OneCapture™ Version 4.6 User Manual

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1. Introduction

OneCapture™ is an Emulex device driver utility that gathers system, adapter, device driver, and applications information. You can use this information to examine the functionality of the drivers.

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

OneCapture is fully supported on OCe11000-series adapters. For other models, OneCapture can collect most data and basic dump data.

2. Running OneCapture

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

- Windows
- Linux
- Solaris
- FreeBSD
- VMware ESX and ESXi

OneCapture is installed as a single executable file. Download the OneCapture executable file to each of the machines from which you want to collect data. You can run OneCapture from any directory or folder on your computer.

- For Windows systems download the OneCapture_Win_10.0.445.0.zip file. (OneCapture.exe)
- For Linux, Solaris, and FreeBSD systems download the OneCapture_10.0.445.0.tgz file. (OneCapture.sh)
- For ESX/ESXi systems download the OneCapture_ESX_10.0.445.0.zip file. (OneCapture_ESX.exe)
- Before One capture can run the .sh or .exe file, it must be uncompressed from the tar or zip file.

Output is generated as HTML. Data may vary according to the system type in use.

Running OneCapture on Windows

To run OneCapture on Windows:

1. From **Start Menu>Run,** navigate to the folder in which OneConnect file was downloaded, and run the OneCapture.exe or double-click the .exe file.
2. From the popup window, select where you want the OneCapture output file stored. You can leave the default path or specify a different one.
3. Click **Capture**.

   OneCapture gathers the needed information and outputs the file to the folder specified. After OneCapture is finished running, click **Finish** on the popup window to close OneCapture and view the results.

Running OneCapture on Linux, Solaris, and FreeBSD

Copy the script file onto the system through SSH (Secure Shell) or any other method.

To run OneCapture on Linux, Solaris, and FreeBSD:

1. Run the shell script, for example, `/OneCapture.sh`.

   The progress of the script is displayed. For example:

```
Running Emulex OneCapture Solaris, version
Emulex Corporation Report Utility
```

```
Started at Friday, February  1, 2013 12:50:42 PM CST
Initializing report environment for host:solaris
Collecting System Information...
 [-]      1%                              uname -a
```

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

Running OneCapture on VMware ESX

Access the ESXi system through SSH and CIM protocol.

You must ensure that the Emulex CIM Provider is installed on the ESXi system, and enable SSH access on the system.

To enable SSH on ESXi system:

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

Note: Ensure that the user name and password do not include these special characters: !@#$%^&*()_+{|:"<>?. These special characters are not supported.

To run OneCapture:

1. After SSH is enabled, run the OneCapture.exe file either through the **Start>Run** window or by double-clicking the .exe icon.
2. On the popup window, specify the directory where you want the OneCapture file to reside. By default, this path is set to your desktop.
3. Click **Capture**.
4. On the next screen, specify the ESX Connection Information.

   Note: Both SSM and CIM use the same credential for the ESXi system.

5. Click **Capture**.

   After OneCapture collects the data, it generates a zipped file in the directory that you specified. Open that file to view the information.

3. Collected Data

The following tables 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	
	PnPutil information
	<HKLM>/Hardware/DeviceMap/Scsi
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
	iSCSI target information
	iSCSI diskpark details

Table 3-1 Windows information collected (Continued)

Type	Information
	iSCSI SEstats information
	iSCSI registry information
ElxTrace	
	Trace messages
MILI	
	MILI log
	MILI service status
	Hbacmd MILIReport
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
HBA Core Dump	
	Core dump (hbamcd dump)
Windows Information	
	Emulex services status
	setupapi.*.log
	Event logs

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	

Table 3-2 Linux information collected (Continued)

Type	Information	Parameter
	Kernel modules currently loaded	lsmod
	Kernel memory allocations	numastat
	Running processes	ps
	Running tasks	top
	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	
Kernel Runtime Parameters		

Table 3-2 Linux information collected (Continued)

Type	Information	Parameter
	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 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	
FCoE Information		
	lpcs driver information	
	SCSI class information	/sys/class/scsi/..
	lpfcmlp information	/proc/scsi/lpfcmpl/*
Library Information		
	The version number for the following libraries: • libdfc • libmili • libHBA • libemulexhbaapi	

Table 3-2 Linux information collected (Continued)

Type	Information	Parameter
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	
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	

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
	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 Information		
	Network interface	ifconfig -a
	IP filter rule	/etc/ipf/ipf.conf
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

Table 3-3 Solaris information collected (Continued)

Type	Information	Parameter
	Paging Activity in 5 seconds	vmstat -p 1 5
Device Interrupts		
	Emulex device interrupts counter, 5 seconds	
Kernel Parameters		
	System definition	sysdef -D
	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 executable with elx prefix name	
	List of executable 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	

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
	Routing tables	netstat -rn

Table 3-4 FreeBSD information collected (Continued)

Type	Information	Parameter
	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

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 ESX)	
	Active directory
	CIM
	Configuration
	Crash
	Fault
	File system
	Hardware
	Hung VM
	Installer
	Integrity checks

Table 3-5 VMware information collected (Continued)

Type	Information
	Logs
	Network
	Performance snapshot
	Storage
	System
	Testing
	Userworld
	Virtual
	Host profiles
SCSI /proc/lpfc820 dump	
	Debug pages from lpfc device driver
HBA Dump	
	Core dump
HBACMD	
	HBA list (all under management)
	HBA list (local)
	HBA attributes
	Port attributes
MILI log	
	RM.log
	mili2d.log

4. Troubleshooting

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

Note: If no operating system is specified, then the issue is applicable to all operating systems.

Table 4-1 OneCapture™ troubleshooting

Situation	Resolution
Universal Converged Network Adapter (UCNA) information was not captured.	You must install OneConnect Manager on the system where you are collecting data. Install OneCommand Manager from the Emulex website. Additionally, install the driver for the devices on the system. The drivers must be installed before driver information is available for capture.
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 when 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.