T5850-24S2C Network Packet Broker CLI Reference Guide

Models: T5850-24S2C

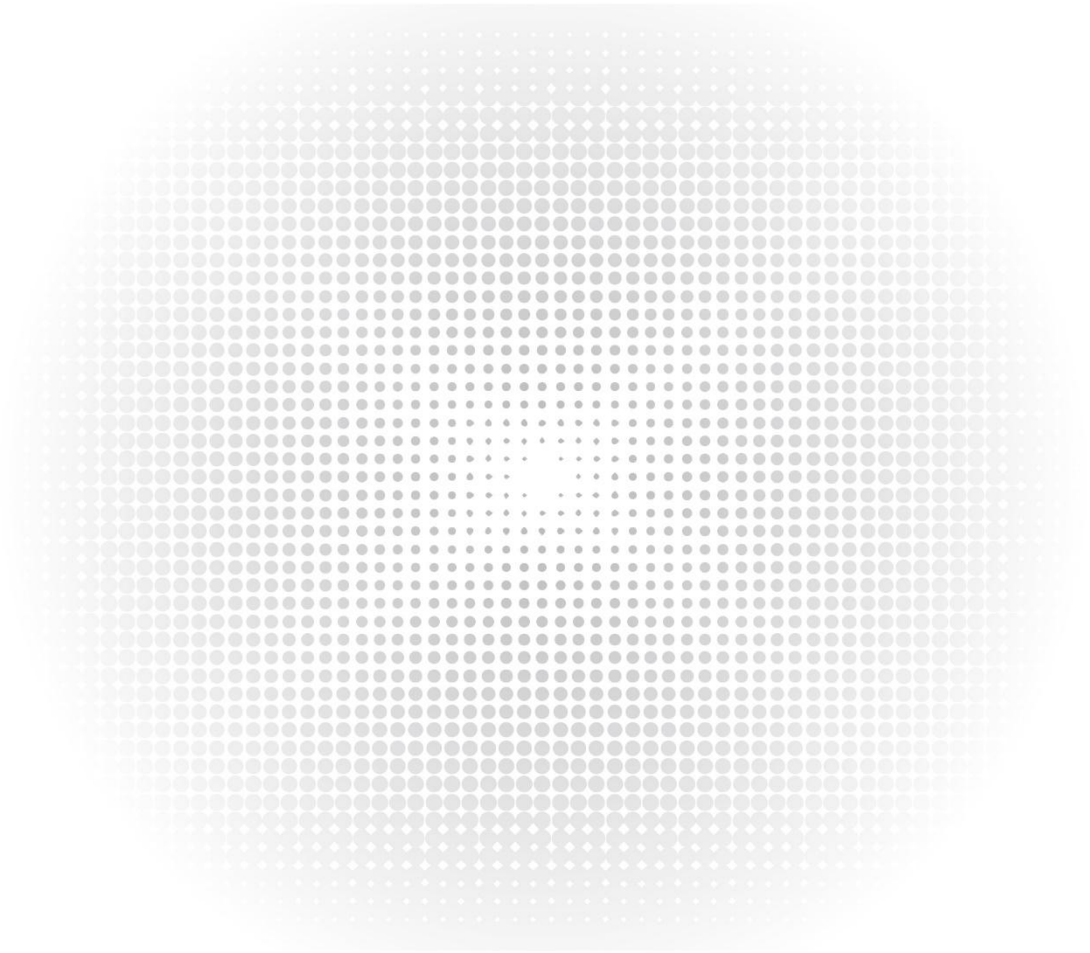


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Chapter 1 Command Syntax Conventions

Syntax	Description
Italic type with capital letters	Use *italic type* with capital letters for the parameters of the commands. Parameters are the parts which need to replace with the actual value.
(x|y|…)	Select one among the choices.
(x|y|…|)	Select one or none among the choices.
[x|y|…]	Select one or more among the choices. The choices can be selected repeatedly.
[x|y|…|]	Select one or more or none among the choices. The choices can be selected repeatedly.
{x|y|…}	Select one or more among the choices. The choices can be selected only once.
{x|y|…|}	Select one or more or none among the choices. The choices can be selected only once.
<x-y>	Select a number between x and y.

Chapter 2 INTERFACE Commands

2.1 Interface range

Command Purpose

Use this command to enter interface range mode, include physical port, linkagg interface.

Command Syntax

Interface range *KLINE*

Parameter	Parameter Description	Parameter Value
KLINE	Interface range, with "," or "-" to distinguish the interface range set.	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to enter interface range eth-0-1 to eth-0-24 and shutdown these 24 interfaces:

NPB(config)# interface range eth-0-1 - 24
NPB(config-if-range)# shutdown

The following example shows how to enter interface eth-0-8 and eth-0-10, and shutdown these 2 interfaces:

NPB(config)# interface range eth-0-8,eth-0-10
NPB(config-if-range)# shutdown

Related Commands

Interface

2.2 Interface

Command Purpose

Use this command to enter interface mode or create iloop interface.

Command Syntax

Interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. E.g.eth-0-1, agg1,iloop1.	-

Command Mode

Global Configuration

Default

None

Usage

The interface name can be a physical port name (i.e. Eth-0-1), link-agg name (i.e. Agg1) or iloop port name(i.e. lloop1).

Examples

This example shows how to enter physical port eth-0-1:

NPB(config)# interface eth-0-1

This example shows how to enter aggregation interface agg10:

NPB(config)# interface agg10

This example shows how to create iloop interface iloop1:

NPB(config)# interface iloop1

Related Commands

Interface range

2.3 No interface

Command Purpose

Use this command to delete iloop interface.

Command Syntax

No interface *IF_ILOOP_NAME*

Parameter	Parameter Description	Parameter Value
IF_ILOOP_NAME	Specify the iloop interface name. E.g.iloop1.	-

Command Mode

Global Configuration

Default

None

Usage

The interface name can only be a iloop port name(i.e. lloop1).

Examples

This example shows how to delete iloop interface iloop1:

NPB(config)# no interface iloop1

Related Commands

Interface

2.4 Shutdown

Command Purpose

Use this command to disable the interface manually. Use the no form of this command to enable the interface.

Command Syntax

Shutdown

No shutdown

Command Mode

Interface Configuration

Default

No shutdown

Usage

None

Examples

The following example shows how to enter physical port eth-0-1 and disable the interface:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# shutdown

The following example shows how to enter physical port eth-0-1 and enable the interface:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no shutdown

Related Commands

Show interface status

2.5 Description

Command Purpose

Use this command to set the description on the interface.

And use the no form of this command to delete the description.

Command Syntax

Description *LINE*

No description

Parameter	Parameter Description	Parameter Value
LINE	Interface description	-

Command Mode

Interface Configuration

Default

None

Usage

None

Examples

The following example shows how to set the description on the interface eth-0-1:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# description tengigabitethernet

The following example shows how to remove the description on the interface eth-0-1:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no description

Related Commands

Show interface description

2.6 Speed

Command Purpose

Use this command to set the interface speed. And use the no form of this command to restore the interface to its default speed value.

Command Syntax

Speed (auto | 10 | 100 | 1000 | *2.5G* | *5G* | *10G* | *25G* | *40G* | *100G*)

No speed

Parameter	Parameter Description	Parameter Value
Auto	Auto negotiation the speed of a port	-
10	Force the port speed to be 10Mb/s	-
100	Force the port speed to be 100Mb/s	-
1000	Force the port speed to be 1000Mb/s	-
2.5G	Force the port speed to be 2.5Gb/s	-
5G	Force the port speed to be 5Gb/s	-
10G	Force the port speed to be 10Gb/s	-
25G	Force the port speed to be 25Gb/s	-
40G	Force the port speed to be 40Gb/s	-
100G	Force the port speed to be 100Gb/s	-

Command Mode

Interface Configuration

Default

Auto

Usage

For different interface, some speed value can't be set.

Examples

The following example shows how to set the port speed to 1000Mb/s:

```
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# speed 1000
```

The following example shows how to restore the port speed to default value:

```
NPB(config-if-eth-0-1)# no speed
```

Related Commands

Show interface status

Show interface

2.7 Duplex

Command Purpose

Use this command to set the mode of operation for a port. And use the no form of this command set the mode of operation to default value.

Command Syntax

Duplex (auto | full | half)

No duplex

Parameter	Parameter Description	Parameter Value
Auto	Auto negotiation mode, the port should be automatically detected in full duplex or half duplex state according to the device it is connected to	-
Full	Full duplex mode	-
Half	Half duplex mode, can only be configured on ports of 10M or 100M	-

Command Mode

Interface Configuration

Default

Auto

Usage

Half mode is only supported on 10M/100M link.

Examples

The following example shows how to set interface eth-0-1 duplex mode to auto:

```
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# duplex auto
```

The following example shows how to set interface eth-0-1 duplex mode to full:

```
NPB(config-if-eth-0-1)# duplex full
```

The following example shows how to set interface eth-0-1 duplex mode to default:

```
NPB(config-if-eth-0-1)# no duplex
```

Related Commands

Show interface status

Show interface

2.8 Unidirectional

Command Purpose

Use this command to set unidirectional function for a port.

Command Syntax

Unidirectional (enable | disable | rx-only)

Parameter	Parameter Description	Parameter Value
Enable	Enable unidirectional	-
Disable	Disable unidirectional	-
Rx-only	Receive only	-

Command Mode

Interface Configuration

Default

Disable

Usage

None

Examples

The following example shows how enable unidirectional on interface eth-0-1:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# unidirectional enable

The following example shows how disable unidirectional on interface eth-0-1:

NPB(config-if-eth-0-1)# unidirectional disable

Related Commands

Show interface status

Show interface

2.9 Fec

Command Purpose

Use the command to set fec function for a port. And use the no form of this command set fec function to default value.

Command Syntax

Fec (none | baser | rs)

No fec

Parameter	Parameter Description	Parameter Value
None	Set fec none	-
Baser	Set fec baser	-
Rs	Set fec rs	-

Command Mode

Interface Configuration

Default

None

Usage

None

Examples

The following example shows how to set fec none for a port:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# fec none

Related Commands

Show interface status

2.10 Static-channel-group

Command Purpose

Use this command to add a port to a static channel group. And use the no form of this command to remove this port from this static channel group.

Command Syntax

Static-channel-group *AGG_GID*

No static-channel-group

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-55>

Command Mode

Interface Configuration

Default

None

Usage

The valid range of channel group id is limited by hardware and is different for each model.

Examples

The following example shows how to add interface eth-0-1 to static channel group 2:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# static-channel-group 2

The following example shows how to remove interface eth-0-1 from static channel group 2:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no static-channel-group

Related Commands

Show interface

2.11 Distribute-weight

Command Purpose

Use this command to set port weight of static channel group member.

Command Syntax

Distribute-weight *VALUE*

No distribute-weight

Parameter	Parameter Description	Parameter Value
VALUE	The weight value of port	Range is <1-63>

Command Mode

Interface Configuration

Default

1

Usage

The total weight of static channel group member should under the max member number.

Examples

The following example shows how to set interface eth-0-1 weight as 2:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# static-channel-group 1

NPB(config-if-eth-0-1)# distribute-weight 2

The following example shows how to set interface eth-0-1 weight to dafault:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no distribute-weight

Related Commands

Static-channel-group

2.12 Media-type

Command Purpose

Use this command to set media type of combo port. And use the no form of this command to set media type to default.

Command Syntax

Media-type (auto | rj45 | sfp)

No media-type

Parameter	Parameter Description	Parameter Value
Auto	Automatically select media type of combo port	-
Rj45	Set media type as rj45	-
Sfp	Set media type as sfp	-

Command Mode

Interface Configuration

Default

Auto

Usage

Different media type of the combo port cannot be active at the same time.

Examples

The following example shows how to set media type of combo port:

NPB(config-if-eth-0-1) media-type auto

The following example shows how to set media type of combo port to default:

NPB(config-if-eth-0-1)# no media-type

Related Commands

Show interface

2.13 Show management interface

Command Purpose

Use this command to display the status and configurations of management interface.

Command Syntax

Show management interface

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to displays the states, configurations and statistics on management interface:

```
NPB# show management interface
Management Interface current state: UP
Description:
Link encap: Ethernet            hwaddr: 00:1E:08:0B:E6:C1
net addr: 10.10.39.104          Mask: 255.255.254.0
Bcast: 10.10.39.255             MTU: 1500
Speed: 1000Mb/s                 Duplex: Full
Auto-negotiation: Enable
Received:               1030834 Packets,            79596824 Bytes (75.9 mib)
Transmitted:            110758 Packets,             16209745 Bytes (15.4 mib)
```

Related Commands

Show interface status

2.14 Show interface

Command Purpose

Use this command to display the configurations and statistics on all interfaces or one interface.

Command Syntax

Show interface (*IF_NAME* |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show	-

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "IF_NAME" is not specified, the command indicates that all interfaces on this device should be displayed; otherwise only the specified interface should be displayed.

Examples

The following example shows how to display the configurations and statistics of interface eth-0-1:

```
NPB# show interface eth-0-1
Interface eth-0-1
   Interface current state: UP
   Hardware is Port, address is 001e.0820.6665
   Bandwidth 10000000 kbits
   Index 1 , Metric 1
   Speed - 10Gb/s ,    Duplex - full ,    Metadata - Disable ,    Media type is 10GBASE_SR
   svlan-tpid - 0x8100
   Link type is autonegotiation
   FEC config: DEFAULT
   FEC status: OFF
   Admin input flow-control is off, output flow-control is off
   Oper input flow-control is off, output flow-control is off
   The Maximum Frame Size is 16127 bytes
   Flow-statistics include-interframe enable
      Last clearing of "show interface" counters never
      5 minutes input rate 0 bits/sec, 0 packets/sec
      5 minutes output rate 0 bits/sec, 0 packets/sec
      0 packets input, 0 bytes
      Received 0 unicast, 0 broadcast, 0 multicast
      0 runts, 0 giants, 0 input errors, 0 CRC
      0 frame, 0 overrun, 0 pause input
      0 packets output, 0 bytes
      Transmitted 0 unicast, 0 broadcast, 0 multicast
      0 underruns, 0 output errors, 0 pause output
      5 minutes input utility rate 0.00%
      5 minutes output utility rate 0.00%
```

Related Commands

Show interface status

2.15 Show interface summary

Command Purpose

Use this command to display the statistics on all interfaces or one interface.

Command Syntax

Show interface summary (*IF_NAME*|)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show	-

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "IF_NAME" is not specified, the command indicates that all interfaces on this device should be displayed; otherwise only the specified interface should be displayed.

Examples

The following example shows how to display the statistic of interface eth-0-1:

```
NPB# show interface summary eth-0-1
RXBS: rx rate (bits/sec)      RXPS: rx rate (pkts/sec)      RXUTI: rx utility rate
TXBS: tx rate (bits/sec)      TXPS: tx rate (pkts/sec)      TXUTI: tx utility rate

Interface   Link    RXBS            RXPS            RXUTI    TXBS            TXPS            TXUTI
----------+------+--------------+--------------+---------+--------------+--------------+---------+
eth-0-1     UP      0               0               0.00%    0               0               0.00%
```

Related Commands

Show interface

2.16 Show interface status

Command Purpose

Use this command to display the brief information on all physical and link aggregation interfaces.

Command Syntax

Show interface status

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the brief information on all physical and link aggregation interfaces:

```
NPB# show interface status
Name          Status          Duplex     Speed      Mode      Type              Description
----------+-----------+--------+--------+-------+------------+----------------
eth-0-1       down            auto       auto       trunk     UNKNOWN
eth-0-2       down            auto       auto       trunk     UNKNOWN
eth-0-3       down            auto       auto       trunk     UNKNOWN
eth-0-4       down            auto       auto       trunk     UNKNOWN
eth-0-5       down            auto       auto       trunk     UNKNOWN
eth-0-6       down            auto       auto       trunk     UNKNOWN
eth-0-7       down            auto       auto       trunk     UNKNOWN
eth-0-8       down            auto       auto       trunk     UNKNOWN
eth-0-9       down            auto       auto       trunk     UNKNOWN
eth-0-10      down            auto       auto       trunk     UNKNOWN
eth-0-11      down            auto       auto       trunk     UNKNOWN
eth-0-12      down            auto       auto       trunk     UNKNOWN
eth-0-13      down            auto       auto       trunk     UNKNOWN
eth-0-14      down            auto       auto       trunk     UNKNOWN
eth-0-15      down            auto       auto       trunk     UNKNOWN
eth-0-16      down            auto       auto       trunk     UNKNOWN
eth-0-17      down            auto       auto       trunk     UNKNOWN
eth-0-18      down            auto       auto       trunk     UNKNOWN
eth-0-19      down            auto       auto       trunk     UNKNOWN
eth-0-20      down            auto       auto       trunk     UNKNOWN
eth-0-21      down            auto       auto       trunk     UNKNOWN
eth-0-22      down            auto       auto       trunk     UNKNOWN
eth-0-23      down            auto       auto       trunk     UNKNOWN
eth-0-24      down            auto       auto       trunk     UNKNOWN
eth-0-25      down            auto       auto       trunk     UNKNOWN
eth-0-26      down            auto       auto       trunk     UNKNOWN
eth-0-27      down            auto       auto       trunk     UNKNOWN
eth-0-28      down            auto       auto       trunk     UNKNOWN
eth-0-29      down            auto       auto       trunk     UNKNOWN
eth-0-30      down            auto       auto       trunk     UNKNOWN
eth-0-31      down            auto       auto       trunk     UNKNOWN
eth-0-32      down            auto       auto       trunk     UNKNOWN
FGE0/33       down            full       40000      trunk     UNKNOWN
FGE0/34       down            full       40000      trunk     UNKNOWN
agg5          down            auto       auto       trunk     LAG
```

Related Commands

Show interface

2.17 Show interface description

Command Purpose

Use this command to display the description information on all interfaces.

Command Syntax

Show interface description

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the description on all physical and link aggregation interfaces:

```
NPB# show interface description
Name            Status          Description
----------+-----------+------------------------------------------------------------
eth-0-1         down              tengigabitethernet
eth-0-2         down
eth-0-3         down
eth-0-4         down
eth-0-5         down
eth-0-6         down
eth-0-7         down
eth-0-8         down
eth-0-9         down
eth-0-10        down
eth-0-11        down
eth-0-12        down
eth-0-13        down
eth-0-14        down
eth-0-15        down
eth-0-16        down
eth-0-17        down
eth-0-18        down
eth-0-19        down
eth-0-20        down
eth-0-21        down
eth-0-22        down
eth-0-23        down
eth-0-24        down
eth-0-25        down
eth-0-26        down
eth-0-27        down
```

```
eth-0-28    down
eth-0-29    down
eth-0-30    down
eth-0-31    down
eth-0-32    down
FGE0/33     down
FGE0/34     down
agg5        down        linkagg5
```

Related Commands

Show interface

2.18 Show interface bandwidth-in-use

Command Purpose

Use this command to display the physical port bandwidth usage information and the current configured log-threshold.

Command Syntax

Show interface bandwidth-in-use [*INTERFACE-NAME* [input | output]]

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display percentage of current bandwidth usage and configuration of current log-threshold:

```
NPB# show interface bandwidth-in-use eth-0-1/1
Name          Direction   Speed      Load-interval Threshold   resumerate Usage
----------+----------+--------+-------------+----------+----------+------
eth-0-1/1   input         40Gb/s    150s              90%           70%           60%
eth-0-1/1   output        40Gb/s    150s              80%           60%           85%
```

Related Commands

None

2.19 Clear counters

Command Purpose

Use this command to clear the statistics information on the interfaces.

Command Syntax

Clear counters (*IF_NAME*|)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to clear the statistics counters.	-

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "IF_NAME" is not specified, the command indicates that all interfaces' statistics counters information on this device should be cleared; otherwise only the specified interface should be cleared.

Examples

The following example shows how to clear the statistics information on all interfaces:

NPB# clear counters

The following example shows how to clear the statistics information on the interface eth-0-1:

NPB# clear counters eth-0-1

Related Commands

Show interface

2.20 Crc-check

Command Purpose

Use this command to set CRC check function for a port.

Command Syntax

Crc-check enable

No crc-check enable

Parameter	Parameter Description	Parameter Value
Enable	Crc check function enable	-

Command Mode

Interface Configuration

Default

Disable

Usage

None

Examples

The following example shows how to enable CRC check function for a port:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# crc-check enable

The following example shows how to disable CRC check function for a port:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no crc-check enable

Related Commands

None

2.21 Crc-recalculation

Command Purpose

Use this command to set CRC recalculation function for a port.

Command Syntax

Crc-recalculation enable

No crc-recalculation enable

Parameter	Parameter Description	Parameter Value
Enable	Crc recalculation function enable	-

Command Mode

Interface Configuration

Default

Enable

Usage

None

Examples

The following example shows how to enable CRC recalculation function for a port:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# crc-recalculation enable

The following example shows how to disable CRC recalculation function for a port:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no crc-recalculation enable

Related Commands

None

2.22 Log-threshold

Command Purpose

Use this command to configure physical port Percentage of the bandwidth utilization warning threshold. And use the no form of this command to

Stop this function.

Command Syntax

Log-threshold { input-rate | output-rate } *BANDWIDTH-IN-USE* resume-rate *RESUME-THRESHOLD*

No log-threshold { input-rate | output-rate }

Parameter	Parameter Description	Parameter Value
BANDWIDTH-IN-USE	Percentage of the bandwidth utilization warning threshold	Range is 1-100
RESUME-THRESHOLD	Percentage of bandwidth utilization recovery logs	Range is 1-BANDWIDTH-IN-USE

Command Mode

Interface Configuration

Default

Disable

Usage

In order to avoid fluctuation of log and alarm information, values of bandwidth-in-use and resume-threshold should be kept as far as possible.

Examples

The following example shows how to set configure physical port input direction Percentage of the bandwidth utilization warning threshold:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# log-threshold input-rate 80 resume-rate 60

The following example shows how to unset the input direction bandwidth utilization of log-threshold on an interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no log-threshold input-rate

Related Commands

None

2.23 Log-threshold output-discard

Command Purpose

Use this command to configure function of of physical port discard packet number warning threshold on output direction.And use the no form of this command to

Stop this function.

Command Syntax

Log-threshold output-discard *THRESHOLD_VALUE* interval *INTERVAL-VALUE*

No log-threshold output-discard

Parameter	Parameter Description	Parameter Value
THRESHOLD_VALUE	Exit direction lost count	Range is 100-4294967295
INTERVAL-VALUE	Statistical time	Range is 1-1440, unit is minutes

Command Mode

Interface Configuration

Default

Disable

Usage

None

Examples

The following example shows,how to configure physical port output direction discard packet number warning threshold in five minutes:

NPB(config-if-eth-0-1)# log-threshold output-discard 100000 interval 5

The following example shows how to unset the interface output direction discard packet of log-threshold。:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no log-threshold output-discard

Related Commands

None

2.24 Show this

Command Purpose

Use this command to show the interface information

Command Syntax

Show this

Command Mode

Interface Configuration

Default

None

Usage

None

Examples

The following example shows how to show interface information:

NPB(config-if-eth-0-1)# show this
interface eth-0-1
!

Related Commands

None

2.25 Show interface max_speed

Command Purpose

Use this command to display the interface current speed and maximum speed

Command Syntax

Show interface max_speed (*IF_NAME_EA* |)

Parameter	Parameter Description	Parameter Value
IF_NAME_EA	IFNAME. This can be either physical port or aggregate port. If this is empty, all the current and max speed of interface will be displayed	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the current speed and maximum speed of all interface:

```
NPB# show interface max_speed
DUT1# show interface max_speed
interface    Currnet speed(kb/s)    Max speed(kb/s)
---------- -------------------- ---------------
eth-0-1      100000                  1000000
eth-0-2      -                       1000000
eth-0-3      -                       1000000
eth-0-4      -                       1000000
eth-0-5      -                       1000000
eth-0-6      -                       1000000
eth-0-7      -                       1000000
eth-0-8      -                       1000000
eth-0-9      -                       1000000
eth-0-10     -                       1000000
eth-0-11     -                       1000000
eth-0-12     -                       1000000
eth-0-13     -                       1000000
eth-0-14     -                       1000000
eth-0-15     -                       1000000
eth-0-16     -                       1000000
eth-0-17     40000000                40000000
eth-0-18     40000000                40000000
eth-0-19     10000000                10000000
eth-0-20     10000000                10000000
eth-0-21     10000000                10000000
eth-0-22     10000000                10000000
eth-0-23     10000000                10000000
eth-0-24     10000000                10000000
eth-0-25     10000000                10000000
eth-0-26     10000000                10000000
eth-0-27     25000000                25000000
eth-0-28     25000000                25000000
eth-0-29     25000000                25000000
eth-0-30     25000000                25000000
eth-0-31     -                       10000000
eth-0-32     -                       10000000
eth-0-33     -                       10000000
eth-0-34     -                       10000000
agg1          0                       80000000
```

Related Commands

None

2.26 Alias interface

Command Purpose

Use this command to configure interface alias name. And use the no form of this command to delete alias name

Command Syntax

Alias interface *ALIAS_NAME IF_NAME*

Parameter	Parameter Description	Parameter Value
ALIAS_NAME	Specify the alias name, the length of alias name shouldn't be greater than 64 bytes and the value should be 0-9A-Za-z_-.	-
IF_NAME	Specify the interface name. E.g.eth-0-1, agg1,iloop1.	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to configure alias name:

NPB(config)# alias interface port1 eth-0-1

Related Commands

Interface

2.27 Transmit

Command Purpose

Use this command to set transmit function for a port.

Command Syntax

Transmit (enable | disable)

Parameter	Parameter Description	Parameter Value
Enable	Enable Data packet tx	-
Disable	Disable Data packet tx	-

Command Mode

Interface Configuration

Default

Enable

Usage

None

Examples

The following example shows how disable transmit on interface eth-0-1:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# transmit disable

Related Commands

Show interface

2.28 Master interface

Command Purpose

Use this command to configure master interface. And use the no form of this command to delete master interface

Command Syntax

Master interface *IF_NAME*

No master interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. E.g.eth-0-1, agg1.	Only support physical and agg interface

Command Mode

Global Configuration

Default

None

Usage

System support up to 5 master interfaces:

Examples

The following example shows how to configure master interface:

NPB(config)# master interface eth-0-1

Related Commands

Show master-backup

2.29 Backup failover disable

Command Purpose

On master interface view, use this command to disable automatic backup failover. And use the no form of this command to enable automatic backup failover.

Command Syntax

Backup failover disable

No backup failover disable

Command Mode

Master-interface Configuration

Default

Enable

Usage

None

Examples

The following example shows how to disable automatic backup failover:

NPB(master-interface-eth-0-1)# backup failover disable

Related Commands

None

2.30 Backup failover mode

Command Purpose

On master-interface configuration, use this command configure agg master interface backup failover mode.

Command Syntax

Backup failover mode *MODE*

Parameter	Parameter Description	Parameter Value
MODE	The backup failover mode of agg master interface. 0:all member ports of agg is down, the agg is down and NPB to backup port. 1:one member port of agg is down, the agg is down and NPB to backup port.	0/1

Command Mode

Master-interface Configuration

Default

Backup failover mode 0

Usage

Can only be configured on agg master interface.

Examples

The following example shows how to configure agg interface backup failover mode:

NPB(master-interface-agg1)# backup failover mode 1

Related Commands

None

2.31 Backup interface

Command Purpose

Use this command to configure backup interface for master interface. And use the no form of this command to delete backup interface

Command Syntax

Backup interface *IF_NAME*

No backup interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. E.g.eth-0-1, agg1.	Only support physical and agg interface

Command Mode

Master-interface Configuration

Default

None

Usage

Every master interface support up to 5 backup interfaces:

Examples

The following example shows how to configure backup interface:

NPB(master-interface-agg1)# backup interface eth-0-1

Related Commands

None

Chapter 3 Errdisable Commands

3.1 Errdisable detect

Command Purpose

Use this command to enable link error status detection function for ports. And use the no form of this command to restore to default value.

Command Syntax

Errdisable detect reason link-flap

No errdisable detect reason link-flap

Parameter	Parameter Description	Parameter Value
Link-flap	Link oscillation detection	-

Command Mode

Global Configuration

Default

Default link-flap is enable

Usage

None

Examples

The following example shows how to enable link error status detection function for port:

NPB# configure terminal
NPB(config)# errdisable detect reason link-flap

The following example shows how to disable link error status detection function for port:

NPB# configure terminal
NPB(config)# no errdisable detect reason link-flap

Related Commands

Show errdisable detect

3.2 Errdisable recovery interval

Command Purpose

Use this command to set the recovery time of the link from the error state. And use the no form of this command to restore recovery time to default value.

Command Syntax

Errdisable recovery interval *ERRDIS_RECOVER_TIMER_PARAM*

No errdisable recovery interval

Parameter	Parameter Description	Parameter Value
ERRDIS_RECOVER_TIMER_PARA	Time interval to recover from error state	Range is 30-86400, unit is second

Command Mode

Global Configuration

Default

300

Usage

None

Examples

The following example shows how to set the interval for error status recovery to 100 seconds:

NPB# configure terminal
NPB(config)# errdisable recover interval 100

The following example shows how to restore the interval to default value:

NPB# configure terminal
NPB(config)# no errdisable recover interval

Related Commands

Show errdisable recovery

3.3 Errdisable recovery reason

Command Purpose

Use this command to enable the error recovery function for the specified reason. And use the no form of this command to disable this function.

Command Syntax

Errdisable recovery reason link-flap

No errdisable recovery reason link-flap

Parameter	Parameter Description	Parameter Value
Link-flap	Enable or disable the error recovery function for link oscillation	-

Command Mode

Global Configuration

Default

Disable

Usage

Use this command to enable or disable the error recovery function for the specified reason。

Examples

The following example shows how to enable the error recovery function for port:

NPB# configure terminal
NPB(config)# errdisable recover reason link-flap

The following example shows how to disable the error recovery function for port:

NPB# configure terminal
NPB(config)# no errdisable recover reason link-flap

Related Commands

Show errdisable recovery

3.4 Errdisable flap

Command Purpose

Use this command set link oscillation parameters. And use the no form of this command to restore to default setting.

Command Syntax

Errdisable flap reason link-flap *ERRDIS_FLAP_COUNT ERRDIS_FLAP_TIME*

No errdisable flap reason link-flap

Parameter	Parameter Description	Parameter Value
ERRDIS_FLAP_COUNT	The maximum number of possible oscillations before setting the port to errdisable	Range is 1-100
ERRDIS_FLAP_TIME	The time of possible oscillations before setting the port to errdisable	Range is 1-120

Command Mode

Global Configuration

Default

The maximum number of possible oscillations before setting the port to errdisable is 10 by default

The time of possible oscillations before setting the port to errdisable is 10 second by default

Usage

There are two parameters in link flap error detection, one is flap count, the other is flap time, if the count of flap reach the max flap count in time of flap time specified, the port will enter errdisable state.

Examples

The following example shows how to set link oscillation parameters:

```
NPB# configure terminal
NPB(config)# errdisable flap reason link-flap 30 40
```

The following example shows how to restore link oscillation parameters to default value:

```
NPB# configure terminal
NPB(config)# no errdisable flap reason link-flap
```

Related Commands

Show errdisable flap

3.5 Show errdisable detect

Command Purpose

Use this command to display whether error detection is enabled.

Command Syntax

Show errdisable detect

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display whether error detection is enabled:

```
NPB# show errdisable detect
errdisable Reason              Detection status
-------------------------+---------------------
link-flap                      Enabled
```

Related Commands

Errdisable detect reason

3.6 Show errdisable recovery

Command Purpose

Use this command to display whether error recovery is enabled.

Command Syntax

Show errdisable recovery

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to get the recovery status of all error reason. If link error is happened, it can get the recovery information.

Examples

The following example shows how to display whether error recovery is enabled:

```
NPB# show errdisable recovery
errdisable Reason              Timer status
-----------------------+---------------------
link-flap                      Enabled
Timer interval: 300 seconds
```

Related Commands

Errdisable recovery interval

Errdisable recovery reason

3.7 Show errdisable flap

Command Purpose

This command is used to display parameters for link oscillation error detection.

Command Syntax

Show errdisable flap

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the link oscillation error detection time, unit is second.

Examples

The following example shows how to display the link oscillation error detection time:

```
NPB# show errdisable flap
errdisable Reason Flaps          Time (sec)
-----------------+----------+----------
link-flap              10              10
```

Related Commands

Errdisable flap

Chapter 4 FLOW Commands

4.1 Show interface flow statistics

Command Purpose

Use this command to show statistics information which matched the flow on the interface.

Command Syntax

Show interface flow statistics *IF_NAME* (*FLOW_SEQ_NUM* |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify an interface name to show flow statistics. This command supports physical or link aggregation interfaces.	-
FLOW_SEQ_NUM	Specify sequence-number to show flow statistics. If the sequence-number is not specified, this command indicates that all rules on this interface should be shown.	-

Command Mode

Privileged EXEC

Default

None

Usage

Interface name must be specified.

Examples

The following example shows how to display the flow statistic on interface eth-0-1:

NPB# show interface flow statistics eth-0-1
TAP group name: g1
flow name: f1
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any (bytes 100 packets 1)
sequence-num 20 deny any src-ip any dst-ip any (bytes 86 packets 1)
(total bytes 186 total packets 2)

Related Commands

Show flow

Clear interface flow statistics

4.2 Clear interface flow statistics

Command Purpose

Use this command to clear statistics information which matched the flow on the interface.

Command Syntax

Clear interface flow statistics *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify an interface name to clear flow statistics. This command supports physical or link aggregation interfaces.	-

Command Mode

Privileged EXEC

Default

None

Usage

Interface name must be specified.

Examples

The following example shows how to clear statistics information which matched the flow on the interface:

NPB# clear interface flow statistics eth-0-1

The following example shows the result after using the command in the example above:

NPB# show interface flow statistics eth-0-1
TAP group name: g1
flow name: f1
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any (bytes 0 packets 0)
sequence-num 20 deny any src-ip any dst-ip any (bytes 0 packets 0)
(total bytes 0 total packets 0)

Related Commands

Show interface flow statistics

4.3 Show flow

Command Purpose

Use this command to show the configuration of flow.

Command Syntax

Show flow (*NAME_STRING* (include *SEARCH_STRING*) | include *SEARCH_STRING*)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Flow name, up to 20 characters. If the flow name is not specified, this command indicates that all flows should be shown.	-
SEARCH_STRING	Show flow configuration and statistics by search.	Up to 15 words

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows the configuration of flow:

```
NPB# show flow
flow f1
remark flow1ipdeny
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any
sequence-num 20 deny any src-ip any dst-ip any
flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any
```

This example shows how to search the configuration and statistics of flow:

```
NPB# show flow include vlan 2 and edit-vlan 3
NPB# show flow include vlan 2 and edit-vlan 3
------------------------------flow info------------------------------
flow f1
  sequence-num 10 permit any src-ip any dst-ip any vlan 2 0x0 edit-vlan 3 edit-cos 0

----------------------------tap-group info----------------------------
tap-group t1
  ingress eth-0-1 flow f1
  egress eth-0-1

----------------------------flow statistics info----------------------------
Interface name: eth-0-1
TAP group name: t1
  flow name: f1
  sequence-num 10 permit any src-ip any dst-ip any vlan 2 0x0 ( bytes 0 packets 0 )

total bytes 0 total packets 0
```

Related Commands

Flow

4.4 Flow

Command Purpose

Use this command to create Flow and then enter Flow configuration mode.

Use the no form of this command to delete the flow.

Command Syntax

Flow *NAME_STRING* (type decap |)

No flow NAME_STRING

Parameter	Parameter Description	Parameter Value
NAME_STRING	Flow name	Up to 20 characters
Type decap	Set the flow type as tunnel decap. Flow with “type decap” parameter can use “inner-match” fields.	-

Command Mode

Global Configuration

Default

None

Usage

If the system already has a flow with the same name, this command will enter the flow configuration mode.

When the name is not used by any flow, this command is to create the flow and then enter the flow configuration mode. When configured with parameter ”type decap” means this flow match tunnel decap, which flow entries can configure “inner-match” fields.

Examples

This example shows how to create a flow named f1 and then enter the flow configuration mode:

```
NPB(config)# flow f1
NPB(config-flow-f1)#
```

The following example shows how to delete the flow:

```
NPB(config)# no flow f1
```

Related Commands

Show flow

4.5 Remark

Command Purpose

Use this command to add remarks for the flow.

Use the no form of this command to delete the remarks.

Command Syntax

Remark NAME_STRING

No remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the flow	Remark string for the flow, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 100 characters.

Command Mode

Flow Configuration

Default

None

Usage

None

Examples

This example shows how to add a remark to describe the flow :

NPB(config-flow-f1)# remark flow1ipdeny

This example shows how to delete the remark of the flow:

NPB(config-flow-f1)# no remark

Related Commands

Show flow

4.6 No sequence-num

Command Purpose

Use this command to delete a filter from flow.

Command Syntax

No sequence-num *FLOW_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
FLOW_SEQ_NUM	Sequence-number	1 – 65535

Command Mode

Flow Configuration

Default

None

Usage

None

Examples

This example shows how to delete a flow filter with sequence number 10 from flow f1:

NPB(config-acl-acl1)# no sequence-num 10

Related Commands

Show flow

Sequence-num

4.7 Sequence-num

Command Purpose

Use this command to add a rule in a flow filter.

Command Syntax

(sequence-num *FLOW_SEQ_NUM* |) (description *DESCRIPTION*) (permit | deny) (*PROTOCOL_NUM* | any (| src-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any)) | mpls (any | label-num (any | *MPLS_LABEL_NUM_WITHOUT_0*) (mpls-label1 (any | *FLOW_LABEL_VALUE*) |) (mpls-label2 (any | *FLOW_LABEL_VALUE*) |) (mpls-label3 (any | *FLOW_LABEL_VALUE*) |)) | pppoe ppp-type (ipv4 | ipv6) | tcp (src-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | tcp-code (match-all | match-any) (ack | fin | psh | rst | syn | urg) |) | udp (src-port (range *L4_PORT_NUM1 L4_PORT_NUM2* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM1 L4_PORT_NUM2* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | vxlan-vni (*VNI_VALUE VNI_VALUE_WILD* | any) |) | icmp | igmp | gre (gre-key (*GRE_KEY_VALUE GRE_KEY_WILD* | any) |) | (erspan (*ERSPAN_KEY_VALUE ERSPAN**_KEY_WILD* | any) |) | nvgre (nvgre-vsid (*NVGRE_VSID_VALUE NVGRE_ VSID**_WILD* | any) |)) (src-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | src-ipv6 (*ipv6_ADDR ipv6_ADDR_WILD* | any | host *ipv6_ADDR*)) (dst-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | dst-ipv6 (*ipv6_ADDR ipv6_ADDR_WILD* | any | host *ipv6_ADDR*)) (flow-label (*FLOW_LABEL LABEL* *_WILD* | any) |) (dscp *DSCP_VALUE* | ip-precedence *PRECEDENCE_VALUE* |) (first-fragment | non-first-fragment | non-fragment | non-or-first-fragment | small-fragment | any-fragment |) (options |) (truncation (*LENGTH* |) |) (vlan (*VLAN_ID VLAN_WILD* | any) |) (inner-vlan (*VLAN_ID VLAN_WILD* | any) |) (cos *COS_ID* |) (inner-cos *COS_ID* |) (ether-type (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* | any) |) (src-mac (*FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* | any | host *FLOW_MAC_ADDR*) |) (dest-mac (*FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* | any | host *FLOW_MAC_ADDR*) |) (edit-macda *MAC_ADDRESS* |) (edit-macsa *MAC_ADDRESS* |) (edit-ipsa *IP_ADDRESS* |) (edit-ipda *IP_ADDRESS* |) (edit-ipv6sa *ipv6_ADDRESS* |) (edit-ipv6da *ipv6_ADDRESS* |) (edit-vlan *VLAN_ID* |) (un-tag | un-tag-outer-vlan | un-tag-inner-vlan |) (mark-source *VLAN_ID* |) (add-vlan *VLAN_ID* |) (strip-header (strip-position (l2 | l3 | l4) |) (strip-offset *OFFSET_VALUE* |) |) (udf udf-id *UDF_ID* (udf0 *UDF_VALUE UDF_VALUE_WILD* | udf1 *UDF_VALUE UDF_VALUE_WILD* | udf2 *UDF_VALUE UDF_VALUE_WILD* | udf3 *UDF_VALUE UDF_VALUE_WILD* |) |) (strip-inner-vxlan-header |) (inner-match *MATCH_NAME* |) (add-l2gre l2gre-sip *L2GRE_SRC_IP* l2gre-dip *L2GRE_DEST_IP* l2gre-dmac *L2GRE_DEST_MAC* l2gre-key *L2GRE_KEY_NUM*

l2gre-key-length (16 | 20 | 24 | 32) |) (add-l3gre l3gre-sip *L3GRE_SRC_IP* l3gre-dip *L3GRE_DEST_IP* l3gre-dmac *L3GRE_DEST_MAC* |) (de-duplicate |) (hash-value *VALUE_NAME* |) (edit-l4-src-port *L4_SRC_PORT* |) (edit-l4-dst-port *L4_DST_PORT* |)

Parameter	Parameter Description	Parameter Value
FLOW_SEQ_NUM	Specify a sequence number to create the flow rule. The valid range for sequence number is 1- 65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the flow (0 for empty flow), the step length is 10.	1-65535
DESCRIPTION	Use the parameter “description” to add description to the rule.	Description string for the flow entry, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 100 characters.
Permit	Specify the action of the flow rule. Use the parameter “permit” to indicate packets match this rule is allowed to forward.	-
Deny	Specify the action of the flow rule. Use the parameter “deny” to indicate packets match this rule is not allowed to forward.	-
PROTOCOL_NUM | any | tcp | udp | icmp | igmp | gre | nvgre	Specify the IP protocol number of the flow rule.	The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified by name. E.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp, 47 = gre/nvgre (gre protocol 0x0800 = gre, 0x6558 = nvgre). Specify the IP protocol number of the flow rule.
Mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2 (any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.
Pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
Src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 source port of the inner-match rule.	The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Specify the layer 4 source port of

		the inner-match rule.
Dst-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 destination port of the inner-match rule.	The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
Vxlan-vni (VNI_VALUE VNI_VALUE_WILD | any)	Specify the vxlan vni number of the flow rule. This filed is valid only if the IP protocol is UDP and L4 destination port 4789. VNI (VXLAN Network Identifier) is the identifier on the VXLAN network, which is similar to the traditional VLAN. Terminals in different vxlans cannot connect with each other based on L2 network. One tenant uses one VNI (even if several terminals are in same VNI, they are regarding as one tenant).	The valid range for VNI value is 0-16777215. The valid range for VNI wildcard bits is range 0x0-0xffffff. VNI value and VNI wildcard bits both have 24bits. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any VNI value can match this rule.
Geneve-vni (GENEVE_VNI_VALUE GENEVE_VNI_VALUE_WILD | any)	Specify the geneve vni number of the flow rule. This filed is valid only if the IP protocol is UDP and L4 destination port 6081. GENEVE_VNI (GENEVE Network Identifier in geneve header) is the identifier on the GENEVE network, which is similar to the traditional VLAN. Terminals in different geneves cannot connect with each other based on L2 network. One tenant uses one GENEVE_VNI (even if several terminals are in same GENEVE_VNI, they are regarding as one tenant).	The valid range for GENEVE_VNI value is 0-16777215. The valid range for GENEVE_VNI wildcard bits is range 0x0-0xffffff. GENEVE_VNI value and GENEVE_VNI wildcard bits both have 24bits. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any GENEVE_VNI value can match this rule.
Gre-key (GRE_KEY_VALUE GRE_KEY_WILD | any)	Specify the gre key of the flow rule. This filed is valid only if the IP protocol is gre (Generic Routing Encapsulation).	The valid range for gre key value is 0-4294967295. The valid range for gre key wildcard bits is range 0x0- 0xffffffff. Gre key value and wildcard bits both have 32bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any gre key value can match this rule.
Erspan (ERSPAN_KEY_VALUE ERSPAN _KEY_WILD | any)	Specify the erspan key value of the flow rule. ERSPAN = Enhanced Remote SPAN.	Valid range for ERSPAM key value is 0-1023 Valid range for ERSPAM key wildcard bits is 0x0-0x3ff ERSPAN key value and wildcard bits both have 10bits, If a bit in wildcard

		is 0 means this bit needs to check, otherwise this bit.
Nvgre-vsid (NVGRE_VSID_VALUE NVGRE_VSID_WILD | any)	Specify the nvgre vsid value of the flow rule. Nvgre = Network Virtualization using Generic Routing Encapsulation.	Valid range for NVGRE VSID value is 0-16777215. Valid range for NVGRE VSID wildcard bits is 0x0-0xffffff VSID is located in the low 24 bit of GRE head. VSID value and wildcard bits both have 24 bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any nvgre vsid value can match this rule.
Src ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the source ipv4 address of the flow rule. Use an ipv4 address and an ipv4 address wildcard to specify a network.	Use an ipv4 address and an ipv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any source ipv4 address value can match this rule.
Dst ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the destination ipv4 address of the flow rule. Use an ipv4 address and an ipv4 address wildcard to specify a network.	Use an ipv4 address and an ipv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv4 address value can match this rule.
Src ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the source ipv6 address of the flow rule. Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.	Use the parameter “host” and an ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv6 address value can match this rule.
Dst ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the destination ipv6 address of the flow rule. Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.	Use the parameter “host” and an ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv6 address value can match this rule.
Ipv4-pkt-len-range(ipv4-pkt-len-min) (ipv4-pkt-len-max)	Specify the length range of IPV4 packet.	Ipv4-pkt-len-min represent the minimum length of ipv4 packet.ipv4-pkt-len-max represent the minimum length of ipv6 packet. The valid range of ipv4-pkt-len-min and ipv4-pkt-len-max is 0-65535.
Ipv6-pkt-len-range(ipv6-pkt-len-mi	Specify the length range of IPV6	Ipv6-pkt-len-min represent the

n) (ipv6-pkt-len-max)	packet.	minimum length of ipv4 packet.ipv6-pkt-len-max represent the minimum length of ipv6 packet. The valid range of ipv6-pkt-len-min and ipv6-pkt-len-max is 0-65535.
Flow-label (FLOW_LABEL LABEL_WILD | any)	Specify the ipv6 Flow label of the flow rule.	The valid range of ip-pkt-len-min and ip-pkt-len-max is 0-65535.
Dscp DSCP_VALUE	Specify the DSCP in ipv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point. Specify the DSCP in ipv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point. Valid range of DSCP value is 0 – 63.	0-63
Ip-precedence PRECEDENCE_VALUE	Specify the IP precedence in ipv4 packets of the inner-match rule. Valid range of IP precedence value is 0 – 7. Specify the IP precedence in ipv4 packets of the inner-match rule. Valid range of IP precedence value is 0 – 7. DSCP & ip precedence configurations are exclusive	0-7
First-fragment	Match packets with first fragment	-
Non-first-fragment	Match packets with non first fragment	-
Non-fragment	Match packets with non fragment	-
Non-or-first-fragment	Match packets with non first fragment	-
Small-fragment	Match packets with small fragment	-
Any-fragment	Match packets with any fragment	-
Options	Match packets with IP options	-
Truncation (LENGTH |)	Use this parameter to truncate the packets matched this rule. Use this parameter to truncate the packets matched this rule. The length of truncation is configured by the “truncation” command in global configuration mode.	-
Vlan (VLAN_ID VLAN_WILD | any)	Specify the outer vlan id of the flow rule.	The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match this rule.
Inner-vlan (VLAN_ID VLAN_WILD | any)	Specify the inner vlan id of the flow rule.	The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means

		this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match this rule.
Cos COS_ID	Specify the outer cos value of the inner-match rule. Cos = Class of Service. Specify the outer cos value of the inner-match rule. Cos = Class of Service.	0-7
Inner-cos COS_ID	Specify the inner cos value of the inner-match rule. Cos = Class of Service. Specify the inner cos value of the inner-match rule. Cos = Class of Service.	0-7
Ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any)	Specify the ether-type of the flow rule.	The valid range for ether-type is 0x600-0xffff. The valid range for wildcard bits is 0x600-0xffff. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any ethertype value can match this rule.
Src-mac (FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD | any | host FLOW_MAC_ADDR)	Specify the source mac address	Specify the source mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any source mac address value can match this rule.
Dest-mac (FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD | any| host FLOW_MAC_ADDR)	Specify the destination mac address	Specify the destination mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any destination mac address value can match this rule.
Edit-macda MAC_ADDRESS	Specify the destination mac address of the outgoing packets	Specify the destination mac address of the outgoing packets in

		HHHH.HHHH.HHHH format.
Edit-macsa MAC_ADDRESS	Specify the source mac address of the outgoing packets	Specify the source mac address of the outgoing packets in HHHH.HHHH.HHHH format.。
Edit-ipsa IP_ADDRESS	Specify the source IP address of the outgoing packets	Specify the source IP address of the outgoing packets in A.B.C.D format.。
Edit-ipda IP_ADDRESS	Specify the destination IP address of the outgoing packets	Specify the destination IP address of the outgoing packets in A.B.C.D format.。
Edit-ipv6sa ipv6_ADDRESS	Specify the source ipv6 address of the outgoing packets.	Specify the source ipv6 address of the outgoing packets.
Edit-ipv6da ipv6_ADDRESS	Specify the destination ipv6 address of the outgoing packets.	Specify the destination ipv6 address of the outgoing packets.
Edit-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Un-tag	Remove vlan tags of the packets.	-
Un-tag-outer-vlan	Remove outer vlan tag of the packets.	-
Un-tag-inner-vlan	Remove inner vlan tag of the packets.	-
Mark-source VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Add-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Strip-header (strip-position (l2 | l3 | l4) |) (strip-offset OFFSET_VALUE |)	Remove the outer header of the tunnel packets. The strip-positon and strip-offset can not set and when the packet is gre/nvgre/vxlan/ipip/mpls/ppoe.	The parameter “strip-position” specifies the begging of the outer header. “l2” means begin with the layer 2 tunnel header. “l3” means begin with the layer 3 tunnel header. “l4” means begin with the layer 4 tunnel header. The parameter “strip-offset” specifies the user- defined offset to strip the tunnel outer header. The valid range for strip-offset is 0-30.
Strip-inner-vxlan-header	Remove the inner vxlan header in the erspan packets. Remove the inner vxlan header in the erspan packets. This parameter is only valid when the packet is ERSPAN + VXLAN.	-
Udf udf-id UDF_ID (udf0 UDF_VALUE UDF_VALUE_WILD | udf1 UDF_VALUE UDF_VALUE_WILD | udf2 UDF_VALUE UDF_VALUE_WILD | udf3 UDF_VALUE UDF_VALUE_WILD |)	Use this command to configure UDF based ACL. UDF entry should be create and configured previously. There are maximum three UDF value corresponding three UDF offset field.	The range of UDF_ID is 0-15, Udf value and wildcard bits both have 32 bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.
Inner-match MATCH_NAME	Specify the inner match profile of the flow rule. Specify the inner match profile of the flow rule. The inner-match profile is created	-

	by “inner-match” command in global configuration mode.	
Add-l2gre l2gre-sip L2GRE_SRC_IP l2gre-dip L2GRE_DEST_IP l2gre-dmac L2GRE_DEST_MAC l2gre-key L2GRE_KEY_NUM l2gre-key-length (16 | 20 | 24 | 32)	Use this action to add l2gre header. L2GRE_SRC_IP: L2GRE Source IP L2GRE_DEST_IP: L2GRE Destination IP L2GRE_DEST_MAC: L2GRE Destination MAC L2GRE_KEY_NUM: L2GRE Key Number	-
Add-l3gre l3gre-sip L3GRE_SRC_IP l3gre-dip L3GRE_DEST_IP l3gre-dmac L3GRE_DEST_MAC	Use this action to add l3gre header. L3GRE_SRC_IP: L3GRE Source IP L3GRE_DEST_IP: L3GRE Destination IP L3GRE_DEST_MAC: L3GRE Destination MAC	-
De-duplicate	Use this action to config de-duplicate packet of match.The de-duplicate is configured by the “de-duplicate global” command in global configuration mode.	-
Hash-value VALUE_NAME	Use this action to configure hash-value for hash load-balance.The hash-value profile if configured by the “hash-value” command in global configuration mode	-
Edit-l4-src-port L4_SRC_PORT	Use this action to configure edit l4 source port for TCP or UDP packets	0-65535
Edit-l4-dst-port L4_DST_PORT	Use this action to configure edit l4 destination port for TCP or UDP packets	0-65535

Command Mode

Flow Configuration

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.E.g. IP address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.Layer 4 information （e.g. Tcp/udp port） and fragment information are exclusive. The parameters “erspan” and “edit-vlan, un-tag” after “stripe-head” are not supported

Examples

This example shows how to add a flow filter with sequence number 10 to flow f1:

```
NPB(config)# flow f1
NPB(config-flow-f1)# sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any
```

Related Commands

No sequence-num

4.8 Flow statistics rate interval

Command Purpose

Use this command to calculate flow rule statistics rate and configure calculating interval .

Use the no form of this command to stop calculating flow rule statistics rate.

Command Syntax

Flow statistics rate interval *INTERVAL*

No flow statistics rate interval

Parameter	Parameter Description	Parameter Value
INTERVAL	The interval of calculating flow rule statistics rate	1-5 minutes

Command Mode

Global Configuration

Default

None

Usage

If flow statistics rate interval is configured, the statistics rate of flow rules will be calculated according to the interval.

Examples

This example shows how to configure flow rule statistics rate interval:

NPB(config)# flow statistics rate interval 1

The following example shows how to delete flow rule statistics rate interval:

NPB(config)# no flow statistics rate interval

Related Commands

Show interface flow statistics

Chapter 5 UDF Commands

5.1 Show udf

Command Purpose

Use this command to show the configuration of UDF entries.

Command Syntax

Show udf (*UDF_ID* |)

Parameter	Parameter Description	Parameter Value
UDF_ID	Specify a index to show the configuration of a specific UDF entry.	The range is 0-15

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows the configuration of UDF entries:

```
NPB# show udf
Udf Global Information:
   Offset Unit : 4 Bytes
Udf Index 0
   Udf Type : l2 header
   Udf Match-Field:
      ether-type 0x8100 0x0
   Offset : n/a|8|n/a|n/a
Udf Index 1
   Udf Type : l3 header
   Udf Match-Field:
      any
   Offset : 4|n/a|n/a|n/a
```

Related Commands

Udf

5.2 Udf

Command Purpose

Use this command to create a UDF entry or enter the configuration mode of a specific DUF entry.

Command Syntax

Udf *UDF_ID* (offset-type *OFFSET_TYPE* |)

Parameter	Parameter Description	Parameter Value
UDF_ID	Specify a index of a UDF entry.	The range is 0-15
OFFSET_TYPE	The offset type should be configured when a UDF entry was first created.	The offset type can be l2-header、l3-header、l4-header.

Command Mode

Global Configuration

Default

None

Usage

The UDF-ID also means the priority of UDF entries, smaller id is a higher priority.

Examples

This example shows how to create a UDF entry and enter it's configuration mode:

NPB(config)# udf 1 offset-type l3-header
NPB(config-udf-1)#

Related Commands

Show udf

5.3 Match

Command Purpose

Use this command to configure the match field for an UDF entry.

Command Syntax

Match (any | ether-type *ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* | ip-protocol (*PROTOCOL_NUM* | any | tcp | udp | gre | icmp | igmp) | src-port (*L4_PORT_NUM* | any) | dst-port (*L4_PORT_NUM* | any) | vlan-num *VLAN_NUM* | mpls-label-num *MPLS_LABEL_NUM* |)

Parameter	Parameter Description	Parameter Value
Ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any)	Specify the ether-type of the flow rule.	The valid range for ether-type is 0x600-0xffff. The valid range for wildcard bits is 0x600-0xffff.

		Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.
PROTOCOL_NUM | any | tcp | udp | icmp | igmp	Specify the IP protocol number of the udf match field.	Specify the IP protocol number of the udf match field. The valid range for IP protocol number is 0-255.
L4_PORT_NUM	Specify the layer 4 source port of the udf match field.	The valid range for L4 source port number is 0 – 65535.
VLAN_NUM	The vlan number of the packets	Range is 0-2.
MPLS_LABEL_NUM	The mpls label number of the packets	Range is 0-9.

Command Mode

UDF Configuration

Default

None

Usage

None

Examples

This example shows how to configure the match field for an UDF entry:

NPB(config-udf-1)# match ether-type 0x8100 0x0 ip-protocol tcp

Related Commands

Show udf

5.4 Offset

Command Purpose

Use this command to configure the detailed offset value for an UDF entry.

Command Syntax

Match (offset0 *UDF_OFFSET*| offset1 *UDF_OFFSET*| offset2 *UDF_OFFSET*| offset3 *UDF_OFFSET*|)

Parameter	Parameter Description	Parameter Value
UDF_OFFSET	Specifies the offset in bytes from the beginning.	The valid range of the offset is 0-124 bytes.

Command Mode

UDF Configuration

Default

None

Usage

The offset number must be multiple of 4 bytes because UDF would extract 4 bytes data from a specific offset in packets.

Examples

This example shows how to configure the detailed offset value for an UDF entry:

NPB(config-udf-1)# offset offset0 4 offset1 20 offset3 36

Related Commands

Show udf

Chapter 6 PORT-GROUP Commands

6.1 Port-group

Command Purpose

Use this command to create a port-group and enter the port-group configuration mode.

Use the no form of this command to delete the port-group.

Command Syntax

Port-group NAME_STRING (PORT_GROUP_ID |)

No port-group *NAME_STRING*

Parameter	Parameter Description	Parameter Value
NAME_STRING	Port-group Name string	The first character should be a-z or A-Z, character only can be 0-9A-Za-z.-_ and the max len is 31.
PORT_GROUP_ID	Port Group ID, range 1-48	1-48

Command Mode

Global Configuration

Default

None

Usage

This device supports at most 48 port-groups.

Examples

The following example shows how to add a port-group:

NPB(config)# port-group portgroup1
NPB(config-port-portgroup1)#

The following example shows how to delete a port-group:

NPB(config)# no port-group portgroup1

Related Commands

Show port-group

6.2 Member interface

Command Purpose

Use this command to add a member interface in port-group.

Use the no form of this command to delete the member interface.

Command Syntax

Member interface *IF_NAME_EA*

No member interface *IF_NAME_EA*

Parameter	Parameter Description	Parameter Value
IF_NAME_EA	Member interface Name string	Specify the interface name to enter the mode. E.g.eth-0-1, agg1.

Command Mode

Port-group Configuration

Default

None

Usage

This device supports at most 16 member interface.

Examples

The following example shows how to add a member interface in port-group:

NPB(config-port-portgroup1)# member interface eth-0-1

The following example shows how to delete a member interface in port-group:

NPB(config-port-portgroup1)# no member interface eth-0-1

Related Commands

Show port-group

6.3 Show port-group

Command Purpose

Use this command to display the configurations of port-group.

Command Syntax

Show port-group (*NAME_STRING* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Specify the port-group name to show	-

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "NAME_STRING" is not specified, the command indicates that all port-groups on this device should be displayed; otherwise only the specified port-group should be displayed.

Examples

The following example shows how to display the configurations port-group portgroup1:

```
NPB# show port-group
port-group portgroup1 1
  member interface eth-0-1
  member interface eth-0-2
```

Related Commands

Show port-group flow statistics

6.4 Show port-group flow statistics

Command Purpose

Use this command to display the statistics of port-group.

Command Syntax

Show port-group flow statistics *NAME_STRING* (*FLOW_SEQ_NUM*|)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Specify the port-group name to show	-
FLOW_SEQ_NUM	Specify sequence-number to show flow statistics. If the sequence-number is not specified, this command indicates that all rules on this interface should be shown.	-

Command Mode

Privileged EXEC

Default

None

Usage

The specified port-group statistics should be displayed.

Examples

The following example shows how to display the statistics port-group portgroup1:

```
NPB# show port-group flow statistics
portgroup1
TAP group name: tapgroup1
  flow name: flow1
  sequence-num 10 permit gre src-ip any dst-ip any ( bytes 0 packets 0 )
  sequence-num 20 permit mpls any ( bytes 0 packets 0 )
(total bytes 0 total packets 0 )
```

Related Commands

Show port-group

Chapter 7 INNER-MATCH Commands

7.1 Show inner-match

Command Purpose

Use this command to show the configuration of inner-match.

Command Syntax

Show inner-match (*INNER_MATCH_NAME* |)

Parameter	Parameter Description	Parameter Value
INNER_MATCH_NAME	Specify an inner-match name to display.	The inner match name should begin with [a-z/A-Z/0-9], valid characters are [0-9A-Za-z.-], and maximum length is 20 characters. If the parameter " INNER_MATCH_NAME" is not specified, the command indicates that all inner-matches on this device should be displayed; otherwise only the specified one should be displayed

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows the configuration of all inner-match:

```
NPB# show inner-match
inner-match im1
  sequence-num 1 match icmp src-ip any dst-ip any vlan any
inner-match im2
  sequence-num 1 match udp dst-port eq 4758 src-ip any dst-ip host 2.2.2.2
```

Related Commands

Inner-match

7.2 Inner-match

Command Purpose

Use this command to create inner-match and then enter Inner-match configuration mode.

Use the no form of this command to delete the inner-match.

Command Syntax

Inner-match INNER_MATCH_NAME

No inner-match INNER_MATCH_NAME

Parameter	Parameter Description	Parameter Value
INNER_MATCH_NAME	Specify an inner-match name to create and enter the mode.	The inner match name should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 20 characters.

Command Mode

Global Configuration

Default

None

Usage

If the system already has an inner-match with the same name, this command will enter the inner-match configuration mode.

When the name is not used by any inner-match, this command is to create the inner-match firstly and then enter the inner-match configuration mode.

Examples

This example shows how to create a inner-match named im1 and then enter the inner-match

Configuration mode:

NPB(config)# inner-match im1
NPB(config-inner-match-im1)#

This example shows how to delete a inner-match named im1:

NPB(config)# no inner-match im1

Related Commands

Show inner-match

7.3 Remark

Command Purpose

Use this command to add remarks for the inner-match.

Command Syntax

Remark NAME_STRING

No remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the inner-match	Begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

Command Mode

Inner-match Configuration

Default

None

Usage

None

Examples

This example shows how to add a remark to describe the inner-match:

NPB(config-inner-match-im1)# remark inner-match-1

This example shows how to delete the remark of the inner-match:

NPB(config-inner-match-im1)# no remark

Related Commands

Show inner-match

7.4 No sequence-num

Command Purpose

Use this command to delete a filter from inner-match.

Command Syntax

No sequence-num *MATCH_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
MATCH_SEQ_NUM	Sequence-number with the valid	1-65535

	range 1 – 65535.	

Command Mode

Inner-match Configuration

Default

None

Usage

None

Examples

This example shows how to delete an inner-match filter with sequence number 10 from im1:

NPB(config-inner-match-im1)# no sequence-num 10

Related Commands

Show inner-match

Match

7.5 Sequence-num

Command Purpose

Use this command to set matching rules for the inner-match filter.

Command Syntax

(sequence-num *MATCH_SEQ_NUM* |) match (*PROTOCOL_NUM* | any | mpls (any | label-num (any | *MPLS_LABEL_NUM_WITHOUT_0*) (mpls-label1 (any | *FLOW_LABEL_VALUE*) |) (mpls-label2 (any | *FLOW_LABEL_VALUE*) |) (mpls-label3 (any | *FLOW_LABEL_VALUE*) |)) | pppoe ppp-type (ipv4 | ipv6) | tcp (src-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | tcp-code (match-all | match-any) (ack | fin | psh | rst | syn | urg) |) | udp (src-port (range *L4_PORT_NUM1 L4_PORT_NUM2* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM1 L4_PORT_NUM2* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) |) | icmp | igmp) (src-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | src-ipv6 (*ipv6_ADDR ipv6_ADDR_WILD* | any | host *ipv6_ADDR*)) (dst-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | dst-ipv6 (*ipv6_ADDR ipv6_ADDR_WILD* | any | host *ipv6_ADDR*)) (flow-label (*FLOW_LABEL LABEL* *_WILD* | any) |) (dscp *DSCP_VALUE* | ip-precedence *PRECEDENCE_VALUE* |) (first-fragment | non-first-fragment | non-fragment | non-or-first-fragment | small-fragment | any-fragment |) (options |) (vlan (*VLAN_ID VLAN_WILD* | any) |) (inner-vlan (*VLAN_ID VLAN_WILD* | any) |) (cos *COS_ID* |) (inner-cos *COS_ID* |) (ether-type (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* | any) |) (src-mac (*MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD* | any | host *MATCH* *_MAC_ADDR*) |) (dest-mac (*MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD* | any | host *MATCH_MAC_ADDR*) |)

Parameter	Parameter Description	Parameter Value
Sequence-num MATCH_SEQ_NUM	Specify a sequence number to create the inner-match rule.	The valid range for sequence number is 1- 65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the inner-match (0 for empty

		inner-match), the step length is 10.
Match	Match the packets according to the rule	-
PROTOCOL_NUM | any | tcp | udp | icmp | igmp	Specify the IP protocol number of the inner-match rule.	The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified by name. E.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp. Parameter “any” indicates packets with any IP protocol can match this rule.
Mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2 (any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.
Pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
Src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 source port of the inner-match rule.	The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
Dst-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 destination port of the inner-match rule.	The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
Src-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the source ipv4 address of the inner-match rule.	Use an ipv4 address and an ipv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any source ipv4 address value can match this rule.
Dst-ip (IP_ADDR IP_ADDR_WILD |	Specify the destination ipv4	Use an ipv4 address and an ipv4 address wildcard to specify a

any | host IP_ADDR)	address of the inner-match rule.	network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv4 address value can match this rule.
Src-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the source ipv6 address of the inner-match rule.	Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any source ipv6 address value can match this rule.
Dst-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the destination ipv6 address of the inner-match rule.	Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv6 address value can match this rule.
Flow-label (FLOW_LABEL LABEL_WILD | any)	Specify the ipv6 Flow label of the inner-match rule.	Valid range for flow label is 0-1048575. Valid range for flow-label wildcard bits is 0x0-0xfffff Flow label value and wildcard bits both have 20bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates ipv6 packets with any flow label value can match this rule.
Dscp DSCP_VALUE	Specify the DSCP in ipv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point. Specify the DSCP in ipv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point.	0-63
Ip-precedence PRECEDENCE_VALUE	Specify the IP precedence in ipv4 packets of the inner-match rule. DSCP & ip precedence configurations are exclusive.	0-7
First-fragment	Match packets with first fragment	-
Non-first-fragment	Match packets with non first fragment	-

Non-fragment	Match packets with non fragment	-
Non-or-first-fragment	Match packets with non first fragment	-
Small-fragment	Match packets with small fragment	-
Any-fragment	Match packets with any fragment	-
Options	Match packets with IP options	-
Vlan (VLAN_ID VLAN_WILD | any)	Specify the outer vlan id of the inner-match rule.	The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match this rule.
Inner-vlan (VLAN_ID VLAN_WILD | any)	Specify the inner vlan id of the inner-match rule.	The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any inner vlan id can match this rule.
Cos COS_ID	Specify the outer cos value of the inner-match rule. Cos = Class of Service. Specify the outer cos value of the inner-match rule. Cos = Class of Service.	0-7
Inner-cos COS_ID	Specify the inner cos value of the inner-match rule. Cos = Class of Service. Specify the inner cos value of the inner-match rule. Cos = Class of Service.	0-7
Ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any)	Specify the ether-type of the inner-match rule.	The valid range for ether-type is 0x600-0xffff. The valid range for wildcard bits is 0x600-0xffff. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any ethertype value can match this rule.
Src-mac (MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD | any | host MATCH_MAC_ADDR)	Specify the source mac address in HHHH.HHHH.HHHH format.	Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate

		packets with any source mac address value can match this rule.
Dest-mac (MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD | any| host MATCH_MAC_ADDR)	Specify the destination mac address in HHHH.HHHH.HHHH format.	Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any destination mac address value can match this rule.

Command Mode

Inner-match Configuration

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

E.g.: ip address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.

Layer 4 information （e.g. Tcp/udp port） and fragment information are exclusive.

Examples

This example shows how to add an inner-match filter with sequence number 10 to im1:

NPB(config)# inner-match im1
NPB(config-inner-match-im1)# sequence-num 10 match any src-ip 10.10.10.0 0.0.0.255 dst-ip any

Related Commands

No sequence-num

Chapter 8 ACL Commands

8.1 Show interface egress ip access-list

Command Purpose

Use this command to show egress statistics of ip access-list on an interface.

Command Syntax

Show interface egress ip access-list statistics *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show IP ACL statistics. This command supports physical or link aggregation interfaces.	-

Command Mode

Privileged EXEC

Default

None

Usage

The interface name must be specified.

Examples

This example shows the egress ip access-list statistic of interface eth-0-1:

NPB# show interface egress ip access-list statistics eth-0-1
egress flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any (bytes 124 packets 1)
(total bytes 124 total packets 1)

Related Commands

Clear interface egress ip access-list

8.2 Clear interface egress ip access-list

Command Purpose

Use this command to clear egress statistics of ip access-list on an interface.

Command Syntax

Clear interface egress ip access-list statistics *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to clear IP ACL statistics. This command supports physical or link aggregation interfaces.	-

Command Mode

Privileged EXEC

Default

None

Usage

The interface name must be specified.

Examples

This example shows how to clear the egress ip access-list statistic of interface eth-0-1:

NPB# clear interface egress ip access-list statistics eth-0-1

This example shows the egress ip access-list statistic of interface eth-0-1:

NPB# show interface egress ip access-list statistics eth-0-1
egress flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any (bytes 0 packets 0)
(total bytes 0 total packets 0)

Related Commands

Show interface egress ip access-list

8.3 Show ip access-list

Command Purpose

Use this command to show the configuration of ip access-list.

Command Syntax

Show ip access-list (*NAME_STRING* (include *SEARCH_STRING*) | include *SEARCH_STRING*)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Ip access-list name	Up to 20 characters
SEARCH_STRING	Show access-list configuration and statistics by search.	Up to 15 words

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows the configuration of ip access-list:

```
NPB# show ip access-list
ip access-list f2
  sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any
```

This example shows how to search the configuration and statistics of ACL:

```
NPB# show ip access-list include vlan
NPB# show ip access-list include vlan
------------------------------access-list info------------------------------
ip access-list a1
  sequence-num 10 permit any src-ip any dst-ip any vlan 3 0x0

------------------------------access-list statistics info------------------------------
Interface name: eth-0-1
egress flow a1
  sequence-num 10 permit any src-ip any dst-ip any vlan 3 ( bytes 0 packets 0 )

total bytes 0 total packets 0
```

Related Commands

Ip access-list

8.4 Ip access-list

Command Purpose

Use this command to create IP ACL and then enter IP ACL configuration mode.

Use the no form of this command to delete the IP ACL.

Command Syntax

Ip access-list *NAME_STRING*

No ip access-list *NAME_STRING*

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP access-list name string	Begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 20 characters.

Command Mode

Global Configuration

Default

None

Usage

If the system already has an IP ACL with the same name, this command will enter the IP ACL configuration mode

When the name is not used by any ACL, this command is to create the IP ACL firstly and then enter the IP ACL configuration mode.

Examples

This example shows how to create an IP ACL named f1 and then enter the IP ACL configuration mode:

```
NPB(config)# ip access-list f1
NPB(config-acl-f1)#
```

Related Commands

Show ip access-list

8.5 Remark

Command Purpose

Use this command to add remarks for the flow or ip access-list.

Command Syntax

Remark NAME_STRING

No remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the IP ACL	Begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

Command Mode

ACL Configuration

Default

None

Usage

None

Examples

This example shows how to add a remark to describe the IP ACL:

NPB(config-acl-acl1)# remark acl1ipdeny

This example shows how to remove the remark:

NPB(config-acl-acl1)# no remark

Related Commands

Show ip access-list

8.6 No sequence-num

Command Purpose

Use this command to delete a filter from ip access-list.

Command Syntax

No sequence-num *ACL_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
ACL_SEQ_NUM	Sequence-number with the valid range 1–65535.	1-65535

Command Mode

ACL Configuration

Default

None

Usage

None

Examples

This example shows how to delete a flow filter with sequence number 10 from ip acl acl1:

NPB(config-acl-acl1)# no sequence-num 10

Related Commands

Show ip access-list

Sequence-num

8.7 Sequence-num

Command Purpose

Use this command to permit or deny packets matching the ip access-list filter.

Command Syntax

(sequence-num *ACL_SEQ_NUM* |) (permit | deny) (*PROTOCOL_NUM* | any (| src-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any) | dst-port (range *L4_PORT_NUM L4_PORT_NUM* | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)) | mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any | FLOW_LABEL_VALUE) |) (mpls-label2 (any | FLOW_LABEL_VALUE) |) (mpls-label3 (any | FLOW_LABEL_VALUE) |)) | pppoe ppp-type (ipv4 | ipv6) | tcp (src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any) | dst-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any) | tcp-code (match-all | match-any) (ack | fin | psh | rst | syn | urg) |) | udp (src-port (range L4_PORT_NUM1 L4_PORT_NUM2 | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any) | dst-port (range L4_PORT_NUM1 L4_PORT_NUM2 | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any) |) | icmp | igmp) (src-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR) | src-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)) (dst-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR) | dst-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)) (flow-label (FLOW_LABEL LABEL *_WILD* | any) |) (dscp DSCP_VALUE | ip-precedence PRECEDENCE_VALUE |) (first-fragment | non-first-fragment | non-fragment | non-or-first-fragment | small-fragment | any-fragment |) (options |) (vlan (VLAN_ID VLAN_WILD | any) |) (inner-vlan (VLAN_ID VLAN_WILD | any) |) (cos COS_ID |) (inner-cos COS_ID |) (ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any) |) (src-mac (ACL_MAC_ADDR ACL_MAC_ADDR_WILD | any | host ACL_MAC_ADDR) |) (dest-mac (ACL_MAC_ADDR ACL_MAC_ADDR_WILD | any | host ACL_MAC_ADDR) |) ((ipv4-head | l4-head) UDF_VALUE UDF_VALUE_WILD UDF_OFFSET |) (truncation (LENGTH |)) (edit-vlan VLAN_ID |) (un-tag | un-tag-outer-vlan | un-tag-inner-vlan |) (edit-inner-vlan VLAN_ID |) (add-vlan VLAN_ID |) (set-vlan VLAN_ID |)

Parameter	Parameter Description	Parameter Value
Sequence-num ACL_SEQ_NUM	Specify a sequence number to create the acl rule.	The valid range for sequence number is 1- 65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the flow (0 for empty flow), the step length is 10.
Permit	Specify the action of the acl rule. Use the parameter “permit” to indicate packets match this rule is allowed to forward.	-
Deny	Specify the action of the acl rule. Use the parameter “deny” to indicate packets match this rule is not allowed to forward.	-
PROTOCOL_NUM | any | tcp | udp | icmp | igmp | gre | nvgre	Specify the IP protocol number of the acl rule.	The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified by name. E.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp, 47 = gre/nvgre (gre protocol 0x0800 = gre, 0x6558 = nvgre). Parameter “any” indicates packets with any IP protocol can match this rule.
Mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.

(any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))		
Pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
Src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 source port of the acl rule.	The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
Dst-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 destination port of the acl rule.	The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
Src-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the source ipv4 address of the acl rule.	Use an ipv4 address and an ipv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any source ipv4 address value can match this rule.
Dst-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the destination ipv4 address of the acl rule.	Use an ipv4 address and an ipv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv4 address value can match this rule.
Src-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the source ipv6 address of the acl rule.	Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an

		ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any source ipv6 address value can match this rule.
Dst-ipv6 (ipv6_ADDR ipv6_ADDR_WILD | any | host ipv6_ADDR)	Specify the destination ipv6 address of the acl rule.	Use an ipv6 address and an ipv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an ipv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination ipv6 address value can match this rule.
Flow-label (FLOW_LABEL LABEL_WILD | any)	Specify the ipv6 Flow label of the acl rule.	Valid range for flow label is 0-1048575. Valid range for flow-label wildcard bits is 0x0-0xfffff Flow label value and wildcard bits both have 20bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates ipv6 packets with any flow label value can match this rule.
Dscp DSCP_VALUE	Specify the DSCP in ipv4 packets value of the acl rule. DSCP = Differentiated Services Code Point. Specify the DSCP in ipv4 packets value of the acl rule. DSCP = Differentiated Services Code Point.	Valid range of DSCP value is 0 – 63.
Ip-precedence PRECEDENCE_VALUE	Specify the IP precedence in ipv4 packets of the acl rule. DSCP & ip precedence configurations are exclusive	Valid range of IP precedence value is 0 – 7.
First-fragment	Match packets with first fragment	-
Non-first-fragment	Match packets with non first fragment	-
Non-fragment	Match packets with non fragment	-
Non-or-first-fragment	Match packets with non first fragment	-
Small-fragment	Match packets with small fragment	-
Any-fragment	Match packets with any fragment	-
Options	Match packets with IP options	-
Vlan (VLAN_ID VLAN_WILD | any)	Specify the outer vlan id of the acl rule.	The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match

		this rule.
Inner-vlan (VLAN_ID VLAN_WILD | any)	Specify the inner vlan id of the acl rule.	The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xfff. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any inner vlan id can match this rule.
Cos COS_ID	Specify the outer cos value of the acl rule. Cos = Class of Service. Specify the outer cos value of the acl rule. Cos = Class of Service.	The valid range of Cos is 0 to 7.
Inner-cos COS_ID	Specify the inner cos value of the acl rule. Cos = Class of Service. Specify the inner cos value of the acl rule. Cos = Class of Service.	The valid range of Cos is 0 to 7.
Ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any)	Specify the ether-type of the acl rule.	The valid range for wildcard bits is 0x600-0xffff. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any ethertype value can match this rule.
Src-mac (ACL_MAC_ADDR ACL_MAC_ADDR_WILD | any | host ACL_MAC_ADDR)	Specify the source mac address in HHHH.HHHH.HHHH format.	Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any source mac address value can match this rule.
Dest-mac (ACL_MAC_ADDR ACL_MAC_ADDR_WILD | any| host ACL_MAC_ADDR)	Specify the destination mac address in HHHH.HHHH.HHHH format.	Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any destination mac address value can match this rule.
(ipv4-head | l4-head) UDF_VALUE UDF_VALUE_WILD UDF_OFFSET	UDF = User Define Format. The parameter “ipv4-head” indicates the packet is parsed at the	Udf value and wildcard bits both have 32 bits, If a bit in wildcard is 0 means this bit needs to check,

	beginning with the ipv4 header. The parameter “l4-head” indicates the packet is parsed at the beginning with the layer4 header.	otherwise this bit should be ignored. Udf value can be config as string or hexadecimal number. The length of string is up to 4. The parameter “UDF_OFFSET” specifies the offset bits from the beginning. The valid range of the offset is 0 -60.
Truncation (LENGTH |)	Use this parameter to truncate the packets matched this rule.	Set the packets length after truncation， support different truncation length is 14， the value between 64 and 256.The length of truncation is configured by the “truncation” command in global configuration mode，if not config it
Edit-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Un-tag	Remove vlan tags of the packets.	-
Un-tag-outer-vlan	Remove outer vlan tag of the packets.	-
Un-tag-inner-vlan	Remove inner vlan tag of the packets.	-
Mark-source VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Add-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Edit-inner-vlan VLAN_ID	Specify inner vlan tag of the packets.	The valid range for vlan id is 1 – 4094.
Set-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.

Command Mode

ACL Configuration

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

E.g.: ip address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.

Layer 4 information （e.g. Tcp/udp port） and fragment information are exclusive.

Examples

Create a rule with sequence number 10:

NPB(config)# ip access-list acl1
NPB(config-acl-acl1)# sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any

Related Commands

No sequence-num

Show ip access-list

8.8 Egress

Command Purpose

Use this command to apply ipv4 access list on the outbound direction of an interface

Use the no form of this command to remove the ipv4 access list.

Command Syntax

Egress NAME_STRING

No egress

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP access-list name string	IP access-list name string, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 20 characters.

Command Mode

Interface Configuration

Default

None

Usage

This command supports physical or link aggregation interfaces.

Examples

The example shows how to apply the access list f1 to egress direction eth-0-9:

NPB(config)# interface eth-0-19
NPB(config-if-eth-0-19)# egress f1

Related Commands

Ip access-list

Chapter 9 TAP Commands

9.1 Tap-group

Command Purpose

Use this command to create a TAP group and enter the tap configuration mode.

Use the no form of this command to delete the TAP group.

Command Syntax

Tap-group *TAPNAME* (*NUM* |)

No tap-group *TAPNAME*

Parameter	Parameter Description	Parameter Value
TAPNAME	Tap Group Name string	Begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 20 characters.
NUM	Tap Group ID, range 1-10000	1-10000

Command Mode

Global Configuration

Default

None

Usage

This device supports at most 512 TAP groups.

Examples

The following example shows how to add an egress-interface agg1:

NPB(config)# tap-group tap1
NPB(config-tap-tap1)#

The following example shows how to delete a tap-group:

NPB(config)# no tap-group tap1

Related Commands

Show tap-group

9.2 Description

Command Purpose

Use this command to set the description of the TAP group.

Use the no form of this command to delete the description.

Command Syntax

Description *LINE*

No description

Parameter	Parameter Description	Parameter Value
LINE	TAP group description string	Begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 80 characters

Command Mode

Tap-group Configuration

Default

None

Usage

None

Examples

The following example shows how to config description:

NPB(config)# tap-group test001
NPB(config-tap-test001)# description test
NPB(config-tap-test001)#

Related Commands

Tap-group

Show tap-group

9.3 Ingress

Command Purpose

Use this command to add a physical,link aggregation interface, iloop interface or port-group to the ingress direction of the TAP group.

This command can add/delete vlan and edit actions to the packets.

Use the no form of this command to remove the interface.

Command Syntax

Ingress (*IF_NAME*| range *IF_NAME_LIST*) (un-tag | un-tag-outer-vlan | un-tag-inner-vlan | mark-source *VLAN_ID*|) （truncation (*LENGTH*|) | ） (edit-macda *MAC_ADDRESS*|) (edit-macsa *MAC_ADDRESS*|) (edit-ipsa *IP_ADDRESS*|) (edit-ipda *IP_ADDRESS*|) (edit-ipv6sa *ipv6_ADDRESS*|) (edit-ipv6da *ipv6_ADDRESS*|) (edit-vlan *VLAN_ID*|)

No ingress (*IF_NAME*| range *IF_NAME_LIST*)

Ingress (IF_NAME | PORTGROUP_NAME | range IF_NAME_LIST) flow FLOW_NAME

No ingress (IF_NAME | PORTGROUP_NAME | range IF_NAME_LIST) flow FLOW_NAME

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. This command supports physical interface,iloop interface or link aggregation interface.	-
PORTGROUP_NAME	Specify the name of port-group.	The first character should be a-z or A-Z, character only can be 0-9A-Za-z.-_ and the max len is 31.
Range IF_NAME_LIST	Interface range, with "," or "-" to distinguish the interface range set.supports physical interface,and link aggregation interface.	The '-' is range interface symbol,The ',' is division symbol
Un-tag	Remove vlan tags of the packets.	-
Un-tag-outer-vlan	Remove outer vlan tag of the packets.	-
Un-tag-inner-vlan	Remove inner vlan tag of the packets.	-
Mark-source VLAN_ID	Specify additional outer vlan id of the outgoing packets.	Specify additional outer vlan id of the outgoing packets. The valid range for vlan id is 1 – 4094.
Truncation (LENGTH |)	To truncate the packet.	-
Edit-macda MAC_ADDRESS	Specify the destination mac address of the outgoing packets.	Specify the destination mac address of the outgoing packets in HHHH.HHHH.HHHH format.
Edit-macsa MAC_ADDRESS	Specify the source mac address of the outgoing packets.	Specify the source mac address of the outgoing packets in HHHH.HHHH.HHHH format.。
Edit-ipsa IP_ADDRESS	Specify the source IP address of the outgoing packets.	Specify the source IP address of the outgoing packets in A.B.C.D format.。
Edit-ipda IP_ADDRESS	Specify the destination IP address of the outgoing packets.	Specify the destination IP address of the outgoing packets in A.B.C.D format.。
Edit-vlan VLAN_ID	Specify the vlan id of the outgoing packets.	The valid range for vlan id is 1 – 4094.
Edit-ipv6sa ipv6_ADDRESS	Specify the source ipv6 address of the outgoing packets.	::- ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff。
Edit-ipv6da ipv6_ADDRESS	Specify the destination ipv6 address of the outgoing packets.	::- ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff。
Flow FLOW_NAME	Specify the name of flow to apply to tap group's ingress direction.	-

Command Mode

Tap-group Configuration

Default

None

Usage

One interface without configuring a flow can only add to one TAP group.

Same interface with and without configuring a flow cannot exist in one TAP group.

Examples

The following example shows how to add an ingress-interface with mark-source 100:

```
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress eth-0-1 mark-source 100
NPB(config-tap-tap1)#
```

The following example shows how to add an ingress-interface with un-tag:

```
NPB(config)# tap-group tap1
NPB(config-tap-test001)# ingress eth-0-1 un-tag
NPB(config-tap-test001)#
```

The following example shows how to add interface eth-0-1,eth-0-2,eth-0-4 :

```
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress range eth-0-1-2,eth-0-4
NPB(config-tap-tap1)#
```

The following example shows how to add an ingress-interface with flow flow001:

```
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress eth-0-1 flow flow001
NPB(config-tap-tap1)#
```

The following example shows how to add an ingress interface agg1:

```
NPB(config)# interface eth-0-2
NPB(config-if-eth-0-2)# static-channel-group 1
NPB(config-if-eth-0-2)# exit
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress agg1
```

The following example shows how to add an ingress interface agg1 with flow flow001:

```
NPB(config)# interface eth-0-2
NPB(config-if-eth-0-2)# static-channel-group 1
NPB(config-if-eth-0-2)# exit
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress agg1 flow flow001
```

The following example shows how to add an ingress interface iloop1:

```
NPB(config)# interface iloop1
NPB(config-if-iloop1)# exit
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress iloop1
```

The following example shows how to add an ingress interface iloop1 with flow flow001:

```
NPB(config)# interface iloop1
NPB(config-if-iloop1)# exit
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress iloop1 flow flow001
```

The following example shows how to add an ingress port-group portgroup1 with flow flow001:

```
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress portgroup1 flow flow001
```

Related Commands

Tap-group

Egress

9.4 Egress

Command Purpose

Use this command to add a physical,link aggregation interface, iloop interface or ecmp-group to the egress direction of the TAP group.

Use the no form of this command to remove the interface.

Command Syntax

Egress (*IF_NAME*| range *IF_NAME_LIST*) (timestamp |)

No egress (*IF_NAME*| range *IF_NAME_LIST*)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. This command supports physical interface,link aggregation interface, iloop interface or ecmp-group.	-
Range IF_NAME_LIST	Interface range, with "," or "-" to distinguish the interface range set.supports physical interface and link aggregation interface.	The '-' is range interface symbol,The ',' is division symbol
Timestamp	Add timestamp for packets on egress interfaces.	-

Command Mode

Tap-group Configuration

Default

None

Usage

None

Examples

The following example shows how to add an egress-interface eth-0-9:

NPB(config)# tap-group tap1
NPB(config-tap-tap1)# egress eth-0-9

The following example shows how to add interface eth-0-1,eth-0-2,eth-0-4 on egress dicection:

NPB(config)# tap-group tap1
NPB(config-tap-tap1)# egress range eth-0-1-2,eth-0-4
NPB(config-tap-tap1)#

The following example shows how to add an egress-interface agg1:

NPB(config)# interface eth-0-10
NPB(config-if-eth-0-10)# static-channel-group 1
NPB(config)# interface eth-0-11
NPB(config-if-eth-0-11)# static-channel-group 1
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# egress agg1

The following example shows how to add an egress-interface iloop1:

NPB(config)# interface iloop1
NPB(config-if-iloop1)# exit
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# egress iloop1

Related Commands

Tap-group

9.5 Show tap-group

Command Purpose

This command displays the TAP group configurations.

Command Syntax

Show tap-group (*TAPNAME*|)

Parameter	Parameter Description	Parameter Value
TAPNAME	Specify a TAP group name to display. If the parameter "TAPNAME" is not specified, the command indicates that all TAP groups on this device should be displayed.	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows the configuration of tap-group:

```
NPB# show tap-group
timestamp-over-ether : 0000.0000.0000 0000.0000.0000 0x0000
TAP-group tap1
  ID: 1
  Ingress:
        eth-0-1          flow f1
  Egress:
        eth-0-9
TAP-group tap2
  ID: 2
  Ingress:
        eth-0-21
  Egress:
        eth-0-22
```

Related Commands

Tap-group

Ingress

Chapter 10 TIMESTAMP Commands

10.1 Timestamp-over-ether

Command Purpose

Use this command to configure the TAP timestamp outer header information.

Use the no form of this command to remove the TAP timestamp configuration.

Command Syntax

Timestamp-over-ether MAC_ADDR_DA MAC_ADDR_SA ETHTYPE_ID

No timestamp-over-ether

Parameter	Parameter Description	Parameter Value
MAC_ADDR_DA	Ethernet destination MAC address	MAC address in HHHH.HHHH.HHHH format, valid range is 0.0.0-FFFF.FFFF.FFFF
MAC_ADDR_SA	Ethernet source MAC address	MAC address in HHHH.HHHH.HHHH format, valid range is 0.0.0-FFFF.FFFF.FFFF
ETHTYPE_ID	Ethertype in hexadecimal	Range is [0x0-0xffff]

Command Mode

Global Configuration

Default

None

Usage

TAP timestamp is global configuration. TAP timestamp MUST be configured before using the TAP groups.

Examples

The following example shows how to configure timestamp-over-ether:

```
NPB# configure terminal
NPB(config)# timestamp-over-ether 1.1.1 2.2.2 0xff12
```

The following example shows how add timestamp for packets going out from tap1/interface eth-0-10:

```
NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress eth-0-1
NPB(config-tap-tap1)# egress eth-0-10 timestamp
NPB(config-tap-tap1)# exit
```

Related Commands

Tap-group

Egress

10.2 Show timestamp sync

Command Purpose

Use this command configure to display timestamp sync information.

Command Syntax

Show timestamp sync

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display timestamp information:

```
NPB# show timestamp sync
Sync Type          : Disabled
Sync Count         : 0
Last Sync Time     : Tue Sep 12 07:57:08 2017
```

Related Commands

Timestamp sync

10.3 Timestamp sync

Command Purpose

Use this command configure to timestamp sync.

Use the no form of this command to restore the default value.

Command Syntax

Timestamp sync (systime | none)

No timestamp sync

Parameter	Parameter Description	Parameter Value
Systime	Use the system time as time source.	-
None	Use the chip time as time source.	-

Command Mode

Global Configuration

Default

The default value is “none”

Usage

None

Examples

The following example shows how to config timestamp sync:

NPB(config)# timestamp sync systime

Related Commands

Show timestamp sync

Chapter 11 Mirror Commands

11.1 Monitor cpu capture packet

Command Purpose

Using this command, you can use start to write mirror CPU messages into a file, or stop writing using stop.

Command Syntax

Monitor cpu capture packet (start | stop)

Parameter	Parameter Description	Parameter Value
Start	Start writing messages into documents	-
Stop	Stop writing messages into documents	-

Command Mode

Privileged EXEC

Default

None

Usage

When start capturing packet, the cpu mirror packets will be written in a text file and the file name is assigned by system. The text file is stored in the directory of flash:/mirror/

Examples

The following example shows how to write packets in a txt file:

NPB# configure terminal
NPB(config)# monitor session 1 destination cpu
NPB(config)# monitor session 1 source interface eth-0-5
NPB(config)# end
NPB# monitor cpu capture packet start

Related Commands

Pcap convert flash:/mirror TXTFILENAME

11.2 Pcap convert

Command Purpose

Use this command to convert text files to pcap files.

Command Syntax

Pcap convert flash:/mirror/ *TXTFILENAME*

Parameter	Parameter Description	Parameter Value
TXTFILENAME	Generated text file	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to convert the txt file to the pcap file:

```
NPB# configure terminal
NPB(config)# monitor session 1 destination cpu
NPB(config)# monitor session 1 source interface eth-0-5
NPB(config)# end
NPB# monitor cpu capture packet start
NPB# cd mirror
NPB# ls
total 4
-rw-r--r-- 1 314 Jan    2 02:58 mircpupkt-2010-01-02-02-43-50.txt
-rw-r--r-- 1      0 Jan    2 02:59 mircpupkt-2010-01-02-02-59-35.txt
-rw-r--r-- 1      0 Dec 11    2018 mircpupkt-2018-12-11-16-11-41.txt
NPB# pcap convert flash:/mirror/mircpupkt-2010-01-02-02-43-50.txt
```

Related Commands

Show monitor cpu packet all

11.3 Monitor session destination interface

Command Purpose

Use this command to set mirror destination cpu.To remove this setting, use the no form of this command

Command Syntax

Monitor session *MIRROR_ID* destination interface *IFNAME*

No monitor session *MIRROR_ID* destination

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror session ID	Range is 1-4
IFNAME	Interface name	-

Command Mode

Global Configuration

Default

None

Usage

The port in this command can be either physical port or logical port agg, which does not support the type of vlanif for the time being. When this command is used, the port must be up. A mirror session ID cannot be applied to both local and remote. When a port is allocated to the dest port of mirror session, STP on the port will be deleted. Before deleting the dest of mirror session, the mirror session should be deleted source first.

Examples

The following example shows how to set the mirror destination port to eth-0-1 in

Session 1:

NPB# configure terminal
NPB(config)# monitor session 1 destination interface eth-0-1

The following example shows how to delete mirror destination session:

NPB# configure terminal
NPB(config)# no monitor session 1 destination

Related Commands

Show monitor

11.4 Monitor session destination cpu

Command Purpose

Use this command to set mirror destination cpu.To remove this setting, use the no form of this command.

Command Syntax

Monitor session *MIRROR_ID* destination cpu

No monitor session *MIRROR_ID* destination

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror session ID	Range is 1-4
Destination cpu	Mirror destination port	-

Command Mode

Global Configuration

Default

None

Usage

The CPU port is used as mirror dest, which is configured as the mirror destination port, and the CPU port can only be the mirror destination port of a mirror session. Before deleting the dest of the session, the source of the mirror session should be deleted first.

Examples

The following example shows how to set mirror destination of cpu:

NPB# configure terminal
NPB(config)# monitor session 1 destination cpu

The following example shows how to delete mirror destination of cpu:

NPB# configure terminal
NPB(config)# monitor session 1 destination cpu
NPB(config)# no monitor session 1 destination

Related Commands

Show monitor cpu

11.5 Monitor session source cpu

Command Purpose

Configure the mirror source CPU using the monitor session source CPU command, and delete the configuration by adding the keyword no before the original command.

Command Syntax

Monitor session *MIRROR_ID* source cpu (both | tx | rx)

No monitor session *MIRROR_ID* source cpu (both | tx | rx)

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror session ID	Range is 1-4
Source cpu	Mirror source CPU	-
Both	Packet Traffic Received and Sended on Mirror Source CPU	-
Rx	Packet Traffic Received on Mirror Source CPU	-
Tx	Message traffic sent on mirror source CPU	-

Command Mode

Global Configuration

Default

None

Usage

CPU port is used as mirror source, which is mainly used by users and engineers to monitor messages passing through the port. If the direction is not specified, the default value is bidirectional. Before deleting dest of mirror session, the source of mirror session should be deleted first.

Examples

The following example shows how to set mirror source of cpu:

NPB# configure terminal
NPB(config)# monitor session 1 destination interface eth-0-1
NPB(config)# monitor session 1 source cpu

The following example shows how to delete mirror source of cpu:

NPB# configure terminal
NPB(config)# monitor session 1 destination interface eth-0-1
NPB(config)# monitor session 1 source cpu
NPB(config)# no monitor session 1 source cpu both

Related Commands

Show monitor cpu

11.6 Monitor session destination group member

Command Purpose

This command is used to create mirror multi destination group. The port of the multi destination group can only be a physical port.To remove this setting, use the no form of this command.

Command Syntax

Monitor session *MIRROR_ID* destination group *GROUP_ID* member *IFNAME*

No monitor session *MIRROR_ID* destination group *GROUP_ID* member *IFNAME*

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror session ID	Range is 1-4
GROUP_ID	Mirror session group ID	Range is 2-4094
IFNAME	Interface name	-

Command Mode

Global Configuration

Default

None

Usage

Only one session can configure to multi-dest group. One session can have multi destination group members which port is physical port. Same session can't configure both local destination interface and remote destination VLAN.

Examples

The following example shows how to set multi-destination mirror in session 1:

NPB# configure terminal
NPB(config)# monitor session 1 destination group 1 member eth-0-1
NPB(config)# monitor session 1 destination group 1 member eth-0-2
NPB(config)# monitor session 1 destination group 1 member eth-0-3

The following example shows how to remove multi-destination mirror in session 1:

NPB# configure terminal
NPB(config)# no monitor session 1 destination group 1 member eth-0-1
NPB(config)# no monitor session 1 destination group 1 member eth-0-2
NPB(config)# no monitor session 1 destination group 1 member eth-0-3

Related Commands

No monitor session destination group member

No monitor session destination group

Show monitor

11.7 Monitor session destination remote

Command Purpose

This command is used to create remote mirror sessions.

Delete remote mirror session with no command.

Command Syntax

Monitor session *MIRROR_ID* destination remote *VLAN_ID* interface *IFNAME*

No monitor session *MIRROR_ID* destination remote vlan

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror session ID	Range is 1-4
VLAN_ID	Remote VLANID	Range is 2-4094
IFNAME	Remote mirror session destination interface name	-

Command Mode

Global Configuration

Default

None

Usage

Remote mirror outgoing port must be a physical port. Before removing the remote mirror session, it must delete the source of the remote session.

Examples

The following example shows how to create remote mirror session:

NPB# configure terminal
NPB(config)# monitor session 1 destination remote vlan 2 interface eth-0-3

The following example shows how to delete remote mirror session:

NPB# configure terminal
NPB(config)# no monitor session 1 destination remote vlan

Related Commands

Show monitor

11.8 Monitor session source interface

Command Purpose

Use this command to set the source interface mode of mirror session. Delete source mode of mirror session with no command.

Command Syntax

Monitor session *MIRROR_ID* source interface *IF_NAME* (both | tx | rx)

No monitor session *MIRROR_ID* source interface *IFNAME* (both | tx | rx)

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror Session ID	Range is 1-4
IFNAME	Physical port or AGG port	-
Both	TX and RX Directions	-
Rx	TX Directions	-
Tx	RX Directions	-

Command Mode

Global Configuration

Default

None

Usage

The port in source mode of mirror session can be either physical port or agg port. The default direction in source mode is both.

Examples

The following example shows how to set mirror source of interface mode:

NPB# configure terminal
NPB(config)# monitor session 1 source interface eth-0-11

The following example shows how to delete mirror source of interface mode:

NPB# configure terminal
NPB(config)# no monitor session 1 source interface eth-0-11

Related Commands

Show monitor

11.9 Monitor mac escape

Command Purpose

Use this command to set remote mirror Mac escape feature. When these escape

Entries are set, the packets with specified MAC-DA will not be mirrored to the remote destination vlan when using Rspan

Command Syntax

Monitor mac escape *MAC MASK*

No monitor mac escape (*MAC MASK*|)

Parameter	Parameter Description	Parameter Value
MAC	MAC address	-
MASK	MASK address	-

Command Mode

Global Configuration

Default

None

Usage

Mac escape is used for remote mirror. It will not affect the result of local mirror.

If a Mac escape entry is set, the packet with this Mac destination can not be mirrored in remote mirror.

Command "no monitor mac escape " should delete the specified entry.

Command "no monitor mac escape" should delete all entries.

Examples

The following example shows how to set remote mirror mac escape :

NPB# configure terminal
NPB(config)# monitor mac escape 0.0.1 ffff.ffff.ffff

The following example shows how to delete remote mirror mac escape :

NPB# configure terminal
NPB(config)# no monitor mac escape 0.0.1 ffff.ffff.ffff

Related Commands

Show monitor mac escape

11.10 Show monitor

Command Purpose

Use this command to show the information about monitor.

Command Syntax

Show monitor

Command Mode

Privileged EXEC

Default

None

Usage

This command displays the information about monitor.If the system does not

Configure the mirror, an error will be returned.

Examples

The following example shows how to display the information about monitor:

NPB# configure terminal
NPB(config)# monitor session 1 destination cpu
NPB(config)# monitor session 1 source interface eth-0-5
NPB(config)# end
NPB# show monitor
Session : 1
Status : valid
Type : CPU Session
Source Ports :
Receive Only :
Transmit Only :
Both : eth-0-5
Source Vlans :
Receive Only :
Transmit Only :
Both :
Destination Port : CPU

Related Commands

Show monitor session

11.11 Show monitor session

Command Purpose

Use this command to display information about a particular mirror session.

Command Syntax

Show monitor session *MIRROR_ID*

Parameter	Parameter Description	Parameter Value
MIRROR_ID	Mirror Session	Number is 1-4

Command Mode

Privileged EXEC

Default

None

Usage

If a specific session ID does not configure mirrored sessions, an error is returned.

Examples

The following example shows how to display information about a specified mirror

Session:

```
NPB# configure terminal
NPB(config)# monitor session 1 destination cpu
NPB(config)# monitor session 1 source interface eth-0-5
NPB# show monitor session 1
Session              : 1
Status               : valid
Type                 : CPU Session
Source Ports         :
Receive Only         :
Transmit Only        :
Both                 : eth-0-5
Source Vlans         :
Receive Only         :
Transmit Only        :
Both                 :
Destination Port : CPU
```

Related Commands

Show monitor

11.12 Show monitor mac escape

Command Purpose

Use this command to show mac escape settings for remote mirror.

Command Syntax

Show monitor mac escape

Command Mode

Privileged EXEC

Default

None

Usage

This command displays mac escape settings for remote mirror.

Examples

The following example shows how to display mac escape setting for remote mirror:

```
NPB# show monitor mac escape
-------------------------------------------------------------
monitor rspan mac escape database
-------------------------------------------------------------
count : 2
-------------------------------------------------------------
Mac     : 0000.0000.0001
Mask    : FFFF.FFFF.FFFF
Mac     : 0000.0000.0002
Mask    : FFFF.FFFF.FFFF
-------------------------------------------------------------
```

Related Commands

Monitor mac escape

Chapter 12 TRUNCATION Commands

12.1 Truncation

Command Purpose

Use this command to configure the truncation length information.

Use the no form of this command to restore the default value.

Command Syntax

Truncation TRUNCATION_LEN

No truncation

Parameter	Parameter Description	Parameter Value
TRUNCATION_LEN	Truncation length in bytes.	Valid range is 18-9600.

Command Mode

Global Configuration

Default

144

Usage

CRC should be re-calculating after packet is truncated. The truncation length include CRC field.

Examples

The following example shows how to set truncation length as 64:

NPB(config)# truncation 64

The following example shows how to use truncation in TAP group:

NPB(config)# tap-group tap1
NPB(config-tap-tap1)# ingress eth-0-1 truncation
NPB(config-tap-tap1)# egress eth-0-10

Related Commands

Tap-group

Ingress

Chapter 13 SSH Commands

13.1 Ip ssh server enable

Command Purpose

In global mode, use this command to start ssh server.

Command Syntax

Ip ssh server enable

Command Mode

Global Configuration

Default

Enabled

Usage

None

Examples

The following example enables the SSH server:

NPB(config)# ip ssh server enable

Related Commands

Ip ssh server disable

13.2 Ip ssh server disable

Command Purpose

In global mode, use this command to disable ssh server.

Command Syntax

Ip ssh server disable

Command Mode

Global Configuration

Default

Enabled

Usage

None

Examples

The following example disable the SSH server:

NPB(config)# ip ssh server disable

Related Commands

Ip ssh server enable

13.3 Ip ssh server version

Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) version on your NPB. And use the no form of this command to restore the default value.

Command Syntax

Ip ssh server version (v1 | v2 | all)

No ip ssh server version

Parameter	Parameter Description	Parameter Value
V1	Support SSH version 1	-
V2	Support SSH version 2	-
All	Support SSH version 1 and 2	-

Command Mode

Global Configuration

Default

V2

Usage

SSH server and client will negotiate about the version when connecting. Server and client should select a higher version both supported.

Examples

The following example shows how to configure support SSH Version 1:

NPB(config)# ip ssh server version v1

The following example shows how to restore the default configuration:

NPB(config)# no ip ssh server version

Related Commands

Show ip ssh server status

13.4 Ip ssh server authentication-retries

Command Purpose

Use this command to set retry times when log in remote ssh server failed. Use the command in no format, could rest retry times to default value.

Command Syntax

Ip ssh server authentication-retries *SSHAUTHRETRIES*

No ip ssh server authentication-retries

Parameter	Parameter Description	Parameter Value
SSHAUTHRETRIES	Retry times	Range is <1-6>

Command Mode

Global Configuration

Default

6

Usage

None

Examples

The following examples configures SSH authentication retry times on your NPB:

NPB(config)# ip ssh server authentication-retries 3

The following examples restore SSH authentication retry times to the default value:

NPB(config)# no ip ssh server authentication-retries

Related Commands

Show ip ssh server status

13.5 Ip ssh server authentication-timeout

Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) authentication timeout on your NPB.

Use the no form of this command to restore the default value of Secure Shell (SSH) authentication timeout on your NPB

Command Syntax

Ip ssh server authentication-timeout *SSHAUTHTIMEOUT*

No ip ssh server authentication-timeout

Parameter	Parameter Description	Parameter Value
SSHAUTHTIMEOUT	Timeout seconds	Range is <1-120>, unit is seconds

Command Mode

Global Configuration

Default

120

Usage

None

Examples

The following examples configures SSH authentication timeout on your NPB:

NPB(config)# ip ssh server authentication-timeout 100

The following examples restore SSH authentication timeout to default value:

NPB(config)# no ip ssh server authentication-timeout

Related Commands

Show ip ssh server status

13.6 Ip ssh server authentication-type

Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) authentication type.

Use the no form of this command to restore the default value of Secure Shell (SSH) authentication type.

Command Syntax

Ip ssh server authentication-type (all | (password | public-key | rsa))

No ip ssh server authentication-type

Parameter	Parameter Description	Parameter Value
All	Enable all authentication type	-
Password	Enable password	-
Public-key	Enable public key	-
Rsa	Enable rsa	-

Command Mode

Global Configuration

Default

Public-key and password

Usage

When logging in using SSH, the authentication mode will be negotiated at the beginning of establishing connection reply.

Examples

The following example configures SSH authentication type to password:

NPB(config)# ip ssh server authentication-type password

The following example restore SSH authentication type to default value:

NPB(config)# no ip ssh server authentication-type

Related Commands

Show ip ssh server status

13.7 Ip ssh server rekey-interval

Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) rekey interval.

Use the no form of this command to restore the default value of Secure Shell (SSH) rekey interval.

Command Syntax

Ip ssh server rekey-interval *SSHREKEYINTVL*

No ip ssh server rekey-interval

Parameter	Parameter Description	Parameter Value
SSHREKEYINTVL	Rekey interval in minutes	Range is <1-1440>

Command Mode

Global Configuration

Default

60

Usage

None

Examples

The following example configures SSH rekey interval to 30:

NPB(config)# ip ssh server rekey-interval 30

The following example restore SSH rekey interval to default value:

NPB(config)# no ip ssh server rekey-interval

Related Commands

Show ip ssh server status

13.8 Ip ssh server host-key

Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) host-key.

Use the no form of this command to restore the default value of Secure Shell (SSH) host-key.

Command Syntax

Ip ssh server host-key rsa key *RSAKEYNAME*

No ip ssh server host-key

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key Name	=Y27

Command Mode

Global Configuration

Default

None

Usage

Host-key is used to generate session when establish connection.

Examples

The following example shows how to configure SSH host key:

NPB(config)# ip ssh server host-key rsa key KEY1

The following example shows how to remove SSH host key:

NPB(config)# no ip ssh server host-key

Related Commands

Show ip ssh server status

13.9 Ip ssh server port

Command Purpose

Use this command to configure ssh service port.

Command Syntax

Ip ssh server port *SERVICE_PORT*

No ip ssh server port

Parameter	Parameter Description	Parameter Value
SERVICE_PORT	Port number	Range is 1025-65535

Command Mode

Global Configuration

Default

22

Usage

When change ssh service port, all users must be forced to disconnect.

Examples

The following example configures port number:

NPB# configure terminal
NPB(config)# ip ssh server port 2000

The following example recovers ssh port to default port:

NPB# configure terminal
NPB(config)# no ip ssh server port

Related Commands

None

13.10 Ip ssh server acl

Command Purpose

Use this command to configure ssh service acl.

Command Syntax

Ip ssh server acl *ACL_NAME*

No ip ssh server acl

Parameter	Parameter Description	Parameter Value
ACL_NAME	IP ACL NAME	The initial character name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example sets ssh service acl:

NPB# configure terminal
NPB(config)# ip access-list sacl01
NPB(config-ip-acl-sacl01)# exit
NPB(config)# ip ssh server acl sacl01

The following example delete ssh service acl:

NPB# configure terminal
NPB(config)# no ip ssh server acl

Related Commands

None

13.11 Show ip ssh server status

Command Purpose

In privileged mode, use this command to show information of SSH.

Command Syntax

Show ip ssh server status

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows information of ssh server:

```
NPB# show ip ssh server status
  SSH server enabled
  Version: v2
  Authentication timeout: 33 second(s)
  Authentication retries: 6 time(s)
  Server key lifetime: 60 minute(s)
  Authentication type: password, public-key
```

Related Commands

Ssh

Chapter 14 LACP Commands

14.1 Port-channel load-balance-mode

Command Purpose

Use this command to set port-channel load balance mode from static to round-robin. Use the no form of this command to set port-channel load balance mode to default static mode.

Command Syntax

Port-channel *AGG_GID* load-balance-mode round-robin

No port-channel *AGG_GID* load-balance-mode

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-55>

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

The following example shows how to set port-channel load balance mode to round-robin:

NPB(config)# port-channel 9 load-balance-mode round-robin

The following example shows how to set port-channel load balance mode to the default:

NPB(config)# no port-channel 9 load-balance-mode

Related Commands

None

14.2 Port-channel self-healing

Command Purpose

Use this command to set port-channel self-healing mode. Use the no form of this command to set port-channel to default static mode.

Command Syntax

Port-channel *AGG_GID* self-healing

No port-channel *AGG_GID* self-healing

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-16>

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

The following example shows how to set port-channel self-healing mode:

NPB(config)# port-channel 1 self-healing

The following example shows how to set port channel to default mode:

NPB(config)# no port-channel 1 self-healing

Related Commands

None

14.3 Show channel-group

Command Purpose

Use show channel-group summary command to display a summary of all of the channel groups, or a specified channel group. Use show channel-group detail command to display detailed information of all of the channel groups, or a specified channel group. Use show channel-group port command to display port information of all of the channel groups, or a specified channel group.

Command Syntax

Show channel-group (*AGG_GID* |) (summary | detail | port | backup-ports)

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-55>

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display detailed information of the channel group 10:

```
NPB# show channel-group 10 detail
Group: 10
-----------------------------
  Mode                  : NPB
  Ports                 : 2                 Maxports : 16
  Bundle Ports    : 0
  Protocol            : static

  Port                  : eth-0-3
  -----------------------------
    State               : Down Out-Bundle
    Channel group : 10
    Protocol            : static
    Port index        : 3

  Port                  : eth-0-4
  -----------------------------
    State               : Down Out-Bundle
    Channel group : 10
    Protocol            : static
    Port index        : 4
```

The following example shows how to display information of all channel groups:

```
NPB# show channel-group summary
Flags:   s - suspend                  T - standby
           w - wait                     B - in Bundle
           R - Layer3                   S - Layer2
           D - down/admin down      U - in use
Mode:   SLB      - static load balance
          DLB      - dynamic load balance
          RR       - round robin load balance
Aggregator Mode Protocol Ports
----------+----+--------+-----------------------------------------------------
agg5(SD)     SLB   Static     eth-0-5(D)
agg10(SD)   SLB   Static     eth-0-3(D)          eth-0-4(D)
```

The following example shows how to display information of the channel group 10:

```
NPB# show channel-group 10 summary
port-channel load-balance hash-arithmetic: xor
port-channel load-balance tunnel-hash-mode: both
Port-channel load-balance hash-field-select:
       src-ip dst-ip src-port-l4 dst-port-l4
Flags:   s - suspend                  T - standby
           w - wait                     B - in Bundle
           R - Layer3                   S - Layer2
```

```
              D - down/admin down      U - in use
Mode:    SLB      - static load balance
         DLB      - dynamic load balance
         RR       - round robin load balance
Aggregator Mode Protocol Ports
----------+----+--------+-----------------------------------------------------
agg10(SD)    SLB    Static      eth-0-3(D)          eth-0-4(D)
```

Related Commands

Static-channel-group

14.4 Show channel-group interface

Command Purpose

Use this command to display link aggregation information for the port.

Command Syntax

Show channel-group interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display link aggregation information for the specified port:

```
NPB# show channel-group interface eth-0-3
Port                : eth-0-3
----------------------------
  State             : Down Out-Bundle
  Channel group : 10
  Protocol          : static
  Port index        : 3
```

Related Commands

Static-channel-group

14.5 Port-channel fail-over

Command Purpose

Use this command to enable port-channel fail over. Use the no form of this command to disable port-channel load fail over.

Command Syntax

Port-channel *AGG_GID* fail-over

No port-channel *AGG_GID* fail-over

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-16>

Command Mode

Global Configuration

Default

Enabled

Usage

None

Examples

The following example shows how to enable port-channel fail over:

NPB(config)# port-channel 9 fail-over

The following example shows how to disable port-channel load fail over:

NPB(config)# no port-channel 9 fail-over

Related Commands

None

Chapter 15 NTP Commands

15.1 Ntp minimum-distance

Command Purpose

In global configuration mode, use this command to configure the minimum distance between the NPB and the NTP server.

Use the no form of this command to restore default ntp minimum distance configures.

Command Syntax

Ntp minimum-distance *NTP_MIN_DISP*

No ntp minimum-distance

Parameter	Parameter Description	Parameter Value
NTP_MIN_DISP	Distance value time interval in milliseconds	Range is <1-1000>

Command Mode

Global Configuration

Default

1ms

Usage

None

Examples

The following example shows how to configure minimum distance to 1000ms:

NPB(config)# ntp minimum-distance 1000

The following example shows how to configure minimum distance to default:

NPB(config)# no ntp minimum-distance

Related Commands

Show ntp status

15.2 Ntp server

Command Purpose

Use this command to allow the software clock to be synchronized by a Network Time Protocol (NTP) time server.

Use the no form of this command to delete the NTP server

Command Syntax

Ntp server mgmt-if *IP_ADDR* (key *NTP_KEYID* |) (version *NTP_VERSION* |) (prefer |)

No ntp server *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	IP address of the time server or peer	-
NTP_KEYID	Authentication key to use when sending packets to this peer	Range is <1-64000>
NTP_VERSION	Defines the Network Time Protocol (NTP) version number	Range is <1-3>
Prefer	Makes this peer the preferred peer that provides synchronization	-

Command Mode

Global Configuration

Default

Not synchronized with any NTP server

Usage

None

Examples

The following example shows how to configure ntp server ip as 172.16.22.44, the version of NTP as 2:

NPB(config)# ntp server mgmt-if 172.16.22.44 version 2

The following example shows how to remove ntp server:

NPB(config)# no ntp server 172.16.22.44

Related Commands

Show ntp status

15.3 Ntp authentication

Command Purpose

To enable NTP authentication, use the ntp authentication enable command. To disable the NTP authentication, use the ntp authentication disable command.

Command Syntax

Ntp authentication (enable | disable)

Command Mode

Global Configuration

Default

Disabled

Usage

When NTP authentication is enabled, the NPB will synchronize the time with NTP servers with trusted key only.

For more information about trusted key, please see the "ntp trustedkey" command.

Examples

The following example shows how to enables NTP authentication:

NPB(config)# ntp authentication enable

Related Commands

Show ntp

15.4 Ntp key

Command Purpose

In global mode, use this command to create a value for a NTP key. And remove the value of the NTP key by the no form of the command

Command Syntax

Ntp key NTP_KEYID KEY_STRING

No ntp key *NTP_KEYID*

Parameter	Parameter Description	Parameter Value
NTP_KEYID	Authentication key ID	Range is <1-64000>
KEY_STRING	The value of the key	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to create a ntp key:

NPB(config)# ntp key 123 key123

The following example shows how to remove a ntp key:

NPB(config)# no ntp key 123

Related Commands

Show ntp key

15.5 Ntp trustedkey

Command Purpose

Use this command to authenticate the identity of a system to which Network Time Protocol (NTP) will synchronize.

Use the no form of this command to disable authentication of the identity of the system.

Command Syntax

Ntp trustedkey *NTP_KEYID*

No ntp trustedkey *NTP_KEYID*

Parameter	Parameter Description	Parameter Value
NTP_KEYID	Authentication key to use when sending packets to this peer	Range is <1-64000>

Command Mode

Global Configuration

Default

None

Usage

If authentication is enabled, use this command to define one or more key numbers (corresponding to the keys defined with the ntp key command) that a peer NTP system must provide in its NTP packets, in order for this system to synchronize to it. This function provides protection against accidentally synchronizing the system to a system that is not trusted, because the other system must know the correct authentication key.

Examples

The following example shows how to configure the system to synchronize only to systems providing authentication key 123:

NPB(config)# ntp trustedkey 123

The following example shows how to disable authentication of the identity of the system:

NPB(config)# no ntp trustedkey 123

Related Commands

Ntp key

15.6 Show ntp

Command Purpose

In privileged mode, use this command to display NTP configuration.

Command Syntax

Show ntp

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the NTP configurations :

NPB# show ntp
Unicast peer or server:
1.1.1.1 server
10.1.1.23 key 43 version 2 prefer server
10.10.25.8 server
172.16.22.44 version 2 server
192.16.22.44 version 2 server
Authentication: enabled
Local reference clock:

Related Commands

Ntp server

15.7 Show ntp status

Command Purpose

In privileged mode, use this command to display current NTP status.

Command Syntax

Show ntp status

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display ntp status:

```
NPB# show ntp status
system peer                  : 10.10.25.8
system peer mode             : client
leap indicator               : 00
stratum                      : 5
precision                    : -19
root distance                : 0.30511 s
minimum distance             : 0.00099 s
selection threshold          : 1.50000 s
root dispersion              : 0.28767 s
reference ID                 : (10.10.25.8|)
reference time               : dd6e331f.6a9c7b92    Thu, Sep 21 2017 20:46:23.416
system flags                 : auth monitor ntp kernel stats
jitter                       : 0.000000 s
stability                    : 18.062 ppm
broadcastdelay               : 3.000000 s
authdelay                    : 0.000000 s
```

Related Commands

Ntp minimum-distance

15.8 Show ntp statistics

Command Purpose

In privileged mode, use this command to display ntp statistics.

Command Syntax

Show ntp statistics

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display ntp statistics:

```
NPB# show ntp statistics
time since reset          :18748
receive buffers           :10
free receive buffers :9
used receive buffers :0
low water refills       :1
dropped packets           :0
ignored packets           :0
received packets          :333
packets sent              :545
packets not sent          :0
interrupts handled      :19081
received by int           :333
```

Related Commands

Ntp server

Clear ntp statistics

15.9 Show ntp associations

Command Purpose

In privileged mode, use this command to display neighbor state of NTP.

Command Syntax

Show ntp associations

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows the status of NTP associations:

```
NPB# show ntp associations
* synced,           + symmetric active mode, - symmetric passive mode,
= client mode, ^ broadcast mode,              ~ broadcast client mode
        remote                  local          st poll reach    delay     offset       disp
==============================================================================
=172.16.22.44       169.254.2.1          16 1024       0 0.00000    0.000000 3.99217
```

```
=10.1.1.23          169.254.2.1      16 1024      0 0.00000   0.000000 3.99217
=192.16.22.44       169.254.2.1      16 1024      0 0.00000   0.000000 3.99217
*10.10.25.8         169.254.2.1       4  128    377 0.00031   0.067999 0.09810
=1.1.1.1            169.254.2.1      16 1024      0 0.00000   0.000000 3.99217
```

Related Commands

Ntp server

15.10 Show ntp key

Command Purpose

In privileged mode, use this command to display NTP key.

Command Syntax

Show ntp key

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows the keys of NTP:

```
NPB# show ntp key
Current NTP key configuration:
-+-----+---------+----------------------------------------
          43          key43
         123         key123
```

Related Commands

Ntp key

15.11 Clear ntp statistics

Command Purpose

In privileged mode, use this command to clear NTP statistics.

Command Syntax

Clear ntp statistics

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to clear ntp statistics:

NPB# clear ntp statistics

Related Commands

Show ntp statistics

Chapter 16 NETWORK DIAGNOSIS Commands

16.1 Ping

Command Purpose

Use this command to check whether a specific ipv4 address is available through management interface.

Command Syntax

Ping mgmt-if (-b |) *WORD*

Parameter	Parameter Description	Parameter Value
Mgmt-if	Send packet from management interface	-
-b	To check a broadcast address	-
WORD	Ping destination address	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to check whether 10.10.38.160 is available:

NPB# ping mgmt-if 10.10.38.160
PING 10.10.38.160 (10.10.38.160) 56(84) bytes of data.
64 bytes from 10.10.38.160: icmp_seq=1 ttl=64 time=0.513 ms
64 bytes from 10.10.38.160: icmp_seq=2 ttl=64 time=0.229 ms
64 bytes from 10.10.38.160: icmp_seq=3 ttl=64 time=0.261 ms
64 bytes from 10.10.38.160: icmp_seq=4 ttl=64 time=0.265 ms
64 bytes from 10.10.38.160: icmp_seq=5 ttl=64 time=0.387 ms

--- 10.10.38.160 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 3999ms
rtt min/avg/max/mdev = 0.229/0.331/0.513/0.105 ms

Related Commands

Traceroute

16.2 Traceroute

Command Purpose

Use this command to show the path from the current device to the destination device.

Command Syntax

Traceroute mgmt-if *WORD*

Parameter	Parameter Description	Parameter Value
Mgmt-if	Send packet from management interface	-
WORD	Traceroute destination address	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to show the path from current device to 10.108.1.29:

```
NPB# traceroute mgmt-if 10.108.1.29
traceroute to 10.108.1.29 (10.108.1.29), 30 hops max, 38 byte packets
 1  10.108.1.27 (10.108.1.27)  2998.076 ms !H  3000.361 ms !H  3007.748 ms !H
```

Related Commands

Ping

Chapter 17 MONITOR CAPTURE Commands

17.1 Monitor-capture global

Command Purpose

Use this command to enter monitor-capture global mode.

Command Syntax

Monitor-capture global

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to enter monitor-capture global:

NPB(config)# monitor-capture global
NPB(config-capture)#

Related Commands

None

17.2 Monitor-capture packet

Command Purpose

Use this command to set monitor-capture attribute.

Command Syntax

Monitor-capture packet ((length *LEN*) | (number *NUM*) | (time *TIME*))

Parameter	Parameter Description	Parameter Value
Length LEN	The Truncation length of packet	64-256
Number NUM	The total capture of monitor capture.Auto stop when capture assign packet number	1-1000
Time TIME	The time of monitor capture packet,auto stop when time-out	1-120

Command Mode

Monitor-capture Configuration

Default

No-limit

Usage

None

Examples

The following example shows how to set monitor capture truncation length:

NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture packet length 64

The following example shows how to set total number of monitor capture packet :

NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture packet number 10

The following example shows how to set time of monitor capture :

NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture packet time 60

Related Commands

None

17.3 Monitor-capture input

Command Purpose

Use this command to set capture source node on ingress direction

Command Syntax

Monitor-capture input *IF_NAME* ((flow *FLOW_NAME*) |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Interface name， support phy port,agg port,port group	-
Flow FLOW_NAME	Flow name	-

Command Mode

Monitor-capture Configuration

Default

None

Usage

None

Examples

The following example shows how to set capture packet of input on interface eth-0-1 :

NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture input eth-0-1

The following example shows how to set capture packet of input on interface eth-0-1 and match flow1 rules:

NPB(config)# flow flow1
NPB(config-flow-flow1)# permit any src-ip host 1.1.1.1 dst-ip any
NPB(config-flow-flow1)# exit
NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture input eth-0-1 flow flow1

Related Commands

None

17.4 Monitor-capture output

Command Purpose

Use this command to set capture source node on egress direction

Command Syntax

Monitor-capture output *IF_NAME* ((access-list *ACL_NAME*) |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Interface name， support phy port,agg port.	-
Access-list ACL_NAME	Acl name	-

Command Mode

Monitor-capture Configuration

Default

None

Usage

None

Examples

The following example shows how to set capture packet of output on interface eth-0-1 :

```
NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture output eth-0-1
```

The following example shows how to set capture packet of ouput on interface eth-0-1 and match acl1 rules:

```
NPB(config)#    ip access-list acl1
NPB(config-acl-acl1)# permit any src-ip host 1.1.1.1 dst-ip any
NPB(config-acl-acl1)# exit
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# egress acl1
NPB(config-if-eth-0-1)# exit
NPB(config)# monitor-capture global
NPB(config-capture)# monitor-capture output eth-0-1    access-list acl1
```

Related Commands

None

17.5 Monitor-capture packet start

Command Purpose

Use this command to start monitor-capture

Command Syntax

Monitor-capture packet start

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example show how to start monitor-capture:

```
NPB# monitor-capture packet start
```

Related Commands

None

17.6 Monitor-capture packet stop

Command Purpose

Use this command to stop monitor-capture

Command Syntax

Monitor-capture packet stop

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example show how to stop monitor-capture:

NPB# monitor-capture packet stop

Related Commands

None

17.7 Monitor-capture packet restart

Command Purpose

Use this command to restart monitor-capture

Command Syntax

Monitor-capture packet start

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example show how to restart monitor-capture:

NPB# monitor-capture packet restart

Related Commands

None

17.8 Show monitor-capture packet

Command Purpose

Use this command to show capture packet

Command Syntax

Show monitor-capture packet (all | *PACKET-ID*)

Parameter	Parameter Description	Parameter Value
All	Show all packets	-
PACKET-ID	Show the specified packet	1-1000

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example show all packet of monitor-capture:

```
NPB# show monitor-capture packet all
  ----------------------------------------
Packet          : 1
Source port: eth-0-1
MACDA:0000.0000.0002, MACSA:0000.0000.0001
VLAN Tag: 20, priority: 0
IPDA: 30.30.30.3, IPSA: 10.0.0.2
ipv4 Packet, IP Protocol is 0
Data length: 64
Data:
  0000 0000 0002 0000 0000 0001 8100 0014
  0800 4500 0044 0001 0000 4000 3497 0a00
  0002 1e1e 1e03 5858 5858 5858 5858 5858
  5858 5858 5858 5858 5858 5858 5858 5858
----------------------------------------
Packet          : 2
Source port: eth-0-1
MACDA:0000.0000.0002, MACSA:0000.0000.0001
VLAN Tag: 20, priority: 0
IPDA: 30.30.30.3, IPSA: 10.0.0.2
```

```
ipv4 Packet, IP Protocol is 0
Data length: 64
Data:
  0000 0000 0002 0000 0000 0001 8100 0014
  0800 4500 0044 0001 0000 4000 3497 0a00
  0002 1e1e 1e03 5858 5858 5858 5858 5858
  5858 5858 5858 5858 5858 5858 5858 5858
----------------------------------------
```

The following example show packet-id of capture packet:

```
NPB# show monitor-capture packet 1
  ----------------------------------------
Packet          : 1
Source port: port1
MACDA:0000.0000.0002, MACSA:0000.0000.0001
VLAN Tag: 20, priority: 0
IPDA: 30.30.30.3, IPSA: 10.0.0.2
ipv4 Packet, IP Protocol is 0
Data length: 64
Data:
  0000 0000 0002 0000 0000 0001 8100 0014
  0800 4500 0044 0001 0000 4000 3497 0a00
  0002 1e1e 1e03 5858 5858 5858 5858 5858
  5858 5858 5858 5858 5858 5858 5858 5858
```

Related Commands

None

17.9 Clear monitor-capture packet all

Command Purpose

Use this command to clear monitor capture buffer.

Command Syntax

Clear monitor-capture packet all

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to clear monitor-capture buffer:

```
NPB# clear monitor-capture packet all
```

Related Commands

None

17.10 Show monitor-capture global

Command Purpose

Use this command to show monitor-capture global configuration

Command Syntax

Show monitor-capture global

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows monitor-capture global configuration:

```
NPB# show monitor-capture global
Monitor-capture global information:
    monitor-capture number                : no-limit
    monitor-capture timeout               : no-limit
    monitor-capture length                : 64
    monitor-capture source-nodes:
      Input:
        eth-0-1
        eth-0-1             flow flow1
      Output:
        eth-0-1
        eth-0-1             access-list acl1
```

Related Commands

None

Chapter 18 SYSLOG Commands

18.1 Logging sync

Command Purpose

In privileged mode, use this command to write the log in the memory buffer to the syslog file in flash.

Command Syntax

Logging sync

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following shows how to enable logging sync function:

NPB# logging sync

Related Commands

Show logging buffer

18.2 Logging buffer

Command Purpose

In global configuration mode, the command is used to set the number of logs saved by the system temporary buffer, and the default value is restored in the form of no of the command.

Command Syntax

Logging buffer *CFGLOGLINES*

No logging buffer

Parameter	Parameter Description	Parameter Value
CFGLOGLINES	Log quantity	Range is <10-1000>

Command Mode

Global Configuration

Default

500

Usage

None

Examples

The following shows how to set logging buffer line number to 10:

NPB(config)# logging buffer 10

The following shows how to set logging buffer line number to default value:

NPB(config)# no logging buffer

Related Commands

Show logging buffer

18.3 Logging file

Command Purpose

In global configuration mode, use this command to set whether to write logs into log files.

Command Syntax

Logging file (enable | disable)

Parameter	Parameter Description	Parameter Value
Enable	Write log information into log files	-
Disable	Cancel writing log information to log file	-

Command Mode

Global Configuration

Default

Enabled

Usage

Once enabled, the log writes the currently generated log to the flash:/syslogfile file every 10 minutes.

Examples

The following example shows how to enable logging file function:

NPB(config)# logging file enable

Related Commands

Show logging

18.4 Logging level file

Command Purpose

In global configuration mode, using this command to set the level of log information, logs above or equal to this level will be counted into log files. And

Use the no form of this command to restore the default value.

Command Syntax

Logging level file (*LOGSEVERITY* | emergency | alert | critical | error | warning | notice | information | debug)

No logging level file

Parameter	Parameter Description	Parameter Value
0 | emergency	System is unusable	-
1 | alert	Immediate action needed	-
2 | critical	Critical conditions	-
3 | error	Error conditions	-
4 | warning	Warning conditions	-
5 | notice	Normal but significant conditions	-
6 | information	Informational messages	-
7 | debug	Debugging messages	-
LOGSEVERITY	Severity level	Range is <0-7>

Command Mode

Global Configuration

Default

Warning

Usage

Use this command to set the level of log information. Log information above or equal to this level will be logged to the log file, while log information below this level will not be logged to the file. If debug is specified, all log messages will be logged to the log file.

Examples

The following example shows how to configure the log message level to error:

NPB(config)# logging level file error

The following example shows how to restore the default value of log message level:

NPB(config)# no logging level file

Related Commands

Logging level module

18.5 Logging level module

Command Purpose

In global configuration mode, use this command to set the level of log information sent to the terminal and entered into the buffer. Logs higher than or equal to this level will be displayed on the terminal. And use the no form of this command to restore the default value.

Command Syntax

Logging level module (*LOGSEVERITY* | emergency | alert | critical | error | warning | notice | information | debug)

No logging level module

Parameter	Parameter Description	Parameter Value
0 | emergency	System is unusable	-
1 | alert	Immediate action needed	-
2 | critical	Critical conditions	-
3 | error	Error conditions	-
4 | warning	Warning conditions	-
5 | notice	Normal but significant conditions	-
6 | information	Informational messages	-
7 | debug	Debugging messages	-
LOGSEVERITY	Severity level.	Range is <0-7>

Command Mode

Global Configuration

Default

Debug

Usage

With this, the command sets the level of log information sent to the terminal and recorded to the buffer. Log messages above or equal to this level will be displayed to the terminal and written to the log buffer, while those below this level will not be displayed at the terminal, nor will they be written to the log buffer.

Examples

The following example shows how to set logging level module to error:

NPB(config)# logging level module error

The following example shows how to restore the default value of logging level

Module:

NPB(config)# no logging level module

Related Commands

Logging level file

18.6 Logging timestamp

Command Purpose

In global configuration mode, the command is used to set the timestamp format of log information. And use the no form of this command to restore the default value.

Command Syntax

Logging timestamp (date | bsd | iso | rfc3164 | rfc3339 | none)

No logging timestamp

Parameter	Parameter Description	Parameter Value
Date	The time format displayed when using the date command	-
Bsd	BSD style (RFC 3164)	-
Iso	ISO style (RFC 3339)	-
Rfc3164	RFC 3164 style (bsd)	-
Rfc3339	RFC 3339 style (iso)	-
None	No timestamp	-

Command Mode

Global Configuration

Default

BSD

Usage

None

Examples

The following example shows how to set the log message timestamp format to RFC3164:

NPB(config)# logging timestamp rfc3164

The following example shows how to recovery log message timestamp format to default:

NPB(config)# no logging timestamp

Related Commands

Show logging

18.7 Logging server

Command Purpose

In global configuration mode, use this command to set whether to use a remote log server.

Command Syntax

Logging server (enable | disable)

Parameter	Parameter Description	Parameter Value
Enable	Enable logging server	-
Disable	Disable logging server	-

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

The following example shows how to enable log server:

NPB(config)# logging server enable

Related Commands

Show logging

18.8 Logging server severity

Command Purpose

In global configuration mode, this command is used to set the log level sent to the remote log server. Logs above or equal to this level will be sent to the log server. And use the no form of this command to restore the default value.

Command Syntax

Logging server severity (*LOGSEVERITY*| emergency | alert | critical | error | warning | notice | information | debug)

No logging server severity

Parameter	Parameter Description	Parameter Value
0	emergency	System is unusable	-
1	alert	Immediate action needed	-
2	critical	Critical conditions	-
3	error	Error conditions	-

4 | warning	Warning conditions	-
5 | notice	Normal but significant conditions	-
6 | information	Informational messages	-
7 | debug	Debugging messages	-
LOGSEVERITY	Severity level.	Range is <0-7>

Command Mode

Global Configuration

Default

Warning

Usage

This command is used to set the level of log information sent to the remote log server. Logs higher than or equal to this level will be sent to the log server. If the threshold value is debug, all log messages will be sent to the log server.

Examples

The following example shows how to set the level of log messages sent to remote log servers to be error, and information above or equal to the level of error will be sent to remote servers:

NPB(config)# logging server severity error

The following example shows how to recovery the level of log messages sent to remote log servers by default:

NPB(config)# no logging server severity

Related Commands

Show logging

18.9 Logging server facility

Command Purpose

In global configuration mode, use this command to configure the log daemon on the server.

And use the no form of this command to restore the default value.

Command Syntax

Logging server facility (*LOGFAC* | auth | authpriv | cron | daemon | ftp | kern | local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7 | lpr | mail | news | syslog | user | uucp)

No logging server facility

Parameter	Parameter Description	Parameter Value
LOGFAC	Log facility-type	Range is <0-11> and <16-23>
4|auth	Authorization system	-
10|authpriv	Authorization private system	-
9|cron	Cron facility	-

3|daemon	System daemon	-
11|ftp	FTP system	-
0|kern	Kernel	-
Local0–7	Reserved for locally defined messages	-
6|lpr	Line printer system	-
2|mail	Mail system	-
7|news	USENET news	-
5|syslog	System log	-
1|user	User	-
8|uucp	UNIX-to-UNIX	-

Command Mode

Global Configuration

Default

Local4

Usage

None

Examples

The following example shows how to set logging server facility to local3:

NPB(config)# logging server facility local3

The following example shows how to set logging server facility to default:

NPB(config)# no logging server facility

Related Commands

Show logging

18.10 Logging server address

Command Purpose

In the global configuration mode, use this command to set the IP address of the log server. The NPB can send the log information to this server. And use the no form of this command to delete the address.

Command Syntax

Logging server address mgmt-if *IP_ADDR*

No logging server address mgmt-if *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Remote server IP address	-

Command Mode

Global Configuration

Default

None

Usage

In order for the NPB to send the system log information to the log server correctly, make sure that the server is in its normal functional state.

Examples

The following example shows how to set the IP address of log server to 10.10.38.236:

NPB(config)# logging server address mgmt-if 10.10.38.236

The following example shows how to delete log server:

NPB(config)# no logging server address mgmt-if 10.10.38.236

Related Commands

Logging server

18.11 Logging merge

Command Purpose

When this function is enabled, the NPB merges the same logs that appear in a specified period of time into one. During this period, the NPB places the received logs in a temporary buffer of a specified size in the background. The size of this period can be specified by using the timeout parameter, and the size of the backstage temporary buffer can be specified by using fifo-size parameter.

Command Syntax

Logging merge (enable | disable | timeout *MERGETIMEOUT* | fifo-size *MERGEFSIZE*)

No logging merge (timeout | fifo-size)

Parameter	Parameter Description	Parameter Value
Enable	Enable logging merge	-
Disable	Disable logging merge	-
MERGEFSIZE	Set the size of the background log merge buffer in terms of entries, default 1024 entries	Range is <100-10240>
MERGETIMEOUT	For a specified period of time, the same logs that appear during that period are merged into one	Range is <1-300>, uint is seconds

Command Mode

Global Configuration

Default

Logging mergence is enabled. Timeout is 10.

Fifo-size is 1024.

Usage

The logging merge command merges all the same logs into one during a specified time range. During this time, the NPB buffered these same logs. You can use the timeout keyword to set the time range, and use the fifo-size to set the buffer size.

Examples

The following example shows how to enable logging merge:

NPB(config)# logging merge enable

The following example shows how to set logging merge timeout to default value:

NPB(config)# no logging merge timeout

Related Commands

Show logging

18.12 Show logging

Command Purpose

In privileged mode, use this command to display the configuration of logging.

Command Syntax

Show logging

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the configuration of logging:

NPB# show logging
Current logging configuration:
==
logging buffer 500
logging timestamp bsd

logging file enable
logging level file warning
logging level module debug
logging server disable
logging server severity warning
logging server facility local4
logging merge disable
logging merge fifo-size 1024
logging merge timeout 10

Related Commands

Logging buff

Logging timestamp

Logging file

Logging level file

Logging level module

Logging server

Logging server severity

Logging server facility

Logging merge

18.13 Show logging buffer

Command Purpose

In privileged mode, use this command to show logging buffer messages.

Command Syntax

Show logging buffer (*SYSLOGLINES* |)

Parameter	Parameter Description	Parameter Value
SYSLOGLINES	Specify the number of message(s)	(-1000..+1000)

Command Mode

Privileged EXEC

Default

None

Usage

By default, syslog lines are sorted in reverse chronological order, which means the newest syslog is on top.

Examples

The following example shows how to display logging buffer :

```
NPB# show logging buffer
Sep 14 08:59:16 NPB init-6: starting pid 27391, tty \'/dev/ttys0\': \'/usr/sbin/klish\'
Sep 14 08:59:16 NPB init-6: process \'/usr/sbin/klish\' (pid 27327) exited. Scheduling for restart.
Sep 14 08:49:40 NPB APP-1: logout, vty 1, location 169.254.1.2, by telnet
Sep 14 08:49:16 NPB init-6: starting pid 27327, tty \'/dev/ttys0\': \'/usr/sbin/klish\'
Sep 14 08:49:16 NPB init-6: process \'/usr/sbin/klish\' (pid 27259) exited. Scheduling for restart.
Sep 14 08:39:15 NPB init-6: starting pid 27259, tty \'/dev/ttys0\': \'/usr/sbin/klish\'
Sep 14 08:39:15 NPB init-6: process \'/usr/sbin/klish\' (pid 27167) exited. Scheduling for restart.
Sep 14 08:37:48 NPB APP-6: ready to service
```

Related Commands

Clear logging buffer

18.14 Show logging buffer statistics

Command Purpose

In privileged mode, use this command to display the amount of information stored in the log buffer.

Command Syntax

Show logging buffer statistics

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the statistics of logging buffer:

```
NPB# show logging buffer statistics
Logging buffer statistics:
------------------------------------------------------------
Total processed 314 entries
Total dropped 0 entries
Current have 50 entries
```

Related Commands

Clear logging buffer

18.15 Show logging levels

Command Purpose

In privileged mode, use this command to show the severity level information of logging.

Command Syntax

Show logging levels

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the severity level information of logging:

```
NPB# show logging levels
Severity    Name                Note
============================================================
0           emergency        system is unusable
1           alert            action must be taken immediately
2           critical         critical conditions
3           error            error conditions
4           warning          warning conditions
5           notice           normal but significant condition
6           information      informational
7           debug            debug-level messages
```

Related Commands

Logging level file

18.16 Show logging facilities

Command Purpose

In privileged mode, use this command to display log daemon tool information.

Command Syntax

Show logging facilities

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the facility information of logging:

```
NPB# show logging facilities
Logging facility information:
Facility    Name              Note
============================================================
0           kern              kernel messages
1           user              random user-level messages
2           mail              mail system
3           daemon            system daemons
4           auth              security/authorization messages
5           syslog            messages generated internally by syslogd
6           lpr               line printer subsystem
7           news              network news subsystem
8           uucp              UUCP subsystem
9           cron              clock daemon
10          authpriv          security/authorization messages (private)
11          ftp               ftp daemon
16          local0            reserved for local use 0
17          local1            reserved for local use 1
18          local2            reserved for local use 2
19          local3            reserved for local use 3
20          local4            reserved for local use 4
21          local5            reserved for local use 5
22          local6            reserved for local use 6
23          local7            reserved for local use 7
```

Related Commands

Logging server facility

18.17 Clear logging buffer

Command Purpose

In privileged mode, use this command to clear records in the log buffer.

Command Syntax

Clear logging buffer

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to clear logging buffer:

NPB# clear logging buffer

Related Commands

Show logging buffer

Chapter 19 SNMP Commands

19.1 Show snmp

Command Purpose

To display the services information of SNMP, use the show snmp command in privileged EXEC mode.

Command Syntax

Show snmp

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of SNMP:

NPB# show snmp
NPB# show snmp
SNMP services: enable

Related Commands

Snmp server enable

19.2 Show snmp-server version

Command Purpose

To display the supported version of SNMP, use the show snmp-server version command in privileged EXEC mode.

Command Syntax

Show snmp-server version

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server version:

```
NPB# show snmp-server version
SNMP services: snmpv1/snmpv2c
```

Related Commands

Snmp-server version

19.3 Show snmp-server community

Command Purpose

To display the SNMP community information, use the show snmp-server community command in privileged EXEC mode.

Command Syntax

Show snmp-server community

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server community:

```
NPB # show snmp-server community
Community-Access      Community-String          Security-name
============================================================
read-write              sysname                    comm1
```

Related Commands

Snmp-server community

19.4 Show snmp-server engineid

Command Purpose

To display the identification of the local Simple Network Management Protocol (SNMP) engine and all remote engines that have been configured on the router, use the show snmp-server engineid command in EXEC mode.

Command Syntax

Show snmp-server *engineid*

Command Mode

Privileged EXEC

Default

None

Usage

An SNMP engine is a copy of SNMP that can reside on a local or remote device.

Examples

The following example shows how to display the information of engineid:

NPB# show snmp-server engineid
Engine ID : 000000090200000000c025808

Related Commands

Snmp-server engineid

19.5 Show snmp-server sys-info

Command Purpose

To display the system information of SNMP, use the show snmp-server sys-info command in privileged EXEC mode.

Command Syntax

Show snmp-server sys-info

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server sys-info:

```
NPB# show snmp-server sys-info
Contact: admin@exampledomain.com
Location: Sample Place
```

Related Commands

Snmp-server system-contact

Snmp-server system-location

19.6 Show snmp-server trap-receiver

Command Purpose

To display the SNMP traps receiver, use the show snmp-server trap-receiver command in privileged EXEC mode.

Command Syntax

Show snmp-server trap-receiver

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server trap-receiver:

```
NPB# show snmp-server trap-receiver
Target-ipaddress    mgmt-if udpport    version    pdu-type    community
============================================================
10.10.27.232          yes        162         v1          trap         sysname
10.10.27.232          yes        162         v2c         trap         sysname
```

Related Commands

Snmp-server trap target-address

19.7 Show snmp-server inform-receiver

Command Purpose

To display the SNMP informs receiver, use the show snmp-server inform-receiver command in privileged EXEC mode.

Command Syntax

Show snmp-server inform-receiver

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server inform-receiver:

```
NPB# show snmp-server inform-receiver
Target-ipaddress    mgmt-if udpport    version    pdu-type    community
================================================================
10.10.27.233          yes         162          v2c          inform       sysname
```

Related Commands

Snmp-server inform target-address

19.8 Show snmp-server view

Command Purpose

To display the family name, storage types, and status of a Simple Network Management Protocol (SNMP) configuration and associated MIB, use the show snmp-server view command in privileged EXEC mode.

Command Syntax

Show snmp-server view (*USERNAME* |)

Parameter	Parameter Description	Parameter Value
USERNAME	Specify a view name that want to show, WORD	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the information of snmp-server view:

```
NPB# show snmp-server view
View-name                          View-type          Subtree
=============================================================
a                                  excluded           .1
a2                                 included           .1.2
abc                                excluded           .1.3.6.2
_all_                              included           .0
_all_                              included           .1
_all_                              included           .2
_none_                             excluded           .0
_none_                             excluded           .1
_none_                             excluded           .2
```

Related Commands

Snmp-server view

19.9 Snmp-server enable

Command Purpose

To enable the SNMP function, use the snmp-server enable command in global configuration mode.

Use the no form of this command to disable the SNMP-server.

Command Syntax

Snmp-server enable

No snmp-server enable

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

The following example shows how to set the snmp-server enable:

NPB(config)# snmp-server enable

The following example shows how to set the snmp-server disable:

NPB(config)# no snmp-server enable

Related Commands

Show snmp

19.10 Snmp-server engineid

Command Purpose

To specify the Simple Network Management Protocol (SNMP) engine ID on the local device, use the snmp-server engineid command in global configuration mode.

Use the no form of this command to restore the default value

Command Syntax

Snmp-server engineid ENGINEID

No snmp-server *engineid*

Parameter	Parameter Description	Parameter Value
ENGINEID	Octet string of hexadecimal characters	10-64 hexadecimal characters

Command Mode

Global Configuration

Default

An SNMP engine ID is generated automatically but is not displayed or stored in the running configuration. Default engine ID is 30383038303830383038. You can display the default or configured engine ID by using the show snmp-server engineid command.

Usage

The SNMP engine ID is a unique string used to identify the device for administration purposes. You do not need to specify an engine ID for the device. For further details on the SNMP engine ID, see RFC 2571.

Examples

The following example shows how to set the snmp-server engineid:

NPB(config)# snmp-server engineid 1234567890

The following example shows how to delete the snmp-server engineid:

NPB(config)# no snmp-server engineid

Related Commands

Show snmp-server engineid

19.11 Snmp-server system-contact

Command Purpose

To set the system contact string, use the snmp-server system-contact command in global configuration mode.

Use the no form of this command to delete the contact string.

Command Syntax

Snmp-server system-contact *KLINE*

No snmp-server system-contact

Parameter	Parameter Description	Parameter Value
KLINE	Specify SNMP system contact parameter	Up to 255 characters, valid character is among "0-9A-Za-z.-_@*"

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to set the system contact string:

NPB(config)# snmp-server system-contact admin@example.com

The following example shows how to delete the system contact string:

NPB(config)# no snmp-server system-contact

Related Commands

Show snmp-server sys-info

19.12 Snmp-server system-location

Command Purpose

To set the system location string, use the snmp-server system-location command in global configuration mode.

Use the no form of this command to delete the location string.

Command Syntax

Snmp-server system-location *KLINE*

No snmp-server system-location

Parameter	Parameter Description	Parameter Value
KLINE	Specify SNMP system location parameter	Up to 255 characters, valid character is among

		“0-9A-Za-z.-_@*”

Command Mode

Global Configuration

Default

None

Usage

This command is used to set the system location of the SNMP agent so that these descriptions can be accessed through the configuration file.

Examples

The following example shows how to set the system location string:

NPB(config)# snmp-server system-location Sample_Place

The following example shows how to remove the system location string:

NPB(config)# no snmp-server system-location

Related Commands

Show snmp-server sys-info

19.13 Snmp-server version

Command Purpose

To specify the support of SNMP version, use the snmp-server version command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

Snmp-server version (all | v1 | v2c)

No snmp-server version

Parameter	Parameter Description	Parameter Value
All	Support all versions (v1, v2c, and v3)	-
V1	Support only v1 version	-
V2c	Support only v2c version	-

Command Mode

Global Configuration

Default

Support v1 and v2c SNMP versions.

Usage

None

Examples

The following example shows how to set SNMP –server to support all versions:

NPB(config)# snmp-server version all

The following example shows how to restore the SNMP –server to support default versions:

NPB(config)# no snmp-server version

Related Commands

Show snmp-server version

19.14 Snmp-server view

Command Purpose

To create or update a view entry, use the snmp-server view command in global configuration mode.

Use the no form of this command to delete the view.

Command Syntax

Snmp-server view *SNMPNAME* (excluded | included) *SNMPSUBTREE* (mask *SNMPMASK*)

No snmp-server view *SNMPNAME* (excluded | included) *SNMPSUBTREE*

Parameter	Parameter Description	Parameter Value
SNMPNAME	Label for the view record that you are updating or creating. The name is used to reference the record	-
Excluded	Configures the OID (and subtree oids) specified in sub-tree argument to be included in the SNMP view	-
Included	Configures the OID (and subtree oids) specified in sub-tree argument to be explicitly excluded from the SNMP view	-
SNMPSUBTREE	Object identifier of the ASN.1 subtree to be included or excluded from the view	-
SNMPMASK	Define the subtree mask	-

Command Mode

Global Configuration

Default

None

Usage

Other SNMP commands require an SNMP view as an argument. You use this command to create a view to be used as arguments for other commands.

Examples

The following example shows how to create a snmp-server view:

NPB(config)# snmp-server view abc excluded 1.3.6.2

The following example shows how to delete a snmp-server view:

NPB(config)# no snmp-server view abc excluded 1.3.6.2

Related Commands

Show snmp-server view

19.15 Snmp-server community

Command Purpose

To set up the community access string to permit access to the Simple Network Management Protocol (SNMP), use the snmp-server community command in global configuration mode.

Use the no form of this command to delete the community.

Command Syntax

Snmp-server community *CONM_NAME* (read-only | read-write) (view *VIEW_NAME* |)

No snmp-server community *CONM_NAME*

Parameter	Parameter Description	Parameter Value
CONM_NAME	Specify a SNMP community name	A string with 1-256 characters. A blank means deny access.
Read-only	Specifies read-only access. Authorized management stations can retrieve only MIB objects	-
Read-write	Specifies read-write access. Authorized management stations can both retrieve and modify MIB objects	-
View VIEW_NAME	MIB view to which this community has access	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to create a community named test:

NPB(config)# snmp-server community test read-write

The following example shows how to delete the community:

NPB(config)# no snmp-server community test

Related Commands

Show snmp-server community

19.16 Snmp-server trap enable

Command Purpose

To enable all Simple Network Management Protocol (SNMP) notification types that are available on your system, use the snmp-server trap enable command in global configuration mode.

Use the no form of this command to disable the trap.

Command Syntax

Snmp-server trap enable (all | coldstart | warmstart | linkdown | linkup)

No snmp-server trap enable (all | coldstart | warmstart | linkdown | linkup)

Parameter	Parameter Description	Parameter Value
All	Enable all traps	-
Coldstart	Cold start traps	-
Warmstart	Warm start traps	-
Linkdown	Link down traps	-
Linkup	Link up traps	-

Command Mode

Global Configuration

Default

Disabled

Usage

The snmp-server trap enable command is used in conjunction with the snmp-server trap target-address command. Use the snmp-server trap target-address command to specify which host or hosts receive SNMP notifications. To send notifications, you must configure at least one snmp-server trap target-address command.

Examples

The following example shows how to set all traps enable:

NPB(config)# snmp-server trap enable all

The following example shows how to set all traps disable:

NPB(config)# no snmp-server trap enable all

Related Commands

Snmp-server trap target-address

19.17 Snmp-server trap target-address

Command Purpose

To configure a remote trap management IP address, use the snmp-server target-address command in global configuration mode.

Use the no form of this command to delete the target address.

Command Syntax

Snmp-server trap target-address mgmt-if *IP_ADDR* community *COMNAME* (udpport *UDP_PROT*)

No snmp-server trap target-address *IP_ADDR* community *COMNAME* (udpport *UDP_PROT*)

Parameter	Parameter Description	Parameter Value
IP_ADDR	Specify a SNMP IPV4 address	-
COMNAME	Specify a SNMP community name	-
UDP_PORT	The port number which area is 0 to 65535, the default is 162	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to set the trap target address to 169.254.2.2 and set the udp port to 13:

NPB(config)# snmp-server trap target-address mgmt-if 169.254.2.2 community test udpport 13

The following example shows how to delete the trap target address:

NPB(config)# no snmp-server trap target-address mgmt-if 169.254.2.2 community test udp 13

Related Commands

Show snmp-server trap-receiver

19.18 Snmp-server trap delay linkup

Command Purpose

To configure the trap delay linkup time, use the snmp-server trap delay linkup command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

Snmp-server trap delay linkup *TRAP_DELAY_TIME*

No snmp-server trap delay linkup

Parameter	Parameter Description	Parameter Value
TRAP_DELAY_TIME	Linkup trap delay time	1-10 seconds

Command Mode

Global Configuration

Default

0

Usage

None

Examples

The following example shows how to set the delay time to 10 seconds:

NPB(config)# snmp-server trap delay linkup 10

The following example shows how to restore the delay time to default value:

NPB(config)# no snmp-server trap delay linkup

Related Commands

Snmp-server trap enable

19.19 Snmp-server trap delay linkdown

Command Purpose

To configure the trap delay linkdown time, use the snmp-server trap delay linkdown command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

Snmp-server trap delay linkdown *TRAP_DELAY_TIME*

No snmp-server trap delay linkdown

Parameter	Parameter Description	Parameter Value
TRAP_DELAY_TIME	Linkdown trap delay time	1-10 seconds

Command Mode

Global Configuration

Default

0

Usage

None

Examples

The following example shows how to set the delay time to 10 seconds:

NPB(config)# snmp-server trap delay linkdown 10

The following example shows how to restore the delay time to default value:

NPB(config)# no snmp-server trap delay linkdown

Related Commands

Snmp-server trap enable

19.20 Snmp-server inform target-address

Command Purpose

To specify the recipient of a Simple Network Management Protocol (SNMP) inform message, use the snmp-server inform target-address command in global configuration mode.

Use the no form of this command to delete the configuration.

Command Syntax

Snmp-server inform target-address mgmt-if *IP_ADDR* community *COMNAME* (udpport *UDP_PROT*|)

No snmp-server inform target-address *IP_ADDR* community *COMNAME* (udpport *UDP_PROT* |)

Parameter	Parameter Description	Parameter Value
IP_ADDR	Specify a SNMP IPV4 address	-
COMNAME	Specify a SNMP community name	-
UDP_PROT	The port number	The port number which area is 0 to 65535, the default is 162

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to set the target address for inform messages:

NPB(config)# snmp-server inform target-address 169.254.2.2 community test udpport 100

The following example shows how to delete the target address for inform messages:

NPB(config)# no snmp-server inform target-address 169.254.2.2 community test udpport 100

Related Commands

Show snmp-server inform-receiver

19.21 Snmp-server access-group

Command Purpose

Use this command to apply access list on Simple Network Management Protocol(SNMP).Use the no form of this command to remove access list applied to SNMP.

Command Syntax

Snmp-server access-group *NAME_STRING* in

No snmp-server access-group

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP ACL NAME	The initial character name should be a-z, A-Z, 0-9 or ._-, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

ACL applied on SNMP can only matching of source IP,destination IP, behaviour as whitelist by default.

Examples

The following example shows how to apply acl to SNMP:

NPB(config)# ip access-list a5
NPB(config-ip-acl-a5)# exit
NPB(config)# snmp-server access-group a5 in
Notice: ACL applied on SNMP can only matching of source IP,destination IP, behaviour as whitelist by default.

Related Commands

None

Chapter 20 AUTH Commands

20.1 Show usernames

Command Purpose

Use this command to show local user account names on the NPB.

Command Syntax

Show usernames

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show usernames command:

```
NPB# show usernames
Number     User name                                Privilege     Password     Rsa Key
--------+--------------------------------+-----------+----------+-------
1             admin                                    4               *
2             test                                   4               *
NPB#
```

Related Commands

Username

20.2 Show users

Command Purpose

Use this command to display information about terminal lines.

Command Syntax

Show users

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show users command:

```
NPB# show users
Line                Host(s)       Idle            Location             User
---------------+----------+----------+---------------+----------
  130 vty   0         idle            2d20h16m     Local
  131 vty   1         idle            20:42:32     10.10.25.25
*132 vty   2         idle            00:00:00     10.10.25.25
```

Related Commands

Show usernames

20.3 Show web users

Command Purpose

Use this command to display information of the web users。

Command Syntax

Show web users

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to show web users:

```
NPB# show web users
Session Id                              Expire Time              Client IP           User Name
--------------------------------+------------------+---------------+-----------
320570bf7624e99f9c01912e82c4515b 2017-01-05 00:53:15 10.10.22.236       admin
```

Related Commands

Username

20.4 Show privilege

Command Purpose

Use this command to display the current privilege.

Command Syntax

Show privilege

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display current privilege:

NPB# show privilege
Current privilege level is 4

Related Commands

Username

20.5 Clear line console 0

Command Purpose

Use this command to clear primary console terminal line login.

Command Syntax

Clear line console 0

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to clear line console 0:

NPB# clear line console 0
[OK]

Related Commands

Line console

20.6 Clear line vty

Command Purpose

Use this command to clear virtual terminal line login. Line number range is 0 to 7.

Command Syntax

Clear line vty *VTYID1* (*VTYID2* |)

Parameter	Parameter Description	Parameter Value
VTYID1	First Line number	0-7
VTYID2	Last Line number	0-7

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to clear virtual terminal line from 4 to 7:

NPB# clear line vty 4 7
[OK]

Related Commands

Show users

20.7 Clear web session

Command Purpose

Use this command to clear web sessions.

Command Syntax

Clear web session (all | *WEBSESSION*)

Parameter	Parameter Description	Parameter Value
All	Clear all sessions	-
WEBSESSION	Session Name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to clear all web sessions:

NPB# clear web session all
[OK]

Related Commands

Show web users

20.8 Show console

Command Purpose

Use this command to show the current console configuration.

Command Syntax

Show console

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show console command:

```
NPB# show console
Current console configuration:
-----------------------------------------------------------------
line console 0
 speed 115200
 parity none
 databits 8
 stopbits 1
 exec-timeout 10 0
 privilege level 4
 no line-password
 no login
```

Related Commands

Line console

20.9 Show vty

Command Purpose

Use this command to show the current vty configuration.

Command Syntax

Show vty

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show vty command:

```
NPB# show vty
line vty maximum 8
line vty 0 7
 exec-timeout 35791 0
 privilege level 4
```

no line-password
no login

Related Commands

Line vty

20.10 Show rsa keys

Command Purpose

Use this command to show RSA key information.

Command Syntax

Show rsa keys

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to show RSA key:

```
NPB# show rsa keys
Current RSA key configuration:
Name                                    Type       Usage     Modulus
----------------------------------+--------+-------+---------
abc                                     private    0         1024
importkey                               public     1         1024
```

Related Commands

Rsa key

20.11 Show key config

Command Purpose

Use this command to display the details of the current key configuration.

Command Syntax

Show key config

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows how to display the current key configuration:

```
NPB(config-rsa-key)# show key config
Current key configuration:
  key type: private
  key format: pem
  key password: unspecified
```

Related Commands

Rsa key

20.12 Show key string

Command Purpose

Use this command to display the details of the current key string.

Command Syntax

Show key string

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows how to display the current key string:

```
NPB(config)# rsa key a
Modify private key a
NPB(config-rsa-key)# show key string
Current key string:
```

```
  30820258
    0201
      00
    028180
      AD4F1364 4F46C9F9 25D7BA98 B7F266A4 F3448E83 71D51F84 EF225E90 7D0117F0
      CD81012F 50944BF3 17A5CA56 7A2DC3D2 6A33CD52 6FD2DBE3 442C6546 DC3DD48A
      D8A4020C 2333F039 53FD39DE 01E5038B F1B59E7A 5B355FA2 26148F58 48C16D89
      36828C61 00A518CD F7EEBFBF 68CDB456 DC08BF5F 550A1273 28EF8E7C 0469634F
    0203
      010001
    028180
      9321ACDE DE06C4F5 45D14DD2 D5676F08 DE95F73F 546690E9 B472C341 7B3E706A
      B8ACAAAA D687EFAA A30AD72A 6F7366E9 BDCBD8A6 01D54B64 37BE5104 C579A074
      1206CD3C 70BA5E26 D22F0049 EABBCAA3 8AAAA932 C28DF32B 1C75EF5C 0052751C
      A5BA0D06 B0F9E6D2 9FE9281D FE2976C9 6C1A3288 590EB014 311AE5E2 0514AE41
    0240
      D8F10ACD BA5EA745 A5C52F61 19498B76 C181D0A0 F1CA197B C3E5204A 09206E1E
      B5217249 B595CA01 EBF82649 B272511C 8AD5138C 553717CD 4120D026 5D8CAE51
    0240
      CC82FA9D 866C95FA AE967B81 C343F9E0 2D41B59F 45C41197 28F37B3B 0C09D7B6
      4867858D 73876AEF 7692CCC6 A7A51A6C 8A1C62E6 FF75E209 75D02A51 E2346F9F
    0240
      943B3F52 8B0199F1 F0EEE70C C5A686F0 C20FDD69 DB4C6855 34E91E42 F8317C8C
      E6DECFA4 A5BA8FA8 F87F3A4A 28F00B94 2118AE9E B8AB484C 2B302C89 CA6A11C1
    0240
      3F15C828 FF664F7D 5C8D9EDB 90584FA4 0F51CDAC ABE0A76C 717D69ED F4F0B451
      CE53E0A6 9994942F F9EB9EAF 48D76D27 3E13338E FE0E6703 740C1A81 D7BD4511
    0240
      90D784A0 EBF913CE 82A19E91 4A0C5437 120C758F F9C94932 919A36B5 5BB01C76
      7460665E 6A1E8227 1BF592D3 650FCE6A DE22C1CB FCCA9433 A2FA142C D9D75CC9
NPB(config-rsa-key)#
```

Related Commands

Rsa key

20.13 Show tacacs

Command Purpose

Use this command to display information about TACACS+ server's configurations.

Command Syntax

Show tacacs

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show tacacs command:

```
NPB# show tacacs
============================================================
Host                    Port    Timeout Retries Dead Secret
============================================================
2.1.1.1                 49      5       3       0    mykey
```

Related Commands

Tacacs-server host

20.14 Show aaa status

Command Purpose

Use this command to show authentication, authorization, accounting (AAA) status.

Command Syntax

Show aaa status

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to show authentication, authorization, accounting status:

```
NPB# show aaa status
AAA status:
        Authentication enable
```

Related Commands

Aaa new-model

20.15 Show aaa privilege mapping

Command Purpose

Use this command to show privilege mapping relationship with server privilege.

Command Syntax

Show aaa privilege mapping

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to show privilege mapping relationship:

```
NPB# show aaa privilege mapping
      Server        NPB        Server
===================================
           0          1             0
           1          2             1
        2~10          3            10
       11~15          4            15
```

Related Commands

Aaa privilege mapping

20.16 Show aaa method-lists

Command Purpose

Use this command to show authentication, authorization, accounting (AAA) authentication method lists.

Command Syntax

Show aaa method-lists authentication (accounting | all | authentication | authorization)

Parameter	Parameter Description	Parameter Value
Accounting	Accounting information	-
All	All information	-
Authentication	Authentication information	-
Authorization	Authorization information	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to show authentication method lists:

```
NPB# show aaa method-lists all
Authen queue = AAA_ML_AUTHEN_LOGIN
    Name = default      state = ALIVE: local radius none
Author queue = AAA_ML_AUTHOR_SHELL
    Name = default      state = ALIVE: tacplus none
Account queue = AAA_ML_ACCT_SHELL
    Name = default      state = ALIVE: none
Account queue = AAA_ML_ACCT_COMMAND
    Name = default      state = ALIVE: none
```

Related Commands

Aaa authentication login

Aaa authentication exec

Aaa accounting exec

20.17 Line console

Command Purpose

Use this command to set console configuration.

Command Syntax

Line console 0

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following is an example of configure to line console 0:

```
NPB(config)# line console 0
NPB(config-line)#
```

Related Commands

Show console

20.18 Line vty

Command Purpose

Use line vty command to set virtual terminal line configuration.

Command Syntax

Line vty *VTYID1* (*VTYID2* |)

Parameter	Parameter Description	Parameter Value
VTYID1	First Line number	0-7
VTYID2	Last Line number	0-7

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following is an example of configure to virtual terminal line 4 to 7:

```
NPB(config)# line vty 4 7
NPB(config-line)#
```

Related Commands

Show vty

20.19 Line vty maximum

Command Purpose

Use line vty maximum command to set maximum vty users.

Use the no form of this command to set maximum vty users to it default value.

Command Syntax

Line vty maximum *VTYMAX*

No line vty maximum

Parameter	Parameter Description	Parameter Value
VTYMAX	Max Line number	0-8. Default is 8

Command Mode

Global Configuration

Default

8

Usage

None

Examples

The following is an example of configure to three vty users:

NPB(config)# line vty maximum 3

The following is an example to reset maximum vty users:

NPB(config)# no line vty maximum

Related Commands

Show line vty

20.20 Rsa key generate

Command Purpose

Use this command to create a key.

Use the no form of this command to delete the key.

Command Syntax

Rsa key *RSAKEYNAME* generate (*RSAKEYBITS* |)

No rsa key *RSAKEYNAME*

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 255 characters.
RSAKEYBITS	RSA key bits number	768-4096,default is 1024

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example creates a key named test, length is 768:

NPB(config)# rsa key test generate 768
Generating RSA private key, 768 bit long modulus
Please waiting for a moment: done!
Public exponent is 65537 (0x10001)
Generate RSA key successfully

The following example deletes the key:

NPB(config)# no rsa key test

Related Commands

Show rsa key

Rsa key

20.21 Rsa key import

Command Purpose

Use this command to import a key.

Command Syntax

Rsa key *RSAKEYNAME* import mgmt-if url *STRING* (private | public) (der | der-hex | pem (*PASSPHRASE* |) | ssh1 (*PASSPHRASE* |) | ssh2 (*PASSPHRASE* |))

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key name	-
STRING	The url to save the key file	-
Private	Import from private key	-
Public	Import from public key	-
Der | der-hex | pem | ssh1 | ssh2	The format of the key to import	-
PASSPHRASE	Encrypt the key string	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example imports a key:

```
NPB(config)# rsa key importnewk import mgmt-if url tftp://10.10.38.160/newk.pub public ssh2
Download from URL to temporary file.
Get file from tftp://10.10.38.160/newk.pub
.
Received 212 bytes in 0.1 seconds
Copy the temporary file to its destination.
.
File system synchronization. Please waiting...
212 bytes in 0.1 seconds, 2 kbytes/second
% Import RSA key successed
```

Related Commands

Rsa key generate

Rsa key export

20.22 Rsa key

Command Purpose

Use this command to create a key and enter key configuration mode.

Use the no form of this command to delete the key.

Command Syntax

Rsa key RSAKEYNAME

No rsa key *RSAKEYNAME*

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key name	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example creates a key named test:

```
NPB(config)# rsa key test
NPB(config-rsa-key)#
```

The following example deletes a key named test:

```
NPB(config)# no rsa key test
```

Related Commands

Rsa key generate

20.23 Reset

Command Purpose

To clear all key configurations, use the reset command in RSA key configuration mode.

Command Syntax

Reset

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows to clear all configurations for the key KEY1:

```
NPB(config)# rsa key KEY1
NPB(config-rsa-key)# reset
```

Related Commands

Rsa key

20.24 Key type

Command Purpose

To specify the key type, use the key type command in RSA key configuration mode.

Command Syntax

Key type (private | public)

Parameter	Parameter Description	Parameter Value
Private	Private key	-
Public	Public key	-

Command Mode

Rsa Key Configuration

Default

Public

Usage

None

Examples

The following example specifies the key type of KEY1 as public key::

NPB(config)# rsa key KEY1
NPB(config-rsa-key)# key type public

Related Commands

Rsa key

20.25 Key format

Command Purpose

To specify the key format, use the key format command in RSA key configuration mode.

Command Syntax

Key format (der | pem)

Parameter	Parameter Description	Parameter Value
Der	Der format	-
Pem	Pem format	-

Command Mode

Rsa Key Configuration

Default

DER

Usage

None

Examples

The following example specifies the key format of KEY1 as pem:

```
NPB(config)# rsa key KEY1
NPB(config-rsa-key)# key format pem
```

Related Commands

Rsa key

20.26 Key string end

Command Purpose

Use this command to exit the rsa key configuration mode and apply all rsa key configurations. After using this command, the current command mode should be global configuration mode.

Command Syntax

Key string end

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows exit the rsa key configuration mode:

```
NPB(config)# rsa key KEY1
NPB(config-rsa-key)# key string end
NPB(config)#
```

Related Commands

Rsa key

20.27 Validate

Command Purpose

To check the validation of the key strings, use the validate command in RSA key configuration mode.

Command Syntax

Validate

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows to validate key strings of the key KEY1:

```
NPB(config)# rsa key a
Modify private key a
NPB(config-rsa-key)# 00302017 4A7D385B 1234EF29 335FC973
NPB(config-rsa-key)# 2DD50A37 C4F4B0FD 9DADE748 429618D5
NPB(config-rsa-key)# validate
% Validated Ok
```

Related Commands

Rsa key

20.28 KEYLINE

Command Purpose

To add key strings from the screen directly, type any strings in RSA key configuration mode except the keywords in this mode.

Command Syntax

KEYLINE

Command Mode

Rsa Key Configuration

Default

None

Usage

None

Examples

The following example shows to type a key string of the key KEY1:

NPB(config)# rsa key KEY1
NPB(config-rsa-key)# 00302017 4A7D385B 1234EF29 335FC973
NPB(config-rsa-key)# 2DD50A37 C4F4B0FD 9DADE748

Related Commands

Rsa key

Validate

20.29 Re-activate radius-server

Command Purpose

Use this command to re-activate the specified radius servers.

Command Syntax

Re-activate radius-server (all | host *IP_ADDR* (auth-port *AUTHDPORT* |) |)

Parameter	Parameter Description	Parameter Value
All	Re-active all radius-servers	-
Host IP_ADDR	Re-active the radius-server by server ip	-
Auth-port AUTHDPORT	Re-active the radius-server by server ip and udp port	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to re-activate the radius server. It's unnecessary for users to wait for the radius-server dead time with this command.

Examples

This example shows how to re-activate radius-server:

NPB# re-activate radius-server all

Related Commands

Radius-server host

20.30 Show radius-server

Command Purpose

Use this command to display radius server states of each IEEE 802.1 x sessions.

Command Syntax

Show radius-server

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current radius-server and dead radius-servers of each IEEE 802.1x sessions.

Examples

This example shows how to show radius-server:

```
NPB# show radius-server
====================================
radius servers in dead list:
  server address       : 10.0.0.1:1812
  dead timer             : 4
====================================
```

Related Commands

Radius-server host

20.31 Radius-server host

Command Purpose

Use this command to specify a RADIUS server host.

Use the no form of this command to delete the host.

Command Syntax

Radius-server host mgmt-if *IP_ADDR* (auth-port *AUTHDPORT* |) (key (8 |) *AUTHDKEY* |) (retransmit *AUTHDRETRIES* |) (timeout *AUTHDTIMEOUT* |)

No radius-server host mgmt-if *IP_ADDR* (auth-port *AUTHDPORT*|)

Parameter	Parameter Description	Parameter Value
Mgmt-if	Use management interface	-
IP_ADDR	IP address of radius server	-
Auth-port AUTHDPORT	RADIUS server port number (default 1812)	-
8	Specifies a hidden password will follow	-
Key (8 |) AUTHDKEY		-
Retransmit AUTHDRETRIES	RADIUS server retries (default 3)	-
Timeout AUTHDTIMEOUT	RADIUS server timeout in seconds (default 5)	-

Command Mode

Global Configuration

Default

None

Usage

You can use multiple radius-server host commands to specify multiple hosts. The software searches for hosts in the order in which you specify them. If no host-specific timeout, retransmit, or key values are specified, the global values apply to each host.

Examples

This example shows how to set the radius-server key::

NPB(config)# radius-server host mgmt-if 10.0.0.1

This example shows how to delete radius-server key:

NPB(config)# no radius-server host mgmt-if 10.0.0.1

Related Commands

Show radius-server

20.32 Radius-server deadtime

Command Purpose

Use this command to improve RADIUS response times when some servers might be unavailable and cause the unavailable servers to be skipped immediately.

Use the no form of this command to restore the default value.

Command Syntax

Radius-server deadtime *DEADTIME*

No radius-server deadtime

Parameter	Parameter Description	Parameter Value
DEAD_TIME	RADIUS server deadtime in minutes	1-20 minutes. Default is 5 minute.

Command Mode

Global Configuration

Default

5

Usage

Use this command to cause the NPB to mark as "dead" any RADIUS servers that fail to respond to authentication requests, thus avoiding the wait for the request to time out before trying the next configured server. A RADIUS server marked as "dead" is skipped by additional requests for the duration of minutes, unless there are no servers not marked "dead".

Examples

This example shows how to set radius-server dead time:

NPB(config)# radius-server deadtime 10

This example shows how to restore the default radius-server dead time:

NPB(config)# no radius-server deadtime

Related Commands

Show radius-server

20.33 Radius-server retransmit

Command Purpose

Use this command to specify the number of times the NPB searches the list of RADIUS server hosts before giving up.

Use the no form of this command to restore the default value.

Command Syntax

Radius-server retransmit *RETRANSMIT*

No radius-server retransmit

Parameter	Parameter Description	Parameter Value
RETRANSMIT	RADIUS server retries	1-100, default is 3

Command Mode

Global Configuration

Default

3

Usage

The NPB tries all servers, allowing each one to time out before increasing the retransmit count. If the RADIUS server is only a few hops from the NPB, we recommend that you configure the RADIUS server retransmit rate to 5.

Examples

This example shows how to set radius-server retransmit:

NPB(config)# radius-server retransmit 10

This example shows how to set default radius-server retransmit:

NPB(config)# no radius-server retransmit

Related Commands

Show radius-server

20.34 Radius-server timeout

Command Purpose

Use this command to set the interval for which a NPB waits for a server host to reply.

Use the no form of this command to restore the default value.

Command Syntax

Radius-server timeout *TIMEOUT*

No radius-server timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	RADIUS server timeout in seconds	1-1000 seconds. Default is 5 seconds

Command Mode

Global Configuration

Default

5

Usage

Use this command to set the number of seconds a NPB waits for a server host to reply before timing out. If the RADIUS server is only a few hops from the NPB, we recommend that you configure the RADIUS server timeout to 15 seconds.

Examples

This example shows how to set radius-server timeout:

NPB(config)# radius-server timeout 10

This example shows how to set default radius-server timeout:

NPB(config)# no radius-server timeout

Related Commands

Show radius-server

20.35 Radius-server key

Command Purpose

Use this command to set the shared encryption key of RADIUS server.

Use the no form of this command to delete the configuration.

Command Syntax

Radius-server key (8 |) *STRING*

No radius-server timeout

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
STRING	RADIUS server key-string	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set the shared encryption key in a NPB. Shared encryption key is the foundation of communicate between NPB and server. You need set a same shared encryption string in authentication server and NPB.

Examples

This example shows how to set the radius-server key:

NPB(config)# radius-server key 123456

This example shows how to unset radius-server key:

NPB(config)# no radius-server key

Related Commands

Show radius-server

20.36 Re-activate tacacs-server

Command Purpose

Use this command to re-activate the specified tacacs servers.

Command Syntax

Re-activate tacacs-server (all | host *IP_ADDR* (auth-port *AUTHDPORT* |) |)

Parameter	Parameter Description	Parameter Value
All	Re-active all tacacs-servers	-
IP_ADDR	Set TACACS server IP address	-
AUTHDPORT	TACACS server port number (default 49)	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to re-activate tacacs-server:

NPB# re-activate tacacs-server host 10.0.0.1 auth-port 49

Related Commands

Tacacs-server host

20.37 Tacacs-server host

Command Purpose

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

Command Syntax

Tacacs-server host mgmt-if *IP_ADDR* (auth-port *AUTHDPORT* |) (key (8 |) *AUTHDKEY* |) (retransmit *AUTHDRETRIES* |) (timeout *AUTHDTIMEOUT* |)

No tacacs-server host mgmt-if *IP_ADDR* (auth-port *AUTHDPORT* |)

Parameter	Parameter Description	Parameter Value
Mgmt-if	Use management interface	-
IP_ADDR	IP address of TACACS server	-
Auth-port AUTHDPORT		-
8	Specifies a hidden password will follow	-
Key (8 |) AUTHDKEY		-
Retransmit AUTHDRETRIES	TACACS server retries (default 3)	-
Timeout AUTHDTIMEOUT	TACACS server timeout in seconds (default 5)	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

Examples

The following example set tacacs-server 2.1.1.1:

NPB(config)# tacacs-server host 2.1.1.1 key mykey

The following example deletes tacacs-server 2.1.1.1:

NPB(config)# no tacacs-server host 2.1.1.1

Related Commands

Show tacacs

20.38 Username

Command Purpose

Use this command to create a local user account on the NPB.

Use the no form of this command to delete the account.

Command Syntax

Username NAME_STRING

No username *NAME_STRING*

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.

Command Mode

Global Configuration

Default

None

Usage

Use this command to create a local user account on the NPB.

Use the no form of this command to delete the account.

Examples

This is a sample output from this command displaying how to add a user named testname:

NPB(config)# username testname

This is a sample output from this command displaying how to delete a user named testname:

NPB(config)# no username testname

Related Commands

Show usernames

20.39 Username password

Command Purpose

Use this command to add username and password.

Command Syntax

Username *NAME_STRING* password (8 |) *PASSWORD* (privilege *PRIVILEGE* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	-
8	Specifies a hidden password will follow	-
PASSWORD	User password string	-
Privilege PRIVILEGE	Set user privilege level	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to add username and password.

Examples

This is a sample output from this command displaying how to add a user named testname and with the password of 123456:

NPB(config)# username testname password 123456

Related Commands

Show usernames

20.40 Username assign

Command Purpose

Use this command to assign a public key to a user.

Use the no form of this command to remove the configuration.

Command Syntax

Username *NAME_STRING* assign rsa key *RSAKEYNAME*

No username *USERNAME* assign rsa key

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
RSAKEYNAME	Key Name	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to assign a public key to a user.

Use the no form of this command to remove the configuration.

Examples

This is a sample output from this command displaying how to assign a key:

NPB(config)# username abc assign rsa key importkey

This is a sample output from this command displaying how to delete the assigned key:

NPB(config)# no username abc assign rsa key

Related Commands

Username

Rsa key

20.41 Username privilege

Command Purpose

Use this command to set user privilege level.

Command Syntax

Username *NAME_STRING* privilege *PRIVILEGE* (password (8 |) *PASSWORD* | secret *PASSWORD* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
PRIVILEGE	Set user privilege level	-
8	Specifies a hidden password will follow	-
PASSWORD	User password string	-
Secret PASSWORD	User secret string	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set user privilege level.

Examples

This is a sample output from this command displaying how to add a user named testname and with the privilege 3 and password of 12345:

NPB(config)# username u1 privilege 3 secret 12345

Related Commands

Show usernames

20.42 Username secret

Command Purpose

Use username command to create a local user account with secret password.

Command Syntax

Username NAME_STRING secret PASSWORD

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
Secret PASSWORD	User secret string	-

Command Mode

Global Configuration

Default

None

Usage

Use username command to create a local user account with secret password.

Examples

This is a sample output from this command displaying how to add a user named u2 and with the secret 23:

NPB(config)# username u2 secret 23

Related Commands

Show usernames

20.43 Re-username

Command Purpose

Use re-username command to modify local user account on the NPB.

Command Syntax

Re-username OLD_NAME NEW_NAME

Parameter	Parameter Description	Parameter Value
OLD_NAME	Old user name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
NEW_NAME	New user name	String begin with [a-za-Z],valid character is among [0-9A-Za-z.-_],

		up to 31 characters.

Command Mode

Global Configuration

Default

None

Usage

Use re-username command to modify local user account on the NPB.

Examples

The following example shows how to change user account's name:

NPB(config)# re-username olduser newuser

Related Commands

Show usernames

20.44 Enable password

Command Purpose

Use this command to set the password which is needed when user enter Privileged EXEC mode.

Command Syntax

Enable password (8 |) *PASSWORD*

No enable password

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
PASSWORD	Enable password string	-

Command Mode

Global Configuration

Default

None

Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

Examples

The following example shows how to set the password:

NPB(config)# enable password 654321
NPB(config)# exit
NPB# disable
NPB> enable
Password:
NPB#

The following example shows how to unset the password:

NPB(config)# no enable password

Related Commands

Enable

Disable

20.45 Enable password privilege

Command Purpose

Use this command to set the password which is needed when user enter Privileged EXEC mode.

Use the no form of this command to unset the password when user enter Privileged EXEC mode.

Command Syntax

Enable password privilege *PRIVILEGE* (8 |) *PASSWORD*

No enable password privilege *PRIVILEGE*

Parameter	Parameter Description	Parameter Value
PRIVILEGE	Set user privilege level	-
8	Specifies a hidden password will follow	-
PASSWORD	Enable password string	-

Command Mode

Global Configuration

Default

None

Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

Examples

The following example shows how to set the password:

NPB(config)# enable password privilege 2 abc123
NPB(config)# exit
NPB# disable
NPB> enable 2
Password:
NPB#

The following example shows how to unset the password:

NPB(config)# no enable password privilege 2

Related Commands

Enable

Disable

20.46 Service password-encryption

Command Purpose

Use this command to set up the miscellaneous service encrypt system passwords.

Use the no form of this command to unset service encrypt system passwords.

Command Syntax

Service password-encryption

No service password-encryption

Command Mode

Global Configuration

Default

Not encrypt

Usage

After use this command, the password in the display result of "show running-config" should be encrypted.

After use the no form of this command, the newly added password in the display result of "show current-configuration" should be plain text and the existing password should still be encrypted.

Examples

The following example shows how to set service password-encryption:

NPB(config)# service password-encryption

The following example shows how to unset service password-encryption:

NPB(config)# no service password-encryption

Related Commands

Show running-config

20.47 Login-password expire

Command Purpose

Use this command to set password valid time

Command Syntax

Login-password expire (*EXPIRE_TIME*) prompt (*PROMPT_TIME*)

No login-password expire

Parameter	Parameter Description	Parameter Value
EXPIRE_TIME	Password expire time	Range is 0-365
PROMPT_TIME	Password prompt time	Range is 0-180

Command Mode

Global Configuration

Default

Disable

Usage

None

Examples

The following example show how to set password expire time as 5 days and prompt at 1 day before password expire :

NPB# configure terminal
NPB(config)# login-password expire 5 prompt 1

The following example show how to disable the password valid time function:

NPB# configure terminal
NPB(config)# no login-password expire

Related Commands

None

20.48 Login-password history record number

Command Purpose

Use this command to enable password history record and duplicated password check

Command Syntax

Login-password history record number *(RECORD_NUM)*

No login-password history record

Parameter	Parameter Description	Parameter Value
RECORD_NUM	History password record number	Range is 0-12

Command Mode

Global Configuration

Default

Disable

Usage

Record history password include current password

Examples

The following example show how to enable password history record to store 6 password.And check if new password is equal to previous 6 passwords.:

NPB# configure terminal
NPB(config)# login-password history record number 6

The following example show how to disbale the password history record:

NPB# configure terminal
NPB(config)# no login-password history record

Related Commands

None

20.49 Aaa new-model

Command Purpose

Use this command to enable the authentication, authorization, accounting (AAA) access control model.

Use the no form of this command to disable the authentication, authorization, accounting (AAA) access control model.

Command Syntax

Aaa new-model

No aaa new-model

Command Mode

Global Configuration

Default

Disabled

Usage

Use this command to enable the authentication, authorization, accounting (AAA) access control model.

Use the no form of this command to disable the authentication, authorization, accounting (AAA) access control model.

Examples

The following example shows how to enable AAA access control model:

NPB(config)# aaa new-model

The following example shows how to disable AAA access control model:

NPB(config)# no aaa new-model

Related Commands

Show aaa status

20.50 Aaa authentication login

Command Purpose

Use the aaa authentication login configuration command to set authentication, authorization, accounting (AAA) authentication at login.

Use the no form of this command to delete the configuration.

Command Syntax

Aaa authentication login (default | *AUTHLISTNAME*) (enable |) (line |) (radius |) (tacplus |) (local |) (none |)

No aaa authentication login (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
Default	Default method list	-
AUTHLISTNAME	Named authentication list (a-za-Z0-9._-)	-
Enable	Enable password	-
Line	Line password	-
Radius	RADIUS server	-
Tacplus	TACACS+	-
Local	Local username	-
None	No authentication	-

Command Mode

Global Configuration

Default

None

Usage

Use the aaa authentication login configuration command to specify one or more AAA methods.

Examples

The following example shows how to set authentication at login:

NPB(config)# aaa authentication login default local radius none

The following example shows how to delete authentication:

NPB(config)# no aaa authentication login default

Related Commands

Show aaa method-lists authentication

20.51 Aaa authorization exec

Command Purpose

Use the aaa authorization exec configuration command to set authentication, authorization, accounting (AAA) authorization at login.

Command Syntax

Aaa authorization exec (default | *AUTHLISTNAME*) (none |) (radius |) (local |) (tacplus |)

No aaa authorization exec (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
Default	Default method list	-
AUTHLISTNAME	Named authentication list (a-za-Z0-9._-)	-
None	No authentication	-
Radius	RADIUS server	-
Local	Local username	-
Tacplus	TACACS+	-

Command Mode

Global Configuration

Default

None

Usage

Use the aaa authorization exec configuration command to Set authentication, authorization, accounting (AAA) authorization at login

Examples

The following example shows how to set authorization exec:

NPB# configure terminal
NPB(config)# aaa authorization exec default tacplus none

Related Commands

Show aaa method-lists authorization

20.52 Aaa accounting exec

Command Purpose

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

Use the no form of this command to delete the configuration.

Command Syntax

Aaa accounting exec (default | *AUTHLISTNAME*) (start-stop (radius | tacplus | none) * | stop-only (radius | tacplus | none) * | none)

No aaa accounting exec (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
Default	Default method list	-
AUTHLISTNAME	Named authentication list (a-za-Z0-9._-)	-
Start-stop	Send accounting request when user login and logout	-
Stop-only	Send accounting request when user logout	-
Radius	RADIUS server	-
Tacplus	TACACS+	-
None	No authentication	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

Examples

The following example shows how to set accounting exec:

NPB# configure terminal
NPB(config)# aaa accounting exec default start-stop tacplus

The following example shows how to delete accounting:

NPB# configure terminal
NPB(config)# no aaa accounting exec default

Related Commands

Show aaa method-lists accounting

20.53 Aaa accounting commands

Command Purpose

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

Use the no form of this command to delete the configuration.

Command Syntax

Aaa accounting commands (default | *AUTHLISTNAME*) (tacplus | none) *

No aaa accounting commands (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
Default	Default method list	-
AUTHLISTNAME	Named authentication list (a-za-Z0-9._-)	-
Tacplus	TACACS+	-
None	No authentication	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

Examples

The following example shows how to set accounting commands:

NPB# configure terminal
NPB(config)# aaa accounting commands default tacplus

The following example shows how to delete accounting for commands:

NPB# configure terminal
NPB(config)# no aaa accounting commands default

Related Commands

Show aaa method-lists accounting

20.54 Aaa privilege mapping

Command Purpose

Use this command to set the mapping range in AAA server and NPB.

Use the no form of this command to restore the default mapping.

Command Syntax

Aaa privilege mapping AAA_PRIVILEGE1 AAA_PRIVILEGE2 AAA_PRIVILEGE3

No aaa privilege mapping

Parameter	Parameter Description	Parameter Value
AAA_PRIVILEGE1	Max server privilege mapping to NPB privilege 1(default is 0)	-
AAA_PRIVILEGE2	Max server privilege mapping to NPB privilege 2(default is 1)	-
AAA_PRIVILEGE3	Max server privilege mapping to NPB privilege 3(default is 10)	-

Command Mode

Global Configuration

Default

0, 1, 10

Usage

0: The server privilege 0 mapping to NPB level 1

1: The server privilege 1 mapping to NPB level 2

9: The server privilege 2-9 mapping to NPB level 3

Other: The server privilege 10-15 mapping to NPB level 4

Examples

The following example shows how to set the mapping range:

NPB(config)# aaa privilege mapping 0 1 14

The following example shows how to set default mapping range:

NPB# configure terminal
NPB(config)# no aaa privilege mapping

Related Commands

Show aaa privilege mapping

20.55 Debug aaa

Command Purpose

Use this command to enable debugging aaa.

Use the no form of this command to disable debugging aaa.

Command Syntax

Debug aaa (all | packet | event | protocol | timer)

No debug aaa (all | packet | event | protocol | timer)

Parameter	Parameter Description	Parameter Value
All	Enable to report all aaa debug messages	-
Packet	Enable to report aaa debug messages for sending and receiving packets	-
Event	Enable to report aaa debug messages for events	-
Protocol	Enable to report aaa debug messages for protocol states	-
Timer	Enable to report aaa debug messages for timer	-

Command Mode

Privileged EXEC

Default

Disabled

Usage

None

Examples

In the following example shows how to enable debugging aaa all:

NPB# debug aaa all

In the following example shows how to disable debugging aaa all:

NPB# no debug aaa all

Related Commands

Show debugging

20.56 Exec-timeout

Command Purpose

Use this command to set console timeout value.

Use the no form of this command to restore the default value.

Command Syntax

Exec-timeout ETIMEOUTMIN (ETIMEOUTSEC |)

No exec-timeout

Parameter	Parameter Description	Parameter Value
ETIMEOUTMIN	Timeout value in minute.	0-35791
ETIMEOUTSEC	Timeout value in second	0- 2147483

Command Mode

Line Configuration

Default

10

Usage

This configuration is valid only for new users.

Examples

The following example shows how to set console exec-timeout to 2 minutes 30 seconds:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# exec-timeout 2 30

The following example shows how to set console exec-timeout to default value:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no exec-timeout

Related Commands

Show console

20.57 Login

Command Purpose

Use this command to enable console password checking, you can choose local password checking.

Use the no form of this command to disable console password checking.

Command Syntax

Login (local |)

No login (local |)

Parameter	Parameter Description	Parameter Value
Local	Local username	-

Command Mode

Line Configuration

Default

No password checking

Usage

Use this command to enable console password checking, you can choose local password checking.

Use the no form of this command to disable console password checking.

Examples

The following example shows how to set console local password checking enable:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# login local

The following example shows how to set console local password checking disable:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no login local

Related Commands

Show console

20.58 Privilege level

Command Purpose

Use this command to set console privilege level for line.

Use the no form of this command to restore the default value.

Command Syntax

Privilege level *PRIVILEGE*

No privilege level

Parameter	Parameter Description	Parameter Value
PRIVILEGE	Default privilege level for line	-

Command Mode

Line Configuration

Default

1

Usage

Use this command to set console privilege level for line.

Use the no form of this command to restore the default value.

Examples

The following example shows how to set console privilege level for line to 2:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# privilege level 2
```

The following example shows how to set console privilege level for line to default value:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no privilege level
```

Related Commands

Show console

20.59 Line-password

Command Purpose

Use this command to set console line-password specifies a hidden password will follow or user password string.

Use the no form of this command to unset console line-password.

Command Syntax

Line-password (8 |) *NAME_STRING*

No line-password

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
NAME_STRING	User password string	-

Command Mode

Line Configuration

Default

No console line-password

Usage

Use this command to set console line-password specifies a hidden password will follow or user password string.

Use the no form of this command to unset console line-password.

Examples

The following example shows how to set console line-password specifies a hidden password will follow:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# line-password 8 test

The following example shows how to unset console line-password:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no line-password

Related Commands

Show console

20.60 Stopbits

Command Purpose

Use this command to set console sync line stop bits.

Use no form of this command to set console sync line stop bits to default value.

Command Syntax

Stopbits (1 | 2)

No stopbits

Parameter	Parameter Description	Parameter Value
1	Set 1 bit stop bit	-
2	Set 2 bits stop bits	-

Command Mode

Line Configuration

Default

One-bit stop

Usage

Use this command to set console sync line stop bits.

Examples

The following example shows how to set console sync line stop bits one-bit stop:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# stopbits 1
```

The following example shows how to set console sync line stop bits to default value:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no stopbits
```

Related Commands

Show console

20.61 Databits

Command Purpose

Use this command to set console number of data bits.

Use the no form of this command to set console number of data bits per character to default value.

Command Syntax

Databits (7 | 8)

No databits

Parameter	Parameter Description	Parameter Value
7	7-bit databits.	-
8	8-bit databits.	-

Command Mode

Line Configuration

Default

8-bit databits

Usage

Use this command to set console number of data bits.

Use the no form of this command to set console number of data bits per character to default value.

Examples

The following example shows how to set console number of data bits per character to 7-bit databits:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# databits 7

The following example shows how to restore console number of data bits per character to default:

NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no databits

Related Commands

Show console

20.62 Parity

Command Purpose

Use this command to set console terminal parity.

Use the no form of this command to restore the default value.

Command Syntax

Parity (even | odd | none)

No parity

Parameter	Parameter Description	Parameter Value
Even	Parity mode even	-
Odd	Parity mode odd	-
None	No parity	-

Command Mode

Line Configuration

Default

No parity

Usage

Use this command to set console terminal parity.

Use the no form of this command to restore the default value

Examples

The following example shows how to set console terminal parity type odd:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# parity odd
```

The following example shows how to set console terminal parity type to default value:

```
NPB# configure terminal
NPB(config)# line console 0
NPB(config-line)# no parity
```

Related Commands

Line console

Show console

20.63 Speed

Command Purpose

Use this command to set the transmit and receive speeds of console terminal.

Use the no form of this command to restore the default value.

Command Syntax

Speed (115200 | 57600 | 38400 | 19200 | 9600 | 4800 | 2400 | 1200 | 600)

No speed

Command Mode

Line Configuration

Default

115200

Usage

Examples

The following is an example of set console terminal speed to 115200:

```
NPB(config)# line console 0
NPB(config-line)# speed 115200
```

The following is an example of set console terminal speed to default value:

```
NPB(config)# line console 0
NPB(config-line)# no speed
```

Related Commands

Show console

20.64 Authorization exec

Command Purpose

Use this command to enable authentication, authorization, accounting (AAA) authorization for logins.

Use the no form of this command to restore the default value.

Command Syntax

Authorization exec (default | *LISTNAME*)

No authorization exec

Parameter	Parameter Description	Parameter Value
Default	Default authorization list	-
LISTNAME	An authorization list with this name (a-za-Z0-9._-)	-

Command Mode

Line Configuration

Default

None

Usage

Use this command to enable authentication, authorization, accounting (AAA) authorization for logins.

Use the no form of this command to restore the default value.

Examples

The following example shows how to enable authorization for logins:

NPB# configure terminal
NPB(config)# line vty 0 7
NPB(config-line)# authorization exec default

The following example shows how to set authorization to default method list:

NPB# configure terminal
NPB(config)# line vty 0 7
NPB(config-line)# no authorization exec

Related Commands

Show vty

20.65 Accounting exec

Command Purpose

Use this command to enable authentication, authorization, accounting (AAA) accounting for logins.

Use the no form of this command to restore the default value.

Command Syntax

Accounting exec (default | *LISTNAME*)

No accounting exec

Parameter	Parameter Description	Parameter Value
Default	Default accounting list	-
LISTNAME	An accounting list with this name (a-za-Z0-9._-)	-

Command Mode

Line Configuration

Default

None

Usage

Use this command to enable authentication, authorization, accounting (AAA) accounting for logins.

Use the no form of this command to restore the default value.

Examples

The following example shows how to enable accounting for logins:

NPB# configure terminal
NPB(config)# line vty 0 7
NPB(config-line)# accounting exec default

The following example shows how to set accounting exec to default method list:

NPB# configure terminal
NPB(config)# line vty 0 7
NPB(config-line)# no accounting exec

Related Commands

Show vty

20.66 Accounting commands

Command Purpose

Use this command to enable accounting for commands.

Command Syntax

Accounting commands (default | *LISTNAME*)

No accounting commands

Parameter	Parameter Description	Parameter Value
Default	Default accounting list	-
LISTNAME	An accounting list with this name (a-za-Z0-9._-)	-

Command Mode

Line Configuration

Default

None

Usage

Use this command to enable accounting for commands.

Examples

The following example shows how to enable accounting for commands:

NPB# configure terminal
NPB(config)# line vty 0 7
NPB(config-line)# accounting commands default

Related Commands

Show vty

20.67 End

Command Purpose

To end the current configuration session and return to Privileged EXEC mode, use the end command in global configuration mode.

Command Syntax

End

Command Mode

All Configuration Mode

Default

None

Usage

This command will bring you back to Privileged EXEC mode regardless of what configuration mode or configuration sub-mode you are in.

This global configuration command can be used in any configuration mode.

Use this command when you are done configuring the system and you want to return to EXEC mode to perform verification steps.

Examples

In the following example, the end command is used to exit from interface configuration mode and return to Privileged EXEC mode:

```
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# end
NPB#
```

Related Commands

None

20.68 Ip access-class

Command Purpose

Use this command to set vty ipv4 ACL.Use the no form of this command to remove ACL from vty.

Command Syntax

Ip access-class *NAME_STRING* in

No ip access-class in

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP ACL NAME	The initial character name should be a-z, A-Z, 0-9 or ._-, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Line Configuration

Default

None

Usage

None

Examples

The following example shows how to configure ipv4 ACL on vty:

NPB# configure terminal
NPB(config)# line vty 1
NPB(config-line)# ip access-class a4 in

Related Commands

Ip access-list

20.69 Cipher detect

Command Purpose

Use this command to set cipher detect mode.

Command Syntax

Cipher detect (none | normal | strong (level (1 | 2) |))

Parameter	Parameter Description	Parameter Value
None	No cipher detect	-
Normal	Cipher's length must no less than 8 bytes	-
Strong	Cipher's length must no less than 8 bytes and consists of at least 2 types of characters, including letters, digits and special characters	-
Strong level 1	Cipher's length must no less than 8 bytes and consists of at least 2 types of characters, including letters, digits and special characters	-
Strong level 2	Cipher must contain upper-case letters, lower-case letters, digits, and special characters. Admin 's password should not include the username or username revert.	-

Command Mode

Global Configuration

Default

No cipher detect

Usage

None

Examples

The following example shows how to set cipher detect:

NPB# configure terminal
NPB(config)# cipher detect normal

Related Commands

None

20.70 Login-security enable

Command Purpose

Use this command to enable login-security function. Use the no form of this command to disable login-security function.

Command Syntax

Login-security enable

No login-security enable

Command Mode

Global Configuration

Default

Enable

Usage

None

Examples

The following example shows how to enable login-security function:

NPB# configure terminal
NPB(config)# login-security enable

The following example shows how to disable login-security function:

NPB# configure terminal
NPB(config)# no login-security enable

Related Commands

None

20.71 Login-security max-fail-num

Command Purpose

Use this command to confugure maximum number of failure and failure record period in login-security function.Use the no form of this command to recover to default value

Command Syntax

Login-security max-fail-num *MAX_FAIL_NUM FAIL_PERIOD*

No login-security max-fail-num

Parameter	Parameter Description	Parameter Value
MAX_FAIL_NUM	Maximum number of login failure	Range is 1-10
FAIL_PERIOD	Login failure record period	Range is 1-120,uint is minute

Command Mode

Global Configuration

Default

Maximum number of login failure is 5 by default

Login failure record period 5 minutes by default

Usage

None

Examples

The following example shows how to configure maximum number of login failure and failure record period in login-security:

NPB# configure terminal
NPB(config)# no login-security max-fail-num 7 9

The following example shows how to recover maximum number of login failure and failure record period to default value login-security:

NPB# configure terminal
NPB(config)# no login-security max-fail-num

Related Commands

None

20.72 Login-security lock-duration

Command Purpose

Use this command to confugure lock duration of login-security.Use the no form of this command to recover it to default value.

Command Syntax

Login-security lock-duration *DURATION*

No login-security lock-duration

Parameter	Parameter Description	Parameter Value
DURATION	Lock duration of accounts	Range is 1-1000,uint is minute

Command Mode

Global Configuration

Default

Enable

Usage

None

Examples

The following example shows how to configure lock duration:

NPB# configure terminal
NPB(config)#login-security lock-duration

The following example shows how to recover lock duration to default value:

NPB# configure terminal
NPB(config)# no login-security lock-duration

Related Commands

None

Chapter 21 SFLOW Commands

21.1 Sflow enable

Command Purpose

Use this command to enable sflow globally.

Use the no form of this command to disable sflow.

Command Syntax

Sflow enable

No sflow enable

Command Mode

Global Configuration

Default

Disabled

Usage

Before any other sflow command can be configured, sflow services must be enabled globally. Use the no parameter with this command to remove all sflow configurations and disable sflow globally.

Examples

This example shows how to enable sflow services globally:

NPB(config)# sflow enable

This example shows how to disable sflow services globally:

NPB(config)# no sflow enable

Related Commands

Show sflow

21.2 Sflow agent

Command Purpose

Use this command to configure sflow agent.

Use the no form of this command to delete the sflow agent.

Command Syntax

Sflow agent ip *IP_ADDR*

No sflow agent ip

Parameter	Parameter Description	Parameter Value
IP_ADDR	Ipv4 address	-

Command Mode

Global Configuration

Default

0.0.0.0

Usage

Use this command to configure IP address for sflow agent. If not configured, sflow agent IP address will be 0.0.0.0.

Examples

This example shows how to configure agent with IP address 10.0.0.254:

NPB(config)# sflow agent ip 10.0.0.254

This example shows how to configure agent with IP address 0.0.0.0:

NPB(config)# no sflow agent ip

Related Commands

Show sflow

21.3 Sflow collector

Command Purpose

Use this command to configure sflow collector.

Use the no form of this command to delete the sflow collector.

Command Syntax

Sflow collector mgmt-if *IP_ADDR* (*UDP_PORT*|)

No sflow collector *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Collector ipv4 address	-
UDP_PORT	Collector UDP port number	1-65535, default is 6343

Command Mode

Global Configuration

Default

Default source ip is the ip address of interface which is connected with sflow collector

Usage

Use this command to add a collector by specifying the combination of IP address and UDP port and source IP address. Only up to two unique combinations can be allowed to add.

Examples

This example shows how to add a collector:

NPB(config)# sflow collector mgmt-if 10.0.0.254 3000

This example shows how to remove a collector:

NPB# configure terminal
NPB(config)# no sflow collector 10.0.0.254 3000

Related Commands

Show sflow

21.4 Sflow counter interval

Command Purpose

Use this command to configure sflow polling-interval for counter sample.

Use the no form of this command to restore the default value.

Command Syntax

Sflow counter interval *INTERVAL_ VAL*

No sflow counter interval

Parameter	Parameter Description	Parameter Value
INTERVAL_VAL	Interval value in second	1-2000 seconds , default is 20 seconds.

Command Mode

Global Configuration

Default

20

Usage

Use this command to set sflow polling-interval for counter sample. Use the no parameter with this command to restore to the default value. Default interval value is 20 seconds.

Examples

This example shows how to set sflow polling-interval to 10 second:

NPB(config)# sflow counter interval 10

This example shows how to set sflow polling-interval to default value:

NPB(config)# no sflow counter interval

Related Commands

Show sflow

21.5 Sflow counter-sampling enable

Command Purpose

Use this command to enable counter sampling on specified port.

Use the no form of this command to disable counter sampling.

Command Syntax

Sflow counter-sampling enable

No sflow counter-sampling enable

Command Mode

Interface Configuration

Default

Disabled

Usage

Use this command to enable counter sampling on specified port. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to set sflow polling-interval to 10 second::

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# sflow counter-sampling enable

This example shows how to disable sflow counter sampling on interface eth-0-1:

NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no sflow counter-sampling enable

Related Commands

Show sflow

21.6 Sflow flow-sampling rate

Command Purpose

Use this command to configure flow sampling rate.

Use the no form of this command to restore the default value.

Command Syntax

Sflow flow-sampling rate *RATE*

No sflow flow-sampling rate

Parameter	Parameter Description	Parameter Value
RATE	Sample rate value,	Must be a power of 2. Range is 1-32768, default is 32768.

Command Mode

Interface Configuration

Default

32768

Usage

Use this command to set sflow packet sampling rate. The rate value is packet number. When the value is 32768, one packet will be sampled when 32768 packets are passed, sflow uses CPU resources to collect samples and send samples to the collector. If a low sampling rate is set, CPU utilization can become high. To protect CPU from overwhelming, exceeded flow samples would be dropped. If a sampling rate less than default value is configured, a prompt will be given to info the potential of involving a high CPU utilization. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to enable sflow counter sampling on interface eth-0-1:

```
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# sflow flow-sampling rate 2048
% Warning: sflow sampling requires high CPU usage, especially with a low rate.
   Suggested rate not less than 32768.
```

This example shows how to disable sflow counter sampling on interface eth-0-1:

```
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no sflow flow-sampling rate
```

Related Commands

Show sflow

21.7 Sflow flow-sampling enable

Command Purpose

Use this command to enable packet sampling on individual port.

Use the no form of this command to disable packet sampling.

Command Syntax

Sflow flow-sampling enable (input | output | both)

No sflow flow-sampling enable (input | output | both)

Parameter	Parameter Description	Parameter Value
Input	Sampling for input packets	-
Output	Sampling for output packets	-
Both	Sampling for packets on both direction	-

Command Mode

Interface Configuration

Default

Disabled

Usage

Use this command to enable packet sampling on individual port. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to enable input packet sampling on route port eth-0-1:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# sflow flow-sampling enable input

This example shows how to disable input packet sampling on route port eth-0-1:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no sflow flow-sampling enable input

Related Commands

Show sflow

21.8 Debug sflow

Command Purpose

Use this command to turn on the debug npbes of sflow module.

Use the no form of this command to turn off the debug npbes of sflow module.

Command Syntax

Debug sflow (all | packet | counter | sample)

No debug sflow (all | packet | counter | sample)

Parameter	Parameter Description	Parameter Value
All	Enable to report all debug messages	-
Counter	Enable to report sflow debug messages for counters	-
Packet	Enable to report sflow debug messages for sending and receiving packets	-
Sample	Enable to report sflow debug messages for sampling	-

Command Mode

Privileged EXEC

Default

Disabled

Usage

Use this command to turn on the debug npbes of sflow module.

Examples

In the following example shows how to enable debugging sflow all:

NPB# NPB# debug sflow all

In the following example shows how to disable debugging sflow all:

NPB# NPB# no debug sflow all

Related Commands

Show debugging

21.9 Show sflow

Command Purpose

Use this command to show the running information of sflow.

Command Syntax

Show sflow

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the running information of sflow.

Examples

This example shows how to show the sflow running information:

```
NPB# show sflow
sflow Version: 4
sflow Global Information:
  Agent ipv4 address                  : 10.0.0.254
  Counter Sampling Interval           : 10 seconds
  Collector 1:
    ipv4 Address: 10.0.0.254
    Port: 3000
sflow Port Information:
                                        Flow-Sample     Flow-Sample
  Port          Counter     Flow        Direction       Rate
  ---------------------------------------------------------------
  eth-0-7       Enable      Enable      Input           2048
```

Related Commands

Sflow enable

Sflow agent

Chapter 22 GLOBAL Commands

22.1 Show debugging

Command Purpose

To display the debugging status, use the show debugging command in EXEC mode.

Command Syntax

Show debugging (aaa | sflow |) (detail |)

Parameter	Parameter Description	Parameter Value
Aaa	Display the states of aaa debugging	-
Sflow	Display the states of sflow debugging	-
Detail	Display the detailed information of debugging	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the debugging status.

Examples

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

```
NPB# show debugging aaa detail
Module          Feature              Type                    Status
------------+---------------+--------------------+------
auth            aaa                  event                   on
                aaa                  packet                  on
                aaa                  protocol                off
                aaa                  timer                   on
```

Related Commands

Debug aaa

Debug sflow

22.2 No debug all

Command Purpose

Use this command to turn off all debugging npbes.

Command Syntax

No debug all

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to turn off all debugging npbes.

Examples

In the following example shows how to disable all debugging:

NPB# no debug all

Related Commands

Show debugging

22.3 Show history

Command Purpose

To display the history command lines, use the show history command in EXEC mode.

Command Syntax

Show history

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the history command lines.

Examples

This example shows how to display history commands information of device:

```
NPB# show history
    1   show version
    2   debug sflow all
    3   no debug sflow all
    4   show history 1    show history
```

Related Commands

None

22.4 Show running-config

Command Purpose

To display the current operating configuration, use the show running-config command in EXEC mode.Default configuration don't dispaly.

Command Syntax

Show running-config

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current operating configuration.Default configuration don't display

Examples

This example shows how to display current operating configuration of device:

```
NPB# show running-config
hostname NPB
timestamp sync systime
username admin privilege 4 password admin
username test privilege 4 password test
!
!
Logging server enable
logging merge disable
logging merge timeout 23
!
Ntp authentication enable
!
Ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
```

```
ntp server mgmt-if 192.16.22.44 version 2
!
Snmp-server enable
snmp-server system-contact admin@example.com
!
Snmp-server view view1 included .1.2.3.4 mask f
!
Snmp-server community sysname read-write
!
Snmp-server trap target-address mgmt-if 10.10.27.232 community sysname
!
Management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
Port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
Flow f1
!
Flow f2
!
Sflow enable
sflow agent ip 10.0.0.254
sflow counter interval 10
!
Interface eth-0-1
  description tengigabitethernet
  speed 1000
  shutdown
!
Interface eth-0-2
  shutdown
!
Interface eth-0-3
  shutdown
  static-channel-group 10
!
Interface eth-0-4
  shutdown
  static-channel-group 10
!
Interface eth-0-5
  shutdown
  static-channel-group 5
!
Interface eth-0-6
  shutdown
!
Interface eth-0-7
  shutdown
  sflow counter-sampling enable
  sflow flow-sampling enable input
  sflow flow-sampling rate 2048
!
```

```
Interface eth-0-8
  shutdown
!
Interface eth-0-9
  shutdown
!
Interface eth-0-10
  shutdown
!
Interface eth-0-11
!
Interface eth-0-12
!
Interface eth-0-13
!
Interface eth-0-14
!
Interface eth-0-15
!
Interface eth-0-16
!
Interface eth-0-17
!
Interface eth-0-18
!
Interface eth-0-19
!
Interface eth-0-20
!
Interface eth-0-21
!
Interface eth-0-22
!
Interface eth-0-23
!
Interface eth-0-24
!
Interface eth-0-25
!
Interface eth-0-26
!
Interface eth-0-27
!
Interface eth-0-28
!
Interface eth-0-29
!
Interface eth-0-30
!
Interface eth-0-31
!
Interface eth-0-32
!
Interface eth-0-33
!
```

```
Interface eth-0-34
!
Interface agg5
  description linkagg5
!
Interface agg10
!
Tap-group tap1 1
  ingress eth-0-1 flow f1
  egress eth-0-9
!
Tap-group tap2 2
  ingress eth-0-21
  egress eth-0-22
!
Tap-group g1 3
  ingress eth-0-33
!
Line console 0
  privilege level 4
  no line-password
  no login
line vty 0 7
  exec-timeout 35791 0
  privilege level 4
  no line-password
  no login
```

Related Commands

None

22.5 Md5sum

Command Purpose

To calculate the md5sum of the file.

Command Syntax

Md5sum FILENAME

Parameter	Parameter Description	Parameter Value
FILENAME	Specify the file name	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to calculate the md5sum of the file.

Examples

This example shows how to calculate the md5sum of the file:

```
NPB# md5sum flash:/boot/NPBOS-vxxx-tap-v3.0.8.bin
8771a9cb344cebb70f8baa4715f3f97d flash:/boot/NPBOS-vxxx-tap-v3.0.8.bin
```

Related Commands

None

Chapter 23 MANAGEMENT Commands

23.1 Show diagnostic-information

Command Purpose

Use this command to display the diagnostic information of the system.

Command Syntax

Show diagnostic-information

Command Mode

Privileged EXEC

Default

None

Usage

Diagnostic information includes "show version" information, "show clock" information, etc.

The result is usually very long and user can print the result into a file on the flash.

Examples

The following example shows how to display the diagnostic information:

NPB# show diagnostic-information

Related Commands

Show version

Show clock

23.2 Show services

Command Purpose

To display the networking services, use the show services command in privileged EXEC mode.

Command Syntax

Show services

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display networking services of the NPB.

Examples

In the following example shows how to display networking services of the NPB:

```
TAP# show services
Networking services configuration:
Service Name         Status              Port           Protocol      Service ACL
-----------------+-------------+----------+----------+------------
http                  enable             80               TCP             -
https                 disable           443              TCP             -
rpc-api               enable            33333          TCP             -
telnet                enable            23               TCP             -
ssh                    enable             22               TCP             -
netconf               enable             830             TCP             -
snmp                   disable           161              UDP             -
```

Related Commands

None

23.3 Show services rpc-api

Command Purpose

To display the RPC-API network service Configuration, use the show services commmand in privileged EXEC mode.

Command Syntax

Show services rpc-api

Command Mode

Privileged EXEC

Default

None

Usage

Examples

```
TAP# show services rpc-api
RPC-API service configuration:
  Server State              : enable
  Port                          : 80
  Authentication Mode : none
```

SSL State : disable
Thread Mode : single-thread
Connection Type : short connection
Timeout : 0 second
Message Execute : 0
Message Deny : 0

Related Commands

Service rpc-api

23.4 Hostname

Command Purpose

To specify or modify the host name for the network server, use the hostname command in global configuration mode.

Use the no form of this command to reset the default value.

Command Syntax

Hostname NAME_STRING

No hostname

Parameter	Parameter Description	Parameter Value
NAME_STRING	This system's network name	Up to 63 characters.

Command Mode

Global Configuration

Default

NPB

Usage

The host name is used in prompts and default configuration filenames.

The name must also follow the rules for ARPANET host names. They must start with a letter, and have as interior characters only letters, digits, hyphens, and underline. Names must be 63 characters or fewer.

Examples

The following example changes the host name to DUT1:

NPB(config)# hostname DUT1

The following example changes the host name to default:

DUT1(config)# no hostname

Related Commands

None

23.5 Format

Command Purpose

To format file system.

Command Syntax

Format (system | boot | udisk:)

Parameter	Parameter Description	Parameter Value
System	The system partition	-
Boot	The boot partition	-
Udisk:	The USB mass storage device (MSDOS file system)	-

Command Mode

Global Configuration

Default

None

Usage

Format the USB mass storage device (MSDOS file system)

Examples

The following shows an example to format USB mass storage device:

NPB(config)# format udisk:
WARNING: All data on udisk: will be lost!!!
And format operation may take a while. Are you sure to process with format? [yes/no]: yes

Related Commands

Umount udisk:

23.6 Umount udisk:

Command Purpose

To uninstall the USB mass storage device before plug out it from the NPB.

Command Syntax

Umount udisk:

Command Mode

Global Configuration

Default

None

Usage

USB mass storage device must exist in the system. You can use the "umount" command to uninstall the USB mass storage device.

Examples

The following example umount USB mass storage device:

NPB(config)# umount udisk:

Related Commands

Format udisk:

23.7 Reset factory-config

Command Purpose

To reset factory configuration

Command Syntax

Reset factory-config

Command Mode

Privileged EXEC

Default

None

Usage

The flash/boot/.factory-config.conf needs to exist for resetting factory configuration.

Examples

The following shows an example to reset factory configuration:

NPB# reset factory-config
Startup-config will be overwritten with factory-config. Continue? [yes/no]:y

Related Commands

None

23.8 Management ip address dhcp

Command Purpose

Use this command to set the management IP address on the NPB from the dhcp protocol.

To remove the management IP address from the dhcp protocol, use the no form of this command.

Command Syntax

Management ip address dhcp

No management ip address dhcp

Command Mode

Global Configuration

Default

None

Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

Examples

The following example sets the management ipv4 address from dhcp protocol:

NPB(config)# management ip address dhcp

The following example unsets the management ipv4 address from dhcp protocol:

NPB(config)# no management ip address dhcp

Related Commands

Management ip address

23.9 Management ip address

Command Purpose

Use this command to set the management IP address on the NPB.

To remove the management IP address, use the no form of this command.

Command Syntax

Management ip address *IP_ADDR_MASK*

No management ip address

Parameter	Parameter Description	Parameter Value
IP_ADDR_MASK	IP address with mask length	In A.B.C.D/M format

Command Mode

Global Configuration

Default

None

Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

Examples

The following example sets the management ipv4 address:

NPB(config)# management ip address 10.10.39.104/23

The following example unsets the management ipv4 address:

NPB(config)# no management ip address

Related Commands

Management route gateway

23.10 Management ipv6 address

Command Purpose

Use this command to set the management ipv6 address on the NPB.

To remove the management ipv6 address, use the no form of this command.

Command Syntax

Management ipv6 address *IPV6_ADDR_MASK*

No management ipv6 address

Parameter	Parameter Description	Parameter Value
IPV6_ADDR_MASK	Ipv6 address with mask length	In X:X::X:X/M format

Command Mode

Global Configuration

Default

None

Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

Examples

The following example sets the management ipv6 address:

NPB(config)# management ipv6 address 2000::1/64

The following example unsets the management ipv6 address:

NPB(config)# no management ipv6 address

Related Commands

Management ipv6 route gateway

23.11 Management route gateway

Command Purpose

Use this command to set the gateway on the NPB for management ip.

Use no form of this command to delete the gateway on the NPB for management ip.

Command Syntax

Management route (add |) gateway *IP_ADDR*

No management route gateway

Parameter	Parameter Description	Parameter Value
Add	Add a gateway address	-
IP_ADDR	IP address	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set the gateway on the NPB for management ip.

Use no form of this command to delete the gateway on the NPB for management ip.

Examples

The following example sets the gateway of 192.168.100.254 for the NPB:

NPB(config)# management route add gateway 192.168.100.254

The following example unsets the gateway of 192.168.100.254 for the NPB:

NPB(config)# no management route gateway

Related Commands

Management ip address

23.12 Management ipv6 route gateway

Command Purpose

Use this command to set the gateway on the NPB for management ipv6 address.

Command Syntax

Management ipv6 route (add | del) gateway *IPV6_ADDR*

Parameter	Parameter Description	Parameter Value
Add	Add a gateway ipv6 address	-
Del	Delete a gateway ipv6 address	-
IPV6_ADDR	Ipv6 address	-

Command Mode

Global Configuration

Default

None

Usage

Use this command to set the gateway on the NPB for management ipv6 address.

Examples

The following example sets the gateway of 2000::64 for the NPB:

NPB(config)# management ipv6 route add gateway 2000::64

Related Commands

Management ipv6 address

23.13 Service telnet enable

Command Purpose

Use this command to set service telnet enable.

Use the no form of this command to set service telnet disable.

Command Syntax

Service telnet enable

No service telnet enable

Command Mode

Global Configuration

Default

Enabled

Usage

Uses this command to enable the telnet service.

Examples

The following example set telnet service enable for the NPB:

NPB# configure terminal
NPB(config)# service telnet enable

The following example set telnet service disable for the NPB:

NPB(config)# no service telnet enable
Connection closed by foreign host.

Related Commands

Telnet

23.14 Service telnet acl

Command Purpose

Use this command to set telnet ACL, and use the no form of the command to recover to default.

Command Syntax

Service telnet acl *ACL_NAME*

No service telnet acl

Parameter	Parameter Description	Parameter Value
ACL_NAME	IP ACL NAME	The initial character name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example sets telnet service acl:

NPB# configure terminal
NPB# ip access-list sacl01
NPB(config-ip-acl-sacl01)# exit
NPB(config)# service telnet acl sacl01

The following example delete telnet service acl:

NPB# configure terminal
NPB(config)# no service telnet acl

Related Commands

None

23.15 Service http

Command Purpose

Use this command to set service http enable or disable or restart or timeout.

Command Syntax

Service http (enable | disable | restart | timeout *TIMEOUT_VALUE*)

Parameter	Parameter Description	Parameter Value
Enable	Enable the http service	-
Disable	Disable the http service	-
Restart	Restart the http service	-
Timeout TIMEOUT_VALUE	Set http timeout value, unit is minute	1-60

Command Mode

Global Configuration

Default

Enabled

Timeout default value is 10 minutes

Usage

Uses this command to enable or disable or restart http service or set timeout value.

Examples

The following example set http service enable for the NPB:

NPB(config)# service http enable

The following example set http service disable for the NPB:

NPB(config)# service http disable

The following example set http service restart for the NPB:

NPB(config)# service http restart

Related Commands

Show web users

23.16 Service http port

Command Purpose

Use this command to set set http service L4 port number; use the no command to set the default http service L4 port number.

Command Syntax

Service http port *L4_NUM_PORT*

No service http port

Parameter	Parameter Description	Parameter Value
L4_NUM_PORT	Http service L4 port number	The range is 1025-65535

Command Mode

Global Configuration

Default

80

Usage

None

Examples

The following example set http service L4 port number for the NPB:

NPB(config)# service http port 2000

The following example set the default http service L4 port number for the NPB:

NPB(config)# no service http port

Related Commands

Show web users

23.17 Service http acl

Command Purpose

Use this command to set http ACL, and use the no form of the command to recover to default.

Command Syntax

Service http acl *ACL_NAME*

No service http acl

Parameter	Parameter Description	Parameter Value
ACL_NAME	IP ACL NAME	The initial character name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example sets http service acl:

NPB# configure terminal
NPB# ip access-list sacl01
NPB(config-ip-acl-sacl01)# exit
NPB(config)# service http acl sacl01

The following example delete http service acl:

NPB# configure terminal
NPB(config)# no service http acl

Related Commands

None

23.18 Service https

Command Purpose

Use this command to set service https enable or disable or restart or set timeout.

Command Syntax

Service https (enable | disable | restart | timeout *TIMEOUT_ VALUE*)

Parameter	Parameter Description	Parameter Value
Enable	Enable the https service	-
Disable	Disable the https service	-
Restart	Restart the https service	-
Timeout TIMEOUT_VALUE	Set https timeout value, unit is minute	1-60

Command Mode

Global Configuration

Default

Enabled

Usage

Uses this command to enable or disable or restart https service.

Examples

The following example set https service enable for the NPB:

NPB(config)# service https enable

The following example set https service disable for the NPB:

NPB(config)# service https disable

The following example set https service restart for the NPB:

NPB(config)# service https restart

Related Commands

Show web users

23.19 Service http load

Command Purpose

Use this command to set web image

Command Syntax

Service http load *FILENAME*

No service http load

Parameter	Parameter Description	Parameter Value
FILENAME	WEB Image file	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example set web image:

NPB(config)# service http load flash:/webimage.bin

The following example set default web image:

NPB(config)# no service http load

Related Commands

Service http enable

Service https enable

23.20 Service https port

Command Purpose

Use this command to set set https service L4 port number; use the no command to set the default https service L4 port number.

Command Syntax

Service https port *L4_NUM_PORT*

No service https port

Parameter	Parameter Description	Parameter Value
L4_NUM_PORT	Https service L4 port number	The range is 1025-65535

Command Mode

Global Configuration

Default

443

Usage

None

Examples

The following example set https service L4 port number for the NPB:

NPB(config)# service https port 2000

The following example set the default https service L4 port number for the NPB:

NPB(config)# no service https port

Related Commands

Show web users

23.21 Service https acl

Command Purpose

Use this command to set https ACL, and use the no form of the command to recover to default.

Command Syntax

Service https acl *ACL_NAME*

No service https acl

Parameter	Parameter Description	Parameter Value
ACL_NAME	IP ACL NAME	The initial character name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example sets https service acl:

NPB# configure terminal
NPB# ip access-list sacl01
NPB(config-ip-acl-sacl01)# exit
NPB(config)# service https acl sacl01

The following example delete https service acl:

NPB# configure terminal
NPB(config)# no service https acl

Related Commands

None

23.22 Service rpc-api enable

Command Purpose

Use the command to enable rpc-api service. And use disable command to disable rpc-api service.

Command Syntax

Service rpc-api enable (port *PORT_NUM*|) (ssl (ssl-port *SSL_PORT_NUM*|) (connect-timeout *TIME_OUT)* |)

Service rpc-api disable

Parameter	Parameter Description	Parameter Value
PORT_NUM	Port number of rpc-api service	Default port number is 80
SSL_PORT_NUM	Port number of SSL service	Default port number is 443
TIME_OUT	Time of persistent connection timeout, unit is second	1-7200

Command Mode

Global Configuration

Default

Disabled

Usage

Use this command to enable RPC-API service. If parameters need to be modified, RPC-API service need to be disable. RPC-API service can not be enable when http has been enable.

Examples

The following example enables encrypted RPC-API service:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service rpc-api enable ssl
NPB(config)#

The following example disables encrypted RPC-API service:

```
NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service rpc-api disable
NPB(config)#
```

Related Commands

Service rpc-api auth-mode

23.23 Service rpc-api auth-mode

Command Purpose

Use the command to configure the auth mode of RPC-API.

Command Syntax

Service rpc-api auth-mode (basic)

No service rpc-api auth-mode

Command Mode

Global Configuration

Default

Configure the auth mode of RPC-API

Usage

Use this command to enable or disable the auth mode of RPC-API.If the auth mode has been enabled.

Examples

The following example enables the auth mode of RPC-API:

```
NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service rpc-api auth-mode basic
```

The following example disables the auth mode of RPC-API:

```
NPB(config)# no service rpc-api auth-mode basic
```

Related Commands

Services rpc-api enable

23.24 Service rpc-api acl

Command Purpose

Use this command to set RPC-API ACL, and use the no form of the command to recover to default.

Command Syntax

Service rpc-api acl *ACL_NAME*

No service telnet acl

Parameter	Parameter Description	Parameter Value
ACL_NAME	IP ACL NAME	The initial character name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 20

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example sets rpc-api service acl:

NPB# configure terminal
NPB# ip access-list sacl01
NPB(config-ip-acl-sacl01)# exit
NPB(config)# service rpc-api acl sacl01

The following example delete rpc-api service acl:

NPB# configure terminal
NPB(config)# no service rpc-api acl

Related Commands

Service rpc-api auth-mode

23.25 Service rpc-api multi-thread

Command Purpose

Use the command to configure the multi-thread mode of RPC-API. Use the command "service rpc-api single-thread" to recovery single-thread mode.

Command Syntax

Service rpc-api multi-thread

Service rpc-api single-thread

Command Mode

Global Configuration

Default

Configure the multi-threaded mode of RPC-API

Usage

Use this command to set the multi-threaded mode of RPC-API. If the multi-threaded mode has been enabled, mutiple clients opreating at the same can cause some problems.

Examples

The following example enables the multi-threaded mode of RPC-API:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service rpc-api multi-thread
NPB(config)# service rpc-api enable

The following example disables the multi-threaded mode of RPC-API:

NPB(config)# service rpc-api single-thread

Related Commands

None

23.26 Service netconf enable

Command Purpose

Use the command to enable NETCONF service. And use disable command to disable NETCONF service.

Command Syntax

Service netconf enable (port *PORT_NUM* |)

Service netconf disable

Parameter	Parameter Description	Parameter Value
PORT_NUM	Port number of NETCONF service	Default port number is 830

Command Mode

Global Configuration

Default

Disabled

Usage

Use this command to enable NETCONF service. If parameters need to be modified, RPC-API service need to be disable.

Examples

The following example enables NETCONF service:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service netconf enable
NPB(config)#

The following example disables NETCONF service:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# service netconf disable
NPB(config)#

Related Commands

None

23.27 Certificate load pem-cert

Command Purpose

Use the command to import the new certificate file. Use the no command to restore the default certificate file.

Command Syntax

Certificate load pem-cert (*FILENAME*| *GFLASHFILE*)

No certificate load pem-cert

Parameter	Parameter Description	Parameter Value
FILENAME	Certificate file name, no path but suffix	-
GFLASHFILE	Certificate file name with path	-

Command Mode

Global Configuration

Default

Default certificate file

Usage

The private key and certificate need to be placed in the same file as the new certificate file. You need to upload the new certificate file to the any directory under the flash/ directory on the device before using this command. Ensure that the HTTPS service is turned on at the time of command execution and restart the HTTPS service after execution to take effect.

Examples

The following example import new certificate file cert.pem:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# certificate load pem-cert flash:/boot/cert.pem
NPB(config)#

The following example restore the default certificate file:

NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# no certificate load pem-cert
NPB(config)#

Related Commands

None

23.28 Statistics unit

Command Purpose

Use the command to change the unit of traffic statistics.

Command Syntax

Statistics unit (1 | *K*| *M*| *G*)

Parameter	Parameter Description	Parameter Value
1	Statistics/1	-
K	Statistics/1,000	-
M	Statistics/1,000,000	-
G	Statistics/1,000,000,000	-

Command Mode

Global Configuration

Default

Default unit is 1

Usage

Change the unit of statistics

Examples

The following example change the unit:

NPB(config)#statistics unit K

Related Commands

None

Chapter 24 SYSTEM CONFIGURATION Commands

24.1 Disable

Command Purpose

To exit Privileged EXEC mode and return to user EXEC mode, enter the disable command in EXEC mode.

Command Syntax

Disable

Command Mode

Privileged EXEC

Default

None

Usage

To exit Privileged EXEC mode and return to user EXEC mode, enter the disable command in EXEC mode.

The prompt for Privileged EXEC mode is "#", for EXEC mode is ">".

Examples

In the following example, the user enters Privileged EXEC mode using the enable command, then exits back to user EXEC mode using the disable command:

NPB# disable
NPB>

Related Commands

Enable

24.2 Enable

Command Purpose

To enter Privileged EXEC mod, use the enable command in user EXEC or Privileged EXEC mode.

Command Syntax

Enable

Command Mode

User EXEC

Default

None

Usage

To enter Privileged EXEC mod, use the enable command in user EXEC or Privileged EXEC mode.

The prompt for Privileged EXEC mode is "#", for EXEC mode is ">".

Examples

In the following example, the user enters Privileged EXEC mode using the enable command. The system prompts the user for a password before allowing access to the Privileged EXEC mode. The password is not printed to the screen. The user then exits back to user EXEC mode using the disable command:

NPB# disable
NPB> enable
Password:
NPB#
Password:
NPB#

Related Commands

Disable

Enable password

24.3 Logout

Command Purpose

To logout of the current CLI session, enter the logout command in EXEC mode.

Command Syntax

Logout

Command Mode

Privileged EXEC

Default

None

Usage

To logout of the current CLI session, enter the logout command in EXEC mode.

Examples

In the following example, the user logout of the current CLI session using the logout command:

NPB# logout
Connection closed by foreign host.

Related Commands

None

24.4 Reboot

Command Purpose

To reload the operating system, use the reboot command in Privileged EXEC mode.

Command Syntax

Reboot

Command Mode

Privileged EXEC

Default

None

Usage

The reboot command halts the system. Use the reboot command after configuration information is entered into a file and saved to the startup configuration.

Examples

The following example is sample dialog from the reboot command:

NPB# reboot
Building configuration...
Reboot system? [confirm]y
Waiting ...
% Connection is closed by administrator!

Related Commands

Write

24.5 Show file system

Command Purpose

Use this command to show file system information.

Command Syntax

Show file system

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show file system information.

Examples

The following example is to show file system information:

```
NPB# show file system
Type              Size            Used            Free            Use%
------------------------------------------------------------------------------
flash:/         887M            56M             827M            7%
flash:/boot 776M            360M            412M            47%
udisk:          0B              0B              0B              100%
```

Related Commands

None

24.6 Show management ip address

Command Purpose

Use this command to show management interface ip address.

Command Syntax

Show management ip address

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show management interface ip address.

Examples

The following example is to show management interface ip address:

```
NPB# show management ip address
Management IP address:    10.10.39.131/23
Gateway:    0.0.0.0
```

Related Commands

Management ip address

Management route gateway

24.7 Show startup-config

Command Purpose

Use this command to show contents of startup configuration.Default configuration don't dispaly.

Command Syntax

Show startup-config

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show contents of startup configuration.Default configuration don't display.

Examples

The following example is to show contents of startup configuration:

```
NPB# show startup-config
hostname NPB
timestamp sync systime
enable password abc
!
Username admin privilege 4 password admin
username test privilege 4 password test
!
!
Logging server enable
!
Radius-server host mgmt-if 1.1.1.1
!
Tacacs-server host mgmt-if 1.1.1.2
!
Tacacs-server host mgmt-if 2.1.1.1 key mykey
!
!
Ntp authentication enable
!
Ntp key 43 anickkey
ntp trustedkey 43
ntp key 123 ntpkty123
!
```

```
Ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
ntp server mgmt-if 192.16.22.44 version 2
!
Snmp-server enable
snmp-server system-contact admin@example.com
!
Snmp-server view view1 included .1.2.3.4 mask f
!
Snmp-server trap target-address mgmt-if 10.10.27.232 community sysname
!
Snmp-server inform target-address mgmt-if 10.10.27.233 community sysname
!
Management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
Port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
Ip access-list a
!
Ip access-list e1
!
Ip access-list aaaa
!
Flow f1
!
Flow f2
!
Sflow enable
sflow agent ip 10.0.0.254
sflow counter interval 10
!
Interface eth-0-1
  description tengigabitethernet
  speed 1000
  shutdown
!
Interface eth-0-2
  shutdown
!
Interface eth-0-3
  shutdown
  static-channel-group 10
!
Interface eth-0-4
  shutdown
  static-channel-group 10
!
Interface eth-0-5
  shutdown
  static-channel-group 5
!
Interface eth-0-6
```

```
  shutdown
!
Interface eth-0-7
  shutdown
  sflow counter-sampling enable
  sflow flow-sampling enable input
  sflow flow-sampling rate 2048
!
Interface eth-0-8
  shutdown
!
Interface eth-0-9
  shutdown
!
Interface eth-0-10
  shutdown
!
Interface eth-0-11
!
Interface eth-0-12
!
Interface eth-0-13
!
Interface eth-0-14
!
Interface eth-0-15
!
Interface eth-0-16
!
Interface eth-0-17
!
Interface eth-0-18
!
Interface eth-0-19
!
Interface eth-0-20
!
Interface eth-0-21
!
Interface eth-0-22
!
Interface eth-0-23
!
Interface eth-0-24
!
Interface eth-0-25
!
Interface eth-0-26
!
Interface eth-0-27
!
Interface eth-0-28
!
Interface eth-0-29
!
```

```
Interface eth-0-30
!
Interface eth-0-31
!
Interface eth-0-32
!
Interface eth-0-33
!
Interface eth-0-34
!
Interface agg5
  description linkagg5
!
Interface agg10
!
Tap-group tap1 1
  ingress eth-0-1 flow f1
  egress eth-0-9
!
Tap-group tap2 2
  ingress eth-0-21
  egress eth-0-22
!
Tap-group g1 3
  ingress eth-0-33
!
Line console 0
  privilege level 4
  no line-password
  no login
line vty 0 7
  exec-timeout 35791 0
  privilege level 4
  no line-password
  no login
```

Related Commands

Write

24.8 Write

Command Purpose

Use this command to write startup configuration.

Command Syntax

Write

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to write startup configuration.

Examples

The following example is to write startup configuration:

NPB# write
[OK]

Related Commands

Show startup-config

24.9 Boot system flash

Command Purpose

To specify the system image that the NPB loads at startup in flash, use the following boot system commands in Privileged EXEC mode.

Command Syntax

Boot system flash *STRING*

Parameter	Parameter Description	Parameter Value
STRING	System image file for next booting	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to specify an image to boot system.

This command will take effect after reboot.

Examples

The following example is sample dialog from the boot system command:

NPB# boot system flash:/boot/secpathtap2000a-IMW110-E6601.BIN.01
Are you sure to use flash:/boot/secpathtap2000a-IMW110-E6601.BIN.01 as the next boot image? [confirm]y
Waiting ..... Success

Related Commands

Reboot

24.10 Boot system tftp:

Command Purpose

To specify the system image that the NPB loads at startup in tftp, use the following boot system commands in Privileged EXEC mode.

Command Syntax

Boot system tftp: mgmt-if *IP_ADDR STRING*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Server IP	-
STRING	Image file name	-

Command Mode

Privileged EXEC

Default

None

Usage

Management IP address in startup-config file will be used as source address when system boot via TFTP.

This command will take effect after reboot.

Examples

The following example is sample dialog from the boot system via tftp command:

NPB# boot system tftp: mgmt-if 10.10.38.160 secpathtap2000a-IMW110-E6601.BIN.01
Waiting . Success

Related Commands

Reboot

24.11 Show boot

Command Purpose

To display the current image and the image the next startup will load, use the show boot command in Privileged EXEC mode.

Command Syntax

Show boot (image |)

Parameter	Parameter Description	Parameter Value
Image	Show the detailed information about the boot image.	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current image and the image the next startup will load.

Examples

The following is sample output from the show boot command:

```
NPB# show boot
The current boot image version is: 1.10, ESS 6601
The current running image is: flash:/boot/secpathtap2000a-IMW110-E6601.BIN.01
The next running image is: tftp://10.10.38.160/secpathtap2000a-IMW110-E6601.BIN.01
```

The following is sample output from the show boot image command:

```
NPB# show boot image
Current boot image version: Exxx-1.10, ESS 6601
System image files list:
   Create Time                Version                    File name
----------------------+---------------------+-----------------------------------
   2017-08-02 13:32:31    v5.1.4                      CNOS-exxx-hybrid-v5.1.4.bin
* 2017-09-21 15:43:52     v1.10, ESS 6601          secpathtap2000a-IMW110-E6601.BIN.01
```

Related Commands

Boot system flash

Boot system tftp：

24.12 Show memory

Command Purpose

Use this command to show memory with keyword.

Command Syntax

Show memory (ccs | cds | NPB | chsm | appcfg | fea | authd | all)

Parameter	Parameter Description	Parameter Value
Ccs	Configure center service	-
Cds	Data center service	-

NPB	NPB process	-
Chsm	Chassis manage process	-
Appcfg	Application configure process	-
Fea	Forwarding process	-
Authd	Authentication daemon process	-
All	All processes	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show memory with keyword.

Examples

The following is sample output from the show memory appcfg command:

```
NPB# show memory appcfg
appcfg Memory Information:
Type    Description                          Alloc Count    Alloc Size
-------------------------------------------------------------------------
0       MEM_TEMP                              : 1              8188
2       MEM_LIB_HASH                          : 16             320
3       MEM_LIB_HASH_BACKET_LIST              : 16             131008
4       MEM_LIB_HASH_BACKET                   : 37             444
9       MEM_LIB_SOCK_MASTER                   : 1              192
10      MEM_LIB_SOCK                          : 5              1280
11      MEM_LIB_SOCK_SESSION                  : 7              229348
12      MEM_LIB_SOCK_DATA                     : 1              16
16      MEM_LIB_SLIST                         : 113            2260
17      MEM_LIB_SLISTNODE                     : 57             684
22      MEM_TBL_MASTER                        : 44             9788
23      MEM_TBL_INTERFACE                     : 37             28416
67      MEM_TBL_SYS_GLOBAL                    : 1              384
68      MEM_TBL_VERSION                       : 1              768
72      MEM_TBL_CHASSIS                       : 1              64
77      MEM_TBL_SYS_SPEC                      : 8              3072
84      MEM_TBL_MEM_SUMMARY                   : 1              28
112     MEM_TBL_SSH_CFG                       : 1              48
113     MEM_TBL_SNMP_CFG                      : 1              768
114     MEM_TBL_SNMP_VIEW                     : 1              256
116     MEM_TBL_SNMP_TRAP                     : 1              384
117     MEM_TBL_SNMP_INFORM                   : 1              384
118     MEM_TBL_SYSLOG_CFG                    : 1              384
119     MEM_TBL_NTP_SERVER                    : 3              288
121     MEM_TBL_NTP_KEY                       : 2              80
122     MEM_TBL_NTP_CFG                       : 1              64
123     MEM_TBL_NTP_IF                        : 1              8
```

124	MEM_TBL_NTP_IF	: 1	256
125	MEM_TBL_USER	: 2	1536
126	MEM_TBL_VTY	: 8	32736
127	MEM_TBL_CONSOLE	: 1	768
128	MEM_TBL_AUTHEN	: 1	192
129	MEM_TBL_LOGIN	: 3	1152
161	MEM_TBL_LOG_GLOBAL	: 1	12
163	MEM_TBL_SYS_LOAD	: 1	32
165	MEM_TBL_CLOCK	: 1	40
177	MEM_TBL_OPM_GLOBAL	: 1	4
180	MEM_TBL_OPM_DEBUG	: 1	4
194	MEM_TBL_DOT1X_GLOBAL	: 1	768
198	MEM_TBL_ENABLE	: 4	3072
199	MEM_TBL_CHIP	: 1	4
201	MEM_TBL_AUTHOR	: 1	192
202	MEM_TBL_ACCOUNT	: 1	192
203	MEM_TBL_ACCOUNTCMD	: 1	192
229	MEM_TBL_SFLOW_GLOBAL	: 1	48
234	MEM_DS_BRGIF	: 36	27648
235	MEM_DS_LAG	: 5	80
245	MEM_DS_ACLQOS_IF	: 3	3072
247	MEM_DS_DHCLIENT_IF	: 36	9216
262	MEM_PM_TEMP	: 1	4092
263	MEM_PM_LIB_MASTER	: 1	1024

Related Commands

Show memory summary

24.13 Show memory summary

Command Purpose

Use this command to show the summary of memory states.

Command Syntax

Show memory summary total

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the summary of memory states.

Examples

The following is sample output from the show memory summary command:

```
NPB# show memory summary total
Total memory          : 940428 KB
Used memory           : 259228 KB
Freed memory          : 681200 KB
Buffer memory         : 0 KB
Cached memory         : 125848 KB
Memory utilization: 27.56%
```

Related Commands

Show memory

24.14 Show cpu utilization

Command Purpose

Use this command to show utilizations of cpu.

Command Syntax

Show cpu utilization

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show utilizations of cpu.

Examples

The following is sample output from the show cpu utilization command:

```
NPB# show cpu utilization
Process                    Usage(%)
---------------------+----------
python                      3.42
fea                         2.62
NPB                        0.20
appcfg                      0.10
cds                         0.10
snmpd                       0.10
ccs                        0.10
kworker                     0.10
Others                      5.55
--------------------------------
Total                      12.29
```

Related Commands

None

24.15 Terminal length

Command Purpose

Use this command to set number of terminal lines on a screen. Range is 0 to 512.

Use the no form of this command to restore the default value.

Command Syntax

Terminal length *TERM_LINES*

Terminal no length

Parameter	Parameter Description	Parameter Value
TERM_LINES	Number of lines on screen (0 for no pausing)	-

Command Mode

Privileged EXEC

Default

0 (no pausing)

Usage

Use this command to set number of terminal lines on a screen.

Examples

The following is sample to set terminal length lines:

NPB# terminal length 100

The following is sample to unset terminal length lines:

NPB# terminal no length

Related Commands

None

24.16 Terminal monitor

Command Purpose

To copy debug output to the current terminal line, use the terminal monitor command in Privileged EXEC mode.

To close the debug output to the current terminal line, use the no form of this command.

Command Syntax

Terminal monitor

Terminal no monitor

Command Mode

Privileged EXEC

Default

Debug output to the current terminal line is closed

Usage

To copy debug output to the current terminal line, use the terminal monitor command in Privileged EXEC mode.

To close the debug output to the current terminal line, use the no form of this command.

Examples

The following is sample output from the terminal monitor command:

NPB# terminal monitor

The following is sample close the debug output to the current terminal line:

NPB# terminal no monitor

Related Commands

Debug aaa

Debug sflow

24.17 Cd

Command Purpose

Change the current directory to dir, use the cd command in EXEC mode.

Command Syntax

Cd (*STRING* |)

Parameter	Parameter Description	Parameter Value
STRING	Directory name	-

Command Mode

Privileged EXEC

Default

The initial default file system is flash:. If you do not specify a directory on a file system, the default is the root directory on that file system.

Usage

Change the current directory to dir, use the cd command in EXEC mode.

Examples

In the following example, the cd command is set the flash:/boot file system to the Flash memory:

```
NPB# cd flash:/boot
NPB# pwd
flash:/boot
```

Related Commands

Pwd

24.18 Mkdir

Command Purpose

To create a new directory in a Flash file system, use the mkdir command in EXEC mode.

Command Syntax

Mkdir *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Directory name or file name	-

Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

The following example creates a directory named newdir in Flash:

```
NPB# mkdir flash:/newdir
```

Related Commands

Rmdir

Dir

24.19 Rmdir

Command Purpose

To remove an existing directory in a Flash file system or udisk device, use the rmdir command in Privileged EXEC mode.

Command Syntax

Rmdir *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Directory name or file name	-

Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

The following example deletes a directory named newdir:

NPB# rmdir flash:/newdir
Are you sure to delete flash:/newdir ? [no]y

Related Commands

Mkdir

24.20 Pwd

Command Purpose

Use this command to print working directory.

Command Syntax

Pwd

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to print working directory.

Examples

The following example print current working directory:

```
NPB# pwd
flash:/
```

Related Commands

Cd

24.21 Ls

Command Purpose

To display a list of files on a file system, use the ls command in EXEC mode.

Command Syntax

Ls (flash: | flash:/boot | udisk: |) (*STRING* |)

Parameter	Parameter Description	Parameter Value
Flash:	File system on the flash	-
Flash:/boot	File path “flash:/boot”	-
Udisk:	USB storage devices	-
STRING	Directory name or file name	-

Command Mode

Privileged EXEC

Default

None

Usage

Use the ls (Flash file system) command to display flash information.

Examples

The following is sample output from the ls command:

```
NPB# ls
Directory of flash:/

total 3196
-rw-r--r-- 1       1371 May 31 22:32 001E080BE6C2.1.lic
-rwxr-xr-x 1     295938 Aug 15 10:26 AQR-G2_v3.2.5_ID19866_VER537.cld
-rw-r--r-- 1      39861 Jul  5 15:07 Exxx_48X2Q4Z_EPLD-4.1_0410_POWERDOWN.tar.gz
```

```
drwxr-xr-x 2        2464 Sep 22 14:41 boot
drwxr-xr-x 7         760 Aug 15 10:26 cold
drwxr-xr-x 3        1016 Sep 22 14:42 conf
-rw-r--r-- 1         147 Aug 15 10:31 dhcpsnooping
-rw------- 1         151 Aug 15 10:31 dhcpv6snooping
drwxr-xr-x 2         728 Sep    4 20:53 info
-rw-r--r-- 1         909 Jul 18 13:30 init_flow
drwxr-xr-x 3         224 Aug 10 11:25 lib
drwxr-xr-x 2         288 Jul    1    2016 log
drwxr-xr-x 7         488 Aug 23    2016 monitor
drwxr-xr-x 2         232 May    2 19:03 reboot-info
-rw-r--r-- 1       11963 Mar 30 18:21 route.txt
-rw-r--r-- 1        2624 Sep 22 14:41 startup-config.conf
-rw------- 1       13686 Apr 10 18:57 startup-config.conf.2017-4-10
-rw-r--r-- 1        1314 May    4 18:48 startup-config.conf.empty
-rw-r--r-- 1        1694 Apr 21 17:40 startup-config.conf_0421
-rwxr-xr-x 1 1015068 Mar 18    2017 stressapptest
-rw-r--r-- 1 1155521 Sep 22 15:56 syslog
drwxr-xr-x 2        4192 Sep 12 06:09 syslogfile

Total 887.00M bytes (875.00M bytes free)
```

Related Commands

Dir

24.22 Copy running-config

Command Purpose

To copy current device configuration to other files, use this command in EXEC mode.

Command Syntax

Copy running-config (mgmt-if |) (*STRING* |)

Parameter	Parameter Description	Parameter Value
Mgmt-if	Need to connect to the URL via management interface	-
STRING	Copy to URL and local file name	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy current running-config to destination file.

Examples

The following example copies the current configuration to the file named current-config.conf:

NPB# copy running-config flash:/current-config.conf
flash:/current-config.conf
[OK]

Related Commands

Delete

24.23 Copy startup-config

Command Purpose

Use this command to copy startup-config to tftp server or dest file.

Command Syntax

Copy startup-config (mgmt-if |) (*STRING* |)

Parameter	Parameter Description	Parameter Value
Mgmt-if	Need to connect to the URL via management interface	-
STRING	Copy to URL and local file name	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy startup-config to tftp server or dest file.

Examples

This is a sample output from the command displaying how to copy startup-config to tftp server:

NPB# copy startup-config mgmt-if tftp://10.10.38.160/
TFTP server [10.10.38.160]
Name of the TFTP file to access [] startup-config
Send file to tftp://10.10.38.160/startup-config
.
Sent 2337 bytes in 0.0 seconds

Related Commands

Delete

24.24 Copy mgmt-if

Command Purpose

Use this command to copy file from tftp server to local.

Command Syntax

Copy mgmt-if SRC_STRING DST_STRING

Parameter	Parameter Description	Parameter Value
SRC_STRING	Copy from URL	-
DST_STRING	Copy to local file	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy file from tftp server to local.

Examples

This is a sample output from the command displaying how to copy file from tftp server to local:

NPB# copy mgmt-if tftp://10.10.38.160 flash:/boot

TFTP server [10.10.38.160]
Name of the TFTP file to access [] collections.py
Download from URL to temporary file.
Get file from tftp://10.10.38.160/collections.py
.
Received 25403 bytes in 0.2 seconds
Copy the temporary file to its destination.
.
File system synchronization. Please waiting...
25403 bytes in 0.1 seconds, 248 kbytes/second

Related Commands

Delete

24.25 Copy

Command Purpose

Use this command to copy file from local file to tftp server or local.

Command Syntax

Copy SRC_STRING mgmt-if DST_STRING

Parameter	Parameter Description	Parameter Value
SRC_STRING	Copy from URL	-
DST_STRING	Copy to local file	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy file from local file to tftp server or local.

Examples

This is a sample output from the command displaying how to copy file from local file to tftp server:

NPB# copy flash:/startup-config.conf mgmt-if tftp://10.10.38.160
TFTP server [10.10.38.160]
Name of the TFTP file to access [] startup-config.conf
Send file to tftp://10.10.38.160/startup-config.conf
.
Sent 2177 bytes in 0.1 seconds

Related Commands

Delete

24.26 More

Command Purpose

To display the contents of a file, use the more command in EXEC mode.

Command Syntax

More STRING、

Parameter	Parameter Description	Parameter Value
STRING	Text file name	-

Command Mode

Privileged EXEC

Default

None

Usage

The system can only display a file in ASCII format.

Examples

The following partial sample output displays the configuration file named startup-config in flash:

NPB# more flash:/startup-config.conf

Related Commands

Dir

24.27 Delete

Command Purpose

To delete a file on the flash, use the delete command in Privileged EXEC mode.

Command Syntax

Delete *STRING*、

Parameter	Parameter Description	Parameter Value
STRING	File name for delete	-

Command Mode

Privileged EXEC

Default

None

Usage

If you attempt to delete the configuration file or image, the system prompts you to confirm the deletion.

Examples

The following example deletes the file named test from the flash:

NPB# delete flash:/test
Are you sure to delete flash:/test? [no]y

Related Commands

Copy

24.28 Rename

Command Purpose

To rename a file in a Class C Flash file system or udisk device, use the rename command in EXEC mode.

Command Syntax

Rename OLD_STRING NEW_STRING

Parameter	Parameter Description	Parameter Value
OLD_STRING		-
NEW_STRING		-

Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

In the following example, the file named startup-config.conf-bak is renamed startup-config.conf-bak1:

NPB# rename flash:/startup-config.conf-bak flash:/startup-config.conf-bak1
Are you sure to rename flash:/startup-config.conf-bak ? [confirm]y
.
File system synchronization. Please waiting...
1061 bytes in 0.1 seconds, 10 kbytes/second

Related Commands

Ls

24.29 Source

Command Purpose

Read and execute commands from filename in the shell environment.

Command Syntax

Source *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Configuration file	-

Command Mode

Privileged EXEC

Default

None

Usage

Read and execute commands from filename in the shell environment.

Examples

The following is show how to source commands from a file:

```
NPB# source flash:/bash_shutdown.txt
NPB# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
NPB(config)# interface range eth-0-5 - 7
NPB(config-if-range)# shutdown
NPB(config-if-range)# end
NPB#
```

Related Commands

None

24.30 System min-frame check

Command Purpose

Use this command enable system min frame check, system min frame size is 64bytes.

Command Syntax

System min-frame check enable

No system min-frame check enable

Parameter	Parameter Description	Parameter Value
Enable	Enable system min frame check	-

Command Mode

Global Configuration

Default

Enable

Usage

None

Examples

The following example shows how to enable system min frame check:

NPB(config)# system min-frame check enable

The following example shows how to disable system min frame check:

NPB(config)# no system min-frame check enable

Related Commands

None

24.31 Banner

Command Purpose

Use this command to define a banner

Command Syntax

Banner (exec | login) *STRING*

No banner (exec | login)

Parameter	Parameter Description	Parameter Value
Exec	Exec banner	-
Login	Login banner	-
STRING	Banner text information	C banner-text c, where 'c' is a delimiting character, only allow '0-9A-Za-z,@._-'

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to define a exec banner:

NPB(config)# banner exec @no_delete_configuration@

Related Commands

None

24.32 Do

Command Purpose

Use this command to execute the commands in EXEC mode

Command Syntax

Do COMMAND_STRING

Parameter	Parameter Description	Parameter Value
COMMAND_STRING	The string of the command	-

Command Mode

All Configuration Mode

Default

None

Usage

None

Examples

The following example shows how to execute the do command:

```
NPB# configure terminal
NPB(config)# do show interface eth-0-1
Interface eth-0-1
   Interface current state: DOWN
   Hardware is Port, address is 001e.080b.e6c2
   Bandwidth 1000000 kbits
   Index 1 , Metric 1
   Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
   Link type is autonegotiation
   Admin input flow-control is off, output flow-control is off
   Oper input flow-control is off, output flow-control is off
   The Maximum Frame Size is 12800 bytes
      5 minute input rate 0 bits/sec, 0 packets/sec
      5 minute output rate 0 bits/sec, 0 packets/sec
      0 packets input, 0 bytes
      Received 0 unicast, 0 broadcast, 0 multicast
      0 runts, 0 giants, 0 input errors, 0 CRC
      0 frame, 0 overrun, 0 pause input
      0 packets output, 0 bytes
      Transmitted 0 unicast, 0 broadcast, 0 multicast
      0 underruns, 0 output errors, 0 pause output
```

Related Commands

None

24.33 Vntag

Command Purpose

Use this command to configure vntag ethertype and length

Command Syntax

Vntag ether-type *ETHERTYPE* len *LENGTH*

No vntag

Parameter	Parameter Description	Parameter Value
ETHERTYPE	The ethertype of vntag	Range is <0x600 - 0xffff>
LENGTH	The length of vntag	Range is <0 - 16>

Command Mode

Global Configuration

Default

0x8926

10

Usage

None

Examples

The following example shows how to configure vntag ethertype and length:

NPB(config)# vntag ether-type 0x8927 len 16

The following example shows how to configure vntag default ethertype and length:

NPB(config)# no vntag

Related Commands

None

Chapter 25 DEVICE Commands

25.1 Show version

Command Purpose

To display the version information of the hardware and firmware, use the show version command in EXEC mode.

Command Syntax

Show version

Command Mode

Privileged EXEC

Default

None

Usage

This command can display the version information of the hardware and firmware.

Examples

This example shows how to display version information of the hardware and firmware:

```
NPB# show version
i-Ware Software, Version 1.10, ESS 6601 01
Vendor Information
secpath FW uptime is 0 weeks, 1 day, 1 hours, 16 minutes
Boot image: flash:/boot/secpathtap2000s-IMW110-E6601.BIN
Boot image version: 1.10, ESS 6601 01
Next running image : flash:/boot/secpathtap2000s-IMW110-E6601.BIN
SLOT 1
Hardware Type              : NPB
SDRAM size                 : 2048M
Flash size                 : 2048M
Hardware Version           : 1.2
EPLD Version               : 2.1
bootrom Version            : 6.1.1
System serial number : E101ZB142025
```

Related Commands

None

25.2 Show stm prefer

Command Purpose

Use the show stm prefer privileged EXEC command to display information about the profiles that can be used to maximize system resources for a particular feature.

Command Syntax

Show stm prefer (current | next | default)

Parameter	Parameter Description	Parameter Value
Current	Current profile information	-
Next	Next profile information	-
Default	Balance on all kinds of tables size	-

Command Mode

Privileged EXEC

Default

None

Usage

The numbers displayed for each profile represent an approximate maximum number for each feature resource. Use this command to show the default balance on all kinds of tables size.

Examples

This is an example of output from the show stm prefer current command:

```
NPB# show stm prefer current
number of tap group                    : 1/512
number of tap ingress truncation       : 0/4
number of link aggregation(static)     : 0/31
number of Flow features:
    Flow entry ingress entries         : 0/1024
    Flow entry egress entries          : 0/255
    System Flow configure              : 2/4096
    System Flow entry configure        : 0/8192
    System L4 Port Range entries       : 0/7
```

Related Commands

Stm prefer

25.3 Show transceiver

Command Purpose

Use this command to show the transceiver information.

Command Syntax

Show transceiver (*IF_NAME_E*|) (detail |)

Parameter	Parameter Description	Parameter Value
IF_NAME_E	Ethernet interface name	-
Detail	Show detailed information	-

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the interface transceiver information, or the transceiver detail information.

Examples

This example shows how to display transceiver information:

```
NPB# show transceiver detail
Port eth-0-17 transceiver info:
Transceiver Type: 1000BASE-T_SFP
  Transceiver Vendor Name : INNOLIGHT
  Transceiver PN                  : TC-SORJZ-N00
  Transceiver S/N                 : IN0912SZ01025C
Transceiver Output Wavelength: N/A
Supported Link Type and Length:
        Link Length for copper: 100 m
Digital diagnostic is not implemented.
Port eth-0-21 transceiver info:
Transceiver Type: 1000BASE-SX
  Transceiver Vendor Name : FINISAR CORP.
  Transceiver PN                  : FTLF8519P3BTL
  Transceiver S/N                 : PPB2DL1
Transceiver Output Wavelength: 850 nm
Supported Link Type and Length:
        Link Length for 50/125um multi-mode fiber: 300 m
        Link Length for 62.5/125um multi-mode fiber: 150 m
--------------------------------------------------------------------------------
Transceiver is internally calibrated.
Ma: milliamperes, dbm: decibels (milliwatts), NA or N/A: not applicable.
++ : high alarm, +  : high warning, -  : low warning, -- : low alarm.
The threshold values are calibrated.
--------------------------------------------------------------------------------
                                        High Alarm   High Warn    Low Warn     Low Alarm
                      Temperature       Threshold    Threshold   Threshold    Threshold
Port                  (Celsius)         (Celsius)    (Celsius)   (Celsius)    (Celsius)
--------------+-----------------+-----------+-----------+-----------+----------
eth-0-21      32.92               110.00       93.00        -30.00       -40.00
--------------------------------------------------------------------------------
```

```
                                                 High Alarm   High Warn    Low Warn     Low Alarm
                          Voltage                Threshold    Threshold    Threshold    Threshold
Port                      (Volts)                (Volts)      (Volts)      (Volts)      (Volts)
--------------+----------------+----------+----------+----------+----------
eth-0-21      3.29               3.60         3.50         3.10         3.00
-------------------------------------------------------------------------------
                                                 High Alarm   High Warn    Low Warn     Low Alarm
                          Current                Threshold    Threshold    Threshold    Threshold
Port                      (milliamperes)         (ma)         (ma)         (ma)         (ma)
--------------+----------------+----------+----------+----------+----------
eth-0-21      6.53               13.00        12.50        2.00         1.00
-------------------------------------------------------------------------------
                          Optical                High Alarm   High Warn    Low Warn     Low Alarm
                          Transmit Power         Threshold    Threshold    Threshold    Threshold
Port                      (dbm)                  (dbm)        (dbm)        (dbm)        (dbm)
--------------+----------------+----------+----------+----------+----------
eth-0-21      -5.08              0.00         -3.00        -9.50        -13.50
-------------------------------------------------------------------------------
                          Optical                High Alarm   High Warn    Low Warn     Low Alarm
                          Receive Power          Threshold    Threshold    Threshold    Threshold
Port                      (dbm)                  (dbm)        (dbm)        (dbm)        (dbm)
--------------+----------------+----------+----------+----------+----------
eth-0-21      -6.68              0.50         -1.00        -16.99       -21.02
```

Related Commands

None

25.4 Show system summary

Command Purpose

Use this command to show the summary of system information.

Command Syntax

Show system summary

Command Mode

Privileged EXEC

Default

None

Usage

This command to show the summary of system information.

Examples

This example shows how to display the summary of system information:

```
NPB# show system summary
########## Version Table ##########
i-Ware Software, Version 1.10, ESS 6601 01
Vendor Information
secpath FW uptime is 0 weeks, 0 day, 0 hours, 52 minutes
Boot image: flash:/boot/secpathtap2000a-IMW110-E6601.BIN.03
Boot image version: 1.10, ESS 6601 01
Next running image : flash:/boot/secpathtap2000a-IMW110-E6601.BIN.03
SLOT 1
Hardware Type              : NPB
SDRAM size                 : 1024M
Flash size                 : 2048M
Hardware Version           : 2.0
EPLD Version               : 1.2
bootrom Version            : 8.1.3
System serial number : E142GD16107A
########## Management IP Table ##########
Management IP address:    10.10.39.104/23
Gateway:    10.10.39.254
########## Route Mac Table ##########
   Route MAC is: 001e.080b.e6c2
########## Users Table ##########
  Line                Host(s)       Idle            Location              User
---------------+----------+----------+---------------+----------
  130 vty    0         idle          00:51:05     Local
  131 vty    1         idle          00:50:30     10.10.25.25
*132 vty    2         idle          00:00:00     10.10.25.25
########## Memory Summary Table ##########
Total memory            : 940428 KB
Used memory             : 260220 KB
Freed memory            : 680208 KB
Buffer memory           : 0 KB
Cached memory           : 125840 KB
Memory utilization: 27.67%
```

Related Commands

None

25.5 Show reboot-info

Command Purpose

Use this command to show reboot information.

Command Syntax

Show reboot-info

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show reboot information.

Examples

The following example shows how to display reboot information:

```
NPB# show reboot-info
Times          Reboot Type          Reboot Time
----------+---------------+--------------------
1              MANUAL               2017-06-27 06:46:19
2              MANUAL               2017-06-28 02:12:28
3              MANUAL               2017-06-30 08:34:57
4              MANUAL               2017-07-05 09:45:01
5              MANUAL               2017-07-13 08:12:08
6              POWER               2017-07-23 09:47:32
7              POWER               2017-07-30 05:47:48
8              POWER               2017-07-30 08:37:03
9              POWER               2017-08-03 02:14:48
10             MANUAL               2017-08-03 12:07:06
11             MANUAL               2017-08-05 03:41:58
12             MANUAL               2017-08-05 06:30:18
13             BHMDOG               2017-08-05 16:48:30
14             POWER               2017-08-10 03:19:47
15             MANUAL               2017-08-10 03:27:31
16             MANUAL               2017-08-10 03:34:27
17             UNKNOWN              2017-08-11 06:48:21
18             MANUAL               2017/08/15 02:13:55
19             POWER               2017/08/15 02:22:21
20             MANUAL               2017/08/15 02:26:27
21             MANUAL               2017/08/15 02:29:39
22             MANUAL               2017/08/15 02:32:37
23             MANUAL               2017/08/15 02:35:11
24             POWER               2017-08-15 07:51:14
25             MANUAL               2017-08-15 08:19:48
26             UNKNOWN              2017-08-15 08:40:01
27             MANUAL               2017-08-15 08:44:19
28             MANUAL               2017-08-16 03:43:38
29             MANUAL               2017-08-17 07:00:46
30             MANUAL               2017-08-18 07:23:43
31             POWER               2017-09-12 02:34:24
32             UNKNOWN              2017-09-12 05:56:16
33             POWER               2017-09-12 07:17:19
34             POWER               2017-09-12 07:22:47
35             ABNORMAL             2017-09-12 07:31:32
36             MANUAL               2017-09-12 07:44:43
37             MANUAL               2017-09-12 07:50:12
38             MANUAL               2017-09-12 07:57:50
39             MANUAL               2017-09-19 13:07:38
40             POWER               2017-09-20 10:07:18
41             MANUAL               2017-09-20 10:26:10
```

42	ABNORMAL	2017-09-21 06:38:38
43	MANUAL	2017-09-21 06:50:39
44	MANUAL	2017-09-21 07:13:14
45	MANUAL	2017-09-21 07:36:41
46	MANUAL	2017-09-21 07:47:01
47	MANUAL	2017-09-21 13:05:42
48	MANUAL	2017-09-22 06:42:49
49	MANUAL	2017-09-26 11:48:08
50	MANUAL	2017-09-26 13:03:57

Related Commands

Clear reboot-info

25.6 Clear reboot-info

Command Purpose

Use this command to clear reboot information.

Command Syntax

Clear reboot-info

Command Mode

Privileged EXEC

Default

None

Usage

The clear reboot-info command can clear reboot information.

Examples

The following example shows how to clear reboot information:

NPB# clear reboot-info

Related Commands

Show reboot-info

25.7 Set device id-led

Command Purpose

Use this command to set the device indicate led force on or force off.

Command Syntax

Set device id-led (on | off)

Parameter	Parameter Description	Parameter Value
On	Turn on the led	-
Off	Turn off the led	-

Command Mode

Privileged EXEC

Default

None

Usage

The command can set device indicate led force on or force off.

Examples

The following example shows how to set device indicate led force on:

NPB# set device id-led on

Related Commands

Show device id-led

25.8 Show device id-led

Command Purpose

Use this command to show device indicate led information.

Command Syntax

Show device id-led

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show device indicate led information.

Examples

The following example shows the device indicates led information:

NPB# show device id-led
Indicate led is forced on

Related Commands

Set device id-led

25.9 Show schedule reboot

Command Purpose

Use this command to show schedule reboot information.

Command Syntax

Show schedule reboot

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show schedule reboot information.

Examples

The following example shows schedule reboot information:

NPB# show schedule reboot
Current time is : 2017-09-26 22:14:49
Will reboot at : 2017-09-26 23:48:44

Related Commands

Schedule reboot delay

Schedule reboot at

25.10 Stm prefer

Command Purpose

Use the stm prefer Global Configuration command to configure the profile used in NPB Table Management (STM) resource allocation. You can use profile to allocate system memory to best support the features being used in your application. Use profile to approximate the maximum number of unicast MAC addresses, quality of service (qos) access control entries (aces) and unicast routes.

Command Syntax

Stm prefer default

Command Mode

Global Configuration

Default

System use the default profile when first boot up, this profile balance all the features.

Usage

Users must reload the NPB for the configuration to take effect.

Examples

This example shows how to configure the default profile on the NPB:

NPB(config)# stm prefer default
% Changes to STM profile have been stored, but cannot take effect until the next reload. Use 'show stm prefer current' to see what STM profile is currently active.

Related Commands

Show stm prefer current

Show stm prefer next

25.11 Temperature

Command Purpose

Use this command to specify the system temperature monitor threshold.

Use the no form of this command to restore the default value.

Command Syntax

Temperature TEMP_LOW TEMP_HIGH TEMP_CRIT

No temperature

Parameter	Parameter Description	Parameter Value
TEMP_LOW	Low alarm temperature degree Celsius	Range -15 to 50
TEMP_HIGH	High alarm temperature degree Celsius	Range 50 to 85
TEMP_CRIT	Critical temperature degree Celsius	Range 55 to 90

Command Mode

Global Configuration

Default

The default threshold is low temperature 5, high temperature 65, and critical temperature 80.

Usage

The unit for temperature is centigrade. The critical temperature must higher than high temperature 5 Celsius degrees. The high temperature must higher than low temperature 5 Celsius degrees.

Examples

This example shows how to specify the temperature thresholds:

NPB(config)# temperature 5 70 80

This example shows how to specify the temperature thresholds to default value:

NPB(config)# no temperature

Related Commands

Show environment

25.12 Cpu-threshold

Command Purpose

Use this command to specify the system CPU usage threshold.

Use the no form of this command to restore the default value.

Command Syntax

Cpu-threshold CPU_WARN CPU_CRIT

No cpu-threshold

Parameter	Parameter Description	Parameter Value
CPU_WARN	CPU usage warning threshold	Range 60 to 95
CPU_CRIT	CPU usage critical threshold	Range 60 to 95

Command Mode

Global Configuration

Default

The default CPU warning threshold is 70%, critical threshold is 90%.

Usage

When the cpu usage exceeds the critical threshold, the device will generate an alarm log. When the cpu usage recovers below warning threshold, the device will generate a recovery log.

Examples

This example shows how to specify the CPU usage thresholds:

NPB(config)# cpu-threshold 60 85

This example shows how to specify the CPU usage thresholds to default value:

NPB(config)# no cpu-threshold

Related Commands

None

25.13 Memory-threshold

Command Purpose

Use this command to specify the system memory usage threshold.

Use the no form of this command to restore the default value.

Command Syntax

Memory-threshold MEM_WARN MEM_ALERT MEM_CRITICAL

No memory-threshold

Parameter	Parameter Description	Parameter Value
MEM_WARN	Memory usage warning threshold	Range 60 to 95
MEM_ALERT	Memory usage alert threshold	Range 60 to 95
TEMP_CRIT	Memory usage critical threshold	Range 60 to 95

Command Mode

Global Configuration

Default

The default memory usage warning threshold is 70%, alert threshold is 85% and critical threshold is 90%.

Usage

When the memory usage greate than critical threshold, the device will be in a critical state. When the memory usage greater than alert threshold, the device will be in a alert state. When the memory usage recover below warning threshold, the device will be in a normal state. If the device in critical or alert state, most commands will be restricted in use.

Examples

This example shows how to specify the memory usage thresholds:

NPB(config)# memory-threshold 60 80 90

This example shows how to specify the temperature thresholds to default value:

NPB(config)# no temperature

Related Commands

None

25.14 Clock set datetime

Command Purpose

Use this command to set system current date and time on the NPB.

Command Syntax

Clock set datetime ABS_TIME CLOCK_MONTH ABS_DAY ABS_YEAR

Parameter	Parameter Description	Parameter Value
ABS_TIME	Current time	-
CLOCK_MONTH	Month of the year	1-12
ABS_DAY	Day of the month	1-31
ABS_YEAR	Year	2000-2037

Command Mode

Global Configuration

Default

The default time is based from UTC.

Usage

If no other source of time is available, you can manually configure the time and date after the system is restarted. The time remains accurate until the next system restart. We recommend that you use manual configuration only as a last resort. If you have an outside source to which the NPB can synchronize, you do not need to manually set the system clock.

Examples

This example shows how to manually set the system clock:

NPB(config)# clock set datetime 22:43:23 9 26 2017

Related Commands

Show clock

25.15 Clock set timezone

Command Purpose

Use this command to set timezone.

Use the no form of this command to restore the default value.

Command Syntax

Clock set timezone *Z_NAME* (add | minus) *TZ_HOURS* (*TZ_MIN* (*TZ_SEC* |) |)

No clock set timezone

Parameter	Parameter Description	Parameter Value
Z_NAME	Zone name,	Valid characters are among “A-Za-z_”, must be less than 32 characters
Add	Specify the time offset is positive from UTC	-
Minus	Specify the time offset is negative from UTC	-
TZ_HOURS	Hours offset from UTC	0-23
TZ_MIN	Minutes offset from UTC	0-59
TZ_SEC	Seconds offset from UTC	0-59

Command Mode

Global Configuration

Default

None

Usage

Use this command to set timezone.

Examples

This example shows how to set the clock timezone :

NPB(config)# clock set timezone Beijing add 8

This example shows how to recover the clock timezone:

NPB(config)# no clock set timezone

Related Commands

Show clock

25.16 Update bootrom

Command Purpose

Use this command to upgrade bootrom image.

Command Syntax

Update bootrom *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Source file direction	-

Command Mode

Global Configuration

Default

None

Usage

This command can upgrade bootrom image.

Examples

This example shows how to update bootrom image:

NPB(config)# update bootrom flash:/boot/bootrom.bin

Related Commands

Reboot

25.17 Schedule reboot at

Command Purpose

Use this command to set schedule reboot at a time.

Use the no form of this command to cancel the schedule.

Command Syntax

Schedule reboot at *HOUR_MIN* (*YEAR_MON_DAY* |)

No schedule reboot

Parameter	Parameter Description	Parameter Value
HOUR_MIN	Specify the hour and minute	-
YEAR_MON_DAY	Specify the date for current year, year range is [2000, 2037]	-

Command Mode

Global Configuration

Default

None

Usage

The reboot time could select time with format HH:MM, and optional date with format YYYY/MM/DD or MM/DD/YYYY or MM/DD.

Examples

The following example shows how to set schedule reboot at a time:

NPB(config)# schedule reboot at 10:20 2016/10/2

Related Commands

Show schedule reboot

25.18 Schedule reboot delay

Command Purpose

Use this command to set schedule reboot after a time.

Command Syntax

Schedule reboot delay *DELAY_TIME*

No schedule reboot

Parameter	Parameter Description	Parameter Value
DELAY_TIME	Specify the delay time	-

Command Mode

Global Configuration

Default

None

Usage

The reboot delay time could select be format HH:MM, or minutes in range of [1,720].

Examples

The following example shows how to set schedule reboot after a time:

NPB(config)# schedule reboot delay 100

Related Commands

Show schedule reboot

25.19 Telnet

Command Purpose

Use this command to remote access to other devices

Command Syntax

Telnet mgmt-if *NAME_STRING* (*TCP_PORT* |)

Parameter	Parameter Description	Parameter Value
Mgmt-if	Establish a remote connection through the management port	-
NAME_STRING	IP address or hostname of a remote system	-
TCP_PORT	Specify the tcp port number, the default number is 23	1-65535

Command Mode

Privileged EXEC

Default

None

Usage

The command is used to establish a connection to other devices through the management port.The default tcp port is 23.

Examples

The following example shows how to remote access to other devices:

NPB# telnet mgmt-if 10.10.39.101

Related Commands

None

Chapter 26 Hash Load-banlance Commands

26.1 Hash field

Command Purpose

Use this command to set hash field or create a new hash field, and enter hash field configure view;use the no command to delete user-defined hash field.

Command Syntax

Hash field (port-channel | *NAME*)

No hash-field *NAME*

Parameter	Parameter Description	Parameter Value
Port-channel	Port-channel of system default hash field	-
NAME	Hash field name string	The initial character of name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 64

Command Mode

Global Configuration

Default

None

Usage

The system support the max number of hash field is 4, including 1 system default hash fields named port-channel and 3 user-defined hash fields.when applied to the hash value,it can't be deleted.

Examples

The following example shows how to create a new hash field named user:

NPB(config)# hash-field user
NPB(config-hash-field-user)#

Related Commands

Show hash-field

26.2 L2

Command Purpose

Use this command to set l2 packet hash field; use the no command to set the l2 packet field to default.

Command Syntax

L2 (macda | macsa | vlan | eth-type | src-interface)

No l2

Parameter	Parameter Description	Parameter Value
Macda	MAC Destination Address	-
Macsa	MAC Source Address	-
Vlan	Vlan	-
Eth-type	Ethernet Type	-
Src-interface	Source Interface	-

Command Mode

Config-hash-field

Default

L2 macsa macda

Usage

None

Examples

The following example shows how to select macsa for l2 packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# l2 macsa

The following example shows how to select default l2 packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no l2

Related Commands

Show hash-field port-channel

26.3 Ip

Command Purpose

Use this command to set ip packet hash field; use the no command to set the ip packet field to default.

Command Syntax

Ip (ipda | ipsa | ip-protocol | sourceport | destport | src-interface)

No ip

Parameter	Parameter Description	Parameter Value
Ipda	IP Destination Address	-

Ipsa	IP Source Address	-
Ip-protocol	IP Header protocol	-
Sourceport	Layer4 Source Port	-
Destport	Layer4 Destination Port	-
Src-interface	Source Interface	-

Command Mode

Config-hash-field

Default

Ip ipsa ipda sourceport destport ip-protocol

Usage

None

Examples

The following example shows how to select ipsa for ip packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# ip ipsa

The following example shows how to select default ip packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no ip

Related Commands

Show hash-field port-channel

26.4 Ipv6

Command Purpose

Use this command to set ipv6 packet hash field; use the no command to set the ipv6 field to default.

Command Syntax

Ipv6 (ipda | ipsa | ip-protocol | sourceport | destport | src-interface)

No ipv6

Parameter	Parameter Description	Parameter Value
Ipda	IP Destination Address	-
Ipsa	IP Source Address	-
Ip-protocol	IP Header protocol	-
Sourceport	Layer4 Source Port	-
Destport	Layer4 Destination Port	-
Src-interface	Source Interface	-

Command Mode

Config-hash-field

Default

Ipv6 ipsa ipda sourceport destport ip-protocol

Usage

Only when the system is in ipv6 mode, the ipv6 packet hash field can work normally.

Examples

The following example shows how to select ipsa for ipv6 packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# ipv6 ipsa

The following example shows how to select default ipv6 packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no ipv6

Related Commands

Show hash-field port-channel

26.5 Vxlan

Command Purpose

Use this command to set vxlan packet hash field.

To return the configuration to default value use the no form of this command.

Command Syntax

Vxlan { vni | src-interface }

Vxlan ({ vni | src-interface } |) outer { ipsa | ipda | sourceport | destport | vlan }

Vxlan ({ vni | src-interface } |) inner-layer2 { macsa | macda | eth-type }

Vxlan ({ vni | src-interface } |) inner-layer3 { ipsa | ipda | sourceport | destport | ip-protocol }

No vxlan

Parameter	Parameter Description	Parameter Value
Vni	VXLAN VNI	-
Src-interface	Source Interface	-
Outer ipsa	Outer header's IP Source Address	-
Outer ipda	Outer header's IP Destination Address	-
Outer sourceport	Outer header's Layer4 Source Port	-

Outer destport	Outer header's Layer4 Destination Port	-
Outer vlan	Outer header's Vlan ID	-
Inner macsa	Inner header's MAC Source Address	-
Inner macda	Inner header's MAC Destination Address	-
Inner eth-type	Inner header's Ethernet Type	-
Inner ipsa	Inner header's IP Source Address	-
Inner ipda	Inner header's IP Destination Address	-
Inner sourceport	Inner header's Layer4 Source Port	-
Inner destport	Inner header's Layer4 Destination Port	-
Inner ip-protocol	Inner header's IP Header protocol	-

Command Mode

Config-hash-field

Default

Vxlan vni outer ipsa ipda sourceport

Usage

Outer configuration and inner configuration cannot take effect at the same time.

Examples

The following example shows how to select outer ipsa and vni for vxlan packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# vxlan vni outer ipda

The following example shows how to select default vxlan packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no vxlan

Related Commands

Show hash-field port-channel

26.6 Nvgre

Command Purpose

Use this command to set nvgre packet hash field.

To return the configuration to default value use the no form of this command.

Command Syntax

Nvgre { vsid | src-interface }

Nvgre ({ vsid | src-interface } |) outer { ipsa | ipda | gre-protocol }

Nvgre ({ vsid | src-interface } |) inner-layer2 { macsa | macda | eth-type }

Nvgre ({ vsid | src-interface } |) inner-layer3 { ipsa | ipda | sourceport | destport | ip-protocol }

No nvgre

Parameter	Parameter Description	Parameter Value
Vsid	NVGRE VSID	-
Src-interface	Source Interface	-
Outer ipsa	Outer header's IP Source Address	-
Outer ipda	Outer header's IP Destination Address	-
Outer gre-protocol	Outer header's GRE Protocol	-
Inner macsa	Inner header's MAC Source Address	-
Inner macda	Inner header's MAC Destination Address	-
Inner eth-type	Inner header's Ethernet Type	-
Inner ipsa	Inner header's IP Source Address	-
Inner ipda	Inner header's IP Destination Address	-
Inner sourceport	Inner header's Layer4 Source Port	-
Inner destport	Inner header's Layer4 Destination Port	-
Inner ip-protocol	Inner header's IP Header protocol	-

Command Mode

Config-hash-field

Default

Nvgre vsid outer ipsa ipda

Usage

Outer configuration and inner configuration cannot take effect at the same time.

Examples

The following example shows how to select outer ipsa and vsid for nvgre packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# nvgre vsid outer ipda

The following example shows how to select default nvgre packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no nvgre

Related Commands

Show hash-field port-channel

26.7 Mpls

Command Purpose

Use this command to set mpls packet hash field.

To return the configuration to default value use the no form of this command.

Command Syntax

Mpls { top-label | 2nd-label | 3rd-label | src-interface }

No mpls

Parameter	Parameter Description	Parameter Value
Top-label	Mpls Top Lable	-
2nd-label	Mpls Second Lable	-
3rd-label	Mpls Third Lable	-
Src-interface	Source Interface	-

Command Mode

Config-hash-field

Default

Mpls top-label 2nd-label

Usage

None

Examples

The following example shows how to select top-label for mpls packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# mpls top-label

The following example shows how to select default mpls packet load balance in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no mpls

Related Commands

Show hash-field port-channel

26.8 Udf

Command Purpose

Use this command to set udf hash field; use the no command to delete the udf hash field.

Command Syntax

Udf UDF_ID

No udf *UDF_ID*

Parameter	Parameter Description	Parameter Value
UDF_ID	UDF ID	0-15

Command Mode

Config-hash-field

Default

Use the value which is truncated by udf to calculate hash value

Usage

Only used for openflow select group

Examples

The following example shows how to configure udf hash field:

NPB(config)# hash-field aaa
NPB(config-hash-field-aaa)# udf 0

The following example shows how to delete udf hash field:

NPB(config)# hash-field aaa
NPB(config-hash-field-aaa)# no udf 0

Related Commands

Show hash-field

26.9 Disable control

Command Purpose

Use this command to force ip packet ,ipv6 packet or mpls packet to follow l2 hash configuration.

To return the configuration to default value use the no form of this command.

Command Syntax

Ip disable

No ip disable

Ipv6 disable

No ipv6 disable

Mpls disable

No mpls disable

Command Mode

Config-hash-field

Default

No ip disable

No ipv6 disable

No mpls disable

Usage

None

Examples

The following example shows how to not select ipv6 packet field to hash in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# ipv6 disable

The following example shows how to select ipv6 packet field to hash in port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no ipv6 disable

Related Commands

Show hash-field port-channel

26.10 Ipv6 address compress mode

Command Purpose

Use this command to set compress arithmetic for ipv6 address.

To return the configuration to default value use the no form of this command.

Command Syntax

Ipv6 address compres mode (lsb | xor)

No ipv6 address compress mode

Parameter	Parameter Description	Parameter Value
Lsb	Least Significant bit arithmetic	-
Xor	Exclusive or arithmetic	-

Command Mode

Config-hash-field

Default

Lsb

Usage

None

Examples

The following example shows how to set ipv6 address compress arithmetic in port-channel:

NPB(config-hash-field-port-channel)# ipv6 address compress mode lsb

The following example shows how set default compress arithmetic of ipv6 address in port-channel:

NPB(config-hash-field-port-channel)# no ipv6 address compress mode

Related Commands

Show hash-field

26.11 Hash arithmetic

Command Purpose

Use this command to set hash arithmetic.

To return the configuration to default value use the no form of this command.

Command Syntax

Hash-arithmetic (crc | xor)

No hash-arithmetic

Parameter	Parameter Description	Parameter Value
Crc	Cyclical redundancy check arithmetic	-
Xor	Exclusive or arithmetic	-

Command Mode

Config-hash-field

Default

Xor

Usage

None

Examples

The following example shows how to set hash arithmetic in port-channel:

```
NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# hash-arithmetic crc
```

The following example shows how set default hash arithmetic in port-channel:

```
NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no hash-arithmetic
```

Related Commands

Show hash-field

26.12 Hash symmetry

Command Purpose

Use this command to enable hash symmetry function.

To return the configuration to default value use the no form of this command.

Command Syntax

Mode symmetry

No mode symmetry

Command Mode

Config-hash-field

Default

No mode symmetry

Usage

None

Examples

The following example shows how to set hash symmetry in port-channel:

```
NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# mode symmetry
```

The following example shows how to set hash symmetry to default in port-channel:

```
NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no mode symmetry
```

Related Commands

Show hash-field port-channel

26.13 Description

Command Purpose

Use this command to configure the description for hash field; use the no command to delete the description.

Command Syntax

Descrition *NAME*

No description

Parameter	Parameter Description	Parameter Value
NAME	Hash field descrition	The initial character of name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 64

Command Mode

Config-hash-field

Default

None

Usage

None

Examples

The following example shows how to set descrition for port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# description linkagg

The following example shows how to delete descrition for port-channel:

NPB(config)# hash-field port-channel
NPB(config-hash-field-port-channel)# no description

Related Commands

Show hash-field port-channel

26.14 Show hash-field

Command Purpose

Use this command to display the configurations and statistics on all hash fields or a hash field.

Command Syntax

Show hash-field (port-channel | *NAME* |)

Parameter	Parameter Description	Parameter Value
Port-channel	Port-channel of system default hash field	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the configurations and statistics on the port-channel:

```
NPB# show hash-field port-channel
hash-field name: port-channel
 Option                                    Control type
-------------------------------------------------------------------------
 hash-arithmetic                          xor
 hash symmetry                             disable
 ip                                        enable
 ipv6                                      enable
 mpls                                      enable
-------------------------------------------------------------------------
 hash field select
 Packet                    hashfield
-------------------------------------------------------------------------
 l2:                       macsa                    macda

 ip:                       ipsa                     ipda
                           l4-sourceport            l4-destport
                           ip-protocol

 ipv6:                     ipsa                     ipda
                           l4-sourceport            l4-destport
                           ip-protocol

 gre:                      ipsa                     ipda
                           gre-key

 vxlan:                    vni                      outer-l4-sourceport
                           outer-ipda               outer-ipsa

 nvgre:                    vsid                     outer-ipda
                           outer-ipsa

 mpls:                     top-label                2nd-label
```

Related Commands

None

26.15 Hash value

Command Purpose

Use this command to create a hash value and enter hash value configure view; use the no command to delete the hash value.

Command Syntax

Hash-value *NAME*

No hash-value *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Hash value name string	The initial character of name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 64

Command Mode

Global Configuration

Default

None

Usage

The system support the max number of hash value is 63.when applied to the interface,it can't be deleted.

Examples

The following example shows how to creat hash value aaa:

NPB(config)# hash-value aaa
NPB(config-hash-value-aaa)#

The following example shows how to delete hash value aaa:

NPB(config)# no hash-value aaa
NPB(config)#

Related Commands

Show hash-value

26.16 Port-channel select

Command Purpose

Use this command to select hash field for all mode linkagg; use the no command to delete the configuration.

Command Syntax

Port-channel select *NAME*

No port-channel select

Parameter	Parameter Description	Parameter Value
NAME	Hash field name string	-

Command Mode

Config-hash-value

Default

None

Usage

The hash value can apply on the agg ipput or the port input.

Examples

The following example shows how to select hash field for in hash value user:

NPB(config)# hash-value aaa
NPB(config-hash-value-aaa)# port-channel select user

The following example shows how to delete hash field and hash arithmetic for linkagg in hash value aaa:

NPB(config)# hash-value aaa
NPB(config-hash-value-aaa)# no port-channel select

Related Commands

Show hash-value

26.17 Description

Command Purpose

Use this command to configure the description for hash value; use the no command to delete the description.

Command Syntax

Descrition *NAME*

No description

Parameter	Parameter Description	Parameter Value
NAME	Hash value descrition	The initial character of name should be a-z, A-Z, or 0-9, character only can be 0-9A-Za-z.-_ and the max length is 64

Command Mode

Config-hash-value

Default

None

Usage

None

Examples

The following example shows how set descrition for hash value aaa:

NPB(config)# hash-value aaa
NPB(config-hash-value-aaa)# description valueaaa

The following example shows how delete descrition for hash value aaa:

NPB(config)# hash-value aaa
NPB(config-hash-value-aaa)# no description

Related Commands

Show hash-value

26.18 Show hash-value

Command Purpose

Use this command to display the configurations of a hash value or all hash value.

Command Syntax

Show hash-value (*NAME* |)

Parameter	Parameter Description	Parameter Value
NAME	Hash value name string	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the configurations of hash value:

```
NPB# show hash-value
LBT:load balance type                LBM:load balance mode
PT :packet type                      HF :hash field name
HA :hash arithmetic
hash-value name: aaa
 LBT                LBM                PT                 HF                 HA
--------------------------------------------------------------------------------
 port-channel       -                  all                NOCFG              NOCFG
```

Related Commands

None

26.19 Hash-value global

Command Purpose

Use this command to enter hash value global configure view.

Command Syntax

Hash-value global

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to enter hash value global view:

```
NPB(config)# hash-value global
NPB(config-hash-value-global)#
```

Related Commands

Show hash-value global

26.20 Port-channel select

Command Purpose

Use this command to select hash field for linkagg; use the no command to set the default configuration.

Command Syntax

Port-channel select *NAME*

No port-channel select

Parameter	Parameter Description	Parameter Value
NAME	Hash field name string	-

Command Mode

Config-hash-value-global

Default

Port-channel

Usage

Compared with hash value configuration, this command has lower priority

Examples

The following example shows how to select hash field for linkagg in hash value global :

NPB(config)# hash-value global
NPB(config-hash-value-global)# port-channel select user

The following example shows how to set default hash field for linkagg in hash value global :

NPB(config)# hash-value global
NPB(config-hash-value-global)# no port-channel select

Related Commands

Show hash-value global

26.21 Show hash-value global

Command Purpose

Use this command to display the configurations of hash value global.

Command Syntax

Show hash-value global

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the configurations of hash value global:

```
NPB# show hash-value global
LBT:load balance type                LBM :load balance mode
PT :packet type                      HF    :hash field name
HA :hash arithmetic
hash-value global
 LBT                 LBM                 PT                  HF                  HA
--------------------------------------------------------------------------------
 port-channel    -                   all                 port-channel    xor
```

Related Commands

None

26.22 Hash value applied to interface

Command Purpose

Use this command to apply a hash value to interface; use the no command to remove the hash-value from interface.

Command Syntax

Load-balance hash-value *NAME* input

No load-balance hash-value input

Parameter	Parameter Description	Parameter Value
NAME	Hash value name	-

Command Mode

Interface Configuration

Default

None

Usage

Physical port and linkagg port can select input direction .linkagg port of output direction only support hash-value global.Agg member port can't configure the command.

Examples

The following example shows how to apply a hash value to eth-0-1:

```
NPB(config)# interface eth-0-1
NPB(config-if)# load-balance hash-value aaa input
```

The following example shows how to remove a hash value from eth-0-1:

```
NPB(config)# interface eth-0-1
NPB(config-if)# no load-balance hash-value input
```

Related Commands

Show hash-value interface-applied

26.23 Show hash-value interface-applied

Command Purpose

Use this command to display the relationship between hash value and interface.

Command Syntax

Show hash-value interface-applied

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the relationship between hash value paorfile and interface:

```
NPB# show hash-value interface-applied
eth-0-1
  hash-value aaa input
```

Related Commands

None

Chapter 27 IPFIX Commands

27.1 Ipfix enable

Command Purpose

Use this command to enable ipfix globally.

Command Syntax

Ipfix enable

Command Mode

Global Configuration

Default

None

Usage

None

Examples

This example shows how to enable ipfix globally:

NPB# configure terminal
NPB(config)# ipfix enable

Related Commands

None

27.2 Ipfix recorder

Command Purpose

Use this command to create a ipfix recorder and enter recorder configure mode. To remove the ipfix recorder, use the no form of this command.

Command Syntax

Ipfix recorder *NAME*

No ipfix recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix recorder name	Up to 32 characters

Command Mode

Global Configuration

Default

None

Usage

If ipfix recorder has existed，it will enter IPFIX recorder Configuration；if ipfix recorder is new，it will create a recorder and enter IPFIX recorder Configuration；this command should work with the commands of match and collect.

Examples

This example shows how to create ipfix recorder recorder1in global configuration and enter IPFIX recorder Configuration:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)#

:

NPB# configure terminal
NPB(config)# no ipfix recorder recorder1

Related Commands

Decription

Match ipv4

Match ipv6

Match transport

Collect ttl

Collect flow

Collect counter

27.3 Description

Command Purpose

This command used to describe ipfix recorder，use the no form of this command to delete this description.

Command Syntax

Description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	Ipfix monitor description	The length of ipfix monitor description should not exceed 64 characters

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to describe recorder in IPFIX recorder Configuration:

```
NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# descrption this is a ipfix recorder
```

This example shows how to delete the description of the recorder:

```
NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# no description
```

Related Commands

None

27.4 Match ipv4

Command Purpose

This command configures the fields of ipv4 in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match ipv4 (source | destination) address (mask *IP_MASK_LEN* |)

Match ipv4 （dscp | ecn | ttl）

No match ipv4 （source | destination） address

No match ipv4 （dscp | ecn | ttl）

Parameter	Parameter Description	Parameter Value
Source	Ipv4 source ipaddress	-
Destination	Ipv4 destination ipaddress	-
Dscp	Ipv4 dscp value	-
Ecn	Ipv4 ecn value	-
Ttl	Ipv4 ttl value	-
IP_MASK_LEN	Mask length for ipv4 address	1-32

Command Mode

IPFIX recorder Configuration

Default

Default value is 32

Usage

None

Examples

This example shows how to configure to use ipv4 source address and ipv4 destination address in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match ipv4 source address
NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match ipv4 destination address

Related Commands

None

27.5 Match ipv6

Command Purpose

This command configures the fields of ipv6 in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match ipv6 (source | destination) address (mask *IPV6_MASK_LEN* |)

No match ipv6（source | destination）address

Match ipv6（flowlabel | dscp）

No match ipv6（flowlabel | dscp）

Parameter	Parameter Description	Parameter Value
Source	Ipv6 source ipaddress	-
Destination	Ipv4 destination ipaddress	-
Dscp	Ipv6 dscp value	-
Flowlabel	Ipv6 flowlabel value	-
IPV6_MASK_LEN	Mask length for ipv6 address	Range is 1-128 and must be the multiple of 4

Command Mode

IPFIX recorder Configuration

Default

Default value is 128

Usage

None

Examples

This example shows how to configure to use ipv6 source address and ipv6 destination address in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match ipv6 source address
NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match ipv6 destination address

Related Commands

None

27.6 Match mac

Command Purpose

This command configures the fields of mac in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match mac （destination | source） address

No match mac （destination | source） address

Parameter	Parameter Description	Parameter Value
Source	Source mac address	-
Destination	Destination mac address	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use source mac address in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match mac source address

Related Commands

None

27.7 Match transport

Command Purpose

This command configures the fields of transport in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match transport （destination-port | source-port | type）

No match transport （destination-port | source-port | type）

Match transport icmp （opcode | type）

No match transport icmp （opcode | type）

Parameter	Parameter Description	Parameter Value
Destination-port	Destination port	-
Source-port	Source port	-
Type	Transport layer type	-
Opcode	Icmp operated code	-
Type	ICMP type	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use source port and destination port of transport in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match transport source-port
NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match transport destination-port

Related Commands

None

27.8 Match vlan

Command Purpose

This command configures the fields of vlan in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match vlan（inner| ）

No match vlan（inner| ）

Parameter	Parameter Description	Parameter Value
Inner	Inner VLAN	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use inner vlan in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match vlan inner

Related Commands

None

27.9 Match cos

Command Purpose

This command configures the fields of cos in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match cos（inner| ）

No match cos（inner | ）

Parameter	Parameter Description	Parameter Value
Inner	Inner COS	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use inner cos in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match cos inner

Related Commands

None

27.10 Match interface (input | output)

Command Purpose

This command configures the fields of interface in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match interface (input | output)

No match interface (input | output)

Parameter	Parameter Description	Parameter Value
Input	Input direction	-
Output	Output direction	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure input direction in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match interface input

Related Commands

None

27.11 Match interface input

Command Purpose

This command configures the fields of interface in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match interface input

No match interface input

Parameter	Parameter Description	Parameter Value
Input	Input direction	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure input direction in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match interface input

Related Commands

None

27.12 Match vxlan-vni

Command Purpose

This command configures the fields of vxlan-vni in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match vxlan-vni

No match vxlan-vni

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use vxlan-vni in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match vxlan-vni

Related Commands

None

27.13 Match nvgre-key

Command Purpose

This command configures the fields of nvgre-key in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match nvgre-key

No match nvgre-key

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use nvgre-key in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match nvgre-key

Related Commands

None

27.14 Match transport tcp flags

Command Purpose

This command configures the tcp flags fields of packet in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match transport tcp flags ({ ack | cwr | ece | fin | psh | rst | syn | urg } |)

No match transport tcp flags ({ ack | cwr | ece | fin | psh | rst | syn | urg } |)

Parameter	Parameter Description	Parameter Value
Ack	TCP acknowledgement	-
Cwr	TCP congestion window reduced	-
Ece	TCP Explicit Notification Congestion echo	-
Fin	TCP finish	-
Psh	TCP push	-
Rst	TCP reset	-
Syn	TCP synchronize	-
Urg	TCP urgent	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use tcp flags:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match transport tcp flags ack

Related Commands

None

27.15 Match packet (drop | non-drop)

Command Purpose

This command configures the fields of packet in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Match packet (drop | non-drop)

No match packet (drop | non-drop)

Parameter	Parameter Description	Parameter Value
Drop	Drop packet	-
Non-drop	Non-drop packet	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to use drop packet:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# match packet drop

Related Commands

None

27.16 Collect counter

Command Purpose

This command configures byte number and packet number that needed to be collected in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Collect counter (delta |) （bytes | packets）

No collect counter (delta |) （bytes | packets）

Parameter	Parameter Description	Parameter Value
Delta	Delta counter	-
Bytes	Collect flow with byte number	-
Packets	Collect flow with packet number	-

Command Mode

IPFIX recorder Configuration

Default

Without collecting any information

Usage

None

Examples

This example shows how to configure to collect the number of flow's byte in

Ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# collect counter bytes

Related Commands

None

27.17 Collect flow

Command Purpose

This command configures to collect ipfix flow information in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Collect flow (drop | destination | fragmentation)

No collect flow (drop | destination | fragmentation)

Parameter	Parameter Description	Parameter Value
Drop	Only collect the droped flows	-
Destination	Collect destination address of flows	-
Fragmentation	Only collect the fragmented flows	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to collect the destination address of

Flows in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# collect flow destination

Related Commands

None

27.18 Collect ttl

Command Purpose

This command configures to collect ipfix flow information about ttl in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Collect ttl (maximum | minimum | changed |)

No collect ttl (maximum | minimum | changed |)

Parameter	Parameter Description	Parameter Value
Maximum	Collect flow max ttl value	-
Minimum	Collect flow min ttl value	-
Changed	Collect flow ttl changed history	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to collect the maximum ttl and minimum ttl of the flows in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# collect ttl maximum
NPB(Config-ipfix-reocrder)# collect ttl minimum

Related Commands

None

27.19 Collect timestamp

Command Purpose

This command configures to collect ipfix flow information about timestamp in ipfix recorder, use the no form of this command to delete this configure.

Command Syntax

Collect timestamp (first | last)

No collect timestamp (first | last)

Parameter	Parameter Description	Parameter Value
First	Collect flow start timestamp	-
Last	Collect flow end timestamp	-

Command Mode

IPFIX recorder Configuration

Default

None

Usage

None

Examples

This example shows how to configure to collect the timestamp of the flows in ipfix recorder:

NPB# configure terminal
NPB(config)# ipfix recorder recorder1
NPB(Config-ipfix-reocrder)# collect timestamp first

Related Commands

None

27.20 Ipfix exporter

Command Purpose

Use this command to create a ipfix exporter and enter exporter configure mode.

To remove the ipfix exporter, use the no form of this command.

Command Syntax

Ipfix exporter *NAME*

No ipfix exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix exporter name	Up to 32 characters

Command Mode

Global Configuration

Default

None

Usage

If ipfix exporter has existed，it will enter IPFIX exporter Configuration；if ipfix exporter is new，it will create exporter and enter IPFIX exporter Configuration；this command should work with the other commands .

Examples

This example shows how to create ipfix exporter exporter1in global configuration and enter IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)#

This example shows how to delete ipfix exporter exporter1:

NPB# configure terminal
NPB(config)# no ipfix exporter exporter1

Related Commands

Template data timeout

Flow data timeout

Event flow start

Event flow end (tcp-end|timeout)

Transport protocol udp

27.21 Description

Command Purpose

This command used to describe ipfix exporter， use the no form of this command to delete this description.

Command Syntax

Description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	Ipfix exporter description	Up to 64 characters

Command Mode

IPFIX exporter Configuration

Default

None

Usage

None

Examples

:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# descrption this is a ipfix exporter

:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# no description

Related Commands

None

27.22 Destination

Command Purpose

This command used to configure collecter host name that need to receive flow records in ipfix exporter， use the no form of this command to delete this description.

Command Syntax

Destination mgmt-if ipv4 *IPV4_ADDR*

No destination

Parameter	Parameter Description	Parameter Value
IPV4_ADDR	IP address of collector	-

Command Mode

IPFIX exporter Configuration

Default

None

Usage

None

Examples

This example shows how to create a host named host1 in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# destination mgmt-if ipv4 9.0.0.2

Related Commands

None

27.23 Dscp

Command Purpose

This command used to configure the dscp value of the message that need to be sended in ipfix exporter， use the no form of this command to delete this description.

Command Syntax

Dscp *DSCP*

Parameter	Parameter Description	Parameter Value
DSCP	Dscp value	0-63

Command Mode

IPFIX exporter Configuration

Default

63

Usage

None

Examples

This example shows how to configure dscp to be 20 in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# dscp 20

Related Commands

None

27.24 Domain-id

Command Purpose

This command used to configure the ipfix domain value of the message that needs to be sent in ipfix exporter, use the no form of this command to delete this description.

Command Syntax

Domain-id *ID*

Parameter	Parameter Description	Parameter Value
ID	Domain id	1-65535

Command Mode

IPFIX exporter Configuration

Default

None

Usage

None

Examples

This example shows how to configure domain-id to be 1000 in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# domain-id 1000

Related Commands

None

27.25 Template data timeout

Command Purpose

This command used to configure time interval of sending template data in ipfix exporter，use the no form of this command to delete this description.

Command Syntax

Template data timeout *TIMEOUT*

No template data timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	Template data timeout	1-86400

Command Mode

IPFIX exporter Configuration

Default

600

Usage

None

Examples

This example shows how to configure time interval of sending template data to be 200 seconds in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# template data timeout 200

Related Commands

None

27.26 Flow data timeout

Command Purpose

This command used to configure time interval of sending flow data in ipfix exporter， use the no form of this command to delete this description.

Command Syntax

Flow data timeout *TIMEOUT*

No flow data timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	Flow data timeout	1-86400

Command Mode

IPFIX exporter Configuration

Default

600

Usage

None

Examples

This example shows how to configure time interval of sending flow data to be 200 seconds in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# flow data timeout 200

Related Commands

None

27.27 Transport protocol

Command Purpose

This command used to configure to use which transport when send message in ipfix exporter， use the no form of this command to delete this description.

Command Syntax

Transport protocol udp port *UDP_PORT*

No transport protocol

Parameter	Parameter Description	Parameter Value
UDP_PORT	Transport protocol number	Range is 2000 to 65535， Default is 2055

Command Mode

IPFIX exporter Configuration

Default

2055

Usage

None

Examples

This example shows how to configure transport protocol of flow data sended to be udp and its port is 3500 in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# transport protocol udp 3500

Related Commands

None

27.28 Ttl

Command Purpose

This command used to configure the ttl of the sent message in ipfix exporter, use the no form of this command to delete this description.

Command Syntax

Ttl *TTL*

No ttl

Parameter	Parameter Description	Parameter Value
TTL	TTL value	1-255

Command Mode

IPFIX exporter Configuration

Default

255

Usage

None

Examples

This example shows how to configure ttl value of flow data to be 255 in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# ttl 255

Related Commands

None

27.29 Event flow

Command Purpose

This command used to configure which event should triggle to send flow information at once in ipfix exporter, use the no form of this command to delete this description.

Command Syntax

Event flow start

No event flow start

Event flow end (tcp-end | timeout)

No event flow end (tcp-end | timeout)

Command Mode

IPFIX exporter Configuration

Default

None

Usage

None

Examples

This example shows how to configure the event about ending tcp transmission of flow data will triggle to send flow information in IPFIX exporter Configuration:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# event flow tcp-end

Related Commands

None

27.30 Flow data flush threshold length

Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

Command Syntax

Flow data flush threshold length *LENGTH*

Parameter	Parameter Description	Parameter Value
LENGTH	Length threshold value	1000-60000

Command Mode

IPFIX exporter Configuration

Default

1416

Usage

None

Examples

This example shows how to configure the length threshold value about flow data in IPFIX exporter Configuration.When the threshod is reached,flow data information will be sent at once:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# flow data flush threshold length 2000

Related Commands

None

27.31 Flow data flush threshold timer

Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

Command Syntax

Flow data flush threshold timer *TIMER*

Parameter	Parameter Description	Parameter Value
TIMER	Timer threshold value	100-60000

Command Mode

IPFIX exporter Configuration

Default

500

Usage

None

Examples

This example shows how to configure the timer threshold value in IPFIX exporter Configuration. When the threshod is reached, flow data information will be sent at once:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# flow data flush threshold timer 1000

Related Commands

None

27.32 Flow data flush threshold count

Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

Command Syntax

Flow data flush threshold count *COUNT*

Parameter	Parameter Description	Parameter Value
COUNT	Count threshold value	1-100

Command Mode

IPFIX exporter Configuration

Default

10

Usage

None

Examples

This example shows how to configure the count threshold value about flow data in IPFIX exporter Configuration.When the threshod is reached,flow data information will be sent at once:

NPB# configure terminal
NPB(config)# ipfix exporter exporter1
NPB(Config-ipfix-exporter)# flow data flush threshold count 20

Related Commands

None

27.33 Ipfix sampler

Command Purpose

Use this command to create a ipfix sampler and enter sampler configure mode. To remove the ipfix sampler, use the no form of this command.

Command Syntax

Ipfix sampler *NAME*

No ipfix sampler *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix sampler name	Up to 32 characters

Command Mode

Global Configuration

Default

None

Usage

If ipfix sampler has existed , it will enter IPFIX sampler Configuration ; if ipfix sampler is new , it will create sampler and enter IPFIX sampler Configuration ; this command should work with the command of match and collect.

Examples

This example shows how to create ipfix sampler sampler1 in global configuration and enter IPFIX sampler Configuration:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)#

This example shows how to delete ipfix sampler sampler1:

NPB# configure terminal
NPB(config)# no ipfix sampler sampler1

Related Commands

1 out-of

27.34 Description

Command Purpose

This command is used to describe the ipfix sampler, using the keyword no to delete the specified description.

Command Syntax

Description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	Ipfix sampler description	Up to 64 characters

Command Mode

IPFIX sampler Configuration

Default

None

Usage

None

Examples

Describe the sampler in IPIX sampler configuration mode.:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)# descrption this is a ipfix sampler

Delete the descript of the sampler.:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)# no description

Related Commands

None

27.35 1 out-of

Command Purpose

This command used to configure the rate of ipfix sampler， use the no form of this command to delete this configure.

Command Syntax

1 out of CLI_IPFIX_SAMPLER_RATE_RNG

Parameter	Parameter Description	Parameter Value
CLI_IPFIX_SAMPLER_RATE_RNG	How many packets will sample one packet	2-8191

Command Mode

IPFIX sampler Configuration

Default

Usage

None

Examples

This example shows how to configure the rate of sampling is 1/100 in IPFIX sampler Configuration:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)# 1 out of 100

Related Commands

None

27.36 Mode

Command Purpose

This command used to configure the mode of ipfix sampler.

Command Syntax

Mode (random | determinate)

Parameter	Parameter Description	Parameter Value
Random	Random sample mode	-
Determinate	Determinate sample mode	-

Command Mode

IPFIX sampler Configuration

Default

Determinate

Usage

None

Examples

This example shows how to configure the determinate sampl mode in IPFIX sampler Configuration:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)# mode determinate

Related Commands

None

27.37 Mode flow

Command Purpose

This command used to configure the mode flow of ipfix sampler.

Command Syntax

Mode flow (new | all)

Parameter	Parameter Description	Parameter Value
New	Only sample new flow	-
All	Sample all flow	-

Command Mode

IPFIX sampler Configuration

Default

All

Usage

None

Examples

This example shows how to configure the ipfix sampler to sample all flow in IPFIX sampler Configuration:

NPB# configure terminal
NPB(config)# ipfix sampler sampler 1
NPB(Config-ipfix-sampler)# mode flow all

Related Commands

None

27.38 Ipfix monitor

Command Purpose

Use this command to create a ipfix monitor and enter monitor configure mode. To remove the ipfix monitor, use the no form of this command.

Command Syntax

Ipfix monitor *NAME*

No ipfix monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix monitor name	Up to 32 characters

Command Mode

Global Configuration

Default

None

Usage

If the ipfix monitor is already exists, use this command to enter the IPFIX monitor mode; If the ipfix monitor does not exist, use this command to create a new monitor and enter the mode. The IPFIX monitor should co-work with other commands, please reference to other chapters.

Examples

This example shows how to create ipfix monitor monitor1 in global configuration and enter IPFIX monitor Configuration:

NPB# configure terminal
NPB(config)# ipfix monitor monitor1
NPB(Config-ipfix-monitor)#

This example shows how to delete ipfix monitor monitor1:

NPB# configure terminal
NPB(config)# no ipfix monitor monitor1

Related Commands

Recorder

Exporter

27.39 Description

Command Purpose

This command is used to describe ipfix monitor,using the keyword no to delete the specified description

Command Syntax

Description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	The length of ipfix monitor description should not exceed 64 characters	Up to 64 characters

Command Mode

IPFIX monitor Configuration

Default

None

Usage

None

Examples

Add descriptoin for IPFIX monitor:

NPB# configure terminal
NPB(config)# ipfix monitor monitor1
NPB(Config-ipfix-monitor)# descrption this is a ipfix monitor

Remove description:

NPB# configure terminal
NPB(config)# ipfix monitor monitor1
NPB(Config-ipfix-monitor)# no description

Related Commands

None

27.40 Recorder

Command Purpose

Use this command to create a ipfix recorder of the ipfix monitor. To remove the ipfix monitor, use the no form of this command.

Command Syntax

Recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix recorder name	Up to 32 characters

Command Mode

IPFIX monitor Configuration

Default

None

Usage

None

Examples

This example shows how to create a recorder of the ipfix monitor configure mode:

NPB# configure terminal
NPB(config)# ipfix monitor monitor1
NPB(Config-ipfix-monitor)# recorder recorder1

Related Commands

None

27.41 Exporter

Command Purpose

Use this command to create a ipfix exporter of the ipfix monitor. To remove the ipfix monitor, use the no form of this command.

Command Syntax

Exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix exporter name	Up to 32 characters

Command Mode

IPFIX monitor Configuration

Default

None

Usage

None

Examples

This example shows how to create a exporter of the ipfix monitor configure mode:

NPB# configure terminal
NPB(config)# ipfix monitor monitor1
NPB(Config-ipfix-monitor)# exporter exporter1

Related Commands

None

27.42 Ipfix monitor

Command Purpose

This command used to enable ipfix.

Command Syntax

Ipfix monitor (input | output) *NAME* (sampler *NAME* |)

No ipfix monitor (input | output)

Parameter	Parameter Description	Parameter Value
Input	Do ipfix for the inputed packets	-
Output	Do ipfix for the outputed packets	-
NAME	IPFIX monitor name	Up to 32 characters
Sampler NAME	IPFIX sampler name	Up to 32 characters

Command Mode

Interface Configuration

Default

None

Usage

None

Examples

This example shows how to enable ipfix:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if)# ipfix monitor input monitor sampler test-sample

Related Commands

None

27.43 Ipfix global

Command Purpose

Use this command to enter ipfix global configure mode.

Command Syntax

Ipfix global

Command Mode

Global Configuration

Default

None

Usage

None

Examples

This example shows how to enter ipfix global configure mode:

NPB# configure terminal
NPB(config)# ipfix global

Related Commands

None

27.44 Flow aging

Command Purpose

Use this command to configure ipfix global flow aging interval.

Command Syntax

Flow aging *INTERVAL*

Parameter	Parameter Description	Parameter Value
INTERVAL	The aging time of the flow	Range is 15 to 65535, the default is 1800 seconds

Command Mode

IPFIX Global Configuration

Default

None

Usage

None

Examples

This example shows how to configure the aging time to be 200 seconds in global configure mode:

NPB# configure terminal
NPB(config)# ipfix global
NPB(config-ipfix-global)# flow aging 200

Related Commands

None

27.45 Flow export

Command Purpose

Use this command to configure ipfix global flow export interval.

Command Syntax

Flow export *INTERVAL*

Parameter	Parameter Description	Parameter Value
INTERVAL	The export time of the flow	Range is 0 to 1000, the default is 5 seconds

Command Mode

IPFIX Global Configuration

Default

None

Usage

None

Examples

This example shows how to configure the export time to be 200 seconds in global configure mode:

NPB# configure terminal
NPB(config)# ipfix global
NPB(config-ipfix-global)# flow export 200

Related Commands

None

27.46 Show ipfix global

Command Purpose

Use the show ipfix global privileged EXEC command to display the configure information of ipfix global.

Command Syntax

Show ipfix global

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display configuration about ipfix global in privileged EXEC mode:

NPB# show ipfix global

Related Commands

None

27.47 Show ipfix recorder

Command Purpose

Use the show ipfix recorde privileged EXEC command to display the configure information of one ipfix recorder.

Command Syntax

Show ipfix recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix recorder name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to show ipfix recorder command:

```
NPB# show ipfix recorder recorder1
IPFIX recorder information:
    Name                : recorder1
    Description         :
    Match info          :
        match Source Mac Address
        match ipv4 Source Address
        match ipv4 Destination Address
        match Vxlanvni
    Collect info        :
        collect Flow Byte Number
        collect Flow Packet Number
```

Related Commands

None

27.48 Show ipfix exporter

Command Purpose

Use the show ipfix exporter privileged EXEC command to display the configure information of one ipfix exporter.

Command Syntax

Show ipfix exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix exporter name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display configuration about exporter1 in privileged EXEC mode:

```
NPB# show ipfix exporter exporter1
IPFIX exporter information:
    Name                                : exporter1
    Description                         :
    Domain ID                           : 0
    Collector Name                      : 9.0.0.2
    IPFIX message protocol              : UDP
    IPFIX message destination Port      : 2055
    IPFIX message TTL value             : 255
    IPFIX message DSCP value            : 63
    IPFIX data interval                 : 200
    IPFIX template interval             : 1800
    IPFIX exporter events               :
        Flow aging event
```

Related Commands

None

27.49 Show ipfix cache

Command Purpose

This command used to show the state information of the ipfix on the interface.

Command Syntax

Show ipfix cache observe-point interface *IFNAME* (input | output)

Show ipfix cache monitor *NAME*

Show ipfix cache counter observe-point interface *IFNAME*

Show ipfix cache counter monitor *NAME*

Parameter	Parameter Description	Parameter Value
IFNAME	Interface name	Support physical/aggregation
NAME	Ipfix monitor name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to show the state information of the ipfix on the interface eth-0-1in privileged EXEC mode:

```
NPB# show ipfix cache observe-point interface eth-0-1 input
  Cache dir                    : input
  Cache flow profile       : 0
  Cache key profile        : 0
  Cache key info     :
      Source mac               : 0000.0002.0001
      ipsa                     : 10.10.10.3/32
      ipda                     : 10.10.10.1/32
  Cache collect info:
      Byte number of ingress                  : 64
      Packet number of ingress                : 1
```

Related Commands

None

27.50 Show ipfix monitor

Command Purpose

This command used to describe the configration of the ipfix monitor.

Command Syntax

Show ipfix monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix monitor name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display configuration of monitor 1 in privileged EXEC mode:

```
NPB# show ipfix monitor monitor1
IPFIX monitor information:
    Name                          : monitor1
    Description                   :
    Recorder                      : recorder1
    exporter                      : exporter1
```

Related Commands

None

27.51 Show ipfix sampler

Command Purpose

This command used to describe the configration of the ipfix sampler.

Command Syntax

Show ipfix sampler *NAME*

Parameter	Parameter Description	Parameter Value
NAME	Ipfix sampler name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display configuration of sampler1 in privileged EXEC mode:

```
NPB# show ipfix sampler sampler1
IPFIX sampler information:
    Name                          : sampler1
    Description                   :
    Rate                          : 100
    Sample mode                   : determinate
    Flow mode                     : all
```

Related Commands

None

27.52 Clear ipfix cache monitor

Command Purpose

This command used to clear cache with ipfix monitor name.

Command Syntax

Clear ipfix cache monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	IPFIX monitor name	Up to 32 characters

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to clear ipfix cache with name test in privileged EXEC mode:

```
NPB# clear ipfix cache monitor test
```

Related Commands

None

27.53 Clear ipfix cache observe-point interface

Command Purpose

This command used to clear cache on interface.

Command Syntax

Clear ipfix cache observe-point interface (*IFNAME*) (input | output)

Parameter	Parameter Description	Parameter Value
IFPHYSICAL	Name of interface	Support physical/aggregation
Input	The inputed packets	-
Output	The outputed packets	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to clear ipfix cache on interface eth-0-1 in privileged EXEC mode:

NPB# clear ipfix cache observe-point interface eth-0-1 input

Related Commands

None

Chapter 28 DIAG Commands

28.1 Show interface queue discard

Command Purpose

Use this command to display the situation of interface queue discard.

Command Syntax

Show interface queue discard (*IF_NAME_E* |)

Parameter	Parameter Description	Parameter Value
IF_NAME_E	Interface Name string	Specify the interface name to display. E.g.eth-0-1.

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "IF_NAME_E" is not specified, the command indicates that all interfaces on this device should be displayed; otherwise only the specified interface should be displayed.

Examples

The following example shows how to display the situation of interface queue discard:

```
NPB# show interface queue discard
Interface Queue Drop-Packets Stats:
Interface                Drop-Packets             Drop-Bytes
-------------------+--------------------+--------------------
eth-0-1                  0                        0
eth-0-2                  0                        0
eth-0-3                  0                        0
eth-0-4                  0                        0
eth-0-5                  0                        0
eth-0-6                  0                        0
eth-0-7                  0                        0
eth-0-8                  0                        0
eth-0-9                  0                        0
eth-0-10                 0                        0
eth-0-11                 0                        0
eth-0-12                 0                        0
eth-0-13                 0                        0
eth-0-14                 0                        0
eth-0-15                 0                        0
eth-0-16                 0                        0
```

eth-0-17	0	0
eth-0-18	0	0
eth-0-19	0	0
eth-0-20	0	0
eth-0-21	0	0
eth-0-22	0	0
eth-0-23	0	0
eth-0-24	0	0

Related Commands

None

28.2 Clear interface queue discard

Command Purpose

Use this command to clear the situation of interface queue discard.

Command Syntax

Clear interface queue discard (*IF_NAME_E* |)

Parameter	Parameter Description	Parameter Value
IF_NAME_E	Interface Name string	Specify the interface name to clear. E.g.eth-0-1.

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "IF_NAME_E" is not specified, the command indicates that all interfaces on this device should be cleared; otherwise only the specified interface should be cleared.

Examples

The following example shows how to clear interface queue discard:

NPB# clear interface queue discard

Related Commands

None

28.3 Diagnostic-information discard

Command Purpose

Use this command to enable the function of diagnostic-information discard.

Command Syntax

Diagnostic-information discard enable

No diagnostic-information discard enable

Parameter	Parameter Description	Parameter Value
Enable	Enable	The string of enable.

Command Mode

Global Configuration

Default

No diagnostic-information discard enable

Usage

The command uses to enable the function of diagnostic-information discard.

Examples

The following example shows how to enable the function of diagnostic-information discard:

NPB(config)# diagnostic-information discard enable

The following example shows how to disable the function of diagnostic-information discard:

NPB(config)# no diagnostic-information discard enable

Related Commands

None

28.4 Show diagnostic-information

Command Purpose

Use this command to display the situation of packet discard.

Command Syntax

Show diagnostic-information discard

Clear diagnostic-information discard

Parameter	Parameter Description	Parameter Value
Discard	Discard	The string of discard.

Command Mode

Privileged EXEC

Default

None

Usage

The command uses to dispaly the situation of packet discard.

Examples

The following example shows how to display the situation of packet discard:

```
NPB# show diagnostic-information discard
Diagnostic-Information Discard:
Drop-Reason                          Description
-------------------------------+-------------------------------------
CTC_DROP_TTL_CHK                      TTL check fail
CTC_DROP_ACL_DENY                      Acl deny
CTC_DROP_PKT_ERR                      Packet check error
CTC_DROP_ISOLATE_CHK                  Port isolate check fail
CTC_DROP_TRANSIT_DISABLE              Transit disable
CTC_DROP_IP_CHK                       Ip address or packet check fail
CTC_DROP_VLAN_FILTER                  Vlan filtering
CTC_DROP_STP_CHK                      Stp check fail
CTC_DROP_CHKSUM_ERR                     Checksum error
CTC_DROP_PARSER_ERR                   Parser error
CTC_DROP_TRAFFIC_MANAGER              Trafic manager check fail
CTC_DROP_NET_RX                       Netrx check fail
CTC_DROP_NET_TX                       Nettx check fail
Others                               Other drop reasons
```

The following example shows how to clear packet discard:

```
NPB# clear diagnostic-information discard
```

Related Commands

None

Chapter 29 De-duplicate Commands

29.1 De-duplicate global

Command Purpose

Use this command to enter de-duplicate global configure mode.

Command Syntax

De-duplicate global

Command Mode

Global Configuration

Default

None

Usage

None

Examples

This example shows how to enter de-duplicate global configure mode:

NPB(config)# de-duplicate global
NPB(config-duplicate)#

Related Commands

None

29.2 De-duplicate enable

Command Purpose

Use this command to enable de-duplicate function.

Command Syntax

De-duplicate enable

No de-duplicate enable

Command Mode

De-duplicate Configuration

Default

Disbale

Usage

None

Examples

This example shows how to enable de-duplicate function:

NPB(config-duplicate)# de-duplicate enable

This example shows how to disable de-duplicate function:

NPB(config-duplicate)# no de-duplicate enable

Related Commands

Show de-duplicate global

29.3 De-duplicate mode

Command Purpose

Use this command to configure de-duplicate mode.

Command Syntax

De-duplicate mode (0 | 1 | 2 | 3 | 4)

Parameter	Parameter Description	Parameter Value
0	Mode0:it is considered to be the duplicated packet if the five-tuple, IPV4 identification, TCP/UDP checksum, TCP sequence number, TCP acknowledgement number, TCP flags is the same.	-
1	Mode1:it is considered to be the duplicated packet if the five-tuple, IPV4 identification, TCP/UDP checksum, TCP sequence number, TCP acknowledgement number, TCP flags, payload is the same.	-
2	Mode2:it is considered to be the duplicated packet if the five-tuple, IPV4 identification, IPV4 service, IPV4 fragment, TCP/UDP checksum, TCP sequence number, TCP acknowledgement number, TCP flags and payload is the same.	-
3	Mode3:it is considered to be the duplicated packet if the five-tuple, VLAN, IPV4 identification, IPV4 service, IPV4 fragment, TCP/UDP checksum, TCP sequence number,	-

	TCP acknowledgement number, TCP flags and payload is the same.	
4	Mode4:it is considered to be the duplicated packet if the five-tuple, MAC address, VLAN, IPV4 identification, IPV4 service, IPV4 fragment, TCP/UDP checksum, TCP sequence number, TCP acknowledgement number, TCP flags and payload is the same.	-

Command Mode

De-duplicate Configuration

Default

Mode 1

Usage

None

Examples

This example shows how to configure de-duplicate mode 3:

NPB(config-duplicate)# de-duplicate mode 3

Related Commands

Show de-duplicate global

29.4 De-duplicate times

Command Purpose

Use this command to configure de-duplicate times.

Command Syntax

De-duplicate times (*NUM*| no-limit)

Parameter	Parameter Description	Parameter Value
NUM	De-duplicate times	1-100
No-limit	No-limit de-duplicate times	-

Command Mode

De-duplicate Configuration

Default

No-limit

Usage

None

Examples

This example shows how to configure de-duplicate times 5:

NPB(config-duplicate)# de-duplicate times 5

Related Commands

Show de-duplicate global

29.5 De-duplicate aging-time

Command Purpose

Use this command to configure de-duplicate aging-time.

Command Syntax

De-duplicate aging-time *TIME*

Parameter	Parameter Description	Parameter Value
TIME	De-duplicate entry age time	100-300000ms

Command Mode

De-duplicate Configuration

Default

100ms

Usage

None

Examples

This example shows how to configure de-duplicate aging-time 500ms:

NPB(config-duplicate)# de-duplicate aging-time 500

Related Commands

Show de-duplicate global

29.6 De-duplicate ignore

Command Purpose

Use this command to configure de-duplicate ignore field.

Command Syntax

De-duplicate (ignore-tcpflag | ignore-checksum | ignore-ip-id | ignore-seqnum | ignore-acknum | ignore-interface) enable

No de-duplicate (ignore-tcpflag | ignore-checksum | ignore-ip-id | ignore-seqnum | ignore-acknum | ignore-interface) enable

Parameter	Parameter Description	Parameter Value
Ignore-tcpflag	Ignore tcpflag field	-
Ignore-checksum	Ignore TCP/UDP checksum field	-
Ignore-ip-id	Ignore IP identificationfield	-
Ignore-seqnum	Ignore TCP sequence number field	-
Ignore-acknum	Ignore TCP acknowledgement number field	-
Ignore-interface	Ignore interface of packet coming in	-

Command Mode

De-duplicate Configuration

Default

De-duplicate ignore-interface enable

Usage

None

Examples

This example shows how to enable de-duplicate ignore-interface field:

NPB(config-duplicate)# de-duplicate ignore-interface enable

This example shows how to disable de-duplicate ignore-interface field:

NPB(config-duplicate)# no de-duplicate ignore-interface enable

Related Commands

Show de-duplicate global

29.7 Show de-duplicate global

Command Purpose

Use this command to dispaly de-duplicate global configuration.

Command Syntax

Show de-duplicate global

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display de-duplicate global configuration:

```
NPB# show de-duplicate global
De-duplicate global information:
   de-duplicate enable                    : enable
   de-duplicate mode                      : 1
   de-duplicate times                     : no-limit
   de-duplicate aging-time                : 100 ms
De-duplicate ignore-field information:
   de-duplicate ignore-ip-id              : disable
   de-duplicate ignore-checksum           : disable
   de-duplicate ignore-seqnum             : disable
   de-duplicate ignore-acknum             : disable
   de-duplicate ignore-tcpflag            : disable
   de-duplicate ignore-interface          : enable
```

Related Commands

De-duplicate global

29.8 Show de-duplicate stats

Command Purpose

Use this command to dispaly de-duplicate stats.

Command Syntax

Show de-duplicate stats

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to dispaly de-duplicate stats:

```
NPB# show de-duplicate stats
tap-group tap1,ingress eth-0-1:
  pkt_in :0                    pkt_out :0                    pkt_delta :0
  byte_in:0                    byte_out:0                    byte_delta:0
tap-group tap2,ingress eth-0-3,flow flow1:
  pkt_in :0                    pkt_out :0                    pkt_delta :0
  byte_in:0                    byte_out:0                    byte_delta:0
```

Related Commands

De-duplicate global

Chapter 30 DDOS Prevent Commands

30.1 Ip intercept

Command Purpose

Using the IP intercept ICMP command to configure the system to defend against ICMP flooding attacks.

Configuring npbes to defend against Smurf attacks using the IP intercept Smurf command.

Configuring npbes to defend against Fraggle attacks using the IP intercept Fraggle command.

Using the IP intercept UDP command to configure the system to defend against UDP flooding attacks.

Using the IP intercept TCP command to configure the system to defend against SYN flooding attacks.

Using the IP intercept maceq command, configure the system to filter ports whose source MAC address is equal to the destination MAC address.

Using IP intercept ipeq command, configure the system to filter ports whose source IP address is equal to the destination IP address.

Command Syntax

Ip intercept (smurf | fraggle | maceq | ipeq | icmp (maxcount *IPT_MAXCOUNT*|) tcp (maxcount *IPT_MAXCOUNT*|) udp (maxcount *IPT_MAXCOUNT*|))

No ip intercept (smurf | fraggle | maceq | ipeq | icmp | tcp | udp)

Parameter	Parameter Description	Parameter Value
IPT_MAXCOUNT	Set the maximum rate of receiving packets	Range is 0-1000

Command Mode

Global Configuration

Default

Againsting SYN attacks is enabled by default; Againsting other attacks are disabled by default.

The default number of packets to defend against ICMP flooding attacks is 500 per second.

The default number of packets to defend against UDP flooding attacks is 500 per second.

The default number of packets to defend against SYN flooding attacks is 500 per second.

Usage

None

Examples

The following example shows how to configures the ip intercept:

NPB# configure terminal
NPB(config)# ip intercept icmp maxcount 100

```
NPB(config)# ip intercept fraggle
NPB(config)# ip intercept maceq
NPB(config)# ip intercept tcp maxcount 200
```

The following example shows how to convert the ip intercept icmp:

```
NPB# configure terminal
NPB(config)# no ip intercept icmp
```

Related Commands

Show ip-intercept statistics

Show ip-intercept config

30.2 Show ip-intercept config

Command Purpose

In privileged mode, use this command to display the current ddos defense configuration

Command Syntax

Show ip-intercept config

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows to the current ddos defense config:

```
NPB# show ip-intercept config
Current ddos Prevent configuration:
--------------------------------+--------+--------+---------
Fraggle Attack Intercept              :Enable
ICMP Flood Intercept                   :Enable    Maxcount:500
IP Equal Intercept                    :Disable
MAC Equal Intercept                    :Disable
Smurf Attack Intercept                :Enable
SYN Flood Intercept                    :Enable    Maxcount:200
UDP Flood Intercept                    :Disable
```

Related Commands

Ip intercept

30.3 Clear ip-intercept statistics

Command Purpose

In privileged mode, clear ip-intercept statistics command is used to clear current attack detection packet loss statistics.

Command Syntax

Clear ip-intercept statistics

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to clear statistic of the intercept packets:

NPB# clear ip-intercept statistics

Related Commands

Show ip-intercept statistics

30.4 Show ip-intercept statistics

Command Purpose

In privileged mode, display current attack detection packet loss statistics using show ip-intercept statistics command.

Command Syntax

Show ip-intercept statistics

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to the statistics of the intercept packets:

```
NPB# show ip-intercept statistics
Current ddos Prevent statistics:
-----------------------------------------------------+---------------
mgmt-if Resist Fraggle Attack packets number          :   0
mgmt-if Resist ICMP Flood packets number              :   0
mgmt-if Resist Smurf Attack packets number            :   0
mgmt-if Resist SYN Flood packets number               :   0
mgmt-if Resist UDP Flood packets number               :   0
```

Related Commands

Clear ip-intercept statistics

Chapter 31 LLDP Commands

31.1 Lldp enable

Command Purpose

Use the lldp enable command to make lldp work globally. Use the no lldp enable command to make lldp disable globally.

Command Syntax

Lldp enable

No lldp enable

Command Mode

Global Configuration

Default

Disabled

Usage

None

Examples

The following example shows how to enable and disable lldp function globally:

NPB# configure terminal
NPB(config)# lldp enable
NPB(config)# no lldp enable

Related Commands

Show lldp local config

31.2 Lldp timer tx-interval

Command Purpose

Use the command to set the lldp timer tx interval. And recover to default interval by using the no form of this command.

Command Syntax

Lldp timer tx-interval *INTERVAL_ VALUE*

No lldp timer tx-interval

Parameter	Parameter Description	Parameter Value
INTERVAL_VALUE	INTERVAL VALUE	5-32768

Command Mode

Global Configuration

Default

30s

Usage

The range of INTERVAL_VALUE is 5s-32768s, Its value must be greater than or equal to four times tx-delay, default value is 30s.

Examples

The following example shows how to set lldp tx hold time value:

NPB# configure terminal
NPB(config)# lldp timer tx-interval 20

The following example shows how to recover lldp tx hold time to

Default value:

NPB# configure terminal
NPB(config)# no lldp timer tx-interval

Related Commands

Show lldp local config

31.3 Lldp timer tx-hold

Command Purpose

Use the command to set lldp tx hold time value(tx-hold*tx-interval). And recover to default value by using the no form of this command.

Command Syntax

LIdp timer tx-hold *HOLD_VALUE*

No lldp timer tx-hold

Parameter	Parameter Description	Parameter Value
HOLD_VALUE	Multiplier	2-10

Command Mode

Global Configuration

Default

4

Usage

The range of HOLD_VALUE is 2-10, default value is 4.

Examples

The following example shows how to set lldp tx hold time value:

NPB# configure terminal
NPB(config)# lldp timer tx-hold 3

The following example shows how to recover lldp reinit delay time to default value:

NPB# configure terminal
NPB(config)# no lldp timer tx-hold

Related Commands

Show lldp local config

31.4 Lldp timer tx-delay

Command Purpose

Use the command to set lldp tx delay time value. And recover to default value by using the no form of this command.

Command Syntax

Lldp timer tx-delay *DELAY_VALUE*

No lldp timer tx-delay

Parameter	Parameter Description	Parameter Value
DELAY_VALUE	DELAY VALUE	1-8192

Command Mode

Global Configuration

Default

2s

Usage

The range of DELAY_VALUE is 1s-8192s, It must be less than or equal to a quarter of its value tx-interval, default value is 2s.

Examples

The following example shows how to set lldp tx delay time value:

NPB# configure terminal
NPB(config)# lldp timer tx-delay 1

The following example shows how to recover lldp tx delay time to default value:

NPB# configure terminal
NPB(config)# no lldp timer tx-delay

Related Commands

Show lldp local config

31.5 Lldp timer reinit-delay

Command Purpose

Use the command to set lldp reinit delay time value. And recover to default value by using the no form of this command.

Command Syntax

LIdp timer reinit-delay *RE_DELAY_VALUE*

No lldp timer reinit-delay

Parameter	Parameter Description	Parameter Value
RE_DELAY_VALUE	RE_DELAY VALUE	1-10

Command Mode

Global Configuration

Default

2s

Usage

The range of RE_DELAY_VALUE is 1s-8192s, default value is 2s.

Examples

The following example shows how to set lldp reinit delay time value:

NPB# configure terminal
NPB(config)# lldp timer reinit-delay 1

The following example shows how to recover lldp reinit delay time to default value:

NPB# configure terminal
NPB(config)# no lldp timer reinit-delay

Related Commands

Show lldp local config

31.6 Lldp management ip

Command Purpose

Use the command to set the lldp management ip address. And recover to default value by using the no form of this command.

Command Syntax

Lldp management ip *IP_ADDRESS*

No lldp management ip

Parameter	Parameter Description	Parameter Value
IP_ADDRESS	IP ADDRESS	-

Command Mode

Global Configuration

Default

None

Usage

None

Examples

The following example shows how to set the lldp management ip address:

NPB# configure terminal
NPB(config)# lldp management ip 1.2.3.4

The following example shows how to recoverlldp management ip address to default value:

NPB# configure terminal
NPB(config)# no lldp management ip

Related Commands

Show lldp local tlv-info

31.7 Lldp system-name

Command Purpose

Use the command to set the lldp system name. And recover to default value by using the no form of this command.

Command Syntax

Lldp system-name *SYSTEM_NAME*

No lldp system-name

Parameter	Parameter Description	Parameter Value
SYSTEM_NAME	SYSTEM NAME	The first character should be a-z or A-Z or 0-9, character only can be 0-9A-Za-z.-_ and the max len is 64

Command Mode

Global Configuration

Default

Defaul value is the value of hostname

Usage

None

Examples

The following example shows how to set the lldp system name:

NPB# configure terminal
NPB(config)# lldp system-name lldpname

The following example shows how to recover the lldp system name to default value:

NPB# configure terminal
NPB(config)# no lldp system-name

Related Commands

Show lldp local tlv-info

31.8 Lldp system-description

Command Purpose

Use the command to set the lldp system description. And recover to default value by using the no form of this command.

Command Syntax

LIdp system-description *SYSTEM_DESCRIPTION*

No lldp system-description

Parameter	Parameter Description	Parameter Value
SYSTEM_DESCRIPTION	SYSTEM DESCRIPTION	Length range is 1-255

Command Mode

Global Configuration

Default

Default value is the system description of "show version" command

Usage

None

Examples

The following example set the lldp system description:

NPB# configure terminal
NPB(config)# lldp system-description string

The following example shows how to reset the lldp system description:

NPB# configure terminal
NPB(config)# no lldp system-description

Related Commands

Show lldp local tlv-info

31.9 Lldp enable

Command Purpose

Use the command to set the lldp admin status on interface, txonly, rxonly, txrx. And turn off LLDP on interface by using the no form of this command.

Command Syntax

Lldp enable (txonly | rxonly | txrx)

No lldp enable

Parameter	Parameter Description	Parameter Value
Txonly	Enable packet send	-
Txrx	Enable packet send and receive	-
Rxonly	Enable packet receive	-

Command Mode

Interface Configuration

Default

Enable txrx

Usage

None

Examples

The following example shows how to turn on LLDP on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# lldp enable txrx

The following example shows how to turn off LLDP on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no lldp enable

Related Commands

Show lldp local config

31.10 Lldp tlv basic

Command Purpose

Use the command to set the lldp basic tlv on interface, management-address, port-description, system-capabilities, system-capabilities, system-description, system-name and all of them. And cancel selection by using the no form of this command.

Command Syntax

LIdp tlv basic (all | management-address | port-description | system-capabilities | system-description | system-name)

No lldp tlv basic (all | management-address | port-description | system-capabilities | system-description | system-name)

Parameter	Parameter Description	Parameter Value
All	All basic TLV	-
Management-address	Management-address TLV	-
Port-description	Port-description TLV	-
System-capabilities	System-capabilities TLV	-
System-description	System-description TLV	-
System-name	System-name TLV	-

Command Mode

Interface Configuration

Default

All basic tlv have been enabled

Usage

None

Examples

The following example shows how to set the lldp basic tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# lldp tlv basic port-description
NPB(config-if-eth-0-1)# lldp tlv basic all

The following example shows how to unset the lldp basic tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1

NPB(config-if-eth-0-1)# no lldp tlv basic port-description
NPB(config-if-eth-0-1)# no lldp tlv basic all

Related Commands

Show lldp local config

31.11 Lldp tlv med

Command Purpose

Use the command to set the lldp med tlv inventory on interface. And cancel selection by using the no form of this command.

Command Syntax

Lldp tlv med (inventory)

Parameter	Parameter Description	Parameter Value
Inventory	Select Inventory TLV	-

Command Mode

Interface Configuration

Default

Inventory MED TLV have been enabled

Usage

None

Examples

The following example shows how to set the lldp med tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# lldp tlv med inventory

The following example shows how to unset the lldp med tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no lldp tlv med inventory

Related Commands

Show lldp local config

31.12 Lldp tlv 8023-org-specific

Command Purpose

Use the command to set the lldp 8023-org-specific tlv on interface, mac-phy-cfg, max-frame-size, link-aggregation and all of them. And cancel selection by using the no form of this command.

Command Syntax

LIdp tlv 8023-org-specific (all | mac-phy-cfg | max-frame-size | link-aggregation)

No lldp tlv 8023-org-specific (all | mac-phy-cfg | max-frame-size | link-aggregation)

Parameter	Parameter Description	Parameter Value
All	Select all IEEE 802.3 TLV	-
Mac-phy-cfg	Select MAC/PHY Configuration/Status TLV	-
Max-frame-size	Select Maximum Frame Size TLV	-
Link-aggregation	Select Link Aggregation TLV	-

Command Mode

Interface Configuration

Default

All IEEE 802.3 tlv have been enabled

Usage

None

Examples

The following example shows how to set the lldp 8023-org-specific tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# lldp tlv 8023-org-specific mac-phy-cfg
NPB(config-if-eth-0-1)# lldp tlv 8023-org-specific all

The following example shows how to unset the lldp 8023-org-specific tlv on interface:

NPB# configure terminal
NPB(config)# interface eth-0-1
NPB(config-if-eth-0-1)# no lldp tlv 8023-org-specific mac-phy-cfg
NPB(config-if-eth-0-1)# no lldp tlv 8023-org-specific all

Related Commands

Show lldp local config

31.13 Show lldp local config

Command Purpose

Use the show lldp local config privileged EXEC command to display the global time information and lldp enable or not.

Use the show lldp local config interface ethx privileged EXEC command to display the interface LLDP admin status and TVL information.

Command Syntax

Show lldp local config (interface *IFNAME*)

Parameter	Parameter Description	Parameter Value
IFNAME	Interface name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the global time information and lldp enable or disable:

```
NPB# show lldp local config
LLDP global configuration:
------------------------+--------------------
LLDP function global enabled: YES
LLDP txhold                  : 4
LLDP txinterval              : 10s
LLDP reinitdelay             : 2s
LLDP txdelay                 : 2s

NPB# show lldp local config interface eth-0-1
LLDP configuration on interface eth-0-1:
------------------------+--------------------
LLDP admin status            : TXRX
Basic optional TLV Enabled:
    Port Description TLV
    System Name TLV
    System Description TLV
    System Capabilities TLV
    Management Address TLV

IEEE 802.3 TLV Enabled:
    MAC/PHY Configuration/Status TLV
    Link Aggregation TLV
    Maximum Frame Size TLV
```

LLDP-MED TLV Enabled:
Med Capabilities TLV
Inventory TLV

Related Commands

None

31.14 Show lldp local tlv-info

Command Purpose

Use the show lldp local tlv-info privileged EXEC command to display the global tvl information.

Use the show lldp local tlv-info interface ethx privileged EXEC command to display the port tvl information.

Command Syntax

Show lldp local tlv-info (interface *IFNAMEE*)

Parameter	Parameter Description	Parameter Value
IFNAME	Interface name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display the global tvl information:

```
NPB# show lldp local tlv-info
LLDP global TLV information:
------------------------+-------------------
System Name                        : NPB

System Description             : XXXXX , XXXXX, XXXXX, Vendor information

System Capabilities          :
    Other        :    Enabled

Configured Management IP Address:

LLDP MED Inventory Information:
   Hardware Rivision          : XXXXX
   Firmware Rivision          : 1.0
```

```
  Software Rivision          : 3.0.13.4
  Serial Number              : XXXXX
  Manufacturer Name          : Vendor information
  Model Name                 : XXXXX

NPB# show lldp local tlv-info interface eth-0-1
LLDP TLV information on interface eth-0-1:
-------------------------+--------------------
Link Aggregation status    : Supported

MAC/PHY Configuration/Status:
autonego Support           : Supported, Enabled
autonego Capability        : 0
Operational MAU Type       : 0

Maximum Frame Size         : 16127
```

Related Commands

None

31.15 Show lldp neighbor

Command Purpose

Use the show lldp neighbor privileged EXEC command to display all the information of remote device.

Use the show lldp neighbor brief privileged EXEC command to display the brief information of remote device.

Command Syntax

Show lldp neighbor (brief |) (interface *IFNAMEE*)

Parameter	Parameter Description	Parameter Value
IFNAMEE	Interface name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to lldp neighbor information:

```
NPB# show lldp neighbor
Remote LLDP Information of port eth-0-1
================================================================
```

```
Neighbor Index : 1
Basic Information
    Chassis Info:
        Chassis ID type         : Mac address
        Chassis ID              : 001E.0820.6665

    Port Info:
        Port ID type            : Interface Name
        Port ID                 : eth-0-1

    Time To Live:
        TTL                     : 40
        expiretime              : 33

    Port Description            : eth-0-1
    System Name                 : bianzh
    System Description          : XXXXX, XXXXX, XXXXX, Vendor information
    System Capabilities:
        Other                   : Enabled

    Management info:
        Management Address Type : ipv4
        Management Address      : 10.10.39.157

IEEE 802.3
    Link Aggregation:
        Link Aggregation Capability : Support
        Link Aggregation Status     : Disabled
        Link Aggregation Port ID    : Unknown

    MAC/PHY Configuration/Status:
        autonego Support      : Support, Enabled
        autonego Capability   : Unknown
        Operational MAU Type : Unknown - Unknown

    Maximum Frame Size          : 16127

LLDP MED Information
    Med capabilities:
        LLDP-MED Capabiliies
        Inventory

    Inventory Information:
        Hardware Rivision       : XXXXX
        Firmware Rivision       : 1.0
        Software Rivision       : 3.0.13.4
        Serial Number           : XXXXX
        Manufacturer Name       : Vendor information
        Model Name              : XXXXX

NPB# show lldp neighbor brief
Local Port              : eth-0-1
chassisid               : 001E.0820.6665
Remote Port             : eth-0-1
holdtime                : 40
```

expiretime : 27
System Name : NPB

Related Commands

None

31.16 Show lldp statistics

Command Purpose

Use the show lldp statistics privileged EXEC command to display the frames.

Command Syntax

Show lldp statistics (interface *IFNAMEE*)

Parameter	Parameter Description	Parameter Value
IFNAME	Interface Name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to display lldp statistics:

NPB# show lldp statistics

```
-------------------------+--------------------
LLDP Port statistics for : eth-0-1
Frames Transmitted          : 10
Frames Aged                 : 0
Frames Discarded            : 0
Frames with Error           : 0
Frames received             : 0
tlvs Discarded              : 0
tlvs Unrecognized           : 0
NPB# show lldp statistics interface eth-0-1
LLDP statistics information:
-------------------------+--------------------
LLDP Port statistics for : eth-0-1
Frames Transmitted          : 10
Frames Aged                 : 0
Frames Discarded            : 0
```

Frames with Error : 0
Frames received : 0
tlvs Discarded : 0
tlvs Unrecognized : 0

Related Commands

None

31.17 Clear lldp statistics

Command Purpose

Use the clear lldp statistics privileged EXEC command to remove all the frames transmitted or received.

Command Syntax

Clear lldp statistics (interface *IFNAMEE*)

Parameter	Parameter Description	Parameter Value
IFNAME	Interface Name	-

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following example shows how to clear lldp statistics:

NPB# clear lldp statistics
NPB# clear lldp statistics interface eth-0-1

Related Commands

None

Chapter 32 ECMP-GROUP Commands

32.1 Ecmp-group

Command Purpose

Use this command to create a ecmp-group and enter the ecmp-group configuration mode.

Use the no form of this command to delete the ecmp-group.

Command Syntax

Ecmp-group ECMP_GROUP_ID

No ecmp-group *ECMP_GROUP_ID*

Parameter	Parameter Description	Parameter Value
ECMP_GROUP_ID	Specify the ecmp-group ID to configure or create	1-512

Command Mode

Global Configuration

Default

None

Usage

This device supports at most 512 ecmp-groups.

Examples

The following example shows how to add a ecmp-group:

NPB(config)# ecmp-group 1
NPB(config-ecmp-group1)#

The following example shows how to delete a ecmp-group:

NPB(config)# no ecmp-group 1

Related Commands

Show ecmp-group

32.2 Member interface

Command Purpose

Use this command to add a member interface in ecmp-group.

Use the no form of this command to delete the member interface.

Command Syntax

Member interface *IF_NAME_EA*

No member interface *IF_NAME_EA*

Parameter	Parameter Description	Parameter Value
IF_NAME_EA	Member interface Name string	Specify the interface name to enter the mode. E.g.eth-0-1, agg1.

Command Mode

Ecmp-group Configuration

Default

None

Usage

This device supports at most 64 member interface.

Examples

The following example shows how to add a member interface in ecmp-group:

NPB(config-ecmp-group1)# member interface eth-0-1

The following example shows how to delete a member interface in ecmp-group:

NPB(config-ecmp-group1)# no member interface eth-0-1

Related Commands

Show ecmp-group

32.3 Show ecmp-group

Command Purpose

Use this command to display the configurations of ecmp-group.

Command Syntax

Show ecmp-group (*ECMP_GROUP_ID* |)

Parameter	Parameter Description	Parameter Value
ECMP_GROUP_ID	Specify the ecmp-group ID to show	-

Command Mode

Privileged EXEC

Default

None

Usage

If the parameter "ECMP_GROUP_ID" is not specified, the command indicates that all ecmp-groups on this device should be displayed; otherwise only the specified ecmp-group should be displayed.

Examples

The following example shows how to display the configurations ecmp-group 1:

NPB# show ecmp-group 1
ecmp-group 1
sequence-num 1 member interface eth-0-15

Related Commands

None