

COMPUTING

System Services Framework on SharpStreamer™ PCIe-7207 for MaxCore™

CLI Guide

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EMBEDDED TECHNOLOGIES

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About this Manual

Overview of Contents

This guide provides detailed information on usage of Command Line Interface (CLI) to work with System Services Framework (SSF). The following list gives an overview of the chapters described in this document.

- [Introduction](#) provides a brief description about PCIE-7207 software and a procedure on how to access SSF using CLI.
- [CLI Commands](#) describes the list of CLI commands supported by PCIE-7207 software.
- [Appendix A, Related Documentation](#) provides a listing of related product documentation.

Abbreviations

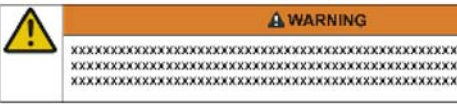

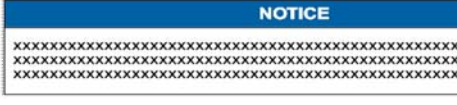

The following table lists the abbreviations used in this guide.

Abbreviation	Definition
CLI	Command Line Interface
MCP	Multi Core Processor
PCIe	Peripheral Component Interconnect Express
SSF	System Services Framework
VEE	Virtual Execution Environment

Conventions

The following table describes the conventions used throughout this manual.

Notation	Description
0x00000000	Typical notation for hexadecimal numbers (digits are 0 through F) used for addresses, offsets, and so on
0b0000	Same for binary numbers (digits are 0 and 1)
bold	Used to emphasize a word
Screen	Used for on-screen output and code related elements or commands in body text

Notation	Description
Courier + Bold	Used to characterize user input and to separate it from system output
<i>Reference</i>	Used for references and for table and figure descriptions
File > Exit	Notation for selecting a submenu
<text>	Notation for variables and keys
[text]	Notation for software buttons to click on the screen and parameter description
...	Repeated item for example node 1, node 2, ..., node 12
.	Omission of information from example/command that is not necessary at the time being
..	Ranges. For example: 0..4 means one of the integers 0,1,2,3, and 4 (used in registers)
	Logical OR
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury
	Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury
	Indicates a property damage message
	No danger encountered. Pay attention to important information

Summary of Changes

Part Number	Date	Description
6806800U38A	September 2016	Initial version

The SharpStreamer™ PCIe-7207 software enables the management of MCPs, Host OS on MCPs and related applications such as ViewCheck for PCIe-7207. This software is executed on the shelf host from where it manages the PCIe-7207 cards available in the MaxCore.

PCIe-7207 software can be managed using System Services Framework (SSF) CLI from Shelf Host. SSF provides the management and configuration interface. SSF facilitates system level configuration and management access to SSF managed hardware and software components, through Web, CLI, and XML protocol interfaces.

1.1 Managing PCIe-7207 software using SSF CLI

The PCIe-7207 software can be managed using SSF Command Line Interface (CLI) from Shelf Host. SSF CLI on Shelf Host is a telnet daemon that waits for inward TCP connections. You can access the CLI through telnet session.

The CLI can serve multiple client sessions simultaneously, the number of sessions supported by SSF is limited to the `maxSessions` parameter configured in `/opt/ssf/etc/config/main/cli.cfg` on Shelf Host.

SSF CLI traverses the system hierarchically and provides configuration and management access to the SSF system. All these hierarchies are represented as modes. In the SSF system, root of the hierarchy is Virtual Execution Environment (VEE).

Table 1-1 Command Line Editing Features

Keywords	Description
Left and Right arrow keys	Allow you to move the cursor within the current command line
Up and Down arrow keys	Allow you to browse through a command history
BACKSPACE Key	Enables you to remove the character towards left
TAB key	Completes the keyword being entered automatically
"?" key	Provides you context help
<cr>	Carriage return. System displays this command when you provide all mandatory arguments of a particular CLI command. It represents the command syntax completion

1.1.1 Connecting to CLI

You can connect to the CLI after login into SSF running Host, using External SSH Daemon with SSH Connection. This is the default behavior of SSF CLI.

- Start the **Telnet** connection from an already established secure shell.

```
[root@ pcie9205-s1-cl ~]# telnet localhost 11001
```

```
Trying::1...
```

```
telnet: connect to address::1: Connection refused
```

```
Trying 127.0.0.1...
```

```
Connected to localhost.
```

```
Escape character is '^'.
```

```
Welcome to SSF CLI
```

```
Username: Admin
```

```
Password:
```

```
Access granted
```

```
>enable
```

```
#configure terminal
```

```
MaxCore(config)#system 1
```

```
MaxCore(system-1)#shelf 1
```

```
MaxCore(shelf-1-1)#PCIEslot 3
```

```
MaxCore(PCIEslot-1-1-3)#PCIECard 1
```

```
MaxCore(PCIECard-1-1-3-1)#PCIECardPort 1
```

```
MaxCore(PCIECardPort-1-1-3-1-1)#mcp 1
```

NOTICE

By default, the port numbers is 11001. Also, the `cli.cfg` file configures.

- The maximum number of connections to the CLI, default value is 5.
- The time out in seconds, default is 300.

1.2 Accessing SSF using ViewCheck Commands

ViewCheck is a comprehensive software service that can be used to diagnose, manage, and monitor Artesyn SharpStreamer PCIe-7207 cards. The ViewCheck utilities help in identifying, detecting, and locating hardware issues on a blade. ViewCheck also provides mechanism to monitor status of CPU temperature, Storage devices, Ethernet counters, and errors.

The ViewCheck software can be accessed using CLI. For more information on ViewCheck CLI commands, refer *ViewCheck on PCIe-7207 User Guide*.

SSF CLI can be used to access the SharpStreamer PCIe-7207 cards and their resources available in the MaxCore system.

Each PCIe-7207 card has four `mcp` instances that manage the four Multi Core Processors on a PCIe-7207 card. For each `mcp` instance, there is a Host OS instance, `mcpVirExecEnv` (MCPVEE). Each `mcpVirExecEnv` instance in turn has its port instances under `mcpVirExecInterface` class and service instances under `mcpVirExecService` class. This chapter provides description about the list of PCIe-7207 related CLI commands. These CLI commands are categorized into `mcp`, `mcpVirExecEnv`, `mcpVirExecInterface`, and `mcpVirExecService` commands

2.1 mcp

This class represents the MCPs on PCIe-7207.

To configure an `mcp` instance, type:

```
mcp <mcp instance name>
```

Example:

```
MaxCore(PCIECardPort-1-1-3-1-1)#mcp 1
```

```
MaxCore(mcp-1-1-3-1-1-1)#
```

The following table provides a brief description about the attributes.

Table 2-1 mcp Class Attributes

Attribute Name	Description
<code>mcpInfo</code>	MCP related information.
<code>name</code>	Name of the card information.
<code>mcpStatus</code>	Status of the MCP.
<code>mcpCpuLoad</code>	MCP CPU load information.
<code>mcpFwVersion</code>	MCP Firmware Version

2.1.1 mcpReset

This command resets the MCP.

Syntax:

```
mcpReset
```

Example:

```
MaxCore (mcp-1-1-3-1-1-1)#mcpReset
```

2.2 mcpVirExecEnv

This class manages the host OS on MCPs.

To configure an mcpVirExecEnv instance, type:

```
mcpVirExecEnv <VEE instance name>
```

Example:

```
MaxCore (mcp-1-1-3-1-1-1)#mcpVirExecEnv vee0
```

```
MaxCore (mcpVirExecEnv-1-1-3-1-1-1-vee0)#
```

Table 2-2 mcpVirExecEnv Class Attributes

Attribute Information	Description
osVersion	OS Version information
name	This attribute represents the OS as host OS or vm1, vm2 etc.

2.2.1 collectLog

This command collects the required system log files at the `mcpVirExecEnv` level and keep the files in tar format at the predefined directory in the SSF core. The predefined directory is `/var/log/ssf/system_logs`.

Table 2-3 Parameters of collectLog

Argument	Description
<code>collectLog_in</code>	Log file name

Syntax:

```
collectLog collectLog_in <logfile_name>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)# collectLog collectLog_in
"72071log"
```

2.2.2 firmWareVersion

This command shows the firmware version.

Syntax:

```
firmWareVersion
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)# firmWareVersion
```

2.2.3 getHistoricalSensorData

This command gets the historical sensor data of the site such as time interval, threshold min, threshold max, and current value.

Table 2-4 Parameter of getHistoricalSensorData

Argument	Description
monitorId	Id of the monitor/sensor.
startTime	Contains the start date from which the monitoring data should be picked up. Format: MM-DD-YYYY, HH:MM:SS.<1-10> For example, 1-17-2015, 05:14:06.1
endTime	Contains the end date until which the monitoring data should be picked up. Format: MM-DD-YYYY, HH:MM:SS.<1-10> For example, 1-17-2015, 05:20:06.1

Syntax:

```
getHistoricalSensorData monitor <Monitor ID> startTime <Start time>
endTime <End time>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#getHistoricalSensorData
monitor "1" endTime "2016" startTime "2016"
```

2.2.4 getSensorData

This command gets the sensor data of the site such as timeinterval, threshold min, threshold max, current value.

Table 2-5 Parameter of getSensorData

Argument	Description
monitorId	Id of the monitor/sensor.

Syntax:

```
getSensorData monitor "<monitor ID>"
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#getSensorData monitor "1".
```

2.2.5 listSensors

This command returns the list of sensors on PCIE card such as temperature, voltage, power etc.

Syntax:

```
listSensors
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#listSensors
```

2.2.6 reboot

This command reboots the VEE.

Syntax:

```
reboot
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#reboot
```

2.2.7 scp

This command is for secure copying (remote file copy).

Table 2-6 Parameters of scp

Argument	Description
source	source file name with the complete path.

Table 2-6 Parameters of scp (continued)

Argument	Description
destination	Destination file name with complete path.
password	Password of the destination host.
options	Options for the scp: All the options should be in a single string with double quotes.

Syntax:

```
scp source <source path> destination <destination path> password
<password> options <scp options>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#scp source
"/var/log/example.txt" destination "172.20.11.1:/tmp/" password
"root"
```

2.2.8 shutdown

This command shuts down the Host OS.

Syntax:

```
shutdown
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#shutdown
```

2.2.9 sysInfo

This command displays VEE System Information.

Syntax:

```
sysInfo
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#sysInfo
```

2.2.10 tcpdump

This command dumps the traffic on a network.

Table 2-7 Parameters of tcpdump

Argument	Description
tcpdumpOperation	start(0) / stop(1) / list(2)
options	For start: Give all the options for in a single string format. For Stop: Give the capturing file Name (from list command) to stop the tcpdump.

Syntax:

```
tcpdump tcpdumpOperation <tcpdumpOperation> options <options>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)# tcpdump tcpdumpOperation "2"
```

2.2.11 updateSensorThresholds

This command updates the sensor limits threshold min and threshold max.

Table 2-8 Parameter of updateSensorThresholds

Argument	Description
monitor	Contains the id of the monitor
thresholdLow	Sensor Low Threshold Value
thresholdHigh	Sensor High Threshold Value

Syntax:

```
updateSensorThresholds monitor <Monitor ID> thresholdHigh <value>
thresholdLow <value>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#updateSensorThresholds
monitor "1" thresholdHigh "55" thresholdLow "-5"
```

2.3 mcpVirExecInterface

The Interface represents a physical Ethernet port.

To configure an mcpVirExecInterface instance, type:

```
mcpVirExecInterface <interface name>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#mcpVirExecInterface eth0
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-eth0)
```

Table 2-9 mcpVirExecInterface Class Attributes

Attribute Name	Description
ipAddress	IPv4 address of the interface.
netMask	Net mask of the interface.
Status	Status of the interface.
name	Represents the name of the interface. Example, eth0.

2.3.1 interfaceStats

This command displays the statistics of the interface.

Syntax:

```
interfaceStats
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-eth0) interfaceStats
```

2.4 mcpVirExecService

This class manages Linux System Services such as syslcu.

To configure an mcpVirExecService instance, type:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)#mcpVirExecService <Service name>
```

Example:

```
MaxCore(mcpVirExecEnv-1-1-3-1-1-1-vee0)# mcpVirExecService syslcu
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#
```

Table 2-10 mcpVirExecService Class Attributes

Attribute Name	Description
Status	Operational Status of a Service.
description	General description about a Service.
name	Represents the name of the application. Eg. syslog-ng

2.4.1 start

This command starts a service (moves it to running state).

Syntax:

```
start
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#start
```

2.4.2 stop

This command stops a running Service.

Syntax:

```
stop
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#stop
```

2.4.3 edit-config

This command allows you to edit the configuration file of a service.

Syntax:

```
edit-config
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#edit-config
```

2.4.4 commit-config

This command allows you to commit the configuration file of a service.

Syntax:

```
commit-config
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#commit-config
```

2.4.5 upload-config

This command uploads a configuration file to the core.

Table 2-11 Parameter of upload-config

Argument	Description
fileName	fileName to be uploaded

Syntax:

```
upload-config fileName <file name>
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#upload-config  
fileName "filename.conf"
```

2.4.6 listConfigFiles

This command is allows you to get the list of config files for this service.

Syntax:

```
listConfigFiles
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)#  
listConfigFiles
```

2.4.7 reload

This command reloads a new configuration for a Service without restarting it.

Syntax:

```
reload
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)reload
```

2.4.8 restart

This command restarts a service.

Syntax:

```
restart
```

Example:

```
MaxCore(mcpVirExecInterface-1-1-3-1-1-1-vee0-syslcu)restart
```

Related Documentation

A.1 Artesyn Embedded Technologies - Embedded Computing Documentation

The publications listed below are referenced in this manual. You can obtain electronic copies of Artesyn Embedded Technologies - Embedded Computing publications by contacting your local Artesyn sales office. For released products, you can also visit our Web site for the latest copies of our product documentation.

1. Go to www.artesyn.com/computing/support/product/technical-documentation.php.
2. Under **FILTER OPTIONS**, click the Document types drop-down list box to select the type of document you are looking for.
3. In the **Search** text box, type the product name and click **GO**.

Table A-1 Artesyn Embedded Technologies - Embedded Computing Publications

Document Title	Artesyn Publication Number
ViewCheck on SharpStreamer PCIE-7207 User Guide	6806800U30
SharpStreamer PCIE-7207 Installation and Use	6806800T60
SSF for MaxCore™ MC3000 Platform XML Interface Guide	6806800T71
SSF for MaxCore™ MC3000 Platform Command Line Interface Guide	6806800T87



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