Cisco Application eXtensions 1.0 Command Reference

The Cisco Application eXtensions 1.0 Command Reference contains the following sections:

Entering and Exiting the Command Environment

This section describes the procedures for entering and exiting the command environment where Cisco AXP configuration commands are executed, and consists of the following sections:

EXEC and Configuration Modes

The Cisco AXP EXEC and configuration command modes are similar to the EXEC and configuration modes for Cisco IOS CLI commands.

The four command modes in Cisco AXP are:

- Cisco AXP EXEC mode. This mode is similar to Cisco IOS Privileged EXEC mode.

  ```
  se-Module>
  ```

- Cisco AXP application service EXEC mode

  ```
  se-Module> app-service application-name
  Example:
  se-Module> app-service helloworld
  se-Module(exec-helloworld)>
  ```

- Cisco AXP configuration mode

  ```
  se-Module> config t
  ```


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```
se-Module(config)>
```

- Cisco AXP application service configuration mode.

```
se-Module(config)> app-service helloworld
se-Module(config-helloworld)>
```

Entering the Command Environment

After the Cisco AXP is installed and active, use this procedure to enter the command environment.

Prerequisites

The following information is required to enter the command environment:

- IP address of the ISR router that contains the Cisco AXP service module
- Username and password to log in to the router
- Slot number of the module

SUMMARY STEPS

1. Open a Telnet session.
2. **telnet** *ip-address*
3. Enter the user ID and password of the router.
4. **service-module service-engine** *slot/port* **session**
5. (Optional) **enable**

DETAILED STEPS

	Command or Action	Purpose
Step 1	Open a Telnet session.	Use a DOS window, a secure shell, or a software emulation tool such as Reflection.
Step 2	**telnet** *ip-address* **Example:** `C:\>telnet 172.16.231.195`	Specifies the IP address of the router.
Step 3	`Username:` `Password:`	Enter your user ID and password for the router.
Step 4	**service-module integrated-service-engine** *slot*/*port* **session** **Example:** `Router#` **service-module integrated-service-engine 1/0 session**	Enters the Cisco AXP command environment using the module located in *slot* and *port*. The prompt changes to "se" with the IP address of the service module. If the message "`Trying ip-address slot/port ... Connection refused by remote host`" appears, enter the command: **service-module integrated-service-engine** *slot/port* **session clear** and try Step 4 again.

Exiting the Command Environment

To leave the Cisco AXP command environment and return to the router command environment, return to Cisco AXP EXEC mode and enter the **exit** command.

The following example illustrates the exit procedure:

```
se-10-0-0-0> exit
router-prompt#
```

Cisco AXP 1.0 Commands

- limit disk utilization
- limit cpu utilization
- log server
- log level
- ntp server
- status-monitor
- show app-service state
- show app-service statistics
- show app-service status-monitor
- show clock detail
- show device serial
- show interfaces
- show logs
- show log name
- show ntp associations
- show ntp servers
- show ntp source
- show ntp status
- show process
- show processes
- show resource limits
- show running-config
- show ssh-server
- show state
- show statistics
- show statistics app
- show status-monitor
- show syslog-server logs
- show syslog-server log name
- show tech-support
- show software
- show software directory
- show startup-config
- show system language
- show trace buffer
- show trace store
- show trace store-prev
- show version

app-service

To configure the Cisco AXP application hosting environment for a specific application, use the **app-service** command in Cisco AXP configuration mode.

app-service *app-name*

Syntax Description

app-name	Application name

Defaults

No default behavior or values.

Command Default

None

Command Modes

Configuration mode

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Examples

```
se-Module(config)> app-service helloworld
se-Module(config-helloworld)>
```

Related Commands

Command	Description
show state	Displays the state and health of the specified application.
show state details	Displays status related information of the virtual instance.

bind interface

To attach a networking device to the application environment, use the **bind interface** command in Cisco AXP application service configuration mode. To detach a networking device from the application environment, use the **no** form of this command.

bind interface *network-interface-name*

no bind interface *name*

Syntax Description

network-interface-name	Interface name defined in the host.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Usage Guidelines

This command attaches or detaches a networking device to or from the application environment. The *network-interface-name* is the interface name defined in the host, for example, the Ethernet *device-name* defined in the **interface** command.

The interface is immediately available to the virtual instance with the execution of a new **bind** command.

Removing an interface binding with the **no** prefix displays the following warning messages,

```
WARNING!!! Reset the hosting environment

WARNING!!! For binding to be removed
```

and requires a virtual instance to restart.

Note This command modifies configuration entries in the */etc/hosts* file for *ipaddr* and *hostname* mapping.

ipaddr in the /etc/hosts file is modified when the command is issued. Only the first interface binding is used. Since **eth0** is the default to be bound for each virtual instance, *ipaddr* is normally eth0.

Examples

```
se-Module(config)> app-service helloworld
se-Module (config-helloworld)>bind interface eth0
```

Related Commands

Command	Description
interface	Configures the network interfaces.

bind serial

To configure the serial device inside the application environment, use the **bind serial** command in Cisco AXP application service configuration mode. To make the serial device unavailable inside the application environment, use the **no** form of this command.

bind serial *device-id* [*device-id on hosting environment*]

no bind serial *device-id* [*device-id on hosting environment*]

Syntax Description

device-id	Device ID of the serial device connected to the IOS side.
device-id on hosting environment	(Optional) Designates a name that is different from the device ID (*device-id*) inside the hosting environment.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Usage Guidelines

For the **app-service** application name, use the name of the serial application.

Examples

```
se-Module(config)> app-service serialapp
se-Module(config-serialapp)> bind serial vtty000 modem
```

Related Commands

Command	Description
show device serial	Displays the device ID.

clear cores

To clear all core files of the application, use the **clear cores** command in Cisco AXP application service EXEC mode.

clear cores

Syntax Description This command has no arguments or keywords

Defaults No default behavior or values.

Command Default None

Command Modes Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Examples

```
se-Module(exec-helloworld)> clear cores
```

Related Commands

Command	Description
show cores	Displays all core files.

clear core

To clear a specific core file of the application use the clear core command in Cisco AXP application service EXEC mode.

clear core name *core-name*

Syntax Description

core-name	Name of the core file.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Examples

```
se-Module(exec-helloworld)> clear core name helloworld-test-core-file
```

Related Commands

Command	Description
show cores	Displays all core files.

clear logs

To clear the content of all log files of the application, use the **clear logs** command in Cisco AXP application service EXEC mode.

To clear the content of all host log files , use the **clear logs** command in Cisco AXP EXEC mode.

clear logs

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Usage Guidelines

In Cisco AXP EXEC mode, this command clears the contents of all host log files except the syslog server log files.

Examples

To clear log files in Cisco AXP application service EXEC mode:

```
se-Module(exec-helloworld)> clear logs
```

To clear log files in Cisco AXP EXEC mode:

```
se-Module> clear logs
```

Related Commands

Command	Description
show logs	Displays all log files.

clear log

To clear the content of a specific log file of the application, use the **clear log** command in Cisco AXP application service EXEC mode.

To clear the content of a specific host log file, use the **clear log** command in Cisco AXP EXEC mode.

clear log name *log-name*

Syntax Description

log-name	Name of the specific log file.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Usage Guidelines

In Cisco AXP EXEC mode, this command clears the contents of the specified host log file except syslog server log files.

Examples

To clear log file messages.log in Cisco AXP application service EXEC mode:

```
se-Module(exec-helloworld)> clear log name messages.log
```

To clear log file sshd.log in Cisco AXP EXEC mode:

```
se-Module> clear log name sshd.log
```

Related Commands

Command	Description
show logs	Displays all log files.

clear syslog-server logs

To clear the content of all syslog files in the /var/remote directory, use the **clear syslog-server logs** command in Cisco AXP EXEC mode.

clear syslog-server logs

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Default None

Command Modes Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Examples

```
se-Module> clear syslog-server logs
```

Related Commands

Command	Description
show syslog-server logs	Displays all syslog files.

clear syslog-server log-name

To clear the content of a specific syslog server file, use the **clear syslog-server log-name** command in Cisco AXP EXEC mode.

clear syslog-server log name *log-name*

Syntax Description

log-name	Name of the specific syslog server log file.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Examples

```
se-Module> clear syslog-server log name remote_messages.log
```

Related Commands

Command	Description
show syslog-server logs	Displays all syslog server log files.

clock timezone

To set the time zone for the Cisco AXPservice module, use the **clock timezone** command in Cisco AXP configuration mode.

clock timezone [*time-zone*]

Syntax Description

time-zone	(Optional) Time zone of the local branch.

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

The configured NTP server provides the date-stamp system and application functions. The **clock timezone** command specifies the local time zone where Cisco AXP is installed.

If you know the phrase for the time-zone, enter it for the *time-zone* value. If you do not know the time zone phrase, leave the *time-zone* value blank and a series of menus appear to guide you through the time zone selection process.

Examples

The following example shows how United States Pacific Time is selected using the timezone menu:

```
se-10-0-0-0>config t
se-10-0-0-0(config)> clock timezone
Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
1) Africa            4) Arctic Ocean     7) Australia       10) Pacific Ocean
2) Americas          5) Asia             8) Europe
3) Antarctica        6) Atlantic Ocean   9) Indian Ocean
>? 2
Please select a country.
 1) Anguilla              18) Ecuador               35) Paraguay
 2) Antigua & Barbuda     19) El Salvador           36) Peru
 3) Argentina             20) French Guiana         37) Puerto Rico
 4) Aruba                 21) Greenland             38) St Kitts & Nevis
 5) Bahamas               22) Grenada               39) St Lucia
 6) Barbados              23) Guadeloupe            40) St Pierre & Miquelon
 7) Belize                24) Guatemala             41) St Vincent
 8) Bolivia               25) Guyana                42) Suriname
 9) Brazil                26) Haiti                 43) Trinidad & Tobago
10) Canada                27) Honduras              44) Turks & Caicos Is
11) Cayman Islands        28) Jamaica               45) United States
12) Chile                 29) Martinique            46) Uruguay
13) Colombia              30) Mexico                47) Venezuela
14) Costa Rica            31) Montserrat            48) Virgin Islands (UK)
15) Cuba                  32) Netherlands Antilles  49) Virgin Islands (US)
16) Dominica              33) Nicaragua
17) Dominican Republic    34) Panama
>? 45
```

```
Please select one of the following time zone regions.
 1) Eastern Time
 2) Eastern Time - Michigan - most locations
 3) Eastern Time - Kentucky - Louisville area
 4) Eastern Standard Time - Indiana - most locations
 5) Central Time
 6) Central Time - Michigan - Wisconsin border
 7) Mountain Time
 8) Mountain Time - south Idaho & east Oregon
 9) Mountain Time - Navajo
10) Mountain Standard Time - Arizona
11) Pacific Time
12) Alaska Time
13) Alaska Time - Alaska panhandle
14) Alaska Time - Alaska panhandle neck
15) Alaska Time - west Alaska
16) Aleutian Islands
17) Hawaii
>? 11

The following information has been given:

        United States
        Pacific Time

Therefore TZ='America/Los_Angeles' will be used.
Local time is now:      Fri Dec 24 10:41:28 PST 2004.
Universal Time is now:  Fri Dec 24 18:41:28 UTC 2004.
Is the above information OK?
1) Yes
2) No
>? 1
se-10-0-0(config)>
```

The following example shows how United States Pacific Time is selected using the timezone name:

```
se-10-0-0-0>config t
se-10-0-0-0(config)> clock timezone Americas/Los_Angeles
```

Related Commands

Command	Description
ntp server	Specifies the NTP server.
show clock detail	Displays the clock details.

connect console

To allow third party applications to integrate their commands to the console shell, use the **connect console** command in Cisco AXP application service EXEC mode.

connect console

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Default None

Command Modes Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
Cisco AXP 1.0	This command was introduced.

Usage Guidelines This command allows a third party to integrate their own application commands to the console shell. On initiating the command, /bin/console is executed. The third party application must provide its own console file in binary or as a script (telnet to their CLI), to cross connect to their CLI shell.

If the application does not provide a console file, the following message is displayed:

```
Unable to start console
```

Related Commands

Command	Description
show tech-support	Displays system details.

copy syslog-server logs bundle

To bundle all the syslog server log files into a gzip file and copy them to a remote URL, use the **copy syslog-server logs bundle** command in Cisco AXP EXEC mode.

copy syslog-server logs bundle *destination-filename***.gz url** *ftp/http url*

Syntax Description

destination-filename	gzip file name
ftp/http url	Destination URL

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Related Commands

Command	Description
show syslog-server logs	Displays all syslog server log files.

copy syslog-server log name

To copy a specific syslog server log file, use the **copy syslog-server log name** command in Cisco AXP EXEC mode.

copy syslog-server log name *log-name* **url** *ftp/http url*

Syntax Description

log-name	Syslog server log file name.
ftp/http url	Destination URL

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The standard ftp URL format is supported:

```
ftp://[user-id:ftp-password@]ftp-server-address[/directory]
```

A wildcard * may be used to copy more than one log file at a time.

Related Commands

Command	Description
show syslog-server logs	Displays all syslog server log files.

copy core

To copy a core file to a remote URL, use the **copy core** command in Cisco AXP application service EXEC mode.

copy core *core-name* **url** *ftp/http url*

Syntax Description

core-name	Core file name
ftp/http url	FTP/HTTP address

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The standard ftp URL format is supported:

```
ftp://[user-id:ftp-password@]ftp-server-address[/directory]
```

Examples

```
se-Module(exec-helloworld)> copy core mping-test-file2
```

Related Commands

Command	Description
show cores	Displays all core files.

copy log

To copy an application log file to a remote URL, use the **copy log** command in Cisco AXP application service EXEC mode.

To copy a Cisco AXP host operating system log file to a remote URL, use the **copy log** command in Cisco AXP EXEC mode.

copy log *log-name* **url** *ftp/http url*

Syntax Description

log-name	Log file name
ftp/http url	FTP/HTTP address

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The standard ftp URL format is supported:

```
ftp://[user-id:ftp-password@]ftp-server-address[/directory]
```

In Cisco AXP application service EXEC mode, this command copies syslog, trace and custom application log files for the specified application to a remote URL. The log name may contain wildcards * .

Wildcards * may be used in both command modes to copy more than one log file at a time.

Examples

```
se-Module(exec-mping)> copy log install.log url ftp://admin:mpg@10.10.67.163/lnstallinfo
```

Related Commands

Command	Description
show logs	Displays all log files.

copy logs bundle

To copy a tar file containing syslog files and custom application log files on the guest operating system to a remote URL, use the **copy logs bundle** command in Cisco AXP application service EXEC mode.

To copy a tar file containing syslog files and custom application log files on the guest and host operating systems to a remote URL, use the **copy logs bundle** command in Cisco AXP EXEC mode.

copy logs bundle *destfilename***.tar url** *url*

Syntax Description

destfilename	Tar file name
url	Destination URL

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command will not copy remote syslog server log files in Cisco AXP EXEC mode.

Examples

```
se-Module(exec-mping)> copy logs bundle mpg.tar url http://lab:mpg@10.10.67.163/appinfo
```

Related Commands

Command	Description
show logs	Displays all log files.

hostname

To configure a host name for the application that is different from the name used for the host, use the **hostname** command in Cisco AXP application service configuration mode.

To disable the host name for the application, use the **no** form of this command.

hostname *name*

no hostname *name*

Syntax Description

name	Host name for the application

Defaults

Host name configured on the host side.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command configures the hostname for the application, if it is different from host name configured for the Cisco AXP host. The hostname is limited to 32 characters.

An error message,

```
hostname size greater than 32
```

is displayed, if more than 32 characters are entered. This command modifies configuration directives in */etc/hosts*. It updates the hostname of the hostname-ip mapping entry. It creates the */etc/hosts* file and adds the following entry in it, if */etc/hosts* does not exist. If an application package has already bundled its own */etc/hosts*, the new entries are appended to the existing ones and the original ones are left intact.

Examples

```
etc/hosts:
127.0.0.1  localhost.localdomain    localhost ## added by cli
ipaddr      hostname.domain           hostname ## added by cli
```

The ipaddr in the */etc/hosts* file is modified when the **bind interface** command is used. The first binding of the interface is used. For example, if eth0 is bound to each virtual instance by default, ipaddr is normally eth0. Use the **bind interface** command for multiple bindings.

Related Commands

Command	Description
bind interface	Attaches a device to the application environment.

interface

To configure external network interfaces and enter the interface configuration mode, use the interface command in Cisco AXP configuration mode.

interface *device-name*

Syntax Description

device-name	Ethernet device name.

Defaults

None

Command Default

None

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The device name can be **eth0** or **eth1** for a built-in physical interface, **eth0:1** for a virtual interface, or **eth0.1** for a VLAN interface.

The virtual or VLAN interfaces can be configured only if these interfaces are not bound to the virtual hosting environment. If the interfaces are bound, an error message with the specific device name is displayed.

For example, for **eth0.1** the error message will display:

Error Message `eth0.1 still bound to hosting enviornment(s), unbind first.`

Do not remove a built-in physical interface. Upon removal, an error message will display:

Error Message `Can not remove the built-in interface eth0/1.`

Examples

```
se-Module (config)> interface eth0
se-Module9config-interface)>
```

Related Commands

Command	Description
bind interface	Attaches or detaches a networking device to or from the application environment.

ip address

To configure the IP address for a network interface, use the **ip address** command in Cisco AXP interface configuration mode.

ip address *ip-address network-mask*

Syntax Description

ip-address	Defines the IP address.
network mask	Defines the network mask.

Defaults

None

Command Default

None

Command Modes

Cisco AXP interface configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command configures the IP address and network mask for the specified network interface. Changing the IP address for a bound interface results in a message warning the user that the application is bound to the interface. To remove the old IP configuration, reset the virtual instance.

Examples

```
se-Module (config-interface)> ip address 10.7.8.9 255.255.255.0
```

Related Commands

Command	Description
interface	Configures the interface device.

ip route table

To configure the route table for a connected route, use the ip route table command in Cisco AXP interface configuration mode.

ip route table *table-num*

Syntax Description

table-num	Route table number from 1 to 100.

Defaults

None

Command Default

None

Command Modes

Cisco AXP interface configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command is used to configure the route table for a connected route for source-based routing.

Examples

```
se-Module (config-interface)> ip route table 10
```

Related Commands

Command	Description
interface	Configures the interface device.
ip address	Configures the IP address for the specified network interface.

ip ssh server

To enable the IP SSH service, use the ip ssh server command in Cisco AXP syslog application configuration mode. To disable the service, use the **no** form of the command.

ip ssh server [*port-num*]

no ip ssh server

Syntax Description

port-num	Port number with a range of 1—65535.

Defaults

Port number 22

Command Default

Enabled

Command Modes

Cisco AXP syslog application configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Starts or stops the SSH server on the specified port number. Port number range is 1—65535. Default port number is 22.

Error messages:

Error Message `Port is in use, please use another port.`

This error arises if the system cannot start the SSH server because the port is being used. Change the port number and start again.

Error Message `Invalid port number, range is 1-65535`

This error arises if an invalid port number is used for the configuration.

Examples

```
se-100-0-5-2(config)> app SYSLOG_APP1
se-100-0-5-2(config-SYSLOG_APP1)> ip ssh server port 5000
```

Related Commands

Command	Description
ip ssh interface	Specifies the interface for the sshd to listen on, for an incoming connection.

ip ssh server interface

To enable the interface on which the sshd can listen for an incoming connection, use the **ip ssh interface** command in Cisco AXP configuration mode.

ip ssh server interface *interface*

Syntax Description

interface	Interface name.

Defaults

None

Command Default

None

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command specifies the interface on which the sshd can listen to an incoming connection. If this command is not specified (default), the sshd will listen on all the interfaces.

Related Commands

Command	Description
ip ssh server	Configures the SSH server.

ip ssh username

To specify an unencrypted or hidden password for SSH tunneling, use the **ip ssh username** command in Cisco AXP syslog application configuration mode.

To disable tunneling, use the **no** form of the command.

ip ssh username [tunnel_root | tunnel_user] password *clear-password-string*

no ip ssh username [tunnel_root | tunnel_user] password *clear-password-string*

Syntax Description

tunnel_root	Allows an SSH user with shell access to the application environment.
tunnel_user	Allows an SSH user shell access to the application environment through a startup script that is implemented by the third party developer.
clear-password-string	Unix password for the user with a minimum of five characters.

Defaults

None

Command Default

None

Command Modes

Cisco AXP syslog application configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

For a tunnel user, the startup script decides on the level of access a user can have to perform specific operations.

Examples

```
se-100-0-5-2(config)> app SYSLOG_APP1
se-100-0-5-2(config-SYSLOG_APP1)> ip ssh server port 5000
```

Related Commands

Command	Description
ip ssh interface	Specifies the interface for the sshd to listen on, for an incoming connection.

ip local policy route-map

To configure a route map for policy routing, use the **ip local policy route-map** command in Cisco AXP configuration mode.

ip local policy route-map *map-tag*

Syntax Description

map-tag	Route map name.

Defaults

None

Command Default

None

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The route map name must match the *map-tag* in the **route-map** command.

Examples

```
se-100-0-5-2(config)> ip local policy route-map 10
```

Related Commands

Command	Description
route map	Specifies the route map.

ip access-list standard

To configure a standard access list for the application, use the **ip access-list standard** command in Cisco AXP configuration mode.

ip access-list standard {*acl-name* | *acl-num*}

Syntax Description

acl-name	Access list to which all commands entered from ACL configuration mode apply, using an alphanumeric string of up to 30 characters, beginning with a letter.
acl-num	Access list to which all commands entered from access list configuration mode apply, using a numeric identifier. For standard access lists, the valid range is 1 to 99.

Defaults

None

Command Default

None

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to create an access list for source-based route configuration.

To create an entry that specifies the type of packets that you want for further processing, use the **permit** command in standard ACL subcommand mode (config-std-nacl) to specify the type of packets that must be accepted for further processing.

Include at least one permit entry to create a valid access list.

Cisco AXP 1.0 release allows only a single IP address in the access list to be specified.

Examples

```
se-Module (config)> ip access-list standard test
```

Related Commands

Command	Description
permit	Adds a line to a standard access-list specifying the type of packets to be accepted for further processing.

ip domain-name

To configure the domain name for the application, use the **ip domain-name** command in Cisco AXP application configuration mode. To disable the domain name, use the **no** form of this command.

ip domain-name *dns-server-domain-name*

no ip domain-name *dns-server-domain-name*

Syntax Description

dns-server-domain-name	Domain name for the DNS server.

Defaults

No domain name is configured.

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The domain-name is limited to 64 characters.

If more than sixty four characters are entered, the following error message is displayed:

Error Message `domain size greater than 64`

This command modifies configuration directives in */etc/hosts* and */etc/resolv.conf* files where the domain name is relevant, and also modifies the search list for hostname lookup and domain directives for local domain name in the */etc/resolv.conf* file.

For */etc/hosts* file, it updates the domain name of the hostname-ip mapping entry.

Example:

```
/etc/resolv.conf:
search cisco.com    ## added by cli
domain cisco.com    ## added by cli
nameserver x.x.x.x  ## added by cli

/etc/hosts:
10.100.50.10 appre.cisco.com appre
```

Use this command with the **ip name-server** command to configure the DNS server. The **ip domain-name** and **ip name-server** commands in the host populate the */etc/resolv.conf* file in each installed virtual instance. Using this command to change the configuration in the host results in the */etc/resolv.conf* file being updated.

When these commands are used to configure a new name-server and domain-name for a virtual instance (in app-service mode), the */etc/resolv.conf* file in that virtual instance is overriden with the new server name and domain name.

The */etc/resolv.conf* file in that virtual instance reverts back to the host configuration whenever the virtual instance does not have a name-server or domain-name configured.

Configuring the name-server and domain-server in a virtual instance always takes precedence over configuration in the host.

Examples

The following example changes the domain name of the application mping to mycompany.com:

```
SE-Module>config t
se-10-0-0-0(config-mping)>ip domain-name mycompany.com
se-10-0-0-0(config-mping)>ip name-server 10.0.61.1
```

Related Commands

Command	Description
hostname	Specifies the server that stores the Cisco AXP applications.
ip name-server	Specifies the DNS server name of the application.
ntp server	Specifies the NTP clocking server.
show hosts	Displays all configured hosts.
show ip route	Displays IP route destinations, gates, and masks.

ip name-server

To configure the IP address of the domain name server (DNS) of the application, use the **ip name-server** command in Cisco AXP application service configuration mode.

To disable the name server, use the **no** form of this command.

ip name-server *ip-address*

no ip name-server *ip-address*

Syntax Description

ip-address	IP address of the DNS server.

Defaults

No name server is configured.

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

Use this command with the **ip domain-name** command to configure the DNS server. A maximum of two DNS servers can be defined. In a Linux environment, the */etc/resolv.conf* file typically contains the IP addresses of name servers (DNS name resolvers) that attempt to translate names into addresses for any node available on the network.

The **ip domain-name** and **ip name-server** commands in the host populate the */etc/resolv.conf* file in each installed virtual instance. Using this command to change the configuration in the host results in the */etc/resolv.conf* file being updated.

When these commands are used to configure a new name-server and domain-name for a virtual instance (in app-service mode), the */etc/resolv.conf* file in that virtual instance is overriden with the new server name and domain name.

The */etc/resolv.conf* file in that virtual instance reverts back to the host configuration whenever the virtual instance does not have a name-server or domain-name configured. Configuring the name-server and domain-server in a virtual instance always takes precedence over configuration in the host.

If an application package has already bundled its own */etc/resolv.conf* file , the new entries will be appended to the existing ones and will leave the original ones intact.

Example:

```
search localdomain## added by cli
domain localdomain## added by cli
nameserver x.x.x.x## added by cli
```

Examples

The following example changes the IP name server of the application mping to 10.10.61.16:

```
se-Module>config t
se-Module(config-mping)>ip name-server 10.10.61.16
se-Module(config-mping)>ip domain-name mycompany.com
```

Related Commands

Command	Description
hostname	Specifies the server that stores the Cisco AXP applications.
ip domain-name	Specifies the DNS domain name of the application.
ntp server	Specifies the NTP clocking server.
show hosts	Displays all configured hosts.
show ip route	Displays IP route destinations, gates, and masks.

limit log-file size

To configure the log file size, use the limit log-file size command in Cisco AXP application service configuration mode.

To disable log file size configuration, use the **no** form of this command.

limit log-file size *size*

no limit log-file size *size*

Syntax Description

size	Maximum log file size. Range is 0 to 40MB.

Defaults

Default value is 5MB.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

- Sets the size of the log file /var/log/*messages.log*. Each virtual instance writes a syslog to its own file */var/log/messages.log*.
- Once this file reaches the limit specified by this command, its contents are moved to a backup log file *messages.log.prev* and a new *messages.log* file is started. The range is 0 to 40MB with a default size of 5MB for two files.
- When the log file size reaches its limit, messages are moved to an alternate file *messages.log.prev*.
- *megabytes*—The range of the log file size from 0 - 40 MB.
- When the value is out of range, the following message is displayed:

```
%Invalid input detected at '^' marker
```

- If the log file size limits are not set (**no limit log-file size**), the size reverts to the default value of 5MB. If the log file size is set to 0MB, a minimum file size of 10 KB is set.

Examples

```
se-Module(config-helloworld)> limit log-file size 10
```

Related Commands

Command	Description
show logs	Lists logs in the application environment residing in /var/log directory.

limit disk utilization

To modify the disk utilization setup during installation, use the **limit disk utilization** command in Cisco AXP application service configuration mode.

To disable setting disk utilization limits, use the **no** form of the command.

limit disk utilization *amount*

no limit disk utilization *amount*

Syntax Description

amount	Range is 1 to 100,000MB

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command limits the disk space utilization in a virtual instance. The disk utilization range varies between the minimum limit specifed by the package to the maximum limit available by the system.

Examples

```
se-Module(config-helloworld)> limit disk utilization 100
```

Related Commands

Command	Description
show resource limits	Displays the resource limits configured for the application.

limit cpu utilization

To configure the CPU resource usage limits, use the **limit cpu utilization** command in Cisco AXP application service configuration mode.

To disable setting CPU utilization limits, use the **no** form of this command.

limit cpu utilization *index*

no limit cpu utilization *index*

Syntax Description

index	CPU index number.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command modifies the CPU utilization limit setup when the application is installed. It becomes effective when the application instance restarts.

The CPU utilization range varies between the minimum limit specified by the package, to the maximum value available by the system. The specified CPU resource limit for a Cisco AXP service module is based on a platform CPU index.

The platform CPU index is relative to a value of 10000 assigned to the following configuration: a 1.0 GHz Celeron M CPU on the application runtime engine of an NME_APPRE_302-K9 network module. For example, the platform CPU index for the AIM_APPRE 102 blade is 3000.

Examples

```
se-Module(config-helloworld)> limit cpu utilization 3000
```

Related Commands

Command	Description
show resource limits	Displays the resource limits configured for the application.

log server

To configure the remote logging server, use the **log server** command in Cisco AXP application service configuration mode.

To disable the remote logging server, use the **no** form of this command.

log server address {*ip-address* | *hostname*}

no log server address {*ip-address* | *hostname*}

Syntax Description

ip-address	IP address of the external log server.
hostname	Hostname of the external log server.

Defaults

No external log server is configured.

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced

Usage Guidelines

. This command enables and disables remote logging, and configures the remote logging server. Application syslog messages are sent to the specified log server. The hostname can bean IP address or a name.

When an invalid IP address format such as 0.0.0.0 is entered, the following error message is displayed:

Error Message `0.0.0.0 is an invalid Host IP address`

This is used to stream out the application logs tothe remote syslog server.

Examples

The following example assigns 10.1.61.16 as the external log server:

```
se-10-0-0-0(config-mping)>log server address 10.1.61.16
se-10-0-0-0(config-mping)> exit
```

Related Commands

Command	Description
show log	Displays a specific log.
show logs	Displays all logs.
show hosts	Displays all configured hosts.
show running-config	Displays the log server as part of the configuration.

log level

To configure the different system log levels, use the **log level** command in Cisco AXP application service configuration mode.

To disable log levels, use the **no** form of this command.

log level *levels*

no log level *levels*

Syntax Description

levels	**info—** Events with LOG_INFO and higher severity are logged, including all messages described in **notice**. **warn** (Default)—Events with LOG_WARNING and higher severity are logged, including all error messages described in **err**. **err**—Events with LOG_ERR and higher severity are logged, including LOG_EMERG, LOG_ALERT, and LOG_CRIT. **notice** —Events with LOG_NOTICE and higher severity are logged, including all messages described in **warn**. **debug** – Events with LOG_DEBUG and higher severity are logged, including all messages described in **info**.

Defaults

warn is the default value.

Command Default

None

Command Modes

Configuration mode

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Related Commands

Command	Description
show log	Displays a specific log.
show logs	Displays all logs.

ntp server

To configure the Network Time Protocol (NTP) server to keep the system time in synchronization with the NTP server, use the **ntp server** command in Cisco AXP configuration mode.

To delete the NTP server name, use the **no** form of this command.

ntp server {*hostname* | *ip-address*} [**prefer**]

no ntp server {*hostname* | *ip-address*}

Syntax Description

hostname	Hostname of the NTP server.
ip-address	IP address of the NTP server.
prefer	(Optional) Marks the server as preferred.

Defaults

The default is the IP address of the router.

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

Use this command in conjunction with the **clock time** command to set the timing functions for Cisco AXP systems and applications.

The **prefer** option indicates that the specified server will be chosen for synchronization from among a set of correctly operating hosts.

Caution The **no ntp server** command deletes the NTP server name and the Cisco router IP address. Use this command with caution.

Examples

The following example assigns the server with address 155.10.10.0 as the NTP server:

```
se-10-0-0-0(config)>ntp server 155.10.10.0 prefer
```

The following example assigns the server main_ntp as the NTP server:

```
se-10-0-0-0(config)>ntp server main_ntp
```

Related Commands

Command	Description
clock timezone	Configures the local time zone.
show clock detail	Displays current clock statistics.
show ntp source	Displays current NTP server statistics.

status-monitor

To configure the status monitor and recovery threshold, use the status-monitor command in Cisco AXP application service configuration mode.

status-monitor monitor_interval *Interval-Num* **recovery_threshold** *Threshold-Num*

Syntax Description

monitor_interval	Threshold value for monitoring interval.
Interval-Num	Range is 1 to 99. Default is 12. Measured at 5 seconds per interval
Recovery_threshold	Threshold value for recovery attempts.
Threshold-Num	Recovery threshold range is 1 to 99. Default is 5.

Defaults

Default value for monitor interval is 12 and recovery threshold is 5.

Command Default

None

Command Modes

Cisco AXP application service configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Cisco AXP allows third party applications to plugin their status monitoring and allows recovery from a malfunctioned state.

An application must provide one or more watchdog scripts or executable files bundled in their package to use the Cisco AXP application monitoring feature. The number of scripts or executables is dependent on the application, resulting in a unique way of determining the status of the application. For example, it can be based on Process Identifier (PID), or a response to an application ping. Cisco AXP supports Shell scripts and C language executables for application status monitoring.

For more information on watchdog scripts and executables, refer to the *Cisco AXP Developer Guide*.

The application status monitor has a heartbeat of 5 seconds, which is the minimum interval used for monitoring. For example, if the monitor interval is set at 12 , monitoring of each virtual instance takes place every 12 heartbeat intervals, which is every one minute. You can configure the monitoring interval for a virtual instance through the **status-monitor monitor interval** command.

The scripts or executables return a status code where zero indicates that the application is healthy and alive. A non-zero status code indicates that the application is not functional. When a watchdog script or executable returns a non-zero status code, relevant information such as the name of the watchdog script, return status, and time of failure is logged.

A recovery counter counts the number of times the failure takes place, and acts like a delay mechanism for further action. A recovery count of three means that the application monitor has run for three iterations and is receiving either a non-zero return status, or the watchdog script has been running for over 3 monitoring intervals and is not returning a value.

You can use the **status-monitoring monitor interval** command for configuring the recovery threshold that decides on the number of recovery counters before taking the next action. When the recovery threshold is reached, the virtual instance restarts and the application monitor continues to run, repeating the monitoring cycle. A virtual instance can restart any number of times.

Third party developers can also provide default configuration parameters through a configuration file packaged together with their party application.

Examples

```
se-Module(config-mping)> status-monitor monitor_interval 10 recovery_threshold 10
```

Related Commands

Command	Description
show status-monitor	Displays data for the application status monitor.

show app-service state

To display the state and health of all installed virtual instances and applications, use the **show app-service state** command in Cisco AXP EXEC mode.

showapp-service state

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show app-service state
APPLICATION STATE HEALTH
helloworld online ALIVE
```

Related Commands

Command	Description
show state	Displays the status and health of a specific application.

show app-service statistics

To display the memory and processing time information of an installed virtual instance, use the **show app-service statistics** command in Cisco AXP EXEC mode.

showapp-service statistics

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show app-service statistics
CTX   PROC    VSZ    RSS  userTIME   sysTIME    UPTIME NAME
0      122   2.7G 626.9M   1h23m20   1h39m08   6d18h56 root server
2        4   8.6M   2.9M   1m46s57   2m07s88   6d18h54 helloworld
CTX = context number for the virtual instance
PROC = quantity of processes in the context
VSZ = number of pages of virtual memory
RSS = Resident set size limits for memory
userTime = utime User-mode CPU time accumulated
sysTime = ctime Kernel-mode CPU time accumulated
upTime = uptime
```

Related Commands

Command	Description
show statistics app	Allows third party applications to integrate their own application statistics for display.

show app-service status-monitor

To display status monitor information for all installed applications, use the **show app-service status-monitor** command in Cisco AXP EXEC mode.

show app-service status-monitor

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show app-service status-monitor
Application: helloworld
Monitor status: PASSED
Monitor in progress: Yes
Last executed watchdog: W00template.sh
Last executed date: Wed Sep  5 14:09:58 PDT 2007
Last failed watchdog: ---
Last failed return code: -
Last failed date: ---
Last restarted date: ---
Recovery threshold: 4
Monitor interval: 3
```

Related Commands

Command	Description
show running-config	Displays the current running configuration.

show clock detail

To display clock statistics, use the **show clock detail** command in Cisco AXP EXEC mode.

show clock detail

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show clock detail
se-10-1-1-20> show clock detail
15:22:08.375 PST Thu Nov 29 2007
time zone:                              America/Los_Angeles
clock state:                            unsync
delta from reference (microsec):        0
estimated error (microsec):             16
time resolution (microsec):             1
clock interrupt period (microsec):      10000
time of day (sec):                      1196378528
time of day (microsec):                 378926
```

Related Commands

Command	Description
ntp server	Configures the NTP server for time synchronization
clock timezone	Configures the local timezone.

show device serial

To display the serial device ID, use the **show device serial** command in Cisco AXP EXEC mode.

show device serial

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show device serial
Device Name     TTY No. Line No.   Line Type    Intf Name  Assigned To
vaux1           1       1            AUX        -               -
vtty000         0/0/0   2            TTY        Se0/0/0         serialapp
vtty001         0/0/1   3            TTY        Se0/0/1         -
```

Related Commands

Command	Description
bind serial	Binds the serial device.

show interfaces

To display all the configured interfaces, including virtual and VLAN interfaces, use the **show interfaces** command in Cisco AXP EXEC mode.

show interfaces [| |**GigabitEthernet**|**ide**]

Syntax Description

|	Pipes output to another command.
GigabitEthernet	Gigabit Ethernet device.
ide	Integrated Drive Electronics (hard disk)

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100.0.4.2> show interfaces
GigabitEthernet 0 is up, line protocol is up
  Internet address is 10.10.1.20 mask 255.255.255.0 (configured on router)
     25629 packets input, 1688582 bytes
     0 input errors, 0 dropped, 0 overrun, 0 frame errors
     25634 packets output, 1785015 bytes
     0 output errors, 0 dropped, 0 overrun, 0 collision errors
     0 output carrier detect errors

IDE hd0 is up, line protocol is up
     2060 reads, 32704512 bytes
     0 read errors
     489797 write, 2520530944 bytes
     0 write errors
```

Related Commands

Command	Description
show running-config	Displays the current running configuration.

show logs

To display all log files in the application environment, use the **show logs** command in Cisco AXP application service EXEC mode.

To display all log files on the Cisco AXP service module, use the **show logs** command in Cisco AXP EXEC mode.

show logs

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

In Cisco AXP application service EXEC mode, the command displays all the log files under /var/log directory of the virtual instance.

Examples

```
se-Module(exec-mping)> show logs
SIZE    LAST_MODIFIED_TIME               NAME
108     Mon Nov 05 19:50:33 PST 2007    messages.log

se-Module> show logs
SIZE             LAST_MODIFIED_TIME         NAME
    43452   Tue Nov 06 10:46:44 PST 2007    linux_session.log
     7630   Thu Nov 15 16:18:22 PST 2007    install.log
     8508   Thu Nov 15 16:18:00 PST 2007    dmesg
        0   Thu Nov 01 18:12:34 PDT 2007    eem.log
  4614755   Thu Nov 15 16:16:50 PST 2007    messages.log.prev
```

Related Commands

Command	Description
log trace	Configures trace logging options.
log level	Configures the severity of messages to be logged.

show log name

To display a specific log file in the application environment , use the **show log name** command in Cisco AXP application service EXEC mode.

To display system level logging data for a specific log file, use the **show log name** command in Cisco AXP EXEC mode.

show log name *log-name* {**containing** *expression* | **paged** | **interactive** | {|**begin** | |**exclude** | | **include** | |**page**} | **tail**}

Syntax Description

log-name	Log name. See the **show logs** command for log names.
containing *expression*	Only display events matching a regular expression (regex) pattern, where *expression* is a regex.
paged	Displays in page mode.
interactive	Displays logs in interactive mode.
|	Pipes output to another command.
| begin	Pipes output to another command and begins with the matching line.
| exclude	Pipes output to another command and excludes lines that match.
| include	Pipes output to another command and includes lines that match.
| page	Pipes output to another command and paginates the output.
tail	Waits for events and prints them as they occur.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-100-0-3-2> show log name messages.log|include "iosapi audit"
<197>Sep 21 17:28:46 localhost iosapid: INFO iosapi audit history
[IOSAPI]:[EXEC]:[SUCCESS]:[show version]
```

Related Commands

Command	Description
show logs	Displays all the log files.

show ntp associations

To display the association identifier and status for all Network Time Protocol (NTP) servers, use the **show ntp associations** command in Cisco AXP EXEC mode.

show ntp associations [**assocID** *association-id*]

Syntax Description

assoc-ID *association-id*	*association-id*—Specified association ID.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

The **show ntp associations** command displays the association identifier and status for all the NTP servers configured for Cisco AXP but does not provide detailed information about the servers. The **show ntp associations assocID** *association-id* command provides detailed information on the status of a specified NTP server.

Use the status field to determine the configuration and status of all the NTP servers. This field consists of 4 hexadecimal digits:

- The first two digits specify the server configuration and how far it progressed through the clock selection process. See Table 1.
- The second two digits indicate the number of events and the type of the last event. See Table 2.

Table 1 shows common status codes and their meanings. The first digit specifies the configuration, reachability, and authentication status for the specified server. The second digit records how well the specified server passed through the clock selection algorithm.

Table 1 Status Field Code Values

Status Field Codes	Meaning
1xxx	Server has sent a peer synchronization request to the local machine, but the server is not configured locally.
7xxx	Server is a peer that is not configured locally but is reachable and using proper authentication.
8xxx	Server is configured but not authenticated or reachable.
9xxx	Server is configured and reachable.
Cxxx	Server is configured to use authentication but is not reachable.
Dxxx	Server is configured to use authentication and is reachable but is not using a trusted key.
Fxxx	Server is authenticated as a trusted server and is reachable.

Table 1 Status Field Code Values (continued)

Status Field Codes	Meaning
x0xx	Server did not pass any sanity checks and is rejected by the client. Possible causes for this condition include the server failing to authenticate, the server having a huge error bound (over 16 seconds), or the server existing on a higher stratum number than the client.
x1xx	Server passed the sanity checks but was not close enough to other servers to survive the intersection algorithm. This indicates that the server's clock was outside the largest possible error bounds of the other clocks, a condition that almost certainly indicates that the server is set to the wrong time.
x2xx	Server passed the correctness checks (intersection algorithm). This value indicates that the server is probably configured correctly.
x3xx	Server passed the candidate checks. This means that the server was not discarded because there were too many good servers (over 10).
x4xx	Server passed through the clustering algorithms without being discarded as an outlier having too much dispersion.
x5xx	Server would be the synchronization source but is too far away. This means that all the other clocks did not pass the sanity check or are too far away also.
x6xx	Server is the current synchronization source. This is the preferred server status.
x7xx to xFxx	Reserved values. These should not occur in normal usage.

Table 2 lists the event codes. The third digit indicates the number of events that have occurred since the last time an error was returned to the console by NTP or by one of the **show ntp** commands. This value does not wrap and stops incrementing at 15 (or hex F).

For a properly running server, the value should be xx1x, unless one of the **show ntp** commands has queried the server since startup. In that case, the value should be xx0x. If the third digit is any other value, check for the event causing errors.

The fourth digit in the field indicates the last event that occurred. For properly running servers, the event should be the server becoming reachable.

Table 2 Event Field Code Values

Event Field Codes	Meaning
xxx0	Unspecified event. Either no events have occurred or some sort of special error has occurred.
xxx1	IP error occurred reaching the server.
xxx2	Unable to authenticate a server that used to be reachable. This indicates that the keys changed or someone is spoofing the server.
xxx3	Formerly reachable server is now unreachable.
xxx4	Formerly unreachable server is now reachable.
xxx5	Server's clock had an error.
xxx6 to xxxF	Reserved values. These should not occur in normal usage.

The flash field indicates the status of the packets while a series of 12 diagnostic tests are performed on them. The tests are performed in a specified sequence to gain maximum information while protecting against accidental or malicious errors.

The flash variable is set to zero as each packet is received. If any bits are set as a result of the tests, the packet is discarded.

The tests look for the following information:

- TEST1 through TEST3 check the packet time stamps from which the offset and delay are calculated. If no bits are set, the packet header variables are saved.
- TEST4 and TEST5 check access control and cryptographic authentication. If no bits are set, no values are saved.
- TEST6 through TEST8 check the health of the server. If no bits are set, the offset and delay relative to the server are calculated and saved.
- TEST9 checks the health of the association. If no bits are set, the saved variables are passed to the clock filter and mitigation algorithm.
- TEST10 through TEST12 check the authentication state using Autokey public-key cryptography. If any bits are set and the association was previously marked as reachable, the packet is discarded. Otherwise, the originate and receive time stamps are saved with a continuation of the process .

Table 3 lists the flash bits for each test.

Table 3 Flash Field Diagnostic Bit Values

Flash Bit Values	Meaning
0x001	TEST1. Duplicate packet. The packet is at best a casual retransmission and at worst a malicious replay.
0x002	TEST2. Bogus packet. The packet is not a reply to a message previously sent. This can happen when the NTP daemon is restarted.
0x004	TEST3. Unsynchronized. One or more time-stamp fields are invalid. This normally happens when the first packet from a peer is received.
0x008	TEST4. Access is denied.
0x010	TEST5. Cryptographic authentication fails.
0x020	TEST6. Server is unsynchronized. Wind up its clock first.
0x040	TEST7. Server stratum is at the maximum of 15. The server is probably unsynchronized, and its clock needs to be wound up.
0x080	TEST8. Either the root delay or the dispersion is greater than 1 second.
0x100	TEST9. Either the peer delay or the dispersion is greater than 1 second.
0x200	TEST10. Autokey protocol has detected an authentication failure.
0x400	TEST11. Autokey protocol has not verified the server, or the peer is proventic and has valid key credentials.
0x800	TEST12. Protocol or configuration error has occurred in the public key algorithm, or a possible intrusion event has been detected.

Examples

The following is sample output for the **show ntp associations** command:

```
se-10-0-0-0> show ntp associations
```

```
ind assID status  conf reach auth condition  last_event cnt
============================================================
1   50101 8000   yes   yes  none  sys.peer   reachable  2
```

Table 4 describes the significant fields shown in the display.

Table 4 show ntp associations Field Descriptions

Field	Description
ind	Index number of the association.
assID	Peer identifier returned by the server.
status	Hexadecimal value of the server status. See Table 1 and Table 2 for a description of these field codes.
conf	Indicates whether the server is configured or not. Valid values are yes and no.
reach	Indicates whether the peer is reachable or not. Valid values are yes and no.
auth	Status of the server authentication. Valid values are: • ok • bad • none • “ ”
condition	Type of association in the clock selection process. Valid values are: • space—Reject: Peer is discarded as unreachable. • falsetick—Peer is discarded as a false tick. • excess—Peer is discarded as not among the 10 closest peers. • outlier—Peer is discarded as an outlier. • candidate—Peer selected for possible synchronization. • selected—Almost synchronized to this peer. • sys.peer—Synchronized to this peer. • pps.peer—Synchronized to this peer on the basis of a pulse-per-second signal.

Table 4 show ntp associations Field Descriptions (continued)

Field	Description
last_event	Last event that occurred in the system. Valid values are: • (empty) • IP error • Auth fail • lost reach • reachable • clock expt See Table 2 for descriptions of these values.
cnt	Number of events that occurred since the last time an error was returned to the console by NTP. This value does not wrap and stops incrementing at 15 (or hex F). For a properly functioning server, this value should be 1 or 0.

The following is sample output for the **show ntp associations assocID** command:

```
se-10-0-0-0> show ntp associations assocID 50101

status=8000 unreach, conf, no events,
srcadr=10.1.10.2, srcport=123, dstadr=10.1.1.20, dstport=123, leap=11,
stratum=16, precision=-17, rootdelay=0.000, rootdispersion=0.000,
refid=0.0.0.0, reach=000, unreach=16, hmode=3, pmode=0, hpoll=10,
ppoll=10, flash=00 ok, keyid=0, offset=0.000, delay=0.000,
dispersion=0.000, jitter=4000.000,
reftime=00000000.00000000  Wed, Feb  6 2036 22:28:16.000,
org=00000000.00000000  Wed, Feb  6 2036 22:28:16.000,
rec=00000000.00000000  Wed, Feb  6 2036 22:28:16.000,
xmt=cafae952.b5de7a74  Fri, Nov 30 2007 11:56:02.710,
filtdelay=     0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00,
filtoffset=    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00,
filtdisp=   16000.0 16000.0 16000.0 16000.0 16000.0 16000.0 16000.0 16000.0
```

Table 5 describes the significant fields shown in the display.

Table 5 show ntp associations assoc-id Field Descriptions

Field	Description
status	Status of the peer. See Table 1, Table 2, and Table 4 for descriptions of the values in this line.
srcadr	IP address of the host server.
srcport	Port address of the host server.
dstadr	IP address of the destination server.
dstport	Port address of the destination server.

Table 5 show ntp associations assoc-id Field Descriptions (continued)

Field	Description
leap	Two-bit code warning of an impending leap second to be inserted in the NTP timescale. Valid values are: • 00—No warning • 01—Last minute has 61 seconds • 10—Last minute has 59 seconds • 11—Alarm condition (clock not synchronized)
stratum	Server hop count to the primary clock source. Valid values are: • 0—Unspecified • 1—Primary clock reference • 2–255—Secondary reference via NTP If the stratum value is 15, the server is probably unsynchronized and its clock needs to be reset.
precision	Precision of the clock, in seconds to the power of two.
rootdelay	Total round-trip delay, in seconds, to the primary reference source at the root of the synchronization subnet.
rootdispersion	Maximum error, in seconds, relative to the primary reference source at the root of the synchronization subnet.
refid	IP address of the peer selected for synchronization.
reach	Peer reachability status history, in octal. Each bit is set to 1 if the server is reached during a polling period and is set to 0 otherwise. The value 377 indicates that the last 8 attempts were good.
unreach	Number of poll intervals since the last valid packet was received.
hmode	Association mode of the host server. Valid values are: • 0—Unspecified • 1—Symmetric active • 2—Symmetric passive • 3—Client • 4—Server • 5—Broadcast • 6—Reserved for NTP control messages • 7—Reserved for private use

Table 5 show ntp associations assoc-id Field Descriptions (continued)

Field	Description
pmode	Association mode of the peer server. Valid values are: • 0—Unspecified • 1—Symmetric active • 2—Symmetric passive • 3—Client • 4—Server • 5—Broadcast • 6—Reserved for NTP control messages • 7—Reserved for private use
hpoll	Minimum interval, in seconds as a power of two, between transmitted messages from the host.
ppoll	Minimum interval, in seconds as a power of two, between transmitted messages to the peer.
flash	Status of the packet after a series of diagnostic tests are performed on the packet. See the description of the flash field values in Table 3.
keyid	ID of the cryptographic key used to generate the message-authentication code.
offset	Time difference between the client and the server, in milliseconds.
delay	Round-trip delay of the packet, in milliseconds.
dispersion	Measure, in milliseconds, of how scattered the time offsets have been from a given time server.
jitter	Estimated time error, in milliseconds, of the Cisco AXP clock measured as an exponential average of RMS time differences.
reftime	Local time, in time-stamp format, when the local clock was last updated. If the local clock has never been synchronized, the value is zero.
org	Local time, in time-stamp format, at the peer when its latest NTP message was sent. If the peer becomes unreachable, the value is zero.
rec	Local time, in time-stamp format, when the latest NTP message from the peer arrived. If the peer becomes unreachable, the value is zero.
xmt	Local time, in time-stamp format, at which the NTP message departed the sender.
filtdelay	Round-trip delay, in seconds, between the peer clock and the local clock over the network between them.

Table 5 show ntp associations assoc-id Field Descriptions (continued)

Field	Description
filtoffset	Offset, in seconds, of the peer clock relative to the local clock.
filtdisp	Maximum error, in seconds, of the peer clock relative to the local clock over the network between them. Only values greater than zero are possible.

Related Commands

Command	Description
show ntp servers	Displays a list of NTP servers and their current states.
show ntp source	Displays the primary time source for an NTP server.

show ntp servers

To display a list of Network Time Protocol (NTP) servers and their current states, use the **show ntp servers** command in Cisco AXP EXEC mode.

show ntp servers

Syntax Description

This command has no keywords or arguments.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

This command displays a list of NTP servers, their states, and a summary of the remote peers associated with each server.

Examples

The following is sample output for the **show ntp servers** command:

```
se-10-1-1-20> show ntp servers
     remote           refid      st t when poll reach   delay   offset  jitter
==============================================================================
 10.1.10.2       0.0.0.0         16 u    - 1024    0    0.000    0.000 4000.00
space reject,        x falsetick,        . excess,          - outlyer
+ candidate,         # selected,         * sys.peer,        o pps.peer
```

Table 6 describes the significant fields shown in the display.

Table 6 show ntp servers Field Descriptions

Field	Description
remote	IP address of the remote server.
refid	Server's current time source.
st	Hop count (stratum) to the remote server.
t	Type of peer. Valid values are: • l—Local • u—Unicast • m—Multicast • b—Broadcast
when	Time when the last packet was received.
poll	Polling interval, in seconds.

Table 6 show ntp servers Field Descriptions

Field	Description
reach	Peer reachability status history, in octal. Each bit is set to 1 if the server is reached during a polling period and is set to 0 otherwise. The value 377 indicates that the last 8 attempts were good.
delay	Round-trip delay of the packet, in milliseconds.
offset	Time difference between the client and the server, in milliseconds.
jitter	Estimated time error, in milliseconds, of the Cisco AXP clock measured as an exponential average of RMS time differences.
(tally code)	The character preceding the remote IP address indicates the status of the association in the clock selection process. Valid values are: • space Reject: Peer is discarded as unreachable. • x Falsetick: Peer is discarded as a false tick. • . Excess: Peer is discarded as not among the ten closest peers. • – Outlier: Peer is discarded as an outlier. • + Candidate: Peer selected for possible synchronization. • # Selected: Almost synchronized to this peer. • * Sys.peer: Synchronized to this peer. • o PPS.peer: Synchronized to this peer on the basis of a pulse-per-second signal.

Related Commands

Command	Description
ntp server	Configures the NTP server.
show ntp associations	Displays a list of association identifiers and peer statuses for an NTP server.
show ntp source	Displays the time source for an NTP server.

show ntp source

To display the time source for a Network Time Protocol (NTP) server, use the **show ntp source** command in Cisco AXP EXEC mode.

show ntp source [**detail**]

Syntax Description

detail	(Optional) Displays detailed information about the NTP servers.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command displays the chain of NTP servers back to their primary time source, starting from the local host.

Examples

The following is sample output for the **show ntp source** command:

```
se-10-0-0-0> show ntp source

127.0.0.1: stratum 9, offset 0.000015, synch distance 0.03047
10.100.10.65: stratum 8, offset -0.001124, synch distance 0.00003
```

Table 7 describes the significant fields shown in the display.

Table 7 show ntp source Field Descriptions

Field	Description
(first field)	IP address of the host.
stratum	Server hop count to the primary clock source. Valid values are: • 0—Unspecified • 1—Primary clock reference • 2–255—Secondary reference via NTP
offset	Time offset between the host and the local host, in seconds.
synch distance	Host synchronization distance, which is the estimated error relative to the primary source.

The following is sample output for the **show ntp source detail** command:

```
se-1-100-5-2> show ntp source detail
```

```
server 10.0.0.1, port 123
stratum 9, precision -17, leap 00
refid [10.10.10.65] delay 0.00012, dispersion 0.00000 offset 0.000011
rootdelay 0.00058, rootdispersion 0.03111, synch dist 0.03140
reference time:      af4a3ff7.926698bb  Thu, Feb 30 2007 14:47:19.571
originate timestamp: af4a4041.bf991bc5  Thu, Nov 30 2007 14:48:33.748
transmit timestamp:  af4a4041.bf90a782  Thu, Nov 30 2007 14:48:33.748

server 10.10.10.65, port 123
stratum 8, precision -18, leap 00
refid [172.16.7.1] delay 0.00024, dispersion 0.00000 offset -0.001130
rootdelay 0.00000, rootdispersion 0.00003, synch dist 0.00003
reference time:      af4a402e.f46eaea6  Thu, Nov 30 2007 14:48:14.954
originate timestamp: af4a4041.bf6fb4d4  Thu, Nov 30 2007 14:48:33.747
transmit timestamp:  af4a4041.bfb0d51f  Thu, Nov 30 2007 14:48:33.748
```

Table 8 describes the significant fields shown in the display.

Table 8 show ntp source detail Field Descriptions

Field	Description
server	IP address of the host server.
port	Port number of the host server.
stratum	Server hop count to the primary clock source. Valid values are: • 0—Unspecified • 1—Primary clock reference • 2–255—Secondary reference via NTP
precision	Precision of the clock, in seconds to the power of two.
leap	Two-bit code warning of an impending leap second to be inserted in the NTP time scale. Valid values are: • 00—No warning • 01—Last minute was 61 seconds • 10—Last minute was 59 seconds • 11—Alarm condition (clock not synchronized)
refid	IP address of the peer selected for synchronization.
delay	Round-trip delay of the packet, in milliseconds.
dispersion	Measure, in milliseconds, of how scattered the time offsets have been from a given time server.
offset	Time offset between the host and the local host, in seconds.
rootdelay	Total round-trip delay, in seconds, to the primary reference source at the root of the synchronization subnet.
rootdispersion	Maximum error, in seconds, relative to the primary reference source at the root of the synchronization subnet.
synch dist	Host synchronization distance, which is the estimated error relative to the primary source.

Table 8 show ntp source detail Field Descriptions (continued)

Field	Description
reference time	Local time, in time-stamp format, when the local clock was last updated. If the local clock has never been synchronized, the value is zero.
originate timestamp	Local time, in time-stamp format, at the peer when its latest NTP message was sent. If the peer becomes unreachable, the value is zero.
transmit timestamp	Local time, in time-stamp format, when the latest NTP message from the peer arrived. If the peer becomes unreachable, the value is zero.

Related Commands

Command	Description
show ntp associations	Displays a list of association identifiers and peer statuses for an NTP server.
show ntp servers	Displays a list of NTP servers and their current states.

show ntp status

To display statistics for the Network Time Protocol (NTP) server, use the **show ntp status** command in Cisco AXP EXEC mode.

show ntp status

Syntax Description

This command has no arguments or keywords.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Examples

The following is sample output for the **show ntp status** command:

```
se-10-0-0-0> show ntp status

NTP reference server 1:       10.100.6.9
Status:                       sys.peer
Time difference (secs):       3.268110005008586E8
Time jitter (secs):           0.17168384790420532
```

Table 9 describes the significant fields shown in the display.

Table 9 show ntp status Field Descriptions

Field	Description
NTP reference server 1	IP address of the NTP server.
Status	Status of the peer association in the clock selection process. Valid values are: • Reject: Peer is discarded as unreachable. • Falsetick: Peer is discarded as a false tick. • Excess: Peer is discarded as not among the ten closest peers. • Outlier: Peer is discarded as an outlier. • Candidate: Peer selected for possible synchronization. • Selected: Almost synchronized to this peer. • Sys.peer: Synchronized to this peer. • PPS.peer: Synchronized to this peer on the basis of a pulse-per-second signal.

Table 9 show ntp status Field Descriptions

Field	Description
Time difference (secs)	Difference in seconds between the system clock and the NTP server.
Time jitter (secs)	Estimated time error, in seconds, of the Cisco AXP clock measured as an exponential average of root mean square (RMS) time differences.

Related Commands

Command	Description
clock timezone	Sets the local time zone.
ntp server	Specifies the NTP server for Cisco AXP .
show clock detail	Displays clock statistics.

show process

To display all processes in the application environment, use the **show process** command in Cisco AXP application service EXEC mode.

show process [**all** | **memory** | **pid** *id* | **running**}

Syntax Description

all	Displays a snapshot of all processes and summary information.
memory	Displays random access memory utilization.
pid *id*	Displays a snapshot of the process, where *id* is the process identifier.
running	Displays a snapshot of the current running processes.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command displays all processes in the virtual application environment and sorted by process ID in ascending order.

Examples

```
se-Module(exec-mping)> show process
USER PID %CPU %MEM    VSZ   RSS TTY STAT START   TIME COMMAND
root 1  0.0  0.1   1972   612 ?    S   Nov05   0:00 init [4]
root 8522  0.0  0.1   2244   800 ?    Ss   Nov05   0:00 /cisco/bin/syslog_ng
root 8523  0.0  0.1   1952   536 ?    Ss   Nov05   0:00 /bin/logmgr/var/log/messages.log
5000000
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.

show processes

To display processes running on the Cisco AXP service module, use the **show processes** command in Cisco AXP EXEC mode.

show process [**cpu** | **memory**]

Syntax Description

cpu	Central processing unit utilization.
memory	Random access memory utilization.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-Module(exec-mping)> show processes
se-10-0-0-0> show processes
STATE                    HEALTH   CMD
online                   alive    syslog-ng
online                   alive    platform_config
online                   alive    trace
online                   alive    rbcp
online                   alive    ntp
online                   alive    downloader
online                   alive    superthread
online                   alive    dns
online                   alive    backuprestore
online                   alive    cli
service                  alive    sshd

se-10-0-0-0> show processes memory
   VSZ   RSS   SHR   PVT    RD    RW   EXE   DAT   STK  %PVT CMD
 12680  1360   968   392     0     0    96  4800     0   0.1 syslog-ng
 22704  1336  1076   260     0     0    64 14840     0   0.1 platform_config
 10384  1072   900   172     0     0    28  2552     0   0.0 rbcp
 14272  2568  1260  1308     0     0    16  4620     0   0.3 trace
  2560   772   568   204     0     0   572   464     0   0.0 monitor
 23504  3808  1456  2352     0     0    20 13848     0   0.5 downloader
 18832  1364  1120   244     0     0   212 10812     0   0.0 ntp
 63660 17780  2324 15456     0     0    40 53424     0   3.0 superthread
 63660 17780  2324 15456     0     0    40 53424     0   3.0 cli
  1972   616   524    92     0     0    28   496     0   0.0 sshd
```

```
-----------------------------------------
Process Memory Information for helloworld
-----------------------------------------
VSZ     RSS     SHR     PVT     RD      RW      EXE     DAT     STK     CMD
1972    616     524     92      0       0       28      496     0       init
2244    872     704     168     0       0       92      572     0       syslog_ng
2500    1096    948     148     0       0       572     404     0       hello_world.sh
1948    532     456     76      0       0       8       492     0       logmgr
0       0       0       0       0       0       0       0       0

se-10-0-0-0> show processes cpu
Uptime (secs):                1122639.02
User time (secs):             9834.87
Kernel time (secs):           11647.49
Idle time (secs):             1100952.01
se-10-0-0-0>
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.

show resource limits

To display a summary of the resource limits configuration, use the **show resource limits** command in Cisco AXP application service EXEC mode.

show resource limits

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-Module(exec-mping)> show resource limits
APPLICATION CPU(INDEX) MEMORY(MB) DISK(MB) LOG(MB)
mping        1000       10         10          5
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.

show running-config

To display the running configuration of the application environment, use the **show running-config** command in Cisco AXP application service EXEC mode.

show running-config

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Default None

Command Modes Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-Module(exec-mping)> show running-config
app-service mping
 bind interface eth0
 hostname se-10-0-0-0
 exit
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.

show ssh-server

To display the current status of the SSH server for a virtual instance, use the **show ssh-server** command in Cisco AXP application service EXEC mode.

show ssh-server

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The SSH server displays its status as RUNNING or NOT RUNNING.

Examples

```
se-100-0-5-2> app-service SYSLOG_APP1
se-100-0-5-2(exec-SYSLOG_APP1)> show ssh-server
Application SSH Server
Status: RUNNING
se-100-0-5-2(exec-SYSLOG_APP1)>
```

Related Commands

Command	Description
ip ssh-server	Configures the SSH server.
ip ssh username	Configures SSH tunneling.

show state

To display the status and health of a specific application, use the **show state** command in Cisco AXP application service EXEC mode.

show state [**details**]

Syntax Description

details	Displays status related information for a virtual instance.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The show state command displays the state and health as:

- State—Online, Offline, Pending-online, Pending-offline.
- Health—Alive, or Down

Examples

```
se-Module(exec-helloworld)> show state
APPLICATION STATE HEALTH
helloworld online ALIVE
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.
show app-service state	Displays a list of all the installed virtual instances and applications.

show statistics

To display statistics for a virtual instance in the application environment, use the show statistics command in Cisco AXP application service EXEC mode.

show statistics

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The **show statistics** command displays statistics such as CPU utilization and memory for a virtual instance in the application environment.

The **show statistics app** command displays statistics of third party applications integrated into the application environment.

When this command is initiated, */bin/appstats* is executed. The third party application must provide the *appstats* file, in binary or script format, to plug in for its statistics.

Examples

```
se-Module(exec-mping)> show statistics
CTX PROC  VSZ   RSS   userTIME  sysTIME  UPTIME  NAME
2    3    6.6M  2.5M  0m00s12   0m00s40  3h04m08 Test1

CTX = context number for the virtual instance
PROC = quantity of processes in the context
VSZ = number of pages of virtual memory
RSS = Resident set size limits for memory
userTime = utime User-mode CPU time accumulated
sysTime = ctime Kernel-mode CPU time accumulated
upTime = uptime
```

Related Commands

Command	Description
show statistics app	Allows third party applications to integrate their own application statistics for display.

show statistics app

To allow third party applications to integrate their own application statistics for display, use the **show statistics app** command in Cisco AXP application service EXEC mode.

show statistics app

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

When this command is initiated, */bin/appstats* is executed. The third party application must provide the *appstats* file in binary or script format, to plug in for its statistics.

Related Commands

Command	Description
show statistics	Displays statistics for a virtual instance in the application environment.

show status-monitor

To display parameters of the status monitor, use the show status-monitor command in Cisco AXP application service EXEC mode.

show status-monitor

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

The monitor status can have one of the following values:

Values	Description
---:	Monitor has not been turned ON
Passed	Monitoring reports successful execution of watchdog scripts.
Recovery	Monitoring reports a watchdog failure, or the watchdog is taking longer than the monitor interval to return a value. The virtual instance restarts if the recovery threshold period is exceeded.

Examples

```
se-Module(exec-helloworld)> show status-monitor
Application: helloworld
Monitor status: PASSED
Monitor in progress: Yes
Last executed watchdog: W00template.sh
Last executed date: Wed Sep  5 14:09:58 PDT 2007
Last failed watchdog: ---
Last failed return code: -
Last failed date: ---
Last restarted date: ---
Recovery threshold: 4
Monitor interval: 3
```

Related Commands

Command	Description
show tech-support	Displays a summary of the diagnostic information for the application.
show app-service state	Displays a list of all the installed virtual instances and applications.

show syslog-server logs

To display syslog server log files residing in the /var/remote log directory, use the **show syslog-server logs** command in Cisco AXP EXEC mode.

show syslog-server logs

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command displays all the syslog files under /var/remote log directory.

Examples

```
se-Module> show syslog-server logs
SIZE   LAST_MODIFIED_TIME               NAME
62     Thu Oct 18 16:37:22 PDT 2007     remote_messages.log
```

Related Commands

Command	Description
log trace	Configures trace logging options.
log level	Configures the severity of messages to be logged.

show syslog-server log name

To display system level logging data for a specific log file, use the **show log name** command in Cisco AXP EXEC mode.

show syslog-server log name *log-name* { **paged** | | | }

Syntax Description

log-name	Log name. See the **show logs** command for log names.
paged	Displays in page mode.
|	Pipes output to another command.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

```
se-10-0-0-0> show syslog-server log name remote_messages.log
Press <CTRL-C> to exit...
#!/bin/cat
16:37:22 logmgr: BEGIN FILE
16:37:22 logmgr: START
```

Related Commands

Command	Description
show syslog-server logs	Displays all the syslog files.

show tech-support

To display diagnostic information of the application environment, use the **show tech-support** command in Cisco AXP application service EXEC mode.

show tech-support

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Cisco AXP application service EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Dumps information on the terminal provided by the third party application.

Displays running-config, state, resource limits, and statistics of the application environment.

Executes the **/bin/techsupport** binary or script file to display application specific information if provided by the third party application.

Examples

```
se-10-0-0-0(exec-helloworld)> show tech-support

------------------ show app-service state ------------------
                   APPLICATION                STATE               HEALTH
                    helloworld               online                ALIVE

------------------ show app-service statistics ------------------
CTX   PROC    VSZ    RSS  userTIME   sysTIME    UPTIME NAME
0      122   2.7G 624.3M  59m23s94   1h10m58   4d20h45 root server
2        4   8.6M   2.9M   1m16s66   1m31s31   4d20h43 helloworld


------------------ show process ------------------
USER        PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root          1  0.0  0.1   1972   616 ?        S    Nov15   0:00 init [4]
root       3758  0.0  0.1   2244   872 ?        Ss   Nov15   0:00 /usr/bin/syslog_ng
root       3763  0.0  0.2   2500  1096 ?        S    Nov15   0:00 /bin/bash
/opt/helloworld/hello_world.sh
root      29302  0.0  0.1   1948   532 ?        Ss   12:55   0:00 /bin/logmgr
/var/log/messages.log 5000000
root      31016  0.0  0.1   2216   532 ?        S    13:02   0:00 sleep 5


------------------ show resource limits ------------------
    APPLICATION      CPU(INDEX)      MEMORY(MB)   DISK(MB)    LOG(MB)
```

```
     helloworld             800              10         20          5

------------------ show running-config ------------------
Generating running configuration:

app-service helloworld
 bind interface eth0
 hostname se-10-0-0-0
 log level info
 exit

------------------ show state ------------------
                   APPLICATION                STATE               HEALTH
                    helloworld               online                ALIVE

------------------ show statistics ------------------
CTX    PROC    VSZ    RSS  userTIME   sysTIME    UPTIME NAME
2         4   8.6M   2.9M   1m16s66   1m31s31   4d20h43 helloworld
```

Related Commands

Command	Description
show state	Displays the status and health of a specific application.
show running-config	Displasy the running configuration of the application environment.
show resource limits	Displays a summary of the resource limits configuration.
show statistics	Displays statistics for a virtual instance in the application environment.

show software

To display characteristics of the installed software, use the **show software** command in Cisco AXP EXEC mode.

show software {**directory** | **download server** | **licenses** | **packages** | **versions**}

Syntax Description

directory	Displays the software directory.
download server	Displays the IP address of the FTP server.
licenses	Displays the terms and limits of the purchased license for the system.
packages	Displays the configured Cisco AXP application packages.
versions	Displays the current versions of the configured software and applications.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is sample output for the **show software** command:

```
se-10-0-0-0> show software download server

Download server URL is: ftp://172.16.0.1/ftp

se-10-0-0-0> show software licenses

Core:
 - application mode: AXP
```

```
se-10-0-0-0> show software packages

Installed Packages:
 - Core (Integrated Voice Services - Core)
- Boot Loader (Service Engine Bootloader)


se-10-50-10-125> show software versions

Installed Packages:
Software Version: 3.0.1
 - Installer  3.0.1.0
    - Thirdparty 2.3.1.0
    - Bootloader (Primary) 2.1.14
    - Infrastructure  2.3.2.0
```

Related Commands

Command	Description
show app-service	Displays statistics for installed applications.

show software directory

To display directory information for software download and downgrade files, use the **show software directory** command in Cisco AXP EXEC mode.

show software directory {**download** | **downgrade**}

Syntax Description

download	Displays download directory information.
downgrade	Displays downgrade directory information.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is sample output for the **show software directory download** command:

```
se-10-10-0-0> show software directory download

KBytes  Directory
27347   /dwnld/pkgdata

Directory listings

Directory: /dwnld/pkgdata

total 27347
drwxrwxr-x    2 root     daemon        136 Oct 18 19:30 .
drwxrwxr-x    4 root     daemon        136 Oct 18 19:30 ..
-rw-rw-r--    1 root     root     27857860 Oct 18 19:31 axp-upgrade.2.1
-rw-rw-r--    1 root     root       113161 Oct 18 19:30 axp.2.1.pkg
se-10-0-0-0>
```

The following is sample output for the **show software directory downgrade** command:

```
se-172-16-0-0> show software directory downgrade

KBytes  Directory
6154    /dwnld/dwngrade

Directory listings

Directory: /dwnld/dwngrade

total 6154
drwxrwxrwx    3 root     daemon        184 Nov  3 17:22 .
drwxrwxr-x    4 root     daemon        360 Nov  3 17:22 ..
-rw-rw-r--    1 root     daemon        227 Oct 28 18:42 .uninstall_work_order
-rw-rw-r--    1 root     daemon    6286628 Oct 28 18:42 add_files.fhdr
drwxrwxr-x    2 root     daemon         48 Nov  3 17:22 tmp
se-10-0-0-0>
```

Related Commands

Command	Description
show app-service	Displays statistics for installed applications.
show tech-support	Displays a summary of the diagnostic information for the application.

show startup-config

To display the current startup configuration, use the **show startup-config** command in Cisco AXP EXEC mode.

show startup-config [**paged**]

Syntax Description

paged	Displays enough output to fill the current viewing screen.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

This command displays the startup configuration stored in flash memory.

Examples

The following is sample output for the **show startup-config** command:

```
se-10-0-0-0> show startup-config

! This adds all the platform CLI commands
!

! hostname
hostname se-10-0-0-0

! Domain Name
ip domain-name localdomain

! DNS Servers
ip name-server 10.100.10.130

! Timezone Settings
clock timezone America/Los_Angeles
end
```

Related Commands

Command	Description
copy ftp	Copies network FTP server data to another location.
copy running-config	Copies the running configuration to another location.
copy startup-config	Copies the startup configuration to another location.
copy tftp	Copies network TFTP server data to another location.
erase startup-config	Deletes configuration data.
show running-config	Displays the running configuration.
write	Copies the running configuration to the startup configuration.

show system language

To display which language the system is configured to use and/or a list of the languages available, use the **show system language** command in Cisco AXP EXEC mode.

show system language {**preferred** | **installed**}

Syntax Description

preferred	The language the system is using.
installed	The languages that are available for use.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to see which language versions of Cisco AXP are available and/or which of them is currently the set language.

Examples

The following example illustrates the use of the **show system language preferred** command:

```
se-10-0-0-0>show system language preferred
Preferred Language: en_US
```

Related Commands

Command	Description
system language preferred	Configures the system language.

show trace buffer

To display a list of events in memory, use the **show trace buffer** command in Cisco AXP EXEC mode.

show trace buffer [**containing** *string* [**long** | **short**] | **long** [**paged**] | **short** [**paged**] | **tail** [*number* [**long** | **short**]]]

Syntax Description

containing *string*	(Optional) Displays only events that match a search expression.
long	(Optional) Displays expanded text for many error and return codes.
short	(Optional) Displays hexadecimal codes.
paged	(Optional) Displays the output a page at a time.
tail	(Optional) Display the latest events as they occur.
number	(Optional) Displays the most recent *number* of events.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

This command displays a list of the trace events being captured in the memory buffer. Use this command to monitor trace events set for debugging. Stop the output by pressing CTRL-C.

Examples

The following example shows a partial output from the **show trace buffer** command:

```
se-10-0-0-0> show trace buffer

Press <CTRL-C> to exit...
238 09/19 23:23:11.041 TRAC TIMZ 0 UTC UTC 0
238 09/19 23:23:11.043 TRAC TIMZ 0 UTC UTC 0
800 09/19 23:28:04.152 WFSP MISC 0 WFSysdbLimits::WFSysdbLimits hwModuleType=NM
800 09/19 23:28:04.171 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.171 WFSP MISC 0 keyName = limitsDir
str = /sw/apps/wf/ccnapps/limits
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getNodeXml
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.198 WFSP MISC 0 keyName = limits
str = <?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?> <attrList> <a
ttrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <attr>max
_scripts</attr> <desc>maximum number of scripts</desc> <value>0</value> </attrDe
cl> <attrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <at
tr>max_prompts</attr> <desc>maximum number of prompts</desc> <value>0</value> </
attrDecl> </attrList>
800 09/19 23:28:04.199 WFSP MISC 0 WFSysdbProp::getNodeXml(str, str)
800 09/19 23:28:04.200 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.200 WFSP MISC 0 keyName = app
```

Related Commands

Command	Description
show logs	Displays a list of the log files.

show trace store

To display a list of events from the atrace.log file, use the **show trace store** command in Cisco AXP EXEC mode.

show trace store [**containing** *string* [**long** | **short**] | **long** [**paged**] | **short** [**paged**] | **tail** [*number* [**long** | **short**]]]

Syntax Description

containing *string*	(Optional) Displays only events that match a search expression.
long	(Optional) Displays expanded text for many error and return codes.
short	(Optional) Displays hexadecimal codes.
paged	(Optional) Displays the output a page at a time.
tail	(Optional) Display the latest events as they occur.
number	(Optional) Displays the most recent *number* of events.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

This command displays a list of the trace events saved in the atrace.log file. Use this command to monitor trace events set for debugging.

Examples

The following example shows a partial output from the **show trace store** command:

```
se-10-0-0-0> show trace store
Press <CTRL-C> to exit...
238 09/19 23:23:11.043 TRAC TIMZ 0 UTC UTC 0
800 09/19 23:28:04.152 WFSP MISC 0 WFSysdbLimits::WFSysdbLimits hwModuleType=NM
800 09/19 23:28:04.171 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.171 WFSP MISC 0 keyName = limitsDir
str = /sw/apps/wf/ccnapps/limits
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getNodeXml
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.198 WFSP MISC 0 keyName = limits
str = <?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?> <attrList> <a
ttrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <attr>max
_scripts</attr> <desc>maximum number of scripts</desc> <value>0</value> </attrDe
cl> <attrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <at
tr>max_prompts</attr> <desc>maximum number of prompts</desc> <value>0</value> </
attrDecl> </attrList>
800 09/19 23:28:04.199 WFSP MISC 0 WFSysdbProp::getNodeXml(str, str)
800 09/19 23:28:04.200 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.200 WFSP MISC 0 keyName = app
```

Related Commands

Command	Description
show logs	Displays a list of the log files.

show trace store-prev

To display a list of events from the atrace.log.prev file, use the **show trace store-prev** command in Cisco AXP EXEC mode.

show trace store-prev [**containing** *string* [**long** | **short**] | **long** [**paged**] | **short** [**paged**] | **tail** [*number* [**long** | **short**]]]

Syntax Description

containing *string*	(Optional) Display only events that match a search expression.
long	(Optional) Displays expanded text for many error and return codes.
short	(Optional) Displays hexadecimal codes.
paged	(Optional) Displays the output a page at a time.
tail	(Optional) Display the latest events as they occur.
number	(Optional) Displays the most recent *number* of events.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced .

Usage Guidelines

This command displays a list of the trace events being captured in the atrace.log.prev file. Use this command to monitor trace events set for debugging.

Examples

The following example shows a partial output from the **show trace store-prev** command:

```
se-10-0-0-0> show trace store-prev

Press <CTRL-C> to exit...
238 09/19 23:23:11.041 TRAC TIMZ 0 UTC UTC 0
238 09/19 23:23:11.043 TRAC TIMZ 0 UTC UTC 0
800 09/19 23:28:04.152 WFSP MISC 0 WFSysdbLimits::WFSysdbLimits hwModuleType=NM
800 09/19 23:28:04.171 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.171 WFSP MISC 0 keyName = limitsDir
str = /sw/apps/wf/ccnapps/limits
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getNodeXml
800 09/19 23:28:04.197 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.198 WFSP MISC 0 keyName = limits
str = <?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?> <attrList> <a
ttrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <attr>max
_scripts</attr> <desc>maximum number of scripts</desc> <value>0</value> </attrDe
cl> <attrDecl purpose="CONFIG" type="INT32" maxsize="4"> <node>limits</node> <at
tr>max_prompts</attr> <desc>maximum number of prompts</desc> <value>0</value> </
attrDecl> </attrList>
800 09/19 23:28:04.199 WFSP MISC 0 WFSysdbProp::getNodeXml(str, str)
800 09/19 23:28:04.200 WFSP MISC 0 WFSysdbProp::getProp
800 09/19 23:28:04.200 WFSP MISC 0 keyName = app
```

Related Commands

Command	Description
show logs	Displays a list of the log files.
show trace store	Displays a list of events from the atrace.log file.

show version

To display versions of Cisco AXP components, use the **show version** command in Cisco AXP EXEC mode.

show version

Syntax Description

This command has no arguments or keywords.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

This command displays a list of the installed Cisco AXP hardware components with their versions and serial numbers.

Examples

```
se-10-0-0-0> show version
se-10-1-1-20> show version
se-10-1-1-20 uptime is 0 weeks, 0 days, 20 hours, 0 minutes
CPU Model:                    Intel(R) Celeron(R) M processor         1.00GHz
CPU Speed (MHz):              1000.192
CPU Cache (KByte):            512
BogoMIPS:                     2002.02
SKU:                          NME-APPRE-302-K9
Chassis Type:                 C2821
Chassis Serial:               FHK0945F1TA
Module Type:                  NME
Module Serial:                FOC10480BFM
UDI Name:                     Not Available
UDI Description:              Not Available
IDE Drive:                    64MB
SATA Drive:                   80.0GB
SDRAM (MByte):                512
```

Table 10 describes the significant fields shown in the display.

Table 10 show version Field Descriptions

Field	Description
CPU Model	Model of the Cisco AXP service module CPU.
CPU Speed (MHz)	CPU speed, in MHz.
CPU Cache (KByte)	Size of the CPU cache, in KB.
Chassis Type	Type of chassis of the Cisco AXP service module.
Chassis Serial	Serial number of the chassis.

Table 10 show version Field Descriptions (continued)

Field	Description
Module Type	A Cisco Network Module (NM), or a Cisco Advance Integration Module (AIM).
Module Serial	Serial number of the Cisco AXP service module.
SATA Drive	Hard Drive on the Cisco AXP service module.
SKU	Unique ordering identifier for a Cisco AXP module.

Related Commands

Command	Description
show software	Displays the version numbers of the installed Cisco AXP software components.

software download abort

To abort a download that is in progress, use the **software download abort** command in Cisco AXP EXEC mode.

software download abort

Syntax Description

This command has no arguments or keywords.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is an example of aborting an existing download:

```
se-10-0-0-0> software download abort
Download request aborted.
```

Related Commands

Command	Description
software download clean	Downloads a complete package to install later.
software download status	Reports the status of a download in progress.
software download upgrade	Downloads an upgrade package to install later.

software download clean

To download software packages for installing later, use the **software download clean** command in Cisco AXP EXEC mode.

software download clean {*package-file-name* | **url ftp://***ftp-server-ip-address/package-file-name}*

Syntax Description

package-file-name	Name of the package file for the new software.
url ftp://*ftp-server-ip-address*	URL of the FTP server.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is an example of downloading a software package to install later where the FTP server information has been set in the configuration.

```
se-172-16-0-0> software download clean axp-abc.2.0.1.pkg
```

The following is an example of downloading a software package to install later where the FTP server information is included on the command line.

```
se-10-16-0-0> software download clean url ftp://10.16.0.2/axp-abc.2.0.1.pkg

WARNING:: This command will download the necessary software to
WARNING:: complete a clean install.  It is recommended that a backup be done
WARNING:: before installing software.

Would you like to continue? [n] y

Downloading  axp-abc.2.0.1.pkg
Bytes downloaded :  63648

Validating package signature ... done


> x
[17488 refs]
se-10-0-0-0>
```

The following is an example of using the **software download status** command to check on the download progress.

```
se-172-16-0-0> software download status

Download request in progress.
downloading file : axp-abc.2.0.prt1
bytes downloaded : 5536224
```

Related Commands

Command	Description
software download abort	Aborts a download that is in progress.
software download status	Reports the status of a download in progress.
software download upgrade	Downloads an upgrade package to install later.

software download server

To configure the FTP server address on the Cisco AXP service module, use the **software download server** command in Cisco AXP configuration mode.

software download server url ftp://*server-ip-address*[*/dir*] [**username** *username* **password** *password* | **credentials hidden** *credentials*]

Syntax Description

url ftp://*server-ip-address*	IP address of the FTP server.
/dir	(Optional) The FTP directory on the server.
username *username*	(Optional) Specifies the FTP username. If this option is not used, the default is “anonymous”.
password *password*	(Optional) Specifies the FTP password.
credentials hidden *credentials*	(Optional) Specifies the encrypted username and password value.

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is an example of setting the server information with just a root directory.

```
se-10-16-0-0(config)> software download server url ftp://10.19.0.0/
```

The following is an example of setting the server information with a directory different than the root directory.

```
se-10-16-0-0(config)> software download server url ftp://10.19.0.0/ftp_dir
```

The following is an example of setting the server information with a username and password.

```
se-10-16-0-0(config)> software download server url ftp://10.19.0.0/ftp_dir username
ftpuser password ftppassword
```

Related Commands

Command	Description
show software	Displays the FTP server information.

software download status

To display the progress of a software download, use the **software download status** command in Cisco AXP EXEC mode.

software download status

Syntax Description

This command has no arguments or keywords.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is an example a download in progress:

```
se-10-0-0-0> software download status

Download request in progress.
downloading file : axp-abc.2.0.1.prt1
bytes downloaded : 5536224

se-10-0-0-0> software download status

Download request completed successfully.
```

Related Commands

Command	Description
software download abort	Aborts a download that is in progress.
software download clean	Downloads a complete package to install later.
software download upgrade	Downloads an upgrade package to install later.

software download upgrade

To download software for a later upgrade, use the **software download upgrade** command in Cisco AXP EXEC mode.

software download upgrade {*package-filename* | **url ftp://***ftp-server-ip-address*[*/dir*]*/package-filename*} [**username** *username* **password** *password*]

Syntax Description

package-filename	Name of the package file for the new software.
url ftp://*ftp-server-ip-address*	URL of the FTP server.
/dir	(Optional) Directory other than the default.
username *username*	(Optional) Username for the FTP server.
password *password*	(Optional) Password for the FTP server.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to download files for a future upgrade.

Examples

The following is an example of downloading a software package to upgrade later where the FTP server information has been set up.

```
se-10-0-0-0> software download upgrade axp-abc.2.1.pkg
```

The following is an example of downloading a software package to upgrade later where the FTP server information is included on the command line. The username and password could also be included in this command.

```
se-10-0-0-0> software download upgrade url ftp://10.16.0.1/axp-abc.2.1.pkg

WARNING:: This command will download the necessary software to
WARNING:: complete an upgrade.  It is recommended that a backup be done
WARNING:: before installing software.

Would you like to continue? [n] y
url_host :10.16.0.1
url_user :null
url_uname :anonymous
url_psword :anonymous
url_proto :ftp
url_path :/
url_fname :axp-abc.2.0.0.12.pkg
url_url :ftp://10.16.0.1/
```

```
Downloading  axp-abc.2.1.pkg
Bytes downloaded :  63648

Validating package signature ... done
Validating installed manifests ..........complete.
[17497 refs]
```

Note When you download the software, there are no other prompts for subscriber input. The software package is downloaded to the service module.

The following is an example of using the **software download status** command to check on the download progress.

```
se-10-0-0-0> software download status

Download request in progress.
downloading file : axp-abc.2.1.prt1
bytes downloaded : 5536224

se-10-0-0-0> software download status

Download request completed successfully.
```

The following example shows how to verify the download success using the **show software directory download** command.

```
se-10-10-0-0> show software directory download

KBytes  Directory
0       /dwnld/pkgdata

Directory listings


Directory: /dwnld/pkgdata

total 0
drwxrwxr-x    2 root     daemon         48 Sep 15  2007 .
drwxrwxr-x    4 root     daemon        200 Sep 15  2007 ..
```

Related Commands

Command	Description
software download abort	Aborts a download that is in progress.
software download status	Reports the status of a download in progress.
show software directory	Displays directory information for software downloads and downgrades.

software install clean

To install a new version of Cisco AXP software, use the **software install clean** command in Cisco AXP EXEC mode.

software install clean {*package-filename* | **url ftp://***ftp-server-ip-address*/*package-filename*}

Syntax Description

package-filename	Name of the package file for the new software.
url ftp://*ftp-server-ip-address*/	URL of the FTP server.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to download files for a new installation.

Note This command cleans the disk. All configuration and voice messages will be lost after this step. For future upgrades and installations, verify that a backup has been done. If it has not, abort at this step and do a backup first.

Examples

The following is an example of the command to install a new version of Cisco AXP software where the FTP server information has been set in the configuration.

```
se-10-16-0-0> software install clean axp-abc.2.0.pkg
```

The following is an example of installing a new version of Cisco AXP software where the FTP server information is included in the command line.

The system enters interactive mode, prompting you for information.

```
se-10-16-0-0> software install clean url ftp://10.16.0.1/axp-abc.2.0.pkg
```

Related Commands

Command	Description
software download abort	Aborts a download that is in progress.
software download status	Reports the status of a download in progress.
software download upgrade	Downloads an upgrade package to install later.
software install upgrade	Upgrades the current Cisco AXP software to a newer version.

software install downgrade

To downgrade to a previously installed version of Cisco AXP software, use the **software install downgrade** command in Cisco AXP EXEC mode.

software install downgrade

Syntax Description

This command has no arguments or keywords.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to downgrade to the previous version of Cisco AXP software. The package information has already been saved on the service module from the previous upgrade. No FTP information is necessary.

Examples

The following is an example of the command to downgrade to the previous version of Cisco AXP software.

```
se-172-16-0-0> software install downgrade
```

The following example shows how to verify that the downgrade was successful using the **show software directory downgrade** command.

```
se-10-10-0-0> show software directory downgrade
KBytes  Directory
0       /dwnld/dwngrade

Directory listings


Directory: /dwnld/dwngrade

total 0
drwxrwxrwx    2 root     daemon         48 Sep 15  2007 .
drwxrwxr-x    4 root     daemon        200 Sep 15  2007 ..
```

Related Commands

Command	Description
show software directory	Displays directory information for software downloads and downgrades.
software install clean	Installs a new version of the Cisco AXP software.
software install upgrade	Upgrades the current Cisco AXP software to a newer version.

software install upgrade

To upgrade to a newer version of Cisco AXP software, use the **software install upgrade** command in Cisco AXP EXEC mode.

software install upgrade {**pkg** *axp-package**.pkg*** |
url ftp://*ftp-server-ip-address**/axp-package**.pkg***}

Syntax Description

pkg *axp-package**.pkg***	Specifies a package name.
url ftp://*ftp-server-ip-address**/axp-package**.pkg***	Specifies the FTP server information.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use this command to upgrade to a newer version of Cisco AXP software.

Examples

The following is an example of the command to upgrade to a newer version of Cisco AXP software.

```
se-10-16-0-0> software install upgrade url ftp://10.16.0.1/axp-abc.2.0.2.pkg
```

The following is an example of the command to upgrade to a newer version of Cisco AXP software if the FTP server has been configured or the software files have been downloaded previously with the **software download upgrade** command:

```
se-10-16-0-0> software install upgrade pkg axp-abc.2.0.2.pkg
```

Related Commands

Command	Description
software download server	Configures the FTP server information.
software download upgrade	Downloads the files for a future upgrade.
software install clean	Installs a new version of the Cisco AXP software.
software install downgrade	Downgrades the current Cisco AXP software to an older version.

software remove

To remove software installed during a download or upgrade, use the **software remove** command in Cisco AXP EXEC mode.

software remove {**all** | **downgradefiles** | **downloadfiles**}

Syntax Description

all	Removes both the downgrade and the download files.
downgradefiles	Removes the downgrade files.
downloadfiles	Removes the download files.

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Examples

The following is an example the **software remove** command:

```
se-172-19-0-0> software remove all

Download files removed
Downgrade files removed

se-172-19-0-0> software remove downgradefiles

Downgrade files removed

se-172-19-0-0> software remove downloadfiles

Download files removed
```

Related Commands

Command	Description
show software directory	Displays the disk usage for the download and downgrade directories.

syslog-server

To enable the syslog server , use the **syslog-server** command in Cisco AXP configuration mode.

syslog-server

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Version	Modification
1.0	This command was introduced.

Usage Guidelines

This command enables or disables syslog server. The syslog server is disabled by default.

If the server is enabled, the Cisco AXP service module is used as a syslog server to receive all the log files from external devices.

An error message:

```
ERROR - system does not have enough disk space
```

arises if:

- The system has less than 80G disk storage,

  or,

- Available disk space does not satisfy the current limits set by file size, and the number of files.

This error is resolved by either unloading applications to free disk space, or by changing limits. If this error occurs, the syslog server is disabled.

Related Commands

Command	Description
syslog-server limit	Sets syslog server limits.

syslog-server limit file-rotation

To set the syslog server file rotation limits , use the **syslog-server limit file-rotation** command in Cisco AXP configuration mode.

syslog-server limit file-rotation *size* [**file-size** *num*]

Syntax Description

size	Defines the number of log files to be rotated The range is 1-40 and the default is 10.
num	Defines the maximum size (in MB) of each log file . The range is 1-1000MB and the default is 20MB.

Command Default None

Command Modes Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines Setting the file rotation configuration lower than the current settings causes extra log files to be deleted.

Example

If the current file rotation value is 5 and the new file rotation value is 2, log files 3 to 5 will be deleted.

A message,

```
WARNING – setting the new file-rotation value to 2 from the old value of 5 caused
extra log files to be removed
```

notifies the user if they have specified a new file rotation value that is lower than the current file rotation value.

Error Messages

Error Message `System does not have enough disk space.`

This error arises if the available sytem disk space is not enough to satisfy the new configured limits.

n the examples shown below, the configurations are rejected and the original limits remain effective when the value of the file size or file rotation exceeds limits.

```
syslog-server limit file-size 1001
                              ^
Invalid input detected at '^' marker

syslog-server limit file-rotation 20 file-size 1001
                                               ^
```

```
Invalid input detected at '^' marker.
```

Related Commands

Command	Description
syslog-server	Enables the syslog server.

syslog-server limit file-size

To set the syslog server file size limits , use the **syslog-server limit file-size** command in Cisco AXP configuration mode.

syslog-server limit file-size *size* **[file-rotation** *num***]**

Syntax Description

size	Defines the number of log files to be rotated The range is 1-40 and the default is 10.
num	Defines the maximum size (in MB) of each log file . The range is 1-1000MB and the default is 20MB.

Command Default

None

Command Modes

Cisco AXP configuration

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Setting the file rotation configuration lower than the current settings causes extra log files to be deleted.

Example

If the current file rotation value is 5 and the new file rotation value is 2, log files 3 to 5 will be deleted.

A message,

```
WARNING – setting the new file-rotation value to 2 from the old value of 5 caused
extra log files to be removed
```

notifies the user if they have specified a new file rotation value that is lower than the current file rotation value.

Error Messages

Error Message `System does not have enough disk space.`

This error arises if the available sytem disk space is not enough to satisfy the new configured limits.

n the examples shown below, the configurations are rejected and the original limits remain effective when the value of the file size or file rotation exceeds limits.

```
syslog-server limit file-size 1001
                              ^
Invalid input detected at '^' marker

syslog-server limit file-rotation 20 file-size 1001
                                               ^
```

```
Invalid input detected at '^' marker.
```

Related Commands

Command	Description
syslog-server	Enables the syslog server.

write

To erase, copy, or display the running configuration, use the write command in Cisco AXP EXEC mode.

write [**erase** | **memory** | **terminal**]

Syntax Description

erase	Erases the running configuration.
memory	Writes the running configuration to the startup configuration. This is the default.
terminal	Displays the running configuration.

Defaults

No default behavior or values.

Command Default

None

Command Modes

Cisco AXP EXEC

Command History

Cisco AXP Release	Modification
1.0	This command was introduced.

Usage Guidelines

Use the write or write memory command as a shortcut for the **copy running-config startup-config** command.

Related Commands

Command	Description
erase startup-config	Deletes the current start up configuration.