ACCESS
     MAINTENANCE
     not IPCF
     not ENQ-DEQ
     not FILES-ONLY
     not SECURE
     Number of directory 523
     Default file protection 777700
     Account default for LOGIN INVENTORY
     Protection of directory 777700
     Generations to keep 1
     Maximum subdirectories allowed 0
     Last interactive login 24-Aug-89 13:05:52
     Last non-interactive login 23-Aug-89 20:57:07
     Password expires on 18-Oct-89 07:01:00
     Number of interactive login failures 1
     Number of non-interactive login failures 2
     User of groups – none set
     Directory groups – none set
     Subdirectory user groups allowed – none set
     Online expiration default 60 days
     Offline expiration default 90 days
     TOPS10 project-programmer number 12,3553

    $DISABLE<RET>
    @

3. To use recognition input, determine arguments, and then get a
    brief list of parameters:

    @ENABLE<RET>
    $^EPRINT (DIRECTORY NAME) <ALAN>,<RET>
    $$? confirm with carriage return
     or one of the following:
     FAST   NAME-ONLY   VERBOSE
    $$<RET>
     NAME PS:<ALAN>
     Working disk storage page limit 800
     Permanent disk storage page limit 400
     Number of directory 142
     Account default for login 120
     Last interactive login 27-OCT-89 07:45:30
     Last non-interactive login 12-OCT-89 03:30:44
     TOPS10 project-programmer number – none set

    $DISABLE<RET>
    @

^EQUIT - Halting the EXEC

Function

The ^EQUIT command halts the EXEC (the TOPS-20 command processor) and returns control to the program under which the EXEC is being run.

Format

^EQUIT

Hint

The ^EQUIT command should be used only by a system programmer. For the privileged user the command is normally used to get into the MINI-EXEC. The prompt to indicate that you are in the MINI-EXEC is MX>. Some commands for the MINI-EXEC are documented in the TOPS-20 Software Installation Guide, because they are useful in the installation process.

If you get into the MINI-EXEC by mistake, type S after the prompt. TART will be printed immediately. Press RETURN and you are back at EXEC level with the enable prompt. (See the example below.)

Once you use ^EQUIT to enter the MINI-EXEC, whenever you type <CTRL/P> thereafter, you enter the MINI-EXEC. The <CTRL/P> has this effect until you log out.

Restriction

You must have WHEEL capability to execute the ^EQUIT command. If you issue the ^EQUIT command without WHEEL capability, a question mark appears and the enabled prompt reappears. For example,

```
@ENABLE<RET>
$^EQUIT<RET>
?
$DISABLE<RET>
@
```

Example

```
@ENABLE<RET>
```

```
$^EQUIT<RET>

INTERRUPT AT 17377
MX>START<RET>
$DISABLE<RET>
@
```

^ESEND - Sending Messages to Users Immediately

Function

The ^ESEND command sends a single- or multiple-line message immediately to a particular user, a particular terminal-line number, or all users, or terminal numbers, on the local system or a remote system within the cluster.

Format

^ESEND (TO) arguments

Arguments

user name	specifies a user name or an asterisk (*) for all users.
terminal number	specifies a terminal-line number or an asterisk (*) for all terminals.
/NODE:node-name::	specifies a remote node name within the cluster or an asterisk (*) for all users on all systems within the cluster.
message	specifies a message of one to six lines of text followed by a carriage return.

Characteristics

The ^ESEND command accepts multiple-line messages with up to six lines of text. You can continue typing the message past the end of a line and onto the next line, without pressing RETURN. ^ESEND reorganizes the message so that any words split between two lines appear on the same line on receiving terminals.

If you want to avoid divided words while typing your message, use the hyphen (-) continue character. At the end of each line, type a space and a hyphen, and then press RETURN.

The ^ESEND command does not send the message to PTYs (pseudo-terminals). When you end the command, the message is then printed on the specified terminals.

Hints

Use the TOPS-20 SYSTAT command to determine a user's line number.

If you wish to begin the message with a question mark (?), type CTRL/V before the "?". The CTRL/V allows the "?" to be taken literally instead of printing the help text. Note that CTRL/V is required only if the "?" is in the first character position.

Examples

1. To immediately tell all users to free up disk space, because available disk space is getting low:

   @ENABLE<RET>
   $^ESEND * PLEASE DELETE AND EXPUNGE UNNECESSARY
    FILES NOW<RET>

   [From OPERATOR on line 130: PLEASE DELETE AND EXPUNGE
   UNNECESSARY FILES NOW]
   $DISABLE<RET>
   @

2. Send a multiple-line message to TTY20:. Note that the words "installed" and "converted" are divided between lines.

   $^ESEND ASMITH Your new short-ship tracking program is
   installed on SYS:. However, the database files cannot be
   converted until tonight. Please wait until tomorrow to make
   new entries.<RET>

   The message appears on the receiving terminals as:

   [From OPERATOR on line 17:
   Your new short-ship tracking program is installed on
    SYS:. However, the database files cannot be converted
    until tonight. Please wait until tomorrow to make new
    entries.]

3. Send the same message as in Example 2 only use the continue character.

   $^ESEND ASMITH Your new short-ship tracking program is -<RET>
   installed on SYS:. However, the database files -<RET>
   cannot be converted until tonight. Please wait until -<RET>
   tomorrow to make new entries.<RET>

^ESET - Setting Job, System, and Terminal Parameters

Function

The ^ESET command sets various parameters for a job, for the system, and for terminals.

Format

^ESET argument

Arguments

CLUSTER-INFORMATION

specifies to allow information (@INFORMATION SYSTEM command) about the local system to be reported on remote systems.

NO CLUSTER-INFORMATION

specifies to disable (not allow) information from the @INFORMATION SYSTEM command on remote systems.

CLUSTER-SENDALLS

specifies to allow the acceptance of remote sendalls to the local system or node, by way of the @SEND /NODE: command.

NO CLUSTER-SENDALLS

specifies to disallow the acceptance of remote sendalls to the local system or node, by way of the @SEND /NODE: command.

DATE-AND-TIME (TO) date and time

Sets the system date and time while the system is running. This is helpful if you type an incorrect date or time when you start the system. It is also useful when the system time has fallen behind because the system has been down for a while and then continued.

(See the examples of legal dates and times under the ^ECEASE

command.)

----- Characteristic -----

The ^ESET DATE-AND-TIME command, given from any OPR terminal in a CFS cluster, sets the date and time for all systems in the cluster.

----- Hint -----

If you set the time back, you can seriously affect accounting and the compilation of user programs. Therefore, you should notify all users that you had to set the time back.

After you give the ^ESET DATE-AND-TIME command, you can check the results with the TOPS-20 DAYTIME command or the OPR command: SHOW DAYTIME.

----- Example -----

To change the date and time to February 29, 1980, 8 a.m.:

```
@ENABLE<RET>
$^ESET DATE-AND-TIME (TO) 29-FEB-80 800<RET>
$DISABLE<RET>
@
```

FAST-LOGINS-ALLOWED

specifies that the /FAST switch is available with the LOGIN command. This switch prevents processing of LOGIN.CMD and COMAND.CMD files, printing of system mail, and printing of the notice of new mail.

This is the default setting.

NO FAST-LOGINS-ALLOWED

specifies that the /FAST switch is not available with the LOGIN command.

----- Example -----

To disallow the use of the /FAST switch with the TOPS-20 LOGIN command:

```
@ENABLE<RET>
$^ESET NO FAST-LOGINS-ALLOWED<RET>
$DISABLE<RET>
@
```

LEVEL-ONE-MESSAGES

> specifies that level-one messages (messages of interest to all users) are sent to terminals on the system. The INFORMATION SYSTEM-STATUS displays whether or not level-one messages are enabled.

> ----- Example -----

```
@ENABLE<RET>
$^ESET LEVEL-ONE-MESSAGES<RET>
$DISABLE<RET>
```

NO LEVEL-ONE-MESSAGES

> specifies that level-one messages (messages of interest to all users) are sent only to the CTY (console terminal).

> ----- Example -----

```
@ENABLE<RET>
$^ESET NO LEVEL-ONE-MESSAGES<RET>
$DISABLE<RET>
```

LEVEL-ZERO-MESSAGES

> specifies that level-zero messages (messages primarily of interest to operations personnel) are sent to all terminals on the system. The INFORMATION SYSTEM-STATUS displays whether or not level-zero messages are enabled.

> ----- Example -----

```
@ENABLE<RET>
$^ESET LEVEL-ZERO-MESSAGES<RET>
$DISABLE<RET>
```

NO LEVEL-ZERO-MESSAGES

> specifies that level-zero messages (messages primarily of interest to operations personnel) are sent only to the CTY (console terminal).

> ----- Example -----

```
@ENABLE<RET>
$^ESET LEVEL-ZERO-MESSAGES<RET>
$DISABLE<RET>
```

LOGINS-ALLOWED(ON) terminal

> specifies the terminals from which LOGINs will succeed. The value of terminal can be:

> ANY-TERMINAL
> INTERNET-TERMINALS
> CONSOLE-TERMINAL
> DECNET-TERMINALS
> LOCAL-TERMINALS
> PSEUDO-TERMINALS
> REMOTE-TERMINALS

> The argument (terminal) you give adds to the list of terminals allowed. It does not change the list to only what you just typed.

> Before SYSJOB.RUN is processed at system startup, LOGINs are allowed from PSEUDO-TERMINALS and the CONSOLE-TERMINAL. After SYSJOB.RUN is processed, LOGINs are allowed from any terminal.

>   NOTE

> You cannot use this command to allow LOGINs from LAT terminals. Use the START command from the LCP command set. See Chapter 4 (LCP COMMANDS) for more information about allowing LOGINs from LAT terminals.

> ----- Hints -----

> To check the current LOGINS-ALLOWED, type the TOPS-20 command INFORMATION (ABOUT) SYSTEM-STATUS.

> To disallow certain terminals, use ^ESET NO LOGINS-ALLOWED, described as the next Argument to the ^ESET command.

> ----- Examples -----

1. If you previously had LOGINs at the console terminal only and you also want to allow pseudo-terminal LOGINs:

```
@ENABLE<RET>
$^ESET LOGINS-ALLOWED (ON) PSEUDO-TERMINALS<RET>
$DISABLE<RET>
@
```

2. To allow LOGINs from anywhere:

```
@ENABLE<RET>
$^ESET LOGINS-ALLOWED (ON) ANY-TERMINAL<RET>
$DISABLE<RET>
```

@

NO LOGINS-ALLOWED (ON) terminal

specifies to disallow LOGINs from certain terminals. The value terminal can be:

```
ANY-TERMINAL
INTERNET-TERMINALS
CONSOLE-TERMINAL
DECNET-TERMINALS
LOCAL-TERMINALS
PSEUDO-TERMINALS
REMOTE-TERMINALS
```

Thus, you can prevent certain users from accessing the system. The command removes the specified terminals from the list of terminals from which LOGINs are allowed.

NOTE

You cannot use this command to disallow LOGINs from LAT terminals. Use the STOP command from the LCP command set. See Chapter 4 (LCP COMMANDS) for more information about disallowing LOGINs from LAT terminals.

----- Example -----

To disallow LOGINs from remote terminals:

```
@ENABLE<RET>
$^ESET NO LOGINS-ALLOWED (ON) REMOTE-TERMINALS<RET>
$DISABLE<RET>
@
```

MINIMUM-PASSWORD-LENGTH 'n'

specifies a minimum password length to help ensure directory security. The 'n' must be a value from 1 to 39, representing the minimum number of characters needed for a password specification to the directory. You can find the current setting for the minimum password length with the EXEC command INFORMATION SYSTEM-STATUS.

NO MINIMUM-PASSWORD-LENGTH

specifies that the password must be at least 8 characters in length. This is the default when the argument MINIMUM-PASSWORD-LENGTH is not specified in the ^ESET command.

OFFLINE-STRUCTURES (timeout interval) mm:ss

specifies to enable the offline structure facility and set the timeout interval to "mm:ss", where mm is minutes and ss is seconds. The default is one (1:00) minute. You can specify from one second (00:01) to fifteen minutes (15:00). The time you specify is the length of time between when a disk unit is noticed as offline by the monitor and the time when the monitor marks the structure as offline.

NO OFFLINE-STRUCTURES

specifies to disable the offline structure facility. The TOPS-20 monitor resumes structure operation as in previous releases.

OPERATOR-IN-ATTENDANCE

specifies that there is an operator present on the system. It also notifies OPR/ORION that form changing can be performed on the line printers.

----- Example -----

When you return after no operator was present, type:

```
@ENABLE<RET>
$^ESET OPERATOR-IN-ATTENDANCE<RET>
$DISABLE<RET>
@
```

NO OPERATOR-IN-ATTENDANCE

specifies there is no operator present on the system. (The INFORMATION (ABOUT) SYSTEM-STATUS command displays whether or not an operator is in attendance.) This command prevents certain system programs, for example, PLEASE, from indefinitely waiting for an operator to respond. It also notifies OPR/ORION to not allow any forms changing on the line printers. Be sure to give this command if you leave the computer room temporarily or if your shift is ending and no operator is coming on duty.

This is the default setting.

----- Example -----

To indicate that there is no operator present, send a message to all users that you are leaving, and then type:

```
@ENABLE<RET>
$^ESET NO OPERATOR-IN-ATTENDANCE<RET>
$DISABLE<RET>
```

@

PASSWORD-DICTIONARY

specifies that certain combinations of characters are illegal for use as passwords. You can place such words in the file SYSTEM:PASSWORD.DICTIONARY and have them automatically matched against newly requested passwords. If a match occurs, the password is denied and another must be selected.

----- Example -----

@ENABLE<RET>
$^ESET PASSWORD-DICTIONARY<RET>
$DISABLE<RET>
@

NO PASSWORD-DICTIONARY

specifies to disable the PASSWORD-DICTIONARY feature. Newly-supplied passwords are not checked against a list of non-acceptable password combinations.

PASSWORD-EXPIRATION n

specifies the number of days a password is valid since the time it was last changed. The value of n is a number from 1 366. The default number of days is 30. After a password has expired, the user is allowed to log in, but must change the password immediately. (The INFORMATION SYSTEM-STATUS command displays the number of days a password is valid.)

----- Example -----

To set the password expiration to 45 days, type:

@ENABLE<RET>
$^ESET PASSWORD-EXPIRATION 45<RET>
$DISABLE<RET>
@

NO PASSWORD-EXPIRATION

specifies to diable the password-expiration feature. The TOPS-20 monitor does not obligate users to change their password in a specified number of days.

PRIVATE-QUASAR (FOR PRIVATE GALAXY)

specifies that the EXEC is to communicate with your private

copy of the Galaxy subsystem, rather than with the system's copy. For example, when you issue such Galaxy-related EXEC commands as PRINT or SUBMIT, your private copy of QUASAR (a major component of the Galaxy subsystem) gets control.

NO PRIVATE-QUASAR (FOR PRIVATE GALAXY)

specifies that the EXEC is no longer to recognize your copy of the Galaxy subsystem. After this command, the system's copy handles your GALAXY-related EXEC commands.

RUN-TIME-GUARANTEE (FOR JOB) n (TO) m (PERCENT)

specifies a guarantee of at least a certain percentage (m) of run-time to a particular job (n). The n is the job number and the m is the percentage of runtime from 1 to 100. Then, from the time a job wants to run, the TOPS-20 scheduler tries to give the job at least the specified percentage of central processing time, for as long as the job continues to run. Be extremely cautious about giving a job 100 percent, because you may not be able to give another command. Note that this command has no effect if your system is running the class scheduler.

----- Example -----

To guarantee 5 percent runtime to job 11:

@ENABLE<RET>
$^ESET RUN-TIME-GUARANTEE (FOR JOB) 11-<RET>
(TO) 5 (PERCENT)<RET>
$DISABLE<RET>
@

NO RUN-TIME-GUARANTEE (FOR JOB) number

specifies to cancel a run-time guarantee for a particular job.

----- Example -----

To cancel the runtime guarantee for job 11:

@ENABLE<RET>
$^ESET NO RUN-TIME-GUARANTEE (FOR JOB) 11<RET>
$DISABLE<RET>
@

SYSTEM-ACCESS-CONTROL-JOB

specifies that the Access Control Job (ACJ) is run by the

monitor as part of job 0, where it is more secure. The ACJ
helps govern access to many of the system's resources and
services, reduce or prevent unauthorized access to the
system, and investigate occurrences of unauthorized access.
It can control scheduling classes, the bias control, batch
background queue, logging in, use of physical resources
(tape drives, terminals, structures), and enabling
capabilities.

There is no corresponding NO SYSTEM-ACCESS-CONTROL-JOB
command.

TERMINAL n m SPEED (OF INPUT) r (OF OUTPUT) t

specifies that terminal (n), or a range of terminals (n m),
where n is the lowest terminal line number and m is the
highest, have an input speed of r and an output speed of t;
r is the receive baud rate; and t is the transmit baud rate.
The legal baud rates are 0, 75, 50, 110, 134, 150, 200, 300,
600, 1200, 1800, 2400, 4800, and 9600.

This command works like the user command TERMINAL SPEED, but
it also allows you to set the speeds for any terminal on the
system. If you give only one speed, it applies to both
input and output.

----- Example -----

1. To set a terminal's receive and transmit speed to 300:

    @ENABLE<RET>
    $^ESET TERMINAL 20 SPEED 300<RET>
    $DISABLE<RET>
    @

2. To set all terminals from terminal 30 to terminal 45 to
    receive speeds of
    4800 and transmit speeds of 9600:

    @ENABLE<RET>
    $^ESET TERMINAL 30 45 SPEED 4800 9600<RET>
    $DISABLE<RET>
    @

WORKING-SET-PRELOADING

specifies that the entire working set of a process is
brought into memory at once when the process is selected to
run. Otherwise, this action occurs on a page-by-page basis
(demand paging).

You should enable working set preloading only if your system
runs large compute-bound jobs. If your system runs many
interactive jobs, disable working set preloading with the
^ESET NO WORKING-SET-PRELOADING command.

The INFORMATION SYSTEM-STATUS command displays whether or
not working set preloading is enabled.

----- Example -----

@ENABLE<RET>
$^ESET WORKING-SET-PRELOADING<RET>
$DISABLE<RET>

NO WORKING-SET-PRELOADING

specifies that the minimum pages in a process's working set are brought into memory. Pages are added to the working set on a page-by-page basis as they are referenced (demand paging).

----- Example -----

@ENABLE<RET>
$^ESET NO WORKING-SET-PRELOADING<RET>
$DISABLE<RET>

Restrictions

The following are error messages associated with the ^ESET command:

?Invalid date format

You typed the date incorrectly.

?Invalid terminal range

You must type the lowest terminal number first when specifying a range.

?Invalid time format

You typed the time incorrectly.

?Must be between 1 and 39

You must type a value between 1 and 39 for the password length (MINIMUM-PASSWORD-LENGTH).

?Non-digit typed where number required

You must type a number for the argument value.

?Non-octal digit typed where octal number required

You must type an octal number for the argument value.

?Nonexistent job

You typed a job number that does not exist.

?Run time guarantee percentage must be from 1-100

When you specify the percentage for RUN-TIME-GUARANTEE, you must give a number from 1 to 100.

Example

To see the various arguments to the ^ESET command, type a ?   in place of the argument.

@ENABLE<RET>
$^ESET ? one of the following:
 CLUSTER-INFORMATION   CLUSTER-SENDALLS
 DATE-AND-TIME   FAST-LOGINS-ALLOWED
 LEVEL-ONE-MESSAGE   LEVEL-ZERO-MESSAGE
 LOGINS-ALLOWED   MINIMUM-PASSWORD-LENGTH
 NO   OFFLINE-STRUCTURES
 OPERATOR-IN-ATTENDANCE   PRIVATE-QUASAR
 RUN-TIME-GUARANTEE   TERMINAL
 WORKING-SET-PRELOADING
$DISABLE<RET>
@

^ESPEAK - Giving Commands To SYSJOB

Function

The ^ESPEAK command sends commands to SYSJOB, which is run under job 0. SYSJOB is a system task that controls other system processes and jobs. ^ESPEAK allows you to check the status of the processes under SYSJOB and restart them, if necessary.

Format

```
^ESPEAK (TO SYSJOB)<RET>
[Please type SYSJOB commands - end with ^Z]
 text                (SYSJOB commands)
```

Subcommands

The SYSJOB commands, which you must use to communicate with processes run under SYSJOB, are explained below. For ease of discussion, they are not alphabetical.

PROCESS COMMANDS

RUN filespec of program

This command creates an inferior process and runs the specified program in it. The process is identified by a name consisting of the first six characters of the name portion of the file specification.

KILL name

This command kills the process of the specified name.

PURGE process number

This command kills the process of the specified number. Process numbers appear in the first column of the STATUS command display. With the PURGE command, you can distinguish among processes having the same name.

FREEZE name

This command temporarily suspends execution of the specified process (name). This may later be undone by the RESUME command.

RESUME name

This command continues execution of the process having the specified name, thus undoing the effect of a previous FREEZE.

DUMP process number

This command allows you to obtain a snapshot of a process' memory without disturbing operations. Execution of the process is temporarily suspended; the ACs and memory contents are saved in file xxx.DMP, where xxx is the process name; then execution is resumed. Refer to Example 4.

JOB COMMANDS

JOB ident text-string

This command transmits text to a job via a PTY. The ident is an arbitrary small integer not related to the system job number of the job being controlled. You should choose the smallest number (beginning with 0) not presently in use when a new job is desired. Thereafter, that number identifies that job for SYSJOB.

The text-string is a string of system commands surrounded by any character not occurring within the string, for example, /a string of characters/. The string may include <RET>, other format control characters, and control characters. You must indicate a control character by typing an up-arrow (^) followed by the character. If you want to indicate an up-arrow, when it is not being used to indicate a control character, type two up-arrows. If there is no job in existence when a JOB command is executed, a ^C is sent ahead of the specified text to create one. Note, however, that the job is not automatically logged in, so a LOGIN command must be given via the JOB command.

Any output from the job is handled by SYSJOB and typed on the CTY. Each line is prefixed with the ident number of the job which produced the output. Output is only typed at the end of a line, so prompt characters coming from a job are not seen until the remainder of the line has been input.

KILLJOB ident

This command forces a LOGOUT of the specified job.

CCJOB ident

This command transmits two ^C's to the specified job and holds any further input until the ^C's have been processed.

OTHER COMMANDS

STATUS

This command prints, on the CTY, the status of all existing inferior processes and jobs presently known to SYSJOB.

RELOAD

This command causes SYSJOB to reload and restart itself. Use this command with great caution, as it can cause an abrupt termination of all inferior processes and detach any PTY-controlled jobs. If possible, you should kill all processes and log out all jobs before the RELOAD is executed. This command allows you to put a new version of SYSJOB into operation during timesharing and provides the possibility of recovery after a severe SYSJOB malfunction.

Characteristics

All text on the line following the prompt message up to CTRL/Z is input to SYSJOB. Actually, the text is written into the file SYSTEM:SYSJOB.COMMANDS. Then, a wakeup request is issued to SYSJOB which reads the file and performs the commands in it. Thus, it is equivalent to:

COPY (FROM) TTY: (TO) SYSTEM:SYSJOB.COMMANDS

as soon as SYSJOB wakes up and reads the file.

The text must consist of SYSJOB commands, which are described in this section under the Subcommands heading. The same commands are recognized in both the SYSJOB.COMMANDS file and the SYSJOB.RUN file, which SYSJOB reads at system startup. The commands are in the form of a keyword, possibly followed by arguments. The commands (text) can be divided into three types:

1. Those affecting an inferior process:

RUN, KILL, FREEZE, RESUME

2. Those affecting a job being controlled by a PTY (pseudo-terminal):

JOB, KILLJOB, CCJOB

3. Others:

STATUS, RELOAD

Hint

All SYSJOB output appears on the CTY. Therefore, if you are at a terminal other than the CTY and you want to see SYSJOB output, enable for OPERATOR or WHEEL capability, TALK to the terminal that is the CTY, give the ^ESPEAK command followed by SYSJOB commands, and type BREAK after you have seen the output.

Restriction

The following error message is associated with the ^ESPEAK command:

? CAN'T GET JFN ON <SYSTEM>SYSJOB.COMMANDS

You have typed ENABLE but you do not have OPERATOR or WHEEL capability. Therefore, you cannot write SYSTEM:SYSJOB.COMMANDS. You should log into an account that has OPERATOR capability (for example, OPERATOR), and then type ENABLE and reissue the ^ESPEAK command.

Examples

1. A sample SYSTEM:SYSJOB.RUN file:

RUN SYS:INFO
JOB 0 /LOG OPERATOR XX OPERATOR
ENABLE
^ESET LOGIN PSEUDO
^ESET LOGIN CONSOLE
^ESET OPERATOR
PTYCON
GET SYSTEM:PTYCON.ATO
/
JOB 1 \LOG OPERATOR XX OPERATOR
ENABLE
GET SYS:MOUNTR
START/STAY
GET SYS:MAILER
START/STAY

```
        GET SYS:MAPPER
        START/STAY
        GET SYS:SPRINT
        START/STAY
        GET SYS:NMAIL
        START/STAY
        GET SYS:DMAILR
        START/STAY
        GET SYS:MLSRV
        START/STAY
        GET SYS:ORION
        START/STAY
        GET SYS:QUASAR
        START/STAY
        GET SYS:LPTSPL
        START/STAY
        GET SYS:LPTSPL
        START/STAY
        GET SYS:CDRIVE
        START/STAY
        GET SYS:BATCON
        START/STAY
        GET SYS:FAL
        START/STAY
        \
        JOB 2 /LOG OPERATOR XX OPERATOR
        ENABLE
        RUN SYS:NMLT20
        /
```

2. To check the status of SYSJOB's inferior processes and jobs:

        @ENABLE<RET>
        $^ESPEAK<RET>
         [PLEASE TYPE SYSJOB COMMANDS - END WITH ^Z]
        STATUS<RET>
        ^Z
         ^
         |
        <CTRL/Z>

    Remember that the output will go to the CTY. If you are at
    another terminal, see the Hint above.

    A sample of the CTY output follows.

        OPR>STATUS
        SYSJOB status at 25-Sep-79 1008
          0 INFO   DISMS at 1012 25-Sep-79 1008
          0: No job
          1: Job 2, TTY207, (PRIV)

          2: Job 3, TTY210, (PRIV)

        OPR>

3. To restart INFO:

        @ENABLE<RET>
        $^ESPEAK<RET>
         [PLEASE TYPE SYSJOB COMMAND - END WITH ^Z]
        RUN SYS:INFO<RET>
        ^Z
         ^
         |
        <CTRL/Z>
        $DISABLE<RET>
        @

4. To examine a process, first give the STATUS command to obtain
    the number assigned to that process:

        $^ESPEAK (TO SYSJOB)<RET>
         [PLEASE TYPE SYSJOB COMMANDS - END WITH Z]

        STATUS<RET>
        <CTRL/Z>
        @STATUS
        SYSJOB status at 22-Jul-81 1110
          0 ACS   DISMS at 151 22-Jul-81 1110

    The output above shows that there is only one process
    currently known to SYSJOB. To examine it, give the DUMP
    command, and specify the process number, which appears in the
    leftmost column of the status display:

        $^ESPEAK (TO SYSJOB)<RET>
         [PLEASE TYPE SYSJOB COMMANDS - END WITH Z]

        DUMP 0<RET>
        <CTRL/Z>

    Output similar to the following appears on the CTY, providing
    you with the name of the file that contains the saved
    process-related information:

        DUMP 0
          0 ACS   DISMS at 151 22-Jul-81 1111
        %DUMPING FORK ADDRESS SPACE TO FILE ACS.DMP.3

    Use the FILDDT program to examine the file.

CHAPTER 6

PTYCON COMMAND LANGUAGE

6.1 INTRODUCTION TO PTYCON

Your TOPS-20 operating system considers all jobs to be timesharing jobs; thus, each job must be associated with a timesharing terminal (TTY). In some situations, however, it is inconvenient to require a timesharing terminal to be associated with every job on the system; for example, where many jobs are needed for a single application. PTYCON provides a method whereby a single job running from a single timesharing terminal can control many subjobs simultaneously. This is accomplished by implementing a "device" called a pseudo-terminal (PTY) that, in effect, is a software simulation of a terminal. The controlling job, PTYCON, can send information to a PTY and receive information from a PTY.

PTYCON starts running subjobs by means of pseudo-terminals and controls each subjob by sending appropriate information (for example, the commands and/or data you give it) over the PTY controlling the subjob. You can run as many subjobs as there are PTYs on the system, up to a maximum of 24. PTYCON allows you to remain at one terminal and still control multiple jobs by means of multiple PTYs.

6.2 STARTING PTYCON

PTYCON is normally started automatically on your console terminal (CTY) by SYSJOB when the system is brought up. At this time, PTYCON reads and processes the file <SYSTEM>PTYCON.ATO (usually referred to as an "Auto-File"). This file contains commands for PTYCON. Following is example of a <SYSTEM>PTYCON.ATO file that defines and starts the subjobs OPR, CHECKD, and FILCOM:

```
    SILENCE
    LOG
    DEFINE 0 OPR
    OPR-LOG OPERATOR FOO OPERATOR
    DEFINE 1 CKD
```

```
    CKD-LOG OPERATOR FOO OPERATOR
    DEFINE 2 FIL
    FIL-LOG OPERATOR FOO OPERATOR
    OPR-ENABLE
    OPR-OPR
    CKD-ENABLE
    CKD-CHECKD
    FIL-FILCOM
    NO SILENCE
    WHAT ALL
    CONNECT OPR
     <RET>                        ;Line contains a carriage return
```

This processing consists of bringing up OPR and any other programs that you might need such as CHECKD and FILCOM. If PTYCON does not use PTYCON.ATO automatically, you can attach to PTYCON and, after you see the prompt PTYCON>, type:

    GET <SYSTEM>PTYCON.ATO<RET>

For example,

```
    @SYSTAT OPERATOR<RET>

     0   DET   SYSJOB   OPERATOR
     1   205   PTYCON   OPERATOR
     2   207   MFORK    OPERATOR
     3   210   NETCON   OPERATOR
     4   211   OPR      OPERATOR
     6   212   ACJ      OPERATOR
     7   213   FRECHK   OPERATOR
     8   DET   PERF     OPERATOR
     9   214   IBMSPL   OPERATOR
    22     3   EXEC     OPERATOR
    27   DET   EXEC     OPERATOR
    @ATTACH OPERATOR 1<RET>
     [ATTACHED TO TTY102, CONFIRM]<RET>
    PASSWORD:          <RET>
    <RET>
    PTYCON> GET <SYSTEM>PTYCON.ATO<RET>
    PTYCON> SILENCE
    PTYCON.LOG.1
    PTYCON> WHAT ALL
    OPR(0)    39        OPERATOR       OPR      TO        0:0:0
    CKD(1)    36        OPERATOR       CHECKD   TO        0:0:0
    FIL(2)    32        OPERATOR       FILCOM   TO        0:0:0
    PTYCON>
    **** OPR(0) 09:00:38 ****
    OPR>
    **** CKD(1) 09:00:39 ****
    CHECKD>
```

```
    **** FIL(2) 09:00:40 ****
    *
    PTYCON> CONNECT OPR
    [Connected to subjob OPR(0)]

    OPR>
```

You could also follow the GET with a different file specification to
use a special ATO file.

If the output from SYSTAT OPERATOR showed that PTYCON was not running,
you must start it yourself. To do this, type PTYCON at system command
level. When PTYCON responds with its prompt, type the GET command to
run the auto file.

```
    @PTYCON<RET>
    PTYCON> GET <SYSTEM>PTYCON.ATO<RET>
    PTYCON> SILENCE
    PTYCON.LOG.1
             .
             .
             .
    OPR>
```

The following is an example of the output generated by PTYCON after
the TOPS-20 monitor starts.

```
    SJ  0: $PTYCON
    SJ  0: PTYCON> GET <SYSTEM>:PTYCON.ATO
    SJ  0: PTYCON> SILENCE
    SJ  0: PTYCON.LOG.1
    SJ  0: PTYCON> WHAT ALL
    SJ  0: OPR(0)      39      OPERATOR   OPR     TO      0:0:0
    SJ  0: CKD(1)      36      OPERATOR   CHECKD  TO      0:0:0
    SJ  0: FIL(2)      32      OPERATOR   FILCOM  TO      0:0:0
    SJ  0: PTYCON>
    SJ  0: **** OPR(0) 09:00:38 ****
    SJ  0: OPR>
    SJ  0: **** CKD(1) 09:00:39 ****
    SJ  0: CHECKD>
    SJ  0: **** FIL(2) 09:00:40 ****
    SJ  0: *
    SJ  0: PTYCON> CONNECT OPR
    SJ  0:
    SJ  0: OPR>
```

It is important to look at this output when the system starts to check
whether the proper programs have been started. If you attach to the
PTYCON job, you should also give a WHAT ALL command to PTYCON to check
the status of these programs.

The commands to start and control programs under PTYCON are in the
file SYSTEM:PTYCON.ATO.   Your System Manager must decide what those
commands should be. If they differ from those in the PTYCON.ATO file
supplied, you must change the file with an editor. The commands in
this file can be in uppercase or lowercase.

The PTYCON.ATO file normally runs OPR, and any other service programs
that your System Manager decides to run as subjobs of PTYCON.

6.3 COMMUNICATION WITH PTYCON AND ITS SUBJOBS

6.3.1 Subjobs

A subjob is a job running on a pseudo-terminal (PTY) under control of
PTYCON.   PTYCON allows you to start and control as many jobs as there
are pseudo-terminals (PTYs) available on your system, but never more
than 24. To find out how many PTYs are available on your system, type
the EXEC command INFORMATION (ABOUT) AVAILABLE DEVICES. To find out
how many PTYs are in use by PTYCON, type the PTYCON command WHAT ALL.

Each subjob is identified by a unique number from 0 to n-1, where n is
the maximum number of PTYs available on your system. For example, if
your system can have 24 PTYs, the subjobs can be numbered from 0 to
23.   Each subjob is assigned a number when you use the DEFINE or
CONNECT command to start the subjob.

To make it easier for you to keep track of the subjobs, you can also
use the DEFINE command to give a subjob a name. A subjob name can
consist of up to five alphanumeric characters. If you type in more
than five characters, PTYCON (in most cases) truncates the name to
five characters.

Before you try to start a subjob under PTYCON, be sure that PTYCON is
running.   If it is, you should see the prompt PTYCON>. To get the
prompt, you might have to type POP or the PTYCON escape character,
which is <CTRL/X> by default. (See the PTY commands CONNECT, PUSH,
and REDEFINE.

When PTYCON is running and has printed its prompt, PTYCON>, you can
communicate with it or its subjobs in the following ways:

1. You can type a single- or multiple-line PTYCON command (see
    Section 6.5 for a complete description of all PTYCON
    commands).

2. You can type a single-line subjob command to an existing
    subjob. A subjob command is:

        PTYCON>n-text

where n is the subjob name or number and text is a TOPS-20
command or input to a program running under subjob n.

                              NOTE

              n cannot be a subjob name longer than
              five characters.   You must type in the
              subjob name exactly as shown when you
              type in a question mark (?) at the
              PTYCON prompt (PTYCON>).

3. You can give the CONNECT command to PTYCON to connect to a subjob.
    Then you can communicate directly with the subjob by typing
    exactly what you would type to a job not under PTYCON. To later
    return to PTYCON command level, type the PTYCON escape character,
    which is <CTRL/X> by default.

4. You can give the PUSH command to PTYCON to perform a task at
    TOPS-20 command level. You can type commands or run programs as
    you would under any job, but you do not have to log in a job.   To
    return to PTYCON command level, type POP.

In communicating with a subjob, you can use all the standard TOPS-20
features.   You can use <CTRL/C>, <CTRL/T>, <CTRL/R>, <CTRL/U>,
recognition, rubout, DDT, EDIT, TV, languages, and system commands.
However, there are some restrictions.

    1. You can never pass the current PTYCON escape character to a
        subjob, because it has a special purpose. (See the CONNECT
        command.)

    2. <CTRL/\> (control backslash) cannot be passed to a job or
        subjob from the CTY, because it causes you to enter the
        console processor command language (PARSER).   If you type
        <CTRL/\> by mistake, immediately type QUIT.

    3. If you are giving a single-line subjob command as:

            PTYCON> OPR-ABORT BATCH-STREAM 2<RET>

        you cannot use recognition, because the command is not passed
        to the system until you press RETURN or LINE FEED.

    4. <CTRL/H> does not reprint a faulty command up to the point of
        error.

6.3.2 Creating Subjobs

To create a subjob, use either the CONNECT or DEFINE   command.   When
you give either command with a number that has not yet been assigned
to a subjob, you create a subjob with that number. If you type ESCAPE
in place of a number in the DEFINE command, you create a subjob with
the next free subjob number. The DEFINE command also allows you to
associate a name with the subjob.

                              NOTE

              Whenever you create a subjob, you must then log in to
              get a system job number, as you do for any other job.
              If you enable your privileges, you can use a null
              password if you log in under the same name that PTYCON
              is logged in under.

For example, you use CONNECT to create a subjob:

    PTYCON> CONNECT 0<RET>
    [Connected to subjob 0]

    Boston Development System, TOPS-20 Monitor 4(3167)
    @LOG OPERATOR FOO OPERATOR<RET>
     Job 26 on TTY211 29-JAN-79 12:41
    @ENABLE<RET>
    $OPR<RET>
    OPR>

At this point, you can give commands directly to the job.   When you
want to return to PTYCON command level, type CTRL/X.

Once a subjob exists, you can communicate with it by:

    o Sending commands through PTYCON

    o Connecting directly to the subjob

6.3.3 Communicating with Subjobs through PTYCON

You can send commands to subjobs while your terminal is at the PTYCON>
prompt. The format is:

    PTYCON> n-text

where

    n   is the subjob name or number, followed by a hyphen

text   is a TOPS-20 command or program input to be sent to the
            subjob

                            NOTE

        n cannot be a subjob name longer than five
        characters. You must type in the subjob name
        exactly as shown when you type in a question
        mark (?) at the PTYCON prompt (PTYCON>).

The subjob name is an alternate way to specify a subjob. Use the
DEFINE command to define a subjob name.

When you are giving commands to a subjob, be sure that you know if
your subjob is waiting for program input or if it is at system command
level. The last character output by the subjob is "@" or "$" if it is
at system command level, and a program-specific prompt if it is
awaiting program input. If it is awaiting program input and you want
to give it a system command, first send a <CTRL/C> (followed by <RET>
to end the command). Then, send the desired system command. In the
case of OPR as a subjob, type EXIT to the OPR> prompt (followed by
<RET>) to get to system command level.

PTYCON accepts single- or multiple-line commands after the prompt
PTYCON>. If the PTYCON command line is longer than the maximum line
length allowed by your terminal, you can continue typing the command
past the end of the line and onto the next line, without pressing
RETURN. PTYCON accepts command components that are divided between
lines. If you want to avoid divided words, use the hyphen (-)
continuation character. At the end of the first line, type a hyphen
and press RETURN. Then, continue typing the command on the next line.
At the end of the command, press RETURN to confirm the command.

The following example sends a multiple line command to a subjob.

    PTYCON>ACCEPT (OUTPUT FROM SUBJOBS) 3, 4, 6, 7, 8, 10, -<RET>
    14, 16, 17<RET>

The following example creates OPR as a subjob, logs it in, enables it,
and starts it:

    @PTYCON<RET>
    PTYCON> DEFINE 0 OPR<RET>
    PTYCON> OPR-LOG OPERATOR FOO OPERATOR<RET>
    PTYCON>
    **** OPR(0) 11:32:28 ****
     Boston Development System, TOPS-20 Monitor 6(6136)
    @LOG OPERATOR OPERATOR
     Job 55 on TTY222 1-Dec-84 11:32:28,
     Last Login 28-Nov-84 10:11:37
    @

    PTYCON> OPR-ENABLE<RET>
    **** OPR(0) 11:32:45 ****
    ENABLE
    $
    PTYCON> OPR-OPR<RET>
    **** OPR(0) 11:32:50 ****
    OPR
    PTYCON>
    **** OPR(0) 11:32:53 ****
    OPR>
    PTYCON>

Another example of creating a subjob, logging it in, and sending it
other commands follows:

    @PTYCON<RET>
    PTYCON> DEFINE 2<RET>
    PTYCON> 2-LOG DEMO FOO 10400<RET>
    PTYCON>
    **** 2 12:28:39 ****

     Boston Development System, TOPS-20 Monitor 6(6136)
    @LOG DEMO 10400
     Job 17 on TTY225 1-Dec-84 12:28:39,
     Last Login 28-Nov-84 11:58:16
    @
    PTYCON> 2-FILCOM<RET>
    PTYCON>
    **** 2 12:28:55 ****
    FILCOM
    *
    PTYCON> 2-=A.ATO,B.ATO<RET>
    PTYCON>
    **** 2 12:29:09 ****
    =A.ATO,B.ATO

    No differences encountered

    *
    PTYCON> 2-^C<RET>
    PTYCON>
    **** 2 12:29:20 ****
    ^C
    @
    @
    PTYCON> 2-SYSTAT .<RET>
    PTYCON>
    **** 2 12:29:34 ****
    SYSTAT .
      17* 103 EXEC   DEMO
    @
    PTYCON>

6.3.4 Communicating Directly with Subjobs

To communicate with a subjob by direct connection, use the CONNECT
command, type exactly what you want to communicate to the subjob, then
finish with the PTYCON escape character, normally CTRL/X.

When you connect to a subjob that has not been logged in, the first
character that you type causes the identification message to be output
on your terminal. For example,

```
    PTYCON> CONNECT 3<RET>
    [Connected to subjob 3]
    <RET>
     Boston Development System, TOPS-20 Monitor 6(6136)
    @LOG OPERATOR OPERATOR<RET>
     Job 19 on TTY210 18-Nov-84 11:12:00,
     Last Login 17-Dec-84 10:12:51
    @DIRECT<RET>

      <OPERATOR>
     A.ATO.1
     B.ATO.1
     PTYCON.ATO.1
       .LOG.1

     Total of 4 files
    @^X
      ^
      |
    <CTRL/X>
    PTYCON>
```

You can also start the subjob OPR with the CONNECT command.   This is
helpful when OPR has not been started or when you want multiple OPRs
at your installation. For example,

```
    @PTYCON<RET>
    PTYCON> CONNECT 3<RET>
    [Connected to subjob 3]
    <RET>
     BOSTON Development System, TOPS-20 Monitor 6(6136)
    @LOG OPERATOR OPERATOR<RET>
     Job 53 on TTY232 2-Dec-84 08:37:25,
     Last Login 1-Dec-84 08:15:27
    @ENABLE<RET>
    $OPR<RET>
    OPR>? one of the following:
     ABORT     ALIGN    BACKSPACE    CANCEL     CLOSE
     CONTINUE  DEFINE   DISABLE      DISMOUNT   ENABLE
     ENTER     EXIT     FORWARDSPACE HELP       HOLD
     IDENTIFY  MODIFY   MOUNT        NEXT       PUSH
```

```
 RELEASE    REPORT    REQUEUE     RESPOND   ROUTE
 SEND       SET       SHOW        SHUTDOWN  START
 STOP       SUPPRESS  SWITCH      TAKE      UNDEFINE
 WAIT
 or one of the following:
 LCP   NCP
```

```
OPR>^X
   ^
   |
<CTRL/X>

PTYCON>
```

NOTE

You cannot send the current PTYCON escape character to
a subjob, because that character returns you to PTYCON
command level if you are connected to a subjob, or it
aborts the current command if you are at PTYCON
command level. However, you can change that character
with the REDEFINE command to PTYCON.

6.3.5 Subjob Output

You can do the following with the output from subjobs of PTYCON.

- o Allow it to be typed on your terminal

- o Buffer it until you request it

- o Save it in a file

- o Discard it

The PTYCON commands that control the output of the subjobs either
collectively or individually are:

- o ACCEPT

- o REFUSE

- o LOG

- o DISCARD

If REFUSE is set for a subjob, its output is typed on your terminal
only when you are connected to the subjob. Otherwise, the output is
buffered until you request it with the ACCEPT (or NO REFUSE) command
or until you connect to the subjob. If DISCARD is set for a subjob,
again its output is printed on your terminal only when you are
connected to the subjob. Otherwise, the output is discarded, except
for recording it in a file if the PTYCON LOG command was given.

If neither REFUSE nor DISCARD has been set for a subjob, the subjob's
output is printed on your terminal. If PTYCON is at command level,

---

output from each subjob is preceded by a header containing the subjob
name and/or number and the time. If you are connected to a subjob:

- o All output from the connected subjob is printed on your
     terminal without headers.

- o All other subjob output is printed on your terminal and
     preceded by a header containing the name and/or number of the
     subjob giving output and the time. The output is followed by
     a trailer containing the name and/or number of the connected
     subjob and the time.

NOTE

If you are at command level and you are
entering a command, PTYCON temporarily
suspends output from the subjobs until the
command is confirmed with a carriage return
or line feed.

For example, you are connected to subjob 3 and output is typed from
subjob 0, which is defined as OPR, beginning with a header
(**** OPR(0) hh:mm:ss ****). (Where hh:mm:ss is the time in
hours:minutes:seconds.) When the output from subjob 0 is done, the
trailer is output, indicating that the currently connected subjob is 3
(**** 3 hh:mm:ss ****).

```
PTYCON> CONNECT 3<RET>
[Connected to subjob 3]
**** OPR(0) 12:34:27 ****

12:34:32        Printer 1         --End--
                Job DEMO1 Seq # 2599 For: CCOOK
OPR>

**** 3 12:34:37 ****
 BOSTON Development System, TOPS-20 Monitor 6(6136)
@
```

6.3.6 Logging Out Subjobs

When you have completely finished using a subjob, you can log it out
and deassign its subjob number with the KILL command. (See the
description of the KILL command to PTYCON.)

You can log out a subjob by specifying either the subjob name or the
subjob number. For example, to log out subjob 0, which is also
defined as subjob OPR:

```
PTYCON> KILL OPR<RET>
```

```
        PTYCON>

        or

        PTYCON> KILL 0<RET>
        PTYCON>
```

To leave PTYCON permanently, you should be certain that you have no more use for any of the subjobs; then use KILL ALL and EXIT. During timesharing, you should never do this to the PTYCON-controlling OPR and any other utility program (such as, DUMPER or CHECKD) because you might need them to service users.

For example, you log out all subjobs and EXIT from PTYCON before a system shutdown for preventive maintenance:

```
        PTYCON> KILL ALL<RET>
        PTYCON> EXIT<RET>
        @
```

If you want to leave PTYCON temporarily to do something at system command level and not use a subjob, use the PUSH command, perform your commands, and return to PTYCON with POP. (See the example under the description of the PUSH command.)

6.4 PTYCON COMMAND FEATURES

PTYCON has the same command recognition, question mark, and control character features offered by the EXEC, OPR, and other TOPS-20 programs. Following is a summary of these features:

6.4.1 Listing Available Commands and Arguments with a Question Mark

1. To list all the PTYCON commands, type a question mark at the PTYCON prompt.

```
        PTYCON> ? a command, one of the following:
        ACCEPT BELL     CONNECT DEFINE  DISCARD EXIT     GET
        HELP   KILL     LOG     NO      PUSH    REDEFINE REFUSE
        SAVE   SILENCE  WHAT
         or a subjob name, ALL
         or a subjob number
        PTYCON>
```

2. To list all the PTYCON commands that begin with a certain letter, type the letter followed by a question mark.

```
        PTYCON> R?  a command, one of the following:
        REDEFINE   REFUSE
        PTYCON>
```

3. To list the arguments to a PTYCON command, type the command name followed by a space and a question mark.

```
        PTYCON> CONNECT ?  subjob number or subjob name
        PTYCON>
```

6.4.2 Using Recognition Input

PTYCON recognition input works with commands and subjob names. To use recognition input, type enough letters of a command or subjob name to make it unique, and then type <ESC>. PTYCON responds with the remainder of the command and its guidewords or the complete subjob name.

PTYCON recognizes command names before subjob names. For example, if you have a subjob named LOOK and you type LO<ESC>, PTYCON responds with the LOG command.

6.5 PTYCON COMMAND DESCRIPTIONS

The commands to PTYCON with their guide words in parentheses are shown in the PTYCON help message below.

```
        ACCEPT (OUTPUT FROM SUBJOBS)    *
        BELL (WHEN OUTPUT WAITING)    *
        CONNECT (TO SUBJOB)
        DEFINE (SUBJOB #)
        DISCARD (OUTPUT FROM SUBJOB)    *
        EXIT (FROM PTYCON)
        GET (COMMANDS FROM FILE)
        HELP (MESSAGE)
        KILL (SUBJOB)
        LOG (OUTPUT TO FILE)    *
        PUSH (EXEC LEVEL)
        REDEFINE (PTYCON ESCAPE CHARACTER TO BE)
        REFUSE (OUTPUT FROM SUBJOBS)    *
        SAVE (INPUT IN FILE)    *
        SILENCE (ALL OUTPUT TO TERMINAL)    *
        WHAT (IS STATE OF SUBJOB)

        "*" MEANS THE COMMAND CAN BE PRECEDED BY "NO" TO REVERSE ITS
        MEANING
```

THE ESCAPE CHARACTER TO RETURN TO COMMAND LEVEL IS: ^X

NOTE

In the descriptions of the PTYCON commands in the
sections that follow, n represents a subjob name or
number. ALL represents all subjobs.

ACCEPT – Accepting Output on Your Terminal

Function

The ACCEPT command sets your terminal to receive output from the
specified subjobs.

Formats

PTYCON> ACCEPT n,...,n

PTYCON> ACCEPT ALL

or

PTYCON> NO ACCEPT n,...,n

PTYCON> NO ACCEPT ALL

Argument

n   specifies a subjob number. You can specify up
                           to 24 (0 – 23) subjob numbers separated by
                           commas. If you defined a name for the subjob,
                           you can specify the name instead of the subjob
                           number.

Characteristics

The ACCEPT command is the normal mode of operation.

When used after NO ACCEPT or REFUSE, the ACCEPT   command
immediately types on your terminal any available output from the
specified subjobs and continues to do so as it becomes available.
If you do not specify any subjobs, ALL is automatically printed
and assumed.

NO ACCEPT is equivalent to REFUSE. If you do not specify any
subjobs, ALL is assumed.

Examples

1. You ACCEPT output from all subjobs on your terminal:

    PTYCON> <u>ACCEPT</u> <u>ALL<RET></u>

PTYCON>

2. You specify NO ACCEPT for subjobs 7, 15, 19, and 23, which
    are OPRs, so that your terminal receives output only from
    subjob OPR(0):

    PTYCON> NO ACCEPT 7,15,19,23<RET>
    PTYCON>

BELL - Sounding Bell for Output Waiting

Function

The BELL command rings your terminal bell every ten seconds to
indicate that a subjob has output waiting to be printed on your
terminal. This is referred to as a refused subjob.

Formats

PTYCON> BELL

or

PTYCON> NO BELL

Characteristics

The BELL command is the normal mode of operation.

Therefore, you need to give the BELL command only when you want
to cancel a NO BELL command that you previously issued.

When you give the PUSH command to PTYCON, the output from all
subjobs is refused, unless it is already being discarded (refer
to the DISCARD command). The BELL command also applies to these
refused subjobs.

NO BELL suppresses any bell, indicating that a refused subjob has
some output.   Consequently, you are not warned that there is
output waiting.

Example

1. You specify NO BELL to turn off the bell sound for output
    waiting:

    PTYCON> NO BELL<RET>
    PTYCON>

CONNECT - Connecting to a Subjob

Function

The CONNECT command connects your terminal to a specified subjob,
such that the subjob appears to be a normal timesharing job that
is not running under PTYCON.

Format

PTYCON> CONNECT n

Argument

n   specifies a subjob number. You can specify
                        any number from 0 to 23. If you defined a
                        name for the subjob, you can specify the
                        subjob name instead of the subjob number.

Characteristics

After issuing the CONNECT command, all commands that you type are
passed directly to the subjob until you type the PTYCON escape
character, which is CTRL/X by default. You can redefine the
escape character with the REDEFINE command to PTYCON.

As soon as you connect to a subjob, you receive the message
[Connected to subjob name(n)] or [Connected to subjob n]. Then
any output that was being buffered for that subjob by the REFUSE
or NO ACCEPT command is printed on your terminal.

If you do not specify a subjob, PTYCON connects your terminal
either to the last connected subjob or to the last subjob
defined, whichever was done most recently. If you specify a
valid subjob number that you have not defined, a new subjob with
that number is created for you. However, you cannot specify a
subjob name that has not been defined.

Hint

When you are connected to a subjob, type the PTYCON escape
character, CTRL/X by default, to return to PTYCON. Then you see
the PTYCON prompt.

Examples

1. You CONNECT to subjob 4, which was not previously defined:
    PTYCON> CONNECT 4<RET>
    [Connected to subjob 4]

      BOSTON Development System, TOPS-20 Monitor 6(6136)
    @LOG OPERATOR OPERATOR<RET>
      Job 37 on TTY213 13-Nov-84 11:34:03,
     Last Login 12-Nov-84 11:15:36
    @ENABLE<RET>
    $CHECKD<RET>
    CHECKD>^X
            ^
            |
        <CTRL/X>
    PTYCON>

2. You CONNECT to subjob OPR(0), which was previously defined:

    PTYCON> CONNECT 0<RET>
    [Connected to subjob OPR(0)]
    <RET>
    OPR>

DEFINE - Defining a Subjob

Function

The DEFINE command defines a subjob. For example, it can create a new subjob, and it can associate a name with a subjob. You can also define a new name for an existing subjob by giving the DEFINE command again with the desired new name.

Format

PTYCON> DEFINE number name

Arguments

number   specifies the subjob number to be defined. You can specify any number from 0 to 23. If you press ESCape twice after you type DEFINE (see Example 1.), the system uses the next available number.

name   specifies an optional name for the subjob. The name can consist of up to five alphanumeric characters. PTYCON simply ignores any characters after the fifth character. If you use any nonalphanumeric characters, PTYCON also ignores them and the characters that follow the nonalphanumeric characters.

Characteristics

If you press ESCape for the subjob number, the next free subjob number in the system is chosen. This is the recommended way to define a new subjob.

If you define a subjob with a name already given to another subjob, you get the message:

    % Name already in use, reassigned to this subjob

and the name is given to the new subjob. Also, defined names take precedence over subjob numbers when you define a subjob to be another number. If ALL is the name of a subjob, whenever you use ALL in a PTYCON command, it refers only to that subjob.

Examples

1. You DEFINE the next available subjob number as DUMPER:

```
                 <ESC>         <ESC>
                   |             |
                   V             V
PTYCON> DEFINE (SUBJOB #) 5 (AS) DUMPER<RET>
PTYCON> 5-LOG OPERATOR FOO OPERATOR<RET>
PTYCON>
**** DUMPER(5) 11:12:03 ****
 BOSTON Development System, TOPS-20 Monitor 6(6144)
@LOG OPERATOR OPERATOR
 Job 37 on TTY221 13-Nov-84 11:12:04,
 Last Login 12-Nov-84 8:26:02
PTYCON> 5-DUMPER<RET>
PTYCON>
**** DUMPER(5) 11:12:09 ****
DUMPER
PTYCON>
**** DUMPER(5) 11:12:13 ****
DUMPER>
PTYCON>
```

2. You DEFINE subjob 6 as OPR while subjob 0 is also defined as OPR:

```
PTYCON> DEFINE 6 OPR<RET>
% Name already is use, reassigned to this subjob
PTYCON> 6-LOG OPERATOR FOO OPERATOR<RET>
PTYCON>
**** OPR(6) 11:23:28 ****

 BOSTON Development System, TOPS-20 Monitor 6(6144)
@LOG OPERATOR OPERATOR
 Job 63 on TTY230 4-Dec-84 11:23:29,
 Last Login 3-Dec-84 11:12:29
@
PTYCON> OPR-ENABLE<RET>
PTYCON>
**** OPR(6) 11:23:32 ****
ENABLE
$
PTYCON> 6-OPR<RET>
PTYCON>
**** OPR(6) 11:23:37 ****
OPR
PTYCON>
**** OPR(6) 11:23:41 ****
OPR>
PTYCON>
```

DISCARD – Eliminating Subjob Output

Function

The DISCARD command eliminates output to your terminal from the specified subjob when you are not connected to that subjob.

Formats

PTYCON> DISCARD n,...,n

PTYCON> DISCARD ALL

or

PTYCON> NO DISCARD n,...,n

PTYCON> NO DISCARD ALL

Argument

n   specifies a subjob number. You can specify up to 24 (0 – 23) subjob numbers separated by commas. If you defined a name for the subjob, you can specify the subjob name instead of the subjob number.

Characteristics

The output is thrown away as far as your terminal is concerned with the use of the DISCARD command. However, output from the subjob does go into the LOG file, if you previously issued the LOG command to PTYCON.

DISCARD differs from REFUSE, because REFUSE keeps the output for acceptance at a later time. Yet, if you discard a subjob's output after you have refused it, the output buffered by REFUSE is not typed on your terminal. However, at the time of the DISCARD, any output buffered by REFUSE goes into the LOG file, providing the LOG command to PTYCON is in effect.

NO DISCARD is the default and allows all output to appear on your terminal. However, if you issued a REFUSE for the subjob before the DISCARD, NO DISCARD restores REFUSE mode for the subjob and buffers the output. (See the REFUSE command.)

Example

1. You DISCARD the output to your terminal for subjobs 3 and 5:

    PTYCON> DISCARD 3,5<RET>
    PTYCON>

EXIT - Leaving PTYCON Command Level

Function

    The EXIT command exits from PTYCON and gets you back to system
    command level.

Format

    PTYCON> EXIT

Characteristics

    Use the EXIT command only when you want to permanently leave
    PTYCON.   To return to system command level temporarily while
    subjobs are running, use the PUSH command.

    If there are subjobs active when you type EXIT, you get:

        Caution: Exiting may log out the still active subjobs!
        Confirm: (type <CTRL/A> to get back to PTYCON)

    where "A" is the current PTYCON escape character.   Type that
    control character to return to PTYCON immediately. If you press
    RETURN to CONFIRM, you exit from PTYCON and you might lose the
    subjobs.

Hint

    If you mistakenly type EXIT and press RETURN to CONFIRM,
    immediately type CONTINUE to return to PTYCON and preserve any
    subjobs.

    If you first run a program or give some command and then type
    CONTINUE, you might not be able to get back to PTYCON. If this
    happens, subjobs become detached and are automatically logged out
    in five minutes unless corrective measures are taken.   Therefore,
    to recover them, immediately run PTYCON again.   Then, for each
    subjob that became detached, connect to a new subjob and attach
    to a system job corresponding to a detached subjob.   (Use the
    SYSTAT command to see what jobs were detached.) Note that you
    cannot refer to the former subjob numbers; you must use the
    system job numbers until you establish PTYCON subjobs again.

Examples

1. You EXIT from PTYCON, but you have not killed all your
    subjobs.   Press CTRL/X to return to PTYCON, KILL ALL your
    subjobs, and then EXIT:

    PTYCON> EXIT<RET>
    Caution: Exiting may log out the still active subjobs!
    Confirm: (type CTRL/X to get back to PTYCON)^X
                                                  ^
                                                  |
                                              <CTRL/X>
    PTYCON> KILL ALL<RET>
    PTYCON> EXIT<RET>
    @

2. You attach system jobs 6 and 7 that became detached and you
    make them subjobs with their former names (TV and EDIT):

    @ENABLE<RET>
    $PTYCON<RET>
    PTYCON> CONNECT 0<RET>
    [Connected to subjob 0]
    <RET>
     BOSTON Development System, TOPS-20 Monitor 4(3167)
    @ATTACH OPERATOR 6<RET>
    @^X
      ^
      |
    <CTRL/X>
    PTYCON> DEFINE 0 TV<RET>
    PTYCON> CONNECT 1<RET>
    [Connected to subjob 1]
    <RET>
     BOSTON Development System, TOPS-20 Monitor 4(3167)
    @ATTACH OPERATOR 7<RET>
    @^X
      ^
      |
    <CTRL/X>
    PTYCON> DEFINE 1 EDIT<RET>
    PTYCON>

3. You issued the EXIT command and five minutes have passed and
    the former subjobs have become logged-out jobs. You have
    lost all the operator jobs originally started from
    SYSTEM:PTYCON.ATO. You can do the following:

    @PTYCON<RET>
    PTYCON> GET SYSTEM:PTYCON.ATO<RET>

GET – Executing an Auto-File

Function

The GET command reads and executes the commands in the specified
file.

Format

PTYCON> GET filespec

Argument

filespec   specifies the file specification of the file
                  that   contains the PTYCON commands to be
                  executed automatically.

Default filename and type – PTYCON.ATO

Characteristics

When the system is first started, SYSJOB normally starts PTYCON
and has PTYCON do a GET on SYSTEM:PTYCON.ATO. When the commands
in the file are processed, they are echoed on your terminal as if
they had been typed in directly (unless SILENCE is in effect).

Hints

Certain characters in the command file must be typed differently
than if they were typed directly on your terminal. Control
characters must be typed as ^a, where ^ is the up-arrow, or
circumflex, and "a" is the character. Do not use the CTRL key
for typing control characters in the command file.   ESCape must
be typed as two characters ^$ (up-arrow dollar-sign).   An
up-arrow must be typed as ^^ (two up-arrows).

The PTYCON command file can contain leading and trailing spaces
and tabs, lowercase letters and blank lines.

When you run PTYCON under OPERATOR (the normal case), for any
subjob you log in under OPERATOR, you can give a fictitious
password, for example, FOO in the examples below.

Examples

1. The following is a sample SYSTEM:PTYCON.ATO file   with
    comments added:

        SILENCE   ;silence output to CTY
        LOG   ;create LOG file PTYCON.LOG
        DEFINE 0 OPR   ;define subjob 0 as OPR
        CONNECT 0   ;connect to subjob 0
        LOG OPERATOR FOO OPERATOR ;log in
        ENABLE   ;enable capabilities
        OPR   ;run OPR
        ^X   ;return to PTYCON
        NO SILENCE   ;allow output to CTY
        WHAT ALL   ;print status of subjob

    You now execute the PTYCON.ATO file with the GET command:

        @PTYCON<RET>
        PTYCON> GET SYSTEM:PTYCON.ATO<RET>
        PTYCON> SILENCE
        PTYCON.LOG.1
        PTYCON> WHAT ALL
        OPR(0)   44   OPERATOR   OPR   RN   0:0:0
        PTYCON>
        **** OPR(0) 15:08:08 ****
        OPR>
        PTYCON>

2. The following is a sample special ATO file that creates
    subjob 5 as DUMPER with comments added:

        LOG   ;create LOG file PTYCON.LOG
        CONNECT 5   ;connect to subjob 5
        <RET>   ;Line contains a carriage
                                 ;return
        LOG OPERATOR FOO OPERATOR ;log in
        DUMPER   ;start DUMPER as subjob 5

    You now execute DUMPER.ATO with the GET command:

        @PTYCON<RET>
        PTYCON> GET <OPERATOR>DUMPER.ATO<RET>
        PTYCON> LOG
         PTYCON.LOG.2
        PTYCON> CONNECT 5

         BOSTON Development System, TOPS-20 Monitor 6(6136)
        @
        @LOG OPERATOR OPERATOR
         Job 65 on TTY222 4-Dec-84 15:28:35,

 Last Login 3-Dec-84 15:05:42

@DUMPER
DUMPER>

HELP - Printing PTYCON Commands

Function

    The HELP command prints a list of PTYCON commands with guide
words.

Format

    PTYCON> HELP<RET>

Example

    PTYCON> HELP<RET>

    PTYCON 7(35) commands:

    * ACCEPT (OUTPUT FROM SUBJOBS) subjob,subjob,... or ALL
    * BELL (WHEN OUTPUT WAITING)
      CONNECT (TO SUBJOB) lastsubjob
      DEFINE (SUBJOB) number (AS) name
    * DISCARD (OUTPUT FROM SUBJOB) subjob,subjob,... or ALL
      EXIT (FROM PTYCON)
      GET (COMMANDS FROM FILE) ptycon.ato
      HELP (MESSAGE)
      KILL (SUBJOB) subjob,subjob,... or ALL
    * LOG (OUTPUT TO FILE) ptycon.log
      PUSH (EXEC LEVEL)
      REDEFINE (PTYCON ESCAPE CHARACTER TO BE) controlcharacter
    * REFUSE (OUTPUT FROM SUBJOBS) subjob,subjob,... or ALL
    * SAVE (INPUT IN FILE) saved-input.txt
    * SILENCE (ALL OUTPUT TO TERMINAL)
      WHAT (IS STATE OF SUBJOB) subjob or ALL

    "subjob,subjob,..." means a list of subjobs or ALL for all active
subjobs.
    "*" means the command can be preceded by "NO" to reverse its
meaning.
    The escape character to return to command level is: X
    PTYCON>

KILL — Killing PTYCON Subjobs

Function

    The KILL command kills the indicated subjobs (logs them out) and deassigns the subjob numbers, provided that PTYCON is running with OPERATOR or WHEEL capability enabled, or that the subjobs are logged in under the same user name as PTYCON.

Formats

    PTYCON> KILL n,...,n

    or

    PTYCON> KILL ALL

Argument

    n   specifies a subjob number. You can specify up to 24 (0 – 23) subjobs separated by commas. If you defined a name for the subjob, you can use the name instead of the subjob number.

Characteristics

    If the subjob is not logged in under the same user as PTYCON, the KILL command does not succeed, and you receive the message:

        Could not kill subjob n

    Then, you must connect to the subjob, log out, return to PTYCON, and issue the KILL command. For KILL ALL you must type ALL in its entirety.

    The KILL command is necessary to deassign a subjob number. Simply logging out a subjob does not deassign the subjob number.

Examples

    1. You KILL subjob 7 which was defined as ULIST:

        PTYCON> KILL ULIST<RET>
        PTYCON>

    2. You KILL ALL subjobs before you exit from PTYCON:

        PTYCON> KILL ALL<RET>
        PTYCON> EXIT<RET>
        @

LOG – Recording Interactions with PTYCON

Function

The LOG command causes all interactions with PTYCON to be recorded in the specified file specification.

Formats

PTYCON> LOG filespec

or

PTYCON> NO LOG

Argument

filespec   specifies the file specification of the file that contains the recording of interactions with PTYCON and its subjobs.

Default file name and type – PTYCON.LOG

Characteristics

If you specify a file that already exists, any new output is appended after the last entry of the existing file. Use this command to keep a record of what was typed at the console terminal.

NO LOG, which is the normal mode, stops output to a log file and closes the file. This is the only command that stops output to the LOG file.

Once the LOG command is given, the log file contains PTYCON prompts, commands, and error messages, all input to subjobs, and all output from subjobs. The order of information in the file resembles the input and output to PTYCON at your terminal.

Hints

If you do a DISCARD for a subjob, or GET a file that contains a SILENCE command, the log file contains all interactions as they occur, but your terminal output does not. (See DISCARD and SILENCE.)

When you do a DISCARD for a subjob after a REFUSE, the log file gets all the output buffered by the REFUSE, and then gets all output from the subjob as it occurs. However, your terminal does not get output from a subjob once a DISCARD command has been issued.

Examples

1. You specify LOG with a filename of NOV18–79 to record all interactions with PTYCON. The default file type is LOG.

    PTYCON> LOG NOV18–79<RET>
    PTYCON>

2. You specify NO LOG after system startup to close the log file from the PTYCON.ATO and then you create a new log file for the day's interactions with PTYCON.

    PTYCON> NO LOG<RET>
    PTYCON> LOG DEC28.TXT<RET>
    PTYCON>

PUSH - Performing Tasks at EXEC Level

Function

The PUSH command allows you to perform a task at system command
level without affecting subjobs.

Format

PTYCON> PUSH

Characteristics

When you give the PUSH command, the output from subjobs is
suspended.   Like REFUSE, PUSH causes a bell or beep to sound when
output is waiting, providing the BELL command is in effect.   When
you return to PTYCON, waiting output is printed on your terminal.

The advantage of this command is that you do not have to use
another subjob or job number to do a task at system command level
(EXEC level). However, commands given after a PUSH from PTYCON
and before a POP are not entered in the LOG file.

Hint

To return to PTYCON, type POP.

                        NOTE

        Do not run PTYCON at the new EXEC command level.
        Return   to PTYCON by using the TOPS-20 POP
        command.

Restriction

You cannot give the LOGOUT command when you have PUSHed out of
PTYCON.   If you do, you receive the following error message
instead of being logged out:

    ?LOG capability required
     Not logged off

This prevents you from accidently losing your subjobs under
PTYCON.

Example

1. You PUSH to system command level to EDIT a file and then
    return to PTYCON's subjob OPR.

    OPR>^X
       ^
       |
      <CTRL/X>
    PTYCON> PUSH<RET>

     TOPS-20 Command processor 4(554)
    @EDIT PTYCON.ATO<RET>
    Edit: PTYCON.ATO.1
    *I850<RET>
    00850   NO LOG<RET>
    *ENU<RET>

    [PTYCON.ATO.2]

    @POP<RET>
    PTYCON> CONNECT OPR<RET>
    [CONNECTED TO SUBJOB OPR(0)]
      <RET>
    OPR>

REDEFINE – Changing the PTYCON ESCape Character

Function

    The REDEFINE command changes the ESCape character to return to
PTYCON command level.   By default, the ESCape character is
<CTRL/X>. With this command you can change it to any control
character that is not treated specially by the system.

Format

    PTYCON> REDEFINE <CTRL/character>

Argument

    <CTRL/character>   specifies the control character to be used as
                   the   PTYCON   subjob ESCape character.   The
                   character can be one of the following: A, B,
                   D, E, H, K, N, P, T, X, Y, or Z.   Do not use
                   <CTRL/Q> or <CTRL/S>, if you have TERMINAL
                   PAGE mode set. You must press the key labeled
                   CTRL and the desired character.

Example

    1. You REDEFINE escape character to be <CTRL/Z>:

```
PTYCON> REDEFINE ^Z<RET>
                 ^
                 |
               <CTRL/Z>
PTYCON> CONNECT OPR<RET>
[Connected to subjob OPR(0)]
 <RET>
OPR>^Z
    ^
    |
  <CTRL/Z>
PTYCON>
```

REFUSE – Refusing Output from Unconnected Subjobs

Function

    The REFUSE command refuses output from the specified unconnected
subjobs.

Formats

    PTYCON> REFUSE n,...,n

    PTYCON> REFUSE ALL

    or

    PTYCON> NO REFUSE n,...,n

    PTYCON> NO REFUSE ALL

Argument

    n   specifies the subjob number. You can specify
                   up to 24 (0 – 23) subjob numbers separated by
                   commas. If you specified a name for the
                   subjob, you can specify the subjob name
                   instead of the subjob number. If you do not
                   give a subjob name or number, ALL is assumed.

Characteristics

    A bell or beep sounds every ten seconds if a refused subjob has
output waiting.   (See the BELL command to PTYCON.) Because the
output is buffered, you can later get the output on your terminal
by typing ACCEPT or NO REFUSE for the subjob or by connecting to
the subjob. At that time, the output is also written into the
log file, providing the PTYCON LOG command is in effect.

Hint

    NO REFUSE, which is the normal mode, is equivalent to ACCEPT.

Example

1. You REFUSE output from subjob OPR(0) while you PUSH to system
   command level and perform a SYSTAT. When you POP back to
   PTYCON and give the NO REFUSE command, all temporarily held
   OPR messages are printed on your terminal.

   ```
   PTYCON> REFUSE OPR<RET>
   PTYCON> PUSH<RET>

    TOPS-20 Command processor 4(554)
   @SYSTAT<RET>
                   .
                   .
                   .
                   .
   @POP<RET>
   PTYCON> NO REFUSE OPR<RET>
   PTYCON>
   **** OPR(0) 12:17:43 ****

   12:17:29 Printer 0      --Begin--
   Job COMREF Seq # 3914 For: LATTA
   OPR>
   PTYCON>
   ```

SAVE - Recording Input to PTYCON Subjobs

Function

The SAVE command records all input to PTYCON subjobs in a
specified file.

Formats

PTYCON> SAVE filespec

or

PTYCON> NO SAVE

Argument

filespec   specifies the file specification of the file that
               contains the recording of inputs to PTYCON
               subjobs.

                       Default file name and type - SAVED-INPUT.TXT

Characteristics

If you specify a file that already exists, all new input to
subjobs is recorded after the last entry in the existing file.

NO SAVE, which is the normal mode, stops recording and closes the
file.   This is the only command that stops output to a
saved-input file.

The SAVE command records only the input to PTYCON subjobs.
PTYCON prompts, commands, error messages, and subjob output are
not recorded.

Hint

The SAVE command can be used to create a command file such as a
PTYCON.ATO or a batch control file. Edit the file to delete the
file header and any editing control characters that were
recorded, such as <CTRL/U> and <CTRL/W>.

If the file is to be executed with the PTYCON GET command, use
CONNECT commands to direct input to the proper subjobs.

Restriction

Command-recognition input is not recorded accurately in the saved-input file. For example, if you give the EXEC START command by typing ST<ESC>, the EXEC responds with ART (PROGRAM). However, the saved-input file contains only the letters ST and the escape symbol, ^$.

Examples

1. You specify SAVE with a saved-input file name of OPR-CMD.TXT to record all input to PTYCON subjobs.

   PTYCON> SAVE OPR-CMD.TXT<RET>
   PTYCON>

2. You specify NO SAVE to close the saved-input file, and then you create a new saved-input file.

   PTYCON> NO SAVE<RET>
   PTYCON> SAVE FTS-CMD.TXT<RET>
   PTYCON>

SILENCE - Silencing Output to Your Terminal

Function

The SILENCE command silences any output that would normally be output on your terminal while PTYCON processes the file specified in the GET command.

Formats

SILENCE

or

NO SILENCE

Characteristics

The SILENCE and NO SILENCE commands are effective only when given in the file on which you do a GET.

SILENCE does not stop output to a log file.

NO SILENCE, which is the normal mode, allows all output on your terminal while PTYCON processes the file specified in a GET command.

Hint

If you have a SILENCE command in a file on which you intend to do a GET, you should then include a NO SILENCE in the file. If you do not include the NO SILENCE command, the SILENCE command suppresses the last PTYCON prompt on your terminal.

Examples

1. Your PTYCON.ATO file might contain SILENCE as the first command to silence output to your terminal when SYSJOB executes the GET PTYCON.ATO command at system startup.

   @TYPE PTYCON.ATO<RET>
   00100   SILENCE
   00200   LOG
   00300   DEFINE 0 OPR
            .

.
.
.

2. In the same PTYCON.ATO file above, the NO SILENCE command
    might be one of the last commands so that output prints on
    your terminal after the execution of the PTYCON.ATO file.

.
.
.
```
01000    NO SILENCE
01100    WHAT ALL
01200    CONNECT OPR
            .
```

(For actual examples, see the examples under the GET
command.)

WHAT - Displaying the Status of Subjobs

Function

The WHAT command gives you a status report for specified subjobs.

Formats

PTYCON> WHAT n

or

PTYCON> WHAT ALL

Argument

n   specifies the subjob number. You can specify
                      any number from 0 to 23. If you specified a
                      name for the subjob, you can specify the name
                      instead of the subjob number. If you specify
                      a nonexistent subjob number, the message:

                            Subjob "n" not in use.

                      appears on your terminal (n is the number you
                      specified). If there are no subjobs, the
                      message None active! appears on your
                      terminal.

Characteristics

If you do not specify a subjob number or name with the WHAT
command, PTYCON gives the status for all the subjobs. One line
of information is given for each subjob.

The information for a logged-in subjob is:

1. Subjob name   (if it has one)

2. Subjob number (in parentheses if there is a subjob name)

3. System job number

4. User logged in under the subjob

5. Program running under the subjob

6. State of the job:

    a. RN meaning running

    b. TI meaning ready for terminal input

    c. TO meaning the subjob has terminal output waiting

    d. Any of the three above followed by (R), meaning the REFUSE or NO ACCEPT command is in effect for the subjob, or (D), meaning the DISCARD command is in effect for the subjob

7. Run time of the job is in hours:minutes:seconds

The information for a subjob that is defined but not logged in is:

1. Subjob name   (if it has one)

2. Subjob number (in parentheses if there is a subjob name)

3. System job number (if assigned, or, if the subjob has only been defined, the message: NO JOB NUMBER ASSIGNED)

4. Message: NOT LOGGED IN (if the login is not complete)

5. State of the job (see above)

6. Run time of the job (hours:minutes:seconds)

Example

1. You specify the WHAT command to display the status of the PTYCON subjobs. ALL is the default.

```
PTYCON> WHAT<RET>
OPR(0)    19             OPERATOR   OPR      TI       2:15:26
FIL(1)    22             OPERATOR   FILCOM   TO       0:05:01
2         NO JOB NUMBER ASSIGNED              TI       0:00:00
DUM(3)    27             OPERATOR   DUMPER   RN       0:21:15
WAT(4)    25             OPERATOR   WATCH    RN       0:37:13
5         31             OPERATOR   OPR      TI(R)    1:09:37
EXEC(6)   32             OPERATOR   EXEC     TO       0:45:21
7         NOT LOGGED IN                      TI       0:00:00
PTYCON>
```

6.6 PTYCON WARNING AND ERROR MESSAGES

Warning Message

%Name already in use, reassigned to this subjob

    You have defined a subjob with a name that was already assigned to another subjob. Therefore, PTYCON has removed the name from the other subjob and assigned it to the one you just defined. You can still reference the other subjob by its subjob number or name.

%This is only effective from within a command file

    You have issued a SILENCE command at PTYCON command level. The SILENCE and NO SILENCE commands can only be used in a PTYCON.ATO file.

Error Messages

?Doing a "GET" within a "GET" is illegal

    You are not allowed to process a GET from a file upon which you have done a GET.

?Error while converting ATO file - conversion and GET aborted

    This error is not a result of any error on your part. This is an I/O error that occurred while converting a control character in the ATO file. Notify your software contact or System Manager. PTYCON continues to run.

?Fatal JSYS error

    This error is not a result of any error on your part. PTYCON does not continue to run. Notify your software contact or System Manager. You can try CONTINUE immediately after the message and check the status of the subjobs.

?Illegal PTYCON escape character

    You typed an escape CTRL character that is not the default CTRL/X

or the CTRL character defined with the PTYCON REDEFINE command.

?Illegal subjob designator

You referenced a subjob name that did not exist, or you tried to assign to a subjob a number that is larger than the number of PTYs on the system.

?Insufficient system resources – no resident free space

You tried to create another subjob; but there was no more resident free space for a PTY.

?Line too long

You entered a line that is too long for the PTYCON command buffer.

?No EXEC

You did a PUSH, and there was no system command language, SYSTEM:EXEC.EXE, to run. Notify your system manager.

?No lower forks available

You did a PUSH command, and there were no free processes available.

?No more PTY's available

You tried to create another subjob, but there were no free PTYs to run the job. To find out how many PTYs are available on your system, type the EXEC command INFORMATION (ABOUT) AVAILABLE DEVICES. To find out how many PTYs are in use by PTYCON (up to 24), type the PTYCON command WHAT ALL.

?Subjobs active, use "PUSH" command

You typed a CTRL/C to PTYCON and there were subjobs active. If you want to do a task at system level, use the PUSH command. If you really want to exit from PTYCON, see the EXIT command to PTYCON.

?Too few arguments

You did not give the proper arguments for the command you typed. Because of the severity of the DISCARD and KILL commands, they require either a subjob name or number, or ALL typed in its entirety. Also, these two commands do not accept ESCape for the argument.

?Too many arguments

You typed more than 23 subjob numbers.

?Type "EXIT" to exit from PTYCON

You typed a CTRL/C to PTYCON and there were no subjobs active. However, you must still type EXIT to exit from PTYCON.

?Unexpected PTYCON error – cannot enable for CONTROL-C intercept

You cannot run PTYCON if you have done a SET NO CONTROL-C-CAPABILITY. Do a SET CONTROL-C-CAPABILITY and then run PTYCON.

?Unexpected PTYCON error – couldn't get handle on TTY for binary channel

This is an unexpected error and is not a result of any error on your part. Notify your software contact or system manager. You can try START immediately after the message and check the status of the subjobs. If that does not work, run PTYCON again, and within five minutes attach to the subjobs that became detached jobs.

?Unexpected PTYCON error – couldn't open the TTY in binary for PTY communication

This is an unexpected error and is not a result of any error on your part. Notify your software contact or system manager. You can try START immediately after the message and check the status of the subjobs. If that does not work, run PTYCON again, and within five minutes attach to the subjobs that became detached jobs.

?Unexpected PTYCON error – NOUT failed

This is an unexpected error and is not a result of any error on
your part. Notify your software contact or system manager.
PTYCON continues to run.

?Unexpected PTYCON error - panic level interrupt occurred - reason

This is an unexpected error and is not the result of any error on
your part. Notify your software contact or system manager.
PTYCON will continue to run.

?Unrecognized PTYCON command - reason

You typed something to PTYCON which was not a PTYCON command.
Type HELP to PTYCON for a list of PTYCON commands and their guide
words.

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