Alternative Methods of Execution [A]

If you are new to the OLNET program, you should execute the program using the OLNET menu system. (Menu execution is described in chapters 1 through 8.) As you gain more experience with the OLNET program, you can try alternative methods of execution.

This appendix describes the alternative methods. It covers the following topics:

- MVS command-mode execution
- UNICOS and UNIX shell script and command-line execution
- VM EXEC procedure execution

A.1 MVS command-mode execution

Under MVS, the OLNET program can be executed in command mode and its output redirected to a printer. The `CM` command enables command-mode execution and terminates incomplete or erroneous jobs, thereby preventing a hang condition in which the program waits for input.

Before executing a job in command mode, you should run OLNET using the menu system to see the required command values and then construct the file containing the commands.

The following example executes only the required commands in the FEI test. The TSO editor (ISPF) was used to create the file containing the commands.

```
//OLNET  JOB   (ACCOUNT),'OLNET TEST',CLASS=A,REGION=3072K,
//             MSGLEVEL=(1,1),MSGCLASS=A
//*
//*  THIS JOB EXECUTES THE CRAY ONLINE DIAGNOSTIC
//*
//OLNET    EXEC   PGM=OLNET
//STEPLIB  DD     DSN=#PREFIX#.OLNET.LOAD,DISP=SHR
//SYSPRINT DD     SYSOUT=*
//NETOUT   DD     SYSOUT=*
//FTO6FOO1 DD     SYSOUT=*
//FT05F001 DD     *
CM,FT,DN,dn,EX
/*
```

Note: The following commands must be entered in the order shown:

`CM,FT,DN,`*dn*`,...EX`

The other commands can be entered in any order but must follow `FT` and precede `EX`.

The following example executes only the required commands in the NSC test. The TSO editor (ISPF) was used to create the file containing the commands.

```
//OLNET  JOB   (ACCOUNT),'OLNET TEST',CLASS=A,REGION=3072K,
//             MSGLEVEL=(1,1),MSGCLASS=A
//*
//*  THIS JOB EXECUTES THE CRAY ONLINE DIAGNOSTIC
//*
//OLNET    EXEC  PGM=OLNET
//STEPLIB  DD    DSN=#PREFIX#.OLNET.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//NETOUT   DD    SYSOUT=*
//FTO6FOO1 DD    SYSOUT=*
//FT05F001 DD *
CM,FT,DN,dn,EX
/*
```

Note: The following commands must be entered in the order shown:

`CM,NT,DN,`*dn*`,...EX`

The other commands can be entered in any order but must follow `NT` and precede `EX`.

If a command mode job is submitted to execute OLNET commands, output is sent to the print output queue (`SYSOUT(A)`).

In the preceding example, the first two lines contain the job statement. This statement will vary, depending on your site's conventions. Generally, the job statement used to build OLNET should be sufficient.

Submit the job to the MVS batch system with the `TSO SUBMIT` command.

A.2 UNICOS and UNIX shell script and command-line execution

Under the UNICOS and UNIX operating systems, you can execute the NSC and VME tests by doing the following:

- Using the OLNET command mode (`CM`) command to execute a shell script
- Entering commands on the command line

You must have read/write permission for the device path used by OLNET. See Section 3.2, page 44, for the procedure that finds a valid device path name and verifies the device path file permissions.

A.2.1 Shell script execution

Under UNICOS and UNIX, you can create a shell script to do one or more of the following: enter OLNET commands; execute OLNET; and save OLNET test results in a file. On test termination, output can be sent to a standard output device (`stdout`) or to a file.

The following shows the contents of the *file1* shell script for the NSC test:

```
# OLNET NSC test.
  olnet NT,PC,200
```

To display the NSC menu and change the pass count, enter the following at the command line:

file1

The following shows the contents of the *file2* shell script for the NSC test:

```
# Get remote statistics from adapter 12.
  olnet CM,NT,RA,12,DV,/dev/hy/aoz,EX
```

Enter the following at the command line to load OLNET, define the NSC test, enter the remote address for the NSC test, execute OLNET, and save the results in *file3*:

file2 >file3

The following shows the contents of the *file1* shell script for the VME test:

```
# OLNET VME test.
  olnet VT,PC,200
```

To display the VME menu and change the pass count, enter the following at the command line:

file1

The following shows the contents of the *file2* shell script for the VME test:

```
# Dump VME registers.
  olnet CM,VT,VM,VR,EX
```

Enter the following at the command line to load OLNET, define the VME test, dump VME registers, execute OLNET, and save the results in *file3*:

file2 >*file3*

For additional information on shell script creation and use, see the appropriate UNICOS and UNIX manuals.

A.2.2 Command-line execution

Under the UNICOS and UNIX operating systems, you can invoke OLNET using a command-line interface similar to UNIX instead of the menu system. This feature makes it easier for you to invoke OLNET in a batch job, a script, or any other noninteractive session.

The following example shows OLNET being used to perform a data transfer test across the NSC network from system A to system B. System A has an NSC adapter attached to channel 36 (octal), with logical path `lp06` having the NSC address 6A06. System B has an NSC adapter attached to channel 32 (octal), with logical path `lp04` having the NSC address 6D04. System A is the active side and system B is the passive side.

```
olnet -r 6D04 -M am nt /dev/comm/n036/lp06

olnet -r 6A06 -M pm nt /dev/comm/n00-32/lp04
```

See the `olnet`(8) man page for the complete `olnet`(8) command synopsis.

In previous releases, you were allowed to invoke OLNET with a comma- or space-separated list of menu choices on the command line. For example, to execute only the required commands in the NSC test, you entered the following:

```
olnet NT,RA,ra,DV,dv,EX
```

Note: The commands must be entered in the following order:

```
olnet NT,...EX
```

Inputs other than NT and EX can be entered in any order, but must follow NT and precede EX. (The exceptions are CE, which must be placed between the TMM and EX options, and the *errorfile* option, which must be placed after the EX option.) When the commands are processed, the applicable OLNET menu is refreshed to display the new command values.

The UNICOS 9.0 and later versions of OLNET still allow you to invoke OLNET in this manner as long as there is at least one comma in the list (so that OLNET can determine which style of command-line invocation is being used.) However, if an error occurs when using the comma-separated invocation style, you will be returned to one of the OLNET menus (unless the CM command is used), and OLNET will not function as desired in a batch job or other noninteractive setting. When using the UNIX invocation style, OLNET will exit when an error is found.

A.3 VM EXEC procedure execution

To execute the NSC test under VM, you must obtain VM class-B privilege. This privilege allows you to vary and attach a real device under VM. Contact your VM system administrator to obtain this privilege, or contact your VM system operator to request that the NSC adapter be attached to your VM user ID.

Under VM, you can execute the FEI and NSC tests by using VM EXEC procedures to execute OLNET commands. Different EXEC procedures are used, depending on whether you want to execute the FEI and NSC tests in command mode or interactively.

A.3.1 VM EXEC procedure (output sent to virtual reader)

This section describes the EXEC procedure that executes the commands in the FEI and NSC tests and sends output to your virtual reader on test termination.

To execute only the required commands in the FEI test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
CP SP CON TO * NOTERM START
&STACK CM,FT,VA,va,EX
OLNET
```

```
CP SP CON CLOSE TERM STOP
```

Note: The following commands must be entered in the order shown:

```
CM,FT,VA,...EX
```

The other commands can be entered in any order but must follow VA and precede EX.

To execute only the required commands in the NSC test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
CP SP CON TO * NOTERM START
&STACK CM,NT,VA,va,EX
OLNET
CP SP CON CLOSE TERM STOP
```

Note: The following commands must be entered in the order shown:

```
CM,NT,...EX
```

The other commands can be entered in any order but must follow NT and precede EX.

A.3.2 VM EXEC procedure (interactive execution)

This section describes the EXEC procedure that defines the command values in the FEI and NSC tests before interactive execution.

To execute only the required commands in the FEI test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
&STACK FT,VA,va,EX
OLNET
```

To set all of the commands in the FEI test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
&STACK FT,VA,va,PC,pc,ML,ml,MP,mp
&STACK PT,pt,FM,fm,FY,fy,EX
OLNET
```

Note: The following commands must be entered in the order shown:

```
FT,...EX
```

The other commands can be entered in any order but must follow FT and precede EX.

To execute only the required commands in the NSC test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
&STACK NT,VA,va,EX
OLNET
```

To execute all of the commands in the NSC test, use the VM editor to create a file (*file* EXEC), and enter the following:

```
&TRACE OFF
&STACK NT,VA,va,PC,pc,RA,ra,AL,al,MD,md,MP,mp
&STACK PT,pt,NM,nm,EX
OLNET
```

Note: The following commands must be entered in the order shown:

```
NT, ...EX
```

The other commands can be entered in any order but must follow NT and precede EX.

When the EXEC procedure is executed, the applicable OLNET menu is refreshed to display the new command values.