FSAP 9800
Full Service Access Platform
Command Manual (Volume I)

Version 3.2.0

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Contents

Preface

Purpose

This manual provides the technical information on the FSAP 9800 Full Service Access Platform.

Intended Audience

This document is intended for engineers and technicians who perform installation, operation and maintenance activities on the FSAP 9800 Full Service Access Platform.

Prerequisite Skill and Knowledge

To use this document effectively, users should have a general understanding of network technology. Familiarity with the following is helpful:

- The FSAP 9800 system and its various components
- Maintenance procedures
- Local operating procedures

What Is in This Manual

This manual contains the following chapters:

TABLE 1 MANUAL CONTENTS

Chapter	Summary
Chapter 1, Overview	Provides the command conventions, auxiliary functions and login mode.
Chapter 2, Basic System Management	Describes the commands related to basic system management.
Chapter 3, Hardware Management	Describes the commands related to hardware management.
Chapter 4, Fan Management	Describes the commands related to fan management.
Chapter 5, Version Management	Describes the commands related to version management.
Chapter 6, File System Management	Describes the commands related to file system management.
Chapter 7, User Management	Describes the commands related to user management.
Chapter 8, SNMP	Describes the commands related to SNMP.
Chapter 9, RMON	Describes the commands related to RMON.
Chapter 10, UAPS Uplink Active/Standby Swap	Describes the commands related to UAPS uplink active/standby swap

Chapter	Summary
Chapter 11, FTP/TFTP Server	Describes the commands related to FTP/TFTP server.
Chapter 12, Alarm Management	Describes the commands related to alarm management.
Chapter 13, Debugging	Describes the commands related to debugging.
Chapter 14, MPNAT Translation Configuration	Describes the commands related to MPNAT translation configuration.

Related Documentation

The following documents are related to this manual:

- *FSAP 9800 (V3.2.0) Full Service Access Platform Documentation Guide*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Hardware Manual*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Technical Manual*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Hardware Installation Manual*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Command Manual (Volume II)*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Command Manual (Volume III)*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Command Manual (Volume IV)*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Command Manual (Volume V)*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Routine Maintenance Manual*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Operation Manual (CLI)*
- *FSAP 9800 (V3.2.0) Full Service Access Platform Operation Manual(NetNumen)*

Conventions

ZTE documents employ the following typographical conventions.

TABLE 2 TYPOGRAPHICAL CONVENTIONS

Typeface	Meaning
Italics	References to other Manuals and documents.
"Quotes"	Links on screens.
Bold	Menus, menu options, function names, input fields, radio button names, check boxes, drop-down

Typeface	Meaning
	lists, dialog box names, window names.
CAPS	Keys on the keyboard and buttons on screens and company name.
Constant width	Text that you type, program code, files and directory names, and function names.
[ ]	Optional parameters
{ }	Mandatory parameters
I	Select one of the parameters that are delimited by it.
 **Note:**	Note: Provides additional information about a certain topic.
 **Checkpoint:**	Checkpoint: Indicates that a particular step needs to be checked before proceeding further.
 **Tip:**	Tip: Indicates a suggestion or hint to make things easier or more productive for the reader.

Mouse Operation Conventions are as follows:

TABLE 3 MOUSE OPERATION CONVENTIONS

Typeface	Meaning
Click	Refers to clicking the primary mouse button (usually the left mouse button) once.
Double-click	Refers to quickly clicking the primary mouse button (usually the left mouse button) twice.
Right-click	Refers to clicking the secondary mouse button (usually the right mouse button) once.
Drag	Refers to pressing and holding a mouse button and moving the mouse.

How to Get in Touch

The following sections provide information on how to obtain support for the documentation and the software.

Customer Support

If you have problems, questions, comments, or suggestions regarding your product, contact us by e-mail at support@zt

e.com.cn. You can also call our customer support center at (86) 755 26771900 and (86) 800-9830-9830.

Documentation Support

ZTE welcomes your comments and suggestions on the quality and usefulness of this document. For further questions, comments, or suggestions on the documentation, you can contact us by e-mail at doc@zte.com.cn; or you can fax your comments and suggestions to (86) 755 26772236. You can also browse our website at http://support.zte.com.cn, which contains various interesting subjects like documentation, knowledge base, forum and service request.

Declaration of RoHS Compliance

To minimize the environmental impact and take more responsibility to the earth we live, this document shall serve as formal declaration that FSAP 9800 manufactured by ZTE CORPORATION is in compliance with the Directive 2002/95/EC of the European Parliament - RoHS (Restriction of Hazardous Substances) with respect to the following substances:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent Chromium (Cr (VI))
- PolyBrominated Biphenyls (PBB's)
- PolyBrominated Diphenyl Ethers (PBDE's)

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Chapter 1

Overview

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Command Conventions

This manual employs the following command conventions.

Typeface	Meaning
/* */	Comment (no need to input contents)
Bold	Command or keyword
Italic	Parameters
|	Select one of the parameters that are delimited by it.
[ ]	Optional parameters
{ }	Mandatory parameters
{x|y|z}	Select one of x,y and z mandatorily
[x{y|z}]	Optional parameters in square brackets; When selecting the parameters in the square brackets, be sure to select one of x and y in braces

Auxiliary Functions

- In any command mode, input ? key after the DOS prompt to view any available commands in this mode. Use context sensitive help function to view key words and parameters of any commands.
  - Type ? key in any command mode to view all commands and their brief descriptions in this mode.

  - Enter ? after characters or strings to view commands or key words starting with this characters or strings. Please note that there should be no space between characters (strings) and ?.
  - Press **TAB** key after strings to get the whole command with a space if this command or keyword starting with the strings is unique. Please note that there is no space between strings and **TAB** key.
  - Input ? after commands, keywords and parameters to display keywords or parameters to be inputted next and a brief description. Please note that there should be a space before question mark.
- If incorrect commands, keywords or parameters are inputted, an error separation is displayed with "^" on user interface after entering. "^" mark appears under the first character of the incorrect commands, keywords or parameters.
- It is allowed to abbreviate commands and keywords into characters or strings that uniquely identify this command or keyword. For example, write **show** into **sh** or **sho**.
- User interfaces supports recalling function for the typed commands. It can record at most 10 history commands which is helpful to recall long or complicated commands or entrance.

  To recall commands from buffer, execute the following operations:

Operation	Function
Press Ctrl-P or Up Arrow	Recall the latest commands from buffer. Press continuously the key to recall the older commands.
Press Ctrl-N or Down Arrow	Press the key to the last command line and roll back from the beginning of buffer.

Login Mode

The following table lists the following login modes:

Mode	DOS prompt	Entrance mode	Entrance command
User mode	ZXAN>	-	Enter user mode directly after logging into the system
Privilege mode	ZXAN#	User mode	enable
Global configuration mode	ZXAN(config)#	Privilege mode	configure terminal

Mode	DOS prompt	Entrance mode	Entrance command
Clock configuration mode	ZXAN(config-clock)#	Global configuration mode	clock
Interface configuration mode	ZXAN(config-if)#	Global configuration mode	interface
Router configuration mode	ZXAN(config-router)#	Global configuration mode	router
Router address mode	ZXAN(config-router-af)#	Router configuration mode	address-family
Router map mode	ZXAN(config-route-map)	Global configuration mode	route-map
Standard ACL configuration mode	ZXAN(config-std-acl)#	Global configuration mode	acl standard
Extanded ACL configuration mode	ZXAN(config-ext-acl)#	Global configuration mode	acl extended
Hybrid ACL configuration mode	ZXAN(config-hybd-acl)#	Global configuration mode	acl hybrid
Link layer ACL configuration mode	ZXAN(config-link-acl)#	Global configuration mode	acl link
VLAN database configuration mode	ZXAN(vlan)#	Privilege mode	vlan database
VLAN configuration mode	ZXAN(config-vlan)#	Global configuration mode	vlan
MSTP configuration mode	ZXAN0(config-mstp)#	Global configuration mode	spanning-tree mst configuration
CES configuration mode	ZXAN(config-ces)#	Global configuration mode	ces

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Chapter 2

Basic System Management

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banner incoming

Syntax **banner incoming** *end-char*

TEXT

end-char

Purpose To configure incoming terminal line banner

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
end-char	End character	Range: 1 character
TEXT	Greeting: text including spaces and ends with character	Range: 1 – 255 characters

Mode ZXAN(config)#

Example The following example displays how to configure incoming terminal line banner:

```
ZXAN(config)#banner incoming #
Enter TEXT message.  End with the character '#'.

welcome
#
```

Related Commands None

clock

Syntax **clock**

Purpose To enter clock configuration mode

Usage Guidelines None

Mode ZXAN(config)#

Example The following example displays how to enter clock configuration mode:

```
ZXAN(config)#clock
ZXAN(config-clock)#
```

Related Commands None

clock timezone

Syntax **clock timezone** *timezone-name hours* [*minutes*]

no clock timezone

Purpose To configure time zone

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
timezone-name	Time zone name	Range: 1 – 10 characters
hours	Hours offset from UTC	Range: -12 - 13
minutes	Minutes offset from UTC	Range 0 – 59

Mode ZXAN(config)#

Example The following example displays how to configure time zone:

```
ZXAN(config)#clock timezone test 0 30
```

Related Commands show clock

clock set

Syntax **clock set** *current-time month day year*

Purpose To configure system clock in standard time format

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
current-time	Current time	hh:mm:ss
month	Month	Range: January – December
day	Day	Range1 – 31
year	Year	Range: 2001 – 2098

Mode ZXAN#

Example The following example displays how to configure system clock in standard time format:

```
ZXAN#clock set 23:12:01 feb 23 2001
```

Related Commands show clock

configure terminal

Syntax **configure terminal**

Purpose To enter global configuration mode from privilege mode

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enter global configuration mode from privilege mode:

```
ZXAN#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
ZXAN(config)#
```

Related Commands end

exit

disable

Syntax **disable**

Purpose To return from the privilege mode to exec mode

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to return from the privilege mode to exec mode:

```
ZXAN#disable
ZXAN>
```

Related Commands clock timezone

enable

end

exit

enable

Syntax **enable**

Purpose To enter privilege mode from user mode

Usage Guidelines None

Mode ZXAN>

Example The following example displays how to enter privilege mode from user mode:

```
ZXAN>enable
Password:
ZXAN#
```

Related Commands disable

Related Information It is necessary to input privilege user password.

Note:

The password is not displayed on screen and it is case sensitive. By default, the password is ZXAN.

enable secret

Syntax **enable secret** {*0 password* | *5 password* | *password*}

Purpose To configure login password in privilege mode

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
0 password	Set privilege password	Range: 3 – 16 characters
5 password	Set the encrypted privilege password	Range: 24 characters
password	Set default privilege password	Range: 3 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to configure privilege login password:

```
ZXAN(config)#enable secret ZXAN
```

Related Commands enable

Related Information The enable password displayed in **show running-config** is encrypted privilege password. The input password with **enable** command to enter privilege mode is unencrypted password.

Note:

enable secret 0 *password* and **enable secret** *password* has the same effect. Both are uncrypted passwords. Use **enable secret 5** *password* command to set password. When the length of *password* is 24 characters, the privilege password is encrypted password. In other cases, it is not encrypted password.

end

Syntax **end**

Purpose To return to privilege mode

Usage Guidelines None

Mode All modes except exec mode and privilege mode

Example The following example displays how to return to privilege mode:

```
ZXAN(config)#end
ZXAN#
```

Related Commands configure terminal

Related Information In all modes except exec mode and privilege mode, **end** has the same syntax and function.

exit

Syntax **exit**

Purpose To quit the login mode or return to previous mode

Usage Guidelines None

Mode All modes

Example The following example displays how to quit the login mode or return to previous mode:

```
ZXAN(config)#exit
ZXAN#
```

Related Commands configure terminal

login

logout

Related Information Execute this command in exec mode and privilege mode to quit from device login. Execute this command in other modes to return to previous mode.

hostname

Syntax **hostname** *network-name*

no hostname

Purpose To configure system network name

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
network-name	Network name	Range: 1 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to configure system network name:

```
ZXAN(config)#hostname ZXAN_9800
```

Related Commands None

Related Information It takes effect immediately after hostname is modified.

By default, the system network name is ZXAN.

multi-user configure

Syntax **multi-user configure**

no multi-user configure

Purpose To allow multiple users to enter configuration mode

Usage Guidelines None

Mode ZXAN(config)#

Example The following example displays how to allow multiple users to enter configuration mode:

- No users are in the configuration mode.

```
ZXAN#configure terminal
 ZXAN(config)#multi-user configure
 %Warning: allow others configure, must avoid conflict.
 ZXAN(config)#
```

- Single user mode and there is already a user in the configuration mode.

```
ZXAN#configure terminal
 %Simultaneous configs not allowed. Locked from 168.1.168.168
 ZXAN#
```

- Presume that other users are still in the configuration mode.

```
ZXAN(config)#no multi-user conf
 %Someone has entered the configure mode, cannot set single-user configure!
 ZXAN(config)#
```

Related Commands configure terminal

Related Information By default, only one user can enter global configuration mode. After this command is executed, other users can enter global configuration mode. Use **no** command to configure single user mode. But it can be executed only when other users quit from the configuration mode.

Note:

In multi-user configuration, avoid the configuration conflicts among different users.

nvram boot-password

Syntax **nvram boot-password** *password*

Purpose To configure FTP download

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
password	FTP password	Range: 3 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to configure FTP download:

```
ZXAN(config)#nvram boot-password pass
```

Related Commands

nvram boot-server

nvram boot-username

nvram config-filename

nvram default-gateway

nvram imgfile-location

Related Information The legal characters include:

0123456789abcdefghijklmnopqrstuvwxyz_ABCDEFGHI-JKLMNOPQRSTUVWXYZ`*-=~!@#$%^&_+[]{}|;':,./<>\\

This command is used with other commands: **nvram boot-server**, **nvram boot-username**, **nvram imgfile-location**, **nvram default-gateway**.

nvram boot-server

Syntax **nvram boot-server** *ip-address*

Purpose To specify FTP server IP address

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	IP address	A.B.C.D

Mode ZXAN(config)#

Example The following example displays how to specify FTP server IP address:

```
ZXAN(config)#nvram bootserver 168.1.1.1
```

Related Commands
nvram boot-password
nvram boot-username
nvram config-filename
nvram default-gateway
nvram imgfile-location

Related Information This command is used with other commands: **nvram boot-password**, **nvram boot-username**, **nvram imgfile-location**, **nvram default-gateway**.

nvram boot-username

Syntax **nvram boot-username** *username*

Purpose To specify FTP server user name

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
username	Login user name	Range 1 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to specify FTP server user name:

```
ZXAN(config)#nvram boot-username test
```

Related Commands
nvram boot-password
nvram boot-server
nvram config-filename
nvram default-gateway
nvram imgfile-location

Related Information This command is used with other commands: **nvram boot-password**, **nvram default-gateway**, **nvram imgfile-location**, **nvram boot-server**.

nvram default-gateway

Syntax **nvram default-gateway** *ip-address*

Purpose To configure default gateway IP address

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Gateway IP address	A.B.C.D

Mode ZXAN(config)#

Example The following example displays how to configure default gateway IP address:

```
ZXAN(config)#nvram default-gateway 168.1.1.1
```

Related Commands

nvram boot-password

nvram boot-server

nvram boot-username

nvram config-filename

nvram imgfile-location

Related Information This command is used with other commands: **nvram boot-password**, **nvram boot-username**, **nvram imgfile-location**, **nvram boot-server**.

nvram imgfile-location

Syntax **nvram imgfile-location**{**local**| **network** *filename*}

Purpose To configure image file location

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
local	Local	–
network	Network	–
filename	File name	Range: 1 – 80 characters

Mode ZXAN(config)#

Example The following example displays how to configure image file location:

- Boot from local.

  ```
  ZXAN(config)#nvram imgfile-location local
  ```

- Boot from network.

```
ZXAN(config)#nvram imgfile-location network sys.img
```

Related Commands

nvram boot-password

nvram boot-server

nvram boot-username

nvram config-filename

nvram default-gateway

Related Information

The legal characters of the file name include:

0123456789abcdefghijklmnopqrstuvwxyz_ABCDEFGHI-JKLMNOPQRSTUVWXYZ/.;,-=+$#~@%!&[]{}

If the file is booted from network, the file name can include the path under the specified FTP directory. For example, specify "sysm" as FTP directory. In the directory "nets" under the directory "sysm" of FTP server, the file name can still include the path under the specified directory "sysm/nets". Avoid path repetition.

This command is used with other commands: **nvram boot-password**, **nvram default-gateway**, **nvram boot-username**, **nvram boot-server**.

nvram mng-ip-address

Syntax **nvram mng-ip-address** *ip-address net-mask*

Purpose To set management port IP address

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	IP address	A.B.C.D
net-mask	Net mask	A.B.C.D

Mode ZXAN(config)#

Example The following example displays how to set management port IP address:

```
ZXAN(config)#nvram mng-ip-address 168.1.1.1 255.255.0.0
```

Related Commands

nvram boot-password

nvram boot-server

nvram boot-username

nvram config-filename

nvram default-gateway

Related Information

The configured interface address and the local address should not in the same network segment.

route-map

Syntax **route-map** *name*[**deny**| **permit**][*sequence*]

Purpose To enter route mapping configuration mode to configure the system route mapping

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
name	Route mapping name	Range: 1 – 16 characters
deny| **permit**	Deny/permit	–
sequence	Sequence	Range: 0 – 65535

Mode ZXAN(config)#

Example The following example displays how to enter route mapping configuration mode to configure the system route mapping:

```
ZXAN(config)#route-map test permit 2
ZXAN(config-route-map)#
```

Related Commands show route-map

time-range

Syntax **time-range** *range-name* **from** *starting-time sarting-date* [**to** *ending-time ending-date*]

time-range *range-name tarting-time* **to** *ending-time*{ **daily** | **working-day** | **off-day** | **sunday** | **monday** | **tuesday** | **wednesday** | **thursday** | **friday** | **saturday** }

no time-range *range-name*

Purpose To set time range

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
range-name	Range name	Range: 1 – 16 characters
starting-time	Starting time	hh:mm:ss
starting-date	Starting date	mm-dd-yyyy Year 2001 – 2099
ending-time	Ending time	hh:mm:ss

Parameter	Description	Value
ending-date	Ending date	mm-dd-yyyy Year 2001 – 2099
daily | **working-day** | **off-day** | **sunday** | **monday** | **tuesday** | **wednesday** | **thursday** | **friday** | **saturday**	Time restriction	–

Mode ZXAN(config)#

Example The following example displays how to set time range:

```
ZXAN(config)#time-range test1 from 00:00:00 01-01-2008 to 23:59:59 12-31-2009
ZXAN(config)#time-range test2 00:00:00 to 02:00:00 saturday
```

Related Commands show time-range

Related Information Users can specify the consecutive time range or specify the time range that meets some condition.

username

Syntax **username** *username* **password** *password*

no username *username*

Purpose To set login user name and password

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
username	User name	Range: 1 – 16 characters
password	Password	Range: 3 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to set login user name and password:

```
ZXAN(config)#username abc password pass
```

Related Commands show username

Related Information The parameter *usename* allows the following characters:

0123456789abcdefghijklmorqrstuvwxyz_

The parameter *password* allows the following characters:

0123456789abcdefghijklmnopqrstuvwxyz_ABCDEFGHI-JKLMNOPQRSTUVWXYZ`*-=~!@#$%^&_+[]{}|;':,./<> \\

version

Syntax **version**

Purpose To enter version management mode

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enter version management mode:

```
ZXAN#version
ZXAN(version)#
```

Related Commands exit

who

Syntax **who**

Purpose To display current login user list

Usage Guidelines None

Mode ZXAN#

Example The following example displays current login user list:

```
ZXAN#who
Line       User Host(s)   Idle   Location
* 66 vty 0  who  idle  00:00:00  168.1.200.57
67 vty 1   abc  idle  00:00:00  168.1.200.58
```

Related Commands None

Related Information The following table provides parameter description:

Parameter	Description	Value
Line	Virtual terminal	-
User	User name	-
Host	Host IP address	-

Parameter	Description	Value
Idle	Idle time	-
Location	Client location	-

anti-dos

Syntax **anti-dos** {**enable** | **disable**}

Purpose To configure anti-DoS attack function

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
enable	Enable anti-DoS attack function	-
disable	Disable anti-DoS attack function	-

Mode ZXAN(control-panel)#

Example The following example displays how to configure anti-DoS attack function:

```
ZXAN(control-panel)#anti-dos enable
```

Related Commands None

Related Information

- Before configuring anti-DoS attack function, enter control-panel mode.
- Anti-DoS function aims to prevent some MAC address on a user port from sending excessive packets to NE, which makes NE CPU unable to deal with it. Anti-DoS is not configured on uplink port.

anti-dos drop

Syntax **anti-dos drop** {**enable** | **disable**}

Purpose To enable/disable anti-DoS attack funtion

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
enable	Enable anti-DoS attack function	-
disable	Disable anti-DoS attack function	-

Mode ZXAN(control-panel)#

Example The following example displays how to

```
ZXAN(control-panel)#anti-dos drop enable
```

Related Commands None

Related Information When the anti-DoS function is enabled, some user's MAC is in the black list. If the system receives the packet of this MAC address next time, the system discards this packet.

anti-dos limit-num

Syntax **anti-dos limit-num** *number*

Purpose To set the anti-DoS attack threshold value

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
number	Threshold value	Range: 10 – 1000

Mode ZXAN(control-panel)#

Example The following example displays how to set the anti-DoS attack threshold value:

```
ZXAN(control-panel)#anti-dos limit-num 100
```

Related Commands None

Related Information Anti-DoS attack threshold unit is pps. In the past 5 seconds, if the number of packets of this MAC address sent to the main control card is greater than five times threshold value, the system considers itself attacked by this MAC address and put this MAC address in the blacklist.

show clock

Syntax **show clock**

Purpose To display the system clock

Usage Guidelines None

Mode All modes

Example The following example display the system clock:

```
ZXAN#show clock
00:59:05  Mon  Jan 1  2001  UTC
```

Related Commands clock set

Related Information This command displays the local time that belongs to the time zone after the time zone is configured.

show running-config

Syntax **show running-config [interface** *interface-name* | **msan** *module-name*]

show running-config [{**begin** | **exclude** | **include**} **line**]

Purpose To display the current system configuration information or the specified interface configuration information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface *interface-name*	Interface name	-
msan *module-name*	MSAN module name	ces / dhcp-option82 / epon / gpon / igmp / iptv / mac / port-location / pppoe-plus / vlan
begin	Display the configuration information beginning with the specified characters or strings	-
exclude	Display the configuration information excluding with the specified characters or strings	-
include	Display the configuration information including with the specified characters or strings	-
line	Specify characters or strings	-

Mode All modes except exec mode

Example The following example displays the current system configuration information or the specified interface configuration information

```
ZXAN(config)#show running-config interface shdsl_0/3/1
Building configuration...
!
end
```

Related Commands None

Related Information The effective system configuration is displayed in command line.

show start running-config

Syntax **show start running-config** [{**begin**| **exclude** | **include**} *line***]**

Purpose To display the running configuration information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
begin	Display configuration information beginning with the specified characters or string	-
exclude	Display configuration information excluding the specified characters or string	-
include	Display configuration information including the specified characters or string	-
line	Specify characters or string	-

Mode All modes except exec mode

Example The following example displays the running configuration information:

```
ZXAN(config)#show start running-config | begin line
line console idle-timeout 120
line console absolute-timeout 1440
line telnet idle-timeout 120
line telnet absolute-timeout 1440
!
ssh server authentication ispgroup 1
ssh server authentication mode local
ssh server authentication type chap
no ssh server only
ssh server version 2
!
!
!
alarm enable
alarm confirm
nms-hello-trap disable
nms-hello-trap interval 120
!
sys-craft-terminal enable
!
!
```

Related Commands show running-config

Related Information The saved system configuration information is displayed in command line.

This command is used together with **show running-config** to check whether the previously saved information takes effect after the system is booted.

show system-group

Syntax **show system-group**

Purpose To display the system information

Usage Guidelines None

Mode All modes

Example The following example displays the system information:

```
ZXAN(config)#show system-group
System Description: ZXR10 ROS Version V4.8.01
ZXR10_5224 Software, Version V3.0.2
Copyright (c) 2000-2006 by ZTE Corporation
Compiled Nov  8 2007, 16:32:17
System ObjectId: .iso.org.dod.internet.private.enterprises.zte.3.100.17
Started before: 1106434 Seconds
Contact with: +86-021-68895000
System name:  ZXAN
Location: No.889 BiBo Rd. PuDong District, ShangHai, China
This system primarily offers a set of 78 services
```

Related Commands None

show route-map

Syntax **show route-map**[*name*]

Purpose To display the system configured route address

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
name	Route address name	Range: 1 – 16 characters

Mode ZXAN(config)#

Example The following example displays the system configured route address:

```
ZXAN#show route-map
route-map tag permit 10
route-map test permit 2
ZXAN#
ZXAN#show route-map test
route-map test permit 2
ZXAN#
```

Related Commands route-map

show time-range

Syntax **show time-range** [*range-name*]

Purpose To display the system configured time range

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
range-name	Range time	Range: 1 – 16 characters

Mode All modes

Example The following example displays how to

```
ZXAN#show time-range
Current time is  07:04:44 01-01-2001 Monday
Time-range: test1
  from 00:00:00 01-01-2008 to 23:59:59 12-31-2009
Time-range: test2
  00:00:00 to 02:00:00 Saturday
ZXAN#
```

Related Commands time-range

show username

Syntax **show username**

Purpose To display the list of the login user name and password

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays the list of the login user name and password:

```
ZXAN#show username Username          Password          Privilege
admin              ******             15
test               ******             0
abc                ******             1
```

Related Commands username

show users

Syntax **show users**

Purpose To display terminal user information

Usage Guidelines None

Mode All modes

Example The following example displays terminal user information:

```
ZXAN#show users
   Line       User             Host(s)        Idle         Location
 * 66 vty 0   who              idle           00:00:00    170.1.1.16
ZXAN#
```

Related Commands None

Related Information The following table provides the parameter description:

Parameter	Description	Value
Line	Virtual terminal	-
User	Login user name	-
Host	Host IP address	-
Idle	Idle time	-
Location	Client location	-

show source alarm

Syntax **show source alarm**

Purpose To display source clock alarm

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays source clock alarm:

```
ZXAN#show source alarm
Interface   Type      Priority  Alarm
.................................................
0/7/0       internal  251       Normal
```

Related Commands None

Related Information The displayed information includes interface, types, priority and alarm types.

show version

Syntax **show version**

Purpose To display the system software and hardware version information

Usage Guidelines None

Mode All modes

Example The following example displays the system software and hardware version information:

```
ZXAN#show version
ZXR10 Router Operating System Software, ZTE Corporation
ZXR10 ROS Version V4.8.01
ZXR10_5224 Software, Version V3.0.2, RELEASE SOFTWARE
Copyright (c) 2000-2006 by ZTE Corporation
Compiled Nov  8 2007, 16:32:17
System image files are flash:/CSCM.MVR
ystem uptime is 12 days, 19 hours, 31 minutes
```

Related Commands None

show anti-dos black-table

Syntax **show anti-dos black-table**

Purpose To display anti-DoS black list

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays anti-DoS black list:

```
ZXAN#show anti-dos black-table
---------------------------------------------------------------
mac-address       vlan    port     pktNumTotal  pktNumDropped
---------------------------------------------------------------
```

Related Commands show igmp

Related Information

- Use this command to display the anti-DoS attack black list including source MAC address, VLAN, port ID, the number of packets, the number of lost packets and etc.
- The number of received packets — The number of MAC + VLAN tagged packets in the timer polling period (5 seconds) after the user is in the black list
- The number of lost packets — The number of discarded packets among the received MAC + VLAN tagged packets after the user is in the black list
- As the counted period is differential, it is all right that the later is greater than the former.

Chapter 3

Hardware Management

Table of Contents

add-card

Syntax **add-card** [**rackno** *rackno*] [**shelfno** *shelfno*] {**slotno** *slotno*} { *boardtype*}

Purpose To add card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 1 – 8, 10, 12 – 18
boardtype	Card type	AINCATM | AINCIMA | ASNG | ASNV | EINA | EINB2 | EINB4 | EINT | EPN | EPS | ESP | GPN | ISNV | LTN | STNG | VSNK | VTNE

Mode ZXAN(config)#

Example The following example displays how to add card:

```
ZXAN(config)#add-card shelfno 0 slotno 12 eps
```

Related Commands del-card

add-rack

Syntax **add-rack**{**rackno** *rackno* **racktype** *racktype*}

Purpose To add rack

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
racktype *racktype*	Rack type	FSAP-CONRACK

Mode ZXAN(config)#

Example The following example displays how to add rack:

```
ZXAN(config)#add-rack rackno 0 racktype fsap-conrack
AddRack: RackNo: 0, RackType: 1
```

Related Commands del-rack

add-shelf

Syntax **add-shelf**[**rackno** *rackno*]{**shelfno** *shelfno* **shelftype** *shelftype*}

Purpose To add shelf

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
shelftype *shelftype*	Shelf type	9800-SHELF / 9803-SHELF

Mode ZXAN(config)#

Example The following example displays how to add shelf:

```
ZXAN(config)#add-shelf rackno 0 shelfno 0 shelftype 9800-shelf
```

Related Commands del-shelf

del-card

Syntax **del-card** [**rackno** *rackno*] [**shelfno** *shelfno*] {**slotno** *slotno*}

Purpose To delete card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf nubmer	0
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 18

Mode ZXAN(config)#

Example The following example displays how to delete card:

```
ZXAN(config)#del-card rackno 0 shelfno 0 slotno 3
```

Related Commands add-card

del-rack

Syntax **del-rack rackno** *rackno*

Purpose To delete rack

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno	Rack number	0

Mode ZXAN(config)#

Example The following example displays how to delete rack:

```
ZXAN(config)#del-rack rackno 0
```

Related Commands add-rack

del-shelf

Syntax **del-shelf** [**rackno** *rackno*] {**shelfno** *shelfno*}

Purpose To delete shelf

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0

Mode ZXAN(config)#

Example The following example displays how to delete shelf:

```
ZXAN(config)#del-rack shelfno 0
```

Related Commands add-shelf

reboot

Syntax **reboot**[**rackno** *rackno*][**shelfno** *shelfno*]

Purpose To reboot system

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0

Mode ZXAN#

Example The following example displays how to reboot system:

```
ZXAN#reboot
Confirm to reboot? [yes/no]:y
```

Related Commands reset-card

reset-card

Syntax **reset-card** [**rackno** *rackno*] [**shelfno** *shelfno*] {**slotno** *slotno*} [**subcard** *subcardno*]

Purpose To reset card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 18
subcard *subcardno*	Sub-card number	Range: 0 – 3

Mode ZXAN#

Example The following example displays how to reset card:

```
ZXAN#reset-card rackno 0 shelfno 0 slotno 3
Confirm to reset card? [yes/no]:y
SP reset card, sunit = 3
Reset Card SPN : 0-0-3
```

Related Commands reboot

reset-at-suspend

Syntax **reset-at-suspend**

no reset-at-suspend

Purpose To enable/disable process suspension and NE reset function

Usage Guidelines None

Mode ZXAN(config)#

Example The following example displays how to enable/disable process suspension and NE reset function:

```
ZXAN(config)# no reset-at-suspend
```

Related Commands None

show card

Syntax **show card** [**rackno** *rackno*] [**shelfno** *shelfno*] [**slotno** *slotno*]

Purpose To display card information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 2 – 18

Mode All modes

Example The following example display card information:

```
ZXAN#show card
Rack Shelf Slot CfgType RealType Port  HardVer SoftVer         Status
-------------------------------------------------------------------------------
0    0     6    AENV    AENVC    64    080701  V3.0.2          INSERVICE
0    0     9    CSCM    CSCE     4     050601  V3.2.0T2        INSERVICE
0    0     11   CSCM             4                             OFFLINE
0    0     13   ISNV    ISNVC3   64    071200  V3.0.2          INSERVICE
0    0     14   ASNV    ASNVC2   64    061200  V3.0.2          INSERVICE
ZXAN#
```

Related Commands add-card

swap

Syntax **swap** [**rackno** *rackno*] [**shelfno** *shelfno*] [**slotno** *slotno*]

Purpose To swap active cards with standby cards

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	9, 11

Mode ZXAN#

Example The following example displays how to swap active cards with standby cards:

```
ZXAN#swap rackno 0 shelfno 0 slotno 9
Confirm to master swap? [yes/no]:y
Swap execute: RackNo: 0, ShelfNo: 0,SlotfNo: 9
```

Related Commands None

Chapter 4

Fan Management

Table of Contents

fan control

Syntax **fan control** { **fixed-speed** | **temp_level** *tempx1 tempx2 tempx3 temp4*}

Purpose To set fan status

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
fixed-speed	Fixed speed	-
temp_level *tempx1 tempx2 tempx3 temp4*	Adjust the temperature automatically	Range: 0℃ – 70 ℃ The value from tempx1 to tempx4 rises in order. The difference of two adjacent values is >=5 ℃.

Mode ZXAN(config)#

Example The following example displays how to set fan status:

```
ZXAN(config)#fan control temp_level 30 40 50 60
```

Related Commands show fan

fan high-threshold

Syntax **fan high-threshold** *tempx*

Purpose To set fan high threshold value

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
tempx	Alarm threshold value	Range: 60 ℃ – 80 ℃ Default: 70 ℃

Mode ZXAN(config)#

Example The following example displays how to set fan high threshold value:

```
ZXAN(config)#fan high-threshold 60
```

Related Commands show fan

Related Information To prevent too high temperature and achieve high temperature alarm, the inspection interval is 5 minutes. When the inspected temperature is higher than or equivalent to the threshold value, the system takes the following measures:

- The system sends a message to the main control card, informing that the high temperature alarm is triggered.
- The main control card sends a trap to SNMP sever.
- All fans run at full speed.
- After a running period, when the temperature somewhere is lower than the threshold value, the fans restore to normal.

fan speed

Syntax **fan speed** *speed1*

Purpose To set fan speed

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
speed1	Fan speed	Four speeds

Mode ZXAN(config)#

Example The following example displays how to set fan speed:

```
ZXAN(config)#fan speed 2
```

Related Commands show fan

show fan

Syntax **show fan**

Purpose To display all fans

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays all fans:

```
ZXAN(config)#show fan
FanConsoleMode              : epm
FanControlType                : temp-control
TemperatureThreshold          : 10  20  30  40 (Celsiur scale)
FanAlarm                     : disable
ShiftSpeed(100 rpm)           : 23  29  35  41
HighTemperatureThreshold      : 63(Celsiur scale)
FanBoardTemperature           : 26.
Environment Temperature        : 29.
All fan actual status:
-----------------------------------------
  fan  online     Actual Speed
-----------------------------------------
  1   off-line           0
  2   off-line           0
  3   off-line           0
  4   off-line           0
  5   off-line           0
  6   off-line           0
-----------------------------------------
```

Related Commands None

Related Information With parameters, the system displays the specified fan information. Without parameters, the system display information of all fans.

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Chapter 5

Version Management

Table of Contents

activate version

Syntax **activate version** *file-name*

Purpose To activate main version file

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
file-name	Version file name	Range: 1 – 16 characters

Mode ZXAN(version)#

Example The following example displays how to activate main version file:

```
ZXAN(version)#activate version version1
version1
Parse activate version ok!
```

Related Commands download version

erase version

Related Information Once a main version file on a main control card is activated, the previously configured active version file will be deactivated automatically. This function takes effect after the device is rebooted.

download version

Syntax **download version** *host-file-name*

Purpose To download version files

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
host-file-name	Version file name	Range: 1 – 16 characters

Mode ZXAN(version)#

Example The following example displays how to download version files:

```
ZXAN(version)#download version CSCE.bt
Start loading file
.....................
file download successfully.
```

Related Commands activate version

erase version

erase version

Syntax **erase version** *file-name*

Purpose To delete version files saved in main control card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
file-name	File name	Range: 0 – 16 characters

Mode ZXAN(version)#

Example The following example displays how to delete version files saved in main control card:

```
ZXAN(version)#erase version version1
Erase Version Parse ok!
Filename: version1
```

Related Commands download version

activate version

Related Information The active version file on the main control card cannot be deleted.

main-backup version

Syntax **main-backup version synchronization** [*host-file-name*]

Purpose To synchronize the active main control card to the standby control card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
host-file-name	Host version file name	Range: 1 – 16 characters

Mode ZXAN(version)#

Example The following example displays how to synchronize the active main control card to the standby control card:

```
ZXAN(version)#main-backup version synchronization
```

Related Commands show version-running

quit

Syntax **quit**

Purpose To quit from version management mode

Usage Guidelines None

Mode ZXAN(version)#

Example The following example displays how to quit from version management mode:

```
ZXAN(version)#quit
ZXAN#
```

Related Commands version

show compound–version

Syntax **show compound-version** *file-name*

Purpose To display compound version file

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
file-name	Compound version file name	Range: 1 – 16 characters

Mode All modes except exec mode

Example The following example displays compound version file:

```
ZXAN#show compound-version asnvb.mvr
FileName    Format CompoundFlag BuildTime              FileLength
-------------------------------------------------------------
ASNVB.MVR   BIN     SINGLE        2007-11-07 21:27:00  1256394
ZXAN#
```

Related Commands download version

show update-status

Syntax **show update-status** [**rackno** *rackno*] [**shelfno** *shelfno*] [**slotno** *slotno*]

Purpose To display line card version update status

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 17

Mode All modes except exec mode

Example The following example displays line card version update status:

```
ZXAN(version)#show update-status
Shelf Slot MVR                  FIRMWARE              BOOTROM
-------------------------------------------------------------
0     2    Execute timeout     not start update  Execute timeout
0     9    Execute timeout     not start update  not start update
```

Related Commands None

Related Information The following table provides the parameter description:

Parameter	Description	Value
not start update	Not start update	-
Negotiating...	Update procedure is negotiating	-

Parameter	Description	Value
Downloading...	Line card is downloading version from main control card.	-
Update success	Line card version update succeeds.	-
Download failed	Line card version downloading fails.	-
No or same version	Main control card has no same version as that of line card.	-
Board not match	Card type does not match.	-
Send msg failed	Sending message fails.	-
Execute time-out	Timeout	-
No version	No version	-
Same version	Same version	-
cfg board wrong	Configured card is wrong.	-
Ver check failed	Card version is wrong.	-
Hard no match	Card hardware types does not match that of main control card.	-
Program wrong	Wrong program	-
Not cfg board	Card is not configured.	-
no version type	No version type	-
Failed in MTo-Slave	Line card update fails.	-

This command is entered after the **update line-card** command is carried out. Only the line-card update status is displayed. If the line-card update status is not displayed, the system displays " can't update".

show version-running

Syntax **show version-running** [**rackno** *rackno*] [**shelfno** *shelfno*] [**slo tno** *slotno*]

Purpose To display all card version running information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range 2 – 8, 10, 12 – 17

Mode All modes except exec mode

Example The following example displays all card version running information:

```
ZXAN#show version-running
PhyLoc  VerType    FileType   VerTag            VerLenth BuildTime
-------------------------------------------------------------------------------
0/0/6   APNVC      MVR        V3.0.2            1424017  2009-08-31 13:17:02
0/0/6   98_2C50    FIRMWARE   V3.2.0T2          506994   2009-07-29 20:46:29
0/0/6   APNVC      BOOTROM    V3.2.0T2          306688   2009-07-30 06:53:34
0/0/9   CSCE       MVR        V3.2.0T2          9782559  2009-08-31 00:03:08
0/0/9   CSCE       BOOTROM    V3.2.0T2          385792   2009-07-30 06:46:37
0/0/13  ASNVC3     MVR        V3.0.2            1572923  2009-09-01 11:45:21
0/0/13  ASNVC3     BOOTROM    V3.0.0P3T4        307056   2009-06-09 07:12:24
0/0/14  ASNVC2     MVR        V3.0.2            1346706  2009-08-26 15:41:38
0/0/14  98_2C50    FIRMWARE   V3.2.0T2          506994   2009-07-29 20:46:29
0/0/14  ASNVC2     BOOTROM    V3.0.0P3T4        287520   2009-06-01 01:32:43
ZXAN#
```

Related Commands download version

show version-saved

Syntax **show version-saved** [**rackno** *rackno*] [**shelfno** *shelfno*] [**slotno** *slotno*]

Purpose To display version file information saved in main control card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot nubmer	Range: 2 – 8, 10, 12 - 17

Mode All modes except exec mode

Example The following example displays version file information saved in main control card:

```
ZXAN#show version-saved
PhyLoc FileName    VerType VerTag   BuildTime   VerLenth
Active
-----------------------------------------------------------------
----------------
0/0/6  98_2c50.fw  98_2C50 V3.2.0T2  2009-07-29 20:46:29 506994
   0
0/0/6  apnvc.mvr   APNVC   V3.0.2    2009-08-31 13:17:02 1424017
  0
```

```
0/0/9  98_2c50.fw  98_2C50 V3.2.0T2  2009-07-29 20:46:29 506994
   0
0/0/9  apnvc.bt    APNVC   V3.2.0T2  2009-07-30 06:53:34 306688
   0
0/0/9  apnvc.mvr   APNVC   V3.0.2    2009-08-31 13:17:02 1424017
   0
0/0/9  asnvc.bt    ASNVC   V3.2.0T2  2009-07-31 06:52:00 288288
   0
0/0/9  asnvc2.bt   ASNVC2  V3.2.0T2  2009-08-24 05:16:12 288848
   0
0/0/9  asnvc2.mvr  ASNVC2  V3.0.2    2009-08-26 15:41:38 1346706
   0
0/0/9  asnvc3.mvr  ASNVC3  V3.0.2    2009-09-01 11:45:21 1572923
   0
0/0/9  asnvf.bt    ASNVF   V0.99     2009-07-31 06:56:16 281616
   0
0/0/9  csce.bt     CSCE    V3.2.0T2  2009-07-30 06:46:37 385792
   0
0/0/9  csce.mvr    CSCE    V3.2.0T2  2009-08-31 00:03:08 9782559
   1
0/0/13 asnvc3.mvr  ASNVC3  V3.0.2    2009-09-01 11:45:21 1572923
   0
0/0/14 98_2c50.fw  98_2C50 V3.2.0T2  2009-07-29 20:46:29 506994
   0
0/0/14 asnvc2.mvr  ASNVC2  V3.0.2    2009-08-26 15:41:38 1346706
   0
ZXAN#
```

Related Commands download version

update-boot

Syntax **update-boot**[**rackno** *rackno*][**shelfno** *shelfno*] **slotno** *slotno*{**local**}

Purpose To update boot version file and write into line card

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 17
local	Update from main control card	–

Mode ZXAN(version)#

Example The following example displays how to update boot version file and write into line card:

```
ZXAN(version)#update-boot slotno 8 local
Confirm to update boot? [yes/no]:y
```

Related Commands update-version

update-version

Syntax **update-version** [**rackno** *rackno*] **shelfno** *shelfno* **local**

update-version [**rackno** *rackno*][**shelfno** *shelfno*] **slotno** *slotno* **local**

Purpose To update line card version file

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf number	0
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 17
local	Update from main control card	-

Mode ZXAN(version)#

Example The following example displays how to update line card version file:

```
ZXAN(version)#update-version slotno 2 local
```

Related Commands update-boot

Related Information If a slot number is selected, the card status in this slot will be updated. If only shelf number is selected, all card status will be updated in this shelf.

update-cpld

Syntax **update-cpld** [**rackno** *rackno*] [**shelfno** *shelfno*] {**slotno** *slotno*} **swtval** *value*

Purpose To update CPLD online

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
rackno *rackno*	Rack number	0
shelfno *shelfno*	Shelf nubmer	0

Parameter	Description	Value
slotno *slotno*	Slot number	Range: 2 – 8, 10, 12 – 17
swtval *value*	CPLD update	1: Update 0: No update

Mode ZXAN(version)#

Example The following example displays how to

```
ZXAN(version)#update-cpld slotno 3 swtval 1
%Code 35681: Cpldupdate flag is set successfully
```

Related Commands None

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Chapter 6

File System Management

Table of Contents

cd

Syntax **cd** *directory*

Purpose To enter a specific file device or file directory

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
directory	Directory	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to enter a specific file device or file directory:

- To enter system flash file device

```
ZXAN#cd flash:
```

- To enter directory bin under the current file device

```
ZXAN#cd /bin
```

- To enter upper directory

```
ZXAN#cd ..
```

Related Commands dir
mkdir
pwd
rmdir

Related Information nvram: flash:
“.”“..”

copy

Syntax **copy** *source-device source-file destination-device destination-file*

Purpose To copy source file to a specific directory

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
source-device	Source device name	flash, ftp, tftp
source-file	Source directory and file name	Range: 1 – 80 characters
destination-device	Destination device name	flash, ftp, tftp
destination-file	Destination directory and file name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to copy source file to a specific directory:

```
ZXAN#copy flash: img/sys.dat ftp: //168.1.1.1/sys.dat@test:pass
```

Related Commands delete

delete

Syntax **delete** *filename*

Purpose To delete files in the specific directory

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
filename	Directory name and file name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to delete files in the specific directory:

```
ZXAN#delete sys.dat
```

Related Commands copy

rename

dir

Syntax **dir** [*directory*]

Purpose To display files

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
directory	Directory name or device name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays files:

```
ZXAN#cd flash:
ZXAN#cd img
ZXAN#dir
Directory of flash:/img/
  attribute size    date       time     name
1  -rwx   9135845   AUG-01-2002  14:26:02  gar.zar
32007616 bytes total (40509440 bytes free)
```

Related Commands cd

mkdir

pwd

rmdir

display

Syntax **display** *filename*

Purpose To display a specific file

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
filename	File name	Range: 1 – 128 characters

Mode ZXAN#

Example The following example displays a specific file:

```
ZXAN#display test
```

Related Commands None

format flash

Syntax **format flash**

Purpose To format flash

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to format flash:

```
ZXAN#format flash
All data will be cleared.Continue to format? [yes/no]:y
```

Related Commands None

Related Information This command is executed only under flash root directory.

mkdir

Syntax **mkdir** *directory*

Purpose To create a new file directory

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
directory	Directory name	Range: 1 – 32 characters

Mode ZXAN#

Example The following example displays how to create a new file directory:

```
ZXAN#mkdir test
```

Related Commands cd

dir

pwd

rmdir

pwd

Syntax **pwd**

Purpose To display the current directory path

Usage Guidelines None

Mode ZXAN#

Example The following example displays the current directory path:

```
ZXAN#pwd
root:/flash:/
ZXAN#
```

Related Commands cd
dir
mkdir
rmdir

rename

Syntax **rename** *source-filename destination-filename*

Purpose To modify directory name

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
source-filename	Source file name	Range: 1 – 80 characters
destination-filename	Destination file name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to modify directory name:

```
ZXAN#rename config/sys.dat back.dat
```

Related Commands copy
delete
rmdir

rmdir

Syntax **rmdir** *directory*

Purpose To delete the specified file directory

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
directory	Directory name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to delete the specified file directory:

```
ZXAN#rmdir directory
```

Related Commands

cd

copy

dir

mkdir

pwd

Related Information If there are files in the directory, this directory cannot be deleted.

write

Syntax **write** [**alarmlog** | **cmdlog** | **flash** | **nvram** | **snmplog**]

Purpose To write the configuration information into flash

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
alarmlog	Alarm log	-
cmdlog	Command log	-
flash	Flash	-
nvram	NVRAM	-
snmplog	SNMP log	-

Mode ZXAN#

Example The following example displays how to write the configuration information into flash:

```
ZXAN#write
Building configuration...
[ok]
```

Related Commands

write flash

write nvram

Related Information This command has the function of **write flash** and **write nvram** commands if the command is without the parameter.

write flash

Syntax **write flash**

Purpose To write the current device configuration into flash

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to write the current device configuration into flash:

```
ZXAN#write flash
Building configuration FLASH: ...
[ok]
```

Related Commands write

write nvram

Related Information The configuration in the flash will take effect automatically in the next device startup.

write alarmlog

Syntax **write alarmlog**

Purpose To write alarm log into file

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to write alarm log into file:

```
ZXAN#write alarmlog
Building logging file...
..
[ok]
```

Related Commands write

write nvram

write nvram

Syntax **write nvram**

Purpose To write system parameters into NVRAM

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to write system parameters into NVRAM:

```
ZXAN#write nvram
Building configuration...
```

```
[ok]
```

Related Commands

write

write flash

Chapter 7

User Management

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line console absolute-timeout

Syntax **line console absolute-timeout** *absolute-timeout*

no line console absolute-timeout

Purpose To configure line console absolute timeout

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
absolute-timeout	Absolute timeout	Range: 1 – 10000 min Default: one day

Mode ZXAN(config)#

Example The following example displays how to configure line console absolute timeout:

```
ZXAN(config)#line console absolute-timeout 30
```

Related Commands line console idle-timeout

line console idle-timeout

Syntax **line console idle-timeout** *idle-timeout*

no line console idle-timeout

Purpose To configure console idle timeout

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
idle-timeout	Idle timeout	Range: 1 – 10000 min Default: 2 hr

Mode ZXAN(config)#

Example The following example displays how to configure console idle timeout:

```
ZXAN(config)#line console idle-timeout 30
```

Related Commands line console absolute-timeout

Related Information Associated with **line console absolute-timeout** command to terminate console session.

line telnet absolute-timeout

Syntax **line telnet absolute-timeout** *absolute-timeout*

no line telnet absolute-timeout

Purpose To configure telnet absolute timeout

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
absolute-timeout	Absolute timeout	Range: 1 – 10000 min Default: 1 day

Mode ZXAN(config)#

Example The following example displays how to configure telnet absolute timeout:

```
ZXAN(config)#line telnet absolute-timeout 30
```

Related Commands line telnet idle-timeout

Related Information Associated with **line telnet idle-timeout** to terminate the session after a period of time.

line telnet access-class

Syntax **line telnet access-class** *access-list-number*

no line telnet access-class

Purpose To configure telnet access class

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
access-list-number	Access list number	Range: 1 – 99

Mode ZXAN(config)#

Example The following example displays how to configure telnet access class:

```
ZXAN(config)#access-list 2 deny 168.1.16.118 0.0.0.0
ZXAN(config)#access-list 2 permit any
ZXAN(config)#line telnet access-class 2
```

Related Commands access-list

Related Information Associated with **access-list** command to accept or reject login of some IP addresses.

line telnet idle-timeout

Syntax **line telnet idle-timeout** *idle-timeout*

no line telnet idle-timeout

Purpose To configure telnet terminal idle timeout

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
idle-timeout	Idle timeout	Range: 1 – 1000 min Default: 2 hour

Mode ZXAN(config)#

Example The following example displays how to configure telnet terminal idle timeout:

```
ZXAN(config)#line telnet idle-timeout 30
```

Related Commands line telnet absolute-timeout

login

Syntax **login**

Purpose To log into a device

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to log into a device:

```
ZXAN#login
Username:admin
Password:
ZXAN#
```

Related Commands logout

quit

Related Information Exec mode and privilege mode return to exec mode after this command is executed.

logout

Syntax **logout**

Purpose To quit from logging device

Usage Guidelines None

Mode ZXAN>, ZXAN#

Related Commands login

quit

login-authentication-type

Syntax **login-authentication-type** {**local** | **radius** | **tacacs+**}

Purpose To configure the authentication mode

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
local	Local authentication	-
radius	RADIUS authentication	-
tacacs+	TACACS authentication	-

Mode ZXAN(config)#

Example The following example displays how to configure the authentication mode:

```
ZXAN(config)#login-authentication-type local
```

Related Commands None

login-authorization-type

Syntax **login-authorization-type** {**local** | **tacacs+**}

Purpose To configure authorization mode in telnet login

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
local	Local authentication	-
tacacs+	TACACS authentication	-

Mode ZXAN(config)#

Example The following example displays how to configure authorization mode in telnet login:

```
ZXAN(config)#login-authorization-type local
```

Related Commands None

Related Information If the authentication mode is RADIUS, it is needless to configure the mode.

quit

Syntax **quit**

Purpose To quit from login device

Usage Guidelines None

Mode ZXAN#, ZXAN>

Related Commands login
logout

rlogin

Syntax **rlogin** {**commander** | **member** *member-id*}

Purpose To establish a telnet connection

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
commander	Establish a connection for commander	–
member *member-id*	Establish a connection for a group	Range: 1 – 255

Mode ZXAN#

Example The following example displays how to open a telnet connection:

```
ZXAN#rlogin commander
```

Related Commands None

script

Syntax

script execute {*filename* | **printoff** | **printon**}

Purpose To execute script files

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
filename	File name	Range: 1 – 128 characters
printoff	Disable print	–
printon	Enable print	–

Mode ZXAN#

Example The following example displays how to execute script files:

```
ZXAN#script execute test
```

Related Commands None

show history

Syntax **show history**

Purpose To display the history record of the input commands

Usage Guidelines None

Mode All modes

Example The following example displays the history record of the input commands:

```
ZXAN>show history
who
show ip route
en
```

Related Commands None

Related Information 10

show localuser

Syntax **show localuser**[*user-id*]

Purpose To display local authorized users

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
user-id	User ID	Range: 1 – 1024

Mode All modes except exec mode

Example The following example displays local authorized users:

```
ZXAN#show localuser
  MaxLocalUsers     : 1024
  HistoryConfigTotal: 0       CurrentConfigTotal: 0
```

Related Commands None

show monitor

Syntax **show monitor session** *session-number*

Purpose To display user-defined session information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
session-number	Session number	1

Mode All modes except exec mode

Example The following example displays user-defined session information:

```
ZXAN#show monitor session 1
```

Related Commands None

show terminal

Syntax **show terminal**

Purpose To display current user terminal status

Usage Guidelines None

Mode All modes

Example The following example displays current user terminal status:

```
ZXAN#show terminal
Line 66, Location: "", Type: "vt100"
Length: 24 lines, Width: 80 columns
Telnet idle-timeout is: 02:00:00
Telnet absolute-timeout is: 1d00h00m
Baud rate (TX/RX) is 9600/9600
Capabilities: none
Time since activation: 00:07:55
Editing is enabled.
History is enabled, history size is 10.
Telnet access-class is: 2
```

Related Commands None

Related Information Use this command to view login terminal information, such as terminal ID, terminal type, terminal window size and login restriction.

telnet

Syntax **telnet** *ip-address*

Purpose To enable a connection with telnet

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Source IP address	A.B.C.D

Mode ZXAN#, ZXAN>

Example The following example displays how to enable a connection with telnet:

```
ZXAN#telnet 168.1.200.77
```

Related Commands None

Related Information Use this command to log into other devices or telnet server.

telnet mng

Syntax **telnet mng** *ip-address*

Purpose To enable telnet connection from a management port

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Source IP address	A.B.C.D

Mode ZXAN#, ZXAN>

Example The following example displays how to enable telnet connection from a management port:

```
ZXAN#telnet mng 168.1.200.77
```

Related Commands None

Related Information Use this command to log into other device or telnet server from a management port.

telnet modem

Syntax **telnet modem slotno** *slotno* **portno** *portno*

Purpose To establish a telnet connection in MODEM mode

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
slotno*slotno*	Slot number	Range: 1 – 18
portno *portno*	Port number	Range: 1 – 48

Mode ZXAN#, ZXAN>

Example The following example displays how to establish a telnet connection in MODEM mode:

```
ZXAN#telnet modem slotno 7 portno 1
```

Related Commands None

Chapter 8

SNMP

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show snmp

Syntax **show snmp**

Purpose To display statistical information regarding SNMP packets

Usage Guidelines None

Mode All modes

Example The following example displays statistical information regarding SNMP packets:

```
ZXAN#show snmp
Contact : +86-021-68895000
Location: No.889 BiBo Rd. PuDong District, ShangHai, China
0         SNMP packets input
0         Bad SNMP version errors
0         Unknown community name
0         Illegal operation for community name supplied
0         Number of requested variables
0         Number of altered variables
0         Get-request PDUs
0         Get-next PDUs
0         Set-request PDUs
0         SNMP packets output
0         Too big errors (Maximum packet size 3000)
0         No such name errors
```

```
0         Bad values errors
0         General errors
0         Response PDUs
0         SNMP trap PDUs
```

Related Commands None

show snmp config

Syntax **show snmp config**

Purpose To display SNMP configuration

Usage Guidelines None

Mode All modes

Example The following example displays SNMP configuration:

```
ZXAN#show snmp config
snmp-server location No.889 BiBo Rd. PuDong District, ShangHai, China
snmp-server contact +86-021-68895000
snmp-server packetSize 3000
snmp-server engine-id 8309000203000010289d64401
snmp-server community public view allview rw
snmp-server view allview internet included
snmp-server view DefaultView system included
snmp-server enable trap SNMP
snmp-server enable trap VPN
snmp-server enable trap BGP
snmp-server enable trap OSPF
snmp-server enable trap RMON
snmp-server enable trap STALARM
```

Related Commands

show snmp group

show snmp user

show snmp engine-id

show snmp

show snmp engine-id

Syntax **show snmp engine-id**

Purpose To display SNMP engine ID

Usage Guidelines None

Mode All modes

Example The following example displays SNMP engine ID:

```
ZXAN#show snmp engine-id
the engine-id:8309000203000010289d64401
```

Related Commands snmp-server engine-id 8-4

show snmp group

Syntax **show snmp group**

Purpose To display SNMP group

Usage Guidelines None

Mode All mode

Example The following example displays SNMP group:

```
ZXAN#show snmp group
 groupName :test
 sec_Model :v3
 sec_Level :AUTH
 readView  :test
 writeView :test
 notifyView:tesr
 rowStatus :ACTIVE
 contextName :test
 contextMatch :match-exact

 groupName :group1
 sec_Model :v3
 sec_Level :PRIV
 readView  :view1
 writeView :view1
 notifyView:view1
 rowStatus :ACTIVE
```

Related Commands snmp-server group

show snmp user

Syntax **show snmp user**

Purpose To display SNMP local users

Usage Guidelines None

Mode All modes

Example The following example displays SNMP local users:

```
ZXAN#show snmp user
 username   :test
 engine-id  :1234566789000000000000000
 auth_type  :SHA
 group_name :test(v3)
 encryptType:DES_CBC
 storageType:NONVOLATILE
 row_status :ACTIVE
```

Related Commands snmp-server user

snmp-server access-list

Syntax **snmp-server access-list** *acl*

no snmp-server access-list

Purpose To use the configured ACL to control access list

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
acl	ACL list or name	Range: 1 – 31 characters

Mode ZXAN(config)#

Example The following example displays how to use the configured ACL to control access list:

```
ZXAN(config)#snmp-server access-list 1
```

Related Commands None

snmp-server community

Syntax **snmp-server community** *community-name* [**view** *view-name*] [**ro**| **rw**]

no snmp-server community *community-name*

Purpose To configure SNMP community name

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
community-name	Community name	Range: 1 – 32 characters
view *view-name*	View name	Range: 1 – 32 characters
ro| **rw**	Read only/read and write	–

Mode ZXAN(config)#

Example The following example displays how to

```
ZXAN(config)#snmp-server community myCommunity view myview rw
```

Related Commands None

snmp-server contact

Syntax **snmp-server contact**

no snmp-server contact*mib-syscontact-text*

Purpose To SNMP-server contact

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
mib-syscontact-text	Contact text	Range: 1 – 200 characters

Mode ZXAN(config)#

Example The following example displays how to SNMP-server contact:

```
ZXAN(config)#snmp-server contact this is C220,tel:(021)68895000
```

Related Commands None

snmp-server context

Syntax **snmp-server context** *context-name*

no snmp-server context *context-name*

Purpose To define SNMP context name

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
context-name	Context name	Range: 1 – 30 characters

Mode ZXAN(config)#

Example The following example displays how to define SNMP context name:

```
ZXAN(config)#snmp-server context contextA
```

Related Commands None

snmp-server enable

Syntax **snmp-server enable** {**inform** | **trap**} [*notification-type*]

no snmp-server enable {**inform** | **trap**} [*notification-type*]

Purpose To enable SNMP server

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
inform| **trap**	Alarm type	–
notification-type	Specify notification type	bgp, ospf, rmon, snmp, stalarm, vpn

Mode ZXAN(config)#

Example The following example displays how to enable SNMP server:

```
ZXAN(config)#snmp-server enable inform
ZXAN(config)#snmp-server host 168.1.1.1 inform version 2c public
```

Related Commands snmp-server host

Related Information By default, the system can send all notification and traps.

snmp-server engine-id

Syntax **snmp-server engine-id** *engine-id*

no snmp-server engine-id

Purpose To configure an SNMP local engine ID

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
engine-id	Local SNMP engine ID	Range: 1 - 24 characters

Mode ZXAN(config)#

Example The following example displays how to configure an SNMP local engine ID:

```
ZXAN(config)#snmp-server engine-id 12345667890
```

Related Commands show snmp engine-id

snmp-server group

Syntax **snmp-server group** *groupname* **v3** {**auth** | **noauth** | **priv**} [**context** *context-name* {**match-prefix** | **match-exact**}] [**read** *read view*] [**write** *writeview*] [**notify** *notifyview*]

no snmp-server group *groupname* **v3** {**auth** | **noauth** | **priv**} [**context** *context-name* {**match-prefix** | **match-exact**}

Purpose To configure a new SNMP group

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
groupname	Group name	Range: 1 – 32 characters
v3	Version 3	-
auth	Authenticate packets	-
noauth	Do not authenticate packets	-
priv	Authenticate and encrypt packets	-
context *context-name*	Context name	Range: 1 – 32 characters
match-prefix	Match prefix	-
match-exact	Match exactly	-
read *readview*	Read view	Range: 1 – 32 characters
write *writeview*	Write view	Range: 1 – 32 characters
notify *notifyview*	Notify view	Range: 1 – 32 characters

Mode ZXAN(config)#

Example The following example displays how to configure a new SNMP group:

```
ZXAN(config)#snmp-server group group1 v3 priv read view1 write view1 notify view1
```

Related Commands show snmp group

snmp-server user

snmp-server host

Syntax **snmp-server host** *ip-address* {**trap** | **inform**} **version** {**1** | **2c** | **3**} {**auth** | **noauth** | **priv**} *community-name* {**enable** | **disable**} {**CRITICAL** | **INDETERMINATE** | **MAJOR** | **MINOR** | **NOTIFICATIONS** | **WARNINGS**} **isnmsserver** {**server-index** *server-index*}[**udp-port** *udp-port*]

Purpose To configure the destination to receive SNMP message

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Host IP address	A.B.C.D
trap	Send trap to host	-
inform	Send message to host	-
version	SNMP version	-
1	SNMP version number	-
2c	SNMP version number	-
3	SNMP version number	-
community-name	SNMPv1/v2 community name or SNMPv3 user name	Range: 1 – 32 characters 1~32
CRITICAL | **INDETERMINATE** | **MAJOR** | **MINOR** | **NOTIFICATIONS** | **WARNINGS**	Alarm levels	–
isnmsserver server-index *server-index*	Configure as trap server	Range: 1 – 8
udp-port *udp-port*	Specify UDP port ID to send trap	Range: 0 – 65535

Mode ZXAN(config)#

Example The following example displays how to configure the destination to receive SNMP message:

```
ZXAN(config)#snmp-server host 168.1.1.1 inform version 2c test enable
CRITICAL isnmsserver 1
```

Related Commands None

Related Information

Default sending type: trap

Default version: 1

Default port ID: 162

snmp-server location

Syntax

snmp-server location *location-text*

no snmp-server location

Purpose

To configure physical location that node resides

Usage Guidelines

The following table provides parameter description:

Parameter	Description	Value
location-text	Location text	Range: 1 – 200 characters

Mode

ZXAN(config)#

Example

The following example displays how to configure physical location that node resides:

```
ZXAN(config)#snmp-server location this is C220 in china
```

Related Commands

None

snmp-server packetsize

Syntax

snmp-server packetsize *snmp-packet-max-size*

no snmp-server packetsize

Purpose

To configure SNMP packet size

Usage Guidelines

The following table provides parameter description:

Parameter	Description	Value
snmp-packet-max-size	SNMP packet size	Range: 484 – 3000 bytes

Mode

ZXAN(config)#

Example

The following example displays how to configure SNMP packet size:

```
ZXAN(config)#snmp-server packetsize 1400
```

Related Commands None

snmp-server trap-source

Syntax **snmp-server trap-source** *ip-address*

no snmp-server trap-source

Purpose To configure the source address for all the traps

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Source address	A.B.C.D

Mode ZXAN(config)#

Example The following example displays how to configure the source address for all the traps:

```
ZXAN(config)#snmp-server trap-source 10.1.1.1
```

Related Commands None

snmp-server user

Syntax **snmp-server user** *username groupname* **v3** [[**encrypted**] **auth** {**md5** | **sha**} *auth-password* [**priv des56** *priv-password*]]

no snmp-server user *username*

Purpose To configure SNMPv3 users

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
username	SNMP user name	Range: 1 – 32 characters
groupname	Group name	Range: 1 – 32 characters
v3	Version 3	-
encrypted	Encrypted password	-
auth	Authenticating right	-
md5	Use HMAC-MD5-96 as authentication mode	-

Parameter	Description	Value
sha	Use HMAC-SHA-96 as authentication mode	-
auth-password	Authentication password	Range: 1 – 32 characters
priv	Assign this user with encryption privilege	-
des56	Use CBC-DES as encryption mode	-
priv-password	Password	Range: 1 – 32 characters

Mode ZXAN(config)#

Example The following example displays how to configure SNMPv3 users:

```
ZXAN(config)#snmp-server user user1 group1 v3 auth md5 12345678
priv des56 12345678
```

Related Commands show snmp user

snmp-server group

Related Information By default, there is no encryption parameter. It is only password text.

snmp-server view

Syntax **snmp-server view** view-name *subtree-id*{**included**| **excluded**}

no snmp-server view view-name *subtree-id*

Purpose To define SNMPv2 view

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
view-name	View name	Range: 1 – 32 characters
subtree-id	Specify MIB subtree ID or node name for view	Range: 1 – 79 characters
included| **excluded**	Include or exclude subtree	–

Mode ZXAN(config)#

Example The following example displays how to define SNMP v2 view:

```
ZXAN(config)#snmp-server view myViewName 1.3.6.1.2.1 included
```

Related Commands snmp-server community

Chapter 9

RMON

Table of Contents

rmon alarm

Syntax

rmon alarm *index variable interval* {**delta** | **absolute**} **rising-threshold** *value* [*event-index*] **falling-threshold** *value* [*event-index*] [**owner** *string*]

no rmon alarm *index*

Purpose

To set alarm and MIB objects

Usage Guidelines

The following table provides parameter description:

Parameter	Description	Value
index	Index ID	Range: 1 – 65535
variable	MIB variables	Range: 1 – 64 characters
interval	Interval	Range: 1 – 2147483647 sec
delta	Delta	-
absoulte	Absolute value	-
rising-thershold *value*	Rising threshold value	Range: -2147483647 – 2147483647
event-index	Event index	Range: 1 – 65535
falling-threshold *value*	Falling threshold value	Range: -2147483647 – 2147483647
owner *string*	Alarm creator	Range: 1 – 30 characters Default: config

Mode ZXAN(config)#

Example The following example displays how to set alarm and MIB objects:

```
ZXAN(config)# rmon alarm 1 ip.2.0 10 absolute
rising-threshold 200 1 falling-threshold 100  1
 owner ZTE
```

Related Commands None

Related Information

- It is allowed for the same instance to perform sampling at the same or different intervals.
- If an error prompts when an alarm item is created with the same index, use **no** command to eliminate the previous index configuration.
- When a nonexistent index item is deleted, the system prompts "Unknown alarm number".
- When the memory or resource is not enough, the system prompts "Alloc buffer error" or "Resource unavailable".
- This alarm is associated with the relevant events to perform the corresponding operation.

rmon collection history

Syntax **rmon collection history** *index*[**owner** *string*][**buckets** *bucket-number*][**interval** *seconds*]

no rmon collection history *index*

Purpose To enable interface history collection function

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
index	Index	Range: 1 – 100
owner *string*	History creator	Range: 1 – 30 characters Default: monitor
buckets *bucket-number*	Bucket size	Range: 1 – 100 Default: 50
interval *seconds*	Sampling interval	Range: 1 – 3600 sec Default: 1800 sec

Mode ZXAN(config-if)#

Example The following example displays how to

```
ZXAN(config-if)#rmon collection history 1 owner zte buckets 100 interval 300
```

Related Commands None

Related Information

- It is allowed to configure several statistical items on the same interface.
- It is allowed to delete the statistical items of other interfaces in interface mode.
- If error occurs when the statistical item is created with the same index , use **no** command to delete the previous same index configuration.
- When the nonexistent index item is deleted, the system prompts: "Unknown etherStats number".
- When the memory or source is not enough, the system prompts "Alloc buffer error" or "Resource unavailable".

rmon collection statistics

Syntax **rmon collection statistics** *index* [**owner** *string*]

no rmon collection statistics *index*

Purpose To enable interface statistical function

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
index	Index	Range: 1 – 65535
owner *string*	Owner	Range: 1 – 30 characters Default: monitor

Mode ZXAN(config-if)#

Example The following example displays how to

```
ZXAN(config-if)#rmon collection statistics 1 owner zte
```

Related Commands None

Related Information

- It is allowed to configure several statistical items on the same interface.
- It is allowed to delete the statistical items of other interfaces in interface mode.
- If error occurs when the statistical item is created with the same index , use **no** command to delete the previous same index configuration.
- When the nonexistent index item is deleted, the system prompts: "Unknown etherStats number".
- When the memory or source is not enough, the system prompts "Alloc buffer error" or "Resource unavailable".

rmon event

Syntax **rmon event** *index*[**log**][**trap** *community*][**description** *string*][**owner** *string*]

no rmon event *index*

Purpose To configure an event

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
index	Index	Range: 1 – 65535
log	Log	-
trap *community*	Community name	Range: 1 – 30 characters
description *string*	Description	Range: 1 – 30 characters Default: zte
owner *string*	Event creator	Range: 1 – 30 characters Default: config

Mode ZXAN(config)#

Example The following example displays how to configure an event:

```
ZXAN(config)# rmon event 1 log trap public description log_trap_event
```

Related Commands None

Related Information

- If error occurs when the statistical item is created with the same index , use **no** command to delete the previous same index configuration.
- When the nonexistent index item is deleted, the system prompts: "Unknown etherStats number".
- When the memory or source is not enough, the system prompts "Alloc buffer error" or "Resource unavailable".

Number of Discarded SCTP Packets

Name The number of discarded SCTP packets

Meaning The number of IP packets discarded by the association.

Triggering Point The counter increments when the SCTP discards an IP packet.

parameter description:

Parameter	Description	Value
alarms	Display all alarm information	-
events	Display all event information	-
history	Display all history information	-
statistics	Display all statistics	-

Mode All modes except exec mode

Example The following example displays RMON configuration:

```
ZXAN(config)#show rmon
supports Statistics History Alarm Event etc. group(s) of RFC1757.
  Config entries:
    etherStats       0
    historyControl   0
    alarm            0
event            0
```

Related Commands

rmon alarm

rmon collection history

rmon collection statistics

rmon event

Related Information

- If there is no parameter in the command, it displays RMON version information.
- If there is no control entry in the specified control list, it displays the following information:
  - "Statistics table is empty"
  - "History table is empty"
  - "Alarm table is empty"
  - "Event table is empty"

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Chapter 10

UAPS Uplink Active/Standby Swap

Table of Contents

uaps-group

Syntax **uaps-group** *groupid* [**mode** {**csc-swap** | **port-swap**}]

no uaps-group *groupid*

Purpose To create or delete UAPS group

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
groupid	Group ID	Range: 1 – 4
csc-swap	Port swap mode	-
port-swap	Main control swap mode	-

Mode ZXAN(config)#

Example The following example displays how to create or delete uaps group:

```
ZXAN(config)#uaps-group 1
```

Related Commands None

revertive

Syntax **revertive** {**enable** | **disable**}

Purpose To configure active/standby revertible function for UAPS group

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
enable	Enable convertible function	-
disable	Disable convertible function	-

Mode ZXAN(cfg-uaps-groupid)#

Example The following example displays how to configure active/standby revertible function for USPS group:

```
ZXAN(cfg-uaps-1)# revertive enable
```

Related Commands None

protect-time

Syntax **protect-time** *time*

Purpose To configure UAPS group protection time

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
time	Protection time	Range: 10 – 900

Mode ZXAN(cfg-uaps-groupid)#

Example The following example displays how to configure UAPS group protection time

```
ZXAN(cfg-uaps-1)#protect-time 400
```

Related Commands None

Related Information By default, the protection time is 300.

swap

Syntax **swap**

Purpose To swap UAPS group by force

Usage Guidelines None

Mode ZXAN(cfg-uaps-groupid)#

Example The following example displays how to swap UAPS group by force:

```
ZXAN(cfg-uaps-1)# swap
```

Related Commands None

port master-portlist

Syntax **port master-portlist** *portlist* **slave-portlist** *portlist*

port master-portlist *portlist*

Purpose To add or delete port to uplink port

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
portlist	Port list	-

Mode ZXAN(cfg-uaps-groupid)#

Example The following example displays how to add or delete port to uplink port:

```
ZXAN(cfg-uaps-1)#port master-portlist gei_0/9/1 slave-portliste gei_0/9/2
```

Related Commands None

Related Information Currently, only one couple of ports can be added once.

The master port and slave port must be consistent in csc-swap mode.

show uaps

Syntax **show uaps groupid** *groupid*

Purpose To display UAPS group status

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
groupid	Group ID	Range: 1 - 4

Mode All modes except exec mode

Example The following example displays how to

```
ZXAN(config)#show uaps groupid 1
Swap mode               :  port-swap
Revertive control          :  enble
Protection time            :  400s
Switch type              :  trunk port
In protected time          :  no
Reserve swap type        :  none
Last swap request type     :  none
Last swap type           :  none
Master ports status        :  forwarding
```

```
                                    gei_0/9/1 : up
Slave ports status          :  block
                                    gei_0/9/2 : down
```

Related Commands None

Chapter 11

FTP/TFTP Server

Table of Contents

copy client

Syntax **copy ftp:** [**mng**] *//HOST/filepath/filename [@username [:password]]* **flash:** *filepath1/filename1*

copy flash: *filepath1/filename1* **ftp:[mng]** *//HOST/filepath/filename [@username[:password]]*

Purpose To copy a specified file in/out of the specified remote host in FTP mode with the specified username and login password

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
//HOST/filepath/filename [@username [:password]]	Host file path, name and password	Range: 1 – 80 characters
filepath1/filename1	Flash file path and name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to copy a specified file in/out of the specified remote host in FTP mode with the specified username and login password:

1. Copy `db.dat` under the directory `cfg` of Flash to the zxc220 working directory of FTP user of host 168.1.1.1

```
ZXAN#copy flash: /cfg/db.dat ftp: //168.1.1.1/db.dat@zxc220:zxc220
```

2. Copy db.dat unser FTP user zxan working directory of host 168.1.1.1 to the root directory of Flash

```
ZXAN#copy ftp: //168.1.1.1/db.dat@zxan:zxan flash: db.dat
```

Related Commands None

copy tftp

Syntax **copy tftp:** {[**mng**] *//HOST/filepath/filename* | **commander** */filepath*} **flash:** *filepath1/filename1*

copy flash: *filepath1/filename1* **tftp:** {[**mng**] *//HOST/filepath/filename* | **commander** */filepath*}

Purpose To copy the specified file to or from the specified remote host in the TFTP mode

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
//HOST/filepath/filename	Host file path and name	Range: 1 – 80 characters
commander */filepath* Commander TFTP file path	Commander TFTP file path	Range: 1 – 80 characters
filepath1/filename1	Flash path and file name	Range: 1 – 80 characters

Mode ZXAN#

Example The following example displays how to copy the specified file to or from the specified remote host in the TFTP mode:

```
ZXAN#copy flash: /cfg/db.dat tftp: //168.1.1.1/db.dat

ZXAN#copy tftp: //168.1.1.1/db.dat flash: db.dat
```

Related Commands None

ip ftp password

Syntax **ip ftp password** *password*

no ip ftp password

To set default login password on FTP client

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
password	Login password	Range: 3 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to set default login password on FTP client:

```
ZXAN(config)#ip ftp password zx9800
ZXAN(config)#
```

Related Commands ip ftp username

Related Information The password is case sensitive.

ip ftp username

Syntax **ip ftp username** *username*

no ip ftp username

Purpose To set default login user name on FTP client

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
username	User name	Range: 1 – 16 characters

Mode ZXAN(config)#

Example The following example displays how to set default login user name on FTP client:

```
ZXAN(config)#ip ftp username FSAP9800
ZXAN(config)#
```

Related Commands ip ftp password

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Chapter 12

Alarm Management

Table of Contents

alarm {enable | disable}

Syntax **alarm** {**enable** | **disable**}

Purpose To enable/disable alarm switch

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
enable	Enable alarm switch	–
disable	Disable alarm switch	–

Mode ZXAN(config)#

Example The following example displays how to enable/disable alarm switch:

```
ZXAN(config)#alarm enable
```

Related Commands None

Related Information By default, the alarm switch is enabled.

alarm confirm

Syntax **alarm confirm**

Purpose To configure alarm response switch

Usage Guidelines None

Mode ZXAN(config)#

Example The following example displays how to configure alarm response switch:

```
ZXAN(config)#alarm confirm
```

Related Commands None

Related Information By default, the switch is enabled.

alarm trap-confirm

Syntax **alarm trap-confirm retry** *integer1* **timeout** *integer2*

no alarm trap-confirm retry

Purpose To create or delete alarm times and timer interval

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
integer1	Alarm retransmission times	Range: 1 – 3
integer2	Alarm time	Range: 1 – 60 sec

Mode ZXAN(config)#

Example The following example displays how to create or delete alarm times and timer interval:

```
ZXAN(config)# trap-confirm retry 3 timeout 20
```

Related Commands None

Related Information By default, the alarm is not retransmitted.

alarm level-change

Syntax **alarm level-change** *alarm-code level*

Purpose To modify alarm levels

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
alarm-code	Alarm code	Range: 1 – 65535
level	Alarm levels	0CRITICAL 1: MAJOR 3: WARNINGS 4: INDETERMINATE

Mode ZXAN(config)#

Example The following example displays how to modify alarm levels:

```
ZXAN(config)#alarm level-change 33037 MAJOR
```

Related Commands None

show alarm

Syntax **show alarm** *number*

Purpose To display alarm pool group number

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
number	Alarm ID	Range: 1 – 4294967295

Mode All modes except exec mode

Example The following example displays alarm pool group number:

```
ZXAN(config)#show alarm 1
The pool array NO. is :2
```

Related Commands None

show alarm-level

Syntax **show alarm-level** [*alarm-code*]

Purpose To display alarm levels

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
alarm-code	Alarm code	Range: 1 – 65535

Mode All modes except exec mode

Example The following example displays alarm levels:

```
ZXAN#show alarm-level 1
  AlarmCode      default-level    current-level
    1            minor            minor
```

Related Commands None

show alarm config

Syntax **show alarm config**

Purpose To display alarm configuration function

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays alarm configuration function:

```
ZXAN(config)#show alarm config
alarm enable
alarm confirm
alarm trap-confirm retry 3 timeout 30
```

Related Commands None

show alarm pool

Syntax **show alarm pool** *number*

Purpose To display alarm pool

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
number	Alarm pool number	Range: 1 – 300

Mode All modes except exec mode

Related Information

```
ZXAN(config)#show alarm pool 1
Alarm ID    : 10
Alarm Code  : 33037
Alarm Level : 0
Alarm Time  : 00:03:32 01/01/2001 UTC
AlarmDesInfo: Sysctl alarm : board offline in shelf 0 slot 10
```

Related Commands None

show alarm counter

Syntax **show alarm counter**

Purpose To display alarm statistical information

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays how to alarm statistical information:

```
ZXAN(config)# show alarm counter
alarmReport:            14              alarmConfirm:            0
alarmNullPointer:       0               alarmInvalidMsgType:     0
alarmInvalidReportType: 0               alarmInvalidLevel:       0
alarmInvaideMibOid:     0               alarmInvalidAlarmId:     0
alarmInvalidRecNum:     0               alarmLogFuncNull:        0
alarmIdNotExist:        0               alarmRecordExist:        1
alarmPoolFull:          0               alarmPoolOverflow:       0
alarmPoolInsOk:         4               alarmGetRegIndexFail :   0
alarmSendToRosSuc:      14              alarmSendTrapSuc:        30
alarmSendToRosFail:     0               alarmSendTrapFail:       0
alarmGetAlarmRegSuc:    40              alarmGetStrFuncSuc:      0
alarmGetAlarmRegFail:   0               alarmGetStrFuncFail:     900
alarmAddToPoolSuc:      21              alarmInformSendTrapSuc:  6
alarmAddToPoolFail:     0               alarmInformSendTrapFail: 0
alarmGetLogFuncSuc:     69              alarmGetByAlarmIdOk:     9
alarmGetLogFuncFail:    0               alarmGetByAlarmIdFail:   0
alarmRestoreDelSuc:     4               alarmBadTypeFromRos:     0
alarmRestoreDelFail:    4               alarmRecvFromRos:        21
alarmInformRecvFromRos: 6               alarmRestoreRecvFromRos: 4
alarmRecordUpdate:      6               alarmGetRegInfoFail:     4
alarmCreateReqFail:     17              alramBindValueFail:      0
alarmEncodeReqFail:     0               alarmAllocMemFail:       0
alarmUnsupportBindType: 0               alarmUnsupportMibVar:    0
alarmRecvDup:           0               alarmInformNotSendTrap:  0
```

Related Commands None

clear alarm pool

Syntax **clear alarm pool** [*integer*]

Purpose To clear alarm pool

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
integer	Alarm pool number	Range: 1 – 300

Mode ZXAN#

Example The following example displays how to clear alarm pool:

```
ZXAN#clear alarm pool 1
```

Related Commands None

clear alarm counter

Syntax **clear alarm counter**

Purpose To clear alarm counter information

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to clear alarm counter information:

```
ZXAN#clear alarm counter
```

Related Commands None

Chapter 13

Debugging

Table of Contents

debug all

Syntax **debug all**

no debug all

Purpose To enable all debug switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable all debug switches:

```
ZXAN#debug all
All possible debugging has been turned on
```

Related Commands All debug commands

terminal monitor

Related Information debug debug all debug debug all

debug arp

Syntax **debug arp**

no debug arp

Purpose To enable ARP debug function

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable ARP debug function:

```
ZXAN#debug arp
ARP debugging is on
```

Related Commands terminal monitor

debug dhcp-option82

Syntax **debug dhcp-option82 all**

debug dhcp-option82 {**data** | **error** | **event**} *type_shelf/slot/{port-no | olt:onu}* [**gport** *gportno*| **pvc** *pvcno*]

no debug dhcp-option82 {**all** | **data** | **error** | **event**}

Purpose To enable DHCP-Option82 debugging switch

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all debug information	-
data	Display debug data infromation	-
error	Display errored packet information	-
event	Display event information	-
type_shelf/slot/{port-no | olt:onu}	Interfaces	-

Parameter	Description	Value
gport *gportno*	GEM port ID	Range: 1 – 255
pvc *pvcno*	PVC number	Range: 1 – 8

Mode ZXAN#

Example The following example displays how to enable DHCP-Option82 debugging switch:

```
ZXAN#debug dhcp-option82 data gpon-onu_0/9/1:1 gport 1
dhcp-option82 data debugging is on
```

Related Commands None

debug group-management

Syntax **debug group-management**

no debug group-management

Purpose To enable debug function of the cluster management protocol to display debugging information of the cluster management protocol processing

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable debug function of the cluster management protocol to display debugging information of the cluster management protocol processing:

```
ZXAN#debug group-management
group-management debugging is on
```

Related Commands terminal monitor

debug igmp

Syntax **debug igmp all**

debug igmp {**data** | **error** | **event**} [*rack-number shelf-number slot-number*] [**interface** *name* [**gport** *gportno* | **pvc** *pvcno*]] [**vlan** *vlanid*] [*ipaddress*] [**mux** | **oam** | **proxy** |**recv** | **send** | **timer**]

no debug igmp all

no debug igmp {**data** | **error** | **event**}[*rack-number shelf-number slot-number*][**interface** *name* [**gport** *gportno* | **pvc** *pvcno*]] [**vlan** *vlanid*] [*ipaddress*] [**mux** | **oam** | **proxy** |**recv** | **send** | **timer**]

Purpose To enable IGMP debugging switch

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all debug information	-
data	Display debug data information	-
error	Display errored packet infromation	-
event	Display event information	-
rack-number	Rack number	Range: 0 – 65535
shelf-number	Shelf number	Range: 0 – 65535
slot-number	Slot number	Range: 0 – 65535
interface *name*	Interface name	Range: 0 – 32 characters
gport *gportno*	GEM port ID	Range: 1 - 255
pvc *pvcno*	PVC ID	Range: 1 – 8
vlan *vlanid*	VLAN ID	Range: 1 - 4094
ipaddress	IP address	A.B.C.D
mux	Mixed interface	-
oam	Operation, administration and maintenance	-
proxy	Proxy	-
recv	Received packets	-
send	Sending packets	-
timer	Timer	-

Mode ZXAN#

Example The following example displays how to enable IGMP debugging switch:

```
ZXAN#debug igmp error 10.9.6.3 mux
IGMP error debugging is on
```

Related Commands terminal monitor

debug ip

Syntax **debug ip**

no debug ip

Purpose To enable the IP debug function to display the debugging information processed by the IP, and display whether the router is sending/receiving the IP packet

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable the IP debug function to display the debugging information processed by the IP, and display whether the router is sending/receiving the IP packet:

```
ZXAN#debug ip
IP debugging is on
```

Related Commands terminal monitor

debug ip bgp all

Syntax **debug ip bgp all**

no debug ip bgp all

Purpose To turn on all BGP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all BGP debugging switches:

```
ZXAN#debug ip bgp all
All BGP debugging has been turned on
```

Related Commands terminal monitor

debug ip bgp dampening

Syntax **debug ip bgp dampening**

no debug ip bgp dampening

Purpose To trace and display the relevant information regarding BGP route oscillation

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the relevant information regarding BGP route oscillation:

```
ZXAN#debug ip bgp dampening
BGP dampening debugging is on
```

Related Commands terminal monitor

debug ip bgp events

Syntax **debug ip bgp events**

no debug ip bgp events

Purpose To trace and display the state of the peer BGP router

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the state of the peer BGP router:

```
ZXAN#debug ip bgp events
BGP events debugging is on
```

Related Commands terminal monitor

debug ip bgp in

Syntax **debug ip bgp in**

no debug ip bgp in

Purpose To trace and display the messages received by the BGP router

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the messages received by the BGP router:

```
ZXAN#debug ip bgp in
BGP in debugging is on
```

Related Commands terminal monitor

debug ip bgp keepalives

Syntax **debug ip bgp keepalives**

no debug ip bgp keepalives

Purpose To trace and display the keepalives message received and sent by the BGP router

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the keepalives message received and sent by the BGP router:

```
ZXAN#debug ip bgp keepalives
BGP keepalives debugging is on
```

Related Commands terminal monitor

debug ip bgp out

Syntax **debug ip bgp out**

no debug ip bgp out

Purpose To trace and display the packets sent by BGP

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the packets sent by BGP:

```
ZXAN#debug ip bgp out
BGP out debugging is on
```

Related Commands terminal monitor

debug ip bgp updates

Syntax **debug ip bgp** [*ip-address*] **updates**

no debug ip bgp [*ip-address*] **updates**

Purpose To trace and display the updates message sent/received by the BGP router and show the route processing conditions in the message

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Neighboring IP address	A.B.C.D

Mode ZXAN#

Example The following example displays how to trace and display the updates message sent/received by the BGP router and show the route processing conditions in the message:

```
ZXAN#debug ip bgp updates
BGP updates debugging is on
```

Related Commands terminal monitor

debug ip destination

Syntax **debug ip destination** *ip-address*

no debug ip destination *ip-address*

Purpose To enable debug function of the specified destination IP address to display the debugging information processed by the IP protocol, and display whether the router is sending/receiving the specified destination address IP packet

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
ip-address	Destination IP address	A.B.C.D

Mode ZXAN#

Example The following example displays how to enable debug function of the specified destination IP address to display the debugging information processed by the IP protocol, and display whether the router is sending/receiving the specified destination address IP packet:

```
ZXAN#debug ip destination 192.168.36.3
IP destination debugging is on
```

Related Commands terminal monitor

debug ip dhcp

Syntax **debug ip dhcp**

no debug ip dhcp

Purpose To enable the debug function of the DHCP RELAY and DHCP SERVER

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable the debug function of the DHCP RELAY and DHCP SERVER:

```
ZXAN#debug ip dhcp
DHCP debugging is on
```

Related Commands terminal monitor

debug ip icmp

Syntax **debug ip icmp**

no debug ip icmp

Purpose To enable the ICMP debug function to display the debugging information processed by the ICMP, and display whether the router is sending/receiving the ICMP packet

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable the ICMP debug function to display the debugging information processed by the ICMP, and display whether the router is sending/receiving the ICMP packet

```
ZXAN#debug ip icmp
ICMP debugging is on
```

Related Commands terminal monitor

debug ip icmp detail

Syntax **debug ip icmp detail**

no debug ip icmp detail

Purpose To turn on IGMP debugging function, display ICMP processing detailed debugging information and display the ICMP packet details sent and received by the devices

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on IGMP debugging function, display ICMP processing detailed debugging information

and display the ICMP packet details sent and received by the devices:

```
ZXAN#debug ip icmp detail
ICMP detail debugging is on
```

Related Commands terminal monitor

debug ip igmp

Syntax **debug ip igmp**

no debug ip igmp

Purpose To enable/disable IGMP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable/disable IGMP debugging switches:

```
ZXAN#debug ip igmp
IGMP debugging is on
```

Related Commands terminal monitor

debug ip igmp-snooping

Syntax **debug ip igmp-snooping**

no debug ip igmp-snooping

Purpose To enable/disable IGMP-snooping debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable/disable IGMP-snooping debugging switches:

```
ZXAN#debug ip igmp-snooping
IGMP SNOOPING debugging is on
```

Related Commands terminal monitor

debug ip interface

Syntax **debug ip interface** *interface-name*

no debug ip interface *interface-name*

Purpose To enable debug function of IP sent and received on the specified interface to display debugging information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	loopback1 – loopback64 supervlan1 – supervlan255 vlan1 – vlan4094

Mode ZXAN#

Example The following example displays how to enable debug function of IP sent and received on the specified interface to display debugging information

```
ZXAN#debug ip interface loopback1
IP interface debugging is on
```

Related Commands terminal monitor

debug ip msdp

Syntax **debug ip msdp**[**message-recv**| **message-send**| **connect**| **warning**]

no debug ip msdp[**message-recv**| **message-send**| **connect**| **warning**]

Purpose To turn on MSDP debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
message-recv	Debugging information for MSDP receiving information	-
message-send	Debugging information for MSDP sending information	-
connect	MSDP debugging information about peer connection	-
warning	MSDP alarm debugging information	-

Mode ZXAN#

Example The following example displays how to turn on MSDP debugging switches:

```
ZXAN#debug ip msdp warning
```

```
MSDP warning debugging is off
```

Related Commands terminal monitor

debug ip multicast

Syntax **debug ip multicast** [**data** | **mrt** | **timer**]

no debug ip multicast [**data** | **mrt** | **timer**]

Purpose To turn on multicast debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Multicast data packet debugging information	–
mrt	Multicast routing table debugging information	–
timer	Multicast timer debugging information	–

Mode ZXAN#

Example The following example displays how to turn on multicast debugging switches:

```
ZXAN#debug ip multicast data
Multicast data debugging is on
```

Related Commands terminal monitor

debug ip ospf adj

Syntax **debug ip ospf adj**

no debug ip ospf adj

Purpose To enable the switch for sending the OSPF adjacent event debugging information

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to enable the switch for sending the OSPF adjacent event debugging information:

```
ZXAN#debug ip ospf adj
OSPF adjacency events debugging is on
```

Related Commands terminal monitor

Related Information The adjacent events includes the following:

- Neighboring events and status migration
- Receiving and sending Hello packets
- Receiving and sending link status request packets
-
-

debug ip ospf all

Syntax **debug ip ospf all**

no debug ip ospf all

Purpose To turn on all OSPF debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all OSPF debugging switches:

```
ZXAN#debug ip ospf all
All OSPF debugging has been turned on
```

Related Commands terminal monitor

debug ip ospf cspf

Syntax **debug ip ospf cspf**

no debug ip ospf cspf

Purpose To debug the shortest path calculation of limit-based OSPF

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to debug the shortest path calculation of limit-based OSPF

```
ZXAN#debug ip ospf cspf
OSPF cspf events debugging is on
```

Related Commands terminal monitor

Related Information This command is used debugging information related to traffic path calculation.

debug ip ospf database-timer

Syntax **debug ip ospf database-timer**

no debug ip ospf database-timer

Purpose To turn on debugging switches to return OSPF link status database timer event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches to return OSPF link status database timer event:

```
ZXAN#debug ip ospf database-timer
OSPF timer events debugging is on
```

Related Commands terminal monitor

debug ip ospf events

Syntax **debug ip ospf events**

no debug ip ospf events

Purpose To turn on debugging switches for returning OSPF important event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for returning OSPF important event:

```
ZXAN#debug ip ospf events
OSPF events debugging is on
```

Related Commands terminal monitor

Related Information The important events include the following:

- DR and BDR selection
- LSDB description packet receiving and sending
- OSPF interface state migration

debug ip ospf flood

Syntax **debug ip ospf flood**

no debug ip ospf flood

Purpose To turn on the debugging switches for returning OSPF flood event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on the debugging switches for returning OSPF flood event:

```
ZXAN#debug ip ospf flood
OSPF flood debugging is on
```

Related Commands terminal monitor

Related Information The flood events include flood event processing, OSPF response packet processing, and OSPF updated packet receiving and sending.

debug ip ospf lsa-generation

Syntax **debug ip ospf lsa-generation**

no debug ip ospf lsa-generation

Purpose To turn on debugging switches for returning OSPF LSA event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for returning OSPF LSA event:

```
ZXAN#debug ip ospf lsa-generation
OSPF summary lsa generation debugging is on
```

Related Commands terminal monitor

Related Information LSA events include the following:

- Router LSA
- Network LSA
- Network summary LSA
- Autonomous border router LSA
- LSA adding, deleting and refreshing

debug ip ospf nsf

Syntax **debug ip ospf nsf**

no debug ip ospf nsf

Purpose To turn on debugging switches for returning OSPF receiving/sending packet event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for returning OSPF receiving/sending packet event:

```
ZXAN#debug ip ospf nsf
OSPF non-stop forwarding event debugging is on
```

Related Commands terminal monitor

debug ip ospf packet

Syntax **debug ip ospf packet**

no debug ip ospf packet

Purpose To turn on the debugging switches for sending back OSPF receiving/sending packets and intercepting all OSPF packet receiving and sending procedure

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on the debugging switches for sending back OSPF receiving/sending packets and intercepting all OSPF packet receiving and sending procedure:

```
ZXAN#debug ip ospf packet
OSPF packet debugging is on
```

Related Commands terminal monitor

debug ip ospf retransmission

Syntax **debug ip ospf retransmission**

no debug ip ospf retransmission

Purpose To turn on the debugging switches for returning OSPF retransmission queue event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on the debugging switches for returning OSPF retransmission queue event:

```
ZXAN#debug ip ospf retransmission
OSPF retransmission events debugging is on
```

Related Commands terminal monitor

debug ip ospf spf

Syntax **debug ip ospf spf** [**external** | **inter** | **intra**]

no debug ip ospf spf [**external** | **inter** | **intra**]

Purpose To turn on the debugging switch for sending back OSPF route calculation events

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
external	Key word	–
inter	Key word	–
intra	Key word	–

Mode ZXAN#

Example The following example displays how to turn on the debugging switch for sending back OSPF route calculation events:

```
ZXAN#debug ip ospf spf external
OSPF spf external events debugging is on
```

Related Commands terminal monitor

Related Information Route calculation events include the following:

- To run dijkstra algorithm to calculate route inside this region
- To calculate and add route between regions
- To add route outside autonomous system

debug ip ospf tree

Syntax **debug ip ospf tree**

no debug ip ospf tree

Purpose To turn on debugging switches for returning OSPF data tree

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for returning OSPF data tree:

```
ZXAN#debug ip ospf tree
OSPF database events debugging is on
```

Related Commands terminal monitor

debug ip pim-snooping

Syntax **debug ip pim-snooping**

no debug ip pim-snooping

Purpose To turn on PIM-snooping debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on PIM-snooping debugging switches:

```
ZXAN#debug ip pim-snooping
PIM SNOOPING debugging is on
```

Related Commands terminal monitor

debug ip pimdm

Syntax **debug ip pimdm** [**assert** | **data** | **mrt** | **packet-send** | **packet-recv** | **timer** | **warning**]

no debug ip pimdm [**assert** | **data** | **mrt** | **packet-send** | **packet-recv** | **timer** | **warning**]

Purpose To turn on PIM-DM debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
assert	Assert debugging information	-
data	Data receiving debugging information	-
mrt	Multicast table debugging information	-
packet-send	Protocol packet sending debugging information	-
packet-recv	Protocol packet receiving debugging information	-

Parameter	Description	Value
timer	Timer debugging information	-
warning	Alarm debugging information	-

Mode ZXAN#

Example The following example displays how to turn on PIM-DM debugging switches:

```
ZXAN#debug ip pimdm assert
PIMDM assert debugging is off
```

Related Commands terminal monitor

debug ip protocol

Syntax **debug ip protocol** *protocol-number*

no debug ip protocol *protocol-number*

Purpose To turn on the debugging function for IP protocol of the specified upper-layer protocol number to display IP debugging information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
protocol-number	Protocol number	Range: 0 – 255

Mode ZXAN#

Example The following example displays how to turn on the debugging function for IP protocol of the specified upper-layer protocol number to display IP debugging information:

```
ZXAN#debug ip protocol 0
IP protocol number debugging is on
```

Related Commands terminal monitor

debug ip rip

Syntax **debug ip rip**

no debug ip rip

Purpose To trace RIP basic receiving/sending packet procedure

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace RIP basic receiving/sending packet procedure:

```
ZXAN#debug ip rip
RIP protocol debugging is on
```

Related Commands terminal monitor

debug ip rip all

Syntax **debug ip rip all**

no debug ip rip all

Purpose To turn on all RIP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all RIP debugging switches:

```
ZXAN#debug ip rip all
All RIP debugging has been turned on
```

Related Commands terminal monitor

debug ip rip database

Syntax **debug ip rip database**

no debug ip rip database

Purpose To trace RIP routing table changing procedure

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace RIP routing table changing procedure:

```
ZXAN#debug ip rip database
RIP database events debugging is on
```

Related Commands terminal monitor

debug ip rip events

Syntax **debug ip rip events**

no debug ip rip events

Purpose To trace RIP-related events

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace RIP-related events:

```
ZXAN#debug ip rip events
RIP event debugging is on
```

Related Commands reset-card

debug ip rip trigger

Syntax **debug ip rip trigger**

no debug ip rip trigger

Purpose To trace RIP trigger events

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace RIP trigger events:

```
ZXAN#debug ip rip trigger
RIP trigger debugging is on
```

Related Commands terminal monitor

debug ip source

Syntax **debug ip source** *ip-address*

no debug ip source *ip-address*

Purpose To enable debug function of the specified source address IP protocol to display the debugging information processed by the IP protocol, and display whether the router is sending/receiving the specified source address IP message

Parameter	Description	Value
ip-address	Source IP address	A.B.C.D

Mode ZXAN#

Example The following example displays how to enable debug function of the specified source address IP protocol to display the debugging information processed by the IP protocol, and display whether the router is sending/receiving the specified source address IP message:

```
ZXAN#debug ip source 192.168.6.6
IP source debugging is on
```

Related Commands terminal monitor

debug ip tcp all

Syntax **debug ip tcp all**

no debug ip tcp all

Purpose To turn on all TCP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all TCP debugging switches:

```
ZXAN#debug ip tcp all
All TCP debugging has been turned on
```

Related Commands terminal monitor

debug ip tcp driver

Syntax **debug ip tcp driver**

Purpose To configure the debug switches for establishing and closing the TCP connections

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to configure the debug switches for establishing and closing the TCP connections:

```
ZXAN#debug ip tcp driver
TCP driver event debugging is on
```

Related Commands terminal monitor

debug ip tcp driver-pak

Syntax **debug ip tcp driver-pak**

no debug ip tcp driver-pak

Purpose To turn on debugging switches for TCP buffer management

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for TCP buffer management:

```
ZXAN#debug ip tcp driver-pak
TCP driver verbose debugging is on
```

Related Commands show time-range

Related Information When the switch is enabled, the following information is output:

- Putting output packet into output queue
- Sent packet size
- Received packet size
- Information that a packet is deleted from the queue because the number of received packets exceeds the maximum number (by default: 25) due to loss of order

Users can log in to view TCP supplementary information of BGP and FTP.

debug ip tcp packet

Syntax **debug ip tcp packet**

no debug ip tcp packet

Purpose To turn on debugging switches for displaying TCP sending/receiving packet source and destination information

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for displaying TCP sending/receiving packet source and destination information:

```
ZXAN#debug ip tcp packet
TCP Packet debugging is on
```

Related Commands nvram default-gateway

debug ip tcp transactions

Syntax **debug ip tcp transactions**

no debug ip tcp transactions

Purpose To turn on debugging switches for TCP state migration

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for TCP state migration:

```
ZXAN#debug ip tcp transactions
TCP special debugging is on
```

Related Commands terminal monitor

Related Information When the switch is turned on, the TCP special events are output as follows:

- Destination IP address, port and MSS advertisement to establish TCP connection
- Reconfiguring retransmission time, timeout retransmission
- Information of limit status machine migration and releasing TCP control module

Users can log in to view TCP special events information of BGP and FTP.

debug ip udp

Syntax **debug ip udp**

no debug ip udp

Purpose To turn on the debugging switches for UDP sending/receiving packet source and destination information

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on the debugging switches for UDP sending/receiving packet source and destination information:

```
ZXAN#debug ip udp
UDP packet debugging is on
```

Related Commands terminal monitor

debug iptv all

Syntax **debug iptv** {**all** | {**data** | **error** | **events**} [*rack-number shelf-number slot-number*] [**interface** *name* {**gport** *gportno* | **pvc** *pvcno*}] [**mvlan** *mvlanid* **group** *groupip*] [**mode** {**cdr** | **joinleave** | **oam** | **timer**}]}

no debug iptv {**all** | {**data** | **error** | **events**} [*rack-number shelf-number slot-number*] [**interface** *name* {**gport** *gportno* | **pvc** *pvcno*}] [**mvlan** *mvlanid* **group** *groupip*] [**mode** {**cdr** | **joinleave** | **oam** | **timer**}]}

Purpose To turn on IPTV debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all IPTV debugging information	-
data	Display IPTV data debug-ging ifnormation	-
error	Display information that IPTV receives errored packets	-
events	Display information that triggers IPTV status to change	-
rack-number	Rack number	Range: 0 – 65535
shelf-number	Shelf number	Range: 0 – 65535
slot-number	Slot number	Range: 0 – 65535
interface *name*	Interface name	Range: 1 – 32 charac-ters
gport *gportno*	GEM port number	Range: 0 – 255
pvc *pvcno*	PVC number	Range: 0 – 7
mvlan *mvlanid*	Multicast VLAN ID	Range: 2 – 4095
group *groupip*	Multicast IP address	A.B.C.D
mode {**cdr** | **joinleave** | **oam** | **timer**	Data mode	–

Mode ZXAN#

Example The following example displays how to turn on IPTV debugging switches:

```
ZXAN#debug iptv events 0 0 7 mode timer
IPTV events debugging is on
```

Related Commands terminal monitor

debug isis adj-packets

Syntax **debug isis adj-packets**

no debug isis adj-packets

Purpose To trace and display Hello packets that IS-IS receives and send

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display Hello packets that IS-IS receives and send:

```
ZXAN#debug isis adj-packets
IS-IS Adjacency related packets debugging is on
```

Related Commands terminal monitor

debug isis all

Syntax **debug isis all**

no debug isis all

Purpose To turn on all debugging switches related to IS-IS

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all debugging switches related to IS-IS:

```
ZXAN#debug isis all
All IS-IS debugging has been turned on
```

Related Commands terminal monitor

debug isis nsf-event

Syntax **debug isis nsf-event**

no debug isis nsf-event

Purpose To turn on debugging switches to display IS-IS nsf events

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches to display IS-IS nsf events:

```
ZXAN#debug isis nsf-event
IS-IS Adjacency related packets debugging is on
```

Related Commands terminal monitor

debug isis snp-packets

Syntax **debug isis snp-packets**

no debug isis snp-packets

Purpose To trace and display SNP packets sent/received by IS-IS

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display SNP packets sent/received by IS-IS:

```
ZXAN#debug isis snp-packets
IS-IS CSNP/PSNP packets debugging is on
```

Related Commands terminal monitor

debug isis spf-events

Syntax **debug isis spf-events**

no debug isis spf-events

Purpose To trace and display debugging information of IS-IS route computation events

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display debugging information of IS-IS route computation events:

```
ZXAN#debug isis spf-events
IS-IS SPF events debugging is on
```

Related Commands terminal monitor

debug isis update-packets

Syntax **debug isis update-packets**

no debug isis update-packets

Purpose To trace and display the debugging information of IS-IS LSP packet processing event

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to trace and display the debugging information of IS-IS LSP packet processing event:

```
ZXAN#debug isis update-packets
IS-IS Update related packet debugging is on
```

Related Commands terminal monitor

debug lacp all

Syntax **debug lacp all**

no debug lacp all

Purpose To turn on all LACP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all LACP debugging switches:

```
ZXAN#debug lacp all
Link Aggregation Control Protocol All debugging is on
```

Related Commands terminal monitor

debug lacp fsm

Syntax **debug lacp fsm**[**interface** *port-number*]

no debug lacp fsm[**interface** *port-number*]

Purpose To turn on debugging switches for LACP status machine

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
port-number	Port number	loopback1 – 64, null1, smartgroup1 – smartgroup8, supervlan1 – supervlan255, tunnel1 – tunnel64, vlan1 – vlan4094

Mode ZXAN#

Example The following example displays how to turn on debugging switches for LACP status machine:

```
ZXAN#debug lacp fsm
Link Aggregation Control Protocol SM debugging is on
```

Related Commands terminal monitor

debug lacp packet

Syntax **debug lacp packet** [**interface** *port-number*]

no debug lacp packet [**interface** *port-number*]

Purpose To turn on debugging switches for LACP receiving/sending packets

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
port-number	Port name	–

Mode ZXAN#

Example The following example displays how to turn on debugging switches for LACP receiving/sending packets:

```
ZXAN#debug lacp packet
Link Aggregation Control Protocol packets debugging is on
```

Related Commands terminal monitor

debug mstp agreement

Syntax **debug mstp agreement** [**interface** *interface-name* **instance** *instance_number*]

no debug mstp agreement

Purpose To turn on debugging switches for MSTP to switch negotiation information swiftly

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8
instance_number	Instance number	Range: 0 – 31

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP to switch negotiation information swiftly:

```
ZXAN#debug mstp agreement
Multiple Spanning Tree agreement debugging is on
```

Related Commands terminal monitor

debug mstp all

Syntax **debug mstp all**

no debug mstp all

Purpose To turn on all MSTP debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all MSTP debugging switches:

```
ZXAN#debug mstp all
Mstp Protocol All debugging is on
```

Related Commands terminal monitor

debug mstp bpdu-rx

Syntax **debug mstp bpdu-rx** [**interface** *interface-name*]

no debug mstp bpdu-rx

Purpose To turn on debugging switches for MSTP to receive packet information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP to receive packet information:

```
ZXAN#debug mstp bpdu-rx
Multiple Spanning Tree Received BPDUs debugging is  on
```

Related Commands terminal monitor

debug mstp bpdu-tx

Syntax **debug mstp bpdu-tx**[**interface** *interface-name*]

no debug mstp bpdu-tx

Purpose To turn on debugging switches to display packet information sent by MSTP

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8

Mode ZXAN#

Example The following example displays how to turn on debugging switches to display packet information sent by MSTP:

```
ZXAN#debug mstp bpdu-tx
Multiple Spanning Tree Transmitted BPDUs debugging is  on
```

Related Commands terminal monitor

debug mstp errors

Syntax **debug mstp errors**

no debug mstp errors

Purpose To turn on debugging switches for MSTP error information

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP error information:

```
ZXAN#debug mstp errors
MST Protocol errors debugging is  on
```

Related Commands terminal monitor

debug mstp flush

Syntax **debug mstp flush** [**interface** *interface-name* **instance** *instance_number*]

no debug mstp flush

Purpose To turn on debugging switches for MSTP to delete MAC address information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8
instance_number	Instance number	Range: 0 – 31

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP to delete MAC address information:

```
ZXAN#debug mstp flush
Multiple Spanning Tree port flush mechanism debugging is  on
```

Related Commands terminal monitor

debug mstp info

Syntax **debug mstp info** [**interface** *interface-name* **instance** *instance_number*]

no debug mstp info

Purpose To turn on debugging switches for MSTP info state machine information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8
instance_number	Instance number	Range: 0 - 31

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP info state machine information:

```
ZXAN#debug mstp info
Multiple Spanning Tree port info  state machine debugging on
```

Related Commands terminal monitor

debug mstp migration

Syntax **debug mstp migration** [**interface** *interface-name*]

no debug mstp migration

Purpose To turn on debugging switches for MSTP protocol migration state machine information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface *interface-name*	Interface name	Range: smartgroup1 – smartgroup8

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP protocol migration state machine information:

```
ZXAN#debug mstp migration
Multiple Spanning Tree migration protocol state machine debugging is on
```

Related Commands terminal monitor

debug mstp proposals

Syntax **debug mstp proposals**[**interface** *interface-name* **instance** *instance_number*]

no debug mstp proposals

Purpose To enable the MSTP debugging switch for fast hand off negotiation request information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8
instance_number	Instance number	Range: 0 – 31

Mode ZXAN#

Example The following example displays how to enable the MSTP debugging switch for fast hand off negotiation request information:

```
ZXAN#debug mstp proposals Multiple Spanning Tree Proposal
/Agree handshakes debugging is  on
```

Related Commands terminal monitor

debug mstp roles

Syntax **debug mstp roles** [**instance** *instance_number*]

no debug mstp roles

Purpose To turn on debugging switches of MSTP instance computing status machine information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
instance_number	Instance number	Range: 0 – 31

Mode ZXAN#

Example The following example displays how to turn on debugging switches of MSTP instance computing status machine information:

```
ZXAN#debug mstp roles
MST Protocol roles debugging is  on
```

Related Commands terminal monitor

debug mstp state

Syntax **debug mstp state**[**interface** *interface-name*]

no debug mstp state

Purpose To turn on debugging switches for MSTP port status synchronization

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MSTP port status synchronization:

```
ZXAN#debug mstp state
Multiple Spanning Tree state sync debugging is  on
```

Related Commands terminal monitor

debug mstp tc

Syntax **debug mstp tc**[**interface** *interface-name* **instance** *instance_number*]

no debug mstp tc

Purpose To enable the MSTP change state machine information debugging switch

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
interface-name	Interface name	Range: smartgroup1 – smartgroup8
instance_number	Instance number	Range: 0 – 31

Mode ZXAN#

Example The following example displays how to enable the MSTP change state machine information debugging switch:

```
ZXAN#debug mstp tc
Multiple Spanning Tree topology change notifications debugging is  on
```

Related Commands terminal monitor

debug nas

Syntax **debug nas**

no debug nas

Purpose To turn on debugging switches of NAS function

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on debugging switches of NAS function:

```
ZXAN#debug nas
NAS debugging is on
```

Related Commands terminal monitor

debug port-location

Syntax **debug port-location all**

debug port-location {**data** | **error** | **event**} *type_shelf/slot/{port-no | olt:onu}* [**gport** *gportno* | **pvc** *pvcno*]

no debug port-location {**all** | **data** | **error** | **event**}

Purpose To display the debug information regarding port location

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all debug information about port location	-
data	Display debug information about port location data	-
error	Display information that port location receives errored packets	-
event	Display information of triggering port location to change status	-
type_shelf/slot/{port-no | olt:onu}	Interface	-
gport *gportno*	GEM port number	Range: 1 – 255
pvc *pvcno*	PVC number	Range: 1 – 8

Mode ZXAN#

Example The following example displays display the debug information regarding port location:

```
ZXAN#debug port-location data gpon-onu_0/0/9:1 gport 1
ZXAN#
```

Related Commands reset-card

debug pppoe-plus

Syntax **debug pppoe-plus all**

debug pppoe-plus {**data** | **error** | **event**} *type_shelf/slot/{port-no* | *olt:onu*} [**gport** *gportno* | **pvc** *pvcno*]

debug pppoe-plus all {**data** | **error** | **event**}

Purpose To display debug information regarding PPPoE+

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all debug information regarding PPPoE+	-
data	Display debug information regarding PPPoE+ data	-

Parameter	Description	Value
error	Display errored packet information received by PPPoE+	-
event	Display information that triggers PPPoE+ to change status	-
type_shelf/slot/{port-no | olt:onu}	Interface	-
gport gportno	GEM port nubmer	Range: 1 – 255
pvc pvcno	PVC number	Range: 1 – 8

Mode ZXAN#

Example The following example displays debug information regarding PPPoE+:

```
ZXAN#debug pppoe-plus all
pppoe-plus all debugging is on
```

Related Commands terminal monitor

debug radius accounting

Syntax **debug radius accounting** {**data** | **error** | **event** | **packet** {*group-number* | **all**}}

no debug radius accounting {**data** | **error** | **event** | **packet**}

Purpose To turn on RADIUS accounting debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Display debug information about RADIUS accounting data	-
error	Display information about errored packets that RADIUS accounting receives	-
event	Display information that triggers RADIUS accounting to change status	-
packet {*group-number* | **all**}	Display information that RADIUS accounting receives and send packets	Range: 1 – 10

Mode ZXAN#

Example The following example displays how to turn on RADIUS accounting debugging switches:

```
ZXAN#debug radius accounting packet all
debug radius accounting packet turned on group all
```

Related Commands terminal monitor

debug radius all

Syntax **debug radius all**

no debug radius all

Purpose To turn on all RADIUS debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on all RADIUS debugging switches:

```
ZXAN#debug radius all
All radius debugging has been turned on
```

Related Commands terminal monitor

debug radius authentication

Syntax **debug radius authentication** {**data** | **error** | **event** | **packet** {*group-number* | **all**}}

no debug radius authentication {**data** | **error** | **event** | **packet**}

Purpose To turn on RADIUS authentication debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Display debug information regarding RADIUS authentication data	-
error	Display information that RADIUS authentication receives errored packets	-
event	Display information triggering RADIUS authentication to change status	-

Parameter	Description	Value
packet {*group-number*| **all**}	Display information that RADIUS authentication receives and sends packets	Range: 1 - 10

Mode ZXAN#

Example The following example displays how to turn on RADIUS authentication debugging switches:

```
ZXAN#debug radius authentication packet 1
debug radius authenticaion packet turned on group 65536
```

Related Commands terminal monitor

debug radius exception

Syntax **debug radius exception**

no debug radius exception

Purpose To turn on RADIUS exceptional information debugging switches

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to turn on RADIUS exceptional information debugging switches:

```
ZXAN#debug radius exception
debug radius exception turned on
```

Related Commands reset-card

debug radius user

Syntax **debug radius user** *subscriber-name domain-name*

no debug radius user

Purpose To turn on RADIUS user debugging switches

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
subscriber-name	User name	Range: 1 – 32 characters
domain-name	Domain name	Range: 1 – 32 characters

Mode ZXAN#

Example The following example displays how to turn on RADIUS user debugging switches:

```
ZXAN#debug radius user user domain
debug radius user turned on user@doma
```

Related Commands terminal monitor

debug syscomm

Syntax **debug syscomm** {**data** | **packet** | **event** | **error** | **all**}

no debug syscomm {**data** | **packet** | **event** | **error** | **all**}

Purpose To display debug information about syscomm

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Display debug information about syscomm data	–
packet	Display information that syscomm receives and sends packets	–
event	Display information of triggering syscomm to change status	–
error	Display information that syscomm receives errored packets	–
all	Display all debug information about syscomm	–

Mode ZXAN#

Example The following example displays debug information about syscomm:

```
ZXAN#debug syscomm all
```

Related Commands terminal monitor

debug sysctrl

Syntax **debug sysctrl** {**data** | **packet** | **event** | **error** | **all**}

no debug sysctrl {**data** | **packet** | **event** | **error** | **all**}

Purpose To display debug information regarding sysctrl

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Display debug information regarding sysctrl data	-
packet	Display information that sysctrl receives and sends packets	-
event	Display information triggering sysctrl to change status	-
error	Display information that sysctrl receives errored packets	-
all	Display all debug information about sysctrl	-

Mode ZXAN#

Example The following example displays debug information regarding sysctrl:

```
ZXAN#debug sysctrl all
```

Related Commands terminal monitor

debug version-mng

Syntax **debug version-mng** {**data** | **packet** | **event** | **error** | **all**}

no debug version-mng {**data** | **packet** | **event** | **error** | **all**}

Purpose To display version management debug information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	Display debug information about version management data	-
packet	Display information that version management receives and sends protocol packets	-

Parameter	Description	Value
event	Display information triggering version management to change status	-
error	Display information that version management receives errored packets	-
all	Display all debug information about version management	-

Mode ZXAN#

Example The following example displays version management debug information:

```
ZXAN#debug version-mng all
```

Related Commands terminal monitor

debug vlan

Syntax **debug vlan** {**data** | **event** | **error** | **all**}

no debug vlan {**data** | **event** | **error** | **all**}

Purpose To turn on debugging switches to display VLAN information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
data	information about VLAN data	–
event	Display information triggering VLAN to change status	–
error	Display information that VLAN receives errored packets	–
all	Display all debug information about VLAN	–

Mode ZXAN#

Example The following example displays how to turn on debugging switches to display VLAN information:

```
ZXAN#debug vlan all
Vlan all debugging is on
```

Related Commands terminal monitor

debug vrrp

Syntax **debug vrrp** {**state** | **packet** | **event** | **error** | **all**}

no debug vrrp {**state** | **packet** | **event** | **error** | **all**}

Purpose To turn on switch to display VRRP debug information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
state	Display debug information that VRRP status changes	-
packet	Display information that VRRP receives and sends protocol packets	-
event	Display information of triggering VRRP to change status	-
error	Display information that VRRP receives errored packets	-
all	Display all debug information about VRRP	-

Mode ZXAN#

Example The following example displays how to turn on switch to display VRRP debug information:

```
ZXAN#debug vrrp state
VRRP state debugging is on
```

Related Commands reset-card

debug mpnat

Syntax **debug mpnat** {**all** | **data** | **error** | **event**}

Purpose To turn on debugging switches for MPNAT module

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
all	Display all debug information about MPNAT	–
data	Display debug information about MPNAT data	–
error	Display information that MPNAT has errors	–
event	Display information triggering MPNAT to change status	–

Mode ZXAN#

Example The following example displays how to turn on debugging switches for MPNAT module:

```
ZXAN#debug mpnat all
```

Related Commands terminal monitor

show debugging

Syntax **show debugging**

Purpose To view currently enabled debugging switches

Usage Guidelines None

Mode All modes except exec mode

Example The following example displays how to view currently enabled debugging switches:

```
ZXAN#show debugging
RSL:
Version-mng data debugging is on
Version-mng error debugging is on
Version-mng event debugging is on
Version-mng packet debugging is on
```

Related Commands All debug commands

terminal monitor

Syntax **terminal monitor**

no terminal monitor

Purpose To output debug information to current terminal

Usage Guidelines None

Mode ZXAN#

Example The following example displays how to output debug information to current terminal:

```
ZXAN#terminal monitor
```

Related Commands All debug commands

Chapter 14

MPNAT Translation Configuration

Table of Contents

mpnat service

Syntax **mpnat service telnet-shell service-port** *portNo*

Purpose To configure port number for telnet shell

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
portNo	Port number	Range: 7000 – 19999

Mode ZXAN(config)#

Example The following example displays how to configure port number for telnet shell:

```
ZXAN(config)#mpnat service telnet-shell service-port 7000
```

Related Commands None

Related Information Only one port can be configured as telnet shell port.

mpnat trans-table

Syntax **mpnat trans-table aging-time** *agingTime*

Purpose To configure NAT translation entries aging time

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
agingTime	Aging time	Range: 30 – 600 sec Default: 60 sec

Mode ZXAN(config)#

Example The following example displays how to configure NAT translation entries aging time:

```
ZXAN(config)#mpnat trans-table aging-time  230
```

Related Commands None

clear mpnat

Syntax **clear mpnat trans-table** [**service-port** *portNo*]

Purpose To clear forwarded entries

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
portNo	Port number	Range: 7000 – 19999

Mode ZXAN#

Example The following example displays how to clear forwarded entries:

```
ZXAN#clear mpnat trans-table service-port 8500
```

Related Commands None

Related Information Clear all forwarding tables if the command is without parameters.

show mpnat cfg-table

Syntax **show mpnat cfg-table** {**summary** | **static** | **dynamic** | **all**}

Purpose To display NAT configuration list

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
summary	Summary	–
static	Display static configuration entries	–

Parameter	Description	Value
dynamic	Display dynamic configuration entries	–
all	Display all configuration entries	–

Mode All modes except exec mode

Example The following example displays how to

```
ZXAN#show mpnat cfg-table static

OutGlbIp        InGlbPort InRmtIp         InLclIp
InLclPort OnuInterface
-------------------------------------------------------------
---------------------
0.0.0.0         9999      6.6.7.1         6.6.7.2         0
ZXAN#
```

Related Commands None

show mpnat trans-table

Syntax **show mpnat trans-table** {**summary** | **all** | **service-port** *portNo*}

Purpose To display NAT table information

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
summary	Summary	–
all	Display all forwarded entries	–
service-port *portNo*	Display service port nubmer	Range: 7000 – 19999

Mode All modes except exec mode

Example The following example displays NAT table information:

```
ZXAN#show mpnat trans-table summary

Used Num          : 0
Unused Num        : 1024
ZXAN#
```

Related Commands None

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List of Glossary

ACL
- Access Control List

ARP
- Address Resolution Protocol

BDR
- Backup Designate Router
- Billing Detail Record

BGP
- Border Gateway Protocol

CPLD
- Complex Programmable Logic Device

CPU
- Central Processing Unit
- Central Policy Unit

DHCP
- Dynamic Host Configuration Protocol

DR
- Designate Router

DoS
- Denial of Service

FTP
- File Transfer Protocol

GEM
- GPON Encapsulation Method

ICMP
- Internet Control Message Protocol

IGMP
- Internet Group Management Protocol

IP
- Internet Protocol
- Intelligent Peripheral

IPTV
- Internet Protocol Television

IS-IS
- Intermediate System-to-Intermediate System

LACP
- Link Aggregation Control Protocol

LSA
- Link State Advertisement
- Localised Service Area
- Link State Advertisement

LSDB
- Link-state Database

LSP
- Link Selector Parameter
- Label Switched Path
- Link State Packet

MAC
- Medium Access Control

MIB
- Management Information Base

MODEM
- Modulator-Demodulator

MSAN
- Multi-Service Access Network

MSDP
- Multicast Source Discovery Protocol

MSS
- Mobile Switching System
- Mobile Switching Subsystem

MSTP
- Multi-Service Transport Platform
- Multiple Spanning Tree Protocol

NAS
- Network Attached Storage
- Network Access Server
- Network-Attached Storage
- Non-Access Stratum

NAT
- Network Address Translation

NE
- Network Element

NVRAM
- Non-Volatile Random Access Memory

ONU
- Optical Network Unit

OSPF
- Open Shortest Path First

PIM
- PA Interface Module

PIM-DM
- Protocol Independent Multicast - Dense Mode

PPPoE
- Point to Point Protocol over Ethernet

PVC
- Permanent Virtual Channel
- Permanent Virtual Circuit
- Permanent Virtual Connection
- Polyvinyl Chloride

RADIUS
- Remote Authentication Dial In User Service

RIP
- Routing Information Protocol
- Request In Progress

RMON
- Remote Monitoring

SNMP
- Simple Network Management Protocol

SNP
- Signaling Network Protocol
- Sequence Num PDU

TACACS
- Terminal Access Controller Access Control System

TCP
- Transfer Control Protocol
- Termination Connection Point

TFTP
- Trivial File Transfer Protocol

UAPS
- Uplink Auto Protection Switching

UDP
- User Datagram Protocol

UTC
- Universal Time Coordinated

VLAN
- Virtual Local Area Network

VRRP
- Virtual Router Redundancy Protocol