

Performing Basic System Tasks

OPERATING INSTRUCTIONS

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1 Performing Basic System Tasks

This document lists the commands used to monitor, administer, and troubleshoot administrator sessions; monitor, administer, or troubleshoot general system processes; and perform ping and traceroute. An overview of IPv6 is also provided in this document.

1.1 Operating the System Clock

To monitor the system and real-time clocks, system aliases, system licenses, CLI macros and aliases, and system services, perform the tasks described in Table 1 ; enter all commands in exec mode.

Table 1 Clock, CLI, and Services Operations Tasks

Task	Root Command
Display a list of command aliases defined on the system.	<i>show alias</i>
Display the current time and date according to the system and real-time clocks.	<i>show clock</i>
Display the system clock-source information on the system.	<i>show clock-source</i>
Display a list of software licenses and their configuration status.	<i>show licenses</i>
Display a list of macros defined on the system.	<i>show macro</i>
Display enabled and disabled services.	<i>show service</i>

1.2 Performing Session Operation Tasks

Caution!

Risk of performance loss. Enabling debug messages can severely affect system performance. To reduce the risk, use `debug` commands only when necessary and for as short a time as possible.

To monitor, administer, and troubleshoot administrator sessions, perform the tasks described in Table 2; enter all commands in exec mode.



Table 2 Session Operations Tasks

Task	Root Command
Enable the generation of debug messages for Secure Shell (SSH).	<i>debug ssh</i>
Enable the generation of debug messages for communications with another administrator during active Telnet or SSH sessions on the same SmartEdge router.	<i>debug talk</i>
Display the current privilege level for the current exec session.	<i>show privilege</i>
Display information about configured SSH attributes and the number of current connections.	<i>show ssh-attributes</i>
Establish a remote session from the SmartEdge router to a host using SSH.	<i>ssh</i>
Generate a new SSH key on the system.	<i>ssh server-keygen</i>
Establish communications with another administrator during active Telnet or SSH sessions on the same SmartEdge router .	<i>talk</i>
Establish a remote Telnet session from the SmartEdge router to a host using Telnet.	<i>telnet</i>
Set the terminal length for the current session.	<i>terminal length</i>
Display the event log output.	<i>terminal monitor</i>
Set the terminal width for the current session.	<i>terminal width</i>

1.3 Monitoring System-Wide Software

You can display system-wide information, such as results of diagnostics tests, hardware types and slot locations, system memory, and so on. To do so, perform the appropriate task listed in Table 3 ; enter all **show** commands in any mode.

Table 3 System-Wide Software Monitoring Tasks

Task	Root Command
Display Internet Control Message Protocol (ICMP) statistics.	<i>show icmp statistics</i>
Display IP traffic statistics on the active controller card.	<i>show ip statistics xcrp</i>
Display system memory statistics.	<i>show memory</i>
Display configuration information for the advertisement packets or the version of the SNMP traps that are sent to the NetOp™ Element Management System (EMS) server.	<i>show netop</i>
Display current status of one or all processes running on the system.	<i>show process</i>
Display Router Configuration Manager (RCM) information.	<i>show rcm</i>



Table 3 System-Wide Software Monitoring Tasks

Task	Root Command
Display Transmission Control Protocol (TCP) Internet connections and statistics.	<i>show tcp</i>
Display system information that assists your technical support representative resolve issues.	<i>show tech-support</i>
Display User Datagram Protocol (UDP) socket and statistical information.	<i>show udp</i>

1.4 Performing System Processes

Process operations commands provide instructions to the Process Manager (PM).

Caution!

Risk of system crash. If more than one process has been stopped, you must restart each process individually, monitoring the SmartEdge router and waiting for it to stabilize before trying to restart the stopped process. Contact technical support before stopping and restarting multiple processes.

Caution!

Risk of data loss. The `process stop` command causes the specified process to terminate and the services provided by the process to become unavailable until the process is restarted using the `process start` command. To reduce the risk, do not stop a process unless you intend to restart the process immediately.

To monitor, administer, or troubleshoot general system processes, perform the appropriate task listed in Table 4 . Enter `show` commands in any mode; enter all other commands in exec mode.

Table 4 System Process Operations Tasks

Task	Root Command
Enable the generation of debug messages for IP read-write lock events.	<i>debug iprlock</i>



Table 4 System Process Operations Tasks

Task	Root Command
Enable the generation of debug messages for process execution descriptor graph (PEDGR) manager events.	<i>debug pedgr</i>
Enable the generation of debug messages for the process manager (PM).	<i>debug pm</i>
Enable the generation of debug messages for the Router Configuration Manager (RCM).	<i>debug rcm</i>
Enable the generation of debug messages for the shared memory library.	<i>debug shmlib</i>
Enable the generation of debug messages related to transferring crash files out of the SmartEdge router using the File Transfer Protocol (FTP).	<i>debug sysmon ftp</i>
Monitor the current status of IP processes and provide continuous updates to the status.	<i>monitor ip</i>
Monitor the current status of a specified category of processes and provide continuous updates to the status.	<i>monitor process</i>
Disable the generation of debug message types supported by the SmartEdge router .	<i>no debug all</i>
Restart a process that has been stopped.	<i>process restart</i>
Set process management parameters.	<i>process set</i>
Instruct PM to start the specified process.	<i>process start</i>
Stop a specified process.	<i>process stop</i>
Display the debug options that are currently enabled.	<i>show debugging</i>

1.5 Testing Connectivity

You can test connectivity by verifying the IP connections to hosts and tracing IP route routes. To perform hardware testing tasks, see *Managing Hardware*. To test IP connectivity, perform the appropriate task listed in Table 5; enter all commands in exec mode.

Table 5 Connectivity Testing Tasks

Task	Root Command
Test whether the host is reachable.	<i>ping</i>
Trace the IP routes that packets take when traveling to the specified destination.	<i>tracert</i>



1.6 About IPv6

Note: When IP Version 6 (IPv6) addresses are not referenced or explicitly specified, the term IP address can refer generally to IP Version 4 (IPv4) addresses, IPv6 addresses, or IP addressing. In instances where IPv6 addresses are referenced or explicitly specified, the term IP address refers only to IPv4 addresses. For a description of IPv6 addressing and the types of IPv6 addresses, see RFC 3513, *Internet Protocol Version 6 (IPv6) Addressing Architecture*.

IPv6 is a new version of the Internet Protocol, designed as the successor to IPv4. IPv6 is fully described in RFC 2460, *Internet Protocol, Version 6 (IPv6) Specification*. The changes from IPv4 to IPv6 include:

- Increase in address size from 32 bits to 128 bits
- Simplified header
- Extensible header with optional extension headers
- Designed to coexist with IPv4
- Uses multicast addresses instead of broadcast addresses