DKTCOMEGA diag shell user gudie

DKTCOMEGA

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Chapter 1 Introduction

This document provides a summary of the commands supported on the DKTCOMEGA shell Command Line Interface(CLI). The document is divided into two sections. Section 1 describes the convention, argument types, privileges and command modes, command help, and command line editing. Section 2 gives a brief usage and description of all commands included in the diag shell.

1.1 Conventions

The following conventions are used in the command syntax throughout this document:

- Vertical bars (|) separate alternative, mutually exclusive arguments.
- Square brackets ([ ]) indicate optional elements.
- Braces (< >) indicate a required choice.
- Braces within square brackets ([< >]) indicate required choices, within optional elements.
- **Bold** indicates commands and keywords.
- *Italics* indicate user variables.

1.2 Argument Types

The following argument types are recognized by the CLI and are used, in the command syntax throughout this document:

- *MACADDR* – MAC address.
  Example: 00:3B:51:A9:CC:07.
- *PORT_LIST* – Port list, separated by "," or "-".
  Example: 1-3,6,8.
- *MASK_LIST* – mask list, separated by "," or "-".
  Example: 1-3,6,8.
- *IPV4ADDR* – IPv4 address.
  Example: 192.168.1.100.
- *IPV6ADDR* – IPv6 address.
  Example:101:234:689:ACD:151:03B:1A9:C07.
- *UINT* – unsigned integer.
  Example: 123.

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1.3 Command Help

You may enter **?** at any command mode, and the CLI will return possible commands at that point, along with some description of the keywords:

RTK.0> **vlan ?**
create - create VLAN
destroy - destroy VLAN
set - Set configuration
get - get configuration

You may use the <Tab> key to do keyword auto completion:

RTK.0> **vlan set p<Tab>**
pvid - config port based vid
protocol-vlan – protocol

You do not need to type in the entire commands; you only need to type in enough characters for the CLI to recognize the command as unique.

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Chapter 2 Commands

Port assignment in syntax:

Port Syntax	JUMA 79734	Forsete 79741/742
0	Not available	LAN port 1
1	LAN port	LAN port 2
2	Not available	LAN port 3
3	Not available	LAN port 4
4	WAN port (fiber)	WAN port (fiber)
6	Internal CPU port/management	Internal CPU port/management

Syntax alternative # 1

Configuration examples, if the device is configured via scripts, the text file can include a series of instructions, starting with either *diag* or *conf*, configured line-by-line.
If configured via TELNET, in the shell please type *diag* to enter the configuration editor.

Syntax alternative # 2

It is recommended that the configuration is pushed via scripts, and it is possible to create an "input file" as clear text, where all commands are pushed in one go, this would avoid the need for the *diag* or *conf* prefix.

Example of an "input file" as a script:

```
conf <<EOF
acl clear template
acl set template user-field 0
acl add template entry 0
acl set rule template entry 0
acl set rule state valid
acl set rule port 0-3
acl set rule user-field 0 data 0x0002 mask 0x00ff
acl clear action
acl set action trap-to-cpu
acl add entry 0
exit
EOF
```

IMPORTANT NOTICE, How to enable the LAN ports:

Per default all LAN ports are disconnected (security reason) from WAN/fiber port.
Disable this isolation using the syntax: `switch --enable-lan`

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2.1. VLAN commands

```
# Example, how to create 4 VLANs, egress tagged on WAN and untagged on
all LANs

conf vlan init
conf vlan create vlan-table vid 100
conf vlan create vlan-table vid 200
conf vlan create vlan-table vid 300
conf vlan create vlan-table vid 400
conf vlan set vlan-table vid 100 member 0,4
conf vlan set vlan-table vid 200 member 1,4
conf vlan set vlan-table vid 300 member 2,4
conf vlan set vlan-table vid 400 member 3,4
conf vlan set pvid port 0 100
conf vlan set pvid port 1 200
conf vlan set pvid port 2 300
conf vlan set pvid port 3 400
conf vlan set vlan-table vid 100 untag-member 0
conf vlan set vlan-table vid 200 untag-member 1
conf vlan set vlan-table vid 300 untag-member 2
conf vlan set vlan-table vid 400 untag-member 3
```

the example above assumes that management is native/untagged (1) traffic. If management traffic must be tagged, e.g. VLAN VID 66, tagged on WAN, untagged to CPU, the following should be added

```
conf vlan create vlan-table vid 66
conf vlan set vlan-table vid 66 member 4,6
conf vlan set vlan-table vid 66 ext-member 0-5
conf vlan set pvid port 6 66
conf vlan set vlan-table vid 66 untag-member 6
```

Example, how to enable double tagging on WAN, define SVID for each origin port

```
conf svlan init
conf svlan set service-port 4
conf svlan create svlan-table svid 500
conf svlan create svlan-table svid 600
conf svlan create svlan-table svid 700
conf svlan set svlan-table svid 500 member 0,4
conf svlan set svlan-table svid 600 member 1,4
conf svlan set svlan-table svid 700 member 2,4
conf svlan set port 0 svid 500
conf svlan set port 1 svid 600
conf svlan set port 2 svid 700
conf svlan set svlan-table svid 500 untag-member 0
conf svlan set svlan-table svid 600 untag-member 1
conf svlan set svlan-table svid 700 untag-member 2
```


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vlan init

Description:

This command is used to initialize & reset VLAN module. By using this command, the following configuration will be applied.

All VLAN will be deleted.

VLAN 1 will be created and all ports are untagged member.

The PVID of all ports are 1.

Syntax:

vlan init

Parameter:

None

Examples:

This example shows how to initialize VLAN.

RTK.0> vlan init

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vlan create

Description:

Create a new VLAN

Syntax:

vlan create vlan-table vid *vid*

Parameter:

vid - specify the numeric VLAN identifier

Examples:

This example shows how to create a new VLAN which ID is 100:

RTK.0> vlan create vlan-table vid 100

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vlan destroy

Description:

Destroy a VLAN

Syntax:

vlan destroy vlan-table vid *vid*

vlan destroy vlan-table all [restore-default-vlan]

vlan destroy vlan-table all untag

vlan destroy entry all

vlan destroy entry *index*

Parameter:

vid	- specify the numeric VLAN identifier
vlan-table	- vlan table
all	- all vlan
restore-default-vlan	- destroy all VLAN identifier except for default VLAN
Untag	- all port to untag member
index	- vlan member configuration index
entry	- vlan member configuration

Examples:

This example shows how to destroy VLAN 100:

RTK.0> vlan destroy vlan-table vid 100

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vlan set vlan-table

Description:

This command can configure the 4k vlan entry.

Syntax:

vlan set vlan-table vid *vid* **member <***PORT_LIST: ports* **| all | none>**

vlan set vlan-table vid *vid* **tag-member** <*PORT_LIST: ports* **| all | none>**

vlan set vlan-table vid *vid* **untag-member** <*PORT_LIST: ports* **| all | none>**

vlan set vlan-table vid *vid* ext-member <*PORT_LIST: ext* **| all | none>**

vlan set vlan-table vid *vid* **fid-msti** *fid_msti*

vlan set vlan-table vid *vid* **hash-mode <ivl | svl>**

vlan set vlan-table vid *vid* **vlan-based-policing state <disable | enable>**

vlan set vlan-table vid *vid* **meter** *meter*

vlan set vlan-table vid *vid* **vlan-based-priority state <disable | enable>**

vlan set vlan-table vid *vid* **vlan-based-priority priority** *priority*

Parameter:

vid	- specify the numeric VLAN identifier
ports	- specified port list
all	- specify all ports
none	- specify no port
member	- member configuration
tag-member	- tagging member configuration
untag-member	- untag set configuration
ext	- extention member ports
fid_msti	- the filter-id or msti for this vlan
ivl	- specify the hash key for this vlan lookup is using VID
svl	- specify the hash key for this vlan lookup is using MSTI/FID

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disable - disable

enable - enable

meter - specify the meter index

priority - specify the priority value for this vlan

Examples:

This example shows how to congigurate the VLAN which ID is 100:

Add port 0,1,2 to vlan 100

Assign port 0,1 to tag member

Enable vlan based priority and set priority to 6

Enable vlan based policing and set meter index to 10

RTK.0> vlan create vlan-table vid 100

RTK.0> vlan set vlan-table vid 100

RTK.0> vlan set vlan-table vid 100 member 0-2

RTK.0> vlan set vlan-table vid 100 tag-member 0-1

RTK.0> vlan set vlan-table vid 100 vlan-based-priority state enable

RTK.0> vlan set vlan-table vid 100 vlan-based-priority priority 6

RTK.0> vlan set vlan-table vid 100 vlan-based-policing state enable

RTK.0> vlan set vlan-table vid 100 meter 10

vlan get vlan-table

Description:

Show VLAN table configuration of a specific vid

Syntax:

vlan get vlan-table vid *vid*

Parameter:

vid - specify the numeric VLAN identifier

Examples:

This example shows how to get the VLAN table configuration of vid 100:

RTK.0> vlan get vlan-table vid 100

Vid:100

Hash Policing Meter VlanPriEn Priority FID

SVL En 10 En 6 0

member port : 0-2

tag member port : 0-1

extention member port: none

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vlan set entry

Description:

This command can configure the 32 vlan member configuration.

Syntax:

vlan set entry *index* **enhanced-vid** *vid*

vlan set entry *index* **member <***PORT_LIST: ports* **| all | none>**

vlan set entry *index* **ext-member <***PORT_LIST: ext* **| all | none>**

vlan set entry *index* **fid-msti** *fid_msti*

vlan set entry *index* **hash-mode <ivl | svl>**

vlan set entry *index* **vlan-based-policing state <disable |**

enable>

vlan set entry *index* **meter** *meter*

vlan set ventry *index* **vlan-based-priority state <disable |**

enable>

vlan set entry *index* **vlan-based-priority priority** *priority*

Parameter:

vid	- specify the numeric VLAN identifier
enhanced-vid	- enhanced VLAN id
index	- vlan member configuration index
ports	- the vlan member or tag member ports
all	- specify all ports
none	- specify no port
ext	- extention member ports
fid_msti	- the filter-id or msti for this vlan
ivl	- specify the hash key for this vlan lookup is using VID
svl	- specify the hash key for this vlan lookup is using MSTI/FID
disable	- disable
enable	- enable
meter	- specify the meter index for this vlan based policing
priority	- specify the priority value for this vlan

Examples:

This example shows how to congigurate VLAN member configuration index 0 which ID is 100:

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Add port 0,1,2 to vlan 100

Enable vlan based priority and set priority to 6

Enable vlan based policing and set meter index to 10

RTK.0> vlan set entry 0 enhanced-vid 100

RTK.0> vlan set entry 0 member 0-2

RTK.0> vlan set entry 0 vlan-based-priority state enable

RTK.0> vlan set entry 0 vlan-based-priority priority 6

RTK.0> vlan set entry 0 vlan-based-policing state enable

RTK.0> vlan set entry 0 meter 10

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vlan get entry

Description:

Show VLAN member configuration of a specific index

Syntax:

vlan get entry *index*

Parameter:

index - vlan member configuration index

Examples:

Show VLAN member configuration index 0:

RTK.0> vlan get entry 0

vlan id:0

Evid	PlyEn	MtrIdx	PriEn	pri	Fid
100	En	10	En	6	0

member port : 0-2

extention member port: 0-5

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vlan set accept-frame-type

Description:

Configure accepted frame type for ingress frame per port

Syntax:

vlan set accept-frame-type port <*PORT_LIST:ports* **| all> <all | tag-only | untag-only | priority-tag-and-tag>**

Parameter:

ports	- specify the port list for apply this setting
all	- specify all ports
all	- accept all type frame
tag-only	- accept tag only frame
untag-only	- accept untag only frame
priority-tag-and-tag	- accept priority tag and 1q-tag frame

Examples:

This example shows how to accept all untag frame only for port 1 to 3:

RTK.0> vlan set accept-frame-type port 1-3 untag-only

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vlan get accept-frame-type

Description:

Show accepted frame type for each port

Syntax:

vlan get accept-frame-type port <*PORT_LIST:ports* **| all>**

Parameter:

ports - specify the port list for apply this setting

all - specify all ports

Examples:

This example shows how to get accept frame types for all ports

RTK.0> vlan get accept-frame-type port 0-6

Port Accept Frame Type

0 all

1 untagged-only

2 untagged-only

3 untagged-only

4 all

5 all

6 all

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vlan set egress

Description:

Show per egress port setting for VLAN mode real keep reference by ingress port

Syntax:

vlan set egress port <*PORT_LIST:egr_ports* **| all> keep-tag**

ingress-port <*PO*RT_LIST:igr_ports | all> state <enable | disable>

Parameter:

egr_ports	- specify egress port list for apply this setting
all	- specify all ports
igr_ports	- The ingress port list to apply egress-keep setting
keep-tag	- keeping tag
state	- state configuration
disable	- disable configuration
enable	- enable configuration

Examples:

This example shows how to enable the egress keep for port 1 the ingress packet is from port 2-5:

RTK.0> vlan set egress port 1 keep-tag ingress-port 2-5 state enable

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vlan get egress

Description:

Show per egress port setting for VLAN mode real keep reference by ingress port

Syntax:

vlan get egress port <*PORT_LIST:egr_ports* **| all> keep-tag**

ingress-port <*PORT_LIST:igr_ports* **| all> state**

Parameter:

egr_ports	- specify egress port list for apply this setting
all	- specify all ports
igr_ports	- The ingress port list to apply egress-keep setting
keep-tag	- keeping tag
state	- state configuration

Examples:

This example shows how to get the egress keep setting for port 1

RTK.0> vlan get egress port 1 keep-tag ingress-port 0-6 state

Port	P0	P1	P2	P3	P4	P5	P6
1	Disable	Disable	Enable	Enable	Enable	Enable	Disable

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vlan set ingress-filter

Description:

Configure per-port VLAN ingress check.

Syntax:

vlan set ingress-filter port <*PORT_LIST:igr_ports* **| all> state <enable | disable>**

Parameter:

ports	- specified port list
all	- specify all ports
enable	- enable the vlan ingress filter function
disable	- disable the vlan ingress filter function

Examples:

This example shows how to enable the ingress filter for port 1

RTK.0> vlan set ingress-filter port 1 state enable

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vlan get ingress-filter

Description:

Show per port ingress filter setting

Syntax:

vlan get ingress-filter port <*PORT_LIST:ports* **| all> state**

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get the ingress filter setting for port 0-6:

RTK.0> vlan get ingress-filter port 0-6 state

Port Ingress-filter

0 Enable

1 Enable

2 Enable

3 Enable

4 Enable

5 Enable

6 Enable

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vlan set tag-mode

Description:

Configure egress port vlan tag mode.

Syntax:

vlan set tag-mode port <*PORT_LIST: ports* **| all> <original |**

keep-format | priority-tag>

Parameter:

ports	- specified port list
all	- specify all ports
original	- Original mode. Output frame will follow VLAN untag setting
keep-format	- Keep format mode. Output frame will keep VLAN original format.(If packet not modified asic will not re-§caculate CRC)
priority-tag	- Priority tag mode. Output frame will be priority tag.

Examples:

This example shows how to set egress tag mode for port 1 set to

priority tag mode. Set port 3 to keep-format mode.

RTK.0> vlan set tag-mode port 1 priority-tag

RTK.0> vlan set tag-mode port 3 keep-format

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vlan get tag-mode

Description:

Get per port egress tag mode.

Syntax:

vlan get tag-mode port <*PORT_LIST: ports* **| all>**

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get the egress tag mode for port 1-5

RTK.0> vlan get tag-mode port 1-5

Port	Mode
1	priority-tag
2	original
3	keep-format
4	original
5	original

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vlan set vlan-treat vid

Description:

Configure ingress packet with special vlan VID(0 and 4095) that will be treat as tagging packet or un-tagging packet.

Syntax:

vlan set vlan-treat vid <0 | 4095> type <tagging | un-tagging>

Parameter:

0	- specify the ingress packet with vid 0
4095	- specify the ingress packet with vid 4095
type	- vlan treat type
tagging	- packet will be treat as tagging frame
Un-tagging	- packet will be treat as un-tagging frame

Examples:

This example shows how to set ingress packet with vid 0 will be treat as tagging packet and packet with vid 4095 will be treat as un-tagging packet.

RTK.0> vlan set vlan-treat vid 0 type tagging

RTK.0> vlan set vlan-treat vid 4095 type un-tagging

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vlan get vlan-treat vid

Description:

Get the setting of ingress packet with special vlan VID(0 and 4095) that will be treat as tagging pacet or un-tagging packet.

Syntax:

vlan get vlan-treat vid <0 | 4095> type

Parameter:

0 - specify the ingress packet with vid 0

4095 - specify the ingress packet with vid 4095

type - vlan treat type

Examples:

This example shows how to get ingress packet with vid 0 and 4095 will be treat as tagging packet or un-tagging packet.

RTK.0> vlan get vlan-treat vid 0

vlan 0 treat Tagging

RTK.0> vlan get vlan-treat vid 4095

vlan 4095 treat Untagging

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vlan set cfi-keep

Description:

Configure egress CFI value will keep ingress packet CFI value or set CFI to 0.

Syntax:

vlan set cfi-keep <cfi-to-0 | keep-cfi>

Parameter:

Cfi-to-0 - egress packet cfi always set to 0

Keep-cfi - keep ingress tag cfi value to egress tag

Examples:

This example shows how to set egress packet CFI always be 0.

RTK.0> vlan set cfi-keep cfi-to-0

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vlan get cfi-keep

Description:

Get egress CFI keep mode.

Syntax:

vlan get cfi-keep

Parameter:

None

Examples:

This example shows how to get egress CFI mode.

```
RTK.0> vlan get cfi-keep
cfi-keep :Disable
```


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vlan set transparent

Description:

Set vlan transparent mode. When transparent enable it will discard the “vlan set egress-keep port” setting.

Syntax:

vlan set transparent state <enable | disable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to enable vlan transparent.

RTK.0> vlan set transparent state enable

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vlan get transparent

Description:

Get vlan transparent mode.

Syntax:

vlan get transparent state

Parameter:

state - state configuration

Examples:

This example shows how to get vlan transparent state.

RTK.0> vlan get transparent state

vlan transparent state: Enable

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vlan set ingress-filter

Description:

Set per port vlan ingress filter state.

Syntax:

vlan set ingress-filter port <*PORT_LIST:ports* **| all> state**

<enable | disable>

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration

Examples:

This example shows how to enable vlan ingress-filter for port 1-3.

```
RTK.0> vlan set ingress-filter port 1-3 state enable
```


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vlan get ingress-filter

Description:

Get per port vlan ingress filter state.

Syntax:

vlan get ingress-filter port <*PORT_LIST:ports* **| all> state**

Parameter:

ports - The port list

all - specify all ports

state - state configuration

Examples:

This example shows how to get vlan ingress-filter state for port 0-6.

```
RTK.0> vlan get ingress-filter port 0-6 state
Port        Ingress-filter
0           Enable
1           Enable
2           Enable
3           Enable
4           Enable
5           Enable
6           Enable
```


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vlan set state

Description:

Set system vlan filter state.

Syntax:

vlan set state <enable | disable>

Parameter:

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to get system vlan filter state.

RTK.0> vlan set state enable

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vlan get state

Description:

Get system vlan filter state.

Syntax:

vlan get state

Parameter:
None

Examples:

This example shows how to get system vlan filter state.

RTK.0> vlan get state

vlan state: Enable

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vlan set pvid

Description:

Set port based VID. The index is index to vlan member configuration table.

Syntax:

vlan set pvid port <*PORT_LIST:ports* **| all>** *vid*

vlan set pvid port <*PORT_LIST:ports* **| all> vlan-index** *index*

Parameter:

ports	- specified port list
all	- specify all ports
index	- vlan member configuration index
vlan-idex	- vlan member configuration
vid	- specify the numeric VLAN identifier

Examples:

This example shows how to set port 5 port-base vlan to vlan 100.

RTK.0> vlan set pvid port 5 100

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vlan get pvid

Description:

Get port based VID. The index is index to vlan member configuration table.

Syntax:

vlan get pvid port <*PORT_LIST:ports* **| all>**

vlan get pvid port <*PORT_LIST:ports* **| all> vlan-index**

Parameter:

ports	- specified port list
all	- specify all ports
vlan-idex	- vlan member configuration

Examples:

This example shows how to get port 5 port-base vlan setting.

RTK.0> vlan get pvid port 5

Port 5 PVID: 100

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vlan set ext-pvid

Description:

Set port based VID for extention ports. The index is index to vlan member configuration table.

Syntax:

vlan set ext-pvid port <*PORT_LIST:ports* **| all>** *vid*

vlan set ext-pvid port <*PORT_LIST:ports* **| all> vlan-index** *index*

Parameter:

ports	- specified port list
all	- specify all ports
index	- vlan member configuration index
vlan-idex	- vlan member configuration
vid	- specify the numeric VLAN identifier

Examples:

This example shows how to set extention port 3 port-base vlan to vlan 100.

```
RTK.0> vlan set ext-pvid port 3 100
```


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vlan get ext-pvid

Description:

Get port based VID for extention ports. The index is index to vlan member configuration table.

Syntax:

vlan get ext-pvid port <*PORT_LIST:ports* **| all>**

vlan get ext-pvid port <*PORT_LIST:ports* **| all> vlan-index**

Parameter:

ports	- specified port list
all	- specify all ports
vlan-idex	- vlan member configuration

Examples:

This example shows how to get extension port 3 port-base vlan setting.

```
RTK.0> vlan get ext-pvid port 3
EXT Port 3 PVID: 100
```


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vlan set protocol-vlan

Description:

Set protocol base vlan, for protocol group.

Syntax:

vlan set protocol-vlan group *index* **frame-type <ethernet | snap | llc-other>** *frame_type*

vlan set protocol-vlan port <*PORT_LIST:ports* **| all> group** *index*

vid *vid* **priority** *priority*

vlan set protocol-vlan port <*PORT_LIST:ports* **| all> group** *index*

state <enable | disable>

Parameter:

index	- index to protocol vlan group
ports	- specified port list
all	- specify all ports
ethernet	- specify protocol of this entry is ethernet
snap	- specify protocol of this entry is snap
llc-other	- specify protocol of this entry is llc-other
frame_type	- frame type value (example 0x8899)
vid	- specify the numeric VLAN identifier
priority	- priority configuration

Examples:

This example shows how to set protocol vlan group 0 the protocol is ehternet and the ether type of 8899.

RTK.0> vlan set protocol-vlan group 0 frame-type ethernet 0x8899

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vlan get protocol-vlan

Description:

Get protocol base vlan setting.

Syntax:

vlan get protocol-vlan group *index*

vlan get protocol-vlan port <*PORT_LIST:ports* **| all>**

Parameter:

index - index to protocol vlan group

ports - specified port list

all - specify all ports

Examples:

This example shows how to get protocol vlan for group 0.

```
RTK.0> vlan get protocol-vlan group 0
Group       FRAME-TYPE          ETHER-TYPE
0           Ethernet            0x8899
```


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vlan set port-based-fid

Description:

This command set per port based filter-id.

Syntax:

vlan set port-based-fid port <*PORT_LIST:ports* **| all> filter-id** *fid*

vlan set port-based-fid port <*PORT_LIST:ports* **| all> state <enable | disable>**

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration
fid	- filter-id

Examples:

This example shows how to set port 1 filter-id to 6.

```
RTK.0> vlan set port-based-fid port 1 filter-id 6
RTK.0> vlan set port-based-fid port 1 state enable
```


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vlan get port-based-fid

Description:

This command get per port based filter-id.

Syntax:

vlan get port-based-fid port <*PORT_LIST:ports* **| all>**

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 1 filter-id setting.

```
RTK.0> vlan get port-based-fid port 1
Port    FID     State
1       6       Enable
```


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vlan set port-based-pri

Description:

This command set port based priority.

Syntax:

vlan set port-based-pri port <*PORT_LIST:ports* **| all> priority**

priority

Parameter:

ports - specified port list

all - specify all ports

priority - priority configuration

Examples:

This example shows how to set port 1 priority to 6.

RTK.0> vlan set port-based-pri port 1 priority 6

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vlan get port-based-pri

Description:

This command canget port based priority.

Syntax:

vlan get port-based-pri port <*PORT_LIST:ports* **| all>**

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 1 priority setting.

RTK.0> vlan get port-based-pri port 1

Port 1 VLAN based priority: 6

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vlan set leaky

Description:

This command set VLAN leaky function

Syntax:

vlan set leaky ip-mcast port *<PORT_LIST:ports* **| all> state <enable | disable>**

vlan set leaky <cdp | csstp> state <enable | disable>

vlan set leaky rma *rma_tail* **state <enable | disable>**

Parameter:

ip-mcast	- ip mulitcast
ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration
cdp	- cisco Discovery Protocol
csstp	- cisco Shared Spanning Tree Protocol
rma	- reserved multicast address
rma_tail	- tail of RMA MAC address

Examples:

This example shows how to enable CSSTP VLAN leaky function.

RTK.0> vlan set leaky csstp state enable

RTK.0>

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vlan get leaky

Description:

This command get VLAN leaky function.

Syntax:

vlan get leaky ip-mcast port <*PORT_LIST:ports* **| all> state**

vlan get leaky <cdp | csstp> state

vlan get leaky rma *rma_tail* **state**

Parameter:

ip-mcast	- ip mulitcast
ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration
cdp	- Cisco Discovery Protocol
csstp	- Cisco Shared Spanning Tree Protocol
rma	- reserved multicast address
rma_tail	- tail of RMA MAC address

Examples:

This example shows how to get CSSTP VLAN leaky function state.

```
RTK.0> vlan get leaky csstp state
Leaky state of Shared Spanning Tree Protocol: Enable
RTK.0>
```


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vlan set keep-format

Description:

This command set VLAN keep format function. If this feature is enabled on specified type of frame, these frame will keep it VLAN tag format regardless of VLAN untag setting.

Syntax:

vlan set keep-format <cdp | sstp> state <enable | disable>

vlan set keep-format rma *rma_tail* **state <enable | disable>**

Parameter:

state	- state configuration
disable	- disable configuration
enable	- enable configuration
cdp	- cisco Discovery Protocol
sstp	- cisco Shared Spanning Tree Protocol
rma	- reserved multicast address
rma_tail	- tail of RMA MAC address

Examples:

This example shows how to set CDP & SSTP keep-format function to enabled.

RTK.0> vlan set keep-format cdp state enable

RTK.0> vlan set keep-format sstp state enable

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vlan get kee-format

Description:

This command get VLAN keep format function.

Syntax:

vlan get keep-format <cdp | sstp> state

vlan get keep-format rma *rma_tail* **state**

Parameter:

state	- state configuration
cdp	- Cisco Discovery Protocol
sstp	- Cisco Shared Spanning Tree Protocol
rma	- reserved multicast address
rma_tail	- tail of RMA MAC address

Examples:

This example shows how to get CDP & SSTP keep-format function.

RTK.0> vlan get keep-format cdp

VLAN Keep format state of Cisco Discovery Protocol: Enable

RTK.0> vlan get keep-format sstp

VLAN Keep format state of Shared Spanning Tree Protocol: Enable

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2.2. SVLAN commands

svlan init

Description:

This command can initial svlan module, set svlan related configurations to default, and clear all svlan tables. Only after executing this command, other svlan commands can be executed and will not return FAILED.

Syntax:

svlan init

Parameter:

None

Examples:

This example shows how to initial svlan funtions and enable to execute other related svlan commands.

RTK.0> svlan init

RTK.0> svlan get service-port

Server Ports: none

RTK.0>

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svlan create

Description:

This command can create a new svlan. After svlan is created, svlan member and other properties can be set.

Syntax:

svlan create svlan-table svid *svid*

Parameter:

svid - specify the numeric SVLAN identifier

Examples:

This example shows how to create a new svlan which svid is 100.

```
RTK.0> svlan init
RTK.0> svlan create svlan-table svid 100
RTK.0>
```


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svlan destroy

Description:

This command can destroy a svlan or all created svlan.

Syntax:

svlan destroy svlan-table svid *svid*

svlan destroy svlan-table all

Parameter:

svid	- specify the numeric SVLAN identifier
svlan-table	- svlan table
all	- All vlan

Examples:

This example shows how to destroy svid 100.

```
RTK.0> svlan create svlan-table svid 100
RTK.0> svlan destroy svlan-table svid 100
RTK.0>
```


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svlan set entry

Description:

This command can configure the svlan properties of member configuration entry. It is used for debug mode and will be executed whether svlan module had been initialed or not. But only svid of entry is created then the entry properties can be set.

Syntax:

svlan set entry *index* **svid** *svid*

svlan set entry *index* **member** <*PORT_LIST:ports* **| all | none>**

svlan set entry *index* **tag-member** <*PORT_LIST:ports* **| all | none>**

svlan set entry *index* **untag-member** <*PORT_LIST:ports* **| all |**

none>

svlan set entry *index* **priority** *priority*

svlan set entry *index* **fid-msti state <disable | enable>**

svlan set entry *index* **fid-msti** *fid_msti*

svlan set entry *index* **enhanced-fid state <disable | enable>**

svlan set entry *index* **enhanced-fid** *efid*

Parameter:

index	- index of svlan member configuration
svid	- specify the numeric sVLAN identifier
member	- member configuration
tag-member	- tagging member configuration
untag-member	- untag set configuration
ports	- the vlan member or tag member ports
all	- specify all ports
none	- specify no port
priority	- specify the priority value
fid_msti	- the filter-id or msti for this vlan
efid	- specify the enhanced filter-id
state	- state configuration
disable	- disable configuration
enable	- enable configuration

Examples:

This example shows how to congigurate the svlan which svid is 1000:

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Add port 0,1,2,3,4,5,6 to vlan 1000

Assign port 3 to tag member

Set svlan priority to 7

Enable svlan based fid and efid to fid 0 and efid 7

RTK.0> svlan destroy svlan-table all

RTK.0> svlan create svlan-table svid 1000

RTK.0> svlan set entry 0 member 0-6

RTK.0> svlan set entry 0 tag-member 3

RTK.0> svlan set entry 0 priority 7

RTK.0> svlan set entry 0 fid-msti state enable

RTK.0> svlan set entry 0 fid-msti 0

RTK.0> svlan set entry 0 enhanced-fid state enable

RTK.0> svlan set entry 0 enhanced-fid 7

RTK.0> svlan get entry 0

Index	SVID	Member	TagSet	Spri	FidEn	FID	EfidEn	Efid
0	1000	0-6	3	7	Enable	0	Enable	7

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svlan get entry

Description:

Show svlan configuration of a specific entry.

Syntax:

svlan get entry *index*

svlan get entry all

Parameter:

index - index of svlan member configuration

all - All entries of SVLAN configurations

Examples:

This example shows how to get the svlan table configuration of entry 0 and all entries retrieving

```
RTK.0> svlan get entry 0
Index   SVID    Member  TagSet  Spri    FidEn   FID     EfidEn  Efid
0       1000    0-6     3       7       Enable  0       Enable  7
RTK.0>
RTK.0> svlan get entry all
Index   SVID    Member  TagSet  Spri    FidEn   FID     EfidEn  Efid
0       1000    0-6     3       7       Enable  0       Enable  7
1       1001    0-6     0       0       Disable 0       Disable 0
RTK.0>
```


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svlan set svlan-table

Description:

This command can configure svlan with specify svid and only if this svlan is created

Syntax:

svlan set svlan-table svid *svid* **member** <*PORT_LIST:ports* **| all | none>**

svlan set svlan-table svid *svid* tag-member <*PORT_LIST: ports* **| all | none>**

svlan set svlan-table svid *svid* **untag-member** <*PORT_LIST:ports* **| all | none>**

svlan set svlan-table svid *svid* **priority** *priority*

svlan set svlan-table svid *svid* fid-msti state <disable | enable>

svlan set svlan-table svid *svid* **fid-msti** *fid_msti*

svlan set svlan-table svid *svid* **enhanced-fid state <disable | enable>**

svlan set svlan-table svid *svid* **enhanced-fid** *efid*

Parameter:

svid	- specify the numeric sVLAN identifier
member	- member configuration
tag-member	- tagging member configuration
untag-member	- untag set configuration
ports	- the vlan member or tag member ports
all	- specify all ports
none	- specify no port
priority	- specify the priority value
fid_msti	- the filter-id or msti for this vlan
efid	- specify the enhanced filter-id
state	- state configuration
disable	- disable configuration
enable	- enable configuration

Examples:

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This example shows how to congigurate the svlan which svid is 2000:

Add port 0-4 to vlan 2000

Assign port 3 to tag member

RTK.0> svlan create svlan-table svid 2000

RTK.0> svlan set svlan-table svid 2000 member 0-4

RTK.0> svlan set svlan-table svid 2000 tag-member 3

RTK.0> svlan get svlan-table svid 2000

SVID	Member	UntagSet	Spri	FidEn	FID	EfidEn	Efid
2000	0-4	0-2,4-6	0	Disable	0	Disable	0

RTK.0>

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svlan get svlan-table

Description:

Show svlan configuration of a specify svid.

Syntax:

svlan get svlan-table svid *svid*

Parameter:

svid - specify the numeric SVLAN identifier

Examples:

This example shows how to get the svlan table configuration of specify svid 2000

```
RTK.0> svlan get svlan-table svid 2000
SVID    Member    UntagSet    Spri    FidEn      FID    EfidEn     Efid
2000    0-4       0-2,4-6     0       Disable    0      Disable    0
RTK.0>
```


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svlan set port svid

Description:

This command can configure port based svlan with specify svid.

Syntax:

svlan set port <*PORT_LIST:ports* **| all> svid** *svid*

Parameter:

svid - specify the numeric VLAN identifier

ports - specified port list

all - specify all ports

Examples:

This example shows how to congigurate the port 0 port-based svlan with svid 100 and port 1 port-based svlan with svid 200

RTK.0> svlan create svlan-table svid 100

RTK.0> svlan create svlan-table svid 200

RTK.0> svlan set port 0 svid 100

RTK.0> svlan set port 1 svid 200

RTK.0>

svlan get port svid

Description:

Show port based svlan with specify svid.

Syntax:

svlan get port <*PORT_LIST:ports* **| all> svid**

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get the port 0/1 port-based svlan.

```
RTK.0> svlan get port 0-1 svid
Port    SVID
0       100
1       200
RTK.0>
```


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svlan set service-port

Description:

This command can configure svlan tag aware ports or svlan service ports.

Syntax:

svlan set service-port <*PORT_LIST:ports* **| all | none>**

Parameter:

ports - specified port list

all - specify all ports

none - specify no port

Examples:

This example shows how to configurate svlan servive ports 0,3

RTK.0> svlan set service-port 0,3

RTK.0>

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svlan get service-port

Description:

Show svlan tag aware ports or svlan service ports

Syntax:

svlan get service-port

Parameter:

None

Examples:

This example shows how to get svlan servive ports or stag aware ports

RTK.0> svlan set service-port 0,3

RTK.0> svlan get service-port

Server Ports: 0,3

RTK.0>

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svlan set lookup-type

Description:

This command can configure svlan lookup from svlan member configuration entry or vlan 4k table. This command is supported depond on chip design or not.

Syntax:

svlan set lookup-type <svlan-table | vlan-4k-table>

Parameter:

svlan-table - 64 svlan member configurations

vlan-4k-table - 4K vlan table

Examples:

This example shows how to configurate svlan lookup mode to lokkup svlan member configuration entries.

```
RTK.0> svlan set lookup-type svlan-table
RTK.0>
```


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svlan get lookup-type

Description:

Show svlan lookup mode

Syntax:

svlan get lookup-type

Parameter:

None

Examples:

This example shows how to get svlan lookup mode

```
RTK.0> svlan set lookup-type svlan-table
RTK.0> svlan get lookup-type
Lookup type: SVLAN 64 entries
RTK.0>
```


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svlan set tpid

Description:

This command can configure svlan tagging ethertype

Syntax:

svlan set tpid *tpid*

Parameter:

tpid - ethertype for stag

Examples:

This example shows how to configurate ethertype of svlan tag to 0x9100.

```
RTK.0> svlan set tpid 0x9100
RTK.0>
```


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svlan get tpid

Description:

Show svlan tagging ethertype

Syntax:

svlan get tpid

Parameter:

None

Examples:

This example shows how to get ethertype of svlan tag

RTK.0> svlan set tpid 0x9100

RTK.0> svlan get tpid

TPID: 0x9100

RTK.0>

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svlan set priority-source

Description:

This command can configure egress stag priority field inserting source. This configuration will effect asic egress staging priority assignment only.

Syntax:

svlan set priority-source <internal-priority | dot1q-priority

| svlan-member-cofig | port-based-priority>

Parameter:

internal-priority	- switch core internal priority
dot1q-priority	- ingress cvlan tagged priority field
svlan-member-cofig	- priority of svlan member configuration
port-based-priority	- port based priority

Examples:

This example shows how to configurate svlan tagging priority source from cvlan ingress tagged priority field. That means egress stag priority is as the same as ctag priority.

RTK.0> svlan set priority-source dot1q-priority

RTK.0>

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svlan get priority-source

Description:

Show egress stag priority field inserting source

Syntax:

svlan get priority-source

Parameter:

None

Examples:

This example shows how to get source decision of svlan tagging priority field

RTK.0> svlan set priority-source dot1q-priority

RTK.0> svlan get priority-source

Priority source: 1q tag priority

RTK.0>

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svlan set unmatch

Description:

This command can configure asic ation for ingress stag which svid is unmatched any of svlan member configuration entry if svlan lookup is used.

Syntax:

svlan set unmatch <drop | trap-to-cpu>

svlan set unmatch assign-svlan svid *svid*

Parameter:

drop	- drop packet
trap-to-cpu	- trap packet to cpu port
assign-svlan	- assign svlan property
svid	- specify the numeric SVLAN identifier

Examples:

This example shows how to assign action for packets ingress svid unmatched all svlan member configuration to svlan with svid 1001.

```
RTK.0> svlan create svlan-table svid 1001
RTK.0> svlan set unmatch assign-svlan svid 1001
RTK.0>
```


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svlan get unmatch

Description:

Show action for ingress stag packets from service port which svid is unmatched all svlan member configuration entries

Syntax:

svlan get unmatch

Parameter:

None

Examples:

This example shows how to get action for packets from service ports that ingress svid unmatched all svlan member configuration

RTK.0> svlan set unmatch assign-svlan svid 1001

RTK.0> svlan get unmatch

Action: Assign to SVLAN SVID: 1001

RTK.0>

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svlan set untag

Description:

This command can configure action for packets without stag from svlan service port

Syntax:

svlan set untag < drop | trap-to-cpu >

svlan set untag assign-svlan svid *svid*

Parameter:

drop	- drop packet
trap-to-cpu	- trap packet to cpu port
assign-svlan	- assign svlan property
svid	- specify the numeric SVLAN identifier

Examples:

This example shows how to assign trap action for packets without ingress stag from svlan service port.

```
RTK.0> svlan set untag trap-to-cpu
RTK.0>
```


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svlan get untag

Description:

Show action for ingress un-stag packets from svlan service port

Syntax:

svlan get untag

Parameter:

None

Examples:

This example shows how to get action for ingress un-stag packets from svlan service port

RTK.0> svlan set untag assign-svlan svid 1001

RTK.0> svlan get untag

Action: Assign to SVLAN SVID: 1001

RTK.0>

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svlan set trap-priority

Description:

This command can configure priority for packets trapped to cpu for related svlan functions

Syntax:

svlan set trap-priority *priority*

Parameter:

priority - priority for trapping packets

Examples:

This example shows how to assin priority 7 packets which meet svlan related trapped behavior

RTK.0> svlan set trap-priority 7

RTK.0>

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svlan get trap-priority

Description:

Show svlan related assigned trapping priority

Syntax:

svlan get trap-priority

Parameter:

None

Examples:

This example shows how to get svlan trapping priority

RTK.0> svlan set trap-priority 6

RTK.0> svlan get trap-priority

Trap priority: 6

RTK.0>

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svlan set dei-keep state

Description:

This command can configure egress keepping dei field of ingress stag. The DEI of stag will be keep only if this state is set, otherwise it will always be 0 in egress svlan tag.

Syntax:

svlan set dei-keep state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to configurate enable keeping ingress dei field of stag packets for egress stag.

RTK.0> svlan set dei-keep state enable

RTK.0>

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svlan get dei-keep state

Description:

Show egress keep dei field state of ingress stag packets

Syntax:

svlan get dei-keep state

Parameter:

state - state configuration

Examples:

This example shows how to get keep ingress dei field state of stagged packets for egress stag

RTK.0> svlan set dei-keep state enable

RTK.0> svlan get dei-keep

Keep DEI state: Enable

RTK.0>

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svlan set vlan-aggregation

Description:

This command can configure svlan vlan-aggregation state for downstream egress port. Asic can tagging vid by ingress learning in downstream egress port while vlan aggregation state is set.

Not only downstream stag only packet, but also ctag packets will be treated as egress ctag packets by vid which auto vid leaning with mac-address if forced-state is set.

Syntax:

svlan set vlan-aggregation port <*PORT_LIST:ports* **| all > state**

<disable | enable>

svlan set vlan-aggregation forced-state <disable | enable>

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration
forced-state	- forced state configuration

Examples:

This example shows how to configurate the egress port 1 downstream packet vlan aggregation state enable.

RTK.0> svlan set vlan-aggregation port 1 state enable

RTK.0> svlan get vlan-aggregation port 1 state

Port Status

1 Enable

RTK.0>

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svlan get vlan-aggregation

Description:

Show svlan vlan-aggregation state for downstream egress port.

Syntax:

svlan get vlan-aggregation port <*PORT_LIST:ports* **| all > state**

svlan get vlan-aggregation forced-state

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
forced-state	- forced state configuration

Examples:

This example shows how to get port 0-3 downstream packet vlan aggregation state

```
RTK.0> svlan get vlan-aggregation port 0-3 state
Port    Status
0       Disable
1       Enable
2       Disable
3       Disable
RTK.0>
```


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svlan add vlan-conversion

Description:

This command can add ingress vlan conversion configuration from ingress vlan vid or multicast address to svlan svid. Also, this command can add egress vlan conversion configuration for different svlan and egress port to different egress vlan vid.

Syntax:

svlan add vlan-conversion c2s vid *vid* **port <***PORT_LIST:ports* **|**

all> svid *svid*

svlan add vlan-conversion mc2s ip *ip* **ip-mask** *ip_mask* svid *svid*

svlan add vlan-conversion mc2s mac-address ***mac*** **mac-mask**

mac_mask **svid** *svid*

svlan add vlan-conversion sp2c svid *svid* **port** *port* **vid** *vid*

Parameter:

c2s	- cvlan to svlan conversion
mc2s	- multicast to svlan conversion
sp2c	- svlan with egress port to cvlan conversion
vid	- specify the numeric VLAN identifier
svid	- specify the numeric SVLAN identifier
ports	- specified port list
all	- specify all ports
ip	- IPv4 address
ip_mask	- IPv4 address mask
mac	- MAC address
mac_mask	- MAC address mask
port	- specified port

Examples:

This example shows how to add vlan conversion configuration:

Ingress vid 100 from port 0 convert to svlan svid 2000

Ingress vid 100 from port 1 convert to svlan svid 2001

Ingress vid 200 from port 1 convert to svlan svid 2000

IPv4 dip 239.0.0.0~239.0.0.255 to svlan 2002

Layer 2 multicast address 01:xx:11:22:00:00~01:xx:11:22:FF:FF to svlan 2003

SVLAN svid 2000 and egress port 0 to vlan vid 100

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SVLAN svid 2001 and egress port 1 to vlan vid 100

SVLAN svid 2000 and egress port 1 to vlan vid 200

RTK.0> svlan create svlan-table svid 2000

RTK.0> svlan create svlan-table svid 2001

RTK.0> svlan create svlan-table svid 2002

RTK.0> svlan create svlan-table svid 2003

RTK.0> svlan add vlan-conversion c2s vid 100 port 0 svid 2000

RTK.0> svlan add vlan-conversion c2s vid 200 port 1 svid 2000

RTK.0> svlan add vlan-conversion c2s vid 100 port 1 svid 2001

RTK.0> svlan add vlan-conversion mc2s ip 239.0.0.0 ip-mask
255.255.255.0 svid 2002

RTK.0> svlan add vlan-conversion mc2s mac-address
01:00:11:22:00:00 mac-mask 00:00:FF:FF:00:00 svid 2003

RTK.0> svlan add vlan-conversion sp2c svid 2000 port 0 vid 100

RTK.0> svlan add vlan-conversion sp2c svid 2000 port 1 vid 200

RTK.0> svlan add vlan-conversion sp2c svid 2001 port 1 vid 100

RTK.0>

svlan del vlan-conversion

Description:

This command can delete vlan conversion configuration with ingress vid to svid or svid to egress vid.

Syntax:

svlan del vlan-conversion c2s vid *vid* port <*PORT_LIST:ports*** |**

all> svid *svid*

svlan del vlan-conversion mc2s ip *ip* ip-mask *ip_mask*

svlan del vlan-conversion mc2s mac-address *mac* mac-mask

mac_mask

svlan del vlan-conversion sp2c svid *svid* **port** *port*

Parameter:

c2s	- cvlan to svlan conversion
mc2s	- multicast to svlan conversion
sp2c	- svlan with egress port to cvlan conversion
vid	- specify the numeric VLAN identifier
svid	- specify the numeric SVLAN identifier
ports	- specified port list
all	- specify all ports
ip	- IPv4 address
ip_mask	- IPv4 address mask
mac	- MAC address
mac_mask	- MAC address mask
port	- specified port

Examples:

This example shows how to delete ipv4 dip 239.0.0.0~239.0.0.255 to svid 2002 and svid 2001 with egress port 1

RTK.0> svlan del vlan-conversion mc2s ip 239.0.0.0 ip-mask 255.255.255.0

RTK.0> svlan del vlan-conversion sp2c svid 2001 port 1

RTK.0>

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svlan get vlan-conversion

Description:

Show vlan conversion configuration with ingress cvlan, multicast or egress svlan and egress port.

Syntax:

svlan get vlan-conversion c2s vid *vid* **port <**PORT_LIST:*ports* **|**

all>

svlan get vlan-conversion mc2s ip *ip* **ip-mask** *ip_mask*

svlan get vlan-conversion mc2s mac-address *mac* **mac-mask**

mac_mask

svlan get vlan-conversion sp2c svid *svid* **port** *port*

Parameter:

c2s	- cvlan to svlan conversion
mc2s	- multicast to svlan conversion
sp2c	- svlan with egress port to cvlan conversion
vid	- specify the numeric VLAN identifier
svid	- specify the numeric SVLAN identifier
ports	- specified port list
all	- specify all ports
ip	- IPv4 address
ip_mask	- IPv4 address mask
mac	- MAC address
mac_mask	- MAC address mask
port	- specified port

Examples:

This example shows how to get the svlan vlan conversion configuration with ingress vid 100/200 and egress svid 2000 with egress port 0/1.

```
RTK.0> svlan get vlan-conversion c2s vid 100 port all
Vid     Port    Svid
100     0       2000
100     1       2001
RTK.0> svlan get vlan-conversion c2s vid 200 port all
Vid     Port    Svid
```


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```
200     1         2000
RTK.0> svlan get vlan-conversion sp2c svid 2000 port 0
Svid      Port      Cvid
2000      0         100
RTK.0> svlan get vlan-conversion sp2c svid 2000 port 1
Svid      Port      Cvid
2000      1         200
RTK.0>
```


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svlan set vlan-conversion sp2c unmatch-action

Description:

This command can configuration packet egress mode while svlan downstream packets which unmatch any entry of svid with egress port to egress vid conversion setting.

Syntax:

svlan set vlan-conversion sp2c unmatch-action <untag | ctag>

Parameter:

untag - egress cvlan untagging format

ctag - egress cvlan tagging format

Examples:

This example shows how to configurate always untag egress packets witch unmatch any entry of svid with egress port vlan conversion.

```
RTK.0> svlan set vlan-conversion sp2c unmatch-action untag
RTK.0>
```


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svlan get vlan-conversion sp2c unmatch-action

Description:

Show configuration setting for svlan downstream packets which unmatch any entry of svid with destination port to egress vid conversion setting.

Syntax:

svlan get vlan-conversion sp2c unmatch-action

Parameter:

None

Examples:

This example shows how to get unmatched svid with egress port to egress vid conversion configuration.

```
RTK.0> svlan get vlan-conversion sp2c unmatch-action

SP2C unmatching C-tag format: Untagging

RTK.0>
```


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2.3. QoS commands

qos init

Description:

This command will initializae qos module to default setting.

Syntax:

qos init

Parameter:

None

Examples:

This example shows how to initialized QoS module.

RTK.0> qos init

RTK.0>

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qos set priority-to-queue

Description:

This command can configure the priority to queue table, this table have 4 entries. Each entry can map 8 priority to specifiy queue-id.

This table be referenced by “qos set priority-to-queue-mapping”

Syntax:

qos set priority-to-queue table index priority

MASK_LIST:priority **queue-id** *qid*

qos set priority-to-queue port <*PORT_LIST:ports* | all> table

index

Parameter:

index	- index of priority to queue table
table	- priority to queue mapping table
priority	- priority configuration
qid	- specify the numeric queue identifier
ports	- specified port list
all	- specify all ports

Examples:

This example shows how to congigurate the prority to queue table

entry 0 which mappimg is:

priority 0 to 7

priority 1 to 6

priority 2 to 5

priority 3 to 4

priority 4 to 3

priority 5 to 2

priority 6 to 1

priority 7 to 0

Mapping port 0 ~ 6 to prority to queue table entry 0

RTK.0> qos set priority-to-queue table 0 priority 0 queue-id 7

RTK.0> qos set priority-to-queue table 0 priority 1 queue-id 6

RTK.0> qos set priority-to-queue table 0 priority 2 queue-id 5

RTK.0> qos set priority-to-queue table 0 priority 3 queue-id 4

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```
RTK.0> qos set priority-to-queue table 0 priority 4 queue-id 3
RTK.0> qos set priority-to-queue table 0 priority 5 queue-id 2
RTK.0> qos set priority-to-queue table 0 priority 6 queue-id 1
RTK.0> qos set priority-to-queue table 0 priority 7 queue-id 0
RTK.0> qos set priority-to-queue port 0-6 table 0
```


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qos get priority-to-queue

Description:

Show priority to queue mapping table

Syntax:

qos get priority-to-queue table *index*

qos get priority-to-queue port <*PORT_LIST:ports* **| all>**

Parameter:

index - index of priority to queue table

table - priority to queue mapping table

ports - specified port list

all - specify all ports

Examples:

This example shows how to get prority to queue table.

Get prority to queue table entry 0

RTK.0> qos get priority-to-queue table 0

Index pri_0 pri_1 pri_2 pri_3 pri_4 pri_5 pri_6 pri_7

0 7 6 5 4 3 2 1 0

Get prority to queue table entry 0 seting for port 1

RTK.0> qos get priority-to-queue port 1

Port Index

1 0

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qos set remapping

Description:

Per system set priority remapping for dot1p, DSCP, port-ased priority and forward to CPU priority.

Syntax:

qos set remapping dot1p dot1p-priority *dot1p_priority*

internal-priority *internal_priority*

qos set remapping dscp dscp *MASK_LIST:dscp* **internal-priority**

priority

qos set remapping forward-to-cpu internal-priority

internal_priority **remapping-priority** *remapping_priority*

qos set remapping port <*PORT_LIST:ports* **| all>**

internal-priority *priority*

Parameter:

dot1p	- dot1p remapping configuration
dscp	- dscp remapping configuration
forward-to-cpu	- to cpu port remapping configuration
port	- port-based priority
dot1p-priority	- dot1p priority
internal priority	- switch internal priority
remappingöpriority	- priority for remapped configuration
ports	- specified port list
all	- specify all ports

Examples:

This example shows how to remappimg internal priority from

packet dot1p priorty , the remapping setting as:

dot1p-priority 0 remapping to priority 7

dot1p-priority 1 remapping to priority 6

dot1p-priority 2 remapping to priority 5

dot1p-priority 3 remapping to priority 4

RTK.0> qos set remapping dot1p dot1p-priority 0

internal-priority 7

RTK.0> qos set remapping dot1p dot1p-priority 1

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internal-priority 6

RTK.0> qos set remapping dot1p dot1p-priority 2 internal-priority 5

RTK.0> qos set remapping dot1p dot1p-priority 3 internal-priority 4

This example shows how to remappimg internal priority from DSCP priority, the remapping setting as:

DSCP priority 0~15 remapping to 0

DSCP priority 16~31 remapping to 1

DSCP priority 32~47 remapping to 2

DSCP priority 48~63 remapping to 3

RTK.0> qos set remapping dscp dscp 0-15 internal-priority 0

RTK.0> qos set remapping dscp dscp 16-31 internal-priority 1

RTK.0> qos set remapping dscp dscp 32-47 internal-priority 2

RTK.0> qos set remapping dscp dscp 48-63 internal-priority 3

This example shows how to remappimg forward to CPU packet priority as:

Internal priority 0 remapping to 0

Internal priority 1 remapping to 0

Internal priority 2 remapping to 3

Internal priority 3 remapping to 3

Internal priority 4 remapping to 5

RTK.0> qos set remapping forward-to-cpu internal-priority 0 remapping-priority 0

RTK.0> qos set remapping forward-to-cpu internal-priority 1 remapping-priority 0

RTK.0> qos set remapping forward-to-cpu internal-priority 2 remapping-priority 3

RTK.0> qos set remapping forward-to-cpu internal-priority 3 remapping-priority 3

RTK.0> qos set remapping forward-to-cpu internal-priority 4 remapping-priority 5

This example shows how to set port based priority as:

Port 0 remapping to priority 0

Port 1 remapping to priority 1

Port 2 remapping to priority 2

Port 3 remapping to priority 3

RTK.0> qos set remapping port 0 internal-priority 0

RTK.0> qos set remapping port 1 internal-priority 1

RTK.0> qos set remapping port 2 internal-priority 2

RTK.0> qos set remapping port 3 internal-priority 3

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qos get remapping

Description:

Get remapping setting.

Syntax:

qos get remapping dot1p

qos get remapping dscp

qos get remapping forward-to-cpu

qos get remapping port <*PORT_LIST:ports* **| all>**

Parameter:

dot1p	- dot1p remapping configuration
dscp	- dscp remapping configuration
forward-to-cpu	- to cpu port remapping configuration
port	- port-based priority
ports	- specified port list
all	- specify all ports

Examples:

This example shows how get remapping setting:

RTK.0> qos get remapping dot1p

1p Priority internal priority

0 7

1 1

2 2

3 3

4 4

5 5

6 6

7 7

RTK.0> qos get remapping dscp

DSCP Priority

0 0

1 0

2 0

3 0

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4 0

5 0

6 0

7 0

8 0

9 0

10 0

11 0

12 0

13 0

14 0

15 0

16 0

17 0

18 0

19 0

--More—

RTK.0> qos get remapping forward-to-cpu

Priority: 0 Remapping prority: 0

Priority: 1 Remapping prority: 0

Priority: 2 Remapping prority: 0

Priority: 3 Remapping prority: 0

Priority: 4 Remapping prority: 0

Priority: 5 Remapping prority: 0

Priority: 6 Remapping prority: 0

Priority: 7 Remapping prority: 0

RTK.0> qos get remapping port 0-6

Port prioirty

0 0

1 0

2 0

3 0

4 0

5 0

6 0

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qos set priority-selector

Description:

There are 9 priority source in system. This command can assign weight to wach priority source. The source with highest weight will be select to internal priority.

There are 2 prioirty selector group. Per port can select which selector group this port will be used.

Syntax:

qos set priority-selector group-id *index* **<port| dot1q | dscp |**

acl | smac | svlan | vlan | l4 | lookup-table> *weight*

qos set priority-selector port <*PORT_LIST:ports* **| all> group-id**

index

Parameter:

index	- priority selector group index
port	- port based priority source
dot1q	- dot1q priority source
dscp	- dscp priority source
acl	- acl priority source
lut	- lookup table priority source
smac	- source mac priority source
svlan	- svlan priority source
vlan	- vlan priority source
l4	- L4 priority source
weight	- the weight for this priority source
ports	- specified port list
all	- specify all ports

Examples:

This example shows how to set acl priority weight to 15 and port-based priorty weight to 10 for selector group 0.

Set port 0-5 apply selector group 0.

RTK.0> qos set priority-selector group-id 0 acl 15

RTK.0> qos set priority-selector group-id 0 port 10

RTK.0> qos set priority-selector port 0-5 group-id 0

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qos get priority-selector

Description:

Show system priority selector weight for each priority source.

Syntax:

qos get priority-selector group-id *index*

qos get priority-selector port <*PORT_LIST:ports* **| all> group-id**

Parameter:

index - priority selector group index

ports - specified port list

all - specify all ports

Examples:

This example shows how to get priority selector weight for each priority source.

```
RTK.0> qos get priority-selector group-id 0
TYPE            Weight
port            10
dot1q           0
dscp            0
acl             15
vlan            0
lookup-table    0
smac            0
svlan           0
l4              0
RTK.0> qos get priority-selector port 0-5 group-id
Port    Group
0       0
1       0
2       0
3       0
4       0
5       0
```


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qos set remarking dot1p

Description:

Per egress port enable/disable dot1p priority remarking and set per system internal priority to remarking dot1p mapping.

Syntax:

qos set remarking dot1p port <*PORT_LIST:ports* **| all> state <disable | enable>**

qos set remarking dot1p user-priority *priority* **dot1p-priority** *dot1p_priority*

Parameter:

ports	specified port list
all	specify all ports
state	state configuration
disable	disable configuration
enable	enable configuration
dot1pöpriority	dot1p priority
useröpriority	switch user priority
priority	priority configuration

Examples:

This example shows how to congigurate internal priority remarking to packet dot1p priority as:

The example shows how to enable dot1p priority remarking for port 1,2,3

internal priority 0 remarking dot1p priority 7

internal priority 1 remarking dot1p priority 6

internal priority 2 remarking dot1p priority 5

internal priority 3 remarking dot1p priority 4

internal priority 4 remarking dot1p priority 3

internal priority 5 remarking dot1p priority 2

internal priority 6 remarking dot1p priority 1

internal priority 7 remarking dot1p priority 0

RTK.0> qos set remarking dot1p user-priority 0 dot1p-priority 7

RTK.0> qos set remarking dot1p user-priority 1 dot1p-priority 6

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```
RTK.0> qos set remarking dot1p user-priority 2 dot1p-priority 5
RTK.0> qos set remarking dot1p user-priority 3 dot1p-priority 4
RTK.0> qos set remarking dot1p user-priority 4 dot1p-priority 3
RTK.0> qos set remarking dot1p user-priority 5 dot1p-priority 2
RTK.0> qos set remarking dot1p user-priority 6 dot1p-priority 1
RTK.0> qos set remarking dot1p user-priority 7 dot1p-priority 0
RTK.0> qos set remarking dot1p port 1,2,3 state enable
```


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qos get remarking dot1p

Description:

Per system set forward to CPU priority remapping.

Syntax:

qos get remarking dot1p port <*PORT_LIST:ports* **| all> state**

qos get remarking dot1p

Parameter:

ports	-specified port list
all	-specify all ports
state	-state configuration
source	-remarking source

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qos set remarking dscp

Description:

Set dscp remarking function. Per port would enable/disable DSCP remarking. The remarking source can be selected for each port.

The remarking source would be internal-prioirty, user-prioirty and packet original dscp value.

Syntax:

qos set remarking dscp port <*PORT_LIST:ports* **| all> state**

<disable | enable>

qos set remarking port <*PORT_LIST:ports* **| all> dscp source**

<internal-priority | user-priority | dscp>

qos set remarking dscp inter-priority *priority* **remarking-dscp**

dscp

qos set remarking dscp user-priority *priority* **remarking-dscp**

dscp

qos set remarking dscp original-dscp *MASK_LIST:dscp*

remarking-dscp *remarking_dscp*

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
disable	- disable configuration
enable	- enable configuration
source	- remarking source
inter-priority	- switch internal/user priority
internal-priority	- switch internal priority
user-priority	- switch user priority
original-dscp	- ingress original dscp
remarking-dscp	- egress remarked dscp
dscp	- dscp configuration
priority	- priority configuration

Examples:

This example shows how to enable dscp remarking on port 4.

The remarking source is based on packet original dscp value.

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The dscp remarking value will be set as

Packet original DSCP valu 0-31 remapping to 0

Packet original DSCP valu 32-63 remapping to 32

RTK.0> qos set remarking dscp port 4 state enable

RTK.0> qos set remarking port 4 dscp source dscp

RTK.0> qos set remarking dscp original-dscp 0-31 remarking-dscp 0

RTK.0> qos set remarking dscp original-dscp 31-63 remarking-dscp 31

RTK.0>

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qos get remarking dscp

Description:

Get dscp remarking setting.

Syntax:

qos get remarking dscp port <*PORT_LIST:ports* | all> state

qos get remarking port <*PORT_LIST:ports* | all> dscp source

qos get remarking dscp <inter-priority | original-dscp>

Parameter:

ports	- specified port list
all	- specify all ports
state	- state configuration
source	- remarking source
inter-priority	- switch internal/user priority
original-dscp	- ingress original dscp

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qos set scheduling algorithm

Description:

This command can set per port per queue scheduling algorithm.

Syntax:

qos set scheduling algorithm port <*PORT_LIST:ports* **| all>**

queue-id *qid* **<strict | wfq>**

Parameter:

ports - specified port list

all - specify all ports

qid - specify the numeric queue identifier

strict - scheduling using strict queue type

wfq - scheduling using WFQ type

Examples:

This example shows how to congigurate port 1 queue 0-3 using strict, queue 4-7 using WFQ:

RTK.0> qos set scheduling algorithm port 1 queue-id 0 strict

RTK.0> qos set scheduling algorithm port 1 queue-id 1 strict

RTK.0> qos set scheduling algorithm port 1 queue-id 2 strict

RTK.0> qos set scheduling algorithm port 1 queue-id 3 strict

RTK.0> qos set scheduling algorithm port 1 queue-id 4 wfq

RTK.0> qos set scheduling algorithm port 1 queue-id 5 wfq

RTK.0> qos set scheduling algorithm port 1 queue-id 6 wfq

RTK.0> qos set scheduling algorithm port 1 queue-id 7 wfq

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qos get scheduling algorithm

Description:

Show per port per queue scheduling algorithm.

Syntax:

qos get scheduling algorithm port <*PORT_LIST:ports* **| all>**

queue-id *qid*

Parameter:

ports - specified port list

all - specify all ports

qid - specify the numeric queue identifier

Examples:

This example shows how to get queue scheduling algorithm for port 1 queue 0 and queue 1.

```
RTK.0> qos get scheduling algorithm port 1 queue-id 0
port: 1 queue: 0 type:strict
RTK.0> qos get scheduling algorithm port 1 queue-id 1
port: 1 queue: 1 type:strict
RTK.0>
```


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qos set scheduling queue-weight

Description:

This command can set per port per queue WFQ scheduling weight .

Syntax:

qos set scheduling queue-weight port <*PORT_LIST:ports* | all >

queue-id *qid* weight *weight*

Parameter:

ports - specified port list

all - specify all ports

qid - specify the numeric queue identifier

weight - the queue scheduling weight

Examples:

This example shows how to congigurate port 1 queue 0 weight 65535, queue 4 weight 15:

RTK.0> qos set scheduling queue-weight port 1 queue-id 0 weight 65535

RTK.0> qos set scheduling queue-weight port 1 queue-id 4 weight 15

RTK.0>

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qos get scheduling queue-weight

Description:

Show per port per queue scheduling weight.

Syntax:

qos get scheduling queue-weight port <*PORT_LIST:ports* | all>

queue-id *qid*

Parameter:

ports - specified port list

all - specify all ports

qid - specify the numeric queue identifier

Examples:

This example shows how to get queue scheduling weight for port 1 queue 0-1.

```
RTK.0> qos get scheduling queue-weight port 1 queue-id 0
port: 1 queue: 0 weight:65535
RTK.0> qos get scheduling queue-weight port 1 queue-id 1
port: 1 queue: 1 weight:0
RTK.0>
```


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qos set avb remapping

Description:

Per system set av bridge priority remapping.

Syntax:

qos set avb remapping internal-priority *priority* user-priority *user_priority*

qos set avb remapping port <*PORT_LIST:ports* | all> state <disable | enable>

Parameter:

internal-priority - switch internal priority

user-priority - switch user priority

ports - specified port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to enable av bridge priority remaping on port 1 and the remapping table will as follow:

Internal priority 0 remapping to 0

Internal priority 1 remapping to 0

Internal priority 2 remapping to 3

Internal priority 3 remapping to 3

Internal priority 4 remapping to 3

Internal priority 5 remapping to 7

Internal priority 6 remapping to 7

Internal priority 7 remapping to 7

RTK.0> qos set avb remapping port 1 state enable

RTK.0> qos set avb remapping internal-priority 0 user-priority 0

RTK.0> qos set avb remapping internal-priority 1 user-priority 0

RTK.0> qos set avb remapping internal-priority 2 user-priority 3

RTK.0> qos set avb remapping internal-priority 3 user-priority 3

RTK.0> qos set avb remapping internal-priority 4 user-priority 3

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RTK.0> qos set avb remapping internal-priority 5 user-priority 7

RTK.0> qos set avb remapping internal-priority 6 user-priority 7

RTK.0> qos set avb remapping internal-priority 7 user-priority 7

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qos get avb remapping

Description:

Get AV bridage priority remapping setting.

Syntax:

qos get avb remapping internal-priority *priority*

qos get avb remapping port <*PORT_LIST:ports* | all> state

Parameter:

internal-priority - switch internal priority

ports - specified port list

all - specify all ports

state - state configuration

Examples:

RTK.0> qos get avb remapping port all

Port State

0 Disable

1 Enable

2 Disable

3 Disable

4 Disable

5 Disable

RTK.0> qos get avb remapping internal-priority 0

Priority Remap-Pri

0 0

RTK.0> qos get avb remapping internal-priority 1

Priority Remap-Pri

1 0

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2.4. l2-table commands

l2-table init

Description:

This command can initialize & reset L2 module.

Syntax:

l2-table init

Parameter:

None

Examples:

This example shows how to initialize L2 module.

RTK.0> l2-table init

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l2-table set aging-time

Description:

Thie command set aging time. The unit is 0.1 second.

Syntax:

l2-table set aging-time *time*

Parameter:

time - aging time, unit 0.1 second

Examples:

This example shows how to set aging time to 300 seconds.

RTK.0> l2-table set aging-time 3000

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l2-table get aging-time

Description:

This command can get aging time.

Syntax:

l2-table get aging-time

Parameter:

None

Examples:

This example shows how to get aging time.

RTK.0> l2-table get aging-time

Age Time: 3000

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l2-table set limit-learning

Description:

This command can set per port or system limit learning number. The number specified in this command is only count dynamic L2 entries. For those packets which is not learned due to the current entry number is equal to limit learning number, an action can also be set for these packet.

Syntax:

l2-table set limit-learning port <*PORT_LIST:ports* | all> count *count*

l2-table set limit-learning port <*PORT_LIST:ports* | all> count unlimited

l2-table set limit-learning port <*PORT_LIST:ports* | all> action <drop | forward | copy-to-cpu | trap-to-cpu>

l2-table set limit-learning action <drop | forward | copy-to-cpu | trap-to-cpu>

l2-table set limit-learning count *count*

l2-table set limit-learning count unlimited

Parameter:

ports - specify a port list

all - specify all ports

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

copy-to-cpu - copy packet to cpu port

count - limited learning count

unlimited - unlimited configuration

action - over learning behavior

Examples:

This example shows how to set the following configuration.

Set system limit learning to 1000.

Set port 0-1 limit learning to 20.

Set system limit learning action as “Drop”

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Set port 0-1 limit learning action as “Forward”

RTK.0> l2-table set limit-learning count 1000

RTK.0> l2-table set limit-learning action drop

RTK.0> l2-table set limit-learning port 0-1 count 20

RTK.0> l2-table set limit-learning port 0-1 action forward

RTK.0>

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l2-table get limit-learning

Description:

This command can get the configuration of limit learning

Syntax:

l2-table get limit-learning port <*PORT_LIST:ports* | all> count

l2-table get limit-learning port <*PORT_LIST:ports* | all> action

l2-table get limit-learning action

l2-table get limit-learning count

Parameter:

ports - specify a port list

all - specify all ports

count - limited learning count

action - over learning behavior

Examples:

This example shows how to get system and port limit learning configuration.

RTK.0> l2-table get limit-learning count

System Learning Limit: 1000

RTK.0> l2-table get limit-learning action

System learning Over Action: Drop

RTK.0> l2-table get limit-learning port 0-6 count

Port 0 learning limit: 20

Port 1 learning limit: 20

Port 5 learning limit: 2112

RTK.0> l2-table get limit-learning port 0-1 action

Port 0 learning limit over action: Forward

Port 1 learning limit over action: Forward

RTK.0>

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l2-table get learning-exceed

Description:

This command get the status of limit learning exceed. If the current learning number is equal to limit learning, the status will becomes YES.

Syntax:

l2-table get learning-exceed

l2-table get learning-exceed port <*PORT_LIST:ports* | all>

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get system and port learning-exceed.

RTK.0> l2-table get learning-exceed

Learning-exceed = No

RTK.0> l2-table get learning-exceed port 0-1

Port Id 0, learning-exceed = No

Port Id 1, learning-exceed = No

RTK.0>

l2-table set src-port-egress-filter

Description:

This command set source port egress filtering function.

Syntax:

l2-table set src-port-egress-filter port <*PORT_LIST:ports* | all> state <disable | enable>

l2-table set src-port-egress-filter ext <*PORT_LIST:ports*> state <disable | enable>

Parameter:

ports - specify a port list

all - specify all ports

ext - specify a extention port list

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state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to disable source port filtering at port 0-2 and extension port 0-1

```
RTK.0> l2-table set src-port-egress-filter port 0-2 state
disable
RTK.0> l2-table set src-port-egress-filter ext 0-1 state disable
RTK.0>
```


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l2-table get src-port-egress-filter

Description:

This command can get source port filtering configuration.

Syntax:

l2-table get src-port-egress-filter port <PORT_LIST:ports | all> state

l2-table get src-port-egress-filter ext <PORT_LIST:ports> state

Parameter:

ports - specify a port list

all - specify all ports

ext - specify a extention port list

state - state configuration

Examples:

This example shows how to get source port filtering for all ports and all extension ports.

```
RTK.0> l2-table get src-port-egress-filter port 0-6
SRC Port 0 egress filter state: Disable
SRC Port 1 egress filter state: Disable
SRC Port 2 egress filter state: Disable
SRC Port 3 egress filter state: Enable
SRC Port 4 egress filter state: Enable
SRC Port 5 egress filter state: Enable
SRC Port 6 egress filter state: Enable
RTK.0> l2-table get src-port-egress-filter ext 0-5
EXT Port 0 egress filter state: Disable
EXT Port 1 egress filter state: Disable
EXT Port 2 egress filter state: Enable
EXT Port 3 egress filter state: Enable
EXT Port 4 egress filter state: Enable
EXT Port 5 egress filter state: Enable
RTK.0>
```


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l2-table clear learning-exceed

Description:

This command can clear the learning-exceed status.

Syntax:

l2-table clear learning-exceed

l2-table clear learning-exceed port <PORT_LIST:ports | all>

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to clear the learning-exceed status.

```
RTK.0> l2-table clear learning-exceed
Learning-exceed clear
RTK.0> l2-table clear learning-exceed port 0-6
Port Id 0, learning-exceed clear
Port Id 1, learning-exceed clear
Port Id 2, learning-exceed clear
Port Id 3, learning-exceed clear
Port Id 4, learning-exceed clear
Port Id 5, learning-exceed clear
Port Id 6, learning-exceed clear
RTK.0>
```


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l2-table set aging-out

Description:

This command set the state of aging-out.

Syntax:

l2-table set aging-out port < *PORT_LIST:ports* | all > state <disable | enable>

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to disable aging-out at port 0-2.

```
RTK.0> l2-table set aging-out port 0-2 state disable
RTK.0>
```


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l2-table get aging-out

Description:

This command get the state of aging-out.

Syntax:
l2-table get aging-out port <*PORT_LIST:ports* | all > state

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

Examples:

This example shows how to get the state of aging-out.

RTK.0> l2-table get aging-out port 0-6

Port 0 Age state: Disable

Port 1 Age state: Disable

Port 2 Age state: Disable

Port 3 Age state: Enable

Port 4 Age state: Enable

Port 5 Age state: Enable

Port 6 Age state: Enable

RTK.0>

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l2-table add ip-mcast dip

Description:

This command used to add an IP multicast DIP only entry

Syntax:

l2-table add ip-mcast dip *dip* port <*PORT_LIST:ports* | all | none>

l2-table add ip-mcast dip *dip* ext <*PORT_LIST:ext* | all | none>

l2-table add ip-mcast dip *dip* priority *priority*

l2-table add ip-mcast dip *dip* port <*PORT_LIST:ports* | all>

l3-interface *index*

l2-table add ip-mcast dip *dip* <priority | l3routing |

forcedl3routing> state <disable | enable>

Parameter:

dip - destination ip address

ports - specified port list

all - specify all ports

none - specify no port

state - state configuration

disable - disable configuration

enable - enable configuration

priority - priority configuration

ext - specify a extention port list

l3-interface - specify layer 3 routing interface

l3routing - layer 3 routing configuration

forcedl3routing - forced layer 3 routing configuration

Examples:

This example shows how to add an IP multicast DIP only entry.

DIP = 224.1.1.1

Portmask = Port 0-2

Enable Priority assignment and the priority is 6.

RTK.0> l2-table add ip-mcast dip 224.1.1.1 port 0-2

LUT address: 0x0000 (2K LUT)

RTK.0> l2-table add ip-mcast dip 224.1.1.1 priority state enable

LUT address: 0x0000 (2K LUT)

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```
RTK.0> l2-table add ip-mcast dip 224.1.1.1 priority 6
LUT address: 0x0000 (2K LUT)
RTK.0>
```


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l2-table get ip-mcast dip

Description:

This command can get an IP multicast DIP only entry

Syntax:

l2-table get ip-mcast dip *dip*

Parameter:

dip - destination ip address

Examples:

This example shows how to get an IP multicast DIP only entry which DIP = 224.1.1.1.

```
RTK.0> l2-table get ip-mcast dip 224.1.1.1
LUT address: 0x0000 (2K LUT)
DestinationIP Member Fwd Pri State Ext DipOnly ForceExt L3Route L3Idx
--------------- ------ --- --- ------ ------ ------- -------- ------- -----
224.1.1.1 0-2 En 6 Auto En Dis Dis 0
RTK.0>
```

l2-table del ip-mcast dip

Description:

This command can delete a IP multicast DIP only entry.

Syntax:

l2-table del ip-mcast dip *dip*

Parameter:

dip - destination ip address

Examples:

This example shows how to delete an IP multicast DIP only entry which DIP = 224.1.1.1.

```
RTK.0> l2-table del ip-mcast dip 224.1.1.1
RTK.0>
```


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l2-table add ip-mcast sip dip

Description:

This command add an IP multicast entry with both DIP and SIP.

Syntax:

l2-table add ip-mcast sip *sip* dip *dip* port <*PORT_LIST:ports* | all | none>

l2-table add ip-mcast sip *sip* dip *dip* ext <*PORT_LIST:ext* | all | none>

l2-table add ip-mcast sip *sip* dip *dip* priority *priority*

l2-table add ip-mcast sip *sip* dip *dip* priority state <disable | enable>

Parameter:

sip - source ip address

dip - destination ip address

ports - specified port list

all - specify all ports

none - specify no port

state - state configuration

disable - disable configuration

enable - enable configuration

priority - priority configuration

ext - specify a extention port list

Examples:

This example shows how to add an IP multicast entry.

DIP = 224.1.1.1

SIP = 10.1.1.1

Portmask = Port 0-2

Enable Priority assignment and the priority is 6.

RTK.0> l2-table add ip-mcast sip 10.1.1.1 dip 224.1.1.1 port 0-2

LUT address: 0x0000 (2K LUT)

RTK.0> l2-table add ip-mcast sip 10.1.1.1 dip 224.1.1.1 priority state enable

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LUT address: 0x0000 (2K LUT)

RTK.0> l2-table add ip-mcast sip 10.1.1.1 dip 224.1.1.1 priority 6

LUT address: 0x0000 (2K LUT)

RTK.0>

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l2-table get ip-mcast sip dip

Description:

This command get an IP multicast entry with both DIP and SIP.

Syntax:

l2-table get ip-mcast sip *sip* dip *dip*

Parameter:

sip - source ip address

dip - destination ip address

Examples:

This example shows how to get an IP multicast entry.

DIP = 224.1.1.1

SIP = 10.1.1.1

RTK.0> l2-table get ip-mcast sip 10.1.1.1 dip 224.1.1.1

LUT address: 0x0000 (2K LUT)

DestinationIP SourceIP Member Fwd Pri State Ext DipOnly

--- --- --- --- --- --- ---

224.1.1.1 10.1.1.1 Dis 0 Auto Dis

RTK.0>

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l2-table del ip-mcast sip dip

Description:

The command can delete an IP multicast entry with DIP and SIP

Syntax:

l2-table del ip-mcast sip *sip* dip *dip*

Parameter:

sip - source ip address

dip - destination ip address

Examples:

This example shows how to delete an IP multicast entry.

DIP = 224.1.1.1

SIP = 10.1.1.1

RTK.0> l2-table del ip-mcast sip 10.1.1.1 dip 224.1.1.1

RTK.0>

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l2-table add ip-mcast vid dip

Description:

This command can add an IP multicast entry with VID & DIP

Syntax:

l2-table add ip-mcast vid *vid* dip *dip* port <*PORT_LIST:ports* | all | none>

l2-table add ip-mcast vid *vid* dip *dip* ext <*PORT_LIST:ext* | all | none>

l2-table add ip-mcast vid *vid* dip *dip* priority *priority*

l2-table add ip-mcast vid *vid* dip *dip* priority state <disable | enable>

Parameter:

vid - specify the numeric VLAN identifier

dip - destination ip address

ports - specified port list

all - specify all ports

none - specify no port

state - state configuration

disable - disable configuration

enable - enable configuration

priority - priority configuration

ext - specify a extention port list

Examples:

This example shows how to add an IP multicast entry.

DIP = 224.1.1.1

VID = 10

Portmask = Port 0-2

Enable Priority assignment and the priority is 6.

RTK.0> l2-table add ip-mcast vid 10 dip 224.1.1.1 port 0-2

LUT address: 0x0000 (2K LUT)

RTK.0> l2-table add ip-mcast vid 10 dip 224.1.1.1 priority state enable

LUT address: 0x0000 (2K LUT)

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```
RTK.0> l2-table add ip-mcast vid 10 dip 224.1.1.1 priority 6
LUT address: 0x0000 (2K LUT)
RTK.0>
```


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l2-table get ip-mcast vid dip

Description:

This command can get an IP multicast entry with VID & DIP

Syntax:

l2-table get ip-mcast vid *vid* dip *dip*

Parameter:

vid - specify the numeric VLAN identifier

dip - destination ip address

Examples:

This example shows how to get an IP multicast entry.

DIP = 224.1.1.1

VID = 10

LUT address: 0x0000 (2K LUT)

DestinationIP SourceIP Member Fwd Pri State Ext DipOnly

--- --- --- --- --- --- ---

224.1.1.1 10.1.1.1 0-2 En 6 Auto Dis

RTK.0>

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l2-table del ip-mcast vid dip

Description:

This command can delete an IP multicast entry with VID & DIP.

Syntax:

l2-table del ip-mcast vid *vid* dip *dip*

Parameter:

vid - specify the numeric VLAN identifier

dip - destination ip address

Examples:

This example shows how to delete an IP multicast entry.

DIP = 224.1.1.1

VID = 10

RTK.0> l2-table del ip-mcast vid 10 dip 224.1.1.1

RTK.0>

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l2-table add mac-mcast filter-id

Description:

This command can add a L2 SVL mulitcast entry

Syntax:

l2-table add mac-mcast filter-id *fid* mac-address *mac* port <*PORT_LIST:ports* | all | none>

l2-table add mac-mcast filter-id *fid* mac-address *mac* ext <*PORT_LIST:ext* | all | none>

l2-table add mac-mcast filter-id *fid* mac-address *mac* priority *priority*

l2-table add mac-mcast filter-id *fid* mac-address *mac* priority state <disable | enable>

Parameter:

fid - filter-id

mac - mac address

ports - specified port list

all - specify all ports

none - specify no port

state - state configuration

disable - disable configuration

enable - enable configuration

priority - priority configuration

ext - specify a extention port list

Examples:

This example shows how to add a L2 SVL multicast entry.

MAC = 01:00:5E:01:02:03

FID = 2

Portmask = Port 0-2

RTK.0> l2-table add mac-mcast filter-id 2 mac-address 01:00:5E:01:02:03 port 0-2

LUT address: 0x0000 (2K LUT)

RTK.0>

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l2-table get mac-mcast filter-id

Description:

This command can get a L2 SVL multicast entry.

Syntax:

l2-table get mac-mcast filter-id *fid* mac-address *mac*

Parameter:

fid - filter-id

mac - mac address

Examples:

This example shows how to get a L2 SVL multicast entry.

MAC = 01:00:5E:01:02:03

FID = 2

RTK.0> l2-table get mac-mcast filter-id 2 mac-address

01:00:5E:01:02:03

LUT address: 0x0000 (2K LUT)

MACAddress Member FID FwdPriEn Pri Ext

------------------ ------ ---- -------- --- ------

01:00:5E:01:02:03 2 Dis 0

RTK.0>

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l2-table del mac-mcast filter-id

Description:

This command can delete a L2 SVL multicast entry.

Syntax:

l2-table del mac-mcast filter-id *fid* mac-address *mac*

Parameter:

fid - filter-id

mac - mac address

Examples:

This example shows how to delete a L2 SVL multicast entry.

MAC = 01:00:5E:01:02:03

FID = 2

RTK.0> l2-table del mac-mcast filter-id 2 mac-address

01:00:5E:01:02:03

RTK.0>

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l2-table add mac-mcast vid

Description:

This command can add a L2 IVL mulitcast entry

Syntax:

l2-table add mac-mcast vid *vid* mac-address *mac* port

<*PORT_LIST:ports* | all | none>

l2-table add mac-mcast vid *vid* mac-address *mac* ext

<*PORT_LIST:ext* | all | none>

l2-table add mac-mcast vid *vid* mac-address *mac* priority *priority*

l2-table add mac-mcast vid *vid* mac-address *mac* priority state

<disable | enable>

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

ports - specified port list

all - specify all ports

none - specify no port

state - state configuration

disable - disable configuration

enable - enable configuration

priority - priority configuration

ext - specify a extention port list

Examples:

This example shows how to add a L2 IVL multicast entry.

MAC = 01:00:5E:01:02:03

VID = 10

Portmask = Port 0-2

RTK.0> l2-table add mac-mcast vid 10 mac-address

01:00:5E:01:02:03 port 0-2

LUT address: 0x0000 (2K LUT)

RTK.0>

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l2-table get mac-mcast vid

Description:

This command can get a L2 IVL mulitcast entry

Syntax:

l2-table get mac-mcast vid *vid* mac-address *mac*

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

Examples:

This example shows how to get a L2 IVL multicast entry.

MAC = 01:00:5E:01:02:03

VID = 10

RTK.0> l2-table get mac-mcast vid 10 mac-address

01:00:5E:01:02:03

LUT address: 0x0524 (2K LUT)

MACAddress Member VID FwdPriEn Pri Ext

------------------ ------ ---- -------- --- ------

01:00:5E:01:02:03 0-2 10 Dis 0

RTK.0>

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l2-table del mac-mcast vid

Description:

This command can delete a L2 IVL mulitcast entry

Syntax:

l2-table del mac-mcast vid *vid* mac-address *mac*

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

Examples:

This example shows how to delete a L2 IVL multicast entry.

MAC = 01:00:5E:01:02:03

VID = 10

RTK.0> l2-table del mac-mcast vid 10 mac-address

01:00:5E:01:02:03

RTK.0>

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l2-table add mac-ucast vid

Description:

This command can add a L2 IVL unicast entry

Syntax:

l2-table add mac-ucast vid *vid* mac-address *mac* spn *port*

l2-table add mac-mcast vid *vid* mac-address *mac* ext-spn *port*

l2-table add mac-ucast vid *vid* mac-address *mac* filter-id *fid*

l2-table add mac-ucast vid *vid* mac-address *mac* age *age*

l2-table add mac-ucast vid *vid* mac-address *mac* priority *priority*

l2-table add mac-ucast vid *vid* mac-address *mac* <priority | sa-priority | arp-usage | auth | da-block | sa-block | static> state <disable | enable>

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

spn - specify learning source port

ext-spn - specify learing extention port

fid - filter-id

age - aging time

priority - priority configuration

state - state configuration

disable - disable configuration

enable - enable configuration

priority - lookup priority

sa-priority - source address lookup priority

arp-usage - entry for arp record

auth - 1x authed

da-block - destination address block

sa-block - source address block

static - static entry

Examples:

This example shows how to add a L2 IVL unicast entry.

MAC = 00:01:02:03:04:05

VID = 10

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Source port = Port 2

Static = ENABLED

RTK.0> l2-table add mac-ucast vid 10 mac-address

00:01:02:03:04:05 static state enable

LUT address: 0x0000 (2K LUT)

RTK.0> l2-table add mac-ucast vid 10 mac-address

00:01:02:03:04:05 spn 2

LUT address: 0x0000 (2K LUT)

RTK.0>

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l2-table get mac-ucast vid

Description:

This command can get a L2 IVL unicast entry

Syntax:

l2-table get mac-ucast vid *vid* mac-address *mac*

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

Examples:

This example shows how to get a L2 IVL unicast entry.

MAC = 00:01:02:03:04:05

VID = 10

RTK.0> l2-table get mac-ucast vid 10 mac-address

00:01:02:03:04:05

LUT address: 0x0000 (2K LUT)

Spa/ Priority

Block

MACAddress Ext Fid Efid Age Vid State LRN Sa Fwd Pri

Auth Da Sa Arp

---------- --- --- ---- --- ---- ------ --- --- --- ---

---- --- --- ---

00:01:02:03:04:05 0/0 0 0 0 10 Auto IVL Dis Dis 0 Dis

Dis Dis Dis

RTK.0>

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l2-table del mac-ucast vid

Description:

This command can delete a L2 IVL unicast entry

Syntax:

l2-table del mac-ucast vid *vid* mac-address *mac*

Parameter:

vid - specify the numeric VLAN identifier

mac - mac address

Examples:

This example shows how to delete a L2 IVL unicast entry.

MAC = 00:01:02:03:04:05

VID = 10

RTK.0> l2-table del mac-ucast vid 10 mac-address

00:01:02:03:04:05

RTK.0>

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l2-table add mac-ucast filter-id

Description:

This command can add a L2 SVL unicast entry

Syntax:

l2-table add mac-ucast filter-id *fid* mac-address *mac* spn *port*

l2-table add mac-mcast filter-id *fid* mac-address *mac* ext-spn *port*

l2-table add mac-ucast filter-id *fid* mac-address *mac* filter-id *fid*

l2-table add mac-ucast filter-id *fid* mac-address *mac* age *age*

l2-table add mac-ucast filter-id *fid* mac-address *mac* priority *priority*

l2-table add mac-ucast filter-id *fid* mac-address *mac* <priority | sa-priority | arp-usage | auth | da-block | sa-block | static> state <disable | enable>

Parameter:

fid - filter-id

mac - mac address

spn - specify learning source port

ext-spn - specify learing extention port

fid - filter-id

age - aging time

priority - priority configuration

state - state configuration

disable - disable configuration

enable - enable configuration

priority - lookup priority

sa-priority - source address lookup priority

arp-usage - entry for arp record

auth - 1x authed

da-block - destination address block

sa-block - source address block

static - static entry

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Examples:

This example shows how to add a L2 SVL unicast entry.

MAC = 00:01:02:03:04:05

Filter-ID = 5

Source port = Port 2

Static = ENABLED

```
RTK.0> l2-table add mac-ucast filter-id 5 mac-address
00:01:02:03:04:05 static state enable
LUT address: 0x0000 (2K LUT)
RTK.0> l2-table add mac-ucast filter-id 5 mac-address
00:01:02:03:04:05 spn 2
LUT address: 0x0000 (2K LUT)
RTK.0>
```


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l2-table get mac-ucast filter-id

Description:

This command can get a L2 SVL unicast entry

Syntax:

l2-table get mac-ucast filter-id *fid* mac-address *mac*

Parameter:

fid - filter-id

mac - mac address

Examples:

This example shows how to get a L2 SVL unicast entry.

MAC = 00:01:02:03:04:05

Filter-ID = 5

RTK.0> l2-table get mac-ucast filter-id 5 mac-address

00:01:02:03:04:05

LUT address: 0x0000 (2K LUT)

Spa/ Priority Block

MACAddress Ext Fid Efid Age Vid State LRN Sa Fwd Pri

Auth Da Sa Arp

---------- --- --- ---- --- ---- ------ --- --- --- ---

---- --- --- ---

00:01:02:03:04:05 0/0 5 0 0 0 Auto SVL Dis Dis 0 Dis

Dis Dis Dis

RTK.0>

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l2-table del mac-ucast filter-id

Description:

This command can delete a L2 SVL unicast entry

Syntax:

l2-table del mac-ucast filter-id *fid* mac-address *mac*

Parameter:

fid - filter-id

mac - mac address

Examples:

This example shows how to delete a L2 SVL unicast entry.

MAC = 00:01:02:03:04:05

Filter-ID = 5

RTK.0> l2-table del mac-ucast filter-id 5 mac-address

00:01:02:03:04:05

RTK.0>

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l2-table set mac-ucast enhanced-filter-id

Description:

This command can set enhanced filter ID. Enhanced filter ID is on hash key for unicast entry. When users add an unicast entry, enhance filter ID set by this command will be used.

Syntax:

l2-table set mac-ucast enhanced-filter-id *efid*

Parameter:

efid - enhanced filter-id

Examples:

This example shows how to set enhanced fileter ID to 3.

```
RTK.0> l2-table set mac-ucast enhanced-filter-id 3
RTK.0>
```


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l2-table get entry

Description:

This command can get an entry by specifying a fixed index at Lookup table.

Syntax:

l2-table get entry address *address*

Parameter:

address - specify entry address

Examples:

This example shows how to get entry index 1000.

RTK.0> l2-table get entry address 1000

LUT address: 0x0000 (2K LUT)

L2 Unicast table:

MACAddress Spa Fid Efid Age Vid State Hash

00:00:00:00:00:00 0 0 0 0 0 Auto SVL

SaPriEn FwdPriEn Pri Auth DaBlock SaBlock Arp ExtDsl

Dis Dis 0 Dis Dis Dis Dis 0

RTK.0> l2-table set mac-ucast enhanced-filter-id 3

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l2-table del all

Description:

This command can clear entire Lookup table.

Syntax:

l2-table del all [include-static]

Parameter:

include-static - include static entry

Examples:

This example shows how to clear entire Lookup table including static entry

```
RTK.0> l2-table del all include-static
RTK.0>
```


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l2-table get next-entry

Description:

This command can get next entry after specified index. If specified index is a valid entry, this entry will be returned. If specified index is a non-valid entry, the next valid entry will be returned.

Syntax:

l2-table get next-entry address *address*

l2-table get next-entry mac-ucast address *address*

l2-table get next-entry mac-ucast address *address* spn *port*

l2-table get next-entry l2-mcast address *address*

l2-table get next-entry ip-mcast address *address*

l2-table get next-entry l2-ip-mcast address *address*

Parameter:

address - specify entry address

mac-ucast - unicast entry

spn - specify learning source port

l2-mcast - l2 multicast entry

ip-mcast - ip multicast entry

l2-ip-mcast - either l2 or ip multicast entry

Examples:

This example shows how to get next valid entry after index 1000.

```
RTK.0> l2-table get next-entry address 1000
LUT address: 0x0000 (2K LUT)
L2 Unicast table:
MACAddress Spa Fid Efid Age Vid State Hash
00:00:00:00:00:00 0 0 0 0 0 Auto SVL
SaPriEn FwdPriEn Pri Auth DaBlock SaBlock Arp ExtDsl
Dis Dis 0 Dis Dis Dis Dis 0
RTK.0>
```


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l2-table set link-down-flush

Description:

This command can configure link-down-flush feature. By enabling this feature, all dynamic entry will be flushed when a port is like down.

Syntax:

l2-table set link-down-flush state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to configure link-down-flush feature to disabled.

RTK.0> l2-table set link-down-flush state enable

RTK.0>

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l2-table get link-down-flush

Description:

This command can get current state of link-down-flush feature.

Syntax:

l2-table get link-down-flush state

Parameter:

state - state configuration

Examples:

This example shows how to get link-down flush state.

RTK.0> l2-table get link-down-flush state

Link down flush state: Enable

RTK.0>

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l2-table set flush mac-ucast

Description:

This command can flush unicast entries in Lookup table.

Syntax:

l2-table set flush mac-ucat [include-static]

l2-table set flush mac-ucat static-only

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> [include-static]

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> static-only

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> filter-id *fid* [include-static]

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> filter-id *fid* static-only

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> vid *vid* [include-static]

l2-table set flush mac-ucat port <*PORT_LIST:ports* | all> vid *vid* static-only

Parameter:

ports - specified port list

all - specify all ports

include-static - include static entry

Static-only - static entry only

fid - filter-id

vid - specify the numeric VLAN identifier

Examples:

This example shows how to flush all dynamic entry at Port 2 only.

RTK.0> l2-table set flush mac-ucast port 2

RTK.0>

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l2-table get learning-count

Description:

This command can get current dynamic entry learning counter for a specified port or system.

Syntax:

l2-table get learning-count

l2-table get learning-count port <*PORT_LIST:ports* | all >

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get current learnig counter at port 2.

RTK.0> l2-table get learning-count port 2

Port 2 learning counter: 0

RTK.0>

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l2-table set ip-mcast-mode

Description:

This command can set hash mode for IPv4 multicast packet.

Syntax:

l2-table set ip-mcast-mode <dip-and-sip | dip-and-vid | vid-and-mac>

Parameter:

dip-and-sip - lookup hashing with dip and sip

dip-and-vid - lookup hashing with dip and vid

vid-and-mac - lookup hashing with vid and mac address

Examples:

This example shows how to configure IPv4 multicast hash methed to DIP and SIP.

RTK.0> l2-table set ip-mcast-mode dip-and-sip

RTK.0>

l2-table get ip-mcast-mode

Description:

This command can get hash mode for IPv4 multicast packet.

Syntax:

l2-table get ip-mcast-mode

Parameter:

None

Examples:

This example shows how to get IPv4 multicast hash method

```
RTK.0> l2-table get ip-mcast-mode
IPMC mode : DIP + SIP
RTK.0>
```


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l2-table set lookup-miss action

Description:

This command can configure the per port lookup miss (IPv4 multicast/IPv6 multicast/L2 multicast/Unicat) packets action.

Syntax:

l2-table set lookup-miss port <*PORT_LIST:ports* | all > < ip-mcast | ip6-mcast> action <drop | flood-in-vlan | trap-to-cpu>

l2-table set lookup-miss port <*PORT_LIST:ports* | all > multicast action <drop | drop-exclude-rma | flood-in-vlan | trap-to-cpu>

l2-table set lookup-miss port <*PORT_LIST:ports* | all > unicast action <drop | flood-in-vlan | trap-to-cpu>

Parameter:

ports - specify a port list

all - specify all ports

ip-mcast - ipv4 unknown multicast

ip6-mcast - ipv6 unknown multicast

multicast - l2 unknown multicast

unicast - unknown unicast

drop - drop packet

drop-exclude-rma - drop packets but exclude rma

flood-in-vlan - flood in vlan

trap-to-cpu - trap packet to cpu port

Examples:

This example shows how to configure lookup miss packet action:

Port 0 unknown L2 multicast: Drop but exclude RMA

Port 1 unknown IPv4 multicast: Trap to CPU

Port 2 unknown IPv6 multicast: Flood in VLAN

Port 3 unknown unicast: Drop

RTK.0> l2-table set lookup-miss port 0 multicast action drop-exclude-rma

RTK.0> l2-table set lookup-miss port 1 ip-mcast action trap-to-cpu

RTK.0> l2-table set lookup-miss port 2 ip6-mcast action

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flood-in-vlan

RTK.0> l2-table set lookup-miss port 3 unicast action drop

RTK.0>

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l2-table get lookup-miss action

Description:

This command can get the per port lookup miss (IPv4 multicast/IPv6 multicast/L2 multicast/Unicat) packets action.

Syntax:

l2-table get lookup-miss port <*PORT_LIST:ports* | all> <ip-mcast | ip6-mcast | multicast | unicast >

Parameter:

ports - specified port list

all - specify all ports

ip-mcast - ipv4 unknown multicast

ip6-mcast - ipv6 unknown multicast

multicast - l2 unknown multicast

unicast - unknown unicast

Examples:

This example shows how to get L2 muliticast lookup miss packet action at port 0-3

```
RTK.0> l2-table get lookup-miss port 0-3 multicast
Port 0 lookup-miss multicast Action: Drop exclude RMA
Port 1 lookup-miss multicast Action: Forward
Port 2 lookup-miss multicast Action: Forward
Port 3 lookup-miss multicast Action: Forward
RTK.0>
```


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l2-table set ip-mcast-data action

Description:

This command can set per port IP multicast packets receiving state. If user set this feature to drop, all ip multicast received will be dropped.

Syntax:

l2-table set ip-mcast-data port <*PORT_LIST:ports* | all > action <drop | forward>

Parameter:

ports - specify a port list

all - specify all ports

drop - drop packet

forward - forward packet

Examples:

This example shows how to configure the action of IP multicast packets at port 0 to “drop”

RTK.0> l2-table set ip-mcast-data port 0 action drop

RTK.0>

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l2-table get ip-mcast-data action

Description:

This command can get per port IP multicast packets receiving state.

Syntax:

l2-table get ip-mcast-data port <*PORT_LIST:ports* | all > action

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get the action of IP multicast packets at port 0-6

```
RTK.0> l2-table get ip-mcast-data port 0 action
Port 0 IPMC action: Drop
RTK.0>
```


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l2-table set port-move action

Description:

This command can configure source MAC address movement action. Only when the action is configured to “forward”, the MAC address will be moved to new source port.

Syntax:

l2-table set port-move action <copy-to-cpu | drop | forward | trap-to-cpu>

Parameter:

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

copy-to-cpu - copy packet to cpu port

Examples:

This example shows how to configure port-move action to “drop”.

```
RTK.0> l2-table set port-move port 0-6 action drop
RTK.0>
```


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l2-table get port-move action

Description:

This command can get source MAC address movement action.

Syntax:

l2-table get port-move action

Parameter:

None

Examples:

This example shows how to get port-move action

```
RTK.0> l2-table get port-move port 0-6
Port 0 Port move Action: Drop
Port 1 Port move Action: Drop
Port 2 Port move Action: Drop
Port 3 Port move Action: Drop
Port 4 Port move Action: Drop
Port 5 Port move Action: Drop
Port 6 Port move Action: Drop
RTK.0>
```


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l2-table set unknown-sa action

Description:

This command can set the action of unknown source MAC address.

Syntax:

l2-table set unknown-sa action <copy-to-cpu | drop | forward | trap-to-cpu>

Parameter:

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

copy-to-cpu - copy packet to cpu port

Examples:

This example shows how to configure the action of unknown source MAC address to “trap to CPU”.

```
RTK.0> l2-table set unknown-sa port 0-6 action trap-to-cpu
RTK.0>
```


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l2-table get unknown-sa action

Description:

This command can get the action of unknown source MAC address.

Syntax:

l2-table get unknown-sa action

Parameter:

None

Examples:

This example shows how to get the action of unknown source MAC address

```
RTK.0> l2-table get unknown-sa port 0-6 action
Port 0 unknown SA Action: Trap to CPU
Port 1 unknown SA Action: Trap to CPU
Port 2 unknown SA Action: Trap to CPU
Port 3 unknown SA Action: Trap to CPU
Port 4 unknown SA Action: Trap to CPU
Port 5 unknown SA Action: Trap to CPU
Port 6 unknown SA Action: Trap to CPU
RTK.0>
```


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l2-table set lookup-miss flood-ports

Description:

This command can configure the flooding portmask of lookup miss packets.

Syntax:

l2-table set lookup-miss <broadcast | unicast | multicast> flood-ports <*PORT_LIST:ports* | all | none>

Parameter:

broadcast - broadcast

unicast - unicast

multicast - multicast

ports - specified port list

all - specify all ports

none - specify no port

Examples:

This example shows how to configure the flooding portmask of broadcast / unknown unicast / unknown multicast packets:

Broadcast: flood to all ports

Unknown unicast: flood to port 1

Unknown multicast: flood to port 0-2

```
RTK.0> l2-table set lookup-miss broadcast flood-ports 0-6
RTK.0> l2-table set lookup-miss unicast flood-ports 1
RTK.0> l2-table set lookup-miss multicast flood-ports 0-2
RTK.0>
```


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l2-table get lookup-miss flood-ports

Description:

This command can get the flooding portmask of lookup miss packets.

Syntax:

l2-table get lookup-miss <broadcast | unicast | multicast>

Parameter:

broadcast - broadcast

unicast - unicast

multicast - multicast

Examples:

This example shows how to get the flooding portmask of broadcast / unknown unicast / unknown multicast packets:

```
RTK.0> l2-table get lookup-miss broadcast flood-ports
Lookup-miss Broadcast Lookup miss flood portmask: 0-6
RTK.0> l2-table get lookup-miss unicast flood-ports
Lookup-miss Unicast Lookup miss flood portmask: 1
RTK.0> l2-table get lookup-miss multicast flood-ports
Lookup-miss Multicast Lookup miss flood portmask: 0-2
RTK.0>
```


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l2-table set lookup-miss multicast trap-priority

Description:

This command can configure the priority for trapped unknown multicast packets.

Syntax:

l2-table set lookup-miss multicast trap-priority *priority*

Parameter:

priority - priority configuration

Examples:

This example shows how to configure the priority for trapped unknown multicast packets as 2:

```
RTK.0> l2-table set lookup-miss multicast trap-priority 2
RTK.0>
```


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l2-table get lookup-miss multicast trap-priority

Description:

This command can get the priority for trapped unknown multicast packets.

Syntax:

l2-table get lookup-miss multicast trap-priority

Parameter:

None

Examples:

This example shows how to get the priority for trapped unknown multicast packets.

```
RTK.0> l2-table get lookup-miss multicast trap-priority
Lookup-miss multicast trap-priority: 2
RTK.0>
```


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l2-table set lookup-miss multicast reserved-flooding

Description:

This command can configure the action of reserved unknown IP multicast address packet. The reserved IP multicast is 224.0.0.0 ~ 224.0.0.255 for IPv4 and FFXX::00XX for IPv6.

Syntax:
l2-table set lookup-miss multicast reserved-flooding <disable

| enable>

Parameter:

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to configure the action of unknown reserved IP multicast packets to “flood”.

RTK.0> l2-table set lookup-miss multicast reserved-flooding enable

RTK.0>

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l2-table get lookup-miss reserved-flooding

Description:

This command can get the action of reserved unknown IP multicast address packet.

Syntax:

l2-table get lookup-miss reserved-flooding

Parameter:

None

Examples:

This example shows how to get the action of unknown reserved IP multicast packets

```
RTK.0> l2-table get lookup-miss multicast reserved-flooding
Unknown reserved IP multicast Flooding: Enable
RTK.0>
```


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2.5. trap commands

trap init

Description:

This command can initialize trap related functions.

Syntax:

trap init

Parameter:

None

Examples:

This example shows how to initial trap reltated functions.

RTK.0> trap init

RTK.0>

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trap set cdp

Description:

This command can configure the action of CDP packets

Syntax:

trap set cdp action <drop | forward | forward-exclude-cpu |

trap-to-cpu>

Parameter:

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

forward-exclude-cpu - forward packet exclude to cpu port

Examples:

This example shows how to configure the action of CDP packet to

“Drop”

RTK.0> trap set cdp action drop

RTK.0>

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trap get cdp

Description:

This command can get the action of CDP packets

Syntax:

trap get cdp action

Parameter:

None

Examples:

This example shows how to get the action of CDP packets

```
RTK.0> trap get cdp action
CDP Drop
RTK.0>
```


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trap set csstp

Description:

This command can configure the action CSSTP packets

Syntax:

trap set csstp action <drop | forward | forward-exclude-cpu | trap-to-cpu>

Parameter:

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

forward-exclude-cpu - forward packet exclude to cpu port

Examples:

This example shows how to configure the action of CSSTP packet to Drop.

```
RTK.0> trap set csstp action drop
RTK.0>
```


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trap get csstp

Description:

This command can get the action of CSSTP packets

Syntax:

trap get csstp action

Parameter:

None

Examples:

This example shows how to get the action of CSSTP packet

```
RTK.0> trap get csstp action
CSSTP Drop
RTK.0>
```


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2.6. rma commands

rma set action

Description:

This command can configure the action of RMA (Reserved Multicast Address) packets. Make sure that 'trap init' command is executed before.

Syntax:

rma set address *rma_tail* action <drop | forward | forward-exclude-cpu | trap-to-cpu>

Parameter:

rma_tail - last byte of 01:80:C2:00:00:xx address

drop - drop packet

trap-to-cpu - trap packet to cpu port

forward - forward packet

forward-exclude-cpu - forward packet exclude to cpu port

Examples:

This example shows how to configure the action of MAC_DA = 01:80:C2:00:00:01 to "trap to CPU".

RTK.0> rma set address 01 action trap-to-cpu

RTK.0>

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rma get action

Description:

This command can get the action of RMA (Reserved Multicast Address) packets. Make sure that 'trap init' command is executed before.

Syntax:

rma get address *rma_tail* action

Parameter:

rma_tail - last byte of 01:80:C2:00:00:xx address

Examples:

This example shows how to get the action of MAC_DA = 01:80:C2:00:00:01 packets.

```
RTK.0> rma get address 01 action
RMA 01-80-C2-00-00-01 action: Trap to CPU
RTK.0>
```


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rma set priority

Description:

This command can configure the trapping priority when for RMA (Reserved Multicast Address) packets. Make sure that 'trapinit' command is executed before.

Syntax:

rma set priority *priority*

Parameter:

priority - priority configuration

Examples:

This example shows how to configure the trapping priority of RMA packet to 4.

RTK.0> rma set priority 4

RTK.0>

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rma get priority

Description:

This command can get the trapping priority when for RMA (Reserved Multicast Address) packets. Make sure that 'trap init' command is executed before.

Syntax:

rma get priority

Parameter:

None

Examples:

This example shows how to get the trapping priority of RMA packet.

```
RTK.0> rma get priority
The RMA trap priority = 4
RTK.0>
```


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rma dump

Description:

This command can get all supported RMA configurations. Make sure that 'trap init' command is executed before.

Syntax:

rma dump

Parameter:

None

Examples:

This example shows how to get all RMA related configurations.

```
RTK.0> rma dump
RMA 01-80-C2-00-00-xx
trail action
00 Forward 01 Drop 02 Drop
03 Forward 04 Forward 05 Forward
06 Forward 07 Forward 08 Forward
09 Forward 0a Forward 0b Forward
0c Forward 0d Forward 0e Forward
0f Forward 10 Forward 11 Forward
12 Forward 13 Forward 14 Forward
15 Forward 16 Forward 17 Forward
18 Forward 19 Forward 1a Forward
1b Forward 1c Forward 1d Forward
1e Forward 1f Forward 20 Forward
21 Forward 22 Forward 23 Forward
24 Forward 25 Forward 26 Forward
27 Forward 28 Forward 29 Forward
2a Forward 2b Forward 2c Forward
2d Forward 2e Forward 2f Forward
RTK.0>
```


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2.7. igmp commands

igmp set action

Description:

This command can configure action of IGMP/MLD packets. Make sure that 'trap init' command is executed before.

Syntax:

igmp set <igmpv1 | igmpv2 | igmpv3 | mldv1 | mldv2> port <*PORT_LIST:ports* | all> action <drop | forward | trap-to-cpu>

Parameter:

ports - specify a port list

all - specify all ports

igmpv1 - igmp version 1

igmpv2 - igmp version 2

igmpv3 - igmp version 3

mldv1 - mld version 1

mldv2 - mld version 2

drop - drop packet

forward - forward packet

trap-to-cpu - trap packet to cpu port

Examples:

This example shows how to set IGMP/MLD packet action at Port 0 to "Trap to CPU".

```
RTK.0> igmp set igmpv1 port 0 action trap-to-cpu
RTK.0> igmp set igmpv2 port 0 action trap-to-cpu
RTK.0> igmp set igmpv3 port 0 action trap-to-cpu
RTK.0> igmp set mldv1 port 0 action trap-to-cpu
RTK.0> igmp set mldv2 port 0 action trap-to-cpu
RTK.0>
```


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igmp get action

Description:

This command can configure action of IGMP/MLD packets. Make sure that 'trap init' command is executed before.

Syntax:

trap get <igmpv1 | igmpv2 | igmpv3 | mldv1 | mldv2> port <*PORT_LIST:ports* | all> action

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get IGMPv2 packet action at Port 0.

RTK.0> igmp get igmpv2 port 0 action

Port: 0, IGMPv2 : Trap to CPU

RTK.0>

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igmp set igmp-mld checksum-error

Description:

This command can configure action of IGMP/MLD checksum error packets. Make sure that 'trap init' command is executed before.

Syntax:

igmp set igmp-mld checksum-error action <drop | forward | trap-to-cpu>

Parameter:

drop - drop packet

forward - forward packet

trap-to-cpu - trap packet to cpu port

Examples:

This example shows how to configure the action of IGMP/MLD checksum error packet as drop.

```
RTK.0> igmp set igmp-mld checksum-error action drop
RTK.0>
```


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igmp get igmp-mld checksum-error

Description:

This command can get action of IGMP/MLD checksum error packets.

Make sure that 'trap init' command is executed before.

Syntax:

igmp get igmp-mld checksum-error action

Parameter:

None

Examples:

This example shows how to get the action of IGMP/MLD checksum error packet

```
RTK.0> igmp get igmp-mld checksum-error action
IGMP/MLD Checksum error Action: Drop
RTK.0>
```


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igmp set igmp-mld isolation-leaky

Description:

This command can configure the state of IGMP/MLD isolation leaky function. Make sure that 'trap init' command is executed before.

Syntax:

igmp set igmp-mld isolation-leaky state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to configure the state of IGMP/MLD isolation leaky function as enabled.

```
RTK.0> igmp set igmp-mld isolation-leaky state enable
RTK.0>
```

igmp get igmp-mld isolation-leaky

Description:

This command can get the state of IGMP/MLD isolation leaky function. Make sure that 'trap init' command is executed before.

Syntax:

igmp get igmp-mld isolation-leaky state

Parameter:

None

Examples:

This example shows how to get the state of IGMP/MLD isolation leaky function.

```
RTK.0> igmp get igmp-mld isolation-leaky state
IGMP/MLD Isolation Leaky: Enable
RTK.0>
```


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igmp set igmp-mld vlan-leaky

Description:

This command can configure the state of IGMP/MLD VLAN leaky function. Make sure that 'trap init' command is executed before.

Syntax:

igmp set igmp-mld vlan-leaky state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to configure the state of IGMP/MLD VLAN leaky function as enabled.

```
RTK.0> igmp set igmp-mld vlan-leaky state enable
RTK.0>
```


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igmp get igmp-mld vlan-leaky

Description:

This command can get the state of IGMP/MLD VLAN leaky function.

Make sure that 'trap init' command is executed before.

Syntax:

igmp get igmp-mld vlan-leaky state

Parameter:

None

Examples:

This example shows how to get the state of IGMP/MLD VLAN leaky function.

```
RTK.0> igmp get igmp-mld vlan-leaky state
IGMP/MLD VLAN Leaky: Enable
RTK.0>
```


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igmp set ip-mcast-lookup-mode

Description:

This command can configure IP multicast lookup mode. Make sure that 'I2 init' command is executed before.

Syntax:

igmp set ip-mcast-lookup-mode <dip-and-sip | dip-only>

Parameter:

dip-and-sip - lookup hashing with dip and sip

dip-only - lookup hashing with dip only

Examples:

This example shows how to configure IP multicast lookup mode to

"DIP only".

RTK.0> igmp set ip-mcast-lookup-mode dip-only

RTK.0>

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igmp get ip-mcast-lookup-mode

Description:

This command can get IP multicast lookup mode. Make sure that 'I2 init' command is executed before.

Syntax:

igmp get ip-mcast-lookup-mode

Parameter:

None

Examples:

This example shows how to get IP multicast lookup mode.

```
RTK.0> igmp get ip-mcast-lookup-mode
IPMC lookup mode: DIP only
RTK.0>
```


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igmp set ip-mcast-table

Description:

This command can set an entry into IP multicast table.

Syntax:

igmp set ip-mcast-table index *index* group-ip *dip* port

<*PORT_LIST:ports* | all | none>

Parameter:

index - entry index

dip - destination ip address

ports - specified port list

all - specify all ports

none - specify no port

Examples:

This example shows how to set an entry into index 0 of IP multicast table.

Group IP: 224.1.2.3

Port: 0-6

```
RTK.0> igmp set ip-mcast-table index 0 group-ip 224.1.2.3 port
0-6
RTK.0>
```


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igmp get ip-mcast-table

Description:

This command shows how to get an entry from IP multicast table.

Syntax:

igmp get ip-mcast-table index *index*

Parameter:

index - entry index

Examples:

This example shows how to get index 0 from IP multicast table.

```
RTK.0> igmp get ip-mcast-table index 0
Index : 0
DIP : 224.1.2.3
Portmask : 0-6
RTK.0>
```


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2.8. Storm Control commands

storm-control set broadcast state

Description:

This command can enable the storm finction. System only supports 4 storm type enable at same time. Before configuration storm control, user must enable the storm type first. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set broadcast state <disable | enable>

storm-control set multicast state <disable | enable>

storm-control set unknown-multicast state <disable | enable>

storm-control set unknown-unicast state <disable | enable>

storm-control set arp-storm <disable | enable>

storm-control set dscp-storm state <disable | enable>

storm-control set igmp-mld-storm state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

Examples:

This example shows how to enable broadcast-storm, multicast-storm, dscp-storm and arp-storm.

System only supports 4 storm type enable at same time.

RTK.0> storm-control set broadcast state enable

RTK.0> storm-control set multicast state enable

RTK.0> storm-control set unknown-multicast state disable

RTK.0> storm-control set unknown-unicast state disable

RTK.0> storm-control set arp-storm state enable

RTK.0> storm-control set dhcp-storm state enable

RTK.0> storm-control set igmp-mld-storm state disable

RTK.0>

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storm-control set boradcast

Description:

This command can configure broadcast storm relative setting.

Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control set broadcast state <disable | enable>

storm-control set broadcast port <*PORT_LIST:ports* | all> state <disable | enable>

storm-control set broadcast port <*PORT_LIST:ports* | all> meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure broadcast storm enable at port 0 and set the meter index as 0. The strom rate limit set to 8kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set broadcast state enable

RTK.0> storm-control set broadcast port 0 state enable

RTK.0> storm-control set broadcast port 0 meter 0

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storm-control get boradcast

Description:

This command can get the broadcast storm relative setting. Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control get broadcast

storm-control get broadcast port <*PORT_LIST:ports* | all>

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get broadcast storm control function setting.

RTK.0> storm-control get broadcast

State: Enable

RTK.0> storm-control get broadcast port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set multicast

Description:

This command can configure multicast storm relative setting.

Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control set multicast state <disable | enable>

storm-control set multicast port <*PORT_LIST:ports* | all> state <disable | enable>

storm-control set multicast port <*PORT_LIST:ports* | all> meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure multicast storm enable at port 0 and set the meter index as 0. The strom rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set multicast state enable

RTK.0> storm-control set multicast port 0 state enable

RTK.0> storm-control set multicast port 0 meter 0

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storm-control get multicast

Description:

This command can get the multicast storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control get multicast

storm-control get multicast port <*PORT_LIST:ports* | all>

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get multicast storm control function setting.

RTK.0> storm-control get multicast

State: Enable

RTK.0> storm-control get multicast port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set unknown-multicast

Description:

This command can configure unknown-multicast storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set unknown-multicast state <disable | enable>

storm-control set unknown-multicast port <*PORT_LIST:ports* | all> state <disable | enable>

storm-control set unknown-multicast port <*PORT_LIST:ports* | all> meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure unknown-multicast storm enable at port 0 and set the meter index as 0. The unknown-multicast strom rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set unknown-multicast state enable

RTK.0> storm-control set unknown-multicast port 0 state enable

RTK.0> storm-control set unknown-multicast port 0 meter 0

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storm-control get unknown-multicast

Description:

This command can get the unknown-multicast storm relative setting. Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control get unknown-multicast

storm-control get unknown-multicast port <*PORT_LIST:ports* |

all>

Parameter:

ports - specify a port list

all - specify all ports

alternated - alternated function

Examples:

This example shows how to get unknown-multicast storm control function setting.

RTK.0> storm-control get unknown-multicast

State: Enable

RTK.0> storm-control get unknown-multicast port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set unknown-unicast

Description:

This command can configure unknown-unicast storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set unknown-unicast state <disable | enable>

storm-control set unknown-unicast port <*PORT_LIST:ports* | all> state <disable | enable>

storm-control set unknown-unicast port <*PORT_LIST:ports* | all> meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure unknown-unicast storm enable at port 0 and set the meter index as 0. The unknown-unicast strom rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set unknown-unicast state enable

RTK.0> storm-control set unknown-unicast port 0 state enable

RTK.0> storm-control set unknown-unicast port 0 meter 0

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storm-control get unknown-unicast

Description:

This command can get the unknown-unicast storm relative setting.

Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control get unknown-unicast

storm-control get unknown-unicast port <*PORT_LIST:ports* | all>

Parameter:

ports - specify a port list

all - specify all ports

alternated - alternated function

Examples:

This example shows how to get unknown-unicast storm control function setting.

```
RTK.0> storm-control get unknown-unicast
State: Enable
RTK.0> storm-control get unknown-unicast port 0-6
Port State Meter
0 Enable 0
1 Disable 0
2 Disable 0
3 Disable 0
4 Disable 0
5 Disable 0
6 Disable 0
RTK.0>
```


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storm-control set arp-storm

Description:

This command can configure arp storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set arp-storm state <disable | enable>

storm-control set arp-storm port <*PORT_LIST:ports* | all > state <disable | enable>

storm-control set arp-storm port <*PORT_LIST:ports* | all > meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure arp-storm enable at port 0 and set the meter index as 0. The arp-storm rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set arp-storm state enable

RTK.0> storm-control set arp-storm port 0 state enable

RTK.0> storm-control set arp-storm port 0 meter 0

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storm-control get arp-storm

Description:

This command can get the arp storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control get arp-storm

storm-control get arp-storm port <*PORT_LIST:ports* | all>

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get arp-storm control function setting.

RTK.0> storm-control get arp-storm

State: Enable

RTK.0> storm-control get arp-storm port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set dhcp-storm

Description:

This command can configure dhcp storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set dhcp-storm state <disable | enable>

storm-control set dhcp-storm port <*PORT_LIST:ports* | all> state <disable | enable>

storm-control set dhcp-storm port <*PORT_LIST:ports* | all> meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure dhcp-storm enable at port 0 and set the meter index as 0. The dhcp-storm rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set dhcp-storm state enable

RTK.0> storm-control set dhcp-storm port 0 state enable

RTK.0> storm-control set dhcp-storm port 0 meter 0

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storm-control get dhcp-storm

Description:

This command can get the dhcp storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control get dhcp-storm

storm-control get dhcp-storm port <*PORT_LIST:ports* | all

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get dhcp-storm control function setting.

RTK.0> storm-control get dhcp-storm

State: Enable

RTK.0> storm-control get dhcp-storm port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set igmp-mld-storm

Description:

This command can configure igmp-mld storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set igmp-mld-storm state <disable | enable>

storm-control set igmp-mld-storm port <*PORT_LIST:ports* | all > state <disable | enable>

storm-control set igmp-mld-storm port <*PORT_LIST:ports* | all > meter *index*

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

meter - policing meter configuration

Examples:

This example shows how to configure igmp-mld-storm enable at port 0 and set the meter index as 0. The igmp-mld-storm rate limit set to 8 kbps.

RTK.0> meter set entry 0 rate 8

RTK.0> storm-control set igmp-mld-storm state enable

RTK.0> storm-control set igmp-mld-storm port 0 state enable

RTK.0> storm-control set igmp-mld-storm port 0 meter 0

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storm-control get igmp-mld-storm

Description:

This command can get the igmp-mld storm relative setting. Make sure that 'rate init' command is executed before.

Syntax:

storm-control get igmp-mld-storm

storm-control get igmp-mld-storm port <*PORT_LIST:ports* | all

Parameter:

ports - specify a port list

all - specify all ports

Examples:

This example shows how to get igmp-mld-storm control function setting.

RTK.0> storm-control get igmp-mld-storm

State: Enable

RTK.0> storm-control get igmp-mld-storm port 0-6

Port State Meter

0 Enable 0

1 Disable 0

2 Disable 0

3 Disable 0

4 Disable 0

5 Disable 0

6 Disable 0

RTK.0>

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storm-control set bypass-packet

Description:

This command can set the bypass strom packet type. Make sure that 'rate init' command is executed before.

Syntax:

storm-control set bypass-packet <igmp | cdp | csstp> state <disable | enable>

storm-control set bypass-packet rma *rma_tail* state <disable | enable>

Parameter:

state - state configuration

disable - disable configuration

enable - enable configuration

igmp - igmp protocol

cdp - cisco discovery protocol

csstp - cisco shared spanning tree protocol

rma_tail - last byte of 01:80:C2:00:00:xx address

Examples:

This example shows how to bypass cisco discovery protocol packet, cisco shared spanning tree protocol and BPDU packet.

RTK.0> storm-control set bypass-packet cdp state enable

RTK.0> storm-control set bypass-packet csstp state enable

RTK.0> storm-control set bypass-packet rma 0x00 state enable

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storm-control get bypass-packet

Description:

Get storm bypass-packet setting. Make sure that ‘rate init’ command is executed before.

Syntax:

storm-control get bypass-packet <igmp | cdp | csstp> state

storm-control get bypass-packet rma *rma_tail* state

Parameter:

state - state configuration

igmp - igmp protocol

cdp - cisco discovery protocol

csstp - cisco shared spanning tree protocol

rma_tail - last byte of 01:80:C2:00:00:xx address

Examples:

This example show how to get storm-control bypass packet setting.

```
RTK.0> storm-control get bypass-packet cdp state
CDP bypass state: Enable
RTK.0> storm-control get bypass-packet csstp state
CSSTP bypass state: Enable
RTK.0> storm-control get bypass-packet igmp state
IGMP bypass state: Disable
RTK.0> storm-control get bypass-packet rma 0x0 state
RMA 01-80-C2-00-00-00 bypass Storm-Control state: Enable
RTK.0>
```


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2.9. stp commands

stp init

Description:

This command can initialize spanning tree protocol (STP) related functions.

Syntax:

stp init

Parameter:

None

Examples:

This example shows how to initial STP reltated functions.

RTK.0> stp init

RTK.0>

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stp set state

Description:

Per port and per STP instance set STP port state.

Syntax:

stp set stp-table instance *instance* port <*PORT_LIST:ports* | all>
state <disable | blocking | forwarding | learning>

Parameter:

ports - specify a port list

all - specify all ports

state - state configuration

disable - disable state

blocking - blocking state

forwarding - forwarding state

learning - learning state

Examples:

This command shows how to set STP port state to “blocking” for port 2 STP instance 0.

RTK.0> stp set stp-table instance 0 port 2 state blocking

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stp get state

Description:

Get STP port state

Syntax:

stp get stp-table instance *instance* port <*PORT_LIST:ports* | all> state

Parameter:

Ports - specify a port list

All - specify all ports

State - state configuration

Examples:

This command shows how to get STP port state for port 2 STP instance 0.

RTK.0> stp get stp-table instance 0 port 2 state

MSTI 0 Status:

Port 2: BLOCKING

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2.10. Mirror commands

mirror init

Description:

This command can reset & initialize Mirror module.

Syntax:

mirror init

Parameter:

None

Examples:

This example shows how to reset and initialize mirror module.

RTK.0> mirror init

RTK.0>

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mirror set mirroring

Description:

This command can configure the mirror function.

Syntax:

mirror set mirroring-port *port* mirrored-port port

<*PORT_LIST:ports* | none> [rx-mirror] [tx-mirror]

Parameter:

mirroring-port - specify the mirroring port

mirrored-port - specify the mirrored port

ports - specified port list

none - specify no port

rx-mirror - mirror rx packets

tx-mirror - mirror rX packets

Examples:

This example shows how to mirror both TX & RX packets from port 0 to Port 1.

```
RTK.0> mirror set mirroring-port 1 mirrored-port 0
RTK.0>
```


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mirror dump

Description:

This command can get the mirror function

Syntax:

mirror dump

Parameter:

None

Examples:

This example shows get current mirror configuration.

RTK.0> mirror dump

Monitor port: 1

Mirroring TX portmask: none

Mirroring RX portmask: none

Mirror Egress Mode: All packets

RTK.0>

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mirror set egress-mode

Description:

This command can configure egress-mode of mirror function

Syntax:

mirror set egress-mode <all-pkt | mirrored-only>

Parameter:

all-pkt - all packets

mirrored-only - mirrored packets

Examples:

This example shows how to set the egress-mode to “mirrored-only”.

```
RTK.0> mirror set egress-mode mirrored-only
RTK.0>
```


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mirror get egress-mode

Description:

This command can get egress-mode of mirror function

Syntax:

mirror get egress-mode

Parameter:

None

Examples:

This example shows how to get the egress-mode.

RTK.0> mirror get egress-mode

Mirror Egress Mode: Mirrored packets only

RTK.0>

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2.11. meter commands

meter init

Description:

This command can reset & initialize Meter module.

Syntax:

meter init

Parameter:

None

Examples:

This example shows how to initialize Meter module.

RTK.0> meter init

RTK.0>

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meter set entry

Description:

These command sets can set meter relative parameter for each meter entry.

The meter parameter would be:

- Burst size
- Packet rate
- Rate counting include IFG or not

Syntax:

meter set entry *index* burst-size *size*

meter set entry *index* rate *rate*

meter set entry *index* ifg <include | exclude>

Parameter:

index - index of meter entry

burst-size - burst size configuration

rate - packet rate, unit kpbs

ifg - inter-frame gap configuration

include - include configuration

exclude - exclude configuration

Examples:

This example shows how to set the packet rate to 1024 kbps and rate counting is including IFG for meter entry 0.

```
RTK.0> meter set entry 0 rate 1024
RTK.0> meter set entry 0 ifg include
RTK.0>
```


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meter get entry

Description:

Get setting for each meter entry.

Syntax:

meter get entry *index*

meter get entry *index* burst-size

meter get entry *index* rate

meter get entry *index* ifg

Parameter:

index - index of meter entry

burst-size - burst size configuration

rate - packet rate, unit kpbs

ifg - inter-frame gap configuration

Examples:

This example shows how get meter setting for meter entry 0-4.

RTK.0> meter get entry 0-4

Meter idx = 0 , meter rate = 1024 , Kbps include IFG = Enable ,

burst size = 0

Meter idx = 1 , meter rate = 0 , Kbps include IFG = Disable ,

burst size = 0

Meter idx = 2 , meter rate = 0 , Kbps include IFG = Disable ,

burst size = 0

Meter idx = 3 , meter rate = 0 , Kbps include IFG = Disable ,

burst size = 0

Meter idx = 4 , meter rate = 0 , Kbps include IFG = Disable ,

burst size = 0

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meter get meter-exceed

Description:

Chen the meter staus is exceed or not.

Syntax:

meter get entry *index* meter-exceed

Parameter:

index - index of meter entry

Examples:

This example shows how to get meter exceed status for meter mentry 0-4.

RTK.0> meter get entry 0-4 meter-exceed

Meter idx = 0, meter exceed = No

Meter idx = 1, meter exceed = No

Meter idx = 2, meter exceed = No

Meter idx = 3, meter exceed = No

Meter idx = 4, meter exceed = No

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meter reset meter-exceed

Description:

Reset meter exceed status.

Syntax:

meter reset entry *index* meter-exceed

Parameter:

index - index of meter entry

Examples:

This example shows how to clear meter exceed status for meter entry 0.

RTK.0> meter reset entry 0 meter-exceed

RTK.0>

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meter set tick-token

Description:

This command can set the tick-token for meter global configuration.

Syntax:

meter set tick-token tick-period *period* token *token*

Parameter:

tick-period - timing tick, unit 1/system clock frequency

Token - toke size, unit byte

Examples:

This example shows how to set tick-period to 48 and token size set to 66 byte.

RTK.0> meter set tick-token tick-period 48 token 66

RTK.0>

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meter get tick-token

Description:

Get meter tick token setting.

Syntax:

meter get tick-token

Parameter:

None

Examples:

This example shows how get meter tick-token setting.

RTK.0> meter get tick-token

tick period:48, token:66

RTK.0>

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meter set pon-tick-token

Description:

This command can set the tick-token setting for pon port.

Syntax:

meter set pon-tick-token tick-period *period* token *token*

Parameter:

tick-period - timing tick, unit 1/system clock frequency

Token - toke size, unit byte

Examples:

This example shows how to set tick-period to 48 and token size set to 66 byte for pon port.

```
RTK.0> meter set pon-tick-token tick-period 48 token 66
RTK.0>
```


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meter get pon-tick-token

Description:

This command can get the tick-token setting for pon port.

Syntax:

meter get pon-tick-token

Parameter:

None

Examples:

This example shows how to get meter tick-token setting for pon port.

```
RTK.0> meter get pon-tick-token
tick period:48, token:66
RTK.0>
```


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2.12. bandwidth commands

bandwidth init

Description:

This command can reset & initialize bandwidth control module.

Syntax:

bandwidth init

Parameter:

None

Examples:

This example shows how to initial bandwidth control related functions.

RTK.0> bandwidth init

RTK.0>

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bandwidth set egress ifg

Description:

This command can configure egress bandwidth control, which is included ifg calcuation or not.

Syntax:

bandwidth set egress ifg <include | exclude>

bandwidth set egress ifg port <*PORT_LIST:ports* | all> <include | exclude>

Parameter:

Include - include configuration

Exclude - exclude configuration

Ports - specified port list

All - specify all ports

Examples:

This example shows how to configure port 2 and port 3 egress bandwidth control which is included ifg calculation.

```
RTK.0> bandwidth set egress ifg port 2-3 include
RTK.0>
```


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bandwidth get egress ifg

Description:

This command can get configuration of egress bandwidth control, which is included ifg calcuation or not.

Syntax:

bandwidth get egress ifg

bandwidth get egress ifg port <*PORT_LIST:ports* | all>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 1 egress bandwidth control included ifg or not.

```
RTK.0> bandwidth get egress ifg port 1
port:1 Egress Rate counting ifg: exclude
RTK.0>
```


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bandwidth set egress port

Description:

This command can configure per port or per queue egress rate. After configuring the egree queue APR rate, the configed rate meter needs to configure by meter commands and different port using different meter index range mapping to APR index. For 86900 chip, meter index and arp index mapping is as below.

Port Meter-Range

0,4 0~7

1,5 8~15

2 16~23

3 24~31

Syntax:

bandwidth set egress port <*PORT_LIST:ports* | all> rate *rate*

bandwidth set egress port <*PORT_LIST:ports* | all> qid *qid* apr-index *index*

bandwidth set egress port <*PORT_LIST:ports* | all> qid *qid* shared-bandwidth state <disable | enable>

Parameter:

ports - specified port list

all - specify all ports

state - state configuration

disable - disable configuration

enable - enable configuration

rate - packet rate, unit kpbs

qid - specify the numeric queue identifier

arp-index - meter index for arp

shared-bandwidth - average shared bandwidth configuration

Examples:

This example shows how to configure port 2 egress rate to 100Mbps and egress queue 0/1 apr rate to related meter index 0/1.

RTK.0> bandwidth set egress port 2 rate 100000

RTK.0> bandwidth set egress port 2 queue-id 0 apr-index 0

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```
RTK.0> bandwidth set egress port 2 queue-id 0 share-bandwidth state enable
RTK.0> bandwidth set egress port 2 queue-id 1 apr-index 1
RTK.0> bandwidth set egress port 2 queue-id 1share-bandwidth state enable
RTK.0> meter set entry 16 rate 10240
RTK.0> meter set entry 17 rate 10240
RTK.0>
```


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bandwidth get egress port

Description:

This command can get egress port rate and queue ARP index usage.

It needs to use meter commands for retrieving related ARP rate

of queue-id belong to desired egress port.

Syntax:

bandwidth get egress port <*PORT_LIST:ports* | all>

bandwidth get egress port <*PORT_LIST:ports* | all> qid

MASK_LIST:qid

Parameter:

ports - specified port list

all - specify all ports

qid - specify the numeric queue identifier

Examples:

This example shows how to egress bandwidth control of egress port 1.

RTK.0> bandwidth get egress port 1

port: 1 rate:1048568

queue: 0 apr-index: 0

queue: 1 apr-index: 0

queue: 2 apr-index: 0

queue: 3 apr-index: 0

queue: 4 apr-index: 0

queue: 5 apr-index: 0

queue: 6 apr-index: 0

queue: 7 apr-index: 0

RTK.0> meter get entry 8

Meter idx = 8 , meter rate = 0 , Kbps include IFG = Disable ,

burst size = 0

RTK.0>

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bandwidth set ingress port

Description:

This command can configure per port ingress rate.

Syntax:

bandwidth set ingress port <*PORT_LIST:ports* | all> rate *rate*

Parameter:

ports - specified port list

all - specify all ports

rate - packet rate, unit kpbs

Examples:

This example shows how to enable port 1 ingress rate with 10Mpbs configuration.

```
RTK.0> bandwidth set ingress port 1 rate 10240
RTK.0>
```


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bandwidth get ingress port

Description:

This command can get per port ingress rate configuration.

Syntax:

bandwidth get ingress port <*PORT_LIST:ports* | all>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 0-3 ingress bandwidth rate.

```
RTK.0> bandwidth get ingress port 0-3 rate
port: 0 rate:1024
port: 1 rate:10240
port: 2 rate:1048568
port: 3 rate:1048568
RTK.0>
```


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bandwidth set ingress ifg

Description:

This command can configure ingress bandwidth control, which is included ifg calcuation or not.

Syntax:

bandwidth set ingress ifg port <*PORT_LIST:ports* | all> <include | exclude>

Parameter:

include - include configuration

exclude - exclude configuration

ports - specified port list

all - specify all ports

Examples:

This example shows how to configure port 2 and port 3 ingress bandwidth control which is included ifg calculation.

```
RTK.0> bandwidth set ingress ifg port 2-3 include
RTK.0>
```


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bandwidth get ingress ifg

Description:

This command can get configuration of ingress bandwidth control, which is included ifg calcuation or not.

Syntax:

bandwidth get ingress ifg port <*PORT_LIST:ports* | all>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 1 egress bandwidth control included ifg or not.

```
RTK.0> bandwidth get ingress ifg port 0-3
port: 0 ifg: exclude
port: 1 ifg: exclude
port: 2 ifg: include
port: 3 ifg: include
RTK.0>
```


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bandwidth set ingress bypass-packet

Description:

This command can configure ingress rate control, which is bypassed some kinds of packet or not. Differet chip supports different kinds of packet to bypass ingress rate control.

Syntax:

bandwidth set ingress bypass-packet state <disable | enable>

Parameter:

State - state configuration

Disable - disable configuration

Enable - enable configuration

Examples:

This example shows how to enable bypassing RMA, IGMP/MLD control packet and Realtek proprietary control frames for ingress bandwidth contol.

```
RTK.0> bandwidth set ingress bypass-packet state enable
RTK.0>
```


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bandwidth get ingress bypass-packet

Description:

This command can get configuration of ingress rate control, which is bypassed some kinds of packet or not.

Syntax:

bandwidth get ingress bypass-packet state

Parameter:

State - state configuration

Examples:

This example shows how get packets bypass state for ingress bandwidth control.

```
RTK.0> bandwidth get ingress bypass-packet state
Ingress Rate byapss:Enable
byapss packet format:
-DMAC=01-80-C2-00-00-xx
-IGMP/MLD control packet
-8899 frames
RTK.0>
```


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bandwidth set ingress flow-control

Description:

This command can configure ingress bandwidth without UTP flow-control ability.

Syntax:

bandwidth set ingress flow-control port <*PORT_LIST:ports* | all> state <disable | enable>

Parameter:

Ports - specified port list

All - specify all ports

State - state configuration

Disable - disable configuration

Enable - enable configuration

Examples:

This example shows how to set port 1-2 to keep flow-control ability while those ports are under rate control of ingress bandwidth.

RTK.0> bandwidth set ingress flow-control port 1-2 state enable

RTK.0>

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bandwidth get ingress flow-control

Description:

This command used to get ingress bandwidth with UTP flow-control ability or not.

Syntax:

bandwidth get ingress flow-control port <*PORT_LIST:ports* | all> state

Parameter:

ports - specified port list

all - specify all ports

state - state configuration

Examples:

This example shows how to get flow-control ability of port 0-3 ingress rate control.

```
RTK.0> bandwidth get ingress flow-control port 0-3 state
Port Flow-Control
0 Disable
1 Enable
2 Enable
3 Disable
RTK.0>
```


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2.13. mib commands

mib init

Description:

This command can initialize & reset mib module.

Syntax:

mib init

Parameter:

None

Examples:

This example shows how to initialize mib module.

RTK.0> mib init

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mib dump counter

Description:

This command can display current MIB counter information.

Syntax:

mib dump counter dot1dTpLearnedEntryDiscards

mib dump counter port <*PORT_LIST:ports* | all>

mib dump counter port <*PORT_LIST:ports* | all> <

dot1dTpPortInDiscards | dot3ControlInUnknownOpcodes |

dot3InPauseFrames | dot3OutPauseFrames |

dot3StatsDeferredTransmissions | dot3StatsExcessiveCollisions |

dot3StatsLateCollisions | dot3StatsMultipleCollisionFrames |

dot3StatsSingleCollisionFrames | dot3StatsSymbolErrors |

etherStatsCRCAlignErrors | etherStatsCollisions |

etherStatsDropEvents | etherStatsFragments | etherStatsJabbers |

etherStatsUndersizeDropPkts | etherStatsPkts64Octets |

etherStatsPkts65to127Octets | etherStatsPkts128to255Octets |

etherStatsPkts256to511Octets | etherStatsPkts512to1023Octets |

etherStatsPkts1024to1518Octets | etherStatsPkts1519toMaxOctets |

etherStatsOversizePkts | etherStatsUndersizePkts |

etherStatsTxBroadcastPkts | etherStatsTxMulticastPkts |

inOamPduPkts | outOamPduPkts | ifInOctets | ifInUcastPkts |

ifInMulticastPkts | ifInBroadcastPkts | ifOutOctets |

ifOutUcastPkts | ifOutMulticastPkts | ifOutBroadcastPkts |

ifOutDiscards>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to display dot1dTpLearnedEntryDiscards counter information.

RTK.0> mib dump counter dot1dTpLearnedEntryDiscards

dot1dTpLearnedEntryDiscards: 0

This example shows how to display port 0 MIB counter information:

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RTK.0> mib dump counter port 0

Port: 0

ifInOctets : 0

ifInUcastPkts : 0

ifInMulticastPkts : 0

ifInBroadcastPkts : 0

ifOutOctets : 0

ifOutDiscards : 0

ifOutUcastPkts : 0

ifOutMulticastPkts : 0

ifOutBroadcastPkts : 0

dot1dTpPortInDiscards : 0

dot3InPauseFrames : 0

dot3OutPauseFrames : 0

dot3StatsSingleCollisionFrames : 0

dot3StatsMultipleCollisionFrames : 0

dot3StatsDeferredTransmissions : 0

dot3StatsLateCollisions : 0

dot3StatsExcessiveCollisions : 0

dot3StatsSymbolErrors : 0

dot3ControlInUnknownOpcodes : 0

etherStatsDropEvents : 0

etherStatsFragments : 0

etherStatsJabbers : 0

etherStatsCollisions : 0

etherStatsCRCAlignErrors : 0

etherStatsTxUndersizePkts : 0

etherStatsTxOversizePkts : 0

etherStatsTxPkts64Octets : 0

etherStatsTxPkts65to127Octets : 0

etherStatsTxPkts128to255Octets : 0

etherStatsTxPkts256to511Octets : 0

etherStatsTxPkts512to1023Octets : 0

etherStatsTxPkts1024to1518Octets : 0

etherStatsTxPkts1519toMaxOctets : 0

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etherStatsTxBroadcastPkts : 0

etherStatsTxMulticastPkts : 0

etherStatsRxUndersizePkts : 0

etherStatsRxUndersizeDropPkts : 0

etherStatsRxOversizePkts : 0

etherStatsRxPkts64Octets : 0

etherStatsRxPkts65to127Octets : 0

etherStatsRxPkts128to255Octets : 0

etherStatsRxPkts256to511Octets : 0

etherStatsRxPkts512to1023Octets : 0

etherStatsRxPkts1024to1518Octets : 0

etherStatsRxPkts1519toMaxOctets : 0

inOamPduPkts : 0

outOamPkdPkts : 0

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mib reset counter

Description:

This command reset MIB counter on a chip.

Syntax:

mib reset counter global

mib reset counter port <*PORT_LIST:ports* | all>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to reset port 1 MIB counter.

RTK.0> mib reset counter port 1

RTK.0>

This example shows how to reset global MIB counter.

mib reset counter global

RTK.0>

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mib dump statistic

Description:

This command get ACL statistic counter on a chip.

Syntax:

mib dump statistic index *index*

Parameter:

index - specified statistic counter index

Examples:

This example shows how to get ACL statistic counter on index 0.

```
RTK.0> mib dump statistic index 0
Index 0: 0
```


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mib reset statistic

Description:

This command reset ACL statistic counter on a chip.

Syntax:

mib reset statistic index *index*

Parameter:

index - specified statistic counter index

Examples:

This example shows how to reset ACL statistic counter on index 0.

```
RTK.0> mib reset statistic index 0
RTK.0>
```


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mib set statistic mode

Description:

This command set ACL statistic counter m(0,2,4,…30) mode on a chip.

Syntax:

mib set statistic mode index *index* <bits-32 | bits-64>

Parameter:

index - specified statistic counter index

bits-32 - 32 bits counter mode

bits-64 - 64 bits counter mode

Examples:

This example shows how to set ACL statistic counter mode of index 0 to bit 32.

```
RTK.0> mib set statistic mode index 0 bits-32
RTK.0>
```


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mib get statistic mode

Description:

This command get ACL statistic counter m(0,2,4,…30) mode on a chip.

Syntax:

mib get statistic mode index *index*

Parameter:

index - specified statistic counter index

Examples:

This example shows how to get ACL statistic counter mode on index 0.

```
RTK.0> mib get statistic mode index 0
0: 32-bits
```


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mib set statistic type

Description:

This command set ACL statistic counter type(packet/byte) count on a chip.

Syntax:

mib set statistic type index *index* <byte-count | packet-count>

Parameter:

index - specified statistic counter index

byte-count - byte counting type

packet-count - packet counting type

Examples:

This example shows how to set ACL statistic counter type to byte count.

RTK.0> mib set statistic type index 0 byte-count

RTK.0>

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mib get statistic type

Description:

This command get ACL statistic counter type(packet/byte) count on a chip.

Syntax:

mib get statistic type index *index*

Parameter:

index - specified statistic counter index

byte-count - byte counting type

packet-count - packet counting type

Examples:

This example shows how to get ACL statistic counter type on index 0.

RTK.0> mib get statistic type index 0

0: Byte count

mib get packet-debug-reason

Description:

This command get per-port newest packet trap/drop reason and code number on a chip.

Syntax:

mib get packet-debug-reason port <*PORT_LIST:ports* | all>

Parameter:

ports - specified port list

all - specify all ports

Examples:

This example shows how to get port 0 newest packet trap/drop reason.

RTK.0> mib get packet-debug-reason port 0

Port code Drop Trap Reason

0 0 normal

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mib set sync-mode

Description:

This command set MIB data update mode (freerun/stop sync).

Syntax:

mib set syn-mode <freerun | stop>

Parameter:

freerun - free running configuration

stop - stopping configuration

Examples:

This example set MIB data update mode to freerun.

RTK.0> mib set sync-mode freerun

RTK.0>

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mib get sync-mode

Description:

This command get MIB data update mode(freerun/stop sync).

Syntax:

mib get syn-mode

Parameter:

None

Examples:

This example shows how to get MIB update mode.

RTK.0> mib get sync-mode

MIB sync mode: normal free run sync

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mib set reset-value

Description:

This command set mib reset value.

Syntax:

mib set reset-value <0 | 1>

Parameter:

0 - reset to 0

1 - reset to 1

Examples:

This example shows how to set MIB reset value to 0.

RTK.0> mib set reset-value 0

RTK.0>

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mib get reset-value

Description:

This command get MIB reset value.

Syntax:

mib get reset-value

Parameter:

None

Examples:

This example shows how to get MIB reset value.

RTK.0> mib get reset-value

Reset MIB counter to: all 0

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mib set ctag-length

Description:

This command can set RX/TX counters including or excluding C-tag when calculating packet length.

Syntax:

mib set ctag-length <rx-counter | tx-counter> <include | exclude>

Parameter:

rx-counter - receiving counter

tx-counter - transmitting counter

include - include configuration

exclude - exclude configuration

Examples:

This example shows how to set TX MIB counter to exclude C-tag length.

RTK.0> mib set ctag-length tx-counter exclude

RTK.0>

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mib get ctag-length

Description:

This command can get RX/TX counters including or excluding C-tag when calculating packet length.

Syntax:

mib get ctag-length <rx-counter | tx-counter>

Parameter:

rx-counter - receiving counter

tx-counter - transmitting counter

Examples:

This example shows how to get if packet length in TX MIB counter include or exclude C-tag length.

RTK.0> mib get ctag-length tx-counter

tx-counter tag length: exclude

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mib set count-mode

Description:

This command set MIB update mode.

Syntax:

mib set conut-mode freerun

mib set conut-mode by-timer latch-time *timer*

Parameter:

freerun - free running configuration

by-timer - running depond on timer setting

timer - time setting, unit second

Examples:

This example shows how to set MIB data update mode to latch time to 10 seconds.

```
RTK.0> mib set count-mode by-timer latch-time 10
RTK.0>
```


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mib get count-mode

Description:

This command get configuration of MIB update mode.

Syntax:

mib get conut-mode

Parameter:

None

Examples:

This example shows how to get MIB data update mode.

RTK.0> mib get count-mode

MIB count mode: control by MIB timer

Timer : 10

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2.14. ACL commands

acl init

Description:

This command can initial acl module, set acl related config to default, and clear acl entries. Only after executing this command, other acl commands can be executed and will not return FAILED.

Syntax:

acl init

Parameter:

None

Examples:

This example shows how to initial acl functions.

```
RTK.0> acl init
RTK.0> acl get port 0-6 state
Port State
0 Disable
1 Disable
2 Disable
3 Disable
4 Disable
5 Disable
6 Disable
RTK.0>
```


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acl add entry

Description:

This command can add acl rule after rule contents are configured. In SVLAN and VLAN action setting, some configurations need to be making sure that related setting is done before adding rule. Otherwise, the adding rule can not be set to hardware or there will be unexpected behaviors.

Syntax:

acl add entry *index*

Parameter:

index - acl rule index

Examples:

This example shows how to add a acl rule to entry index 0 that all ingress packets from port 1 will be assigned priority to 7.

```
RTK.0> acl clear
RTK.0> acl set rule template entry 0
RTK.0> acl set rule state valid
RTK.0> acl set rule port 1
RTK.0> acl set action priority assign-priority 7
RTK.0> acl add entry 0
RTK.0>
```


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acl del entry

Description:

This command can delete acl rule entry by desired index or delete all of rules. After rule entry being deleted, the content of entry will be cleared to default.

Syntax:

acl del entry *index*

acl del entry all

Parameter:

index - acl rule index

all - all entries

Examples:

This example shows how to delete acl rule index 1.

RTK.0> acl del entry 1

RTK.0> acl get entry 1

Valid: Invalid

Not: Disable

Cvlan action: Ingress Vlan vid: 0

Svlan action: Ingress Vlan svid: 0

Forward: Copy Ports:

Policing: Policing meter: 0

Pri-Remark: ACL priority acl-pri: 0

Interrupt: Disable

Classification: None

ACL index latch: Disable

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] STAG

[4] SMAC0

[5] SMAC1

[6] SMAC2

[7] ETHERTYPE

Active Port: none

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Tags: Mask:

field[0] data: 0x0000 mask: 0x0000

field[1] data: 0x0000 mask: 0x0000

field[2] data: 0x0000 mask: 0x0000

field[3] data: 0x0000 mask: 0x0000

field[4] data: 0x0000 mask: 0x0000

field[5] data: 0x0000 mask: 0x0000

field[6] data: 0x0000 mask: 0x0000

field[7] data: 0x0000 mask: 0x0000

RTK.0>

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acl get entry

Description:

Show acl rule contents and action

Syntax:

acl get entry *index* [action]

Parameter:

index - acl rule index

action - rule action data configuration

Examples:

This example shows how to get content and action of acl rule entry 0 and action contents only of entry 1.

```
RTK.0> acl get entry 0
Valid: Valid
Not: Disable
Cvlan action: Disable
Svlan action: Disable
Forward: Redirect Ports: 2
Policing: Disable
Pri-Remark: Disable
Interrupt or Classification: Disable
Template: 0 [0] DMAC0
[1] DMAC1
[2] DMAC2
[3] STAG
[4] SMAC0
[5] SMAC1
[6] SMAC2
[7] ETHERTYPE
Active Port: 0-6
Tags: Mask:
field[0] data: 0x0000 mask: 0xF0F0
field[1] data: 0x0000 mask: 0xF0F0
field[2] data: 0x0000 mask: 0xF0F0
```


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field[3] data: 0x0000 mask: 0x0000

field[4] data: 0x0000 mask: 0x0000

field[5] data: 0x0000 mask: 0x0000

field[6] data: 0x0000 mask: 0x0000

field[7] data: 0x0000 mask: 0x0000

RTK.0> acl get entry 1 action

Valid: Valid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Disable

Policing: Policing meter: 1

Pri-Remark: ACL priority acl-pri: 7

Interrupt or Classification: Disable

RTK.0>

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acl show

Description:

Show user configured acl contents and actions of rule be added to entry.

Syntax:

acl show

Parameter:

None

Examples:

This example shows how to show contents and actions of rule be configed before adding to entry.

```
RTK.0> acl clear
RTK.0> acl set rule template entry 0
RTK.0> acl set rule state valid
RTK.0> acl set rule port 0
RTK.0> acl set rule dmac data 0F:0F:0F:0F:0F:0F mask
F0:F0:F0:F0:F0:F0
RTK.0> acl set action priority assign-priority 7
RTK.0> acl show
Valid: Valid
Not: Disable
Cvlan action: Disable
Svlan action: Disable
Forward: Disable
Policing: Disable
Pri-Remark: ACL priority acl-pri: 7
Interrupt or Classification: Disable
Template: 0 [0] DMAC0
[1] DMAC1
[2] DMAC2
[3] STAG
[4] SMAC0
[5] SMAC1
```


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[6] SMAC2

[7] ETHERTYPE

Active Port: 0

Tags: Mask:

dmac data: 0F:0F:0F:0F:0F:0F

mask: F0:F0:F0:F0:F0:F0

RTK.0>

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acl clear

Description:

This command can clear contents of configured acl rule. It is necessary to use this command before editing and adding new rule to make sure action and rule contents are wanted.

Syntax:

acl clear

Parameter:

None

Examples:

This example shows how to clear pre-configured contents of acl rule which need to add.

RTK.0> acl show action

Valid: Valid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Redirect Ports: 1

Policing: Acl MIB counter: 1

Pri-Remark: ACL priority acl-pri: 7

Interrupt or Classification: Disable

RTK.0> acl clear

RTK.0> acl show action

Valid: Invalid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Disable

Policing: Disable

Pri-Remark: Disable

Interrupt or Classification: Disable

RTK.0>

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acl set rule

Description:

This command can edit wanted rule contents before being added to device. Different chip version will support different contents to be configured. The rule content is depended on which template is used. So, configuring used template is more important before setting rule.

Syntax:

acl set rule <dmac | smac> data *mac* [mask *mac_mask*]

acl set rule <sip | dip> data *ip* [mask *ip_mask*]

acl set rule <sip6 | dip6> data *ip6* [mask *ip6_mask*]

acl set rule <ethertype | gemport-llid | next-header | ext> data *data* [mask *mask*]

acl set rule <range-l4port | range-vid | range-ip | range-length> care-range *MASK_LIST:list*

acl set rule ctag vid *vid* priority *priority* cfi *cfi* [mask vid_mask *vid_mask* priority_mask *priority_mask* cfi_mask *cfi_mask*]

acl set rule stag vid *vid* priority *priority* dei *dei* [mask vid_mask *vid_mask* priority_mask *priority_mask* dei_mask *dei_mask*]

acl set rule user-field *index* data *data* [mask *mask*]

acl set rule pattern field-index *index* data *data* [mask *mask*]

acl set rule field-valid care-field *MASK_LIST:list* [mask_field *MASK_LIST:mask*]

acl set rule care-tags [ctag] [ip] [ipv6] [pppoe] [stag] [tcp] [ucp]

acl set rule port <*PORT_LIST: ports* | all | none>

acl set rule template entry *index*

acl set rule operation reverse-state <disable | enable>

acl set rule state <valid | invalid>

Parameter:

data - rule matching data

mask - rule matching mask

dmac - destination mac address

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smac - source mac address

dip - destination ipv4 address

sip - source ipv4 address

dip6 - destination ipv6 address

sip6 - source ipv6 address

ethertype - ethernet type or payload lengthlength

gemport-llid - gemport id or llid

next-header - ipv6 next header

range-l4port - layer4 port number range checking list

range-vid - vid range checking list

range-ip - ip range checking list

range-length - packet length range checking list

stag - stag rule matching

priority - priority configuration

vid - specify the numeric VLAN identifier

dei - dei field of stag

ctag - ctag rule matching

cfi - cfi field of ctag

user-field - user defined field

field-valid - user defined field valid list

ext - extention source ports

pattern - rule raw data matching

field-index - rule field index

care-tags - packet types checking

port - rule actived port configuration

ports - specified port list

all - specify all ports

none - specify no port

template - rule matching template usage

state - rule valid state configuration

reverse-state - reverse configuration

Examples:

This example shows how to configure acl rule with specified destination mac, source mac and source ip address for ingress policing action.

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```
RTK.0> acl clear
RTK.0> acl set rule template entry 0
RTK.0> acl set rule state valid
RTK.0> acl set rule port 0-6
RTK.0> acl set rule dmac data 01:80:C2:00:00:40
RTK.0> acl set rule smac data 00:01:02:03:04:05
RTK.0> acl set rule sip data 172.1.2.3
RTK.0> acl set action meter 3
RTK.0> acl show
Valid: Valid
Not: Disable
Cvlan action: Disable
Svlan action: Disable
Forward: Disable
Policing: Policing meter: 3
Pri-Remark: Disable
Interrupt or Classification: Disable
Template: 0 [0] DMAC0
[1] DMAC1
[2] DMAC2
[3] SMAC0
[4] SMAC1
[5] SMAC2
[6] IP4SIP0
[7] IP4SIP1
Active Port: 0-6
Tags: Mask:
dmac data: 01:80:C2:00:00:40
mask: FF:FF:FF:FF:FF:FF
smac data: 00:01:02:03:04:05
mask: FF:FF:FF:FF:FF:FF
sip data: 172.1.2.3
mask: 255.255.255.255
RTK.0>
```


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acl show rule

Description:

Show user configured acl contents of rule which will be added to entry.

Syntax:

acl show rule

Parameter:

None

Examples:

This example shows how to show contents of rule have been configed before adding to entry.

RTK.0> acl clear

RTK.0> acl set rule template entry 0

RTK.0> acl set rule state valid

RTK.0> acl set rule port 0

RTK.0> acl set rule dmac data 0F:0F:0F:0F:0F:0F mask

F0:F0:F0:F0:F0:F0

RTK.0> acl show rule

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] STAG

[4] SMAC0

[5] SMAC1

[6] SMAC2

[7] ETHERTYPE

Active Port: 0

Tags: Mask:

dmac data: 0F:0F:0F:0F:0F:0F

mask: F0:F0:F0:F0:F0:F0

RTK.0>

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acl clear action

Description:

This command can clear configured actions of editing rule. It should be execute before adding new configed rule. Otherwise, unexpected behavior may happen.

Syntax:

acl clear action

Parameter:

None

Examples:

This example shows how to clear configured actions of acl rule before adding.

RTK.0> acl show

Valid: Valid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Redirect Ports: 3

Policing: Policing meter: 31

Pri-Remark: ACL priority acl-pri: 7

Interrupt: Enable

Classification: None

ACL index latch: Disable

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] STAG

[4] SMAC0

[5] SMAC1

[6] SMAC2

[7] ETHERTYPE

Active Port: none

Tags: Mask:

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stag data: priority: 3 dei: 0 vid: 2000

mask: priority: 7 dei: 1 vid: 4095

RTK.0>

RTK.0> acl clear action

RTK.0> acl show action

Valid: Valid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Disable

Policing: Disable

Pri-Remark: Disable

Interrupt or Classification: Disable

RTK.0>

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acl set action

Description:

This command can edit wanted actions of rule will be added to device. Different chip version will support different actions to be configed.

Syntax:

acl set action cvlan inress vid *vid*

acl set action cvlan egress vid *vid*

acl set action cvlan using-svid

acl set action cvlan meter *index*

acl set action cvlan statistic *index*

acl set action cvlan remarking dscp *dscp*

acl set action cvlan remarking dot1p *priority*

acl set action svlan inress svid *svid*

acl set action svlan egress svid *svid*

acl set action svlan using-cvid

acl set action svlan meter *index*

acl set action svlan statistic *index*

acl set action svlan remarking dscp *dscp*

acl set action svlan remarking dot1p *priority*

acl set action priority remarking dscp *dscp*

acl set action priority remarking dot1p *priority*

acl set action priority meter *index*

acl set action priority statistic *index*

acl set action meter *index*

acl set action statistic *index*

acl set action trap-to-cpu

acl set action drop

acl set action copy port <*PORT_LIST:ext* | all | none>

acl set action redirect port <*PORT_LIST:ext* | all | none>

acl set action mirror port <*PORT_LIST:ext* | all>

acl set action interrrupt

acl set action latch-index

acl set action classf none

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acl set action classf sid *sid*

acl set action classf llid *llid*

acl set action classf ext-member <*PORT_LIST:ext* | all>

acl set action none

Parameter:

cvlan - cvlan related action configuration

svlan - svlan related action configuration

priority - priority related action configuration

ingress - ingress vlan assign

egress - egress vlan assign

using-cvid - assign vid depend on VLAN identifier

using-svid - assign vid depend on SVLAN identifier

remarking - enable remarking

dot1p - dot1p configuration

dscp - dscp configuration

meter - policing meter configuration

statistic - statistic counter configuration

trap-to-cpu - trap packet to cpu port

copy - copy packet to assigned ports

redirect - redirect packet to assigned ports

mirror - mirror packet to assigned ports

interrupt - interrupt action configuration

latch-index - latch hit rule index

classf - classification related action

none - nop

sid - stream id configuration

llid - llid configuration

ext - specify a extention port list

Examples:

This example shows how configure acl rule to redirect ingress port 0 packets to port 1 with assigned priority 7.

```
RTK.0> acl clear
RTK.0> acl set rule template entry 0
RTK.0> acl set rule state valid
```


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RTK.0> acl set rule port 0

RTK.0> acl set action redirect port 1

RTK.0> acl set action priority assign-priority 7

RTK.0> acl show

Valid: Valid

Not: Disable

Cvlan action: Disable

Svlan action: Disable

Forward: Redirect Ports: 1

Policing: Disable

Pri-Remark: ACL priority acl-pri: 7

Interrupt or Classification: Disable

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] STAG

[4] SMAC0

[5] SMAC1

[6] SMAC2

[7] ETHERTYPE

Active Port: 0

Tags: Mask:

RTK.0>

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acl show action

Description:

This command can show configured actions of editing rule.

Syntax:

acl show action

Parameter:

None

Examples:

This example shows how to show configured actions of acl rule before adding.

```
RTK.0> acl show action
Valid: Valid
Not: Disable
Cvlan action: Disable
Svlan action: Disable
Forward: Redirect Ports: 3
Policing: Policing meter: 31
Pri-Remark: ACL priority acl-pri: 7
Interrupt: Enable
Classification: None
ACL index latch: Disable
RTK.0>
```


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acl show template

Description:

This command can show configured content of editing template.

Syntax:

acl show template

Parameter:

None

Examples:

This example shows how the editing template is.

RTK.0> acl clear template

RTK.0> acl set template dmac

RTK.0> acl set template smac

RTK.0> acl set template sip

RTK.0> acl show template

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] SMAC0

[4] SMAC1

[5] SMAC2

[6] IP4SIP0

[7] IP4SIP1

RTK.0>

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acl clear template

Description:

This command can clear configured content of editing template.

Syntax:

acl clear template

Parameter:

None

Examples:

This example shows how to clear editing template

RTK.0> acl show template

Template: 0 [0] DMAC0

[1] DMAC1

[2] DMAC2

[3] IP4DIP0

[4] IP4DIP1

[5] STAG

[6] CTAG

[7] unknown

RTK.0> acl clear template

RTK.0> acl show template

Template: 0 [0] unknown

[1] unknown

[2] unknown

[3] unknown

[4] unknown

[5] unknown

[6] unknown

[7] unknown

RTK.0>

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acl set template

Description:

This command can use to configure content of editing template. Each template contains limited packet pattern bits for acl rule matching. The ordering of editing template pattern bits is depended on editing order.

Syntax:
acl set template user-field <stag | ctag | ethertype | gem-llid

| ipv6-next-header | dip | sip | smac | dmac | sip6 | dip6 | range-vid | range-ip | range-length | range-l4port | field-valid | ext-pmask | unknown>

acl set template user-field *index*

Parameter:

dmac - destination mac address

smac - source mac address

dip - destination ipv4 address

sip - source ipv4 address

dip6 - destination ipv6 address

sip6 - source ipv6 address

ethertype - ethernet type or payload lengthlength

gemport-llid - gemport id or llid

next-header - ipv6 next header

range-l4port - layer4 port number range checking list

range-vid - vid range checking list

range-ip - ip range checking list

range-length - packet length range checking list

stag - stag rule matching

ctag - ctag rule matching

user-field - user defined field

field-valid - user defined field valid list

ext-pmask - extention port mask

unknown - unknown configuration

Examples:

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This example shows how to configure acl template with dmac and smac and IPv4 dip.

RTK.0> acl clear template

RTK.0> acl set template dip

RTK.0> acl set template smac

RTK.0> acl set template dmac

RTK.0> acl show template

Template: 0 [0] IP4DIP0

[1] IP4DIP1

[2] SMAC0

[3] SMAC1

[4] SMAC2

[5] DMAC0

[6] DMAC1

[7] DMAC2

RTK.0>

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acl add template

Description:

This command can use to add configured template to device. The template number is supportted by different devices.

Syntax:

acl add template entry *index*

Parameter:

index - specified entry index

Examples:

This example shows how to add template with stag, ctag, dip, sip, user-defined field 0 and 1 to template entry 2.

```
RTK.0> acl clear template
RTK.0> acl set template stag
RTK.0> acl set template ctag
RTK.0> acl set template dip
RTK.0> acl set template sip
RTK.0> acl set template user-field 0
RTK.0> acl set template user-field 1
RTK.0> acl show template
Template: 0 [0] STAG
[1] CTAG
[2] IP4DIP0
[3] IP4DIP1
[4] IP4SIP0
[5] IP4SIP1
[6] Field_Sel0
[7] Field_Sel1
RTK.0> acl add template entry 2
RTK.0> acl get template entry 2
Template: 2 [0] STAG
[1] CTAG
[2] IP4DIP0
[3] IP4DIP1
```


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[4] IP4SIP0

[5] IP4SIP1

[6] Field_Sel0

[7] Field_Sel1

RTK.0>

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acl get template

Description:

This command can be used to get templates which be configured to device.

Syntax:

acl get template entry *index*

Parameter:

Index - specified entry index

Examples:

This example shows how to get template index 0 and 1.

```
RTK.0> acl get template entry 0
Template: 0 [0] DMAC0
[1] DMAC1
[2] DMAC2
[3] STAG
[4] SMAC0
[5] SMAC1
[6] SMAC2
[7] ETHERTYPE
RTK.0> acl get template entry 1
Template: 1 [0] CTAG
[1] IP4SIP0
[2] IP4SIP1
[3] VIDRANGE
[4] IPRANGE
[5] PORTRANGE
[6] IP4DIP0
[7] IP4DIP1
RTK.0>
```


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acl del template

Description:

This command can be used to delete templates which be configured to device. After deleting template, any packet will not hit acl rules with deleted template entry index.

Syntax:

acl del template entry *index*

Parameter:

index - specified entry index

Examples:

This example shows how to delete template entry 2.

```
RTK.0> acl get template entry 2
Template: 2 [0] STAG
[1] CTAG
[2] IP4DIP0
[3] IP4DIP1
[4] IP4SIP0
[5] IP4SIP1
[6] Field_Sel0
[7] Field_Sel1
RTK.0> acl del template entry 2
RTK.0> acl get template entry 2
Template: 2 [0] unknown
[1] unknown
[2] unknown
[3] unknown
[4] unknown
[5] unknown
[6] unknown
[7] unknown
RTK.0>
```


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acl set range-vid

Description:

This command can configure vid, either svlan or cvlan, range check entry. While acl rule was configed to match desired vid range, valid entries will be compare with acl rule. If packets are without vlan tagging, then vid and svid will be assign as 0 to compared all vid range checking entries. The entry setting is be disabled while either state is configured to invalid or low-bound/up-bound is set as 0/4095.

Syntax:

acl set range-vid entry *index* state <valid | invlaid>

acl set range-vid entry *index* type <svid | cvid>

acl set range-vid entry *index* <low-bound | up-bound> *vid*

Parameter:

index - specified entry index

state - valid state configuration

type - vid range type

low-bound - low bound range

up-bound - high bound range

vid - specify the numeric VLAN identifier

Examples:

This example shows how to configured cvlan vid range for vid 100 to 200 and svlan vid range for svid 1000 to 2000.

RTK.0> acl set range-vid entry 0 state valid

RTK.0> acl set range-vid entry 0 type cvid

RTK.0> acl set range-vid entry 0 low-bound 100

RTK.0> acl set range-vid entry 0 up-bound 200

RTK.0> acl set range-vid entry 1 state valid

RTK.0> acl set range-vid entry 1 type svid

RTK.0> acl set range-vid entry 1 low-bound 1000

RTK.0> acl set range-vid entry 1 up-bound 2000

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acl get range-vid

Description:

Show vid range checking entry contents.

Syntax:

acl get range-vid entry *index*

Parameter:

index - specified entry index

Examples:

This example shows configuration of vid range checking entry index 1.

```
RTK.0> acl get range-vid entry 1
Range check of VID
Index: 1 Upper: 2000 Lower: 1000 Type: SVID
RTK.0>
```


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acl set range-ip

Description:

This command can configure IP address, either destination or source, range check entry. While acl rule be configed to match desired IP range, only valid entries will be compare with acl rule. The entry setting is be disabled, while either state is configed to invalid or low-bound/up-bound is set as 0.0.0.0/ 255.255.255.255. Different device supports different address bits checking for IPv6 IP range checking. At least IPv6 IP range checking is supporting with LSB 32-bits.

Syntax:

acl set range-ip entry *index* state <valid | invlaid>

acl set range-ip entry *index* type <sip | dip | sip6 | dip6>

acl set range-ip entry *index* low-bound *low_bound_ip* up-bound *up_bound_ip*

Parameter:

index - specified entry index

state - valid state configuration

type - ip range type

dip - destination ipv4 address

sip - source ipv4 address

dip6 - destination ipv6 address

sip6 - source ipv6 address

low-bound - low bound range

up-bound - high bound range

Examples:

This example shows how to configure IP range checking entry 0 for IPv4 dip range within 172.1.1.1/16.

RTK.0> acl set range-ip entry 0 state valid

RTK.0> acl set range-ip entry 0 type dip

RTK.0> acl set range-ip entry 0 low-bound 172.1.1.1 up-bound 172.1.1.16

RTK.0> acl get range-ip entry 0

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Range check of IP address

Index: 0 Upper: 172.1.1.16 Lower: 172.1.1.1 Type: IPv4 Dip

RTK.0>

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acl get range-ip

Description:

Show IP range checking entry contents.

Syntax:

acl get range-ip entry *index*

Parameter:

index - specified entry index

Examples:

This example shows configuration of IP range checking entry index 1.

```
RTK.0> acl get range-ip entry 1
Range check of IP address
Index: 1 Upper: 192.168.1.255 Lower: 192.168.1.1 Type: Ipv4 Sip
RTK.0>
```


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acl set range-l4port

Description:

This command can configure layer-4 tcp or udp port, either destination or source, range check entry. While acl rule was configed to match desired tcp or udp port range, only valid entries will be compare with acl rule. The entry setting is be disabled while either state is configured to invalid or low-bound/up-bound is set as 0/65535.

Syntax:

acl set range-l4port entry *index* state <valid | invlaid>

acl set range-l4port entry *index* type <src-port | dst-port>

acl set range-l4port entry *index* <low-bound | up-bound> *l4port*

Parameter:

index - specified entry index

state - valid state configuration

type - ip range type

src-port - source port number

dst-port - destination port number

low-bound - low bound range

up-bound - high bound range

l4port - specify the tcp/udp layer4 port number

Examples:

This example shows how to configure layer-4 port range checking entry index 0 to tcp source port range checking from 1024~2000.

RTK.0> acl set range-l4port entry 0 type src-port

RTK.0> acl set range-l4port entry 0 low-bound 1024

RTK.0> acl set range-l4port entry 0 up-bound 2000

RTK.0> acl set range-l4port entry 0 state valid

RTK.0> acl get range-l4port entry 0

Range check of L4 port

Index: 0 Upper: 2000 Lower: 1024 Type: Source Port

RTK.0>

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acl get range-l4port

Description:

Show layer-4 tcp/udp port range checking entry contents.

Syntax:

acl get range-l4port entry *index*

Parameter:

index - specified entry index

Examples:

This example shows configuration of layer-4 tcp/udp port range checking entry index 0-1.

```
RTK.0> acl get range-l4port entry 0
Range check of L4 port
Index: 0 Upper: 2000 Lower: 1024 Type: Source Port
RTK.0> acl get range-l4port entry 1
Range check of L4 port
Index: 1 Upper: 1023 Lower: 0 Type: Destination Port
RTK.0>
```


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acl set range-length

Description:

This command can configure length-range checking entry of ingress packet. While acl rule be configed to match packet length range, only valid entries will be compare with acl rule. The entry setting is be disabled while either state is configured to invalid or low-bound/up-bound is set as 0/16383. If

reverse-state is set, it means packets which length is not within

low-bound and up-bound setting are matched configuration.

Syntax:

acl set range-length entry *index* reverse-state <disable |

enable>

acl set range-length entry *index* <low-bound | up-bound> *length*

Parameter:

index - specified entry index

reverse-state - reverse configuration

disable - disable configuration

enable - enable configuration

low-bound - low bound range

up-bound - high bound range

length - specify length

Examples:

This example shows how to configure packet length range checking

entry index 0 to lenth 64~1518.

RTK.0> acl set range-length entry 0 low-bound 64

RTK.0> acl set range-length entry 0 up-bound 1518

RTK.0> acl set range-length entry 0 reverse-state disable

RTK.0>

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acl get range-length

Description:

Show packet length range checking entry contents.

Syntax:

acl get range-length entry *index*

Parameter:

index - specified entry index

Examples:

This example shows configuration of packet length range checking entry index 0 and index 1.

```
RTK.0> acl get range-length entry 0
Range check of packet length
Index: 0 Upper: 2000 Lower: 64 Type: Not Revise
RTK.0> acl get range-length entry 1
Range check of packet length
Index: 1 Upper: 1522 Lower: 68 Type: Not Revise
RTK.0>
```


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acl get reason

Description:

Shows acl hit rule entry for each action. Each action will be executed by the first matched rule entry.

Syntax:

acl get reason <all | cvlan | svlan | priority | policing | forward | extend>

Parameter:

all - all actions hit rule index

cvlan - cvlan related action hit rule index

svlan - svlan related action hit rule index

priority - priority related action hit rule index

policing - priority related action hit rule index

extend - extend related action hit rule index

Examples:

This example shows how to get acl action hit rule entry number.

```
RTK.0> acl get reason all
Action Hit Index
cvlan yes 0
svlan no 0
priority no 0
policing no 0
forward no 0
extend no 0
RTK.0>
```


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acl set mode

Description:

This command can configure acl mode for different number of rules usage.

Syntax:

acl set mode <64-entries | 128-entries>

Parameter:

64-entries - 64 rule entries usage

128-entries - 128 rule entries usage

Examples:

This example shows how to configure acl mode to 128 rules.

RTK.0> acl init

RTK.0> acl set mode 128-entries

RTK.0>

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acl get mode

Description:
Show acl number of rules usage.

Syntax:
acl get mode

Parameter:
None

Examples:
This example shows how to get valid number of acl rules.
RTK.0> acl init
RTK.0> acl get mode
ACL mode: 64 Entries
RTK.0>
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==========

acl set state

Description:
This command can configure per-port acl enable state. If acl ingress state is enabled, all packets from the acl enable port will be matching acl rules and switch will follow the 1st matched acl action to packets which hit configured acl rules.

Syntax:
acl set port <*PORT_LIST:ports* **| all> state <disable | enable>**

Parameter:
ports - specified port list
All - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to configure acl state of ports from port 2 to port 4.
RTK.0> acl set port 2-4 state enable
RTK.0> acl get port 0-6 state
Port State
0 Disable
1 Disable
2 Enable
3 Enable
4 Enable
5 Disable
6 Disable
RTK.0>
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==========

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acl get state

Description:
Show per-port acl enable state.

Syntax:
acl get port <*PORT_LIST:ports* **| all> state**

Parameter:

ports - specified port list

all - specify all ports

state - state configuration

Examples:
This example shows how to get acl state of port 1,3 and 5.
RTK.0> acl get port 1,3,5 state
Port State
1 Disable
3 Enable
5 Disable
RTK.0>
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==========

acl set permit

Description:
This command can configure switch action for packets which unmatched ingress acl rules. If permit is not set, switch will drop packets, which are unmatched any acl rule.

Syntax:
acl set port <*PORT_LIST:ports* **| all> permit <disable | enable>**

Parameter:
ports - specified port list
all - specify all ports
permit - permit configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to configure port 0-3 acl permit enable setting.
RTK.0> acl set port 0-3 permit enable
RTK.0> acl get port 0-6 permit
Port State
0 Enable
1 Enable
2 Enable

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3 Enable
4 Disable
5 Disable
6 Disable
RTK.0>
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==========

acl get permit

Description:
Show per port acl permit state.

Syntax:
acl get port <*PORT_LIST:ports* **| all> permit**

Parameter:
ports - specified port list
all - specify all ports
permit - permit configuration

Examples:
This example shows how to get the ports 1,3,5 acl permit state.
RTK.0> acl get port 1,3,5 permit
Port State
1 Enable
3 Enable
5 Disable
RTK.0>
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==========

field-selector set

Description:
This command can configure acl user defined field. Each field can set 16-bits content of packet which user wants to filter for acl uage. From pure raw packet to layer-4 content as tcp or udp, the field can be set for parsing content of packet inside the first 256 bytes.

Syntax:
field-selector set index *index* **format <default | raw | llc | arp | ipv4-header | ipv6-header | ip-payload | l4-payload> offset** *offset*

Parameter:
index - specify index
format - parsing format
default - un-assigned format
raw - parsing as l2 raw packet
llc - parsing as llc packet

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arp - parsing as arp packet
ipv4-header - parsing from ipv4 header
ipv6-header - parsing from ipv6 header
ip-payload - parsing from ipv4 payload
offset - specify parsing byte offset

Examples:
This example show how to configure using acl to trap total length field of ipv4 header which greate than 128 by setting field selector 8 and udp ssdp “M-SEARCH” packets by setting field selector 9/10/11/12.
RTK.0> field-selector set index 8 format ipv4-header offset 2
RTK.0> field-selector set index 9 format ip-payload offset 8
RTK.0> field-selector set index 10 format ip-payload offset 10
RTK.0> field-selector set index 11 format ip-payload offset 12
RTK.0> field-selector set index 12 format ip-payload offset 14

field-selector get

Description:
Show user defined field selector configuration.

Syntax:
field-selector get index *index*

Parameter:
index - specify index

Examples:
This example shows how to get field selectors 8-10.
RTK.0> field-selector get index 8
Index Offset Mode
8 2 IPv4 header
RTK.0> field-selector get index 9
Index Offset Mode
9 29 IP payload
RTK.0> field-selector get index 10
Index Offset Mode
10 31 IP payload
RTK.0>

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2.15. Classfication commands

classf init

Description:
Classificatoin module initialization. It will delete all classification entries.

Syntax:
classf init

Parameter:
None

Examples:
This example shows how to initialize classification module.
RTK.0> classf init
RTK.0>
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==========

classf clear

Description:
Clear classification edit buffer. The edit buffer is used to store settings of classification rule and action, and will be applied by “classf add entry” command.

Syntax:
classf clear

Parameter:
None

Examples:
This example shows how to clear classification edit buffer. It must be used before a new classification entry is added.
RTK.0> classf clear
RTK.0>
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==========

classf show

Description:
Show the edit buffer of classification rule

Syntax:
classf show

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Parameter:
None

Examples:
This example shows how to display edit buffer of classification rule:
RTK.0> classf show
Not: Disable
direction: Upstream
Rule:
tag vid data: 1000
mask: 0xfff
Upstream action:
Stag action: No operation
Ctag action: No operation
SID action: ASSIGN to SID
Assign ID: 10
RTK.0>
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==========

classf set rule

Description:
Configure the edit buffer of classification rule

Syntax:
classf set rule direction <upstream | downstream>
classf set rule <tos-sid | tag-vid | tag-priority | internal-priority | svlan-bit | cvlan-bit | uni | ether-type | range-l4port | range-ip | hit-acl | wan-if | ipmc-bit | ip6mc-bit | igmp-bit | mld-bit | dei-cfi> data *data* **mask** *mask*

Parameter:
direction - specify the rule is applied to upstream or downstream direction
upstream - upstream configuration
downstream - downstream configuration
tos-sid - for upstream rule, this field specify to tos, for downstream rule this field specify to steam id
tag-vid - specify to outer tag vid field
tag-priority - specify to outer tag priority field
internal-priority - specify to internal priority field
svlan-bit - specify to stag exist field
cvlan -bit - specify to ctag exist field
uni - specify to ingress uni for downstream and specify to egress uni for upstream
ether-type - specify to Ethernet type field
range-l4port - layer4 port number range checking list
range-ip - ip range checking list
hit-acl - acl matched index
wan-if - wan interface

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ipmc-bit - care field of ipv4 multicast packet
ip6mc-bit - care field of ipv6 multicast packe
igmp-bit - care field of igmp packet
mld-bit - care field of mld packet
dei-cfi - dei or cfi field of tag
data - the data value of each field
mask - the data mask of each field
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==========

Examples:
This example shows how to edit a classification downstream rule for variant fields.

```
RTK.0> classf clear
RTK.0> classf set rule direction downstream
RTK.0> classf set rule ether-type data 0x0800 mask 0xffff
RTK.0> classf set rule cvlan-bit data 1 mask 1
RTK.0> classf set rule svlan-bit data 1 mask 1
RTK.0> classf set rule tag-vid data 1000 mask 0xfff
RTK.0> classf set rule tag-priority data 5 mask 7
RTK.0> classf set rule uni data 1 mask 7
RTK.0> classf show
Not: Disable
direction: Downstream
Rule:
ether type data: 0x0800
mask: 0xffff
Rule:
s-bit data: 1
mask: 0x1
Rule:
c-bit data: 1
mask: 0x1
Rule:
tag vid data: 1000
mask: 0xfff
Rule:
tag priority data: 5
mask: 0x7
Rule:
UNI data: 1
mask: 0x7
Downstream action:
Stag action: No operation
Ctag action: No operation
Classf PRI action: Follow switch core
UNI action: No operation
UNI ports: none
```

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==========

```
RTK.0>
```

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==========

classf set downstream-action

Description:
Configure the edit buffer of classification downstream action

Syntax:
classf set downstream-action svlan-act <nop | vs-tpid | c-tpid | del | transparent | sp2c>
classf set downstream-action svlan-id-act assign *vid*
classf set downstream-action svlan-id-act <copy-outer | copy-inner> [*vid***]**
classf set downstream-action svlan-priority-act assign *priority*
classf set downstream-action svlan-priority-act <copy-outer | copy-inner | internal-priority> [*priority***]**
classf set downstream-action cvlan-act <nop | c-tag | sp2c | del | transparent>
classf set downstream-action cvlan-id-act assign *vid*
classf set downstream-action cvlan-id-act <follow-swcore | copy-outer | copy-inner | lookup-table> [*vid***]**
classf set downstream-action cvlan-priority-act assign *priority*
classf set downstream-action cvlan-priority-act <copy-outer | copy-inner | internal-priority> [*priority***]**
classf set downstream-action priority-act assign *priority*
classf set downstream-action priority-act follow-swcore
classf set downstream-action remark-dscp <disable | enable>

Parameter:
svlan-act - specify the stag action
nop - no operation
vs-tpid - s-tagging with tpid in svlan configuration
c-tpid - s-tagging with 802.1Q tpid 0x8100
del - de-tagging vlan
transparent - vlan transparent configuration
sp2c - specify from the sp2c table
svlan-id-act - specify the stag vid action
svlan-priority-ac
t
- specify the stag priority action
assign - specify assigned value

==========

copy-outer - specify from outer tag
copy-inner - specify from inner tag
vid - specify the numeric VLAN identifier
priority - priority configuration
internal-priority - spefify from switch internal priority
cvlan-id-act - specify the ctag vid action
cvlan-priority-ac

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t
- specify the ctag priority action
ctag - c-tagging
priority-act - classification priority assign
follow-swcore - follow switch normal decision
lookup-table - specify from lookup table
remark-dscp - dscp remarking
uni-forward-act - egress forward configuration
flood - flooding within assigned ports
forced - forced forward to assigned ports
ports - specified port list
all - specify all ports
none - specify no port

Examples:
This example shows how to edit a classification downstream action. Remove Stag. Assign Ctag with VID=100, priority=2. Assign internal priority=5. And force forward to UNI 0.

```
RTK.0> classf clear
RTK.0> classf set rule direction downstream
RTK.0> classf set rule ether-type data 0x0800 mask 0xffff
RTK.0> classf set rule cvlan-bit data 1 mask 1
RTK.0> classf set rule svlan-bit data 1 mask 1
RTK.0> classf set rule tag-vid data 1000 mask 0xfff
RTK.0> classf set rule tag-priority data 5 mask 7
RTK.0> classf set rule uni data 1 mask 7
RTK.0> classf set downstream-action svlan-act del
RTK.0> classf set downstream-action cvlan-act c-tag
RTK.0> classf set downstream-action cvlan-id-act assign 100
RTK.0> classf set downstream-action cvlan-priority-act assign
2
RTK.0> classf set downstream-action priority-act assign 5
```



```
RTK.0> classf set downstream-action uni-forward-act forced port
0
RTK.0> classf show
Not: Disable
direction: Downstream
Rule:
ether type data: 0x0800
mask: 0xffff
Rule:
s-bit data: 1
mask: 0x1
Rule:
c-bit data: 1
mask: 0x1
Rule:
tag vid data: 1000
mask: 0xfff
Rule:
tag priority data: 5
```

mask: 0x7
Rule:
UNI data: 1
mask: 0x7
Downstream action:
Stag action: Delete
Ctag action: Tagging
Ctag VID action: Assign
Ctag VID: 100
Ctag PRI action: Assign
Ctag PRI: 2
Classf PRI action: Assign
CF PRI: 5
UNI action: Force forward
UNI ports: 0
RTK.0>
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==========

classf set upstream-action

Description:
Configure the edit buffer of classification upstream action

Syntax:
classf set upstream-action svlan-act <nop | vs-tpid | c-tpid | del | transparent>
classf set upstream-action svlan-id-act assign *vid*
classf set upstream-action svlan-id-act <copy-outer | copy-inner> [*vid***]**
classf set upstream-action svlan-priority-act assign *priority*
classf set upstream-action svlan-priority-act <copy-outer | copy-inner | internal-priority> [*priority***]**
classf set upstream-action cvlan-act <nop | c-tag | c2s | del | transparent>
classf set upstream-action cvlan-id-act assign *vid*
classf set upstream-action cvlan-id-act <copy-outer | copy-inner> [*vid***]**
classf set upstream-action cvlan-priority -act assign *priority*
classf set upstream-action cvlan-priority-act <copy-outer | copy-inner | internal-priority> [*priority***]**
classf set upstream-action priority-act assign *priority*
classf set upstream-action priority-act follow-swcore
classf set upstream-action sid-act <sid | qid> *id*
classf set upstream-action sid-act nop
classf set upstream-action statistic *index*
classf set upstream-action remark-dscp <disable | enable>
classf set upstream-action drop <disable | enable>

Parameter:
svlan-act - specify the stag action
nop - no operation
vs-tpid - s-tagging with tpid in svlan configuration

c-tpid - s-tagging with 802.1Q tpid 0x8100
del - de-tagging vlan
transparent - vlan transparent configuration
svlan-id-act - specify the stag vid action
svlan-priority-ac
t
- specify the stag priority action
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==========

assign - specify assigned value
copy-outer - specify from outer tag
copy-inner - specify from inner tag
vid - specify the numeric VLAN identifier
priority - priority configuration
internal-priority - spefify from switch internal priority
cvlan-id-act - specify the ctag vid action
cvlan-priority-ac
t
- specify the ctag priority action
ctag - c-tagging
c2s - specify from the c2s table
priority-act - classification priority assign
follow-swcore - follow switch normal decision
sid-act - specify the stream id action
sid - stream id configuration
qid - specify the numeric queue identifier
statistic - statistic counter configuration
remark-dscp - dscp remarking
drop - drop packet
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to edit a classification upstream action.
Add Stag by VID 1000, priority copy from outer tag. Ctag
transparent. And assign stream-ID to 1.
RTK.0> classf clear
RTK.0> classf set rule direction upstream
RTK.0> classf set rule svlan-bit data 0 mask 1
RTK.0> classf set rule cvlan-bit data 1 mask 1
RTK.0> classf set rule tag-vid data 100 mask 0xfff
RTK.0> classf set upstream-action svlan-act vs-tpid
RTK.0> classf set upstream-action svlan-id-act assign 1000
RTK.0> classf set upstream-action svlan-priority-act
copy-outer
RTK.0> classf set upstream-action cvlan-act transparent
RTK.0> classf set upstream-action sid-act sid 1
RTK.0> classf show
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==========

Not: Disable
direction: Upstream

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Rule:
c-bit data: 0
mask: 0x1
Rule:
s-bit data: 1
mask: 0x1
Rule:
tag vid data: 100
mask: 0xfff
Upstream action:
Stag action: VS_TPID
Stag VID action: Assign
Stag VID: 1000
Stag PRI action: Copy from 1st tag
Stag PRI: 0
Ctag action: Transparent
SID action: ASSIGN to SID
Assign ID: 1
RTK.0>
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==========

classf add entry

Description:
Add the classification entry according to the edit buffer of rule and upsteam/downstream action

Syntax:
classf add entry *index*

Parameter:
index - specify the entry index

Examples:
This example shows how to add a classification entry in detail. Including edit buffer of rule and downstream action.
RTK.0> classf clear
RTK.0> classf set rule direction downstream
RTK.0> classf set rule ether-type data 0x0800 mask 0xffff
RTK.0> classf set rule cvlan-bit data 1 mask 1
RTK.0> classf set rule svlan-bit data 1 mask 1
RTK.0> classf set rule tag-vid data 1000 mask 0xfff
RTK.0> classf set rule tag-priority data 5 mask 7
RTK.0> classf set rule uni data 1 mask 7
RTK.0> classf set downstream-action svlan-act del
RTK.0> classf set downstream-action cvlan-act c-tag
RTK.0> classf set downstream-action cvlan-id-act assign 100
RTK.0> classf set downstream-action cvlan-priority-act assign 2
RTK.0> classf set downstream-action priority-act assign 5
RTK.0> classf set downstream-action uni-forward-act forced port 0

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RTK.0> classf add entry 0
RTK.0>
RTK.0> classf get entry 0
Valid: Valid
Not: Disable
direction: Downstream
databit: 0x4519-801f-0800
carebit: 0xff1f-807f-ffff
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==========

Downstream action:
Stag action: Delete
Ctag action: Tagging
Ctag VID action: Assign
Ctag VID: 100
Ctag PRI action: Assign
Ctag PRI: 2
Classf PRI action: Assign
CF PRI: 5
UNI action: Force forward
UNI ports: 0
RTK.0>
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==========

classf get entry

Description:
Show the raw data of classification entry

Syntax:
classf get entry *index*

Parameter:
index - specify the entry index

Examples:
This example shows how to display classification entry:
RTK.0> classf get entry 0
Valid: Valid
Not: Disable
direction: Downstream
databit: 0x4519-801f-0800
carebit: 0xff1f-807f-ffff
Downstream action:
Stag action: Delete
Ctag action: Tagging
Ctag VID action: Assign
Ctag VID: 100
Ctag PRI action: Assign
Ctag PRI: 2
Classf PRI action: Assign

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CF PRI: 5
UNI action: Force forward
UNI ports: 0
RTK.0>
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==========

classf del entry

Description:
Delete the classification entry

Syntax:
classf del entry *index*
classf del entry all

Parameter:
index - specify the entry index
all - all entries

Examples:
This example shows how to del a classification entry
RTK.0> classf del entry 0
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==========

classf set operation

Description:
Configuration the operation mode as hit or not hit for upstream or downstream rule

Syntax:
classf set operation entry *index* **<upstream | downstream> < hit | not >**

Parameter:
index - specify the entry index
upstream - upstream configuration
downstream - downstream configuration
hit - hit operation
not - reverse operation

Examples:
This example shows how to configure a downstream classification entry as hit operation
RTK.0> classf set operation entry 0 downstream hit
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==========

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classf get operation

Description:
Get the operation mode for upstream or downstream rule

Syntax:
classf get entry *index*

Parameter:
index - specify the entry index

Examples:
This example shows how to display a classification entry operation
RTK.0> classf get entry 0
Valid: Valid
direction: Downstream
databit: 0x4519-801f-0800
carebit: 0xff1f-807f-ffff
Downstream action:
Stag action: Delete
Ctag action: Tagging
Ctag VID action: Assign
Ctag VID: 100
Ctag PRI action: Assign
Ctag PRI: 2
Classf PRI action: Assign
CF PRI: 5
UNI action: Force forward
UNI ports: 0
Not: Disable
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==========

classf set cf-sel-port

Description:
Configuration PON port or RGMII port as the classification uplink port

Syntax:
classf set cf-sel-port <pon | rg> <disable | enable>

Parameter:
pon - pon port configuration
rg - rg port configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to enable PON port as classification uplink port

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RTK.0> classf set cf-sel-port pon enable
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==========

classf get cf-sel-port

Description:
Get the state of classification uplink port selection.

Syntax:
classf get cf-sel-port

Parameter:
None

Examples:
This example shows how to display a classification uplink port selection
RTK.0> classf get cf-sel-port
Cf select port: PON enabled
Cf select port: RGMII disabled
SFU Product Page 351 / 529 Rev. 0.01
==========

classf set upstream-unmatch-act

Description:
Configuration classification upstream unmatch action

Syntax:
classf set upstream-unmatch-act <drop | permit-without-pon | permit>

Parameter:
drop - drop packet
permit - forward packet
permit-without-pon - forward packet exclude pon port

Examples:
This example shows how to configure upstream unmatch action as drop
RTK.0> classf set upstream-unmatch-act drop
SFU Product Page 352 / 529 Rev. 0.01
==========

classf get upstream-unmatch-act

Description:
Get the classification upstream unmatch action

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Syntax:
classf get upstream-unmatch-act

Parameter:
None

Examples:
This example shows how to display a classification upstream unmatch action
RTK.0> classf get upstream-unmatch-act
Upstream un-match action: Drop

==========

classf set permit-sel-range

Description:
Set classification entry range selection for upstream unmatch action. There are two options, one is for entry range 0-511, and the other is for entry range 64-511.

Syntax:
classf set permit-sel-range < 0to511 | 64to511>

Parameter:
0to511 - checking from rule 0 to rule 511
64to511 - checking from rule 64 to rule 511

Examples:
This example shows how to configure entry rang selection to 64-511.
RTK.0> classf set permit-sel-range 64to511

==========

classf get permit-sel-range

Description:
This command can use to get classification entry range selection for upstream unmatch action. There are two options, one is for entry range 0-511, and the other is for entry range 64-511.

Syntax:
classf get us-unmatch-act

Parameter:
None

Examples:
This example shows how to display the classification entry rang selection

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RTK.0> classf get permit-sel-range
Permit range from 64 to 511

classf set remarking dscp

Description:
Set DSCP remarking for classification DSCP_remarking action used.

Syntax:
classf set remarking dscp priority *priority* **dscp** *dscp*

Parameter:
priority - priority configuration
dscp - dscp configuration

Examples:
This example shows how to configure classification DSCP remarking as priority 0 mapping to dscp 7, priority 1 mapping to dscp 15, priority 2 mapping to dscp 23, priority 3 mapping to dscp 31, priority 4 mapping to dscp 39, priority 5 mapping to dscp 47, priority 6 mapping to dscp 55, priority 7 mapping to dscp 63
RTK.0> classf set remarking dscp priority 0 dscp 7
RTK.0> classf set remarking dscp priority 1 dscp 15
RTK.0> classf set remarking dscp priority 2 dscp 23
RTK.0> classf set remarking dscp priority 3 dscp 31
RTK.0> classf set remarking dscp priority 4 dscp 39
RTK.0> classf set remarking dscp priority 5 dscp 47
RTK.0> classf set remarking dscp priority 6 dscp 55
RTK.0> classf set remarking dscp priority 7 dscp 63

classf get remarking dscp

Description:
Get classification DSCP remarking.

Syntax:
classf get remarking dscp

Parameter:
None

Examples:
This example shows how to display a classification DSCP remarking table
RTK.0> classf get remarking dscp

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CF_priority DSCP
0 7
1 15
2 23
3 31
4 39
5 47
6 55
7 63
SFU Product Page 357 / 529 Rev. 0.01
==========

classf set range-ip

Description:
Set classification IP range for classification range-ip rule

Syntax:
classf set range-ip entry *index* **type <sip | dip >**
classf set range-ip entry *index* **low-bound** *low_bound_ip* **up-bound** *up_bound_ip*

Parameter:
index - specified entry index
type - ip range type
dip - destination ipv4 address
sip - source ipv4 address
low-bound - low bound range
up-bound - high bound range

Examples:
This example shows how to configure a upstream rule for source IP range 10.1.1.1 to 10.1.2.2
RTK.0> classf clear
RTK.0> classf set rule direction upstream
RTK.0> classf set rule range-ip data 0 mask 0x7
RTK.0> classf set upstream-action sid-act sid 0
RTK.0> classf add entry 0
RTK.0> classf set range-ip entry 0 type sip
RTK.0> classf set range-ip entry 0 low-bound 10.1.1.1 up-bound 10.1.2.2
SFU Product Page 358 / 529 Rev. 0.01
==========

classf get range-ip

Description:
Get classification IP range setting by specific entry index

Syntax:
classf get range-ip entry *index*

Parameter:
index - specified entry index

Examples:
This example shows how to display classification IP range setting
RTK.0> classf get range-ip entry 0
Range check of IP address
Index: 0 Upper: 10.1.2.2 Lower: 10.1.1.1 Type: Ipv4 Sip

classf set range-l4port

Description:
Set classification L4 port range for classification range-l4port rule

Syntax:
classf set range-l4port entry *index* **type <src-port | dst-port>**
classf set range-l4port entry *index* **low-bound** *l4lport* **up-bound** *l4uport*

Parameter:
index - specified entry index
type - ip range type
src-port - source port number
dst-port - destination port number
low-bound - low bound range
up-bound - high bound range

Examples:
This example shows how to configure a upstream rule for L4 source port range from 2000 to 3000
RTK.0> classf clear
RTK.0> classf set rule direction upstream
RTK.0> classf set rule range-l4port data 0 mask 0x7
RTK.0> classf set upstream-action sid-act sid 0
RTK.0> classf add entry 0
RTK.0> classf set range-l4port entry 0 type src-port
RTK.0> classf set range-l4port entry 0 low-bound 2000 up-bound 3000

classf get range-l4port

Description:
Get classification L4 port range setting by specific entry index

Syntax:

classf get range-l4port entry *index*

Parameter:
index - specified entry index

Examples:
This example shows how to display classification L4 port range setting
RTK.0> classf get range-l4port entry 0
Range check of L4 port
Index: 0 Upper: 3000 Lower: 2000 Type: Source Port
SFU Product Page 361 / 529 Rev. 0.01
==========

classf set us-1p-remark-prior

Description:
For upstream 802.1P remarking, it decide whether ACL action or classification action is high priority.

Syntax:
classf set us-1p-remark-prior < cf | acl >

Parameter:
cf - classification is high priority
acl - ACL is high priority

Examples:
This example shows how to configure a upstream 1P remark as ACL take high priority than classification
RTK.0> classf set us-1p-remark-prior acl
SFU Product Page 362 / 529 Rev. 0.01
==========

classf get us-1p-remark-prior

Description:
For upstream 802.1P remarking, it decide whether ACL action or classification action is high priority.

Syntax:
classf get range-l4port entry *index*

Parameter:
None

Examples:
This example shows how to display 802.1P remark decision for ACL and classification.
RTK.0> classf get us-1p-remark-prior
ACL prior than CF
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==========

2.16. Switch commands

switch init

Description:
This command can reset & initialize switch control module.

Syntax:
switch init

Parameter:
None

Examples:
This example shows how to initialized switch module.
RTK.0> switch init
SFU Product Page 423 / 529 Rev. 0.01
==========

switch set 48-pass-1

Description:
This command can set switch 48-pass-1 state.

Syntax:
switch set 48-pass-1 state <disable | enable>

Parameter:
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to enable switch 48-pass-1.
RTK.0> switch set 48-pass-1 state enable
SFU Product Page 424 / 529 Rev. 0.01
==========

switch get 48-pass-1

Description:
This command can get switch 48-pass-1 setting.

Syntax:
switch get 48-pass-1 state

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Parameter:
None

Examples:
This example shows how to get switch 48-pass-1 setting.
RTK.0> switch get 48-pass-1 stat
48 Pass 1 function: Enable
RTK.0>
SFU Product Page 425 / 529 Rev. 0.01
==========

switch set ipg-compensation

Description:
This command can get switch igp compensation rate. The switch igp compensation can be enableot disable by this command.

Syntax:
switch set ipg-compensation state <disable | enable>
switch set ipg-compensation <65ppm | 90ppm>

Parameter:
state - state configuration
disable - disable configuration
enable - enable configuration
65ppm - 65ppm configuration
90ppm - 90ppm configuration

Examples:
This example shows how to enable ipg compensation function and set rate to 90ppm.
RTK.0> switch get ipg-compensation
IPG compensation: 90PPM
RTK.0> switch set ipg-compensation state enable
SFU Product Page 426 / 529 Rev. 0.01
==========

switch get ipg-compensation

Description:
This command can get ipg compensation settiog.

Syntax:
switch get ipg-compensation state
switch get ipg-compensation

Parameter:
state - state configuration

Examples:
This example shows how to get ipg compensation setting.

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RTK.0> switch get ipg-compensation state
Short IPG function: Enable
RTK.0> switch get ipg-compensation
IPG compensation: 90PPM
SFU Product Page 427 / 529 Rev. 0.01
==========

switch set bypass-tx-crc

Description:
This command can set switch tx CRC mode. Set state to disable will bypass tx CRC check, the CRC error packet will be send out.

Syntax:
switch set bypass-tx-crc state <disable | enable>

Parameter:
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how set bypass TX CRC state to enable.
RTK.0> switch set bypass-tx-crc state enable
RTK.0>
SFU Product Page 428 / 529 Rev. 0.01
==========

switch get bypass-tx-crc

Description:
This command used to get bypass tx crc state.

Syntax:
switch get bypass-tx-crc state

Parameter:
None

Examples:
This example shows how to get bypass tx CRC state.
RTK.0> switch get bypass-tx-crc state
Bypass Tx CRC: Enable
RTK.0>
SFU Product Page 429 / 529 Rev. 0.01
==========

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switch set rx-check-crc

Description:
This command can per port set rx CRC check state.

Syntax:
switch set rx-check-crc port <*PORT_LIST:ports* **| all> state <disable | enable>**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to set port 0 rx-check-crc status to disable. Port 2 can accept CRC error frames.
RTK.0> switch set rx-check-crc port 0 state disable

switch get rx-check-crc

Description:
This command can per port get rx-check-crc status.

Syntax:
switch get rx-check-crc port <*PORT_LIST:ports* **| all> state**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration

Examples:
This example shows how to get rx-check-crc status for port 0.
RTK.0> switch get rx-check-crc port 0 state
Port Status
---
0 Disable

switch set mac-address

Description:
This command can set switch MAC address.

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Syntax:
switch set mac-address *mac*

Parameter:
Mac - mac address

Examples:
This example shows how to set switch MAC address to 00:00:11:52:33:22.
RTK.0> switch set mac-address 00:00:11:52:33:22.
SFU Product Page 432 / 529 Rev. 0.01
==========

switch get mac-address

Description:
This command can get switch MAC address.

Syntax:
switch get mac-address

Parameter:
None

Examples:
This example shows how to get switch MAC address.
RTK.0> switch get mac-address
Switch MAC Address: 00:00:11:52:33:22
SFU Product Page 433 / 529 Rev. 0.01
==========

switch set max-pkt-len

Description:
This command can set maximum accept packet length for each port. Please set max-pkt-len first, and then assign each port to max-pkt-len index.

Syntax:
switch set max-pkt-len <fe | ge> port <*PORT_LIST:ports* **| all> index** *index*
switch set max-pkt-len index *index* **length** *lenth*

Parameter:
fe - fast ethernet
ge - giga ethernet
ports - specified port list
all - specify all ports
index - index of length configuration
length - packet length, unit byte

Examples:
This example shows how to set port 0 link in giga mode the maximum

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accept packet length to 1518 bytes.
RTK.0> switch set max-pkt-len index 0 length 1518
RTK.0> switch set max-pkt-len ge port 0 index 0

switch get max-pkt-len

Description:
This command can get the maximum accept packet length setting.

Syntax:
switch get max-pkt-len <fe | ge> port <*PORT_LIST:ports* **| all>**
switch get max-pkt-len index *index*

Parameter:
fe - fast Ethernet
ge - giga Ethernet
ports - specified port list
all - specify all ports
index - index of length configuration

Examples:
This example shows how to get maximum accept packet length setting.
RTK.0> switch get max-pkt-len index 0
Max-Length Index 0 is Length 0 bytes.
RTK.0> switch get max-pkt-len ge port 0
Port Speed Config
---
0 1000M 0

switch set limit-pause

Description:
This command can set switch limit pause frame state.

Syntax:
switch set limit-pause state <disable | enable>

Parameter:
State - state configuration
Disable - disable configuration
Enable - enable configuration

Examples:
This example shows how to set switch limit pause frame state to enable.
RTK.0> switch set limit-pause state enable

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switch get limit-pause

Description:
This command can set switch limit pause frame state.

Syntax:
switch get limit-pause state

Parameter:
None

Examples:
This example shows how to get switch limit pause frame state.
RTK.0> switch get limit-pause state
Limit Pause Frame: Enable

switch set small-ipg-tag

Description:
This cmmand can set each port can accept small IPG tag or not.

Syntax:
switch set small-ipg-tag port <*PORT_LIST:ports* **| all> state <disable | enable>**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to accept small ipg for port 0.
RTK.0> switch set small-ipg-tag port 0 state enable

switch get small-ipg-tag

Description:
This command used to get accept small ipg tag setting for each port.

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Syntax:
switch get small-ipg-tag port <*PORT_LIST:ports* **| all> state**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration

Examples:
This example shows how to get small ipg setting for port 0.
RTK.0> switch get small-ipg-tag port 0
Port Status
---
0 Enable
RTK.0>

switch set small-pkt

Description:
Thos command can set each port can accept small packet or not.

Syntax:
switch set small-pkt port <*PORT_LIST:ports* **| all> state <disable | enable>**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to accept small packet for port 0.
RTK.0> switch set small-pkt port 0 state enable

switch get small-pkt

Description:

Syntax:
switch get small-pkt port <*PORT_LIST:ports* **| all> state**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration

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Examples:
This example shows how to get small packet setting for port 0.
RTK.0> switch get small-ipg-tag port 0
Port Status
---
0 Disable
SFU Product Page 441 / 529 Rev. 0.01
==========

switch set output-drop

Description:
When this function enabled packet will be droped in ingress port when traffic conjuest occurs. The packet type would be broadcast, unknown-unicast and multicast.

Syntax:
switch set output-drop port <*PORT_LIST:ports* **| all> state <disable | enable>**
switch set output-drop <broadcast | unknown-unicast | multicast> state <disable | enable>

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration
broadcast - broadcast
unknown-unicast - unknown unicast
multicast - multicast

Examples:
This example shows how to enable output-drop function on port 0 and set check packet type to broadcast, unknown-unicast and multicast.
RTK.0> switch set output-drop port 0 state enable
RTK.0> switch set output-drop broadcast state enable
RTK.0> switch set output-drop unknown-unicast state enable
RTK.0> switch set output-drop multicast state enable
SFU Product Page 442 / 529 Rev. 0.01
==========

switch get output-drop

Description:
This command can get output-drop configuration.

Syntax:
switch get output-drop port <*PORT_LIST:ports* **| all> state**
switch get output-drop <broadcast | unknown-unicast |

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multicast> state

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
broadcast - broadcast
unknown-unicast - unknown unicast
multicast - multicast

Examples:
This example shows how to get output-drop setting for port 0.
RTK.0> switch get output-drop port 0 state
Port Status
0 Disable
SFU Product Page 443 / 529 Rev. 0.01
==========

switch set back-pressure

Description:
This cmmand can set switch back-pressure mode.

Syntax:
switch set back-pressure <jam | defer>

Parameter:
jam - jam configuration
defer - defer configuration

Examples:
This example shows how to set switch back-pressure to jam mode.
RTK.0> switch set back-pressure jam
SFU Product Page 444 / 529 Rev. 0.01
==========

switch get back-pressure

Description:
This command get get switch back-pressure mode.

Syntax:
switch get back-pressure

Parameter:
None

Examples:
This example shows how to get switch back-pressure mode.
RTK.0> switch get back-pressure
Back-pressure: jam mode

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switch reset

Description:
This command used to reset switch.

Syntax:
switch reset <global | chip>

Parameter:
global - global reset
chip - whole chip reset

Examples:
This example shows how to reset the switch chip.
RTK.0> switch reset chip

2.17. Dot1x commands

dot1x init

Description:
This command can reset & initialize Dot1x module.

Syntax:
dot1x init

Parameter:
None

Examples:
This example shows how to initial Dot1x module.
RTK.0> dot1x init
RTK.0>

dot1x set port-based

Description:
This command can set Dot1x port-based state, authentication state and direction.

Syntax:

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dot1x set port-based port <*PORT_LIST:ports* **| all> state <disable | enable>**
dot1x set port-based port <*PORT_LIST:ports* **| all> <auth | unauth>**
dot1x set port-based port <*PORT_LIST:ports* **| all> direction <in | both>**

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration
auth - authed configuration
unauth - un-authed configuration
direction - auth packet checking direction
in - in direction
both - both in and out direction

Examples:
This example shows how to enable port 0 port-based 1X. Set port 0 to Authed state. The auth packet checking direction set to both in and out direction.
RTK.0> dot1x set port-based port 0 state enable
RTK.0> dot1x set port-based port 0 auth
RTK.0> dot1x set port-based port 0 direction both

dot1x get port-based

Description:
This command can get port-based Dot1x setting.

Syntax:
dot1x get port-based port <*PORT_LIST:ports* **| all>**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to get port-based Dot1x status for port 0.
Port Direction State AuthedStatus
0 BOTH Enable Authorized

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dot1x set mac-based

Description:
This command can set Dot1x mac based state, authentication state and direction.

Syntax:
dot1x set mac-based port <*PORT_LIST:ports* **| all> state <disable | enable>**
dot1x set mac-based direction <in | both>

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
disable - disable configuration
enable - enable configuration
direction - auth packet checking direction
in - in direction
both - both in and out direction

Examples:
This example shows how to enable port 1 dot1x mac-based state to enable. The auth packet checking direction set to rx direction.
RTK.0> dot1x set mac-based port 1 state enable
RTK.0>
RTK.0> dot1x set mac-based direction in
RTK.0>
SFU Product Page 450 / 529 Rev. 0.01
==========

dot1x get mac-based

Description:
This command can get mac-based Dot1x setting.

Syntax:
dot1x get mac-based port <*PORT_LIST:ports* **| all> state**
dot1x get mac-based direction

Parameter:
ports - specified port list
all - specify all ports
state - state configuration
direction - authorized checking direction

Examples:
This example shows how to get mac-based Dot1x status for port 0.
RTK.0> dot1x get mac-based direction
Mac-based direction: BOTH

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RTK.0> dot1x get mac-based port 1
Port State
1 Disable
RTK.0>
SFU Product Page 451 / 529 Rev. 0.01
==========

dot1x set trap-priority

Description:
Configure priority for packets trapped to CPU for related dot1x functions

Syntax:
dot1x set trap-priority *priority*

Parameter:
priority - priority for trapping packets

Examples:
This example shows how to configurate dot1x trap priority to 7.
RTK.0> dot1x set trap-priority 7
RTK.0>
SFU Product Page 452 / 529 Rev. 0.01
==========

dot1x get trap-priority

Description:
Retriving priority for packets trapped to cpu for related dot1x functions

Syntax:
dot1x get trap-priority

Parameter:
None

Examples:
This example shows how to get dot 1x trap priority.
RTK.0> dot1x get trap-priority
Trap priority:7
SFU Product Page 453 / 529 Rev. 0.01
==========

dot1x set unauth-packet

Description:
This command can set forwad action for unauth-packet.

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Syntax:
dot1x set unauth-pakcet port <*PORT_LIST:ports* **| all> action <drop | guest-vlan | trap-to-cpu>**

Parameter:
ports - specified port list
all - specify all ports
drop - drop packet
trap-to-cpu - trap packet to cpu port
guest-vlan - assign to guest vlan

Examples:
This example shows how to set the unauth-packet all trap-to-cpu for port 0.
RTK.0> dot1x set unauth-packet port 0 action trap-to-cpu
SFU Product Page 454 / 529 Rev. 0.01
==========

dot1x get unauth-packet

Description:
This command can get unauth-packet action.

Syntax:
dot1x get unauth-pakcet port <*PORT_LIST:ports* **| all> action**

Parameter:
ports - specified port list
all - specify all ports
action - packet be treated configuration

Examples:
This example shows how to get unauth-packet action for port 0.
RTK.0> dot1x get unauth-packet port 0 action
Port Unauth Action
0 Drop
RTK.0>
SFU Product Page 455 / 529 Rev. 0.01
==========

dot1x set guest-vlan

Description:
This command use to assign vid for guest vlan and it can set the packet belong to guset vlan can forward to authed destination mac or not.

Syntax:
dot1x set guest-vlan vid *vid*
dot1x set guest-vlan to-auth-da <allow | disallow>

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Parameter:
vid - specify the numeric VLAN identifier
to-auth-da - forward to authed destination mac
Allow - allow configuration
Disallow - disallow configuration

Examples:
This example can assign VID 200 to guest vlan and it set guest vlan packet can not forward to authed destination mac.
RTK.0> vlan create vlan-table vid 200
RTK.0> dot1x set guest-vlan vid 200
RTK.0> dot1x set guest-vlan to-auth-da disallow

dot1x get guest-vlan

Description:
This command can get dot1x guest vlan setting.

Syntax:
dot1x get guest-vland

Parameter:
None

Examples:
This example shows how to get dot1x guest vlan setting.
RTK.0> dot1x get guest-vlan
Guest vlan: 200
Allow guest vlan talk to auth. DA: Disable
RTK.0>

2.18. Trunk commands

trunk init

Description:
This command can reset & initialize port trunking module.

Syntax:
trunk init

Parameter:
None

Examples:
This example shows how to reset initial port trunking function.

RTK.0> trunk init
RTK.0> trunk get member-port
Trunk portmask: none
RTK.0>
SFU Product Page 458 / 529 Rev. 0.01
==========

trunk set distribute-algorithm

Description:
This command can configure the distribution algorithm for trunk group.

Syntax:
trunk set distribute-algorithm [dst-ip] [dst-l4-port] [dst-mac] [src-ip] [src-l4-port] [src-mac] [src-port]

Parameter:
dst-ip - Destination IP
dst-l4-port - Destination Layer 4 port number
dst-mac - Destination MAC address
src-ip - Source IP
src-l4-port - Source Layer 4 port number
src-mac - Source MAC address
src-port - Source port

Examples:
This example shows how to configure the distribution algorithm as “Destination IP” + “Source IP”.
RTK.0> trunk set distribute-algorithm dst-ip src-ip
RTK.0>
SFU Product Page 459 / 529 Rev. 0.01
==========

trunk get distribute-algorithm

Description:
This command can get the distribution algorithm for trunk group.

Syntax:
trunk get distribute-algorithm

Parameter:
None

Examples:
This example shows how to get the distribution algorithm.
RTK.0> trunk get distribute-algorithm
Distribute Algorithm:
Source IP
Destination IP

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RTK.0>
SFU Product Page 460 / 529 Rev. 0.01
==========

trunk set flood-mode

Description:
This command can configure the flood mode for trunk group.

Syntax:
trunk set flood-mode < normal | to-1st-logic-port >

Parameter:
normal - Flooding packets will be forwarded
according to distribution algorithm
to-1st-logic-port - Flooding packets will be forwarded
according to 1st logical port

Examples:
This example shows how to configure the flood mode to
“to-1st-logical port”.
RTK.0> trunk set flood-mode to-1st-logic-port
RTK.0>
SFU Product Page 461 / 529 Rev. 0.01
==========

trunk get flood-mode

Description:
This command can get the flood mode for trunk group.

Syntax:
trunk get flood-mode

Parameter:
None

Examples:
This example shows how to get the flood mode.
RTK.0> trunk get flood-mode
Flood Mode: Forward to first port
RTK.0>
SFU Product Page 462 / 529 Rev. 0.01
==========

trunk set flow-control

Description:
This command can configure the flow control ability for trunk

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group. When enabling this ability, Apollo will send pause frame to the ports which receive packet and forward the packets to trunk group. This ability is used when users want to change distribution algorithm of member ports

Syntax:
trunk set flow-control state < disable | enable >

Parameter:
disable - Disable flow Control
enabled - Enable flow control

Examples:
This example shows how to configure the flow control to enabled.
RTK.0> trunk set flow-control state enable
RTK.0>

trunk get flow-control

Description:
This command can get the flow control ability for trunk group.

Syntax:
trunk get flow-control

Parameter:
None

Examples:
This example shows how to get the flow control ability.
RTK.0> trunk get flow-control
Trunk Flow Control: Enable
RTK.0>

trunk set hash-mapping

Description:
This command can configure the mapping table of hash value and port ID in trunk group.

Syntax:
trunk set hash-mapping hash-value < *value* **| all > port** *port*

Parameter:
value - Specify the hash value (0 ~ 15)
all - Specify all hash value
port - The port ID in trunk group

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Examples:
This example shows how to configure the 16 hash values to 4 trunk ports.

```
RTK.0> trunk set hash-mapping hash-value 0 port 0
RTK.0> trunk set hash-mapping hash-value 1 port 0
RTK.0> trunk set hash-mapping hash-value 2 port 0
RTK.0> trunk set hash-mapping hash-value 3 port 0
RTK.0> trunk set hash-mapping hash-value 4 port 1
RTK.0> trunk set hash-mapping hash-value 5 port 1
RTK.0> trunk set hash-mapping hash-value 6 port 1
RTK.0> trunk set hash-mapping hash-value 7 port 1
RTK.0> trunk set hash-mapping hash-value 8 port 2
RTK.0> trunk set hash-mapping hash-value 9 port 2
RTK.0> trunk set hash-mapping hash-value 10 port 2
RTK.0> trunk set hash-mapping hash-value 11 port 2
RTK.0> trunk set hash-mapping hash-value 12 port 3
RTK.0> trunk set hash-mapping hash-value 13 port 3
RTK.0> trunk set hash-mapping hash-value 14 port 3
RTK.0> trunk set hash-mapping hash-value 15 port 3
RTK.0>
```


==========

trunk get hash-mapping

Description:
This command can get the mapping table of hash value and port ID in trunk group.

Syntax:
trunk get hash-mapping hash-value all
trunk get hash-mapping hash-value *value*

Parameter:
all - Specify all hash value
value - specify the hash value (0 ~ 15)

Examples:
This example shows how to get all hash value in mapping table.

```
RTK.0> trunk get hash-mapping hash-value all
Hash Value 0 to Port 0 in trunk group
Hash Value 1 to Port 0 in trunk group
Hash Value 2 to Port 0 in trunk group
Hash Value 3 to Port 0 in trunk group
Hash Value 4 to Port 1 in trunk group
Hash Value 5 to Port 1 in trunk group
Hash Value 6 to Port 1 in trunk group
Hash Value 7 to Port 1 in trunk group
Hash Value 8 to Port 2 in trunk group
Hash Value 9 to Port 2 in trunk group
Hash Value 10 to Port 2 in trunk group
Hash Value 11 to Port 2 in trunk group
Hash Value 12 to Port 3 in trunk group
```


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Hash Value 13 to Port 3 in trunk group
Hash Value 14 to Port 3 in trunk group
Hash Value 15 to Port 3 in trunk group
RTK.0>
SFU Product Page 466 / 529 Rev. 0.01
==========

trunk set member-port

Description:
This command can configure the member ports of trunk group.

Syntax:
trunk set member-port < *PORT_LIST:ports* **| none >**

Parameter:
ports - Trunk port mask (0-1, 4-5)
none - Specify no ports in trunk

Examples:
This example shows how to configure a trunk group with member ports 0-1.
RTK.0> trunk set member-port 0-1
RTK.0>
SFU Product Page 467 / 529 Rev. 0.01
==========

trunk get member-port

Description:
This command can get the member ports of trunk group.

Syntax:
trunk get member-port

Parameter:
None

Examples:
This example shows how to get a trunk group member ports
RTK.0> trunk get member-port
Trunk portmask: 0-1
RTK.0>
SFU Product Page 468 / 529 Rev. 0.01
==========

trunk set mode

Description:

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This command can configure the mode of trunk group.
Dumb mode: The destination port choosen is based on system hash value mapping table.
Normal mode: The destination port choosen is based on customer hash value mapping table.

Syntax:
trunk set mode < dumb | normal >

Parameter:
dumb - Dumb mode
normal - Normal mode

Examples:
This example shows how to configure a trunk mode as “normal mode”.
RTK.0> trunk set mode normal
RTK.0>
SFU Product Page 469 / 529 Rev. 0.01
==========

trunk get mode

Description:
This command can get the mode of trunk group.

Syntax:
trunk get mode

Parameter:
None

Examples:
This example shows how to get trunk mode.
RTK.0> trunk get mode
Trunk Mode: Normal mode
RTK.0>
SFU Product Page 470 / 529 Rev. 0.01
==========

trunk get queue-empty

Description:
This command can get the port mask wich all queues are empty.

Syntax:
trunk get queue-empty

Parameter:
None

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Examples:
This example shows how to get queue empty mask.
RTK.0> trunk get queue-empty
Queue Empty Port Mask: none
RTK.0>

2.19. Auto Fallback commands

auto-fallback set port

Description:
This command can configure the state of auto fallback per port basis.

Syntax:
auto-fallback set port *PORT_LIST:ports* **state < disable | enable >**

Parameter:
ports - Specify a port list
disable - Disable Auto fallback
enable - Enable Auto fallback

Examples:
This example shows how to enable auto fallback at port 0 & 1.
RTK.0> auto-fallback set port 0-1 state enable
RTK.0>

auto-fallback get port

Description:
This command can get the state / status / counter of auto fallback per port basis .

Syntax:
auto-fallback get port *PORT_LIST:ports* **state**
auto-fallback get port *PORT_LIST:ports* **error-counter**
auto-fallback get port *PORT_LIST:ports* **monitor-counter**
auto-fallback get port *PORT_LIST:ports* **restore**
auto-fallback get port *PORT_LIST:ports* **valid-flow**

Parameter:
ports - Specify a port list
state - state of auto fallback
error-counter - Error packet counter
monitor-counter - Monitor packet counter

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restore - the state of restore power level
valid-flow - the state of valid flow

Examples:
This example shows how to get auto fallback information at port 0 & 1.
RTK.0> auto-fallback get port 0-1 state
Port 0 Auto Fallback State: Enable
Port 1 Auto Fallback State: Enable
RTK.0> auto-fallback get port 0-1 error-counter
Port 0 Error counter: 0
Port 1 Error counter: 0

RTK.0> auto-fallback get port 0-1 monitor-counter
Port 0 Monitort counter: 0
Port 1 Monitort counter: 0
RTK.0> auto-fallback get port 0-1 restore
Port 0 Restore Power Level: Not Restore Power Level
Port 1 Restore Power Level: Not Restore Power Level
RTK.0> auto-fallback get port 0-1 valid-flow
Port 0 Valid Flow state: None Valid Flow
Port 1 Valid Flow state: None Valid Flow
RTK.0>

auto-fallback set error-count

Description:
This command can configure the error count threshold of auto fallback..

Syntax:
auto-fallback set error-count < 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 >

Parameter:
1 - Specify the error count threshold to 1
2 - Specify the error count threshold to 2
4 - Specify the error count threshold to 4
8 - Specify the error count threshold to 8
16 - Specify the error count threshold to 16
32 - Specify the error count threshold to 32
64 - Specify the error count threshold to 64
128 - Specify the error count threshold to 128

Examples:
This example shows how to configure the error count threshold as 8
RTK.0> auto-fallback set error-count 8
RTK.0>

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auto-fallback get error-count

Description:
This command can get the error count threshold of auto fallback..

Syntax:
auto-fallback set error-count

Parameter:
None.

Examples:
This example shows how to get the error count threshold.
RTK.0> auto-fallback get error-count
Max Error Count: 8 packets
RTK.0>

auto-fallback set monitor-count

Description:
This command can configure the monitor count threshold of auto fallback.

Syntax:
auto-fallback set monitor-count < 8K | 16K | 32K | 64K | 128K | 256K | 512K | 1M >

Parameter:
8K - Specify the monitor count threshold to 8K
16K - Specify the monitor count threshold to 16K
32K - Specify the monitor count threshold to 32K
64K - Specify the monitor count threshold to 64K
128K - Specify the monitor count threshold to 128K
256K - Specify the monitor count threshold to 256K
512K - Specify the monitor count threshold to 512K
1M - Specify the monitor count threshold to 1M

Examples:
This example shows how to configure the monitor count threshold as 8K
RTK.0> auto-fallback set monitor-count 8K
RTK.0>

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==========

auto-fallback get monitor-count

Description:
This command can get the monitor count threshold of auto fallback.

Syntax:
auto-fallback set monitor-count < 8K | 16K | 32K | 64K | 128K | 256K | 512K | 1M >

Parameter:
None.

Examples:
This example shows how to get the monitor count threshold.
RTK.0> auto-fallback get monitor-count
Max Monitor Count: 8K packets
RTK.0>

==========

auto-fallback set ignore-timeout

Description:
This command can configure the ignore timeout ability of auto fallback. When enabling this ability, TCP timeout event will not be treated as an error.

Syntax:
auto-fallback set ignore-timeout < disable | enable >

Parameter:
disable - enable ignore timeout ability
enable - disable ignore timeout ability

Examples:
This example shows how to configure the ignore timeout ability as enabled
RTK.0> auto-fallback set ignore-timeout enable
RTK.0>

==========

auto-fallback get ignore-timeout

Description:
This command can get the ignore timeout ability of auto fallback.

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Syntax:
auto-fallback get ignore-timeout

Parameter:
None.

Examples:
This example shows how to get the ignore timeout ability as enabled
RTK.0> auto-fallback get ignore-timeout
Ignore Timeout State: Enable
RTK.0>
SFU Product Page 480 / 529 Rev. 0.01
==========

auto-fallback set reduce-power-level

Description:
This command can configure the ability of reducing power level when the error event is great than error count threshold.

Syntax:
auto-fallback set reduce-power-level < disable | enable >

Parameter:
disable - enable reduce power level ability
enable - disable reduce power level ability

Examples:
This example shows how to configure the reduce power level ability as enabled
RTK.0> auto-fallback set reduce-power-level enable
RTK.0>
SFU Product Page 481 / 529 Rev. 0.01
==========

auto-fallback get reduce-power-level

Description:
This command can get the ability of reducing power level.

Syntax:
auto-fallback get reduce-power-level

Parameter:
None

Examples:
This example shows how to get the reduce power level ability as enabled
RTK.0> auto-fallback get reduce-power-level

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Reduce Power Level State: Enable
RTK.0>
SFU Product Page 482 / 529 Rev. 0.01
==========

auto-fallback set timer

Description:
This command can configure the state of timer and its value.

Syntax:
auto-fallback set timer state < disable | enable >
auto-fallback set timer *timer*

Parameter:
disable - disable timer
enable - enable timer
timer - the value of timer

Examples:
This example shows how to configure the timer as enabled and its value as 1000
RTK.0> auto-fallback set timer 1000
RTK.0> auto-fallback set timer state en
RTK.0>
SFU Product Page 483 / 529 Rev. 0.01
==========

auto-fallback get timer

Description:
This command can get the state of timer and its value.

Syntax:
auto-fallback get timer state
auto-fallback get timer

Parameter:
None

Examples:
This example shows how to get the state of timer its value.
RTK.0> auto-fallback get timer state
Timer State: Enable
RTK.0> auto-fallback get timer
Timeout threshold: 4ms
RTK.0>
SFU Product Page 484 / 529 Rev. 0.01
==========

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2.20. OAM commands

oam init

Description:
This command can reset & initialize OAM module. The oam module used to control received oam packet behavior.

Syntax:
oam init

Parameter:
None

Examples:
This example shows how to initialize OAM module.
RTK.0> oam init
RTK.0>
SFU Product Page 485 / 529 Rev. 0.01
==========

oam set state

Description:
This command can enable or disable oam function. Enable oam function will trap oam packet to CPU.

Syntax:
oam set state <disable | enable>

Parameter:
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to enable oam function.
RTK.0> oam set state enable
RTK.0>
SFU Product Page 486 / 529 Rev. 0.01
==========

oam get state

Description:
This command can get the oam status.

Syntax:
oam get state

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Parameter:
None

Examples:
This example shows how to get oam state.
RTK.0> oam get state
OAM State is Enable
SFU Product Page 487 / 529 Rev. 0.01
==========

oam set multiplexer

Description:
This command used to set oam transmitting multiplexing function.

Syntax:
oam set multiplexer port <*PORT_LIST:ports* **| all> action <forwad | discard | from-cpu-only>**

Parameter:
ports - specified port list
all - specify all ports
forward - forward non-oam packet
discard - discard non-oam packet
from-cpu-only - accept packet from cpu port only

Examples:
This example shows how to set port 0 oam multiplexer action to forward.
RTK.0> oam set multiplexer port 0 action forward
0 Forward
RTK.0>
SFU Product Page 488 / 529 Rev. 0.01
==========

oam get multiplexer

Description:
This command can get per port oam multiplexer action.

Syntax:
oam get multiplexer port <*PORT_LIST:ports* **| all>**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to get port 0 oam multiplexer action.
RTK.0> oam get multiplexer port 0
Port Multiplexer Action

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0 Forward
RTK.0>
SFU Product Page 489 / 529 Rev. 0.01
==========

oam set parser

Description:
This command can set oam parser action.

Syntax:
oam set parser port <*PORT_LIST:ports* **| all> action <forwad | loopback | discard>**

Parameter:
ports - specified port list
all - specify all ports
forward - forward non-OAMPDUs
lookback - loopback non-OAMPDUs
- drop CRC and receiving FAILED packets
- trap OAMPDUs to CPU
discard - discard non-OAMPDUs

Examples:
This example shows how to set port 0 oam parser acxion to lookback.
RTK.0> oam set parser port 0 action loopback
Set OAM Parser
Port Parser Action
---
0 Loop Back
RTK.0>
SFU Product Page 490 / 529 Rev. 0.01
==========

oam get parser

Description:
This command can per port get oam parser action.

Syntax:
oam get parser port <*PORT_LIST:ports* **| all>**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to get oam parser action for port 0.
RTK.0> oam get parser port 0
Get OAM Parser

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Port Parser Action
---
0 Forward
RTK.0>
SFU Product Page 491 / 529 Rev. 0.01
==========

oam set trap-priority

Description:
Configure priority for packets trapped to cpu for related oam functions

Syntax:
oam set trap-priority *priority*

Parameter:
priority - priority for trapping packets

Examples:
This example shows how to configurate oam trap priority to 7.
RTK.0> oam set trap-priority 7
SFU Product Page 492 / 529 Rev. 0.01
==========

oam get trap-priority

Description:
Retriving priority for packets trapped to cpu for related oam function

Syntax:
oam get trap-priority

Parameter:
None

Examples:
This example shows how to get oam trap priority.
RTK.0> oam get trap-priority
OAM Trap Priority is 7
RTK.0>
SFU Product Page 493 / 529 Rev. 0.01
==========

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2.21. Loop commands

rldp init

Description:
This command can reset & initialize RLDP module.

Syntax:
rldp init

Parameter:
None

Examples:
This example shows how to initialize RLDP module.
RTK.0> rldp init
RTK.0>
SFU Product Page 494 / 529 Rev. 0.01
==========

rldp set state

Description:
These commands configure the enable/disable RLDP function of the entire chip and each port. Chip level state configuration has higher precedence then per port state control.

Syntax:
rldp set state <disable | enable>
rldp set port <*PORT_LIST:ports* **| all> state <disable | enable>**

Parameter:
disable - disable configuration
enable - enable configuration
ports - specified port list
all - specify all ports

Examples:
This example shows how to enable the chip and port 1-3's RLDP function.
RTK.0> rldp set state enable
RLDP: Disable -> Enable
RTK.0> rldp set port 1-3 state enable
Set RLDP port state
Port state
---- ----------
1 Disable -> Enable
2 Disable -> Enable
3 Disable -> Enable
RTK.0>

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rldp get state

Description:
These commands get the chip and port RLDP enable/disable configuration.

Syntax:
rldp get state
rldp get port <*PORT_LIST:ports* **| all> state**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to get chip level and port 0-3's RLDP configuraitons.
RTK.0> rldp get state
RLDP Enable
RTK.0> rldp get port 0-3 state
Get RLDP port state
Port state
---- --------
0 Disable
1 Enable
2 Enable
3 Enable

rldp get status

Description:
This command gets the currently loop status of each port. It display if the port is currently in looping status and if each port ever entering/leaving looping status.

Syntax:
rldp get port <*PORT_LIST:ports* **| all> status**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to display port 1 and port 3s' RLDP status.
RTK.0> rldp get port 1,3 status
Get RLDP port looped state

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Port looping enter leave
---- ------- ----- -----
1
3
RTK.0>
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==========

rldp clear status

Description:
This command clears the entering/leaving status of specified port.

Syntax:
rldp clear port <*PORT_LIST:ports* **| all> status <entering | leaving>**

Parameter:
ports - specified port list
all - specify all ports
entering - enter looping status
leaving - leave looping status

Examples:
This example shows how to clear port 0, 3s' entering status and port 1, 2s' leaving status.
RTK.0> rldp clear port 0,3 status entering
Clear RLDP port looped state
Port enter leave
---- ----- -----
0 V
3 V
RTK.0>
RTK.0> rldp clear port 1,2 status leaving
Clear RLDP port looped state
Port enter leave
---- ----- -----
1 V
2 V
RTK.0>
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==========

rldp set magic

Description:
This command sets the magic of outgoing RLDP frames.

Syntax:
rldp set magic *mac*

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Parameter:
mac - mac address

Examples:
This example shows how to configure the magic of RLDP.
RTK.0> rldp set magic 01:02:03:04:05:06
RLDP Magic: 00:00:00:00:00:00 -> 01:02:03:04:05:06
RTK.0>
SFU Product Page 499 / 529 Rev. 0.01
==========

rldp get magic

Description:
This command gets the magic used by RLDP.

Syntax:
rldp get magic

Parameter:
None

Examples:
This example shows how to get magic of RLDP.
RTK.0> rldp get magic
RLDP Magic: 01:02:03:04:05:06
RTK.0>
SFU Product Page 500 / 529 Rev. 0.01
==========

rldp get identifier

Description:
This command gets the current identifier used by RLDP which is generated by random number generator.

Syntax:
rldp get identifier

Parameter:
None

Examples:
This example shows how to get identifier of RLDP.
RTK.0> rldp get identifier
RLDP Identifier: 5A:E7:BD:3C:81:96
RTK.0>
SFU Product Page 501 / 529 Rev. 0.01
==========

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rldp set compare-typ

Description:
This command configures the RLDP compare type to either compare both identifier and magic or magic only.

Syntax:
rldp set compare-typ <magic-and-identifier | magic-only>

Parameter:
magic-and-identif
ier
- checking both magic and identifier
magic-only - checking magic only

Examples:
This example shows how to configure RLDP to compare magic only.
RTK.0> rldp set compare-type magic-only
RLDP Compare Type: Magic Number + Identifier -> Magic Number
RTK.0>
SFU Product Page 502 / 529 Rev. 0.01
==========

rldp get compare-typ

Description:
This command gets the current compare type used by RLDP.

Syntax:
rldp get compare-typ

Parameter:
None

Examples:
This example shows how to get compare type of RLDP.
TK.0> rldp get compare-type
RLDP Compare Type: Magic Number
RTK.0>
SFU Product Page 503 / 529 Rev. 0.01
==========

rldp set period

Description:
This command set the check/loop state period of RLDP.

Syntax:
rldp set <check | loop> period *time*

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Parameter:
check - checking state
loop - looping state
time - time to send packets, unit 1 ms

Examples:
This example shows how to configure RLDP's check and loop state period.
RTK.0> rldp set check period 5000
RLDP check period: 2000 ms -> 5000 ms
RTK.0>
RTK.0> rldp set loop period 5000
RLDP loop period: 2000 ms -> 5000 ms
RTK.0>
SFU Product Page 504 / 529 Rev. 0.01
==========

rldp get period

Description:
This command gets the check/loop state period of RLDP.

Syntax:
rldp get <check | loop> period

Parameter:
check - checking state
loop - looping state

Examples:
This example shows how to get RLDP's check/loop state period.
RTK.0> rldp get check period
RLDP check period: 5000 ms
RTK.0> rldp get loop period
RLDP loop period: 5000 ms
RTK.0>
SFU Product Page 505 / 529 Rev. 0.01
==========

rldp set number

Description:
This command sets the check/loop state of RLDP frame send count.

Syntax:
rldp set <check | loop> number *count*

Parameter:
check - checking state
loop - looping state
count - number of sending packets

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Examples:
This example shows how to configure RLDP's check and loop state frame send count.
RTK.0> rldp set check number 5
RLDP check number count: 4 -> 5
RTK.0> rldp set loop number 3
RLDP loop number count: 4 -> 3
RTK.0>
SFU Product Page 506 / 529 Rev. 0.01
==========

rldp get number

Description:
This command gets the check/loop state of RLDP send count.

Syntax:
rldp get <check | loop> number

Parameter:
check - checking state
loop - looping state

Examples:
This example shows how to get send count of RLDP check and loop state.
RTK.0> rldp get check number
RLDP check number count: 5
RTK.0> rldp get loop number
RLDP loop number count: 3
RTK.0>
SFU Product Page 507 / 529 Rev. 0.01
==========

rldp set control-state

Description:
This command set the force looping state of each port to indicate that the ports has entering loop state.

Syntax:
rldp set port <*PORT_LIST:ports* **| all> control-state <looping | non-looping>**

Parameter:
ports - specified port list
all - specify all ports
looping - looping state
non-looping - non-looping state

Examples:

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This example shows how to configure port 0-2 enter loop state and leave.

```
RTK.0> rldp set port 0-2 control-state looping
RTK.0>
RTK.0> rldp get port 0-3 status
Get RLDP port looped state
Port looping enter leave
---- ------- ----- -----
0 V V
1 V V
2 V V
3
RTK.0> rldp set port 1,2 control-state none-looping
RTK.0>
RTK.0> rldp get port 0-3 status
Get RLDP port looped state
Port looping enter leave
---- ------- ----- -----
0 V V
1 V
2 V
3
RTK.0>
```


rldp get control-state

Description:
This command gets the force looping state of RLDP.

Syntax:
rldp get port <*PORT_LIST:ports* **| all> control-state**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how get port 0-4s' the force looping state of RLDP.

```
RTK.0> rldp get port 0-4 control-state
RLDP port control-state
Port state
---- ------------
0: Looping
1: None-looping
2: None-looping
3: None-looping
4: None-looping
```


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rldp get looped-port-id

Description:
This command get the port ID detected by RLDP which is looped with specified port.

Syntax:
rldp get port <*PORT_LIST:ports* **| all> looped-port-id**

Parameter:
ports - specified port list
all - specify all ports

Examples:
This example shows how to get the looped port id of the specified port.
RTK.0> rldp get port 0-4 looped-port-id
Get RLDP port looped port id
Port looped port
---- -----------
0 0
1 0
2 0
3 0
4 0
SFU Product Page 510 / 529 Rev. 0.01
==========

rldp set re-generate-identifier

Description:
This command regenerates the identifier used by RLDP.

Syntax:
rldp set re-generate-identifier

Parameter:
None

Examples:
This example shows how to regenerate the identifier of RLDP.
RTK.0> rldp get identifier
RLDP Identifier: AD:86:E0:14:AE:5B
RTK.0> rldp set re-generate-identifier
RTK.0> rldp get identifier
RLDP Identifier: 72:74:33:30:4B:0D
RTK.0>
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==========

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rldp set handle

Description:
This command configures that RLDP frame should processed by chip or software.

Syntax:
rldp set handle <hardware | software>

Parameter:
hardware - detect by hardware
software - detect by software

Examples:
This example shows how to configure the RLDP should processed by chip hardware.
RTK.0> rldp set handle hardware
RTK.0>
SFU Product Page 512 / 529 Rev. 0.01
==========

rldp get handle

Description:
This command gets the current RDLP handler.

Syntax:
rldp get handle

Parameter:
None

Examples:
This example shows how get the current RLDP handler.
RTK.0> rldp set handle hardware
RTK.0>
SFU Product Page 513 / 529 Rev. 0.01
==========

rldp set mode

Description:
This command configures the RLDP detection mode to either sa-moving or periodic mode.

Syntax:
rldp set mode <sa-moving | periodic>

Parameter:
sa-movin - detect by host port moving

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periodic - detect periodicly

Examples:
This example shows how to configure the RLDP to periodic mode.
RTK.0> rldp set mode periodic
RTK.0>
SFU Product Page 514 / 529 Rev. 0.01
==========

rldp get mode

Description:
This command gets the current RLDP detection mode.

Syntax:
rldp get mode

Parameter:
None

Examples:
This example shows how to get the current RLDP detection mode.
RTK.0> rldp get mode
RLDP Mode: Peroidical
SFU Product Page 515 / 529 Rev. 0.01
==========

rldp set bypass-flow-control

Description:
This command configures if RLDP affects by flow control mechanism.

Syntax:
rldp set bypass-flow-control state <disable | enable>

Parameter:
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how to configure RLDP to bypass flow control mechanism.
RTK.0> rldp set bypass-flow-control state enable
RLDP Bypass: Disable ->Enable
RTK.0>
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==========

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rldp get bypass-flow-control

Description:
This command gets the current state of RLDP bypass flowcontrol.

Syntax:
rldp get bypass-flow-control state

Parameter:
state - state configuration

Examples:
This example shows how to get the current bypass flowcontrol state of RLDP.
RTK.0> rldp get bypass-flow-control
RLDP Bypass: Enable
RTK.0>
SFU Product Page 517 / 529 Rev. 0.01
==========

rlpp set trap

Description:
This command configure if the RLPP packet is trapped to CPU or not.

Syntax:
rldp set trap state <disable | enable>

Parameter:
state - state configuration
disable - disable configuration
enable - enable configuration

Examples:
This example shows how set RLPP packet to no trapped to CPU.
RTK.0> rlpp set trap state disable
RTK.0>
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==========

rlpp get trap

Description:
This command gets current RLPP trap state.

Syntax:
rlpp get trap state

Parameter:

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state - state configuration

Examples:
This example shows how to get the trap state of RLPP.
RTK.0> rlpp get trap
RLPP Trap to CPU: Disable
RTK.0>
SFU Product Page 519 / 529 Rev. 0.01
==========

2.22. Interrupt commands

interrupt init

Description:
This command can reset interrupt mask and clear interrupt status.

Syntax:
interrupt init

Parameter:
None

Examples:
This example shows how intitalize interrupt.
RTK.0> interrupt init
SFU Product Page 520 / 529 Rev. 0.01
==========

interrupt set mask

Description:
This command can turn on/off the interrupt mask.

Syntax:
interrupt set mask < all | link-change | meter-exceed | learn-over | speed-change | special-congestion | loop-detection | cable-diag | acl | gphy | serdes | gpon | epon | ptp | dying-gasp | thermal | adc > state < disable | enable >

Parameter:
all - select all interrupt mask bit
link-change - mask for link change interrupt
meter-exceed - mask for meter exceed interrupt
learn-over - mask for L2 table learn over interrupt
speed-change - mask for port speed change interrupt
special-congestion - mask for special congestion interrupt
loop-detection - mask for loop dection interrupt
cable-diag - mask for cable diagnostic interrupt
acl - mask for acl interrupt

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gphy - mask for GPHY interrupt
serdes - mask for Serdes interrupt
gpon - mask for GPON interrupt
epon - mask for EPON interrupt
ptp - mask for PTP interrupt
dying-gasp - mask for DyingGasp interrupt
thermal - mask for Thermal exceed interrupt
adc - mask for ADC interrupt
disable - disable the interrupt mask
enable - enable the interrupt mask

Examples:
This example show how to turn on GPON interrupt mask.
RTK.0> interrupt set mask gpon state enable

interrupt get mask

Description:
This command can turn on/off the interrupt mask.

Syntax:
interrupt get mask < all | link-change | meter-exceed | learn-over | speed-change | special-congestion | loop-detection | cable-diag | acl | gphy | serdes | gpon | epon | ptp | dying-gasp | thermal | adc > state

Parameter:
all - select all interrupt mask bit
link-change - mask for link change interrupt
meter-exceed - mask for meter exceed interrupt
learn-over - mask for L2 table learn over interrupt
speed-change - mask for port speed change interrupt
special-congestion - mask for special congestion interrupt
loop-detection - mask for loop dection interrupt
cable-diag - mask for cable diagnostic interrupt
acl - mask for acl interrupt
gphy - mask for GPHY interrupt
serdes - mask for Serdes interrupt
gpon - mask for GPON interrupt
epon - mask for EPON interrupt
ptp - mask for PTP interrupt
dying-gasp - mask for DyingGasp interrupt
thermal - mask for Thermal exceed interrupt
adc - mask for ADC interrupt

Examples:
This example show how to display GPON interrupt mask.
RTK.0> interrupt get mask gpon state
IMR: Enable

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interrupt get status

Description:
This command get the interrupt status.

Syntax:
interrupt get status < all | link-change | meter-exceed | learn-over | speed-change | special-congestion | loop-detection | cable-diag | acl | gphy | serdes | gpon | epon | ptp | dying-gasp | thermal | adc >

Parameter:
all - select all interrupt mask bit
link-change - status for link change interrupt
meter-exceed - status for meter exceed interrupt
learn-over - status for L2 table learn over interrupt
speed-change - status for port speed change interrupt
special-congestion - status for special congestion interrupt
loop-detection - status for loop dection interrupt
cable-diag - status for cable diagnostic interrupt
acl - status for acl interrupt
gphy - status for GPHY interrupt
serdes - status for Serdes interrupt
gpon - status for GPON interrupt
epon - status for EPON interrupt
ptp - status for PTP interrupt
dying-gasp - status for DyingGasp interrupt
thermal - status for Thermal exceed interrupt
adc - status for ADC interrupt

Examples:
This example show how to display GPON interrupt status.
RTK.0> interrupt get status gpon
IMS: Disable
SFU Product Page 523 / 529 Rev. 0.01
==========

interrupt clear status

Description:
This command clear the interrupt status.

Syntax:
interrupt clear status < all | link-change | meter-exceed | learn-over | speed-change | special-congestion | loop-detection | cable-diag | acl | gphy | serdes | gpon | epon | ptp | dying-gasp | thermal | adc >

Parameter:
all - select all interrupt mask bit

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link-change - status for link change interrupt
meter-exceed - status for meter exceed interrupt
learn-over - status for L2 table learn over interrupt
speed-change - status for port speed change interrupt
special-congestion - status for special congestion interrupt
loop-detection - status for loop dection interrupt
cable-diag - status for cable diagnostic interrupt
acl - status for acl interrupt
gphy - status for GPHY interrupt
serdes - status for Serdes interrupt
gpon - status for GPON interrupt
epon - status for EPON interrupt
ptp - status for PTP interrupt
dying-gasp - status for DyingGasp interrupt
thermal - status for Thermal exceed interrupt
adc - status for ADC interrupt

Examples:
This example show how to clear GPON interrupt status.
RTK.0> inter clear status gpon
SFU Product Page 524 / 529 Rev. 0.01
==========

interrupt get status detail

Description:
This command get the specific interrupt status for ports or PHYs.

Syntax:
interrupt get status < speed-change | link-up | link-down | gphy > detail

Parameter:
speed-change - status for port speed change interrupt
link-up - status for link up interrupt
link-down - status for link down interrupt
gphy - status for GPHY interrupt

Examples:
This example shows how to display link up interrupt detail status.
RTK.0> interrupt get status link-up detail
Status: 0x00000000
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==========

interrupt clear status detail

Description:
This command clear the specific interrupt status for ports or PHYs.

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Syntax:
interrupt clear status < speed-change | link-up | link-down | gphy > detail

Parameter:
speed-change - status for port speed change interrupt
link-up - status for link up interrupt
link-down - status for link down interrupt
gphy - status for GPHY interrupt

Examples:
This example show how to clear all ports link up interrupt status.
RTK.0> interrupt clear status link-up detail
SFU Product Page 526 / 529 Rev. 0.01
==========

interrupt set polarity

Description:
This command configure the interrupt polarity is high active or low active while trigged.

Syntax:
interrupt set polarity < high | low >

Parameter:
high - high active
low - low active

Examples:
This example show how to set the interrupt polarity as high active.
RTK.0> interrupt set polarity high
SFU Product Page 527 / 529 Rev. 0.01
==========

interrupt get polarity

Description:
This command get the interrupt polarity is high active or low active while trigged.

Syntax:
interrupt set polarity

Parameter:
None

Examples:
This example show how to display the interrupt polarity.

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```
RTK.0> interrupt get polarity
Polarity: High
```


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