

The Basics [1]

The OLNET online diagnostic network communications program detects and isolates problems in networks associated with Cray Research computer systems. It consists of the following tests:

Note: The OLNET program is not supported on GigaRing based systems. On these systems, use the `vht(8)`, `vst(8)`, and `mnet(8)` commands to test ANSI High Performance Parallel Interface (HIPPI) and Fiber Distributed Data Interface (FDDI) communications links.

<u>Test</u>	<u>Description</u>
FEI (FEI-1 and FOL-3)	Detects and isolates faults in the communications link between a Cray Research I/O subsystem (IOS) and an IBM computer system when the link consists of a Cray Research standard or data-streaming front-end interface (FEI-1), or a Cray Research FEI and a Cray Research fiber-optics link (FOL-3).
NSC	Detects and isolates faults in the communications link between a Cray Research computer system and another Cray Research computer system, an IBM computer system, or a Sun Workstation when the link consists of an NSC HYPERchannel and NSC adapters or an NSC Fiber Distributed Data Interface (FDDI) in HYPERchannel compatibility mode.
VME (FEI-3)	Detects and isolates faults in the communications link between a Cray Research computer system and a Sun MWS, OWS, Sun Workstation, or an OWS-E when the link consists of a VME device (FEI-3) or an OWS-E. OLNET supports testing for both the cy and fy drivers.
HIPPI	Detects and isolates faults in the ANSI High Performance Parallel Interface (HIPPI) communications link between a Cray Research I/O subsystem (IOS) and another computer system. The HIPPI test can be executed only from a Cray Research system.

FDDI	Detects and isolates faults in the communications link between two Cray Research systems with FCA-2 (FDDI) adapters installed.
MPP	Detects and isolates faults in the communications link between the Cray Research mainframe (<i>Cray host</i>) and the CRAY T3D system via a HISP/LOSP connection.
FDR-4	Detects and isolates faults in the fiber-optic communications link between a Cray Research mainframe and an SSD solid-state storage device, allowing online testing of components of a shared file system.

See Appendix B, page 275, for a description of the configurations in which the OLNET program is supported. This appendix provides tables of all networks supported by OLNET.

1.1 Execution overview

If you are new to the OLNET program, you should execute the program by using the OLNET menu system. As you gain more experience with OLNET, you can try alternative methods of execution, including MVS command-mode job execution, UNICOS and UNIX shell script and command-line execution, and VM EXEC procedure execution. Appendix A, page 267, describes these methods.

Executing OLNET from the menu system consists of three steps: initializing OLNET and accessing the Main menu, entering OLNET commands, and executing the test. The following sections describe initializing OLNET, accessing the Main menu, and entering OLNET commands. Chapters 2 through 8 describe the execution of each test.

1.2 Initializing OLNET

This section describes the initialization (load) of OLNET from a Cray Research or other computer system (under MVS, UNICOS, UNIX, or VM). (If you have not yet installed OLNET, see Appendix D, page 285, for information on the OLNET build procedures.)

1.2.1 OLNET under MVS TSO

The following command-list (CLIST) example simplifies the allocation of required files and invokes the OLNET program. The time-sharing option (TSO) editor (ISPF) was used to create the file containing the commands (*tsoid* .CLIST).

```
PROC 0
CONTROL NOMSG NOLIST
FREE F(SYSPRINT,NETOUT)
CONTROL MSG
ALLOC F(SYSPRINT) DA(*)
ALLOC F(FT05F001) DA(*)
ALLOC F(FT06F001) DA(*)
ALLOC F(NETOUT) SYSOUT(A)
CALL '#PREFIX#.OLNET.LOAD(OLNET) '
FREE F(SYSPRINT,NETOUT)
END
```

The preceding example assumes that NETOUT file output is sent to the standard print output queue (SYSOUT(A)). If you want to discard the output on test termination, replace SYSOUT(A) with DUMMY in the OLNET CLIST.

Invoke this CLIST from outside the interactive systems productivity facility (ISPF) environment (from READY mode) by entering the following command:

```
EX (OLNET)
```

After the CLIST is invoked, the Main menu for OLNET is displayed.

1.2.2 OLNET under UNICOS and UNIX

To initialize OLNET under UNIX, log on to UNIX; if necessary, change directories to the path name to OLNET, and enter the following command:

```
/etc/diag/olnet
```

(on a UNICOS front-end)

```
/cri/bin/olnet
```

(on a SunOS front-end)

After the `olnet` command is executed, the Main menu for OLNET is displayed.

1.2.3 OLNET under VM

To initialize OLNET under VM, log on to VM and enter the following command:

```
OLNET
```

After the OLNET command is executed, the Main menu for OLNET is displayed.

1.3 Accessing the Main menu

The Main menu is displayed following the initialization of the OLNET program. The sample Main menu in Figure 1, shows the supported devices from a UNICOS system with an IOS model E (IOS-E). The supported devices in your Main menu may vary, depending on system type.

```
mswan @ cool:/cool/u1/mswan/diag/dgnet

      OLNET A.1 MAIN MENU

YOUR SYSTEM:  NAME = sn1703c, NODE NAME = cool, RELEASE = 9.0.0aw,
              VERSION = d90.76, MACHINE = CRAY_YMP

COMMAND      DESCRIPTION
-----      -
FDT - Call the FDDI test
FT - Call the FEI test
HI - Call the HIPPI test.
NT - Call the NSC test.
VT - Call the VME test.
FDR4 - Call the FDR-4 test.
HELP - Get HELP information about this menu.
PLK - Enable/disable PROGRAM LOCK. Lock is: DISABLED
QT - Quit OLNET.

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Enter a command: [ ]
```

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Figure 1. Sample Main menu for OLNET

From the Main menu, you can enter FDT, FT, HI, NT, VT, MPP, HELP, PLK, or QT. FDT, FT, HI, NT, VT, MPP, or FDR4 go to the selected network test and display menus for FDDI, FEL, HIPPI, NSC, VME (FEI-3), MPP, or FDR-4 respectively. Entering the HELP command displays additional information about the Main menu and gives basic instructions for executing OLNET.

The PLK command (UNICOS only) enables program lock, which locks OLNET in low memory during program execution. (See `plck(2)` for additional information.) The PLK command is used primarily to prevent time-outs that can occur during end-to-end testing if the OLNET process is not in memory when the data from the front-end system becomes available. This command should be enabled only when it is necessary so that system overhead is kept to a minimum. You must have super-user privilege to enable this command.

1.4 Entering OLNET commands

You can enter OLNET commands in uppercase, lowercase, or a combination of the two (case is usually not significant to the OLNET program). Press RETURN (the ENTER key on some keyboards) to process a command.

To enter a case-sensitive command value (for example, `/dev/vme/cy_05`), either surround the value with quotation marks (" ") or precede the value with a slash (/).

```
"/dev/vme/cy_05" or //dev/vme/cy_05
```

To change a value shown in a menu, enter the command, a comma (,), and the desired value.

```
TM,RL
```

Another way to change a value is to enter the command, followed by a space and the desired value.

```
TM RL
```

To display the range of values for a command, enter only the command. The following information is displayed:

- Current value for the command
- Range of values for the command

To change the command value, enter the desired value and press RETURN. To leave the current value unchanged and return to the menu, press RETURN.

If you enter an invalid command, the following message is displayed:

```
Invalid menu command.  
Press <CR> to continue.
```

To interrupt OLNET program execution, press the interrupt key, which is typically defined as CONTROL-c. After interrupting the program, you can either abort the test by pressing CONTROL-c again, or you can press RETURN to return to the appropriate menu.