lls

To view a long list of directory names, use the **lls** user command in user EXEC configuration mode.

lls [*directory*]

Syntax Description

directory	(Optional) Name of the directory for which you want a long list of files.

Defaults

None

Command Modes

User EXEC configuration mode.

Usage Guidelines

This command provides detailed information about files and subdirectories stored in the present working directory (including size, date, time of creation, sysfs name, and long name of the file). This information can also be viewed with the **dir** command.

Examples

The following example shows how to view a long list of directory names:

```
ServiceBroker# lls
      size          time of last change            name
-------------- ------------------------          -----------
          4096 Mon Jan 10 14:02:26 2005 <DIR>    WebsenseEnterprise
          4096 Mon Jan 10 14:02:26 2005 <DIR>    Websense_config_backup
         10203 Mon Feb 28 04:24:53 2005           WsInstallLog
          4096 Wed Feb 9 00:59:48 2005 <DIR>    core_dir
          4096 Mon Jan 10 13:49:27 2005 <DIR>    crash
           382 Tue Mar 1 03:32:13 2005           crka.log
          1604 Tue Feb 22 03:55:04 2005           dbupgrade.log
          4096 Mon Jan 10 14:02:31 2005 <DIR>    downgrade
          4096 Mon Feb 28 04:17:32 2005 <DIR>    errorlog
         53248 Tue Mar 1 03:01:53 2005 <DIR>    logs
         16384 Mon Jan 10 13:49:26 2005 <DIR>    lost+found
           438 Tue Jan 11 05:37:57 2005           new_file.xml
          8192 Tue Mar 1 00:00:00 2005 <DIR>    preload_dir
          4096 Tue Mar 1 03:26:00 2005 <DIR>    sa
         40960 Tue Mar 1 03:32:15 2005 <DIR>    service_logs
          4096 Tue Feb 22 03:51:25 2005 <DIR>    smartfilter
        384802 Mon Feb 28 03:46:00 2005           syslog.txt
         16296 Mon Feb 21 04:42:12 2005           test
          4096 Mon Jan 10 14:02:24 2005 <DIR>    var
          4096 Sat Feb 12 07:15:23 2005 <DIR>    wmt_vod
```

Related Commands

Command	Description
dir	Displays a detailed list of files contained within the working directory, including names, sizes, and time created.
ls	Lists the files or subdirectory names within a directory.

logging

To configure system logging, use the **logging** command in Global configuration mode. To disable logging functions, use the **no** form of this command.

logging {**console** {**enable | priority** *loglevel*} | **disk** {**enable | filename** *filename* **| priority** *loglevel* **| recycle** *size*} | **facility** *facility* **| host** {*hostname* | *ip_address*} [**port** *port_num* | **priority** *loglevel* | **rate-limit** *message_rate*]}

no logging {**console** {**enable | priority** *loglevel*} | **disk** {**enable | filename** *filename* **| priority** *loglevel* | **recycle** *size*} | **facility** *facility* **| host** {*hostname* | *ip_address*} [**port** *port_num* | **priority** *loglevel* | **rate-limit** *message_rate*]}

Syntax Description

console	Sets system logging to a console.
enable	Enables system logging to a console.
priority	Sets which priority level messages to send to a syslog file.
loglevel	
alert	Immediate action needed. Priority 1.
critical	Immediate action needed. Priority 2.
debug	Debugging messages. Priority 7.
emergency	System is unusable. Priority 0.
error	Error conditions. Priority 3.
information	Informational messages. Priority 6.
notice	Normal but significant conditions. Priority 5.
warning	Warning conditions. Priority 4.
disk	Sets system logging to a disk file.
enable	Enables system logging to a disk file.
filename	Sets the name of the syslog file.
filename	Specifies the name of the syslog file.
recycle	Overwrites the *syslog.txt* when it surpasses the recycle size.
size	Size of the syslog file in bytes (100000000 to 500000000).
facility	Sets the facility parameter for syslog messages.
facility	
auth	Authorization system.
daemon	System daemons.
kernel	Kernel.
local0	Local use.
local1	Local use.
local2	Local use.
local3	Local use.
local4	Local use.
local5	Local use.
local6	Local use.

local7	Local use.
mail	Mail system.
news	USENET news.
syslog	Syslog itself.
user	User process.
uucp	UUCP system.
host	Sets the system logging to a remote host.
hostname	Hostname of the remote syslog host. Specifies up to four remote syslog hosts. **Note** To specify more than one syslog host, use multiple command lines; specify one host per command.
ip_address	IP address of the remote syslog host. Specifies up to four remote syslog hosts. **Note** To specify more than one syslog host, use multiple command lines; specify one host per command.
port	(Optional) Specifies the port to be used when logging to a host.
port_num	Port to be used when logging to a host. The default port is 514.
priority	(Optional) Sets the priority level for messages when logging messages to a host. The default priority is warning.
loglevel	
alert	Immediate action needed. Priority 1.
critical	Immediate action needed. Priority 2.
debug	Debugging messages. Priority 7.
emergency	System is unusable. Priority 0.
error	Error conditions. Priority 3.
information	Informational messages. Priority 6.
notice	Normal but significant conditions. Priority 5.
warning	Warning conditions. Priority 4.
rate-limit	(Optional) Sets the rate limit (in messages per second) for sending messages to a host.
message_rate	Rate limit (in messages per second) for sending messages to the host. (0 to 10000). Setting the rate limit to 0 disables rate limiting.

Defaults

Logging: on

Priority of message for console: warning

Priority of message for log file: debug

Priority of message for a host: warning

Log file: /local1/syslog.txt

Log file recycle size: 10,000,000

Command Modes

Global configuration (config) mode.

Usage Guidelines

Use the **logging** command to set specific parameters of the system log file. System logging is always enabled internally on the SB. The system log file is located on the sysfs partition as /local1/syslog.txt. This file contains the output from many of the VDS-SB components running on the SB, such as authentication entries, privilege levels, administrative details, and diagnostic output during the boot process.

To view information about events that have occurred in all devices in your VDS-SB network, you can use the system message log feature. When a problem occurs in the VDS-SB network, use the system message logs to diagnose and correct such problems.

The syslog.txt file on the VDSM contains information about events that have occurred on the VDSM and not on the registered nodes. The messages written to the syslog.txt file depend on specific parameters of the system log file that you have set using the **logging** Global configuration command. For example, a critical error message logged on a registered node does not appear in the syslog.txt file on the VDSM because the problem never occurred on the VDSM but occurred only on the registered node. However, such an error message is displayed in the syslog.txt file on the registered node.

A disk failure syslog message is generated every time that a failed sector is accessed. Support for filtering multiple syslog messages for a single failed sector on an IDE disk was added. Support for filtering multiple syslog messages for a single failed section for SCSI disks and SATA disks exists.

To configure the SB to send varying levels of event messages to an external syslog host, use the **logging host** command. Logging can be configured to send various levels of messages to the console using the **logging console priority** command.

The **no logging disk recycle size** command sets the file size to the default value. Whenever the current log file size surpasses the recycle size, the log file is rotated. The log file cycles through at most five rotations, and they are saved as [*log file name*]. [*1-5*] under the same directory as the original log. The rotated log file is the one configured using the **logging disk filename** command.

Configuring System Logging to Remote Syslog Hosts

Users can log to only a single remote syslog host Use one of the following two commands to configure a single remote syslog host for an SB:

```
ServiceBroker(config)# logging host hostname
ServiceBroker(config)# logging priority priority
```

You can configure an SB to send varying levels of messages to up to four remote syslog hosts. To accommodate this, **logging host priority** *priority* Global configuration command (shown above) is deprecated, and the **logging host hostname** Global configuration command is extended as follows:

```
ServiceBroker(config)# [no] logging host hostname [priority priority-code | port port |
rate-limit limit]
```

where the following is true:

- *hostname* is the hostname or IP address of the remote syslog host. Specify up to four remote syslog hosts. To specify more than one syslog host, use multiple command lines; specify one host per command.
- *priority-code* is the severity level of the message that should be sent to the specified remote syslog host. The default priority code is *warning* (level 4). Each syslog host can receive a different level of event messages.

Note You can achieve syslog host redundancy by configuring multiple syslog hosts on the SB and assigning the same priority code to each configured syslog host (for example, assigning a priority code of *critical* level 2 to syslog host 1, syslog host 2, and syslog host 3).

- *port* is the destination port of the remote syslog host to which the SB is to send the messages. The default port is port 514.
- *rate-limit* specifies the number of messages that are allowed to be sent to the remote syslog host per second. To limit bandwidth and other resource consumption, messages to the remote syslog host can be rate limited. If this limit is exceeded, messages to the specified remote syslog host are dropped. There is no default rate limit, and by default all syslog messages are sent to all the configured syslog hosts. If the rate limit is exceeded, a message of the day (MOTD) is printed for any CLI EXEC shell login.

Mapping syslog Priority Levels to RealProxy Error Codes

The RealProxy system generates error messages and writes them to the RealProxy log file. These error messages are captured by the caching application and passed to the system log file. A one-to-one mapping exists between the RealProxy error codes and the syslog priority levels.

Examples

The following example shows that the SB is configured to send messages that have a priority code of "error" (level 3) to the console:

```
ServiceBroker(config)# logging console priority warnings
```

The following example shows that the SB is configured to disable sending of messages that have a priority code of "error" (level 3) to the console:

```
ServiceBroker(config)# no logging console warnings
```

The following example shows that the SB is configured to send messages that have a priority code of "error" (level 3) to the remote syslog host that has an IP address of 172.31.2.160:

```
ServiceBroker(config)#  logging host 172.31.2.160 priority error
```

Related Commands

Command	Description
clear logging	Removes all current entries from the syslog.txt file, but does not make an archive of the file.
debug	Monitors and records caching application functions.
show logging	Displays the system message log confirmation.

ls

To view a list of files or subdirectory names within a directory, use the **ls** command in EXEC configuration mode.

ls [*directory*]

Syntax Description

directory	(Optional) Name of the directory for which you want a list of files.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

To list the filenames and subdirectories within a particular directory, use the **ls** *directory* command; to list the filenames and subdirectories of the current working directory, use the **ls** command. To view the present working directory, use the **pwd** command.

Examples

The following example shows how to display a list of files within the current working directory:

```
ServiceBroker# ls
/local1
```

The following example shows how to display a list of files within the /local1 directory:

```
ServiceBroker# ls /local1
core_dir
crash
errorlog
logs
lost+found
service_logs
smartfilter
syslog.txt
```

Related Commands

Command	Description
dir	Displays a detailed list of files contained within the working directory, including names, sizes, and time created.
lls	Provides detailed information about files and subdirectories stored in the present working directory, including size, date, time of creation, sysfs name, and long name of the file.
pwd	Displays the present working directory of the SB.

mkdir

To create a directory, use the **mkdir** command in EXEC configuration mode.

mkdir *directory*

Syntax Description

directory	Name of the directory to create.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to create a new directory or subdirectory in the SB file system.

Examples

The following example shows how to create a new directory under local1:

```
ServiceBroker# mkdir /local1/mydir
```

Related Commands

Command	Description
dir	Displays a detailed list of files contained within the working directory, including names, sizes, and time created.
lls	Provides detailed information about files and subdirectories stored in the present working directory, including size, date, time of creation, sysfs name, and long name of the file.
ls	Lists the files or subdirectory names within a directory.
pwd	Displays the present working directory of the SB.
rmdir	Removes a directory from the SB file system.

mkfile

To create a new file, use the **mkfile** command in EXEC configuration mode.

mkfile *filename*

Syntax Description

filename	Name of the file that you want to create.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to create a new file in any directory of the SB.

Examples

The following example shows how to create a new file:

```
ServiceBroker# mkfile traceinfo
```

Related Commands

Command	Description
lls	Provides detailed information about files and subdirectories stored in the present working directory, including size, date, time of creation, sysfs name, and long name of the file.
ls	Lists the files or subdirectory names within a directory.
mkdir	Creates a new directory or subdirectory in the SB file system.

model

To change the CDE250 platform model number after a remanufacturing or rescue process, use the **model** command in EXEC configuration mode.

model {**cde250-2S10** | **cde250-2S6** | **cde250-2S8** | **cde250-2S9**}

Syntax Description

cde250-2S10	Configures this platform as CDE250-2S10.
cde250-2S6	Configures this platform as CDE250-2S6.
cde250-2S8	Configures this platform as CDE250-2S8.
cde250-2S9	Configures this platform as CDE250-2S9.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use the **model** command to change the CDE250 model type. Table 0-1 shows the internal and external drives for the CDE250 models.

Table 0-1 CDE250 Model Drives

CDE250 Variation	Internal Drives	External Drives
2S6	Intel 100GB LV SSD	Intel 300GB PVR SSD x 24
2S8	Intel 100GB LV SSD	Intel 300GB PVR SSD x 24
2S9	Intel 100GB LV SSD	Intel 300GB PVR SSD x 12
2S10	Intel 100GB LV SSD	Intel 300GB PVR SSD x 24

Examples

The following example shows how to change the CDE250 to model 2S9:

```
ServiceBroker# model CDE250-2S6

This platform is already a CDE250-2S6.

ServiceBroker#
```

mount-option

To configure the mount option profile for remote storage, use the **mount-option** command in Global configuration mode. To delete the configuration, use the **no** form of this command.

mount-option config-url *url* [**username** *username* **password** *password*]

no mount-option config-url *url* [**username** *username* **password** *password*]

Syntax Description

config-url	Specifies the URL for the mount option configuration file.
url	URL format [ftp|http]://domain/path/config.xml.
username	Configures the username to access the configuration file.
username	Username.
password	Configures the password to access the configuration file.
password	Password.

Command Default

None

Command Modes

Global configuration (config) mode.

Examples

The following example shows how configure the mount option:

```
ServiceBroker(config)# mount-option config-url ftp://domain/path/config.xml
```

Related Commands

Command	Description
show mount-option	Displays the mount options.

mpstat

To display processor-related statistics, use the **mpstat** command in EXEC configuration mode.

mpstat *line*

Syntax Description

line	mpstat options, -h to get help.

Command Default

None

Command Modes

EXEC configuration mode.

Examples

The following example shows how to display the mpstat list of options:

```
ServiceBroker# mpstat -h
Linux 2.6.32.52-cds-64 (W14-UCS220-3)   10/17/12        _x86_64_        (8 CPU)

01:50:50     CPU    %usr   %nice    %sys %iowait    %irq   %soft  %steal  %guest   %idle
01:50:50     all    0.01    0.11    0.12    0.02    0.00    0.00    0.00    0.00   99.74

ServiceBroker#
```

netmon

To display the transmit and receive activity on an interface, use the **netmon** command in EXEC configuration mode.

netmon *line*

Syntax Description

line	netmon options, -h to get help.

Command Default

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The netmon utility displays the transmit and receive activity on each interface in megabits per second (Mbps), bytes per second (Bps), and packets per second (pps).

Examples

The following example shows how to display the netmon list of options:

```
ServiceBroker# netmon -h
Usage: netmon [<loop-time-in-seconds>] [<iterations>]
       (runs forever if iterations not specified)
```

Related Commands

Command	Description
gulp	Captures lossless gigabit packets and writes them to disk.
netstatr	Displays the rate of change of netstat statistics.
ss	Dumps socket statistics.
tcpmon	Searches all TCP connections.

netstatr

To display the rate of change of netstat statistics, use the **netstatr** command in EXEC configuration mode.

netstatr *line*

Syntax Description

line	netmon options, -h to get help.

Command Default

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The **netstatr** utility displays the rate of change, per second, of netstat statistics for a given period of time. The average rate per second is displayed, regardless of the sample period. To view the list of options, enter **netstatr -h**.

Examples

The following example shows how to display the netstart list of options:

```
ServiceBroker# netstatr -h
Usage: netstatr [-v] [<loop-time-in-seconds>] [<iterations>]
       -v verbose mode
       (default is 3 sec loop time, run forever)
```

Related Commands

Command	Description
gulp	Captures lossless gigabit packets and writes them to disk.
netmon	Displays the transmit and receive activity on an interface.
ss	Dumps socket statistics.
tcpmon	Searches all TCP connections.

no (Global configuration)

To undo a command in Global configuration mode or set its defaults, use the **no** form of a command in Global configuration mode.

no *command*

Note The commands you can use with a VDS-SB device (including the **no** form of each command) vary based on whether the device is configured as a VDSM, or SB. See Table 2-1 to identify the commands available for a specific device.

Syntax Description

command	Specifies the command type; see the Usage Guidelines section for valid values.

Defaults

None

Command Modes

Global configuration (config) mode.

Usage Guidelines

Valid values for *command* are as follows:

aaa	Configures accounting, authentication and authorization methods.
alarm	Configures the alarms
asset	Configures the asset tag name string.
banner	Defines a login banner.
clock	Configures the time-of-day clock.
cms	Configures the CMS[1].
device	Configures the device mode.
direct-server-return	Configure direct-server-return.
disk	Configures disk-related settings.
enable	Modify enable password parameters.
exec-timeout	Configures the EXEC timeout.
expert-mode	Configures debugshell.
external-ip	Configures up to eight external (NAT) IP addresses.
ftp	Configures FTP caching-related parameters.
geo-location-server	Configure geo location server ip address and port.
geo-location-service	Configure geo location service parameters.
hostname	Configures the system's network name.
interface	Configures a Gigabit Ethernet interface.
ip	Configures IP parameters.

ipv6	IPv6 Configuration commands.
kernel	Enables access to the kernel debugger.
line	Specifies terminal line settings.
logging	Configures the syslog[2].
ntp	Configures the NTP[3].
port-channel	Configures port channel global options.
primary-interface	Configures a primary interface.
radius-server	Configures RADIUS server authentication.
service-broker	Configures Service Broker-related parameters.
service-monitor	Configure Service Monitor related parameters.
snmp-server	Configures the SNMP server.
ssh-key-generate	Generates the SSH[4] host key.
sshd	Configures the SSH service.
tacacs	Configures Tacacs+ authentication.
tcp	Configures global TCP parameters.
telnet	Configures Telnet services.
transaction-logs	Configures the transaction logging.
url-signature	Configures an encryption key to use when signing a URL.
username	Establishes username authentication.
VDSM	Configures the VDSM settings.

1. CMS = Centralized Management System
2. syslog = system logging
3. NTP = Network Time Protocol
4. SSH = Secure Shell

Use the **no** command to disable functions or negate a command. If you need to negate a specific command, such as the default gateway IP address, you must include the specific string in your command, such as **no ip default-gateway** *ip-address*.

no (Interface configuration)

To negate an interface configuration mode, use the **no** command in interface configuration mode.

no {**autosense** | **bandwidth** {**10-10** | **100-100** | **1000-1000** | **10000-10000**} | **description** | **full-duplex** | **half-duplex** | **ip** {**access-group** {*num* {**in** | **out**} | **name** {**in** | **out**} | **address** *ip-addr*} | **ipv6** {**access-group** {*num* {**in** | **out**} | **name** {**in** | **out**} | **address** *ip-addr*} | **lacp** | **mtu** | **shutdown** | **standby** *group-num* [**priority** *interface*]}

Syntax Description

autosense	Negates an autosense interface.
bandwidth	Negates a bandwidth interface.
10-10	Specifies 10 Mb per second bandwidth.
100-100	Specifies 100 Mb per second bandwidth.
1000-1000	Specifies 1000 Mb per second bandwidth. **Note** Not available on all ports.
10000-10000	Specifies 10000 Mb per second bandwidth. **Note** Not available on all ports.
description	Negates a description-specific interface.
full-duplex	Negates a full-duplex interface.
half-duplex	Negates a half-duplex interface.
ip	Negates Internet Protocol configuration commands.
access-group	Specifies access control for packets.
num	IP access list number (standard or extended).
in	Inbound packets.
out	Outbound packets.
name	Access list name.
address	Sets the IP address of the interface.
ip-addr	Interface IP address.
netmask	Interface netmask.
range	Sets the IP address range.
low-num	IP address low range of the interface.
high-num	IP address high range of the interface.
lacp	Negates the Link Aggregation Control Protocol.
mtu	Sets the interface Maximum Transmission Unit.
size	MTU size in bytes.
shutdown	Shuts down the specific portchannel interface.
standby	Negates the standby interface configuration commands.
group-num	Specifies the standby group number.
priority	Sets the priority of the interface for the standby group.
interface	Interface priority.

Defaults

Priority: 100.

Command Modes

Interface configuration (config-if) mode.

Related Commands

Command	Description
interface	Configures a Gigabit Ethernet or port channel interface.
show interface	Displays the hardware interface information.
show running-config	Displays the current running configuration information on the terminal.
show startup-config	Displays the startup configuration.

ntp

To configure the Network Time Protocol (NTP) server and to allow the system clock to be synchronized by a time server, use the **ntp** command in Global configuration mode. To disable this function, use the **no** form of this command.

ntp server {*ip_address* | *hostname*} [*ip_addresses* | *hostnames*]

no ntp server {*ip_address* | *hostname*} [*ip_addresses* | *hostnames*]

Syntax Description

server	Sets the NTP server IP address.
ip_address	NTP server IP address.
hostname	NTP server hostname.
ip_addresses	(Optional) IP address of the time server providing the clock synchronization (maximum of four).
hostnames	(Optional) Hostname of the time server providing the clock synchronization (maximum of four).

Defaults

None

Command Modes

Global configuration (config) mode.

Usage Guidelines

Use this command to synchronize the SB or VDSM clock with the specified NTP server. The **ntp server** command enables NTP servers for timekeeping purposes and is the only way to synchronize the system clock with a time server.

When you synchronize the VDSM clock with an NTP server, there is a possibility of all devices registered with the VDSM being shown as offline and then reverted to online status. This situation can occur when synchronization with the NTP server sets the VDSM clock forward in time by an interval greater than at least two polling intervals or when the software clock on the VDSM is changed by a similar value using the **clock** command in EXEC configuration mode. The VDSM determines the status of devices in the VDS-SB network depending on when it was last contacted by the devices for a getUpdate request. If you set the VDSM clock ahead in time, you have added that amount of time to the period since the VDSM received the last getUpdate request. However, it is only a transient effect. Once the devices contact the VDSM for their next getUpdate request after the clock setting change, the VDSM GUI reports the status of all devices correctly.

Examples

The following example shows how to configure the IP address of the time server providing the clock synchronization:

```
ServiceBroker(config)# ntp 172.16.22.44
```

The following example shows how to reset the time server providing the clock synchronization:

```
ServiceBroker(config)# no ntp 172.16.22.44
```

Related Commands

Command	Description
clock	Sets or clears clock functions or updates the calendar.
show clock	Displays the system clock.
show ntp	Displays the Network Time Protocol parameters.

ntpdate

To set the software clock (time and date) using a Network Time Protocol (NTP) server, use the **ntpdate** command in EXEC configuration mode.

ntpdate {*hostname* | *ip_address*}

Syntax Description

hostname	NTP hostname.
ip_address	NTP server IP address.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use NTP to find the current time of day and set the SB current time to match. The **ntpdate** command synchronizes the software clock with the hardware clock.

Examples

The following example shows how to set the software clock of the SB using an NTP server:

```
ServiceBroker# ntpdate 10.11.23.40
```

Related Commands

Command	Description
clock set	Sets the time and date.
show clock	Displays the system clock.

ping

To send echo packets for diagnosing basic network connectivity on networks, use the **ping** command in EXEC configuration mode.

ping {*hostname* | *ip_address*}

Syntax Description

hostname	Hostname of system to ping.
ip_address	IP address of system to ping.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

To use this command with the *hostname* argument, be sure that DNS functionality is configured on your SB. To force the timeout of a nonresponsive host or to eliminate a loop cycle, press **Ctrl-C**.

Following are sample results of the **ping** command:

- Normal response—The normal response occurs in 1 to 10 seconds, depending on network traffic.
- Destination does not respond—If the host does not respond, a `no answer from host` message appears in 10 seconds.
- Destination unreachable—The gateway for this destination indicates that the destination is unreachable.
- Network or host unreachable—The SB found no corresponding entry in the route table.

Examples

The following example shows how to test the basic network connectivity with a host:

```
ServiceBroker# ping 172.19.131.189
PING 172.19.131.189 (172.19.131.189) from 10.1.1.21 : 56(84) bytes of
data.
64 bytes from 172.19.131.189: icmp_seq=0 ttl=249 time=613 usec
64 bytes from 172.19.131.189: icmp_seq=1 ttl=249 time=485 usec
64 bytes from 172.19.131.189: icmp_seq=2 ttl=249 time=494 usec
64 bytes from 172.19.131.189: icmp_seq=3 ttl=249 time=510 usec
64 bytes from 172.19.131.189: icmp_seq=4 ttl=249 time=493 usec

--- 172.19.131.189 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max/mdev = 0.485/0.519/0.613/0.047 ms
ServiceBroker#
```

port-channel

To configure the port channel load balancing, use the **port-channel** command in Global configuration mode. To disable load balancing, use the **no** form of this command.

port-channel load-balance {**dst-ip** | **dst-mac** | **dst-mixed-ip-port** | **dst-port** | **round-robin** | **src-dst-mac** | **src-dst-mixed-ip-port** | **src-dst-port** | **src-mixed-ip-port** | **src-port**}

no port-channel load-balance

Syntax Description

load-balance	Configures the load balancing method.
dst-ip	Specifies the load balancing method using destination IP addresses.
dst-mac	Specifies the load balancing method using destination MAC addresses.
dst-mixed-ip-port	Specifies the destination IP Addr and Layer 4 port.
dst-port	Specifies the load balancing method using destination Layer 4 port.
round-robin	Specifies the load balancing method using round-robin sequential, cyclical resource allocation (each interface in the channel group).
src-dst-mac	Specifies the load balancing method using source and destination MAC address.
src-dst-mixed-ip-port	Specifies the source and destination IP Addr and Layer 4 port.
src-dst-port	Specifies the load balancing method using source and destination port.
src-mixed-ip-port	Specifies the source and destination IP Addr and Layer 4 port.
src-port	Specifies the load balancing method using source Layer 4 port.

Defaults

Round-robin is the default load balancing method.

Command Modes

Global configuration (config) mode.

Usage Guidelines

The **port-channel load-balance** command configures one of three load balancing algorithms and provides flexibility in choosing interfaces when an Ethernet frame is sent. The **round-robin** keyword allows evenly balanced usage of identical network interfaces in a channel group. Because this command takes effect globally, if two channel groups are configured, they must use the same load balancing.

The other balancing options give you the flexibility to choose specific interfaces (by IP address, MAC address, port) when sending an Ethernet frame. The source and destination options, while calculating the outgoing interface, take into account both the source and destination (MAC address or port).

Because the VDS-SB software normally starts IP packets or Ethernet frames, it does not support hashing based on the source IP address and source MAC address. The **round-robin** keyword is the default load balancing algorithm to evenly distribute traffic among several identical network interfaces.

To remove a port channel, use the **no port-channel interface PortChannel** command.

Note Ingress traffic from NAS mounts is not distributed evenly over port channels. Separate interfaces can be used for NAS outside of the port-channel configuration to achieve better load balancing. Ingress traffic to the VDS-SB is determined by the switch, this applies to all application traffic over port channels.

Note For load balancing, the round robin method alone is not supported with LACP.

Examples

The following example shows how to configure the round-robin load balancing method on an SB:

```
ServiceBroker(config)# port-channel load-balance round-robin
```

Related Commands

Command	Description
interface	Configures a Gigabit Ethernet or port-channel interface

primary-interface

To configure the primary interface for the VDS-SB network, use the **primary-interface** command in Global configuration mode. Use the **no** form of the command to remove the configured primary interface.

primary-interface {**GigabitEthernet** *1-2/port* | **PortChannel** *1-2* | **Standby** *group_num*}

no primary-interface {**GigabitEthernet** *1-2/port* | **PortChannel** *1-2* | **Standby** *group_num*}

Syntax Description

GigabitEthernet	Selects a Gigabit Ethernet interface as the VDS-SB network primary interface.
1-2/	Gigabit Ethernet slot numbers 1 or 2.
port	Port number of the Gigabit Ethernet interface.
PortChannel	Selects a port channel interface as the VDS-SB network primary interface.
1-2	Port channel number 1 or 2.
Standby	Selects a standby group as the VDS-SB network primary interface.
group_num	Standby group number.

Defaults

The default primary interface is the first operational interface on which a link beat is detected. Interfaces with lower-number IDs are polled first (for example, GigabitEthernet 0/0 is checked before 1/0). Primary interface configuration is required for the proper functioning of the Centralized Management System (CMS). After devices are registered to the VDSM, the VDSM uses the configured primary interface to communicated with the registered devices.

You cannot enable the VDS-SB network without specifying the primary interface. Also, you must have chosen the primary interface before you enable the CMS. The primary interface can be changed without disabling the VDS-SB network. The primary interface specifies the default route for an interface. To change the primary interface, choose a different interface as the primary interface.

Note Whenever the IP address of the primary interface is changed, the DNS server must be restarted.

You can select a standby interface as the primary interface (you can enter the **primary-interface Standby** *group_num* command) to specify a standby group as the primary interface on an SB.

Command Modes

Global configuration (config) mode.

Usage Guidelines

The **primary-interface** command in Global configuration mode allows the administrator to specify the primary interface for the VDS-SB network.

The primary interface can be changed without disabling the VDS-SB network. To change the primary interface, re-enter the command string and specify a different interface.

Note If you use the **restore factory-default preserve basic-config** command, the configuration for the primary interface is not preserved. On a device in a VDS-SB network, if you want to re-enable the VDS-SB network after using the **restore factory-default preserve basic-config** command**,** make sure to reconfigure the primary interface after the factory defaults are restored.

Examples

The following example shows how to specify the Gigabit Ethernet slot 1 port 0 as the primary interface on an SB:

```
ServiceBroker(config)# primary-interface GigabitEthernet 1/0
```

The following example shows how to specify the Gigabit Ethernet slot 2 port 0 as the primary interface on an SB:

```
ServiceBroker(config)# primary-interface GigabitEthernet 2/0
```

pwd

To view the present working directory, use the **pwd** command in EXEC configuration mode.

pwd

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to display the present working directory of the SB.

Examples

The following example shows how to view the present working directory:

```
ServiceBroker# pwd
/local1
```

Related Commands

Command	Description
cd	Changes from one directory to another directory.
dir	Displays a detailed list of files contained within the working directory, including names, sizes, and time created.
lls	Provides detailed information about files and subdirectories stored in the present working directory, including size, date, time of creation, sysfs name, and long name of the file.
ls	Lists the files or subdirectory names within a directory.

radius-server

To configure RADIUS authentication parameters, use the r**adius-server** command in Global configuration mode. To disable RADIUS authentication parameters, use the **no** form of this command.

radius-server {**enable | host** {*hostname* | *host_ipaddr*} [**auth-port** *port*] | **key** *keyword* | **redirect** {**enable | message** *reply* **location** *url*} | **retransmit** *retries* | **timeout** *seconds*}

no radius-server {**enable | host** {*hostname* | *host_ipaddr*} | **key | redirect** {**enable | message** *reply* **location** *url*} | **retransmit | timeout**}

Syntax Description

enable	Enables HTTP RADIUS authentication.
host	Specifies a RADIUS server.
hostname	Hostname of the RADIUS server.
host_ipaddr	IP address of the RADIUS server.
auth-port	(Optional) Sets the UDP port for the RADIUS Authentication Server.
port	UDP port number (from 1 to 65535). The default is 1645.
key	Specifies the encryption key shared with the RADIUS server.
keyword	Text of the shared key (maximum of 15 characters).
redirect	Redirects the response if an authentication request fails.
enable	Enables the redirect feature.
message	Replies with an authentication failure message.
reply	Reply message text string (maximum of 24 characters).
location	Sets the HTML page location, for example, http://www.cisco.com.
url	URL destination of authentication failure instructions.
retransmit	Specifies the number of transmission attempts to an active server.
retries	Number of transmission attempts for a transaction (from 1 to 3).
timeout	Time to wait for a RADIUS server to reply.
seconds	Wait time in seconds (from 1 to 20).

Defaults

auth-port *port*: UDP port 1645

retransmit *retries*: 2

timeout *seconds*: 5

Command Modes

Global configuration (config) mode.

Usage Guidelines

RADIUS is a client/server authentication and authorization access protocol used by an VDS-SB network device to authenticate users attempting to connect to a network device. The VDS-SB network device functions as a client, passing user information to one or more RADIUS servers. The VDS-SB network

device permits or denies network access to a user based on the response that it receives from one or more RADIUS servers. RADIUS uses the User Datagram Protocol (UDP) for transport between the RADIUS client and server.

You can configure a RADIUS key on the client and server. If you configure a key on the client, it must be the same as the one configured on the RADIUS servers. The RADIUS clients and servers use the key to encrypt all RADIUS packets sent. If you do not configure a RADIUS key, packets are not encrypted. The key itself is never sent over the network.

Note For more information about how the RADIUS protocol operates, see RFC 2138, *Remote Authentication Dial In User Service (RADIUS)*.

RADIUS authentication usually occurs in these instances:

- Administrative login authentication—When an administrator first logs in to the SB to configure the SB for monitoring, configuration, or troubleshooting purposes. For more information, see the "Enabling and Disabling Administrative Login Authentication Through RADIUS" section on page 2-160.
- HTTP request authentication—When an end user sends a service request that requires privileged access to content that is served by the SB. For more information, see the "Configuring RADIUS Authentication of HTTP Requests" section on page 2-161.

RADIUS authentication is disabled by default. You can enable RADIUS authentication and other authentication methods at the same time. You can also specify which method to use first.

To configure RADIUS parameters, use the **radius-server** command in Global configuration mode. To disable RADIUS authentication parameters, use the **no** form of this command.

The **redirect** keyword of the **radius-server** command redirects an authentication response to a different Authentication Server if an authentication request using the RADIUS server fails.

Note The following **rule** command is relevant to RADIUS authentication only if the **redirect** keyword has been configured.

To exclude domains from RADIUS authentication, use the **rule no-auth domain** command. RADIUS authentication takes place only if the site requested does not match the specified pattern.

Enabling and Disabling Administrative Login Authentication Through RADIUS

When configuring an SB to use RADIUS to authenticate and authorize administrative login requests, follow these guidelines:

- By default, RADIUS authentication and authorization is disabled on an SB.
- Before enabling RADIUS authentication on the SB, you must specify at least one RADIUS server for the SB to use.
- You can enable RADIUS authentication and other authentication methods at the same time. You can specify which method to use first using the **primary** keyword. When local authentication is disabled, if you disable all other authentication methods, local authentication is re-enabled automatically.
- You can use the VDSM GUI or the CLI to enable RADIUS authentication on an SB.

Tip From the VDSM GUI, choose **Devices > General Settings > Authentication**. Use the displayed Authentication Configuration window.

To use the SB CLI to enable RADIUS authentication on an SB, enable RADIUS authentication for normal login mode by entering the **authentication login radius** command in Global configuration mode as follows:

```
ServiceBroker(config)# authentication login radius enable [primary] [secondary]
```

Use the **authentication configuration radius** command in Global configuration mode to enable RADIUS authorization as follows:

```
ServiceBroker(config)# authentication configuration radius enable [primary] [secondary]
```

Note To disable RADIUS authentication and authorization on an SB, use the **no radius-server enable** command.

Configuring RADIUS Authentication of HTTP Requests

To configure RADIUS authentication for HTTP requests on an SB, configure the RADIUS server settings on the SB and enable RADIUS authentication for HTTP requests on the SB using the **radius-server** command in Global configuration mode.

Examples

The following example shows how to enable the RADIUS client, specify a RADIUS server, specify the RADIUS key, accept retransmit defaults, and excludes the domain name, mydomain.net, from RADIUS authentication. You can verify the configuration with the **show radius-server** and **show rule all** commands.

```
ServiceBroker(config)# radius-server enable
ServiceBroker(config)# radius-server host 172.16.90.121
ServiceBroker(config)# radius-server key myradiuskey
ServiceBroker(config)# rule action no-auth pattern-list 2
ServiceBroker(config)# rule pattern-list 2 domain mydomain.net


ServiceBroker# show radius-server
Login Authentication for Console/Telnet/Ftp/SSH Session: enabled
Configuration Authentication for Console/Telnet/Ftp/SSH Session: enabled (secondary)

Radius Configuration:
---------------------
Radius Authentication is on
Timeout = 5
Retransmit = 2
Key = ****
Radius Redirect is off
There is no URL to authentication failure instructions
Servers
-------
IP 172.16.90.121 Port = 1645

ServiceBroker# show rule all
Rules Template Configuration
----------------------------
Rule Processing Enabled
rule no-auth domain mydomain.net
```

The following example disables RADIUS authentication on the SB:

```
ServiceBroker(config)# no radius-server enable
```

The following example shows how to force the SB to try RADIUS authentication first:

```
ServiceBroker(config)# authentication login radius enable primary
```

Related Commands

Command	Description
debug authentication user	Debugs the user login against the system authentication.
rule	Sets the rules by which the SB filters HTTP, HTTPS, and RTSP traffic.
show radius-server	Displays RADIUS information.

reload

To halt and perform a cold restart on the SB, use the **reload** command in EXEC configuration mode.

reload [**force**]

Syntax Description

force	(Optional) Forces a reboot without further prompting.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

To reboot the SB, use the **reload** command. If the current running configuration is different from the startup configuration and if the configuration changes are not saved to flash memory, you are prompted to save the current running configuration parameters to the startup configuration.

To save any file system contents to disk from memory before a restart, use the **cache synchronize** command.

Examples

The following example shows how to reload the SB after you have saved the configuration changes.

```
ServiceBroker# reload
System configuration has been modified. Save? [ yes ] :yes
Proceed with reload? [ confirm ] yes
Shutting down all services, will timeout in 15 minutes.
reload in progress .....
```

The following example forces a reboot on the SB:

```
ServiceBroker# reload force
```

Related Commands

Command	Description
cache synchronize	Saves any file system contents to disk from memory before a restart.
write	Saves startup configurations.
write erase	Erases the startup configuration from NVRAM.

rename

To rename a file on the SB, use the **rename** command in EXEC configuration mode.

rename *old_filename new_filename*

Syntax Description

old_filename	Original filename.
new_filename	New filename.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to rename any sysfs file without making a copy of the file.

Examples

The following example renames a file named errlog.txt as old_errlog.txt:

```
ServiceBroker# rename errlog.txt old_errlog.txt
```

Related Commands

Command	Description
cpfile	Creates a copy of a file.

restore

To restore the device to its manufactured default status, removing the user data from the disk and flash memory, use the **restore** command in EXEC configuration mode. This command erases all existing content on the device.

restore factory-default [**preserve basic-config**]

Syntax Description

factory-default	Resets the device configuration and data to their manufactured default status.
preserve	(Optional) Preserves certain configurations and data on the device.
basic-config	(Optional) Selects basic network configurations.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to restore data on disk and in flash memory to the factory default, while preserving particular time stamp evaluation data. You need to enter this command from the root directory, or else the following error message is displayed:

```
ServiceBroker# restore factory-default

Need to cd to / before issuing this command

Command aborted.
ServiceBroker#
```

Be sure to back up the VDSM database and copy the backup file to a safe location that is separate from that of the VDSM, or change over from the primary to a standby VDSM before you use the **restore factory-default** command on your primary VDSM. The primary VDSM operation must be halted before proceeding with **backup** and **restore** commands.

Caution This command erases user-specified configuration information stored in the flash image and removes the data on the disk, the user-defined disk partitions, and the entire VDSM database. User-defined disk partitions that are removed include the sysfs and cdnfs partitions. The configuration being removed includes the starting configuration of the device.

By removing the VDSM database, all configuration records for the entire VDS-SB network are deleted. If you do not have a valid backup file or a standby VDSM, you must use the **cms deregister force** command and reregister every SB after you have reconfigured the VDSM, because all previously configured data is lost.

If you used your standby VDSM to store the database while you reconfigured the primary, you can simply register the former primary as a new standby VDSM.

If you created a backup file while you configured the primary VDSM, you can copy the backup file to this newly reconfigured VDSM and use the **cms database restore** command.

Caution If you upgraded your software after you received your software recovery CD-ROM, using the CD-ROM software images may downgrade your system.

Cisco VDS Service Broker software consists of three basic components:

- Disk-based software
- Flash-based software
- Hardware platform cookie (stored in flash memory)

All these components must be correctly installed for Cisco VDS Service Broker software to work properly.

Examples

The following two examples show the results of using the **restore factory-default** and **restore factory-default preserve basic-config** commands. Because configuration parameters and data are lost, prompts are given before initiating the restore operation to ensure that you want to proceed.

Note If you use the **restore factory-default preserve basic-config** command, the configuration for the primary interface is not preserved. If you want to re-enable the VDS-SB network after using the **restore factory-default preserve basic-config** command, reconfigure the primary interface after the factory defaults have been restored.

```
VDSM# restore factory-default
This command will wipe out all of data on the disks
and wipe out VDS-SB CLI configurations you have ever made.
If the box is in evaluation period of certain product,
the evaluation process will not be affected though.

It is highly recommended that you stop all active services
before this command is run.

Are you sure you want to go ahead? [ yes/no ]

VDSM# restore factory-default preserve basic-config
This command will wipe out all of data on the disks
and all of VDS-SB CLI configurations except basic network
configurations for keeping the device online.
The to-be-preserved configurations are network interfaces,
default gateway, domain name, name server and hostname.
If the box is in evaluation period of certain product,
the evaluation process will not be affected.
It is highly recommended that you stop all active services
before this command is run.

Are you sure you want to go ahead? [ yes/no ]
```

Note You can enter basic configuration parameters (such as the IP address, hostname, and name server) at this point or later through entries in the command-line interface.

The following example shows that entering the **show disks** command after the **restore** command verifies that the **restore** command has removed data from the partitioned file systems (sysfs and cdnfs):

```
ServiceBroker# show disks

SYSFS         0.0GB         0.0%
CDNFS        0.0GB         0.0%
FREE         29.9GB       100.0%
```

Because flash memory configurations were removed after the **restore** command was used, the **show startup-config** command does not return any flash memory data. The **show running-config** command returns the default running configurations.

The **show wmt** command continues to display the same license evaluation periods as before the **restore factory-default** command was invoked, because the evaluation period is not affected by this **restore** command. For example, if there were 21 days remaining in the evaluation period before the **restore factory-default** command was used, there would continue to be 21 days remaining in the evaluation period.

Related Commands

Command	Description
cms database backup	Backs up the existing management database for the VDSM.
cms database restore	Restores the database management tables using the backup local filename.
show disks	Displays the names of the disks currently attached to the SB.
show running-config	Displays the current running configuration information on the terminal.
show startup-config	Displays the startup configuration.
show wmt	Displays WMT bandwidth and proxy mode configuration.

rmdir

To delete a directory, use the **rmdir** command in EXEC configuration mode.

rmdir *directory*

Syntax Description

directory	Name of the directory that you want to delete.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to remove any directory from the SB file system. The **rmdir** command removes only empty directories.

Examples

The following example shows how to remove the oldfiles directory under /local1:

```
ServiceBroker# rmdir /local1/oldfiles
```

Related Commands

Command	Description
lls	Provides detailed information about files and subdirectories stored in the present working directory, including size, date, time of creation, sysfs name, and long name of the file.
ls	Lists the files or subdirectory names within a directory.
mkdir	Creates a new directory or subdirectory in the SB file system.

script

To execute a script provided by Cisco or check the script for errors, use the **script** command in EXEC configuration mode.

script {**check** | **execute**} *file_name*

Syntax Description

check	Checks the validity of the script.
execute	Executes the script. The script file must be a sysfs file in the current directory.
file_name	Name of the script file.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The **script** command in EXEC configuration mode opens the script utility, which allows you to execute scripts supplied by Cisco or check errors in those scripts. The script utility can read standard terminal input from the user if the script you run requires inputs from the user.

Note The script utility is designed to run only in scripts supplied by Cisco. You cannot execute script files that lack Cisco signatures or that have been corrupted or modified.

Examples

The following example shows how to check for errors in the script file foo.script:

```
ServiceBroker# script check foo.script

 Script file foo.script is valid.
```

service

To specify the type of service, use the **service** command in EXEC configuration mode.

On the VDSM:

service cms restart

On the SB:

service {**service-broker** | **cms** | **service-monitor**}

Syntax Description

cms	Specifies CMS services.
service-broker	Specifies Service Broker services.
service-monitor	Specifies Service Monitor services.

Defaults

None

Command Modes

EXEC configuration mode.

Examples

The following example shows how to restart service-broker service:

```
ServiceBroker# service service-broker restart
The service service broker has been restarted successfully!
ServiceBroker#
```

setup

To configure basic configuration settings (general settings, device network settings, and disk configuration) on the SB and a set of commonly used caching services, use the **setup** command in EXEC configuration mode. You can also use the **setup** command in EXEC configuration mode to complete basic configuration after upgrading.

setup

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Examples

The following example shows the part of the output when you enter the **setup** command in EXEC configuration mode on an SB running the VDS-SB software:

```
ServiceBroker# setup

Here is the current profile of this device

CDN device                    : Yes

Do you want to change this (y/n) [ n ] :


Press the ESC key at any time to quit this session
```

show aaa

To display the accounting, authentication, and authorization configuration, use the show aaa command in EXEC configuration mode.

show aaa [commands [accounting | authorization] | enable [authentication] | exec [accounting | authorization] | login [authentication] | system [accounting | authorization]]

Syntax Description

commands	Configures exec (shell) commands.
accounting	(Optional) Displays the Accounting configuration.
authorization	(Optional) Displays the Authorization configuration.
enable	Configures enable.
authentication	(Optional) Displays Authentication configuration.
exec	Configures starting an exec (shell).
login	Configures the user's login to the system.
system	Configures system events.

Command Default

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-2 describes the fields shown in the **show aaa commands** command display.

Table 3-2 show aaa commands Field Descriptions

Field	Description
Configuration commands Authorization	Authorization through Tacacs+ for configuration mode commands is enabled or disabled.
Commands on console Line Authorization	Authorization through TACACS+ for all commands issued from console line is enabled or disabled.
Exec commands Authorization: Normal Users	
Exec commands Authorization: Super Users	
Tacacs+	Authorization through Tacacs+ for exec (shell) commands issued by normal users is enabled or disabled.

Table 3-2 show aaa commands Field Descriptions (continued)

Field	Description
Exec Commands Accounting: Normal Users	
Tacacs+	Authorization through Tacacs+ for exec (shell) commands issued by super users is enabled or disabled.
Exec Commands Accounting: Super Users	
Tacacs+	Accounting through Tacacs+ for exec (shell) commands issued by normal users is enabled or disabled.

Table 3-3 describes the fields shown in the **show aaa enable** command display.

Table 3-3 show aaa enable Field Descriptions

Field	Description
Enable Authentication: All Users	
Enable	Authentication through local configured Enable password for enable is enabled or disabled.
Radius	Authentication through Radius for enable is enabled or disabled.
Tacacs+	Authentication through Tacacs+ for enable is enabled or disabled.

Table 3-4 describes the fields shown in the **show aaa exec** command display.

Table 3-4 show aaa exec Field Descriptions

Field	Description
Starting exec Authorization:	
Local	Authorization through local for starting exec is enabled or disabled.
Radius	Authorization through Radius for starting exec is enabled or disabled.
Tacacs+	Authorization through Tacacs+ for starting exec is enabled or disabled.
Exec events Accounting	
Tacacs+	Accounting through Tacacs+ for exec event is enabled or disabled.

Table 3-5 describes the fields shown in the **show aaa login** command display.

Table 3-5 show aaa login Field Descriptions

Field	Description
Login Authentication	
Local	Authentication through local configured user password for login is enabled or disabled.
Radius	Authentication through Radius for login is enabled or disabled.
Tacacs+	Authentication through Tacacs+ for login is enabled or disabled.

Table 3-6 describes the fields shown in the **show aaa system** command display.

Table 3-6 show aaa system Field Descriptions

Field	Description
System events Accounting	
Tacacs+	Accounting through Tacacs+ for system event is enabled or disabled.

Related Commands

Command	Description
aaa	Configures accounting, authentication and authorization methods.
show aaa	Displays the accounting, authentication and authorization configuration.
show statistics aaa	Displays accounting, authentication and authorization statistics.

show access-lists

To display the access control list (ACL) configuration, use the **show access-lists** command in EXEC configuration mode.

show access-lists

Syntax Description

This command has no arguments or keywords**.**

Command Default

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-7 describes the fields shown in the **show access-lists 300** display.

Table 3-7 show access-lists Field Descriptions

Field	Description
Access Control List is enabled	Configuration status of the access control list.
Groupname and username-based List	Lists the group name-based access control lists.

Related Commands

Command	Description
access-lists	Configures access control list entries.

show alarms

To display information on various types of alarms, their status, and history, use the **show alarms** command in EXEC configuration mode.

show alarms [**critical** [**detail** [**support**] | **detail** [**support**] | **history** [*start_num* [*end_num* [**detail** [**support**] | **detail** [**support**]]] | **critical** [*start_num* [*end_num* [**detail** [**support**]] | **detail** [**support**]]] | **detail** [**support**] | **major** [*start_num* [*end_num* [**detail** [**support**]] | **detail** [**support**]]] | **minor** [*start_num* [*end_num* [**detail** [**support**]]] | **detail** [**support**]]] | **major** [**detail** [**support**]] | **minor** [**detail** [**support**]]] | **status**]]

Syntax Description

critical	(Optional) Displays critical alarm information.
detail	(Optional) Displays detailed information for each alarm.
support	(Optional) Displays additional information about each alarm.
history	(Optional) Displays information about the history of various alarms.
start_num	(Optional) Alarm number that appears first in the alarm history (1 to 100).
end_num	(Optional) Alarm number that appears last in the alarm history (1 to 100).
major	(Optional) Displays information about major alarms.
minor	(Optional) Displays information about minor alarms.
status	(Optional) Displays the status of various alarms and alarm overload settings.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The Node Health Manager enables VDS-SB applications to raise alarms to draw attention to error or significant conditions. The Node Health Manager, which is the data repository for such alarms, aggregates the health and alarm information for the applications, services (for example, the cache service), and resources (for example, disk drives) that are being monitored on the SB. For example, the Node Health Manager gives you a mechanism to determine if a monitored application (for example, the HTTP proxy caching service) is alive on the SB. These alarms are referred to as VDS-SB software alarms.

The VDS-SB software uses SNMP to report error conditions by generating SNMP traps. In the VDS-SB software, the following SB applications can generate an VDS-SB software alarm:

- Node Health Manager (alarm overload condition and Node Manager aliveness)
- Node Manager for service failures (aliveness of monitored applications)
- System Monitor (sysmon) for disk failures

The three levels of alarms in the VDS-SB software are as follows:

- Critical—Alarms that affect the existing traffic through the SB and are considered fatal (the SB cannot recover and continue to process traffic).

- Major—Alarms that indicate a major service (for example, the cache service) has been damaged or lost. Urgent action is necessary to restore this service. However, other node components are fully functional and the existing service should be minimally impacted.
- Minor—Alarms that indicate that a condition that will not affect a service has occurred, but corrective action is required to prevent a serious fault from occurring.

You can configure alarms using the **snmp-server enable traps alarm** command in Global configuration mode.

Use the **show alarms critical** command in EXEC configuration mode to display the current critical alarms being generated by the VDS-SB software applications. Use the **show alarms critical detail** command in EXEC configuration mode to display additional details for each of the critical alarms being generated. Use the **show alarms critical detail support** command in EXEC configuration mode to display an explanation about the condition that triggered the alarm and how you can find out the cause of the problem. Similarly, you can use the **show alarms major** and **show alarms minor** command in EXEC configuration modes to display the details of major and minor alarms.

Use the **show alarms history** command in EXEC configuration mode to display a history of alarms that have been raised and cleared by the VDS-SB software on the SB. The VDS-SB software retains the last 100 alarm raise and clear events only.

Use the **show alarm status** command in EXEC configuration mode to display the status of current alarms and the SB's alarm overload status and alarm overload configuration.

Note The maximum concurrent sessions limit for the Web Engine is based on the CDE; for the CDE220-2M0 and CDE220-2S6 the maximum is 30,000 and for the CDE205 the maximum is 20,000.

Brstcnt Threshold Alarm

When the number of sessions or current bandwidth usage exceeds the configured license limit on the Service Broker, the protocol engine raises an alarm and sends a `threshold exceeded` notification to the Service Broker. Any new requests for that protocol engine are not routed to that Service Broker.Service Broker

Note This feature only applies to the Windows Media Streaming engine, the Flash Media Streaming engine, and the Movie Streamer engine.

Table 3-8 describes the fields shown in the **show alarms history** display.

Table 3-8 show alarms history Field Descriptions

Field	Description
Op	Operation status of the alarm. Values are R—Raised or C—Cleared.
Sev	Severity of the alarm. Values are Cr—Critical, Ma—Major, or Mi—Minor.
Alarm ID	Type of event that caused the alarm.
Module/Submodule	Software module affected.
Instance	Object that this alarm event is associated with. For example, for an alarm event with the Alarm ID disk_failed, the instance would be the name of the disk that failed. The Instance field does not have pre-defined values and is application specific.

Table 3-9 describes the fields shown in the **show alarms status** display.

Table 3-9 show alarms status Field Descriptions

Field	Description
Critical Alarms	Number of critical alarms.
Major Alarms	Number of major alarms.
Minor Alarms	Number of minor alarms.
Overall Alarm Status	Aggregate status of alarms.
Device is NOT in alarm overload state.	Status of the device alarm overload state.
Device enters alarm overload state @ 999 alarms/sec.	Threshold number of alarms per second at which the device enters the alarm overload state.
Device exits alarm overload state @ 99 alarms/sec.	Threshold number of alarms per second at which the device exits the alarm overload state.
Overload detection is enabled.	Status of whether overload detection is enabled on the device.

Related Commands

Command	Description
alarm	Configure alarms.
snmp-server enable traps	Enables the SB to send SNMP traps.

show arp

To display the Address Resolution Protocol (ARP) table, use the **show arp** command in EXEC configuration mode.

show arp

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The **show arp** command displays the Internet-to-Ethernet address translation tables of the ARP. Without flags, the current ARP entry for the hostname is displayed.

Table 3-10 describes the fields shown in the **show arp** display.

Table 3-10 show arp Field Descriptions

Field	Description
Protocol	Type of protocol.
Address	Ethernet address of the hostname.
Flags	Current ARP flag status.
Hardware Addr	Hardware Ethernet address given as six hexadecimal bytes separated by colons.
Type	Type of wide area network.
Interface	Type of Ethernet interface.

show authentication

To display the authentication configuration, use the **show authentication** command in EXEC configuration mode.

show authentication user

Syntax Description

user	Displays the authentication configuration for the user login to the system.

Defaults

None

Command Modes

EXEC configuration mode.

Related Commands

Command	Description
clear	Clears the HTTP object cache, the hardware interface, statistics, archive working transaction logs, and other settings.

show banner

To display information on various types of banners, use the **show banner** command in EXEC configuration mode.

show banner

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-11 describes the fields shown in the **show banner** display.

Table 3-11 show banner Field Descriptions

Field	Description
Banner is enabled.	Configuration status of the banner feature.
MOTD banner is: abc	Displays the configured message of the day.
Login banner is: acb	Displays the configured login banner.
Exec banner is: abc	Displays the configured EXEC banner.

Related Commands

Command	Description
banner	Configures the EXEC, login, and message-of-the-day (MOTD) banners.

show bitrate

To display the bit rate allocated to a particular device, use the **show bitrate** command in EXEC configuration mode.

show bitrate [**movie-streamer** | **wmt**]

Syntax Description

movie-streamer	(Optional) Displays the Movie Streamer bit rate settings.
wmt	(Optional) Displays Windows Media Technology (WMT) bit rate settings.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-12 describes the fields shown in the **show bitrate** display.

Table 3-12 show bitrate Field Descriptions

Field	Description
Module	Types of application servers for which the bit rate is displayed: • **wmt outgoing** is the maximum bit rate per WMT stream that can be served by the SB. • **wmt incoming** is the maximum bit rate per WMT stream that can be received by the SB. • **movie-streamer outgoing** is the maximum bit rate per streamer that can be served by the SB. • **movie-streamer incoming** is the maximum bit rate per streamer that can be received by the SB.
Default Bitrate Kbps	Bit rate associated with the application servers when the bit rate has not been configured on the SB.
Configured Bitrate Kbps	Bit rate configured on the SB in kilobits per second.

Related Commands

Command	Description
bitrate	Configures the maximum pacing bit rate for large files for the Movie Streamer and separately configures WMT bit-rate settings.

show clock

To display the system clock, use the **show clock** command in EXEC configuration mode.

show clock [**detail | standard-timezones** {**all | details** *timezone* **| regions | zones** *region_name*}]

Syntax Description

detail	(Optional) Displays detailed information; indicates the Network Timing Protocol (NTP) clock source and the current summer time setting (if any).
standard-timezones	(Optional) Displays information about the standard time zones.
all	Displays all the standard time zones (approximately 1500 time zones). Each time zone is listed on a separate line.
details	Displays detailed information for the specified time zone.
timezone	Name of the time zone.
regions	Displays the region name of all the standard time zones. All 1500 time zones are organized into directories by region.
zones	Displays the name of every time zone that is within the specified region.
region_name	Name of the region.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The VDS-SB has several predefined standard time zones. Some of these time zones have built-in summertime information while others do not. For example, if you are in an eastern region of the United States (US), you must use the US/Eastern time zone that includes summertime information and adjusts the clock automatically every April and October. There are about 1500 standard time zone names.

The **clock summertime** command is disabled when a standard time zone is configured. You can only configure summertime if the time zone is not a standard time zone (if the time zone is a customized zone).

In addition, CLI commands exist to enable you to display a list of all the standard time zones. The **show clock standard-timezones all** command in EXEC configuration mode enables you to browse through all standard time zones and choose from these predefined time zones. You can choose a customized name that does not conflict with the predefined names of the standard time zones. Most predefined names of the standard time zones have two components, a region name and a zone name. You can list time zones by several criteria, such as regions and zones.

Table 3-13 describes the field in the **show clock** display.

Table 3-13 show clock Field Description

Field	Description
Local time	Day of the week, month, date, time (hh:mm:ss), and year in local time relative to the UTC offset.

Table 3-14 describes the fields shown in the **show clock detail** display.

Table 3-14 show clock detail Field Descriptions

Field	Description
Local time	Local time relative to UTC.
UTC time	Coordinated Universal Time (UTC) date and time.
Epoch	Number of seconds since Jan. 1, 1970.
UTC offset	UTC offset, in seconds, hours, and minutes.

The following example shows an excerpt of the output from the **show clock standard-timezones all** command in EXEC configuration mode. As the following example shows all the standard time zones (approximately 1500 time zones) are listed. Each time zone is listed on a separate line.

```
ServiceBroker #  show clock standard-timezones all
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmera
Africa/Bamako
Africa/Bangui
Africa/Banjul
Africa/Bissau
Africa/Blantyre
Africa/Brazzaville
Africa/Bujumbura
Africa/Casablanca
Africa/Ceuta
Africa/Conakry
Africa/Dakar
Africa/Dar_es_Salaam
Africa/Djibouti
.
.
.
```

The following example shows an excerpt of the output from the **show clock standard-timezones region** command in EXEC configuration mode. As the example shows, all first level time zone names or directories are listed. All 1500 time zones are organized into directories by region.

```
ServiceBroker #  show clock standard-timezones regions
Africa/
America/
Antarctica/
Arctic/
Asia/
Atlantic/
Australia/
Brazil/
CET
.
.
.
```

The following example shows an excerpt of the output from the **show clock standard-timezones zones** command in EXEC configuration mode. As the following example shows, this command lists the name of every time zone that is within the specified region (for example, the US region).

```
ServiceBroker# show clock standard-timezones zones US
Alaska
Aleutian
Arizona
Central
East-Indiana
Eastern
Hawaii
Indiana-Starke
Michigan
Mountain
Pacific
Samoa
```

The following example shows an excerpt of the output from the **show clock standard-timezones details** command in EXEC configuration mode. This command shows details about the specified time zone (for example, the US/Eastern time zone). The command output also includes the standard offset from the Greenwich Mean Time (GMT).

```
ServiceBroker # show clock standard-timezones details US/Eastern
US/Eastern is standard timezone.
Getting offset information (may take a while)...
Standard offset from GMT is -300 minutes (-5 hour(s)).
It has built-in summertime.
Summer offset from GMT is -240 minutes. (-4 hour(s)).
```

Related Commands

Command	Description
clock (EXEC)	Sets or clears clock functions or updates the calendar.
clock (Global configuration	Sets the summer daylight saving time and time zone for display purposes.

show cms

To display the Centralized Management System (CMS)-embedded database content and maintenance status and other information, use the **show cms** command in EXEC configuration mode.

show cms {**database** {**content** {**dump** *filename* | **text** | **xml**} | **maintenance** [**detail**]} | **info** | **processes**}

Syntax Description

database	Displays embedded database maintenance information.
content	Writes the database content to a file.
dump	Dumps all database content to a text file.
filename	Name of the file to be saved under local1 directory.
text	Writes the database content to a file in text format.
xml	Writes the database content to a file in XML format.
maintenance	Shows the current database maintenance status.
detail	(Optional) Displays database maintenance details and errors.
info	Displays CMS application information.
processes	Displays CMS application processes.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-15 describes the fields shown in the VDSM **show cms info** display.

Table 3-15 show cms Field Descriptions for the VDSM

Field	Description
CDN information	
Model	Model name of the device.
Node Id	Unique identifier given to the device by the VDSM at registration, which is used to manage the device.
Device Mode	Configured mode of device used during registration.
Current VDSM role	Role of the current VDSM: Primary or Standby.
CMS services information	
Service cms_httpd is running	Status of the cms_httpd management service (running or not running). This field is specific to the VDSM only.
Service cms_VDSM is running	Status of the cms_VDSM management service (running or not running). This field is specific to the VDSM only.

Table 3-16 describes the fields shown in the SB **show cms info** display.

Table 3-16 show cms Field Descriptions for the SB

Field	Description
CDN information	
Model	Model name of the device.
Node Id	Unique identifier given to the device by the VDSM at registration, which is used to manage the device.
Device Mode	Configured mode of device used during registration.
Current VDSM address	Address of the VDSM as currently configured in the **vdsm ip** command in Global configuration mode. This address may differ from the registered address if a standby VDSM is managing the device instead of the primary VDSM with which the device is registered.
Registered with VDSM	Address of the VDSM with which the device is registered.
Status	Connection status of the device to the VDSM. This field may contain one of three values: Online, Offline, or Pending.
Time of last config-sync	Time when the device management service last contacted the VDSM for updates.

The following example writes the database content to a file in text format:

```
VDSM# show cms database content text
Database content can be found in /local1/cms-db-12-12-2002-17:06:08:070.txt.
```

The following example writes the database content to a file in XML format:

```
VDSM# show cms database content xml
Database content can be found in /local1/cms-db-12-12-2002-17:07:11:629.xml.
```

The following example shows the output of the **show cms database maintenance detail** on an SB:

```
ServiceBroker# show cms database maintenance detail
Database maintenance is not running.
Regular database maintenance is enabled.
Regular database maintenance schedule is set on Sun, Mon, Tue, Wed, Thu, Fri, Sat at 02:00
Full database maintenance is enabled.
Full database maintenance schedule is set on Sun, Mon, Tue, Wed, Thu, Fri, Sat at 04:00
Disk usage for STATE partition: Total: 1523564K, Available: 1443940K, Use: 6%

DATABASE VACUUMING DETAILS AND ERRORS
-------------------------------------
Database Vacuuming never performed or it did not complete due to error.
Latest Vacuuming status :No Error
Last Vacuum Error : No Error
Last Reindex Time : Thu Jul 15 02:02:49 2004
Latest Reindexing status :No Error
Last Reindex Error: No Error
ServiceBroker#
```

Related Commands

Command	Description
cms (EXEC)	Configures the CMS-embedded database parameters.
cms (global)	Schedules maintenance and enables the CMS on a given node.

show debugging

To display the state of each debugging option, use the **show debugging** user command in user EXEC configuration mode.

show debugging

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

User EXEC configuration mode.

Examples

The following is sample output from the **show debugging** command:

```
ServiceRouter# show debugging
Debug web-engine is set to trace
Debug capturecontroller is set to trace
ServiceRouter#
```

Related Commands

Command	Description
debug	Monitors and records caching application functions.
undebug	Disables debugging functions.

show device-mode

To display the configured or current mode of a device, use the **show device-mode** command in EXEC configuration mode.

show device-mode {**configured** | **current**}

Syntax Description

configured	Displays the configured device mode.
current	Displays the current device mode.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

If the configured and current device modes differ, a reload is required for the configured device mode to take effect.

Examples

The configured device mode field in the **show device-mode configured** display shows the device mode that has been configured, but has not yet taken effect. The current device mode field in the **show device-mode current** command display shows the current mode in which the VDS-SB device is operating.

The following example shows how to use the **show device-mode** command to show the device mode when you change the device to an SB using the **device mode** command:

```
Acmehost# show device-mode current
Current device mode: service-broker
Acmehost# show device-mode configured
Configured device mode: service-broker
Acmehost(config)# device mode service-broker
The new configuration will take effect after a reload
Acmehost(config)# exit
Acmehost# show device-mode current
Current device mode: service-broker
Note: The configured and current device modes differ,
a reload is required for the configured device mode to
take effect.
Acmehost# show device-mode configured
Configured device mode: service-broker
Note: The configured and current device modes differ,
a reload is required for the configured device mode to
take effect.
Acmehost# write memory
Acmehost# reload force
...reload...


Acmehost# show running-config
device mode service-broker
!
```

```
hostname Acmehost
..

Acmehost# show device-mode configured
Configured device mode: service-broker
Acmehost# show device-mode current
Current device mode: service-broker
```

Related Commands

Command	Description
device	Configures the mode of operation on a device as a VDSM, or SB.

show disks

To view information about your disks, use the **show disks** command in EXEC configuration mode.

show disks [**current** | **details** | **error-handling** [**details**] | **raid-state** | **SMART-info** [**details**]]

Syntax Description

current	(Optional) Displays currently effective configurations.
details	(Optional) Displays currently effective configurations with more details.
error-handling	(Optional) Displays the disk error-handling statistics.
details	(Optional) Displays the detail disk and sector errors.
raid-state	(Optional) Displays the volume and progress information for the RAID disks.
SMART-info	(Optional) Displays hard drive diagnostic information and information about impending disk failures.
details	(Optional) Displays SMART disk monitoring info with more details.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The **show disks** command displays the names of the disks currently attached to the SB.

Table 3-17 describes the fields shown in the **show disks details** display.

Table 3-17 show disks details Field Descriptions

Field	Description
disk00	Availability of the disk: Present, Not present or Not responding, Not used, or (*). **Note** Disk drives that are currently marked as bad are shown as "Not used" in the output. Future bad disk drives (drives that are not used after the next time that the SB is reloaded) are shown with an asterisk (*). Disk identification number and type. Disk size in megabytes and gigabytes.
disk01	Same type of information is shown for each disk.
System use	Amount of disk space being used for system use.
Free	Amount of unused disk space available.

The **show disks error-handling** command displays the current level of disk and sector-related errors.

Table 3-18 describes the fields shown in the **show disks error-handling details** display.

Table 3-18 show disks error-handling details Field Descriptions

Field	Description
Disk errors since last boot	Number of disk errors since the device was last rebooted.
Disk total bad sectors	Total number of bad sector errors.
Total errors	Total number of bad sector and disk errors.
Diskname Sector LBA	Each bad sector's Logical Block Address (LBA).
I/O errors	Number of I/O errors.

Proactively Monitoring Disk Health with SMART

The ability to proactively monitor the health of disks with Self Monitoring, Analysis, and Reporting Technology (SMART) was added. SMART provides you with hard drive diagnostic information and information about impending disk failures.

SMART is supported by most disk vendors and is a standard method used to determine the health of a disk. SMART has several read-only attributes (for example, the power-on hours attribute, the load and unload count attribute) that provide the VDS-SB software with information about the operating and environmental conditions that may indicate an impending disk failure.

To display more detailed information, enter the **show disks SMART-info details** command in EXEC configuration mode. The output from the **show disks SMART-info** and the **show disks SMART-info details** commands differ based on the disk vendor and the type of drive technology (Integrated Drive Electronics [IDE], Small Computer Systems Interface [SCSI], and Serial Advanced Technology Attachment [SATA] disk drives).

Even though SMART attributes are vendor dependent, there is a common way of interpreting most SMART attributes. Each SMART attribute has a normalized current value and a threshold value. When the current value exceeds the threshold value, the disk is considered as failed. The VDS-SB software monitors the SMART attributes and reports any impending failure through syslog messages, SNMP traps, and alarms.

The output from the **show tech-support** command in EXEC configuration mode also includes SMART information.

Table 3-19 describes some typical fields in the **show disks SMART-info** display.

Table 3-19 show disks SMART-info Field Descriptions

Field	Description
disk00—disk05	Shows information for disk drives.
Device Model	Vendor number and version number of the disk.
Serial Number	Serial number for the disk.
Device type	Type of device.
Transport protocol	Physical layer connector information, for example: Parallel SCSI (SPI-4).
Local time is	Day of the week, month, date, time (hh:mm:ss), year, clock standard.
Device supports SMART and SMART is Enabled	Status of SMART support: Enabled or Disabled.

Table 3-19 show disks SMART-info Field Descriptions (continued)

Field	Description
Temperature Warning Enabled	Temperature warning status: Enabled or Disabled.
SMART Health Status:	Health status of the disk: OK or Failed.

Examples

The following example displays output for two disks experiencing sector errors:

```
ServiceBroker# show disks error-handling
Disk errors since last boot:
disk05 total bad sectors = 1, total errors = 2
disk10 total bad sectors = 3, total errors = 9
```

If the **details** option is given, then each bad sector's Logical Block Address (LBA) displays along with its corresponding I/O error count:

```
ServiceBroker# show disks error-handling details
Disk errors since last boot:
 disk05 total bad sectors = 1, total errors = 2
# diskname  Sector (LBA)      I/O errors:
    disk05  3000005           2

disk10 total bad sectors = 3, total errors = 9
# diskname  Sector (LBA)      I/O errors:
    disk10  16000             3
    disk10  170001            4
    disk10  180001            2

Total errors (since system boot) across all disks = 11
```

Note For additional disk health statistics, execute the **show disks smart-info** or **show alarms** commands.

SMART support is vendor dependent; each disk vendor has a different set of supported SMART attributes. The following example shows the output from the **show disks SMART-info** command in EXEC configuration mode that was entered on two different SBs (Service Broker A and Service Broker B). These two SBs contain hard disks that were manufactured by different vendors.

```
ServiceBroker# show disks SMART-info
=== disk00 ===
smartctl version 5.38 [ i686-spcdn-linux-gnu ] Copyright (C) 2002-8 Bruce Allen
Home page is http://smartmontools.sourceforge.net/

=== START OF INFORMATION SECTION ===
Device Model: ST3500320NS
Serial Number: 5QM19RKR
Firmware Version: SN04
User Capacity: 500,107,862,016 bytes
Device is: Not in smartctl database [ for details use: -P showall ]
ATA Version is: 6
ATA Standard is: ATA/ATAPI-6 T13 1410D revision 2
Local Time is: Thu May 21 14:09:19 2009 UTC
SMART support is: Available - device has SMART capability.
SMART support is: Enabled

=== START OF READ SMART DATA SECTION ===
SMART overall-health self-assessment test result: PASSED

RUNNING: /usr/sbin/smartctl /dev/sda -H -i
```

```
=== disk01 ===
smartctl version 5.38 [ i686-spcdn-linux-gnu ] Copyright (C) 2002-8 Bruce Allen
Home page is http://smartmontools.sourceforge.net/

=== START OF INFORMATION SECTION ===
Device Model: ST3500320NS
Serial Number: 5QM19B0B
Firmware Version: SN04
User Capacity: 500,107,862,016 bytes
Device is: Not in smartctl database [ for details use: -P showall ]
ATA Version is: 6
ATA Standard is: ATA/ATAPI-6 T13 1410D revision 2
Local Time is: Thu May 21 14:09:19 2009 UTC
SMART support is: Available - device has SMART capability.
SMART support is: Enabled

=== START OF READ SMART DATA SECTION ===
SMART overall-health self-assessment test result: PASSED

RUNNING: /usr/sbin/smartctl /dev/sdb -H -i

=== disk02 ===
smartctl version 5.38 [ i686-spcdn-linux-gnu ] Copyright (C) 2002-8 Bruce Allen
Home page is http://smartmontools.sourceforge.net/

=== START OF INFORMATION SECTION ===
Device Model: ST3500320NS
Serial Number: 5QM19SK9
Firmware Version: SN04
User Capacity: 500,107,862,016 bytes
Device is: Not in smartctl database [ for details use: -P showall ]
ATA Version is: 6
ATA Standard is: ATA/ATAPI-6 T13 1410D revision 2
Local Time is: Thu May 21 14:09:19 2009 UTC
SMART support is: Available - device has SMART capability.
SMART support is: Enabled

=== START OF READ SMART DATA SECTION ===
SMART overall-health self-assessment test result: PASSED

RUNNING: /usr/sbin/smartctl /dev/sdc -H -i
```

The following example shows the output from the **show dis raid-state** command, which shows all the disk partitions on a CDE:

```
ServiceBroker# #show disks raid-state
SYSTEM : RAID-1
        Status: Normal
        Partitions: disk00/05 disk02/05
SYSTEM: RAID-1
        Status: Normal
        Partitions: disk00/01 disk02/01
SYSTEM: RAID-1
        Status: Normal
        Partitions: disk00/02 disk02/02
SYSTEM: RAID-1
        Status: Normal
        Partitions: disk00/04 disk02/04
```

Related Commands

Command	Description
disk (EXEC)	Configures disks and allocates disk space for devices using VDS-SB software.

show flash

To display the flash memory version and usage information, use the **show flash** command in EXEC configuration mode.

show flash

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

If a new software image has been installed and is waiting to be run after a reboot, the **show flash** command displays this information and the version of VDS-SB software that runs on the device after reload.

Note If you update the VDS-SB software on an SB, the new version displays in the **show flash** command output, but it says, "Pending software change will occur on next bootup." You must reboot the device for the software update to take effect.

Examples

The following example shows how to display the flash information:

```
ServiceBroker# show flash
VDS-SB software version (disk-based code): VDS-SB-2.4.0-b328

System image on flash:
Version: 2.4.0.328

System flash directory:
System image: 274 sectors
Bootloader, rescue image, and other reserved areas: 59 sectors
512 sectors total, 179 sectors free.
```

Table 3-20 describes the fields shown in the **show flash** display.

Table 3-20 show flash Field Descriptions

Field	Description
VDS-SB software version (disk-based code)	VDS-SB software version and build number that is running on the device.
System image on flash:	
Version	Version and build number of the software that is stored in flash memory.
System flash directory:	

Table 3-20 show flash Field Descriptions

Field	Description
System image	Number of sectors used by the system image.
Bootloader, rescue image, and other reserved areas	Number of sectors used by the bootloader, rescue image, and other reserved areas.
XX sectors total, XX sectors free	Total number of sectors. Number of free sectors.

Related Commands

Command	Description
show version	Displays the version information about the software.

show ftp

To display the caching configuration of the File Transfer Protocol (FTP), use the **show ftp** command in EXEC configuration mode.

show ftp

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Examples

The following example shows how to display the caching configuration of FTP:

```
ServiceBroker# show ftp

FTP heuristic age-multipliers: directory-listing 30% file 60%
Maximum Time To Live in days : directory-listing 3 file 7
Minimum Time To Live in minutes: 60
No objects are revalidated on every request.
Serve-IMS without revalidation if...
Directory listing object is less than 50% of max age
File object is less than 80% of max age
Incoming Proxy-Mode:
Servicing Proxy mode FTP connections on ports: 22 23 88 66 48 488 449 90
Outgoing Proxy-Mode:
Not using outgoing proxy mode.
Maximum size of a cacheable object is unlimited.
```

Related Commands

Command	Description
ftp	Enables FTP services.

show geo-location-server

It displays information about primary and secondary Geo location server [ip address and port configured].

If Geo server monitoring is enabled/disabled. By default it is enabled. Geo monitoring polling interval is configured in seconds. The status of the Geo location server will be checked at each poll-interval. Default is 60 sec. Geo location server timeout - time after which the server will be treated as inactive. Default is 1 sec.

show geo-location-server

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC configuration mode.

Examples

The following example shows how to display information about primary and secondary Geo location server

```
ServiceBroker# show geo-location-server

Primary geo location server 1.1.1.3 7000
Secondary geo location server 1.1.1.2 7000
Geo Location server monitoring is enabled
Geo Location server poll rate 30 seconds
Geo Location server timeout 5 seconds
```

show geo-location-service

It displays if location service is enabled/disabled, location cache timeout and max location cache entries.

show geo-location-service

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC configuration mode.

Examples

The following example displays if location service is enabled or disabled.

```
ServiceBroker# show geo-location-service

Location based service is enabled
Location cache timeout 600000 seconds
Location cache max entries 10000
```

show hardware

To display the system hardware status, use the **show hardware** command in EXEC configuration mode.

show hardware [**all** | **core** | **cpuinfo** | **dmi** [**all** | **baseboard** | **bios** | **cache** | **chassis** | **connector** | **memory** | **processor** | **slot** | **system**] | **mapping** {**disk** [**all** | *diskname*] | **interface** [**all** | **GigabitEthernet** *slot/port_num* | **TenGigabitEthernet** *slot/port_num*]} | **meminfo** | **pci** [**details** | **drivers** | **ids** | **tree**]]

Syntax Description

all	(Optional) Displays all hardware class information.
core	(Optional) Displays core hardware information.
cpuinfo	(Optional) Displays CPU information.
dmi	(Optional) Displays DMI[1].
all	(Optional) Displays all DMI information.
baseboard	(Optional) Displays motherboard information.
bios	(Optional) Displays BIOS information.
cache	(Optional) Displays processor cache information.
chassis	(Optional) Displays chassis information.
connector	(Optional) Displays connector information.
memory	(Optional) Displays physical memory information.
processor	(Optional) Displays processor information.
slot	(Optional) Displays PCI slot information.
system	(Optional) Displays system information.
mapping	(Optional) Shows mapping between Cisco and Linux hardware names.
disk	Maps Cisco disk name to Linux device name.
diskname	Name of the disk (disk00).
interface	Maps Cisco interface name to Linux device name.
all	Displays all interface information.
GigabitEthernet	Selects a 1G ethernet interface.
slot/port_num	Slot and port number for the selected interface. The slot range is from 1 to 14; the port range is from 0 to 0. The slot number and port number are separated with a forward slash character (/).
TenGigabitEthernet	Selects a 10G ethernet interface.
meminfo	(Optional) Displays RAM information.
pci	(Optional) Displays PCI information.
details	(Optional) Show output with PCI addresses and names.
drivers	(Optional) Identify driver names and availability.
ids	(Optional) Show PCI vendor and device codes.
tree	(Optional) Show a tree-like diagram containing all buses, bridges and devices.

1. Desktop Management Interface

Defaults None

Command Modes EXEC configuration mode.

Usage Guidelines The output of the **show hardware** command in EXEC configuration mode displays all core or Desktop Management Interface (DMI) information. The DMI output can also be filtered by optional keywords.

Table 3-21 describes the fields shown in the **show hardware** display.

Table 3-21 show hardware Field Descriptions

Field	Description
Compiled hour:minute:second month day year by cnbuild	Compile information for the software build.
System was restarted on day of week month day hour:minute:second year	Date and time that the system was last restarted.
The system has been up for X hours, X minutes, X seconds	Length of time the system has been running since the last reboot.
CPU 0 is	CPU manufacturer information.
Total X CPU	Number of CPUs on the device.
XXXX Mbytes of Physical memory	Number of megabytes of physical memory on the device.
X CD ROM drive	Number of CD-ROM drives on the device.
X Console interface	Number of console interfaces on the device.
Cookie info	
SerialNumber	Serial number of the device.
SerialNumber (raw)	Serial number of the device as an ASCII value.
TestDate	Date that the device was tested.
ModelNum (text)	Hardware model of the device.
ModelNum (raw)	Internal model number (ASCII value) that corresponds to the ExtModel number.
HWVersion	Number of the current hardware version.
PartNumber	Not implemented.
BoardRevision	Number of revisions for the current system board.
ChipRev	Number of revisions for the current chipset.
VendID	Vendor ID of the cookie.
CookieVer	Version number of the cookie.
Chksum	Checksum of the cookie showing whether the cookie is valid.
List of all disk drives	
Physical disk information	Lists the disks by number.

Table 3-21 show hardware Field Descriptions (continued)

Field	Description
disk00	Availability of the disk: Present, Not present or Not responding, or Not used (*). Disk identification number and type. Disk size in megabytes and gigabytes.
disk01	Same type of information is shown for each disk.
Mounted filesystems	
Device	Path to the partition on the disk.
Type	Type of the file system. Values include PHYS-FS, SYSFS, or cdnfs.
Size	Total size of the file system in megabytes and gigabytes.
Mount point	Mount point for the file system. For example, the mount point for SYSFS is /local/local1.
System use	Amount of disk space being used for system use.
Free	Amount of unused disk space available.
Memory Information	
MemTotal	
MemFree	
Buffers	
Cached	
SwapCached	
Active	
Inactive	
Active(anon)	
Inactive(anon)	
Active(file)	
Inactive(file)	
Unevictable	
Mlocked	
SwapTotal	
SwapFree	
Dirty	
Writeback	
AnonPages	
Mapped	
Shmem	
Slab	
SReclaimable	

Table 3-21 show hardware Field Descriptions (continued)

Field	Description
SUnreclaim	
KernelStack	
PageTables	
NFS_Unstable	
Bounce	
WritebackTmp	
CommitLimit	
Committed_AS	
VmallocTotal	
VmallocUsed	
VmallocChunk	
DirectMap4k	
DirectMap2M	
PCI Information	

Examples

The following example shows how to display the core hardware information:

```
ServiceBroker# show hardware core
VDS Service Broker Software (VDS-SB)
Copyright (c) 1999-2011 by Cisco Systems, Inc.
VDS Service Broker Software Release 2.6.0 (build
b460 Aug 28 2011)
Version: cde220-2g2-DEVELOPMENT[vcn-build1:/auto/v
cn-u1/vosis_release_builds/vosis_2.6.0-b460/spcdn]

Compiled 05:55:01 Aug 28 2011 by ipvbuild
Compile Time Options: KQ SS

System was restarted on Mon Aug 29 11:56:58 2011.
The system has been up for 1 day, 5 hours, 5 minut
es, 2 seconds.

CPU 0 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 1 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 2 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 3 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 4 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 5 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 6 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
CPU 7 is GenuineIntel Intel(R) Xeon(R) CPU
   L5410  @ 2.33GHz (rev 23) running at 2333MHz.
```

```
Total 8 CPUs.
16000 Mbytes of Physical memory.
10 GigabitEthernet interfaces
1 Console interface
2 USB interfaces [Not supported in this version of
 software]

  Cookie info:
    Base PID: CDE220-2G2                VID: 00
    SerialNumber: 99999999999
    Model Type:
    SerialNumber (raw): 57 57 57 57 57 57 57 57 57
 57 57
    TestDate: 12-19-2002
    ExtModel: CDE220-2G2
    ModelNum (raw): 55 0 0 0 1
    HWVersion: 1
    PartNumber: 53 54 55 56 57
    BoardRevision: 1
    ChipRev: 1
    VendID: 0
    CookieVer: 2
    Chksum: 0xfb9e

List of all disk drives:
disk00: Normal          (h02 c00 i00 l00 -       m
ptsas)  476940MB(465.8GB)
        disk00/01: SYSTEM         5120MB(  5.0GB)
mounted internally
        disk00/02: SYSTEM         3072MB(  3.0GB)
mounted internally
        disk00/04: SYSTEM         2048MB(  2.0GB)
mounted internally
        disk00/05: SYSFS         32768MB( 32.0GB)
mounted at /local1
        disk00/06: CDNFS        433917MB(423.7GB)
mounted internally
disk01: Normal          (h02 c00 i01 l00 -       m
ptsas)  476940MB(465.8GB)
        disk01/01: SYSTEM         5120MB(  5.0GB)
mounted internally
        disk01/02: SYSTEM         3072MB(  3.0GB)
mounted internally
        disk01/04: SYSTEM         2048MB(  2.0GB)
mounted internally
        disk01/05: SYSFS         32768MB( 32.0GB)
mounted at /local1
<Output truncated>
```

The following example shows how to display the DMI information:

```
ServiceBroker# show hardware dmi
--------------------- DMI Information -------------
# dmidecode 2.9
SMBIOS 2.5 present.
70 structures occupying 2793 bytes.
Table at 0xCFF66000.

Handle 0x0000, DMI type 0, 24 bytes
BIOS Information
        Vendor: Phoenix Technologies LTD
        Version: 1.2a
        Release Date: 04/09/2009
        Address: 0xE3DD0
```

```
        Runtime Size: 115248 bytes
        ROM Size: 2048 kB
        Characteristics:
                PCI is supported
                PNP is supported
                BIOS is upgradeable
                BIOS shadowing is allowed
                ESCD support is available
                Boot from CD is supported
ServiceBroker#
```

Related Commands

Command	Description
show version	Displays version information about the SB software.

show hosts

To view the hosts on your SB, use the **show hosts** command in EXEC configuration mode.

show hosts

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Examples

The **show hosts** command lists the name servers and their corresponding IP addresses. It also lists the hostnames, their corresponding IP addresses, and their corresponding aliases (if applicable) in a host table summary.

Table 3-22 describes the fields shown in the **show hosts** display.

Table 3-22 show hosts Field Descriptions

Field	Description
Domain names	Domain names used by the device to resolve the IP address.
Name Server(s)	IP address of the DNS[1] name server or servers.
Host Table	
hostname	FQDN[2] (that is, hostname and domain) of the current device.
inet address	IP address of the current host device.
aliases	Name configured for the current device based on the **host** command in Global configuration mode.

1. DNS = Domain Name Server
2. FQDN = fully qualified domain name

show interface

To display the hardware interface information, use the **show interface** command in EXEC configuration mode.

show interface {**all** | **GigabitEthernet** *slot/port* | **PortChannel** {**1** [**lacp**] | **2** | **3** | **4** } | **standby** *group_num* | **TenGigabitEthernet** *slot/port*}

Syntax Description

all	Displays information for all interfaces.
GigabitEthernet	Displays information for the Gigabit Ethernet device.
slot/port	Slot and port number for the selected interface. The range is from 1 to 14. The slot number and port number are separated with a forward slash character (/).
PortChannel	Displays information for the Ethernet channel of the device.
1	Sets the Ethernet channel interface number to 1.
lacp	(Optional) Displays the LACP port channel status.
2	Sets the Ethernet channel interface number to 2.
3	Sets the Ethernet channel interface number to 3.
4	Sets the Ethernet channel interface number to 4.
standby	Displays information for the standby group for the interface.
group_num	Group number for the selected interface. The group number range is 1 to 4.
TenGigabitEthernet	Displays information for the Ten Gigabit Ethernet device.
slot/port	Slot and port number for the selected interface. The range is from 1 to 14. The slot number and port number are separated with a forward slash character (/).

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-23 describes the fields shown in the **show interface GigabitEthernet** display.

Table 3-23 show interface GigabitEthernet Field Descriptions

Field	Description
Type	Type of interface. Always Ethernet.
Ethernet address	Layer 2 MAC address.
Maximum Transfer Unit Size	Current configured MTU value.

Table 3-23 show interface GigabitEthernet Field Descriptions (continued)

Field	Description
Metric	Metric setting for the interface. The default is 1. The routing metric is used by the routing protocol to determine the most favorable route. Metrics are counted as additional hops to the destination network or host; the higher the metric value, the less favorable the route.
Packets Received	Total number of packets received by this interface.
Input Errors	Number of incoming errors on this interface.
Input Packets Dropped	Number of incoming packets that were dropped on this interface.
Input Packets Overruns	Number of incoming packet overrun errors.
Input Packets Frames	Number of incoming packet frame errors.
Packet Sent	Total number of packets sent from this interface.
Output Errors	Number of outgoing packet errors.
Output Packets Dropped	Number of outgoing packets that were dropped by this interface.
Output Packets Overruns	Number of outgoing packet overrun errors.
Output Packets Carrier	Number of outgoing packet carrier errors.
Output Queue Length	Output queue length in bytes.
Collisions	Number of packet collisions at this interface.
Flags	Interface status indicators. Values include Up, Broadcast, Running, and Multicast.
Mode	Setting, transmission mode, and transmission for this interface.

Table 3-24 describes the fields shown in the **show interface PortChannel** display.

Table 3-24 show interface PortChannel Field Descriptions

Field	Description
Description	Description of the device, as configured by using the **description** keyword of the **interface** command in Global configuration mode.
Type	Type of interface. Always Ethernet.
Ethernet address	Layer 2 MAC address.
Internet Address	Internet IP address configured for this interface.
Broadcast Address	Broadcast address configured for this interface.
Netmask	Netmask configured for this interface.
Maximum Transfer Unit Size	Current configured MTU value.
Metric	Metric setting for the interface. The default is 1. The routing metric is used by the routing protocol. Higher metrics have the effect of making a route less favorable; metrics are counted as addition hops to the destination network or host.

Table 3-24 show interface PortChannel Field Descriptions (continued)

Field	Description
Packets Received	Total number of packets received by this interface.
Input Errors	Number of incoming errors on this interface.
Input Packets Dropped	Number of incoming packets that were dropped on this interface.
Input Packets Overruns	Number of incoming packet overrun errors.
Input Packets Frames	Number of incoming packet frame errors.
Packet Sent	Total number of packets sent from this interface.
Output Errors	Number of outgoing packet errors.
Output Packets Dropped	Number of outgoing packets that were dropped by this interface.
Output Packets Overruns	Number of outgoing packet overrun errors.
Output Packets Carrier	Number of outgoing packet carrier errors.
Output Queue Length	Output queue length in bytes.
Collisions	Number of packet collisions at this interface.
Flags	Interface status indicators. Values include Up, Broadcast, Running, and Multicast.
Interface PortChannel 1 (8 physical interface(s)	
Protocol	Indicates if the LACP is turned on or off.
Mode	Port channel load balancing method (dst-ip, dst-mix-ip-port, dst-port, round-robin, src-dst-ip, src-dst-mac, src-dst-mixed-ip-port, src-dst-port, src-mixed-ip-port, src-port)
Port ID	Interface name.
Admin-State	Interface admin state. This is the interface state that the user configured from the command line. For example, if the user configured “no shut” on the interface, the admin state is up.
Link-State	Interface physical status. Indicates if the link is up or down.
LACP-State	Provides a better detection for the link status through LACP protocol. It tells the upper layer if the physical link is up or down.
Aggregate ID	When LACP is turned on, the interface on the same port channel is grouped into the same aggregate ID.

Table 3-25 describes the fields shown in the **show interface standby** display.

Table 3-25 show interface standby Field Descriptions

Field	Description
Standby Group	Number that identifies the standby group.
Description	Description of the device, as configured by using the **description** keyword of the **interface** command in Global configuration mode.

Table 3-25 show interface standby Field Descriptions (continued)

Field	Description
IP address, netmask	IP address and netmask of the standby group.
Member interfaces	Member interfaces of the standby group. Shows which physical interfaces are part of the standby group. Shows the interface definition, such as GigabitEthernet 1/0.
Active interface	Interfaces that are currently active in the standby group.

Table 3-26 describes the fields shown in the **show interface TenGigabitEthernet** display.

Table 3-26 show interface TenGigabitEthernet Field Descriptions

Field	Description
Type	Type of interface. Always Ethernet.
Ethernet address	Layer 2 MAC address.
Internet address	Internet IP address configured for this interface.
Broadcast address	Broadcast address configured for this interface.
Netmask	Netmask configured for this interface.
Maximum Transfer Unit Size	Current configured MTU value.
Metric	Metric setting for the interface. The default is 1. The routing metric is used by the routing protocol to determine the most favorable route. Metrics are counted as additional hops to the destination network or host; the higher the metric value, the less favorable the route.
Packets Received	Total number of packets received by this interface.
Input Errors	Number of incoming errors on this interface.
Input Packets Dropped	Number of incoming packets that were dropped on this interface.
Input Packets Overruns	Number of incoming packet overrun errors.
Input Packets Frames	Number of incoming packet frame errors.
Packet Sent	Total number of packets sent from this interface.
Output Errors	Number of outgoing packet errors.
Output Packets Dropped	Number of outgoing packets that were dropped by this interface.
Output Packets Overruns	Number of outgoing packet overrun errors.
Output Packets Carrier	Number of outgoing packet carrier errors.
Output Queue Length	Output queue length in bytes.
Collisions	Number of packet collisions at this interface.
Interrupts	Number of interrupts on this interface.
Flags	Interface status indicators. Values include Up, Broadcast, Running, and Multicast.

Related Commands

Command	Description
interface	Configures a Gigabit Ethernet or port channel interface.
lacp	Turns on LACP.
show lacp	Displays LACP information.
show running-config	Displays the current running configuration information on the terminal.
show startup-config	Displays the startup configuration.

show inventory

To display the system inventory information, use the **show inventory** command in EXEC configuration mode.

show inventory

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The **show inventory** command allows you to view the unique device identifier information (UDI) for an SB. Typically, Cisco SBs contain the following three identification items that make up the UDI:

- Product ID (PID)
- Version ID (VID)
- Serial number (SN)

This identity information is stored in the SB nonvolatile memory. Each SB has a unique device identifier (UDI). The UDI shows PID, VID and SN.

The UDI is electronically accessed by the product operating system or network management application to enable identification of unique hardware devices. The data integrity of the UDI is vital to customers. The UDI that is programmed into the SB's nonvolatile memory is equivalent to the UDI that is printed on the product label and on the carton label. This UDI is also equivalent to the UDI that can be viewed through any electronic means and in all customer-facing systems and tools. Currently, there is only CLI access to the UDI; there is no SNMP access to the UDI information.

On newer SB models, you can use the **show inventory** command in EXEC configuration mode to display the SB's UDI. On older SB models, use the **show tech-support** command in EXEC configuration mode to display the SB's UDI.

Examples

The following example shows the inventory information for one of the newer SB models (SB-565):

```
ServiceBroker# show inventory

PID: SB-565-K9 VID: 0 SN: serial_number
```

In the preceding example, *serial number* is the serial number of the SB. The version ID is displayed as "0" because the version number is not available.

Table 3-27 describes the fields shown in the **show inventory** display.

Table 3-27 show inventory Field Descriptions

Field	Description
PID	Product ID number of the device.
VID	Version ID number of the device. Displays as 0 if the version number is not available.
SN	Serial number of the device.

The following example shows that you must use the **show tech-support** command in EXEC configuration mode to display the inventory information on an older SB model:

```
ServiceBroker# show inventory
Please look at 'sh tech-support' for information!
ServiceBroker# show tech-support
```

Related Commands

Command	Description
show tech-support	Displays system information necessary for Cisco Technical Support to assist you with your SB.

show ip

To display the, use the **show ip** command in user EXEC configuration mode.

show ip

Syntax Description

ip_address	(Optional) IP address entered to filter the output to display only a particular host in the BGP routing table.
prefix	(Optional) Prefix entered to filter the output to display only a particular network in the BGP routing table.
prefix_length	(Optional) Specifies the prefix length.

Command Default

None

Command Modes

User EXEC configuration mode.

Usage Guidelines

This command requires a Proximity Engine license.

Examples

To display information about an entry in the BGP routing table (for example, 42.1.1.0/24), use the **show ip bgp 42.1.1.0/24** command. To locate information by IP address (for example, 42.1.1.1), use the **show ip bgp 42.1.1.1** command.

```
ServiceRouter# show ip bgp 42.1.1.0/24
BGP routing table entry for 42.1.1.0/24, version 12
Paths: (1 available, best # 1)
Flags: on xmit-list, is in urib, is best urib route

  Path type: internal, path is valid, is best path
  AS-Path: NONE, path sourced internal to AS
    192.168.86.3 (metric 0) from 192.168.86.3 (192.168.86.3)
      Origin incomplete, MED 0, localpref 100, weight 0

  Not advertised to any peer

ServiceRouter# show ip bgp 42.1.1.1

BGP routing table entry for 42.1.1.0/24, version 12
Paths: (1 available, best # 1)
Flags: on xmit-list, is in urib, is best urib route

  Path type: internal, path is valid, is best path
  AS-Path: NONE, path sourced internal to AS
    192.168.86.3 (metric 0) from 192.168.86.3 (192.168.86.3)
      Origin incomplete, MED 0, localpref 100, weight 0

Not advertised to any peer

ServiceRouter#
```

The following sample output shows the display when the advertised community and the configured location community matches:

```
ServiceRouter# sh ip bgp 1.1.1.1
BGP routing table entry for 1.1.1.1/32, version 4
Paths: (1 available, best # 1)
Flags: on xmit-list, is in urib, is best urib route

Path type: internal, path is valid, is best path
  AS-Path: NONE, path sourced internal to AS
    48.0.0.8 (metric 0) from 48.0.0.8 (1.1.1.1)
      Origin IGP, MED 0, localpref 100, weight 0
      Community: 1:1(location specific)
```

The following sample output shows the display when the community is not advertised to any peer:

```
ServiceRouter# sh ip bgp 33.1.5.0

BGP routing table entry for 33.1.5.0/24, version 4
Paths: (1 available, best #1)
Flags: on xmit-list, is in urib, is best urib route

  Path type: internal, path is valid, is best path
  AS-Path: 2 , path sourced external to AS
    62.0.0.2 (metric 20) from 26.0.0.6 (10.1.1.1)
      Origin IGP, MED 0, localpref 100, weight 0
      Community: 5:5(location specific)
```

Related Commands

Command	Description
clear ip bgp	Clears entries in the BGP route table.
router bgp	Configures a BGP routing process.

show lacp

To display LACP information, use the **show lacp** command in EXEC configuration mode.

show lacp {**counters**| **internal**}

Syntax Description

counters	Displays LACP traffic information.
internal	Displays LACP link status information.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

You must first turn on LACP by entering the **lacp** command in Interface configuration mode before you can display the LACP statistics.

In the **show lacp counters** command, the LACP control packet is sent or received every 30 seconds. If one of the interfaces within the port channel goes down, then the counter value does not further increment for that interface.

Examples

The following example shows how to display the LACP statistics:

```
ServiceBroker# show lacp counters
Interface PortChannel 1 (4 physical interface(s)):
Protocol: none

Interface PortChannel 2 (4 physical interface(s)):
                          lacpdu              marker     marker response
Port                  send       receive    send  receive send receive error
-----------------------------------------------------
GigabitEthernet  7/0         16         16      0      0      0      0      0
GigabitEthernet  8/0         16         15      0      0      0      0      0
GigabitEthernet  9/0         16         15      0      0      0      0      0
GigabitEthernet 10/0         17         15      0      0      0      0      0

Interface PortChannel 3 (0 physical interface(s)):
Protocol: none

Interface PortChannel 4 (0 physical interface(s)):
Protocol: none
```

The following example shows how to display the link status for the port channel:

```
ServiceBroker# show lacp internal
Interface PortChannel 1 (4 physical interface(s)):
Protocol: LACP
Mode:     src-dst-port
Port                    Admin-State Link-State     LACP-State     Aggregate id
-------------------------------------------------------------------------------
GigabitEthernet  3/0           up         up         bndl              21
GigabitEthernet  4/0           up         up         bndl              21
```

```
GigabitEthernet  5/0           up         up         bndl              21
GigabitEthernet  6/0           up         up         bndl              21

ServiceBroker# show interface portChannel 1 lacp
Interface PortChannel 1 (4 physical interface(s)):
Protocol: LACP
Mode:     src-dst-port
Port                    Admin-State Link-State     LACP-State     Aggregate id
------------------------------------------------------------------------------
GigabitEthernet  3/0           up         up         bndl              21
GigabitEthernet  4/0           up         up         bndl              21
GigabitEthernet  5/0           up         up         bndl              21
GigabitEthernet  6/0           up         up         bndl              21
```

Related Commands

Command	Description
lacp	Turns on Link Aggregation Control Protocol (LACP).
show interface portchannel 1 lacp	Displays the link status for the port channel.

show logging

Command	Description
lacp	Turns on Link Aggregation Control Protocol (LACP).
show interface portchannel 1 lacp	Displays the link status for the port channel.

To display the system message log configuration, use the **show logging** command in EXEC configuration mode.

show logging

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The following is an example of a syslog message for proxy mode native FTP support:

```
SB-FTP_PROXY-3-252009:   Failed to configure FTP Proxy-mode listener on port
                    ' [ port ] '.

Explanation:        Could not start proxy-mode listener for FTP control
                    connection for the specified port.  The port is temporarily
                    in an un-bindable state, or is in use by some other
                    application.

Action:             Check whether the port has been configured for use by a
                    different application.  If not, retry the
                    incoming proxy command after 2 minutes.  If this error
                    repeats frequently, contact Cisco TAC.
```

To view information about events that have occurred in all devices in your VDS-SB network, you can use the system message log in the VDSM GUI. The VDSM logs only severity level critical or higher messages from registered nodes. Also, the VDSM logs certain other status messages that are considered important to the Centralized Management System (CMS). The messages displayed in the system message log for device, SB, are not related to the messages logged in the system log file on the sysfs partition on the VDSM as /local1/syslog.txt.

The syslog.txt file on the VDSM contains information about events that have occurred on the VDSM and not on the registered nodes. The messages that are written to the syslog.txt file depend on specific parameters of the system log file that you have set by using the **logging** Global configuration command. For example, a critical error message logged on a registered node does not appear in the syslog.txt file on the VDSM because the problem never occurred on the VDSM but only on the registered node. However, this error message is displayed in the system message log for device the SB device.

Examples

The following example shows how to display the syslog host configuration on an SB:

```
ServiceBroker# show logging
Syslog to host is disabled
Priority for host logging is set to:  warning

Syslog to console is disabled
Priority for console logging is set to:  warning

Syslog to disk is enabled
Priority for disk logging is set to:  notice
Filename for disk logging is set to:  /local1/syslog.txt

Syslog facility is set to *

Syslog disk file recycle size is set to 500000
```

Related Commands

Command	Description
clear	Clears the HTTP object cache, the hardware interface, statistics, archive working transaction logs, and other settings.
logging	Configures system logging.

show mount-option

To display the mount options, use the **show mount-option** command in EXEC configuration mode.

show mount-option

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-28 describes the fields shown in the **show mount-option** display.

Table 3-28 show mount-option status Field Descriptions

Field	Description
Read/Write	
ReadBlock Size	
WriteBlock Size	
Mount Timeout	
Retransmit	
Retry Minutes	

Related Commands

Command	Description
mount-option	Configures the mount option profile for remote storage.

show ntp

To display the Network Time Protocol (NTP) parameters, use the **show ntp** command in EXEC configuration mode.

show ntp status

Syntax Description

status	Displays the NTP status.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-29 describes the fields shown in the **show ntp status** display.

Table 3-29 show ntp status Field Descriptions

Field	Description
NTP	Status of whether NTP is enabled or disabled.
server list	NTP server IP and subnet addresses.
remote	Name (first 15 characters) of remote NTP server.
*	In the remote column, identifies the system peer to which the clock is synchronized.
+	In the remote column, identifies a valid or eligible peer for NTP synchronization.
space	In the remote column, indicates that the peer was rejected. (The peer could not be reached or excessive delay occurred in reaching the NTP server.)
x	In the remote column, indicates a false tick and is ignored by the NTP server.
-	In the remote column, indicates a reading outside the clock tolerance limits and is ignored by the NTP server.
refid	Clock reference ID to which the remote NTP server is synchronized.
st	Clock server stratum or layer.
t	Type of peer (local, unicast, multicast, or broadcast).
when	Status of when the last packet was received from the server, in seconds.
poll	Time check or correlation polling interval, in seconds.
reach	8-bit reachability register. If the server was reachable during the last polling interval, a 1 is recorded; otherwise, a 0 is recorded. Octal values 377 and above indicate that every polling attempt reached the server.
delay	Estimated delay (in milliseconds) between the requester and the server.
offset	Clock offset relative to the server.
jitter	Clock jitter.

Related Commands

Command	Description
clock	Sets or clears clock functions or updates the calendar.
ntp	Configures the NTP server and allows the system clock to be synchronized by a time server.

show processes

To display CPU or memory processes, use the **show processes** command in EXEC configuration mode.

show processes [**cpu** | **debug** *pid* | **memory** | **system** [**delay** *delay_num* | **count** *count_num*]]

Syntax Description

cpu	(Optional) Displays the CPU utilization.
debug	(Optional) Displays the system call and signal traces for a specified process identifier (PID) to display system progress.
pid	Process identifier.
memory	(Optional) Displays memory allocation processes.
system	(Optional) Displays system load information in terms of updates.
delay	(Optional) Specifies the delay between updates, in seconds. The range is from 1 to 60.
delay_num	Displays delays between updates, in seconds.
count	(Optional) Specifies the number of updates that are displayed. The range is from 1 to 100.
count_num	Displays the number of updates displayed.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use the commands shown in this section to track and analyze system CPU utilization.

The **show processes debug** command displays the extensive internal system call information and a detailed account of each system call (and arguments) made by each process and the signals that it has received.

Use the **show processes system** command to display system updates. The **delay** option specifies the delay between updates, in seconds. The **count** option specifies the number of updates that are displayed. This command displays these items:

- List of all processes in wide format.
- Two tables listing the processes that use CPU resources. The first table displays the list of processes in descending order of utilization of CPU resources based on a snapshot taken after the processes system (ps) output is displayed. The second table displays the same processes based on a snapshot taken 5 seconds after the first snapshot.
- Virtual memory used by the corresponding processes in a series of five snapshots, each separated by 1 second.

Note CPU utilization and system performance may be affected when you use the **show process** command. We recommend that you avoid using the s**how process** command with keywords **system** and especially **debug,** unless it is absolutely necessary.

Table 3-30 describes the fields shown in the **show processes** displays.

Table 3-30 show processes Field Descriptions

Field	Description
CPU Usage	CPU utilization as a percentage for user, system overhead, and idle.
PID	Process identifier.
STATE	Current state of corresponding processes: R = Running S = Sleeping in an interruptible wait D = Sleeping in an uninterruptible wait or swapping Z = Zombie T = Traced or stopped on a signal
PRI	Priority of processes.
User T	User time utilization, in seconds.
Sys T	System time utilization, in seconds.
COMMAND	Process command.
Total	Total available memory, in bytes.
Used	Memory currently used, in bytes.
Free	Free memory available, in bytes.
Shared	Shared memory currently used, in bytes.
Buffers	Buffer memory currently used, in bytes.
Cached	Cache memory currently used, in bytes.
TTY	TTY to which the process is attached. For example, TTY may indicate which processes belong to network Telnet sessions.
%MEM	Percentage of memory used by corresponding processes.
VM Size	Virtual memory size (in bytes) allocated to the corresponding process.
RSS (pages)	Resident set size, which indicates the number of pages that the process has in real memory minus three (–3) for administrative purposes. These pages count toward text, data, and stack space, but do not count demand-loaded or swapped-out pages.
Name	Filename of the executable, in parentheses.

show radius-server

To display RADIUS information, use the **show radius-server** command in EXEC configuration mode.

show radius-server

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-31 describes the fields shown in the **show radius-server** display.

Table 3-31 show radius-server Field Descriptions

Field	Description
Login Authentication for Console/Telnet Session	Status of whether RADIUS server is enabled for login authentication.
Configuration Authentication for Console/Telnet Session	Status of whether RADIUS server is enabled for authorization or configuration authentication.
Authentication scheme fail-over reason	Status of whether SBs fail over to the secondary method of administrative login authentication whenever the primary administrative login authentication method fails.
RADIUS Configuration	RADIUS authentication settings.
RADIUS Authentication	Status of whether RADIUS authentication is enabled on the SB.
Key	Key used to encrypt and authenticate all communication between the RADIUS client (the SB) and the RADIUS server.
Timeout	Number of seconds that the SB waits for a response from the specified RADIUS Authentication Server before declaring a timeout.
Retransmit	Number of times that the SB is to retransmit its connection to the RADIUS if the RADIUS timeout interval is exceeded.
Radius Redirect	Status of whether the RADIUS server redirects the response if an authentication request fails.
Reply-Message	Message sent to the user if redirection occurs.
URL(s) to authentication failure instructions expired	HTML page location or URL where the redirect message should be sent.
Servers	RADIUS servers that the SB is to use for RADIUS authentication.

Table 3-31 show radius-server Field Descriptions (continued)

Field	Description
IP	Hostname or IP address of the RADIUS server.
Port	Port number on which the RADIUS server is listening.

Related Commands

Command	Description
radius-server	Configures RADIUS authentication parameters.

show running-config

To display the current running configuration information on the terminal, use the **show running-config** command in EXEC configuration mode.

show running-config

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command with the **show startup-config** command to compare the information in running memory to the startup configuration used during bootup.

Note This command replaces the **write terminal** command.

Examples

The following example shows how to display the current running configuration information:

```
ServiceBroker# show running-config
! VDS-SB version 2.6.0
!
device mode service-broker
!
!
hostname EE8-2G2-5
!
!
authsvr location-server primary 4.0.1.3 7000
!
!
clock timezone PDT -7 0
!
!
ip domain-name telstra.com
!
exec-timeout 0
!
!
!
!
!
interface PortChannel 1
 ip address 188.0.82.8 255.255.255.0
 exit
interface PortChannel 2
 ip address 188.87.0.5 255.255.0.0
 exit
```

```
!
interface GigabitEthernet 1/0
 channel-group 1
 exit
interface GigabitEthernet 2/0
 channel-group 1
 exit
interface GigabitEthernet 3/0
 channel-group 2
 exit
interface GigabitEthernet 4/0
 channel-group 2
 exit
interface GigabitEthernet 5/0
 channel-group 2
 exit
interface GigabitEthernet 6/0
 channel-group 2
 exit
interface GigabitEthernet 7/0
 channel-group 2
 exit
interface GigabitEthernet 8/0
 channel-group 2
 exit
interface GigabitEthernet 9/0
 channel-group 2
 exit
interface GigabitEthernet 10/0
 channel-group 2
 exit
!
streaming-interface PortChannel 2
!
!
ip default-gateway 188.0.82.1
ip default-gateway 188.87.0.1
!
!
port-channel load-balance round-robin
primary-interface PortChannel 2
!
transaction-logs enable
transaction-logs archive max-file-size 2000000
transaction-logs archive max-file-number 50
transaction-logs archive interval 300
transaction-logs export enable
transaction-logs export interval 5
transaction-logs export sftp-server 188.0.84.5 root **** /var/ftp/pub/
upload
transaction-logs format custom "%J"
!
!
!
!
!
ip name-server 188.0.84.7
!
ip route 10.74.61.0 255.255.255.0 188.87.0.1
ip route 171.70.77.0 255.255.255.0 188.87.0.1
ip route 188.85.0.3 255.255.255.255 188.87.0.1
ip route 188.0.86.3 255.255.255.255 188.0.82.1
ip route 188.85.0.4 255.255.255.255 188.87.0.1
ip route 225.1.1.12 255.255.255.255 188.87.0.1
```

```
ip route 239.1.1.12 255.255.255.255 188.87.0.1
ip route 239.1.1.14 255.255.255.255 188.87.0.1
ip route 224.0.0.22 255.255.255.255 188.87.0.1
!
!
!
ntp server 171.68.10.150
ntp server 171.68.10.80
!
!
!
!
!
!
!
!
!
!
rule enable
!
!
!
!
!
movie-streamer enable
movie-streamer max-concurrent-sessions 10000
movie-streamer advanced client idle-timeout 0
movie-streamer advanced client rtp-timeout 0
bitrate movie-streamer outgoing 6000000
bitrate movie-streamer incoming 6000000
!
rtsp advanced max-request-rate 1000
wmt max-concurrent-sessions 14000
wmt cache min-ttl 1
wmt cache max-ttl days 3
wmt advanced client idle-timeout 300
wmt advanced server inactivity-timeout 300
wmt transaction-logs format extended wms-90
!
username admin password 1 $5$bVz2jc/k$QYvCAKrBmq3YqM5IklvuGrXQACMelfON
dq3/siTpqV8
username admin privilege 15
!
snmp-server enable traps config
snmp-server enable traps service-broker disk-fail
snmp-server enable traps alarm raise-critical
snmp-server enable traps alarm clear-critical
snmp-server enable traps alarm raise-major
snmp-server enable traps alarm clear-major
snmp-server enable traps alarm raise-minor
snmp-server enable traps alarm clear-minor
snmp-server enable traps entity
snmp-server enable traps snmp cold-start
snmp-server host 188.0.84.6 telstra v2c
snmp-server group telstra v2c read telstra notify telstra
snmp-server community telstra
!
!
!
tacacs key ****
tacacs password ascii
tacacs host 188.0.84.5 primary
!
!
```

```
ftp enable
!
telnet enable
!
!
!
!
!
!
!
VDSM ip 188.0.86.3
cms enable
!
cms database maintenance regular schedule every-day at 04:00
cms database maintenance full schedule Sun  at 04:00
!
kernel kdb
disk error-handling reload
!
banner enable
!
bandwidth wmt outgoing 6000000 default
bandwidth wmt outgoing 6000000 max-bandwidth
bandwidth wmt incoming 6000000 default
bandwidth wmt incoming 6000000 max-bandwidth
bandwidth movie-streamer outgoing 6000000 default
bandwidth movie-streamer outgoing 6000000 max-bandwidth
bandwidth movie-streamer incoming 6000000 default
bandwidth movie-streamer incoming 6000000 max-bandwidth
!
url-signature key-id-owner  1 key-id-number  1 key ****
url-signature key-id-owner  2 key-id-number  2 key ****
!
!
!
!
!
!
!
!
contentmgr disk-bucket-fail-threshold 1
!
! End of VDS-SB configuration
ServiceBroker#
```

Related Commands

Command	Description
configure	Enters Global configuration mode.
copy	Copies the configuration or image data from a source to a destination.

show service-broker

To display the Service Broker configuration, use the **show service-broker** command in EXEC configuration mode.

On the SB:

show service-broker { access-policy | bfqdn [all | domain] | cdn | cdn-network [dump-file | ip-address] | cdn-selection-policy [print-script] | memory | service-broker-policy [print-script] | status [all | cdn] }

Syntax Description

access-policy	Displays Access-Policy configurations.
bfqdn	Displays Broker FQDN information.
all	(Optional) Displays all BFQDNs
domain	(Optional) Displays BFQDN for a given broker.
cdn	Displays CDN Information
cdn-network	Displays CDN network (OnNet and OffNet) configuration.
dump-file	Dump CDN network configuration to File.
ip-address	Displays CDN network for the Client IP-Address.
cdn-selection-policy	Displays CDN Selection Policy configuration.
print-script	(Optional) Print Script contents to File.
memory	Diaplays Memory Usage statistics for Service Broker.
service-broker-policy	Displays Service Broker Policy configuration.
status	Displays Status of CDN.
all	Displays Status of all CDNs.
cdn	Displays for a given CDN.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

This command allows users to check the Service Broker-related configuration. Through this command, users can view the configured features of an SB, such as location-based parameters.

Note The Load percentage displayed in the Average Device Load field when the **show service-broker service-monitor** command is executed on the SB is the maximum of the average disk load/average CPU load given both CPU and disk monitoring are enabled on the SB.

The memory usage is calculated in the **show service-broker service-monitor** command as follows:

Total used memory = total memory - (total free memory + total buffer memory + total cache memory) + total pinned memory. The percentage of total used memory = (total used memory)/total memory.

The total memory, total free memory, total buffer memory, and total cache memory are obtained from /proc/meminfo. The total pinned memory is obtained from /proc/ukse/ukse_prefetch_details.

show services

To display services-related information, use the **show services** command in EXEC configuration mode.

show services {**ports** [*port_num*] | **summary**}

Syntax Description

ports	Displays services by port number.
port_num	(Optional) Displays up to eight port numbers. The port number range is from 1 to 65535.
summary	Displays the services summary.

Defaults

None

Command Modes

EXEC configuration mode.

Examples

The following example shows how to display the services information by the port number:

```
VDSM# show services ports
Service information by port
 ---------------------------
  550    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                Cisco_Streaming_Engine
  553    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                RTSP_Gateway
  554    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                RTSP_Gateway
    .
    .
    .
15256    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                CMS
27999    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                Real_Server
28000    Started on Mon Oct 14 12:13:20 2002
         Runs 1 service
                Real_Proxy
```

The following example shows how to display a services information summary, showing the service and the associated port numbers:

```
VDSM# show services summary

             Service        Ports
-----------------------------------------------------
                 CMS         15256  2000  2001  2002  2003  2004  2005
                 GUI          8001
                 Wmt          1755  1756  1757  1799
                 icp          3128
                emdb          5432
             CertMgr          6001
           MgmtAgent          5252
          Real_Proxy          1090  8082  9002   555 28000  7879  6060  7071  30
31
          VDSM_UI_http          8443
          Real_Server          7070  8081  9091 27999  7878  7802  1554  3030  40
40  5050
        RTSP_Gateway           554   553
     RPC_APACHE_PORT          6550
temp_RPC_APACHE_PORT          8008
Cisco_Streaming_Engine         550 SNMP
```

show snmp

To check the status of Simple Network Management Protocol (SNMP) communications, use the **show snmp** command in EXEC configuration mode.

show snmp {**alarm-history** | **engineID** | **group** | **stats** | **user**}

Syntax Description

alarm-history	Displays SNMP alarm history information.
engineID	Displays the local SNMP engine identifier.
group	Displays SNMP groups.
stats	Displays SNMP statistics.
user	Displays SNMP users.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

This command provides information on various SNMP variables and statistics on SNMP operations.

Table 3-32 describes the fields shown in the **snmp alarm-history** display.

Table 3-32 show snmp alarm-history Field Descriptions

Field	Description
Index	Serial number of the listed alarms.
Type	Status of whether the alarm has been Raised or Cleared.
Sev	Levels of alarm severity (Critical, Major or Minor).
Alarm ID	Traps sent by a VDS-SB device contain numeric alarm IDs.
ModuleID	Traps sent by a VDS-SB device contain numeric module IDs. See Table 3-34 to map module names to module IDs.
Category	Traps sent by an VDS-SB device contain numeric category IDs. See Table 3-34 to map category names to category IDs.
Descr	Description of the VDS-SB software alarm and the application that generated the alarm.

Table 3-33 describes the mapping of module names to module IDs.

Table 3-33 Mapping of Module Names to Module IDs

Module Name	Module ID
acquirer	4000
AD_DATABASE	8000
cms	3000
MULTICAST_DATA_SENDER	7000
NHM	1
NHM/NHM	2500
nodemgr	2000
standby	4000
sysmon	1000
UNICAST_DATA_RECEIVER	5000
UNICAST_DATA_SENDER	6000

Table 3-34 describes the mapping of category names to category IDs.

Table 3-34 Mapping of Category Names to Category IDs

Category Name	Category ID
Communications	1
Service Quality	2
Processing Error	3
Equipment	4
Environment	5
Content	6

Table 3-35 describes the fields shown in the **show snmp stats** display.

Table 3-35 show snmp stats Field Descriptions

Field	Description
SNMP packets input	Total number of SNMP packets input.
Bad SNMP version errors	Number of packets with an invalid SNMP version.
Unknown community name	Number of SNMP packets with an unknown community name.
Illegal operation for community name supplied	Number of packets requesting an operation not allowed for that community.
Encoding errors	Number of SNMP packets that were improperly encoded.
Number of requested variables	Number of variables requested by SNMP managers.
Number of altered variables	Number of variables altered by SNMP managers.

Table 3-35 show snmp stats Field Descriptions (continued)

Field	Description
Get-request PDUs	Number of GET requests received.
Get-next PDUs	Number of GET-NEXT requests received.
Set-request PDUs	Number of SET requests received.
SNMP packets output	Total number of SNMP packets sent by the router.
Too big errors	Number of SNMP packets that were larger than the maximum packet size.
Maximum packet size	Maximum size of SNMP packets.
No such name errors	Number of SNMP requests that specified a MIB object that does not exist.
Bad values errors	Number of SNMP SET requests that specified an invalid value for a MIB object.
General errors	Number of SNMP SET requests that failed because of some other error. (It was not a No such name error, Bad values error, or any of the other specific errors.)
Response PDUs	Number of responses sent in reply to requests.
Trap PDUs	Number of SNMP traps sent.

Table 3-36 describes the fields shown in the **show snmp engineID** display.

Table 3-36 show snmp engineID Field Descriptions

Field	Description
Local SNMP Engine ID	String that identifies the copy of SNMP on the local device.

Table 3-37 describes the fields shown in the **show snmp group** display.

Table 3-37 show snmp group Field Descriptions

Field	Description
groupname	Name of the SNMP group, or collection of users who have a common access policy.
security_model	Security model used by the group (v1, v2c, or v3).
readview	String identifying the read view of the group.
writeview	String identifying the write view of the group.
notifyview	String identifying the notify view of the group.

Table 3-38 describes the fields shown in the **show snmp user** display.

Table 3-38 show snmp user Field Descriptions

Field	Description
User name	String identifying the name of the SNMP user.
Engine ID	String identifying the name of the copy of SNMP on the device.
Group Name	Name of the SNMP group, or collection of users who have a common access policy.

Related Commands

Command	Description
snmp-server community	Configures the community access string to permit access to the SNMP.
snmp-server contact	Sets the system server contact (sysContact) string.
snmp-server enable traps	Enables the SE to send SNMP traps.
snmp-server group	Defines a user security model group.
snmp-server host	Specifies the recipient of a host SNMP trap operation.
snmp-server location	Sets the SNMP system location string.
snmp-server notify inform	Configures the SNMP notify inform request.
snmp-server user	Defines a user who can access the SNMP server.
snmp-server view	Defines a SNMP V2 MIB view.

show ssh

To display Secure Shell (SSH) status and configuration information, use the **show ssh** command in EXEC configuration mode.

show ssh

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Related Commands

Command	Description
sshd	Enables the SSH daemon.

show standby

To display standby interface information, use the **show standby** command in EXEC configuration mode.

show standby

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-39 describes the fields shown in the **show standby** display.

Table 3-39 show standby Field Descriptions

Field	Description
Standby Group	Number that identifies the standby group.
Description	Description of the device, as configured by using the **description** option of the **interface** Global configuration command.
IP address	IP address of the standby group.
netmask	Netmask of the standby group.
Member interfaces	Member interfaces of the standby group. Shows which physical interfaces are part of the standby group. Shows the interface definition, such as GigabitEthernet 1/0.
priority	Priority status of each interface.
Active interface	Interfaces that are currently active in the standby group.
Maximum errors allowed on the active interface	Maximum number of errors allowed on the active interface.

Related Commands

Command	Description
show interface	Displays the hardware interface information.
show running-config	Displays the current running configuration information on the terminal.
show startup-config	Displays the startup configuration.

show startup-config

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

show startup-config

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Use this command to display the configuration used during an initial bootup, stored in non-volatile random-access memory (NVRAM).

Examples

The following example shows how to display the startup configuration details on the SB:

```
ServiceBroker# show startup-config
! VDS-SB version 2.3.9
!
device mode service-broker
!
!
hostname V2-CDE220-3
!
!
!
primary-interface PortChannel 1
!
!
interface PortChannel 1
 ip address 3.1.14.72 255.255.255.0
 exit
interface PortChannel 2
 ip address 4.0.8.13 255.255.255.0
 exit
!
interface GigabitEthernet 1/0
 channel-group 2
 exit
interface GigabitEthernet 2/0
 channel-group 2
 exit
interface GigabitEthernet 3/0
 channel-group 1
 exit
interface GigabitEthernet 4/0
 channel-group 1
 exit
interface GigabitEthernet 5/0
```

```
 channel-group 1
 exit
interface GigabitEthernet 6/0
 channel-group 1
 exit
!
!
ip default-gateway 3.1.14.1
!
!
offline-operation enable
!
!
!
rule action block pattern-list 3
rule action redirect http://www.baidu.com pattern-list 2
rule pattern-list 1 url-regex http://chunliu.com/b.wmv
rule pattern-list 2 header-field request-line b.wmv
rule pattern-list 3 header-field request-line c.wmv
!
icap service camiant
  server icap://trythis/servername
  exit
!
!
!
transaction-logs enable
transaction-logs archive interval 120
!
username admin password 1 bVmDmMMmZAPjY
username admin privilege 15
!
!
authentication login local enable primary
authentication configuration local enable primary
!
access-lists 300 deny groupname Disney
access-lists 300 permit groupname any
access-lists enable
!
!
telnet enable
!
!
!
VDSM ip 4.0.8.10
cms enable
!
!
!
service-broker service-monitor threshold wmt 50
service-broker service-monitor number-of-samples wmt 5
service-broker service-monitor sample-period wmt 15
qos device-policy-service enable
!
!
cache content max-cached-entries 1000
! End of VDS-SB configuration
```

Related Commands

Command	Description
configure	Enters Global configuration mode.
copy	Copies the configuration or image data from a source to a destination.
show running-config	Displays the current running configuration information on the terminal.

show statistics

To display the SB statistics, use the **show statistics** command in EXEC configuration mode.

show statistics { aaa | authentication | fd | icmp| icmpv6 | ip | lsof | netstat | radius | service-broker | services | snmp | tacacs | tcp | transaction-logs | udp }

On SB only:

show statistics {all | BFQDN [all | domain] | cdn [all | name] | geo-location | history | javascript | summary}}

Syntax Description

aaa	Displays AAA statistics.
all	
authentication	Displays User Authentication statistics.
fd	Displays File Descriptors Limits.
icmp	Displays ICMP statistics.
icmpv6	Displays ICMPV6 statistics.
ip	Displays IP statistics.
lsof	Displays List of Open File Descriptors.
netsat	Display Internet Socket Connections.
radius	Display Radius statistics.
service-broker	Displays Service Broker statistics.
services	Displays Services related statistics.
snmp	Displays SNMP statistics.
tacas	Displays TACAS+ statistics
tcp	Displays TCP statistics.
transaction-logs	Displays Transaction log export statistics.
udp	Displays UDP statistics.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The access control list statistics display the number of access requests, denials, and permissions recorded. Use the **show statistics access-lists 300** command to display the number of group name accesses recorded.

Table 3-40 describes the fields shown in the **show statistics access-lists 300** display.

Table 3-40 show statistics access-lists 300 Field Descriptions

Field	Description
Access Control Lists Statistics	
Groupname and username-based List	Lists the group name-based access control lists.
Number of requests	Number of requests.
Number of deny responses	Number of deny responses.
Number of permit responses	Number of permit responses.

Related Commands

Command	Description
clear	Clears the HTTP object cache, the hardware interface, statistics, archive working transaction logs, and other settings.

show statistics access-lists

To display SB access control list statistics, use the **show statistics access-lists** command in EXEC configuration mode.

show statistics access-lists

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

The access control list statistics display the number of access requests, denials, and permissions recorded. Use the **show statistics access-lists 300** command to display the number of group name accesses recorded.

Table 3-41 describes the fields shown in the **show statistics access-lists 300** display.

Table 3-41 show statistics access-lists 300 Field Descriptions

Field	Description
Access Control Lists Statistics	
Groupname and username-based List	Lists the group name-based access control lists.
Number of requests	Number of requests.
Number of deny responses	Number of deny responses.
Number of permit responses	Number of permit responses.

Related Commands

Command	Description
clear	Clears the HTTP object cache, the hardware interface, statistics, archive working transaction logs, and other settings.

show statistics admission

To display admission control statistics, use the **show statistics admission** command in EXEC configuration mode.

show statistics admission

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-42 describes the fields shown in the **show statistics admission** display.

Table 3-42 show statistics admission

Field	Description
QOS Admission Check	
Bypassed	
Attempts	
Succeeded	
Failed	
Best effort	
Attempts	
Based on congestion	
Succeeded	
Failed	
Too many sessions	
Average too low	
Soft guaranteed	
Attempts	
Succeeded	
Failed	
Disk congestion	

Table 3-42 show statistics admission (continued)

Field	Description
BE would be too low	
Over threshold	
Hard guaranteed	
Attempts	
Succeeded	
Failed	
Hole management	
Bypassed	
Succeeded	
Failed	
fill too close	
Hit data	
with active fill	
request range inside inactive fill	
request range overlaps inactive fill	
Hit hole	
not aligned, 2 fills	
aligned, 1 fill	
too many fills	
too many holes	
fill from start	
active fill	
fill from left	
Disk overload	
Misc errors	

show statistics fd

To display file descriptors limit statistics, use the **show statistics netstat** command in EXEC configuration mode.

show statistics fd

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC configuration mode.

Usage Guidelines

Table 3-43 describes the fields shown in the **show statistics fd** display.

Table 3-43 show statistics netstat Field Descriptions

Field	Description
Number of file descriptors in use	Displays the number of file descriptiors currently in use.
Maximum number of file descriptions allowed	Displays the maximum number of file descriptions alowed at one time.
Percentage of file descriptions in use	Displays the percentage of file descrptions currently in use.

Examples

The following is sample output from the **show statistics fd** command:

```
ServiceBroker# show statistics fd
Number of file descriptors in use            = 3600
Maximum number of file descriptions allowed  = 262144
Percentage of file descriptions in use       = 1.37%
```