EMULEX
An Avago Technologies Company

OneCapture Version 10.6

User Manual

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1. Introduction

OneCapture is an Emulex® device driver utility that collects information from the operating system, Emulex software, and Emulex adapters. You can use this information to examine the functionality of the drivers.

Data collected by OneCapture is compressed into a single file that can be sent to Emulex Technical Support for analysis when debugging systems or for diagnostic purposes.

Abbreviations

ARP	address resolution protocol
BIOS	Basic Input/Output System
CIM	Common Interface Model
CLI	command line interface
CPU	central processing unit
DOS	disk operating system
FC	Fibre Channel
FCoE	Fibre Channel over Ethernet
GUI	graphical user interface
HBA	host bus adapter
HTML	hyper-text markup language
INET	Internet network protocol
I/O	input/output
IP	Internet Protocol
iSCSI	Internet Small Computer System Interface
MPIO	Multi-Path I/O
NIC	network interface controller
OS	operating system
PCI	Peripheral Component Interconnect
RDMA	Remote Direct Memory Access
RoCE	RDMA over Converged Ethernet
RPM	Red Hat Package Manager
SAN	storage area network
SCSI	Small Computer System Interface
SSH	Secure Shell
SMBIOS/DMI	System Management BIOS/Desktop Management Interface

TCP	Transmission Control Protocol
UCNA	Universal Converged Network Adapter
VM	virtual machine
UUID	Universally Unique Identifier

2. Running OneCapture

You can run OneCapture on any of the following operating systems:

- Windows
- Linux
- Citrix
- FreeBSD
- Solaris
- VMware ESXi

OneCapture is installed as a single.exe or .sh file. Download the appropriate OneCapture file to each of the systems from which you want to collect data.

- For Windows systems, download the OneCapture.exe file.
- For Linux, Citrix, FreeBSD, and Solaris systems, download the OneCapture.sh file.
- For Solaris systems, download the OneCapture.sh or OneCapture_Solaris_ocmcore.sh
- For ESXi systems, download the OneCapture_ESX.sh to the ESXi host.

Note: Before OneCapture can run the .exe or .sh file, it must be uncompressed from the tar or zip file.

You can run OneCapture from any directory or folder on your computer. Output is generated as HTML. Data may vary according to the system type in use.

Choosing a Capture Type

Using OneCapture, you can select one of four capture types; basic, full, safe, or custom. This section describes the available capture types.

Basic Capture

Basic capture is the default selection. Typically, you will use Basic capture unless instructed by Emulex Technical Support to use one of the other types.

Basic capture does not reset live adapters, and it does not restart dead adapters. That is, live adapters remain alive and dead adapters remain dead.

Note: I/O on live adapters can be temporarily interrupted during a live core dump.

Basic capture does the following:

- Captures all the available configuration files and log files
- Captures the existing adapter dump files (if present)
- Captures the existing flash-resident dump file (if present) on LPe16000-series and OCe15000-series adapters

- Performs a new live core dump on live OCe11000-series and live OCe14000-series adapters
- Performs a new dead core dump on dead OCe11000-series and dead OCe14000-series adapters

Full Capture

Full capture performs both a live and a dead core dump on the specified OCe11000-series and OCe14000-series adapters, regardless of whether the adapters are alive or dead. A dead core dump brings the adapter down, and it will remain down until the system is rebooted.

Caution: No I/O is possible on the adapter until the system is rebooted. Therefore, Emulex recommends that you perform a Full capture only when instructed to do so by Emulex Technical Support.

Full capture does the following:

- Captures all the available configuration files and log files
- Captures all existing adapter dump files (if present)
- Captures the existing flash-resident dump file (if present) on LPe16000-series and OCm15000-series adapters
- Performs a new "dmp" dump on specified LPe12000-series adapters
- Performs a new "live" core dump on live OCe11000-series and live OCe14000-series adapters
- Performs a new "dead" core dump on specified OCe11000- and OCe14000-series adapters
- Performs a new "bin" dump on specified LPe16000-series and OCm15000-series adapters

For adapters not specified with the /DumpAdapters option, full capture performs like basic capture.

Safe Capture

Safe capture collects all the available current information, and any existing adapter dump files, but does not perform any new dumps. I/O is not interrupted on any adapters. Emulex recommends that you use this option to collect existing logs and dumps when it is important not to interrupt I/O.

Safe capture does the following:

- Captures all the available configuration files and log files
- Captures all existing adapter dump files (if present)

Custom Capture

Custom Capture allows you to select from a variety of capture options. You select the components to capture in the check box list or with the /Component option in the CLI.

Running OneCapture on Windows

OneCapture for Windows can be run using the GUI or CLI. This section describes both methods.

To run OneCapture on Windows using the GUI:

1. Download the OneCapture.exe file.
2. Uncompress the file.
3. Launch the OneCapture.exe file from Windows.

   Note: Although you can run OneCapture as a regular user, Emulex recommends that you run it as the Administrator, or as another user with Administrator privileges.

4. To run OneCapture as the Administrator, no special steps are needed. Access to all output files is unrestricted.
   - To run OneCapture as a User with Administrator Privileges, the GUI will prompt you to enter an administrator username and password.
   - For non-administrators, the GUI will prompt you to enter an administrator username and password. Access to output files may be restricted. In this case, you must give the desired user access to the OneCapture output folder. Typically, this is in \Users\Administrator\Documents\Emulex.
5. From the popup window, select where you want the OneCapture output file stored. You can leave the default path or specify a different one.
6. From the drop-down menu, select the capture type you want to use. You can select "Basic", "Safe", "Full", or "Custom". See "Choosing a Capture Type" on page 9 for a description of the options.
7. If HBA/CNA Core Dump Down was selected; choose the adapters from which you want dead dumps.
8. Click **Capture**. OneCapture gathers the requested information and outputs the file to the specified folder.
9. After OneCapture is finished running, click **Finish** on the popup window to close OneCapture and view the results.

To run OneCapture on Windows from the CLI:

1. Download the OneCapture.exe file.
2. Uncompress the file.
3. Run the OneCapture.exe from a DOS command shell.

Note: Although you can run OneCapture as a regular user, Emulex recommends that you run it as the Administrator, or as another user with Administrator privileges.

4. To run OneCapture as the Administrator, no special steps are needed. Access to all output files is unrestricted.
   - To run OneCapture as a User with Administrator Privileges, start the DOS command shell with "Run As Administrator", and then enter an administrator username and password. Access to all output files is unrestricted.
   - For non-administrators, start the DOS command shell with "Run As Administrator", and then enter an administrator username and password. Access to output files may be restricted. In this case, you must give the desired user access to the OneCapture output folder. Typically, this is in \Users\Administrator\Documents\Emulex.
5. At the command line, define the type of capture you want. See "Choosing a Capture Type" on page 9 for a description of the options.

   Refer to "Windows Command Line Interface Parameters" on page 12 for a list of the available commands.

The Output File

OneCapture creates a single zip file containing all of the captured components. This zip file is named OneCapture_Windows_<date-time>.zip. The file is located in one of two different directories, depending on whether you run the OneCapture GUI or the CLI.

For the GUI, the output directory is MyDocuments\Emulex. For the CLI, it is the working directory from which you run the CLI. The default output directory can be overridden; see "Windows Command Line Interface Parameters" on page 12.

Most items in the OneCapture output zip file can be examined directly from the zip file, without the need to unzip the whole file. The exception is the OneCapture_Windows.html file, which is a navigable directory of the captured components. When you launch this file in your browser, you can browse through the captured objects, but you must unzip the OneCapture output file first.

The adapter dump files are placed in a directory called CoreDump. Typically you do not need to unzip these files individually, since Emulex Technical Support will normally request the entire OneCapture output zip file.

Windows Command Line Interface Parameters

The following is an example of Windows command syntax:

```
OneCapture.exe /FullCapture /Adapters=0,2 /Directory=C:\Capture\BE3
/FileName=output.zip
```

The following are the available CLI parameters for Windows.

`/? | /H | /help`

Displays a brief guide on command usage and supported parameters.

`/L | /ListAdapters`

Lists the discovered adapters. Supported Emulex adapters include: LPe12000-series, OCe14000-series, OCe15000-series, and LPe16000-series adapters. The list command shows each adapter's "Adapter Number" (0, 1, . . .), which is used in the actual dump command for the /Adapters option.

Note: For LPe12000-series adapters, each port on the adapter is displayed as a single adapter. Thus, if the adapter has two ports, it will be displayed as two adapters.

`/Quiet or /Q`

Forces the capture without displaying warning messages or prompts.

`/Directory=<OutputDirectory> or /D=<OutputDirectory>`

Specifies a directory in which OneCapture will create the output zip file. If this option is not used, the default is the working directory from which you run the CLI.

For example:

```
OneCapture.exe / Directory =C:\Users\Administrator\Desktop\Dump
```

`/Filename=<OutputFilename> or /N=<OutputFilename>`

Specifies the filename OneCapture will use when it creates the output zip file. If this option is not used, the default is OneCapture_Windows_<date-time>.zip.

Example:

```
OneCapture.exe  /Filename =example1.zip
```

`/BasicCapture or /B`

Specifies the Basic capture type.

Example:

```
OneCapture.exe /BasicCapture
```

`/SafeCapture or /S`

Specifies the Safe capture type.

Example:

```
OneCapture.exe /SafeCapture
```

`/FullCapture or /F`

Specifies the Full capture type. Use both the /FullCapture and /Adapters options.

Examples:

```
OneCapture /FullCapture /Adapters=0
OneCapture /FullCapture /Adapters=2,3
OneCapture /FullCapture /Adapters=all
```

Caution: This option can temporarily interrupt I/O on live adapters and can force live adapters offline.

`/Adapters=<AdapterNumber | <list> | all>`

Use only with /FullCapture. This option specifies the adapters for which OneCapture will perform a dead dump.

Examples:

Perform a full dump on adapter 0 only:

```
OneCapture /FullCapture /Adapters=0
```

Perform a full dump on adapters 2 and 3 only:

```
OneCapture /FullCapture /Adapters=2,3
```

Perform a full dump on all adapters:

```
OneCapture /FullCapture /Adapters=all
```

`/Components=< <component> | <list> > or /Components=< <component> | <list>>`

There are 24 different "components" of data that OneCapture collects by default. For example, system information, driver information, iSCSI information, and so on. This option can be used to specify the individual components to be captured while ignoring all the rest. You can specify a single component, or a list of components, separated by commas.

Examples:

Capture system information only:

```
OneCapture.exe /Components=System
```

Capture system information and driver information only:

```
OneCapture.exe /Components=System,Driver
```

The following is a list of the available components:

system – System information

driver – Driver information

iscsi – iSCSI information

roce – RoCE information

disk – Disk information

sestats – SEstats log

nic/ipmac – IP & MAC information

nic/driver – NIC driver information

nic/team – NIC Teaming information

win/setup – Windows setup log

win/event – Windows event log

ocm/log – OCM log

ocm/status – OCM status

ocm/dumps – Dumps collected in OCM dump folder

ocm/roce – RoCE Information by HBACMD

hba/list – HBA basic list

hba/attr – HBA attributes

hba/info – HBA information

hba/dump – HBA core dump

hba/dumpdown – HBA core dump down

elxtrace – ELX trace information

autopilot – AutoPilot Installer information

milirpt – Collect MILI report

mpio – MPIO information

Running OneCapture on Linux, Citrix, FreeBSD, and Solaris

The following distributions are included for Linux, Citrix, FreeBSD, and Solaris OneCapture.

- OneCapture_Linux_10.6.xxx.x.tgz (OneCapture_Linux.sh)
- OneCapture_FreeBSD_10.6.xxx.x.tgz (OneCapture_FreeBSD.sh)
- OneCapture_Solaris_10.6.xxx.x.tgz (OneCapture_Solaris.sh)
- OneCapture_Solaris_ocmcore_10.6.xxx.tgz (OneCapture_Solaris_ocmcore.sh)

For Solaris systems, one is the general executable file and the other is the ocmcore service embedded executable file.

For Solaris systems, if the OneCommand Manager application was not installed before running OneCapture, OneCapture will prompt you to install the basic ocmcore service

(OneCapture_Solaris_ocmcore.sh). The service is used during the dump procedure and is removed after execution.

Refer to the *OneCommand Manager Application User Manual*, available from the Emulex website, for OneCommand Manager application installation instructions.

Note: For Solaris systems, if the OneCommand Manager application was not installed or allowed, only a degraded capture is available.

Notes

- For Linux, Citrix and Solaris systems, if the OneCommand Manager application is installed, OneCapture will collect OneCommand Manager Application related data.
- FreeBSD systems do not support the OneCommand Manager application, therefore OneCapture does not collect OneCommand Manager application related data, but OneCapture can collect firmware core dumps.

For Ubuntu systems, make sure to install the libnl1 package with 'apt-get install libnl1' for OneCapture to collect adapter dumps.

To run OneCapture on Linux, Citrix, FreeBSD, and Solaris systems:

1. Log in as 'root'.
2. Copy the script file onto the system through SSH (Secure Shell) or another method.
   - For Linux, Citrix, FreeBSD, and Solaris systems, copy the OneCapture.sh file.
   - For Solaris systems, copy the OneCapture.sh or OneCapture_Solaris_ocmcore.sh
3. Uncompress the file.
4. Run the shell script for corresponding systems, for example: ./OneCapture_Linux.sh /BasicCapture

   See "Linux, Citrix, FreeBSD, and Solaris Command Line Interface Parameters" on page 17 for options.
5. Change the script to executable mode, for example, Chmod 777 OneCapture.

   The progress of the script is displayed. For example:

```
Running Emulex OneCapture Solaris, version
Emulex Corporation Report Utility
Started at Friday, February  1, 2014 12:50:42 PM CST
Initializing report environment for host:solaris
Collecting System Information...
 [-]      1%                              uname -a
```

6. After the OneCapture script finishes gathering information it creates a zipped tarball file in its current working directory. Open that file to view the information.

The Output File

OneCapture creates a single tgz file containing all the captured components. This tgz file is named OneCapture_Linux_<date-time>.tgz. This file is placed in the working directory from which you run OneCapture.

To examine the items in the OneCapture output tgz file, first untar it. This creates a directory in the current working directory called "dump". It also creates a file in the current working directory called OneCapture-Linux.html.

OneCapture-Linux.html is a navigable directory of the captured components. When you launch this file in your browser, you can browse through the captured objects.

Or, you can examine the captured components directly by browsing through the folders and files in the "dump" directory.

The adapter dump files are placed in a directory called "dump/CoreDump". Typically you do not need to examine these files individually, since Emulex Technical Support will usually request the entire OneCapture output tgz file.

Linux, Citrix, FreeBSD, and Solaris Command Line Interface Parameters

The following are the available CLI parameters.

```
-h  |  --help
```

Displays the help text.

```
-L  |  --ListAdapters
```

Lists the discovered adapters. Supported Emulex adapters include: LPe12000-series, OCe14000-series, OCe15000-series, and LPe16000-series adapters. The list command shows each adapter's "Adapter Number" (0, 1, . . .), which is used in the actual dump command for the /Adapters option.

Note: For LPe12000-series adapters, each port on the adapter is displayed as a single adapter. Thus, if the adapter has two ports, it will be displayed as two adapters.

When running on Ubuntu systems but without libnl1 installed, the following warning message appears:

```
OneCapture requires the libnl1 package.
You must install it manually, and then re-run OneCapture.
To install the libnl1 package, use "apt-get install libnl1".
```

This message indicates that you must install libnl1 manually then re-run OneCapture. To install the libnl1 package, enter ‘apt-get install libnl1’ at the CLI prompt. Once libnl1 is installed, reenter the -L or -ListAdapters parameter.

`-Q | --Quiet`

Forces the capture without displaying a warning message or prompt.

`-X | --NoCrashDump`

Does not collect crash dump files under /var/crash.

For example:

```
./OneCapture_Linux.sh -- NoCrashDump
```

`-B | --BasicCapture`

Specifies the Basic capture type. To specify a Basic capture, omit the /FullDump and /DumpAdapters options.

For example:

```
./OneCapture_Linux.sh --BasicCapture
```

`-F | --FullCapture`

Specifies the Full capture type. To specify a Full capture, use both the /FullCapture and /Adapters options.

Examples:

```
./OneCapture_Linux.sh --FullCapture --Adapters=0
./OneCapture_Linux.sh --FullCapture --Adapters=2,3
./OneCapture_Linux.sh --FullCapture --Adapters=all
```

Caution: This option can temporarily interrupt I/O on live adapters and can force live adapters offline.

`-S | --SafeCapture`

Specifies the Safe Capture type. To specify a Safe capture, use the /S or /SafeCapture option with no other options.

Examples:

```
./OneCapture_Linux.sh -S
./OneCapture_Linux.sh -- SafeCapture
```

`--Adapters=<AdapterNumber | <list> | all> or -A=<AdapterNumber | <list> | all>`

Use only with the /FullCapture option. This option specifies the adapters for which OneCapture will perform a dead dump.

Examples:

Perform a full dump on adapter 0 only:

```
/OneCapture_Linux.sh --FullCapture --Adapters=0
```

Perform a full dump on adapters 2 and 3 only:

```
/OneCapture_Linux.sh --FullCapture --Adapters=2,3
```

Perform a full dump on all adapters:

```
/OneCapture_Linux.sh --FullCapture --Adapters=all
```

Running OneCapture on VMware ESXi

Before running OneCapture on VMware ESXi systems you must enable the ESXi shell.

To enable the ESXi shell:

1. Press **F2** on the ESXi main screen.
2. Go to **Troubleshooting Options**.
3. Choose **Enable ESXi shell**.

Note: You can also run the "OneCapture_ESX.sh" by SSH to the ESXi host.

To run OneCapture on ESXi systems:

1. Log in as 'root'.
2. Copy the zipped script file "OneCapture_ESX_<version>.tgz."
3. Run the command - tar -zxvf OneCapture_ESX_<version>.tgz.
4. Show the available target volumes. Type

   ```
   ./OneCapture_ESX.sh [-T | --ShowVolumes]
   ```

   For example:

   ```
   # ./OneCapture_ESX.sh -T
   Verifying archive integrity... All good.
   Uncompressing Emulex OneCapture ESX.........
   --showvolumes selected
   Volume ID :  538474e9-59b93266-e8b8-f04da23f74e4  Free space:
   74379689984
   Volume ID :  538555c4-c83454f8-d9d2-f04da23f74e4  Free space:
   4267900928
   Volume ID :  e2026c71-52b57cde-56c2-b9ae66445c72  Free space:
   96399360
   Volume ID :  cc98d67e-0a7c79da-97d1-27c3a68e6d5f  Free space:
   87855104
   Volume ID :  538555bd-5c9bd074-35cc-f04da23f74e4  Free space:
   97705984
   ```

5. Select the target volume. Emulex recommends specifying a larger local volume for the dump. Type

   ```
   [-V | --Volume]=volume_id
   ```

6. Run the shell script for the corresponding systems with the selected options.

   For example:

   ```
   ./OneCapture_ESX.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
   -BasicCapture
   ```

   The progress of the script is displayed in this example.

   ```
   Verifying archive integrity... All good. Uncompressing Emulex
   OneCapture ESX..... Emulex OneCapture ESXi, version 10.2.96.0
   ```

```
Emulex Corporation Report Utility
Started at Mon Dec 13 08:53:58 UTC 2013
Initializing report environment for host:esxi55-sandbox.emulex.com
Collecting System Information... Obtaining vm-support...
```

7. After the OneCapture script finishes gathering information it creates a zipped tarball file in its current working directory. Open that file to view the information.

ESXi Command Line Interface Parameters

The following are the available CLI parameters for ESXi systems.

`-h | --help`

Displays the help text.

`-T | --ShowVolumes`

Lists available volumes. The Volume IDs given can be used in a -V or --Volume option

`-V | --Volume`

Sets up the dump volume. Emulex recommends specifying a larger local volume for the dump.

For example:

`--DumpVolume=53874dd8-cf5f5e64-5396-002564fab52f`

Note: If you select a non-local volume connected to an Emulex adapter, the dump procedure may fail.

`-L | --ListAdapters`

Lists discovered adapters. Supported Emulex adapters include: LPe12000-series, OCe14000-series, OCe15000-series, and LPe16000-series adapters. The list command shows each adapter's "Adapter Number" (0, 1, . . .), which is used in the actual dump command for the /Adapters option.

Note: For LPe12000-series adapters, each port on the adapter is displayed as a single adapter. Thus, if the adapter has two ports, it will be displayed as two adapters.

`-Q | --Quiet`

Forces the capture without displaying a warning message or prompt.

`-B | --BasicCapture`

Specifies the Basic capture type. To specify a Basic capture, omit the /FullDump and /DumpAdapters options.

For example:

```
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
--BasicCapture
```

```
-F  |  --FullCapture
```

Specifies the Full capture type. To specify a Full capture, use both the /FullCapture and /Adapters options.

Examples:

```
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
--FullCapture --Adapters=0
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
--FullCapture --Adapters=2,3
./OneCapture_Linux.sh -V=538555c4-c83454f8-d9d2-f04da23f74e4
--FullCapture --Adapters=all
```

Caution: This option can temporarily interrupt I/O on live adapters and can force live adapters offline.

```
-S  |  --SafeCapture
```

Specifies the Safe Capture type. To specify a Safe capture, use the /S or /SafeCapture option with no other options.

Examples:

```
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4 -S
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
--SafeCapture
```

```
-Adapters=<AdapterNumber | <list> | all> or -A=<AdapterNumber | <list>
| all>
```

This option specifies the adapters for which OneCapture will perform a dead dump. Use only with the /FullCapture option.

Examples:

Perform a full dump on adapter 0 only:

```
./OneCapture_Linux.sh --Volume=538555c4-c83454f8-d9d2-f04da23f74e4
-FullCapture   --Adapters=0
```

Perform a full dump on adapters 2 and 3 only:

```
./OneCapture_Linux.sh --FullCapture --Adapters=2,3
```

Perform a full dump on all adapters:

```
./OneCapture_Linux.sh --FullCapture --Adapters=all
```

3. Collected Data

By default, OneCapture collects live firmware core dumps. For dead dumps, Emulex adapters are taken offline during OneCapture execution. You must reboot to bring the adapters back online.

To skip collecting firmware dumps:

- For Linux and Solaris systems, use the "/SafeCapture" option to skip live dumps.
- For Windows and VMware systems, choose "Safe" mode, or uncheck dump options in the GUI. Use "/SafeCapture", or specify the "/component" option to choose the necessary items in the CLI.

To collect dead dumps:

- For Linux and Solaris systems, use "/FullCapture ".
- For Windows and VMware systems, choose "full" mode, or select options in GUI interface. Use "/FullCapture" or specify the "/component" option to choose the necessary items in the CLI.

OneCapture cannot collect data for certain non-default library commands. However, you can install add-on packages for those commands if the packages are compatible with your system.

Below is a list of packages that may not be included with default installations. Install these packages to capture the most data.

Notes

- OneCapture packet data can be captured as part of the memory dump within the firmware dump.
- When you do not use OpenMpi on RoCE, some special information commands, such as ompi_info and ofed_info, are not required.

For Linux

- sysstat – to use iostat mpstat
- hwinfo – to use hwinfo
- sg3_utils – to use sg_map
- dmidecode – to use dmidecode, biosdecode
- smbios-utils – to use smbios
- netstat-nat – to use netstat
- libblkid – to use blkid
- procps – to use vmstat
- device-mapper-multipath – to use multipath
- bridge-utils – to use brctl
- libvirt-utils – to use virsh

For Solaris and FreeBSD

- pciconf – to use pciconf
- prtdiag – to use prtdiags

The following sections describe, by operating system, the information that is collected by OneCapture.

Windows Systems

The following information is available for Windows systems.

Table 3-1 Windows Information Collected

Type	Information
System Configuration	
	System information
	System inventory
	PCI information
	CPU information
	CPUEx information
Driver Configuration	
	Devcon collected information
	<HKLM>/Hardware/DeviceMap/Scsi
	Driverquery collected information
NIC	
	NIC occfg information
	becfg4 output
	becfg6 output
	registry parameter value
	driver parameter value
	adapters registry value
	CPU topology
	IP information
	NIC tcpglobal information
	NIC tcp offload information
	NIC SEstats parameters
	NIC tinylog
iSCSI	
	iSCSI information

Table 3-1 Windows Information Collected (Continued)

Type	Information
	iSCSI target information
	iSCSI diskpark details
	iSCSI SEstats information
	iSCSI registry information
RoCE	
	TinyLogCM
	TinyLog
	PowerShell RoCE Information
	SEstats RoCE information
	NetStat RoCE information
ElxTrace	
	Trace messages
MILI	
	MILI log
	MILI service status
	MILI service information
	MILI service report
OneCommand Manager Application Information	
	Hbacmd version
	Hbacmd ListHBAs
	Hbacmd ListHBAs (local)
	Hbacmd HbaAttribute (local)
	Hbacmd PortAttribute (local)
	Cnaboardmgmt.log
	RM.log
	OneCommand Manager installer log
OneKat	
	MILI report
Core Dump	
	adapter core dump
	adapter core dump down

Table 3-1 Windows Information Collected (Continued)

Type	Information
Windows Information	
	Emulex services status
	setupapi.*.log
	Event logs
Disk	
	disk detail
Win logs	
	Win logs
Win Setup Log	
	Win Setup Log
AutoPilot Report	
	FC
	FC/FCoE
	iSCSI
	NIC
MPIO Information	
	mpclaim -s
	mpclaim -e
	mpclaim -v

Linux Systems

The following information is available from Linux systems.

Table 3-2 Linux Information Collected

Type	Information	Parameter
System Information		
	Kernel version	
	Distributed version	
	Kernel modules currently loaded	lsmod
	Kernel memory allocations	numastat
	Running processes	ps
	Running tasks	top

Table 3-2 Linux Information Collected (Continued)

Type	Information	Parameter
	Processors statistics	mpstat
	Memory statistics	free
	Installed packages	rpm -qa
Hardware Information		
	System hardware description through SMBIOS/DMI	dmidecode
PCI Information		
	Tree diagram containing all buses, bridges, devices, and connections. Verbose and detailed information plus PCI configuration space dump on devices with Emulex vendor ID.	
Kernel Information		
	CPU structures	/proc/cpuinfo
	Memory structures	/proc/meminfo
	Kernel version	/proc/version
	System uptime	/proc/uptime
	Kernel boot parameters	/proc/cmdline
	System memory mapping	/proc/iomem
	Memory zones and virtual memory	/proc/zoneinfo
	Devices group	/proc/partitions
	Kernel caches	/proc/slabinfo
	Network device status	/proc/net/dev
	SCSI devices	/proc/scsi/scsi
NIC Information		
	Network interfaces information	ifconfig -a
	NIC driver parameters	
	Firewall configurations	iptables
	NIC related packages information	
ROCE Specific Information		
	Network information	
	SCSI device info	
	System states and logs	
	Module info	

Table 3-2 Linux Information Collected (Continued)

Type	Information	Parameter
Kernel Runtime Parameters		
	List of all kernel runtime parameters	
Network Statistics		
	Summary statistics for each protocol	
	Table of all available network interfaces	
	All current TCP connections	
	Routing table	
Virtual Memory Statistics		
	Various event counters and memory statistics	
	Disk statistics	
	slabinfo	
Device Interrupts		
	Emulex device interrupts counter, in five-second intervals	
iSCSI Specific Information		
	Current multipath topology	multipath -ll
	iSCSI module information	modinfo be2iscsi
	Partition tables	
	File system mount	
	Disk UUID	
	Disk space available	
	File system table	/etc/fstab
	SCSI information	
	Mount information	
FC Specific Information		
		modinfo
		SCSI device info
		SCSI class information
FCoE Specific Information		
	lpcs driver information	
	SCSI class information	/sys/class/scsi/..

Table 3-2 Linux Information Collected (Continued)

Type	Information	Parameter
	lpfcmlp information	/proc/scsi/lpfcmpl/*
Library Information		
	The version number for the following libraries: • libdfc • libmili • libHBA	
Driver Information		
	RPM packages with be2 prefix name	
	Loaded kernel modules with be2 prefix name	
	NIC kernel module information	modinfo be2net
	lpfc kernel module information	modinfo lpfc
OneCommand Manager Application Information		
	RPM packages with elx prefix name	
	Running status of process hbanywhere	
	Running status of process ocmanager	
	List of executable files with elx prefix name	
	List of executable files with mili prefix name	
	rm.log	
	cnaboardmgnt.log	
	utils-install.log	
	mili2d.log	
	Installer.log	
HBACMD		
	listhbas	
	milirpt	
	version	
	hbaattr (local HBA only)	
Kernel Log		
	dmesg kernel log	

Table 3-2 Linux Information Collected (Continued)

Type	Information	Parameter
Kernel Configuration		
	Compile time kernel configuration	/proc/config.gz
	xinetd configuration, network services daemon configuration	
	Module loading configuration	/proc/modprobe.conf
Core Dump		
	hbacmd dump	
	hbacmd dump down	
Crashdump		
	dump	/CrashDump/
Adapter Info		
	Onekat information	
	Onekat milirpt	
MPIO Info		
	multipath -ll	/etc/multipath.conf
Virtualization Logs		
		/var/log/xen/xend.log
		/var/log/libvirt/libvirtd.log

Solaris Systems

The following information is available from Solaris systems.

Table 3-3 Solaris Information Collected

Type	Information	Parameter
System Information		
	Kernel version	uname -a
	Network interface	ifconfig -a
	Processors info	psrinfo -pv
	Swap info	swap -s
	Last reboot time	last reboot
	Uptime	uptime
	Running tasks	top -d 5 -n 2

Table 3-3 Solaris Information Collected (Continued)

Type	Information	Parameter
	Running processes	ps -ef)
	Loaded modules	modinfo
	Service status	svcs
	Device status	cfgadm -al
Hardware Information		
	BIOS information	smbios
	PCI buses info	scanpci
	System peripherals info	prtconf -v
	System peripherals tree	prtconf -vp
	Host HBA info	fcinfo hba-port
NIC Specific Information		
	Network interface	ifconfig -a
	IP filter rule	/etc/ipf/ipf.conf
RoCE Specific Information		
	Network information	
	System information	
	SCSI information	
Network Statistics		
	Per-protocol statistics	netstat -s
	ARP tables	netstat -p
	All TCP statistics	netstat -aP tcp
	Routing tables	netstat -rn
	Multicast memberships	netstat -g
	INET family streams stats	netstat -idm -f inet
System Statistics		
	System events since boot	vmsat -s
	Paging Activity in 5 seconds	vmstat -p 1 5
Device Interrupts		
	Emulex device interrupts counter, 5 seconds	
Kernel Parameters		
	System definition	sysdef -D

Table 3-3 Solaris Information Collected (Continued)

Type	Information	Parameter
	System definition, in device tree format	sysdef -dD
	Kernel statistics	kstat
OneCommand Manager Application Information		
	Running status of process hbanywhere	
	Running status of process ocmanager	
	List of executables with elx prefix name	
	List of executables with mili prefix name	
	rm.log	
	cnaboardmgnt.log	
	utils-install.log	
	mili2d.log	
	installer.log	
HBACMD		
	listhbas	
	milirpt	
	version	
	hbaattr (local only)	
	portattr (local only)	
Kernel Log		
	dmesg kernel log	
Kernel Configuration		
	System parameters	/etc/system)
	Kernel symbols	nm -x /dev/ksysm | grep OBJ
Core Dump		
	hbacmd dump	
	hbacmd dump down	
Crash Dump		
	dump	/CrashDump/

FreeBSD Systems

The following information is available from FreeBSD systems.

Table 3-4 FreeBSD Information Collected

Type	Information	Parameter
System Information		
	Kernel information	uname -a
	Kernel release	uname -r
	Network interfaces	ifconfig -a
	Hardware model	sysctl -a | egrep -I hw.model
	Clockrate	sysctl -a | egrep hw.clockrate
	CPU Count	sysctl -a | egrep hw.ncpu
	Boot time	sysctl -a | grep boottime
	Running tasks	top -d 5 -n 2
	Running processes	ps -ef
	Kernel modules	kldstat
Hardware Information		
	System hardware description through DMI	dmidecode
PCI Information		
	PCI devices list with capabilities supported with vendor device information	pciconf -l -cv
NIC Information		
	Interfaces info	ifconfig ifx
	OneConnect info	sysctl -a | grep dev.oce
	IP Firewall	ipfw list
	OneConnect package	pkg_info |grep oce-
Kernel Runtime Parameters		
	List of all kernel runtime parameters	sysctl -a
	TCP send buffer size	sysctl -a | grep wmem
Netstat Information		
	Per-protocol statistics	netstat -s
	All Interfaces state	netstat -i
	All TCP statistics	netstat -aP tcp

Table 3-4 FreeBSD Information Collected (Continued)

Type	Information	Parameter
	Routing tables	netstat -rn
	INET family Streams Stats	netstat -idb -f inet
Virtual Memory Statistics		
	Various event counters and memory statistics	vmstat -s
	slabinfo	vmstat -m
Device Interrupts		
	Emulex device interrupts counter, in 5 seconds interval	
Log		
	Installer Log	
Kernel Log		
	All /var/log/messages* files	
Kernel Configuration		
	Kernel Compile configuration	(/usr/src/sys/i386/conf/GENERIC)
	Kernel Bootstrap configuration	/boot/defaults/loader.conf
Crash Dump		
	dump	/CrashDump/
Core Dump	dump	dump/CoreDump

VMware Systems

The following information is available from VMware systems.

Table 3-5 VMware Information Collected

Type	Information
VMware vm-support package (as provided by default manifest in ESXi)	
	Active directory
	CIM
	Configuration
	Crash
	Fault

Table 3-5 VMware Information Collected (Continued)

Type	Information
	File system
	Hardware
	Hung VM
	Installer
	Integrity checks
	Logs
	Network
	Performance snapshot
	Storage
	System
	Testing
	Userworld
	Virtual
	Host profiles
SCSI /proc/lpfc820 dump (ESXi 5.0 and 5.1 systems only)	
	Debug pages from lpfc device driver
HBA Dump	
	Core dump
HBACMD (ESXi 5.0 and 5.1 systems only)	
	HBA list (all under management)
	HBA attributes
	HBA list (local)
	Port attributes
MILI log	
	RM.log
	mili2d.log
Log config	
	/tmp/*.log
	/tmp/ucna.txt

Table 3-5 VMware Information Collected (Continued)

Type	Information
	/etc/cim/emulex/*.log
	/etc/cim/emulex/*.dmp
	/etc/cim/emulex/*.conf
VM_KV_PAGE	
	vm_kv_page -v
	lpfc-kv-pages.txt
	vm_kv_page -q all -p all
	lpfc-kv-pages.txt

4. Troubleshooting

There are several circumstances in which your system may operate in an unexpected manner. This section explains many of these circumstances and offers one or more workarounds for each situation.

Note: If an operating system is not specified, then the issue is applicable to all operating systems.

Table 4-1 OneCapture Troubleshooting

Situation	Resolution
Adapter information was not captured.	1) You must install OneCapture on the system where you are collecting data. 2) Additionally, install the driver for the devices on the system. The drivers must be installed before driver information is available for capture. 3) Install the OneCommand Manager application from the Emulex website.
The output HTML file displays a "missing Data File" error.	Ensure that the zipped file has been extracted completely from the archive folder before you open the HTML file.
Cannot connect although the user name and password are correct. Access through OneCapture VMware ESXi is denied. (VMware systems only)	Due to the nature of command line processing, OneCapture cannot handle the parameter if it includes these special characters: ~!@#$%^&*()_+{}|:"<>?[]\;',./ . Make sure that the username and password do not include any of these special characters, and try again.
After connecting, the OneCapture VMware script displays an "Emulex CIM-provider" warning. (VMware systems only)	Install the Emulex CIM Provider on the VMware ESXi system. You can download it from the Emulex website.
By default, OneCapture only collects live firmware dump data. If you manually choose dead dump collection, the dump procedure temporarily takes the adapter offline.	If you select dead dumps for OCe11102 adapters or OCe14000-series adapters, the adapters are taken offline and require a system reboot to recover.