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ZXMS80 Multimedia Service Management System Operation Guide for Net Manage System

Version 2.03.800

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Contents

Chapter 1 Overview	1-1
1.1 System Overview	1-1
1.1.1 Introduction of Network Management System	1-1
1.1.2 Function Flowchart of Network Management System	1-3
1.1.3 Features	1-4
1.2 Design Specifications of Network Management System	1-4
Chapter 2 Knowledge Preparation	2-1
2.1 ZXMVC 8900	2-1
2.2 Name and Number	2-1
2.3 Number Prefix	2-1
2.4 Slot Number	2-2
2.5 HD Terminal	2-2
2.6 Backup Setting and Active Setting	2-2
Chapter 3 Fast Application Configuration	3-1
Chapter 4 Operation Description	4-1
4.1 Logging In to Server	4-1
4.2 Version Information	4-2
4.3 MCU Management	4-3
4.3.1 Configuring an MCU	4-3
4.3.2 Configuring a Board	4-9
4.3.3 Configuring a Terminal	4-15
4.3.4 Controlling an MCU	4-17
4.3.5 Diagnosing MCU	4-18
4.4 User Management	4-31
4.5 Version Management	4-33
4.5.1 Uploading Software	4-34
4.5.2 Downloading Software	4-35
4.5.3 Registration Software	4-36
4.5.4 Activating the Software	4-37
4.5.5 Viewing Software Version	4-38
4.5.6 Upgrading EMC - Under the Normal Mode	4-39
4.5.7 EMC Upgrading - Under the Security Mode	4-40
4.5.8 Uploading the board	4-42

4.6 Log Management	4-44
4.6.1 Fault Log	4-44
4.6.2 System Log	4-45
4.6.3 User Log	4-46
4.7 System Help	4-47
4.8 Exiting the System	4-47
Appendix A Common Problems of Web Server	A-1
A.1 Failed Login to Web Page	A-1
A.2 Failed Login After Web Page Displayed	A-2
A.3 Web Page Error	A-2
A.4 Failed Software Uploading	A-2
A.5 Failed Software Downloading	A-3
A.6 Disconnection from MC	A-3
A.7 Failed Flash Display	A-3
A.8 Inconsistent MCU States	A-4
A.9 NMS Server Error	A-5
Figures	I
Tables	III
Glossary	V

Chapter 1 Overview

Table of Contents

System Overview	1-	·1
Design Specifications of Network Management System	.1-	4

1.1 System Overview

The ZXMS80 is a conferencing product of new generation put forward by ZTE. The network management system is one of the components of the ZXMS80 and located at the operation support layer.

The network management system is used to configure the boards of the ZXMVC 8900 (video conferencing multipoint control unit). After boards are inserted to the ZXMVC 8900, you need to connect the boards to the database in the network management system. Then, you can configure, control, and diagnose MCUs in the network management system.

1.1.1 Introduction of Network Management System

1.1.1.1 Overview of MS80 Architecture

The ZXMS80 has a clear architecture with three layers, namely operation support layer, media switching layer, and user access layer. The details are shown in the following figure.



Figure 1-1 Layers and Structures of ZXMS80

The network management system is located at the operation support layer. It provides a unified management system and implements management for all MCUs, which facilitates the device administrator in operation and management. However, in traditional conferencing TV systems, the management for MCUs is implemented by the administrator of each MCU independently.

The ZXMS80 network management system implements topology management, configuration management, fault management, and log management of MCUs.

1.1.1.2 Components

The ZXMS80 network management system consists of three components, namely NMS Webserver, NMS Server, and database (DB), as shown in the following figure.

Figure 1-2 Components of ZXMS80 Network Management System



NMS Webserver

It provides GUI for users to configure, control and diagnose MCUs, and implement version management and log management.

NMS Server

ZXMS80 NMS server. It sends a request from the Web page to the MCU and DB. In this way, the functions available on the Web page are implemented. The NMS Webserver and NMS Server use the standard CORBA interface for communication.

DB

Database server. It stores the data of the whole system, including the configuration of MCUs, boards, terminals, and logs. The SQL Server 2005 is used.

1.1.1.3 Networking

The networking with the network management system is shown in the following figure.



Figure 1-3 Networking of Network Management System

1.1.2 Function Flowchart of Network Management System

The ZXMS80 network management system provides six main functions, namely MCU management, version management, user management, log management, system help, and system exit. The functional bar on the page is shown in the following figure.



MCU Software User Syslog Version Conf Exit

1.1.3 Features

The features of the network management system are as follows:

High Security

When accessing the network management system, uses must enter the required password for authentication, which avoids login of illegal users. In addition, the network management system implements authority- and domain- based management for the device administrator. To be specific, the administrator can assign the management rights to MCU devices according to different areas.

Easy Operation

All the software of the network management system runs on the server and no software needs to be installed on the client. The network management system provides the device administrator with device management at the unified network wide media switching layer. The administrator can implement remote network management at any place only by opening the Web browser and logging in to the Web page of the ZXMS80 network management system.

Convenient Maintenance and Extendibility

No software runs on the client and thus only the software on the server needs to be updated. This solves the problems of controlling and updating the versions of client applications.

1.2 Design Specifications of Network Management System

During the development of the ZXMS80 network management system, the involved technologies and standards that comply with are as follows:

- RFC 1155: Structure and Identification of Management Information for TCP/IP-based Internets
- CORBA programming specifications
- J2SE programming specifications
- J2EE programming specifications

Chapter 2 Knowledge Preparation

Table of Contents

ZXMVC 8900	2-1
Name and Number	2-1
Number Prefix	2-1
Slot Number	2-2
HD Terminal	2-2
Backup Setting and Active Setting	2-2

2.1 ZXMVC 8900

The ZXMVC 8900 is developed by ZTE and is an MCU device using the SIP protocol. Its full name is video conferencing system multipoint control unit. It provides high efficient communication with video and audio data for users with different bandwidths.

The management object of the ZXMS80 network management system is ZXMVC 8900.

2.2 Name and Number

The ZXMS80 numbers all types of terminals. Just like making a call, users can locate a terminal and initiate a call only after getting the terminal number.

For the numbering rule of IP terminals, refer to the national standard. To fully meet the requirements on future multi-service development and multi-carrier development, the numbering rule is defined as "service ID + service provider code + user number". Wherein, the user number complies with the E.164 numbering specifications and uses the format of "area ID + local number".

The above numbering rules can be customized by users according to requirements.

2.3 Number Prefix

IP terminals are not connected to MCUs. Therefore, all the IP terminals in the network management system need not be numbered. In this case, only the terminals with the same number are configured with common prefixes to distinguish the terminals located in different areas and managed by different MCUs. These common prefixes are called number prefixes.

2.4 Slot Number

A slot number refers to the location where a board is inserted to the ZXMVC 8900 shelf. A slot number starts with 0.

The ZXMVC 8900 supports a maximum number of 17 slots, ranging from 0 to 16.

2.5 HD Terminal

HD terminals refer to T600 video conferencing terminals with 720P/1080i/1080P pixels. The terminals use a built-in dynamic accelerating engine with multi-frame and bi-directional prediction and the technology of concurrent multi-frame encoding, which provides delicate and beautiful pictures.

2.6 Backup Setting and Active Setting

Backup setting refers to the configurations in the database and the data is configured by users on the page.

Active setting refers to the configurations obtained from MCUs after the network management system is successfully connected to MCUs. The active settings are stored on MCUs. After users download the backup settings to MCUs, the backup settings take effect.

Chapter 3 Fast Application Configuration

From the perspective of a beginner or a new deployment user, this chapter describes how to quickly implement simple configurations in the ZXMS80 network management system, including the configurations of MCU, boards, and terminals. For other complex configurations and operations, refer to the following chapters.

- 1. Enter the Web browser, enter http://Server IP address:90 (For example, http://10.129.129.200:90) in the address bar, and then press Enter. The login page is displayed.
- 2. Click **English**, enter the administrator name (admin) and password (111111), and then click **Login** to display the homepage.
- 3. Choose **MCU > Configure** from the main menu. The **New MCU** page is displayed.
- 4. Enter the MCU number (for example, 89001), IP address, and IP address of the proxy server. Then, set the proxy server port to **5060**. Unless otherwise specified, use the default values for other parameters. After the setting is complete, click **Save**.
- Choose MCU > Control from the main menu. On the Control MCU page, select the new MCU (89001) in the left-hand pane, and click Connect MCU to connect the MCU to the network management system.
- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under 89001 in the left-hand pane to display the MCU Slot Configuration page.
- 7. According to the configuration of the boards inserted in the slots on the MCU, click next to the required slot number. Then, select the required board type from the drop-down list, and click **Save**.

NOTE Note

For the NILAN and ENIL boards, the IP address, subnet mask, and gateway are required.

8. After the setting is complete, click **Download backup setting** to download the configuration as the current board configuration. If the board is connected successfully, the MCU plays a prompt sound.

- Choose MCU > Terminal from the main menu. On the page that is displayed, select Terminal Conf under 89001 in the left-hand pane to display the Terminal Configuration page.
- 10. Click Add. The New Terminal page is displayed. Set Name (any terminal name) and Number (allocated by the carrier). Then, set Type to IP number prefix. After the setting is complete, click Save and exit.

Chapter 4 Operation Description

Table of Contents

Logging In to Server	4-1
Version Information	4-2
MCU Management	4-3
User Management	4-31
Version Management	4-33
Log Management	4-44
System Help	4-47
Exiting the System	4-47

4.1 Logging In to Server

Steps

1. On the client computer, open the IE browser and enter http://Server IP address:90 (Web address of the network management system). The homepage of ZXMS80 network management system is displayed, as shown in the following figure.

Figure 4-1 Initial Page



2. Enter the user account (admin) and password (111111) of the administrator. Click **Enter** to display the main page of the ZXMS80 network management system, as shown in the following figure.



To ensure the system security, you need to change the password in time after login.

Figure 4-2 ZXMS80 Network Management System

ZTEФ# BANO Bring All Visions in One	Multime Net Manage S	dia Service Center
11/07 17:22:41 Sun.	MCU Software User Sy	slog Version Conf Exit
Version Software Version	Version Information	
	Net Manage System WEB Server (NMS WEB Server)	V2.03.800.06U03.004
	Net Manage System Server (NMS Server)	V2.03.800.06U02.001

Table 4-1 Main Page Description

Area	Description
Main Menu	Displays six functional menus of the ZXMS80 network management system, namely MCU, Version, User, Log, Help, and Exit.
Operation	Displays the currently available operations. The available operations vary with the main menu and submenu, and are used for various man-machine interaction.
Submenu	Displays the currently available submenus. The available submenus vary with the main menu.

- End of Steps -

4.2 Version Information

Version Information shows the current version of the system. It is recommenced that new users check the current version of the system before using the system. The network management system display this page by default after login.

Click Version in the main page to display the version information page.

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4.3 MCU Management

Choose **MCU** from the main menu. The system displays the available options Control, Diagnose, Configure, Board, Terminal, Cascading Line (not used temporarily), as shown in the following figure.

Figure 4-3 MCU Management Menus



To manage MCUs, the following sequence is usually used. For detailed flow description, refer to the function flowchart of the network management system.

- 1. Configure MCU
- 2. Control MCU
- 3. Configure Board
- 4. Configure Terminal
- 5. Diagnose MCU

4.3.1 Configuring an MCU

Configuring MCU is the first step for MCU management. Configuring MCU involves the configuration for three parts, namely basic information, board information, and terminal information.

Choose **MCU** > **Configure** from the main menu. The **New MCU** page is displayed, as shown in the following figure.

09/27 09:54:39 Mon.	MCU Softwa	are User Syslog Vers	sion Conf	Exit
Control Diagnose Configure Board Terminal Video monitoring Monitoring list Query Terminal				
MCU Configuration	😑 New MCU			
 8900202 Active Setting 	Number:	* Must same as the MCU No. of CSS	IP Addr.:	*
Backup Setting	Mask:		Gateway:	
3 8900203	GK:	none 🔽	GK IP Addr.:	255.255.255.255
Active Setting	Audio PRI:	default 🗸	Audio TOS:	normal 🗸
Backup Setting	Video PRI:	default 🖌	Video TOS:	normal 🖌
9 8900204	lip syn for VPU:	300ms 💌	Lip syn for HPU:	500ms 🖌
Active Setting	T.120 IP Addr.:	0.0.0.0	Manage owner:	admin 🔽
 Backup Setting 2000207 	Country code:	86	Area code:	755
 Active Setting 	RAS port:	1719	Call signal port:	1720
Backup Setting	H245 min port:	10400	H245 max port:	10912
2 8900240	Clock:	Free		
Active Setting	Configure NAT:	⊙No OYes		
Backup Setting	H.235 Enabled:	⊙No ○Yes		
≥ 8900241	Copy the audio data:	⊙ No OYes		
Active Setting	MTU:	1500		
Backup Setting	Description:			
≥ 8900242	Doboription.	P	_	
		Save		Multimodia Comico Contes
			ZIE	: Multimedia Service Center

Figure 4-4 Configuration Page of MCU

In the above figure, the submenu in the left-hand pane displays the configured MCUs in a list and the operation area displays the page for operating the new MCU.

Usually, the sequence for configuring an MCU is **Add MCU > Save settings > Download backup settings**. The following provides detailed descriptions.

4.3.1.1 Adding an MCU

Select **MCU > Configure** from the main menu. The **New** page is displayed, as shown in the following figure.

😑 New MCU			
Number:	* Must same as the MCU No. of CSS	IP Addr.:	*
Mask:		Gateway:	
GK:	none	GK IP Addr.:	255.255.255.255
Audio PRI:	default 💌	Audio TOS:	normal 💌
Video PRI:	default 💌	Video TOS:	normal 💌
lip syn for VPU:	300ms 💌	Lip syn for HPU:	500ms 💌
T.120 IP Addr.:	0.0.0.0	Manage owner:	admin 💌
Country code:	86	Area code:	755
RAS port:	1719	Call signal port:	1720
H245 min port:	10400	H245 max port:	10784
Clock:	Free		
Configure NAT:	⊙No ○Yes		
H.235 Enabled:	⊙ No OYes		
Copy the audio data:	💿 No 🗢 Yes		
MTU:	1500		
Description:			
	Save		

Figure 4-5 Adding an MCU

The following table describes the parameters in the above figure.

Table 4-2 Adding an MCU

Parameter	Description
Number	Indicates the MCU number used for distinguishing different MCUs.
IP Addr.	Indicates the IP address of the MC module in the MCU.

Parameter	Description
Mask	None
Gateway	None
GK	Gatekeepernone, autodiscover, assigned
GK IP Addr	IP Address of Gatekeeper
Audio PRI	Indicates the priority of audio data packets transmitted in the network. The available options are default and 1 to 7 . Wherein, 7 represents the highest priority.
Audio TOS	Indicates the service option of audio data packets. By default, it is normal .
Video PRI	Indicates the priority of video data packets transmitted in the network. The available options are default and 1 to 7 . Wherein, 7 represents the highest priority.
Video TOS	Indicates the service option of video data packets. By default, it is normal .
Lip syn for VPU	Indicates the common gateway delay. The time for the APU to process audio data is different from that for the VPU to process image data. To solve the problem of lip synchronization, a coding delay is required for APU. This parameter refers to the coding delay. By default, it is 300ms .
Lip syn for HPU	To solve the problem of lip synchronization, a delay is required. By default, it is 500ms .
T.120 IP Addr	By default, it is 0.0.0.0
Manage owner	admin
Country code	Code of the country. By default, it is 86 .
Area code	By default, it is 755
Description	Indicates the description of the MCU for easy memory, including MCU location and card configuration.
Others are referred ir	י ו this manual.

After all the parameters are set, click **Save**. Then, the left-hand menu area will list the latest configuration of the MCU.

4.3.1.2 Deleting and Modifying the Backup Settings of an MCU

Prerequisites

 When an MCU is connected to the network management system, the name and IP address of the MCU cannot be modified. To modify them, you need to disconnect the MCU from the network management system. • When an MCU is connected to the network management system, the MCU cannot be deleted. In this case, the **Delete** button grays out. To delete the MCU, you need to disconnect it from the network management system.

Context

After an MCU is deleted, its board configuration and terminal configuration are all deleted.

Steps

- 1. Choose **MCU > Config** from the main menu.
- 2. Select **Backup Setting** under the required MCU in the left-hand pane. A page is displayed, as shown in the following figure.

11/07 17:33:38 Sun.	MCU Softw	are User	Syslog	Version	Conf	Exit	
	Control Diagnose G	onfigure Board	Terminal Vid	eo monitoring	Monitorii	ng list Query Terr	ninal
MCU Configuration	😑 Modify MCL	J					
 9900202 Active Setting 	Number	8900202 Must same as the l	* MCU No. of CS	55	IP Addr.	10.129.129.202	*
» 8900203	Mask	255.255.252.0			Gateway:	10.129.128.1	
 Active Setting Backup Setting 	GK	assigned	~	GI	K IP Addr.:	10.129.131.249	
 8900207 Active Setting 	Audio PRI	default	~	I	Audio TOS:	normal	*
 Backup Setting \$900240 	Video PRI	default	~	,	Video TOS:	normal	*
 Active Setting Backup Setting 	lip syn for VPU	300ms	*	Lip sy	n for HPU:	500ms	*
3) 8900241	T.120 IP Addr.	0.0.0.0		Ma	nage owner:	admin	*
 Active Setting Backup Setting 	Country code	86			Area code:	755	
 3900242 Active Setting 	RAS port	1719		Call	signal port:	1720	
 Backup Setting 8900243 	H245 min port	10400		H24	5 max port:	10784	
 Active Setting Backup Setting 	Clock	Free	*				
6	Configure NAT	⊙No ○Yes					
	H.235 Enabled	⊙No OYes					
	Copy the audio data	♥No ♥Yes					
	MIU						
* NEW	Description	L					
		Save	Delete	L Downlo	ad backup	setting	

Figure 4-6 Deleting and Modifying MCU-Backup Setting

- 3. Delete or modify the backup settings of the MCU.
 - Click **Delete** to delete the MCU.
 - After the settings are modified, click **Save** to save the settings.
 - End of Steps -

4.3.1.3 Downloading the Backup Settings of an MCU

Prerequisites

This operation can be performed only after the MCU is connected.

4-6

Context

To replace **Active Setting** with **Backup Setting**, the administrator can download the backup settings of the required MCU.

Steps

- 1. Choose **MCU > Configure** from the main menu.
- 2. Select **Backup Setting** under the required MCU in the left-hand pane. A page is displayed, as shown in the following figure.

```
Figure 4-7 Basic MCU Configuration Operation-Downloading Backup Setting
```

11/07 17:38:01 Sun.	MCU Softwa	are User Syslog Ver	sion Conf	Exit			
	Control Diagnose C	onfigure Board Terminal Video mor	nitoring Monitorin	ag list Query Terminal			
MCU Configuration	Modify MCU						
 3900202 Active Setting Beckup Setting 	Number:	8900243 * Must same as the MCU No. of CSS	IP Addr.:	10.129.131.243 *			
 Backup Schuling 8900203 9 4 via 7 via 	Mask:	255.255.252.0	Gateway:	10.129.128.1			
 Active Setting Backup Setting 	GK:	assigned 💌	GK IP Addr.:	10.129.131.249			
 Active Setting 	Audio PRI:	default 💌	Audio TOS:	normal 💌			
 Backup Setting \$900240 	Video PRI:	default 💌	Video TOS:	normal 👻			
 Active Setting Restant Setting 	lip syn for VPU:	300ms	Lip syn for HPU:	500ms 🗸			
 Backup Setting 8900241 	T.120 IP Addr.:	0.0.0.0	Manage owner:	admin 🗸			
 Active Setting Backup Setting 	Country code:	86	Area code:	755			
 8900242 Active Setting 	RAS port:	1719	Call signal port:	1720			
Backup Setting 9 8900243	H245 min port:	10400	H245 max port:	10784			
 Active Setting 	Clock:	Line	Slot: 1' 🕶 St	art port: 11 v End port: 11 v			
Backip Schung	Configure NAT:	⊙No ⊖Yes					
	H.235 Enabled:	No ○ Yes Yes					
	Copy the audio data:	⊙ No ○ Yes					
	MTU:	1500					
	Description:						
and the second s		Save Delete	Download backup	setting			

- Click Download backup setting to download the backup settings of the MCU to the current MCU and make the backup settings as the active settings of the MCU.
 In this case, Active Setting is the same as Backup Setting. Active Setting before the downloading operation is overwritten and cannot be restored.
 - End of Steps -

4.3.1.4 Viewing the Active Settings of an MCU

Prerequisites

This operation can be performed only after the MCU is connected.

Steps

- 1. Choose **MCU > Configure** from the main menu.
- 2. Select **Active Setting** under the required MCU in the left-hand pane. A page is displayed, as shown in the following figure. On the page, view the active settings of the MCU.
 - End of Steps -

Example

Take MCU 89001 as an example. After the above operations are performed, the active settings of the MCU are shown in the following figure.

11/07 17:41:25 Sun.	MCU Softwa	are User Syslog	Version Conf	Exit			
_	Control Diagnose C	onfigure Board Terminal	Video monitoring Monitori	ng list Query Terminal			
Configuration	😑 New MCU						
 8900202 Active Setting 	Number:	8900243] IP Addr.:	10.129.131.243			
Backup Setting 3 8900203	Mask:	255.255.252.0	Gateway	10.129.128.1			
 Active Setting D to G with 	GK:	assigned	GK IP Addr.:	10.129.131.249			
 Backup Setting 8900207 	Audio PRI:	default	Audio TOS:	normal			
 Active Setting Backup Setting 	Video PRI:	default] Video TOS:	normal			
 8900240 Active Setting 	lip syn for VPU:	300ms	Lip syn for HPU:	500ms			
Backup Setting	T.120 IP Addr.:		Manage owner:	admin			
 Active Setting 	Country code:	86	Area code:	755			
Backup Setting 8900242	RAS port:	1719	Call signal port:	1720			
 Active Setting 	H245 min port:	10400] H245 max port:	10784			
 Backup Setting 8900243 	Clock:	Line	Slot: 11 Start	port: 12 End port: 15			
 Active Setting Beschun Setting 	Configure NAT:	● No ○ Yes					
 Darwah permiti 	Description:	r []					
	H.235 Enabled:	⊙No ○Yes					
	Copy the audio data	a 🖲 No 🔿 Yes					
	MTU:	1500					
	Description:						
> NEW		Save a	as backup setting				

Figure 4-8 Example of Viewing the Active Settings of an MCU

4.3.1.5 Saving the Active Settings of an MCU as the Backup Settings

Steps

• View the active settings of the MCU. Then, on the current configuration page, click **Save as backup setting** to save the active settings as the backup settings.

NOTE Note

If the network management system is not connected to the MCU, the active settings are null and the **Save as backup setting** button grays out.

4.3.2 Configuring a Board

After an MCU is configured, you need to configure the boards on the MCU. After a board is inserted in the MCU, you need to configure the board in the network management system. After that, the board takes effect. During configuration in the network management system, refer to the cards inserted in the slots of the MCU.

Usually, the sequence for configuring a board is **Configure board > Save settings > Download backup settings**.

Choose **MCU > Configure** from the main menu. On the page that is displayed, select **Backup Setting** under required MCU to display the **MCU Slot Configuration** page, as shown in the following figure.



Figure 4-9 MCU Slot Configuration

The following table lists the board types supported by the slots of the ZXMVC 8900.

Table 4-3 Boards Supported by Slots of ZXMVC 8900

Slot Number	Supported Board Type				
0	MPU	-	-		
1	MPU	-	-		
2	APUMIX	EAPU	-		

Slot Number	Supported Board Type					
3	APU	EAPU	-			
4	APU	EAPU	HDPU			
5	APU	EAPU	HDPU			
6	VPU/EVPU	VPU/EVPU	HDPU			
7	VPU/EVPU	VPU/EVPU	HDPU			
8	VPU/EVPU	VPU/EVPU	HDPU			
9-16	VPU/EVPU	VPU/EVPU	HDPU			

4.3.2.1 Configuring an APU or EAPU Board

Context

APU or EAPU boards can be inserted to any or multiple slots among 2 to 5.

Steps

- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under an MCU in the left-hand pane to display the MCU Slot Configuration page.
- 2. To view the slot number of the current APU or EAPU board on ZXMVC 8900 (for example, the APU board is inserted in slot 3), click and next to slot 3. A configuration page is displayed.

Figure 4-10 Configuration Page of APU Board

🚰 AddBoard 👘						
😑 New Board						
	Board type: EMPU					
Configure usage: Video Monitor (EMVFU) Audio Dispose (EAFU) Multi View/Speedmatching/Gateway (EVFU)						
	Save Cancel					

- 3. Select APU/EAPU from the Board type drop-down list.
- 4. Click **Save** to save the settings and exit.
 - End of Steps -

4.3.2.2 Configuring an APUMIX Board

Context

Usually, MIX boards are used together with APU boards.

4-10

Steps

- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under an MCU in the left-hand pane to display the MCU Slot Configuration page.
- To view the slot number of the current APUMIX board on ZXMVC 8900 (for example, the APUMIX board is inserted in slot 3), click and next to slot 3. A configuration page is displayed.
- 3. Select APUMIX from the Board type drop-down list.
- 4. Click Save to save the settings and exit.
 - End of Steps -

4.3.2.3 Configuring the NILAN, ENIL, or ENPU Board

Context

The NILAN or ENIL board can be configured in any or several slots among slots 9 to 16. The ENPU board can be configured in any or several slots in among slots 10 to 16.

Steps

- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under an MCU in the left-hand pane to display the MCU Slot Configuration page.
- To view the slot number of the current NILAN or ENIL board on ZXMVC 8900 (for example, the NILAN, ENIL, or ENPU board is inserted in slot 11), click next to slot 11. A configuration page is displayed.
- 3. Select **NILAN**, **ENIL**, or **ENPU** from the **Board type** drop-down list. A page is displayed, as shown in the following figure.

🙆 AddBoard 💦						
😑 New Boar	ď					
Board type: ENIL						
	Port 1	Pot	rt 2			
IP Addr. :		IP Addr. :				
Mask:		Mask:				
Gateway:		Gateway:				
NAT :		NAT :				
Save Cancel						

Figure 4-11 Configuration Page of NILAN/ENIL Board

09/27 10:04:49 Mon.	MCU	Software Use	r Syslog	Version	Conf	Exit				
Control Diagnose Configure Board Terminal Video monitoring Monitoring list Query Terminal										
Manage Board	😑 МС	U Slot Configuratio	n			MCU number:8900202				
 9900202 Active Setting 	Slot	Board	ype	Slot		Board type				
Backup Setting 9 8900203	0			1	MPU					
 Active Setting Backup Setting 	2	EAPU		3	EAPU					
 8900204 Active Setting 	4			5						
Backup Setting 9 8900207	6	BPU		7						
 Active Setting Backup Setting 	8			9	HDPU					
9 8900240 Active Setting	10			11	ENPU					
Backup Setting 9 8900241	12	HDPU		13	ENPU					
 Active Setting Backup Setting 	14			15	N16E1					
≥ 8900242	16	N16E1		backup settir	na .					
· · · · · · · · · · · · · · · · · · ·			L Download	nourrap semi	TTE M	Iultimodia Service Cente				

Figure 4-12 Configuration Page of ENPU Board

Each NILAN or ENIL board has two network ports and each ENPU board has four network ports. The following table describes the parameters in the above figure.

IP Addr	Indicates the IP address of the network port.
Mask	Indicates the subnet mask corresponding to the IP address of the network port.
Gateway	Indicates the gateway address of the network port.
NAT	If the NILAN, ENIL, or ENPU board is located behind static NAT, a public ad- dress after NAT is required. Usually, this parameter takes effect after Configure NAT in Configure of the MCU is set to Yes .

Caution

If the ENIL or NILAN board is already configured in the system, the ENPU board cannot be configured, and vice versa.

- 4. After the setting is complete, click **Save** to save the settings and exit.
 - End of Steps -

4.3.2.4 Configuring an EVPU Board

Context

EAPU boards can be inserted to any or multiple slots among 4 to 16.

Steps

- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under an MCU in the left-hand pane to display the MCU Slot Configuration page.
- 2. To view the slot number of the current EVPU board on ZXMVC 8900 (for example, the EVPU board is inserted in slot 9), click next to slot 9. A configuration page is displayed.
- 3. Select EVPU from the Board type drop-down list.
- 4. Click Save to save the settings and exit.
 - End of Steps -

4.3.2.5 Configuring an HDPU Board

Context

HDPU boards can be inserted to any or multiple slots among 4 to 16.

Steps

- Choose MCU > Board from the main menu. On the page that is displayed, select Backup Setting under an MCU in the left-hand pane to display the MCU Slot Configuration page.
- To view the slot number of the current HDPU board on ZXMVC 8900 (for example, the HDPU board is inserted in slot 10), click next to slot 10. A configuration page is displayed.
- 3. Select HDPU from the Board type drop-down list.
- 4. Click Save to save the settings and exit.
 - End of Steps -

4.3.2.6 Downloading Board Settings

Prerequisites

To download board settings of an MCU, you need to connect the MCU first.

Context

For new MCUs, after configuring boards for an MCU, you need to make the settings take effect by download board settings. For existing MCUs, to replace the active settings of the current card with the backup settings, you need to download board settings.

Steps

 Choose MCU > Configure from the main menu. On the page that is displayed, select Backup Setting under the required MCU to display the MCU Slot Configuration page, as shown in the following figure.

09/27 10:04:49 Mon.	MCU	Software	User	Syslog	Version	Conf	Exit		
Control Diagnose Configure Board Terminal Video monitoring Monitoring list Query Terminal									
Manage Board	😑 MC	U Slot Config	uration				MCU n	umber:8900202	
 8900202 Active Setting 	Slot		Board type		Slot		Board type		
 Backup Setting \$900203 	0				1	MPU			
 Active Setting Backup Setting 	2	EAPU			3	EAPU			
9 8900204 9 Active Setting	4				5				
Backup Setting 8000207	б	BPU			7				
 Active Setting Backup Setting 	8				9	HDPU			
 9 8900240 9 Active Setting 	10				11	ENPU]		
Backup Setting 9 8900241	12	HDPU			13	ENPU			
 Active Setting Backup Setting 	14				15	N16E1			
2) 8900242	16	N16E1							
Download backup setting									

Figure 4-13 MCU Board Configuration-Downloading Backup Setting

- 2. Click **Download backup setting** to download the backup settings of the MCU to the current MCU.
 - End of Steps -

4.3.2.7 Viewing the Active Settings of an MCU Board

Prerequisites

This operation can be performed only after the MCU is connected.

Steps

- 1. Choose **MCU > Board** from the main menu. The page for selecting an MCU is displayed.
- 2. Select **Active Setting** under the required MCU in the left-hand pane. A page is displayed, as shown in the following figure. On the page, view the active settings of the MCU.

Figure 4-14 Configuration Page of MCU Board

ZTE¢# BAVO Bring All Visions in Cine			В	ring	A	ll Vi	sic	ons i	n	One)	
09/27 10:05:43 Mon.	M	CU So	ftware	User	S	yslog N	Versio	n Con	ſ	Exit		
Manage Board	Control Diagnose Configure Board Terminal Video monitoring Monitoring list Query Terminal											
≥ 8900202	Slot	Board	Slot	Board	Slot	Board	Slot	Board	Slot	Board	Slot	Board
Active Setting	0		1	MPU	2	EAPU	3	EAPU	4		5	
Backup Setta	6	BPU	7		8		9	HDPU	10		11	ENPU
≥ 8900203	12 HDPU 13 ENPU 14 15 N16E1 16 N16E1											
 Active Setting Backup Setting 												

- End of Steps -

4.3.2.8 Saving the Active Settings of a Board as the Backup Settings

Steps

• View the active settings of the MCU board. Then, on the current configuration page, click **Save as backup setting** to save the active settings as the backup settings.



If the network management system is not connected to the MCU, the active settings are null and the **Save as backup setting** button grays out.

4.3.3 Configuring a Terminal

Context

After the required MCU and board are configured, you need to configure a terminal. A terminal cannot be controlled by the network management system after it is physically connected to the MCU. Therefore, the administrator needs to configure the required terminal in the network management system. During configuration in the network management system, refer to the terminals configured for the cards in the MCU.

Steps

- 1. Choose **MCU > Terminal** from the main menu. On the page that is displayed, select the required MCU in the left-hand pane to display the default terminal list.
- 2. Delete the required terminal in the list or modify the information of a terminal. Alternatively, add a terminal for the MCU.

- End of Steps -

4.3.3.1 Adding a Terminal

Steps

- 1. Choose **MCU > Terminal** from the main menu. On the page that is displayed, select the required MCU in the left-hand pane.
- 2. Click Add. The New Terminal page is displayed, as shown in the following figure.

Figure 4-15 Adding a Terminal

MCU Software User	Syslog Version	Conf Exit						
Control Diagnose Configure Board Terminal Video monitoring Monitoring list Query Terminal								
New Terminal		MCU number:8900202						
Name	:	*						
Number	:	*						
Туре	:Select Type	*						
	Save							
		ZTE Multimedia Service Center						

The following table describes the parameters involved in adding a terminal.

Name	Indicates a terminal name. It can be customized by users and is used for distinguishing different terminals. A good terminal name contains various terminal information and complies with a unified naming rule.
Number	Indicates a terminal number. It is used for distinguishing different terminals. Each terminal has a unique number in the entire network. This number is allocated by the network carrier.
Туре	The terminals involved in the system are huge. To quickly locate the MCU to which a certain terminal belongs, a prefix is added for terminals in the same MCU. In this way, the prefix is used to locate the MCU to which a terminal belongs.

3. Set the parameters according to the descriptions in the above table. After the setting is complete, click **Save**. Then, the new terminal is displayed in the MCU terminal list.

- End of Steps -

Example

For example, add a terminal for MCU89001 with the terminal name of sz058 (58th terminal in Shenzhen) and terminal number of 987600058, as shown in the following figure.

Figure 4-16 Example of Adding a Terminal

MCU	Software	User	Syslog	Version	Conf	Exit	
Control D	iagnose Config	gure Board	Terminal Vid	eo monitoring	Monitorin	g list Query Ter	minal
😑 New	Terminal					MCU n	umber:8900202
		Name:	SZ058		*		
		Number:	987600058		*		
		Type:	IP number pr	efix	*		
				Save			
					ZTE	Multimedia 3	Service Center

4.3.3.2 Viewing Settings of the Current Terminal

Prerequisites

This operation can be performed only after the MCU is connected.

Steps

- 1. Choose **MCU > Terminal** from the main menu.
- 2. Select the required MCU in the left-hand pane. Then, the system displays the settings of the current MCU, as shown in the following figure.

Figure 4-17 Viewing Settings of the Current Terminal

09/27 10:09:41 Mon.	MCU Software	User Syslog Version	Conf Exit
	Control Diagnose Configua	e Board Terminal Video monitoring I	Monitoring list Query Terminal
Terminal List	😑 Terminal List		MCU number:8900202
> 8900202	Name	Number	Туре
Active Setting	4E1¼¶Áª×óĨ [™]	8900202160407	8M HD
Bachan Sama	4E1¼¶Á*ÖÐĬ⊤	8900202151215	8M HD
acced permit	4E1¼¶Á³ÓÒÏ [™]	8900202160003	8M HD
8900203	202	202	IP number prefix
Active Setting	2011	2011	IP number prefix
Backup Setting	2010	2010	IP number prefix
3 8900204	1011	1011	IP number prefix
Active Setting	1010	1010	IP number prefix
Backup Setting	060033-4E1	8900202160811	8M HD
 8900207 8900207 		Save as backup setting	
			ZTE Multimedia Service Center

- End of Steps -

4.3.4 Controlling an MCU

Choose **MCU** > **Control** from the main menu. On the page that is displayed, select the required MCU to display the **Control MCU** page, as shown in the following figure.

Figure 4-18 Controlling an MCU

09/27 10:10:11 Mon.	MCU	Software	User	Syslog	Version	Conf	Exit	
	Control Di	agnose Config	jure Boar	1 Terminal Vid	eo monitoring	Monitoring I	list Query Terminal	
Control MCU	😑 Con	trol MCU						
2 2900202(Connected)		Num	ber: 89	00202				
 2 8900203(Connected) 2 8900204(Connected) 		IP Ad	ldr.: 10	10.129.129.202				
 \$900207(Connected) \$900240(Connected) 		MC Vers	ion: V2	₹4.51.900.08.001				
 8900241(Connected) 8900242(Connected) 		St	ate: Co	Connected				
8900243(Connected)		Net stat paramet	ers: los	t rate>=0	,jitter>=0 m	s Set		
	Connec	t Disco	nnect	Reboot	Shutdown	Copy a	udio View Resource	

The small icon before the MCU represents the MCU status. If the icon is red, it indicates the MCU is not connected to the ZXMS80 NMS server. If the icon is green, it indicates that the MCU is connected to the ZXMS80 NMS server.

The buttons at the lower part of the page are used to control MCUs. The buttons are described as follows:

Connect and Disconnect

The **Connect** and **Disconnect** buttons are exclusive. They are used to connect/disconnect the current MCU to/from the ZXMS80 NMS server. After an MCU is connected successfully, the page displays the version of the current MCU.

Reboot and Shutdown

These two buttons are used to restart/shut down the MC module in the MCU.

Copy audio

This function is not supported currently.

4.3.5 Diagnosing MCU

Choose **MCU > Diagnose** from the main menu. By default, the system displays the board list of the first MCU. Select the required MCU to display the **Diagnose MCU** page, as shown in the following figure.

09/27 10:11:10 Mon.	MCU	Software	User	Syslog	Version	Conf	Exit
0	Control Di	agnose Config	ure Board	Terminal Vid	eo monitoring	Monitoring	list Query Terminal
Diagnose MCU	😑 Boa	rd List					MCU number:8900203
2 8900202	Slot	Туре	:	Status	Slot	Туре	Status
3900203	0	· · ·		-	1	MPU	connected
2 8900204	2	EAPU	co	nnected	3	EAPU	disconnected
3 8900207	4			-	5	-	
2 8900240	6	BPU	co	nnected	7	-	-
3 8900241	8			-	9	HDPU	disconnected
> 8900242	10			-	11	ENPU	connected
8900245	12	HDPU	disc	onnected	13	ENPU	disconnected
	14			-	15	N16E1	disconnected
	16	N16E1	co	nnected	-	-	-
						ZTEN	Multimedia Service Cen

Figure 4-19 Diagnosing MCU



The available functions in the above figure are for advanced users only or performed with the guidance of technical support engineers of ZTE. In addition, the page shown in the above figure provides the loopback function for commissioning during deployment. Therefore, common users do not use this function.

Board Diagnosis

The above figure shows the board diagnosis information of MCU 89001. The diagnosis information includes the status of various boards configured in MCU 89001. If a board works properly, its status is displayed as **connected**. Otherwise, its status is displayed as **disconnected**.

CPU Diagnosis

When the status of a board is **connected**, the boards listed in the **Type** column are displayed in blue. In this case, you can click a certain board in this column such as MPU to view the board details, as shown in the following figure.

09/27 10:12:02 Mon.	MCU	Software	User	Syslog	Version	Conf	Exit	
	Control Dia	gnose Config	gure Board	Terminal Vid	eo monitoring	Monitoring	g list Query Terminal	
MCU	😑 CPU	List	MCU:89002	02 Slote:16]	Board type:N1	iEl		
2 2000202	CPU		Туре		Status		Version	
 2) 2000202 2) 2000203 	0	P	AC68302		Normal		₩7.83	
2 2000203	1	1	ardware		Normal		20020600	
 >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>								
	Remote Lo	Local Loop	Bilateral L	o(Loop Off	Reset	Line Sta	ate Refresh Back Multimedia Service Center	

Figure 4-20 CPU Diagnosis Example

In the above figure, the CPU column lists the type, working status, and software version of the CPU. In addition, the system supports remotely resetting all the boards and various loopback tests.

4.3.5.1 EAPU Diagnosis Loopback

The EAPU board provides five loopback diagnosis methods: level-1 audio loopback, level-2 audio loopback, level-3 audio loopback, level-1 mix audio loopback, and level-2 mix audio loopback. The details are shown in the following figure.

Control | Diagnose | Configure | Board | Terminal | Video monitoring | Monitoring list | Query Terminal CPU List MCU:8900202 Slote:2 Board type:EAPU CPU Туре Status Version 0 MPC850 V9.30 Normal 1 DM642 Normal V5 29 2 DM642 Normal V5.29 3 DM642 Normal ₹5.29 DM642 ₹5.29 4 Normal 5 DM642 Normal ₹5.28 FPGA Normal б V6.85 7 hardware Normal 20060700 Level1 Audio L Level2 Audio L Level3 Audio L Level1 Mix Loc Level2 Mix Loc Level3 Mix Loc Reset Refresh Back ZTE Multimedia Service Center

Figure 4-21 EAPU Diagnosis Loopback

Level-1 Audio Loopback

The following figure shows the principle of level-1 audio loopback on the EAPU board.

Figure 4-22 Principle of Level-1 Audio Loopback on EAPU Board



Principle: This loopback indicates that the audio signals of all the terminals connected to the EAPU board are directly looped back through the HW to terminals without line selection.

Application: Click Level1 Audio Loop.

Diagnosis: This operation is used to check whether the data in the HW line is normal.

Level-2 Audio Loopback

The following figure shows the principle of level-2 audio loopback on the EAPU board.

4-20

Figure 4-23 Principle of Level-2 Audio Loopback on EAPU Board



Principle: This loopback indicates that the audio signals of all the terminals connected to the EAPU board are looped back to terminals after line selection.

Application: Click Level2 Audio Loop.

Diagnosis: This operation is used to check whether the data received by DM642 after line selection is normal.

Level-3 Audio Loopback

The following figure shows the principle of level-3 audio loopback on the EAPU board.

Figure 4-24 Principle of Level-3 Audio Loopback on EAPU Board



Principle: This loopback indicates that the audio signals of all the terminals connected to the EAPU board are looped back to terminals after line selection and encoding/decoding.

Application: Click Level3 Audio Loop.

Diagnosis: This operation is used to check whether the data encoded or decoded by DM642 is normal.

Level-1 Mix Audio Loopback

The following figure shows the principle of level-1 mix audio loopback on the EAPU board.

Figure 4-25 Principle of Level-1 Audio Mix Loopback on EAPU Board



Principle: This loopback indicates that the mixed audio data is looped back from the receive end to the transmit end.

Application: Click Level1 Mix Audio Loop.

Diagnosis: This operation is used to check whether the data received by MIX is normal.

Level-2 Mix Audio Loopback

The following figure shows the principle of level-2 mix audio loopback on the EAPU board.

Figure 4-26 Principle of Level-2 Audio Mix Loopback on EAPU Board



Principle: This loopback indicates that the mixed audio data is looped back from the storage end to the transmit end according to timeslot.

Application: Click Level2 Mix Audio Loop.

Diagnosis: This operation is used to check whether the parameters for the mixed audio module are correct.

4.3.5.2 APUMIX Diagnosis Loopback

The APUMIX board provides the function of audio loopback. The following describes the level-1 loopback, level-2 loopback, and audio loopback.

MCU	Softwa	are User	Syslog	Version 0	Conf Exit	8		
Control Dia	gnose C	onfigure Board '	Terminal Video	monitoring Mo	onitoring list Que	ry Terminal		
😑 CPU	List	MCU:890024	43 Slote:4 Boa	rd type:APUMIX				
CPU		Туре		Status		Version		
0		MC68302		Normal		V7.80	^	
1		ADSP2189		Normal		V1.34		
2		ADSP2189		Normal		V1.34		
3		ADSP2189		Normal		V1.34		
4		ADSP2189		Normal		V1.34		
5		ADSP2189		Normal		V1.34		
6		ADSP2189		Normal		V1.34		
7		ADSP2189		Normal		V1.34		
8		ADSP2189		Normal		V1.34		
9		ADSP2189		Normal		V1.33		
10		ADSP2189		Normal		V1.33		
11		ADSP2189		Normal		V1.33		
12		ADSP2189		189 Normal		V1.33		
13		ADSP2189		ADSP2189 Normal			V1.33	
1.4		A TIGD1100		Mormal		U1 22	~	
Level	l Loop	Level2 Loop	Loop Off	Reset	Refresh	Back		

Figure 4-27 APUMIX Diagnosis Loopback

Level-1 Loopback

This loopback is usually called level-1 audio loopback. The following figure shows the principle of level-1 loopback on the APUMIX board.



Figure 4-28 Principle of Level-1 Loopback on APUMIX Board

Principle: This loopback indicates that the audio signals of all the terminals connected to the APUMIX board are directly looped back through the switch network to terminals without encoding/decoding.

Application: Click Level1 Loop. Normally, a terminal can hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network/transmission, interface board, AHW bus, and processing of APUMIX switch network are normal.

Level-2 Loopback

The following figure shows the principle of level-2 loopback on the APUMIX board.



Figure 4-29 Principle of Level-2 Loopback on APUMIX Board

Principle: This loopback indicates that the audio signals of all the terminals connected to the APUMIX board are looped back through the switch network and interruption processing module in the C6202 mixed audio module, and finally to terminals after encoding/decoding.

Application: Click Level2 Loop. Normally, a terminal can hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network/transmission, interface board, AHW bus, processing of APUMIX switch network, and encoding/decoding of the APUMIX board are normal.



- all the terminals connected to the APUMIX board will be looped back.
- The above loopback operations will not make a terminal go offline or affect other media resources except the audio module.

4.3.5.3 NILAN Diagnosis Loopback

The NILAN board provides two 10M/100M network ports: upstream network port and downstream network port. The NILAN board provides four loopback diagnosis methods: UDP loopback, RTP loopback, video loopback, and audio loopback. The details are shown in the following figure.

ZT	E¢	兴
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MCU	Software	User	Syslog	Version	Conf	Exit	
Control Di	iagnose Config	gure Board	Terminal Vic	leo monitoring	Monitoring	list Query T	erminal
O CPI	U List	MCU:89002	43 Slote:10	Board type:ENI	L		
CPU		Туре		Status		Ver	sion
0		MPC860		Normal		٧8.	45
1	1	/IPC8260		Normal		V8.	18
2	1	MPC8260 Normal				V8.18	
3		C6202		Normal		V6.13	
4		C6202		Normal		V6.13	
5		C6202		Normal		٧6.	13
6		C6202		Normal		٧6.	13
7		hardware		Normal		2004	0106
			4			1	
Port test:	<u>•1</u> 2	8260net HW Loc	port L 8260 pp FPGA Lo	FIFO Loc C62	02FIFO Loc Port Info ack	Video Loop Reset	Audio Loop Refresh

Figure 4-30 NILAN Diagnosis Loopback

UDP Loopback

The following figure shows the principle of RTP_HPI (UDP) loopback on the NILAN board.





Principle: This loopback indicates that the media signals of all the terminals connected to the upstream or downstream network port of the NILAN board are used for loopback before being processed by UDP.

Application: Click **UDP Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the NILAN board, and UDP module are normal.

RTP Loopback

The following figure shows the principle of RTP loopback on the NILAN board.

Figure 4-32 Principle of RTP_NOHW (RTP) Loopback on NILAN Board



Principle: This loopback indicates that the media signals of all the terminals connected to the upstream or downstream network port of the NILAN board are used for loopback after being processed by RTP.

Application: Click **RTP Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the NILAN board, UDP module, and RTP module are normal.

Video Loopback

The following figure shows the principle of RTP_VHW (video) loopback on the NILAN board.

Figure 4-33 Principle of RTP_VHW (Video) Loopback on NILAN Board



Principle: This loopback indicates that the video signals of all the terminals connected to the upstream or downstream network port of the NILAN board are looped back through the switch network to terminals.

Application: Click Video Loop.

Diagnosis: This operation is used to check whether the terminal, network, network port of the NILAN board, UDP module, RTP module, and switch network processing are normal. Normally, a terminal can view its own image.

Audio Loopback

The following figure shows the principle of RTP_VHW (audio) loopback on the NILAN board.

Figure 4-34 Principle of RTP_AHW (Audio) Loopback on NILAN Board



Principle: This loopback indicates that the audio signals of all the terminals connected to the upstream network port of the NILAN board are looped back through the switch network to terminals.

Application: Click Audio Loop. Normally, a terminal can hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the NILAN board, UDP module, RTP module, and switch network processing are normal.



The above four loopback methods take effect only in a conference. In addition, during the conference, all the terminals connected to the upstream or downstream network port will be looped back and no terminal will go offline.

4.3.5.4 ENIL Diagnosis Loopback

The ENIL board provides two 10M/100M network ports: upstream network port and downstream network port. The ENIL board provides seven types of loopback diagnosis methods: 8260 network port loopback, 8260FIFO loopback, C6202FIFO loopback, video loopback, audio loopback, HW loopback, and FPGA loopback. The details are shown in the following figure.

MCU	Software	User	Syslog	Version	Conf	Exit	
ontrol Di	iagnose Config	gure Board	Terminal Vid	eo monitoring	Monitoring	list Query Te	rminal
😑 CPI	U List	MCU:89002	43 Slote:10	Board type:ENI	L		
CPU		Туре		Status		Vers	ion
0]	MPC860		Normal		¥8.4	45
1	Ν	/IPC8260		Normal		V8.1	.8
2	Ν	/IPC8260		Normal		V8.18	
3		C6202		Normal		V6.13	
4		C6202		Normal		V6.13	
5		C6202		Normal		V6.13	
6		C6202		Normal		V6.1	.3
7	1	hardware		Normal		20040	106
							4
Port test:		8260net	port L 8260	FIFO Loc C62	02FIFO Loo	Video Loop	Audio Loop
		HW Loo	p FPGA Lo	Loop Off	Port Info	Reset	Refresh

Figure 4-35 ENIL Diagnosis Loopback

8260 Network Port Loopback

The following figure shows the principle of 8260 network port loopback on the ENIL board.

Figure 4-36 Principle of 8260 Network Port Loopback on ENIL Board



Principle: This loopback indicates that the media signals of all the terminals connected to the upstream or downstream network port of the ENIL board are packed directly for loopback after being unpacked.

Application: Click **8260net port Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, and network port of the ENIL board are normal.



This operation takes effect only in a conference. In addition, during the conference, all the terminals connected to the upstream or downstream network port will be looped back and no terminal will go offline.

8260FIFO Loopback

The following figure shows the principle of 8260FIFO loopback on the ENIL board.





Principle: This loopback indicates that the media signals of all the terminals connected to the upstream or downstream network port of the ENIL board are used for loopback after being processed by UDP.

Application: Click **8260FIF0 Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, and UDP module are normal.

C6202FIFO Loopback

The following figure shows the principle of C6202FIFO loopback on the ENIL board.





Principle: This loopback indicates that the media signals of the all the terminals connected to the upstream or downstream network port of the ENIL board are not processed but transparently transmitted through the C6202 to the FIFO for loopback.

Application: Click **C6202FIF0 Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, UDP module, and FIFO processing are normal.

Video Loopback

The following figure shows the principle of video loopback on the ENIL board.



Figure 4-39 Principle of Video Loopback on ENIL Board

Principle: This loopback indicates that the video signals of all the terminals connected to the upstream or downstream network port of the ENIL board are looped back through the switch network to terminals.

Application: Click Video Loop. Normally, a terminal can view its own image.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, UDP module, RTP module, and switch network processing are normal.

Audio Loopback

The following figure shows the principle of audio loopback on the ENIL board.

Figure 4-40 Principle of Audio Loopback on ENIL Board



Principle: This loopback indicates that the audio signals of all the terminals connected to the upstream or downstream network port of the ENIL board are looped back through the switch network to terminals.

Application: Click Audio Loop. Normally, a terminal can hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, UDP module, RTP module, and switch network processing are normal.

HW Loopback

The following figure shows the principle of HW loopback on the ENIL board.



Figure 4-41 Principle of HW Loopback on ENIL Board

Principle: This loopback indicates that the audio and video signals of all the terminals connected to the upstream and downstream network ports of the ENIL board are looped back through the switch network to terminals.

Application: Click **HW Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, UDP module, RTP module, and switch network processing are normal.

FPGA Loopback

The following figure shows the principle of FPGA loopback on the ENIL board.



Figure 4-42 Principle of FPGA Loopback on ENIL Board

Principle: This loopback indicates that the audio and video signals of all the terminals connected to the upstream and downstream network ports of the ENIL board are looped back through the hardware to terminals.

Application: Click **FPGA Loop**. Normally, a terminal can view its own image and hear its own voice.

Diagnosis: This operation is used to check whether the terminal, network, network port of the ENIL board, UDP module, and RTP module are normal.

4.4 User Management

Users need to log in to the ZXMS80 network management system for device management and add user information on the **New User** page.

4-31

The ZXMS80 network management system supports two types of users: system administrator and device administrator. The differences between them are as follows:

- The system administrator can manage all the devices but the device administrator can manage specified devices.
- Only the system administrator can add, modify, and delete a user. The device administrator cannot add or delete a user but can modify its own information.

All the rights of the system administrator equal to the range of devices managed. After the system is installed, it creates a default system administrator (user name: admin; password: 11111). Do not delete this system administrator.

Adding a User

The following section describes how to add a user.

1. Choose **User** from the main menu or click **New**. The **New User** page is displayed, as shown in the following figure.

Figure 4-43 Adding a User

MCU	Software User	Syslog	Version	Conf	Exit	
😑 New	/ User					
	Login name		*(3-120	chars or nums)		
	Password		*(6-12ch	ars or nums)		
	Confirm password		*			
	Privilege	System adm	inistrator 🔽			
	Name		*			
	Description					
			Save			

The following table describes the parameters.

Table 4-4 Adding a User

Parameter	Description
Login name	Indicates the user name used for logging in to the ZXMS80 network manage- ment system. The user name consists of 3 to 12 digits or letters.
Password	Indicates the password used for logging in to the ZXMS80 network manage- ment system. The password consists of 6~12 digits or letters.
Confirm passwo rd	This parameter must be the same as the value of the Password parameter.
Privilege	The available options are System administrator and Device administrator.
Name	Indicates the name of the new user.

Parameter	Description
Description	Indicates the additional information.

- 2. After the setting is complete, click **Save**. If the user is added successfully, the system will display the new user in the left-hand user list.
- 3. Repeat the above operations to add multiple users.

Modifying a User

Select the required user in the user list. Then, the **Modify User Information** page is displayed, as shown in the following figure. On the page, modify the information of the selected user.

Figure 4-44 Modifying User Information

MCU	Software	User	Syslog	Version	Conf	Exit	
A Mor	lify Lleer Info	mation					
	iny oser into	mauon					
		Login name:	admin				
		Password:	•••••	*(6-12ch	ars or nums)		
	Confin	m password:	•••••	*			
		Name:	system admi	nistrato *			
		Description:	default syster	m administrato	ir]	
				Save			

After the modification is complete, click Save.

NOTE Note

admin is the system administrator. Hence, do not delete it.

4.5 Version Management

Context

This operation is used to upgrade the EMC software and bottom-layer board software of the MCU online. The steps for version upgrade are as follows. At present, you are only required to manually upload the upgrading software and download it for renewal. Refer to related descriptions in *Uploading Software* and *Downloading Software*; the board does not need manual operation because the system will automatically upgrade it. Refer to related descriptions in *Registering Software* and *Activating Software*.

The available functions are for advanced users only or performed with the guidance of technical support engineers of ZTE.

Steps

- 1. Upload to the required software to the NMS Webserver.
- 2. In the NMS Webserver, download the software to the specified location.



- During software downloading, the MCU must be in the connected state.
- During software downloading, do not perform any operation.
- For detailed precautions, refer to the software downloading descriptions of each board.
- 3. During software download, the system displays a progress bar. If the progress bar disappears, it indicates that the software is successfully downloaded.
 - End of Steps -

4.5.1 Uploading Software

Steps

 On the main page, choose Software > Upload Software from the main menu. The Upload Software page is displayed, as shown in the following figure.

Figure 4-45 Uploading Software

MCU	Software	User	Syslog	Version	Conf	Exit		
	Upload Softw	are Downlo	oad Software	Regist Softwa	re Activate S	oftware		
Upload Software								
Upload file: 浏览								
	Board type:	-Select boa	rd type 🔽	Start				
Descriptio	n:Upload all softwa	are to the wel	o server for char	ige MCU's softe	ware.			
Select	File Name		Version	ιt	Jpload time	Board Type		
	Eapu60.53	1	531	201	0-09-14 14:15	EAPU		
	Emc_Norm.900.	08.001	001	201	0-09-13 11:09	Kernel(Normal)		
	EMC_Norm_Up	date.ini		201	0-09-13 11:10	Kernel(Normal)		
	Hdpu61.84	2	842	201	0-09-19 15:11	HDPU		
			Delet	e software	٦			
	MCU Descriptio Select	MCU Software Upload Software Upload Software Upload Isoftware Board type: Description:Upload all software Eapu60.53 Enc_Norm.900. EMC_Norm.Up Hidpu61.84	MCU Software User [Jpload Software] Downlo Upload Software] Upload Software Upload file: Board type:Select boa Description:Upload all software to the well Select File Name Eapu60.531 Emc_Norm.900.08.001 EMC_Norm_Update ini Hdpu61.842	MCU Software User Syslog [Jpload Software] Ownload Software] • Upload Software] Board type: Select board type Description:Upload all software to the web server for char Select File Name Eapu60.531 531 Enc_Norm_000.08.001 001 EMC_Norm_Update ini	MCU Software User Syslog Version Upload Software Ownload Software Regist Software Upload Software Upload Software WELL Board type: Select board type ✓ Start Description: Upload all software to the web server for change MCU's software Select File Name Version Eapu60.531 531 201 Eme_Norm.900.08.001 001 201 Hdpu61.842 842 201	MCU Software User Syslog Version Conf Upload Software Download Software Regist Software Activate S Upload Software Upload file: Image: Conf Image: Conf Board type: Image: Conf Image: Conf Image: Conf Board type: Image: Conf Image: Conf Image: Conf Board type: Image: Conf Image: Conf Image: Conf Description: Upload all software to the web server for change MCU's software. Select File Name Version Upload time Ence_Norm.900.08.001 001 2010-09-14 14:15 Image: Conf 2010-09-13 11:09 EMC_Norm_Update ini 2010-09-13 11:10 Hdpu61.842 842 2010-09-19 15:11 Delete software Delete software Enter Enter Enter		

2. Click **Browse**. The **Open** dialog box is displayed, as shown in the following figure.

Open			-	-	-	0 🖯
Look in: Wy Recent Documents Desktop	My Document My Music My Pictures Snaglt Catalog SQL Server Mar T600IE Visual Studio 20	s nagement Studio 05	0	1	••	
My Documents My Computer						
S	File name:			~		Open
My Network	Files of type:			~		Cancel

Figure 4-46 File Selection Dialog Box

- 3. Select the software to be uploaded and set the required board type for the software on the page as shown in the above figure.
- 4. After the setting is complete, click **Start** to upload the software to the NMS Webserver.
- 5. If the software is not in use, select the software and click **Delete software** to delete the software from the NMS Webserver.

- End of Steps -

Follow-Up Action

For the software already uploaded, the system displays them in a list.

4.5.2 Downloading Software

Steps

- 1. On the main page, choose **Software > Download Software** from the main menu. The page for selecting an MCU is displayed.
- 2. Select an MCU whose status is **connected**. The **Download Software** of the MCU is displayed, as shown in the following figure.

😑 D	ownload Software			
MCU:	8900202	Slot:	Select board	~
Select	File name	Version	Upload time	Board Type
۲	Eapu60.531	531	2010-09-14 14:15	EAPU
0	Emc_Norm.900.08.001	001	2010-09-13 11:09	Kernel(Normal)
0	EMC_Norm_Update.ini		2010-09-13 11:10	Kernel(Normal)
0	Hdpu61.842	842	2010-09-19 15:11	HDPU

Figure 4-47 Downloading Software

3. Select the required slot from the **Slot** drop-down list, select the required file in the file list, and then click **Begin download** to start downloading software.



- During software downloading, the system displays a progress bar. The downloading progress window supports multiple download progress bars. After closing the download progress window, you can view the current progress by clicking Look up download in the above figure.
- For a same board, if two files of the same type (same cputype and softtype) are downloaded, the file downloaded later will overwrite the previous file.
- After a file is downloaded successfully, the progress bar displays a prompt accordingly. To activate the downloaded software, you need to reset the board.
- End of Steps -

4.5.3 Registration Software

Context

- As usual, the board software is uploaded and downloaded manually (for the upload way, refer to the descriptions in "Upload Software", and for the download way, refer to "Download Software). However, sometimes, there is too much software required to be downloaded. To avoid the download errors, you can use the Automatic Upgrade function.
- The Automatic Upgrade function has the mechanism of judging the version. When the board is inserted to the slot, the board is reset, or the board is refreshed on the page, it will trigger the board to report the version information. The network management system will contrast the version reported by the board with the version registered in the database. If they are inconsistent, the system will deliver the board upgrading information.

Steps

1. Select **Version Management > Registration Software** to enter the page, shown in the following figure.

i/05 15:58:34 Fri.	MCU Software User	Syslog Version	Conf Exit	
Managa	Upload Software Downl	load Software Regist Software 2	Activate Software	
Software	Regist Software			
	Enpu60.100	100	2010-11-05 14:51	1
	Enpu61.353	353	2010-11-05 14:51	
	Enpu62.135	135	2010-11-05 14:51	
	Enpu63.124	124	2010-11-05 14:51	
	Enpu64.324	324	2010-11-05 14:51	
	Enpu65.120	120	2010-11-05 14:51	
	Enpu66.553	553	2010-11-05 14:51	
	Enpu67.235	235	2010-11-05 14:51	
	Enpu68.224	224	2010-11-05 14:51	
	Enpu69.524	524	2010-11-05 14:51	
	Enpu93.707	707	2010-11-05 14:51	
	Enpu95.212	212	2010-11-05 14:51	
	Evpu60.852	852	2010-11-05 14:51	
	Evpu96.632	632	2010-11-05 14:51	
	Hdpu04.924	924	2010-11-05 14:51	
	Hdpu60.320	320	2010-11-05 14:51	
	Hdpu61.643	643	2010-11-05 14:51	
	Hdpu96.802	802	2010-11-05 14:51	
	Mpu10.665000	665000	2010-11-05 14:51	

Figure 4-48 Registration Software

- 2. Click the **Renewing the Registration Software Library** button, and confirm it, then the system will clear the old registration software record in the database, and add the file information in the htdocs\nms\upload\autoupdate\ directory to the database table.
- 3. After the renewal has been successful, the system will automatically refresh the page. In the page, the new file information will be displayed.

- End of Steps -

4.5.4 Activating the Software

Context

Activate the file information that has been renewed in the database and make it valid.

Steps

1. Select **Version Management > Activating the Software**, in the left MCU directory, select one MCU that is being connected to enter the page shown in the following figure.

11/05 17:16:46 Fri.	MCU	Software	User	Syslog	Version	Conf	Exit	
		Upload Softv	vare Downl	oad Software	Regist Softwar	e Activate S	Software	
Manage Software	😑 Acti	ive Software	•					
») MCU software activate	MCU: 890	0207						
8900202(Disconnect)			Ther	e is no softwa	re being downl	oaded.		
8900203(Connect)								
8900204(Disconnect)								
8900207(Connect)								
8900240(Connect)								
8900242(Connect)								
				Enable	Disable			

Figure 4-49 Activating the Software

2. Click the **Start** button, then the system automatically download and renew the files in the database table, and meanwhile automatically refresh the right pages and obtain the status again.

- End of Steps -

4.5.5 Viewing Software Version

Steps

• Choose **Version** from the main menu. Then, the system displays the versions of the current NMS Webserver and NMS Server, as shown in the following figure.

11/07 17:43:46 Sun.	MCU Software User	Syslog Version Conf Exit
Version	Version Information	
 Sonware version 	Net Manage System WEB Server (NMS WEB Server)	₹2.03.800.061103.004
	Net Manage System Server (NMS Server)	¥2.03.800.06U02.001

Figure 4-50 Viewing Version Information

4.5.6 Upgrading EMC - Under the Normal Mode

Steps

- 1. Upload the license file.
 - a. Click the Browse button, from the local machine, find the 8900license.dat file.
 - b. In the **Board type** pull-down menu, select **EMC**.
 - c. Click the Start button to upload the file. It is shown in the following figure.

Figure 4-51 Upload the License File

1/UD 10.07.30 Ffl.	NCU	Sonware	User Oysic	yersion	COIII	Ľ
Managa		Upload Softwa	re Download Softw	are Regist Softw	are Activate Software	
Software	😑 Dov	wnload Softwar	e			
MCU software download	MCU:	8900207	Slot	EMC) ~	
8900202(Disconnect)	Select	File name		Version	Upload time	Board Type
8900203(Connect)	0	8900License.	dat		2010-11-05 08:59	EMC
8900204(Disconnect)						
8900207(Connect)						
8900240(Connect)						
8900241(Connect)						
8900242(Connect)						

Upload the version of the normal mode.
 You are required to upload two files: Emc_Norm.xxx version and EMC_Norm_Update.ini configuration file.



Ensure the version name in the EMC_Norm_Update.ini file should be consistent with the names of other two uploaded files (Emc_Norm.xxx).

- a. Click the Browse button, from the local machine, find the Emc_Norm.xxx file.
- b. In the Board type pull-down menu, select Kernel (Normal).
- c. Click the **Start** button to upload thei file.
- d. Repeat steps a to c to upload the EMC_Norm_Update.ini file.
- After all the two files are uploaded, you will view these two files in the download interface. Let's set the Emc_Norm.xxx as example to describe the download process. The process of downloading other software is similar.

- 4. Click the **Download the Software** button, and select one MCU in the navigation menu on the right side.
- 5. In the **Slot** pulldown menu, select **Kernel (Normal)**, and click one upgrading program on the page, then click the **Start the Download** button to start downloading the program.
- 6. During the download the progress bar pops up, then you can also click the **Look up download** button to view the current download status.

Figure 4-52 Progress Bar Display



- 7. During the upgrade be patient. Upon the end of upgrade, the EMC upgrading takes effect.
 - End of Steps -

4.5.7 EMC Upgrading - Under the Security Mode

Context

Please in advance select the normal mode to upgrade. If the upgrade in normal mode failed, refer to related chapters to select the security mode for upgrade.

Steps

- 1. Upload the license file.
 - a. Click the **Browse** button, from the local machine, find the **8900license.dat** file.
 - b. In the Board type pull-down menu, select EMC.
 - c. Click the **Start** button to upload the file. It is shown in the following figure.

		Unload Software Down	and Software Periet Se	Annara A ctivata Softwara	
Manage		opioad Software Dowin	oad Software Regist St	ntwate preuvate bottwate	
Software	😑 Dov	vnload Software			
MCU software download	MCU:	8900207	Slot: EMC		
8900202(Disconnect)	Select	File name	Version	Upload time	Board Type
8900203(Connect)	0	8900License.dat		2010-11-05 08:59	EMC
8900204(Disconnect)					
8900207(Connect)					
8900240(Connect)					
8900240(Connect)					
8900240(Connect) 8900241(Connect) 8900242(Connect)					
.8900240(Connect) .8900241(Connect) .8900242(Connect)					
8900240(Connect) 8900241(Connect) 8900242(Connect)					

Figure 4-53 Upload the license file

 Upload the version of the security mode. You are required to upload three files: Emc_Ramdisk.xxx and Emc_UImage_Safe.xxx files, and EMC_Safe_Update.ini configuration file.



Ensure the version name in the EMC_Safe_Update.ini file should be consistent with the names of other two uploaded files (Emc_Ramdisk.xxx and Emc_UImage_Safe.xxx files).

- a. Click the Browse button, from the local machine, find the Emc_Ramdisk.xxx file.
- b. In the Board type pull-down menu, select Kernel (Safe).
- c. Click the **Start** button to upload this file.
- d. Repeat steps a~c, in turn upload the Emc_UImage_Safe.xxx file and the EMC_Safe_Update.ini configuration file.
- 3. After all the three files are uploaded, you will view these three files in the download interface. Let's set the EMC software download as example to describe the download process. The process of downloading other software is similar.
- 4. Click the **Download the Software** button, and select one MCU in the navigation menu on the right side.
- 5. In the **Slot** pull-down menu, select **EMC**, and click one upgrading program on the page, then click the **Start the Download** button to start downloading the program, shown in the following figure.

ACU:	8900207	Slot: EMC		
Select	File name	Version	Upload time	Board Type
$\overline{\odot}$	8900License.dat		2010-11-05 08:59	EMC

Figure 4-54 Download the software

- 6. During the download the progress bar pops up, then you can also click the **Look up download** button to view the current download status.
- 7. During the upgrade, be patient. Upon the end of upgrade, the EMC upgrading takes effect.
 - End of Steps -

4.5.8 Uploading the board

Steps

1. Click **Regist Software**, then the page shown in the following figure pops up.

MCU Software User	Syslog Version	Conf Exit
Upload Software Down	nload Software Regist Software).	Activate Software
Regist Software		
File Name	Version	Upload time 🔷
ApuMix21.141	141	2010-11-05 14:51
ApuMix22.141	141	2010-11-05 14:51
ApuMix23.141	141	2010-11-05 14:51
ApuMix40.780	780	2010-11-05 14:51
ApuMix55.134	134	2010-11-05 14:51
ApuMix56.133	133	2010-11-05 14:51
ApuMix94.630	630	2010-11-05 14:51
ApuMix97.630	630	2010-11-05 14:51
Bpu32.330	330	2010-11-05 14:51
Bpu33.330	330	2010-11-05 14:51
Bpu40.777	777	2010-11-05 14:51
Eapu60.530	530	2010-11-05 14:51
Eapu61.680	680	2010-11-05 14:51
Eapu62.529	529	2010-11-05 14:51
Eapu96.680	680	2010-11-05 14:51
Egpu04.940	940	2010-11-05 14:51
Egpu60.843	843	2010-11-05 14:51
Femi61 860	860	2010-11-05 14-51
	Update Software)

Figure 4-55 Example of registering the software

- 2. Click the **Upload Software** button, and synchronize the versions of the software and the database.
- 3. Click the **Activate Software** button, and select one MCU in the navigation column on the left side, shown in the following figure.

Figure 4-56 Example of activating the software



- 4. Click the **Start** button to immediately upgrade the board.
 - End of Steps -

4.6 Log Management

Context

A log records the user activities, results, and device running status. Logs are classified into system logs, fault logs, and user logs.

4.6.1 Fault Log

A fault log records the details of various system faults. On the page, click the up or down button of a column to sort the query result in ascending or descending order.

The available query conditions are **Fault type** and **Time**. For example, set **Fault type** to **MCU Disconnected** and **Time** to 2010/07/01. Click **GO**. Then, the system displays the query result, as shown in the following figure.

Figure 4-57 Unhandled Fault Log List

09/27 11:07:02 Mon.	MCU So	ftware User	Syslog Version	Conf Ex	it
Log Management	Fault Log Fault type:	Unhandle Fault	✓ Time:From 20	10/09/01 To 201	0/09/27 GO
Fault log	Fault type 🕈 🖡	Source 🛨 🖡	Time 🛨 🖡	Restore time 主 🖡	Content 🛊 🖡 Who
 System log User log 	Board Fault	MCV:'8900203'(5), S1	ot:11 2010/09/27 10:55:19		Fault invoke
 Net state 	Board Fault	MCV:'8900203'(5), S1	ot:11 2010/09/27 10:47:31		Fault invoke
	Board Fault	MCV:'8900203'(5), Sl	ot:11 2010/09/27 10:31:31		Fault invoke
	Board's CPV Fault	MCU:'8900203'(5), Sl CPU Type:12, CPUNo:1 CPUVer:V0.00	ot:10, 2010/09/27 10:17:32		Fault invoke
	Board's CPU Fault	MCU:'8900203'(5), Sl CPU Type:12, CPUNo:1 CPUVer:V0.00	ot:10, 2010/09/27 10:10:20		Fault invoke
	Board Fault	MCU:'8900203'(5), S1	ot:11 2010/09/27		Fault invoke 🗸

In the above figure, the faults to be handled are displayed with colored frames. The administrator can select a fault to be handled to view its type, source, and occurrence time, as shown in the following figure.

MCU Software User Syslog Version Conf Exit Fault Log Fault type: Board Fault Source: MCU:'8900203' (5), Slot:11 Time: 2010/09/27 10:47:31 Content: Fault invoke Confirm Abandon

In the above figure, click **Confirm** to handle the required fault. If the fault is displayed with a black and while frame, it indicates that the fault is handled. Click **Abandon** to ignore the fault. In this case, the fault is still displayed with a colored frame.

The faults that are already handled are displayed with black and white frames, as shown in the following figure. For these faults, only the occurrence time and handling time are displayed and the administrator cannot view their details.

Figure 4-59 Handled Fault Log List

Figure 4-58 Fault Handling

😑 Fault	Log			
Fault t	ype: Unhandle Fault	💙 Time:From	2010/09/01 To 20	10/09/27 GO
Fault type 🖿 🖣	🖡 Source 🕈 🖡	Time 🕈 🖶	Restore time 🕈 🖡	Content 🛊 🖡 🛛 Who
Board Fault	MCV:'8900203'(5), S	2010/09/27		Fault invoke
		10:47:31		
Board Fault	MCIL' 8900203' (5) S	2010/09/27		Fault invoke
	1100. 0000200 (0), D	10:31:31		I ddi c Invone
	•			

4.6.2 System Log

A system log records the login information of the administrator, information of MCUs, boards, CPUs, and ports reported by MCUs, and key operations of the administrator. You can query logs by **Name** or **Type**.

To query the system logs generated some time before, click **Time**. In the dialog box that is displayed, select the required time segment and click **Go**. The system queries the logs by the set query conditions.

The system displays the query result in the lower right corner of the page. You can click the up or down button of a column to sort the query result in ascending or descending order, as shown in the following figure.

09/27 11:16:48 Mon.	MCU Softw	are User Sy	slog Version	n Conf Exit	
Log Management	System Log	201 0/00/20	7		
Fault log	Time Form: 2010/09/	01 To [2010/09/2	1	Go	
System log	Name:	Type: All	- •-	× -	
a) I Landa	Event 🖿 🗣	Record time 🕈 🖶	Type 🕈 🗣	Content 🕈 🗣	•
• User log	MCV:'8900203'(5)	2010/09/27 11:10:28	config result	sBoard bateway address config success: slotNo: 10.NetNo: 0	
³ Net state	MCV:'8900203'(5)	2010/09/27 11:10:28	Board IP addres config result	sBoard Mask address config success:slotNo: 11,NetNo: 10	
	MCV:'8900203'(5)	2010/09/27 11:10:28	Board IP addres config result	sBoard IP address config success:slotNo: 10,NetNo: 0	
	MCV:'8900203'(5)	2010/09/27 11:10:04	Board IP addres config result	sBoard IP address config failure: slotNo: 11, NetNo:1	
	MCV:'8900203'(5)	2010/09/27 11:10:04	Board IP addres config result	sBoard IP address config failure: slotNo: 11, NetNo:1	
	MCV:'8900203'(5)	2010/09/27 11:10:04	Board IP addres config result	sBoard IP address config failure: slotNo: 11,NetNo:1	
	MCV:'8900203'(5)	2010/09/27 11:10:04	Board IP addres config result	sBoard IP address config failure: slotNo: 11, NetNo:O	
	MCV:'8900203'(5)	2010/09/27 11:10:04	Board IP addres config result	sBoard IP address config failure: slotNo: 11, NetNo:0 ZTE Multimodia Sanuica Con	► Nor

Figure 4-60 System Log

4.6.3 User Log

A user log records login and exit operations of a user. Choose **Syslog > User log** from the main menu. The **User Log** page is displayed, as shown in the following figure.

Figure 4-61 User Log

09/27 11:17:14 Mon.	MCU	Software	User	S	yslog	Version	Con	f <u>Exit</u>	
Log Management	O User	Log							
(a) Thursda in a	U	Iser name:		1	Fime: From	n 2010/09/01	To	2010/09/27	60
 Fault log 	Source 🕈 🖶	Ti	ne 會 🐺		Even	t≢∓	Content	t∓	
System log	User:'admin	201	0/09/27	11:06:40) Vser	login	Login		
Ilser los	User:'admin	201	0/09/27 :	10:54:33	3 User	login	Login		
d m	Vser∶'admin	201	0/09/27 :	10:50:29	9 Vser	login	Login		
🥩 Net state	User:'admin	201	0/09/27	10:48:21	7 User	login	Login		
	User:'admin	201	0/09/27 :	10:48:22	2 User	login	Login		
	User∶'admin	201	0/09/27 :	10:46:41	1 User	login	Login		
	Vser∶′admin	201	0/09/27 :	10:44:12	2 User	login	Login		
	User:'admin	201	0/09/27	10:39:15	5 User	login	Login		
	User∶′admin	201	0/09/27 :	10:38:54	4 Vser	login	Login		
	User:'admin	201	0/09/27	10:35:34	4 User	login	Login		
	User:'admin	201	0/09/27 :	10:34:23	3 User	login	Login		
	User:'admin	201	0/09/27 :	10:31:11	1 User	login	Login		
	Vser∶′admin	201	0/09/27 :	10:19:05	5 Vser	login	Login		
	User:'admin	201	0/09/27	10:11:51	l User	login	Login		
	Vser∶'admin	201	0/09/27	10:10:55	5 Vser	login	Login		
	User:'admin	201	0/09/27	10:00:45	5 User	login	Login		

To query the user logs generated some time before, click **Time**. In the dialog box that is displayed, select the required time segment and click **Go**. The system queries the logs by the set query conditions. The system displays the query result in the lower right corner of the page. You can click the up or down button of a column to sort the query result in ascending or descending order.

4.7 System Help

If you meet some problem or are unfamiliar with the steps during operations, you can get touch with ZTE corporation.

4.8 Exiting the System

Context

After the required operations are performed or you need to leave, exit the system.

Steps

1. Choose **Exit** from the main menu. A dialog box is displayed, as shown in the following figure.

Figure 4-62 System Exit Confirmation Dialog Box

Licrosoft Internet Explorer 🔀
Are you sure to exit?
OK Cancel

- 2. Click OK to exit.
 - End of Steps -

Appendix A Common Problems of Web Server

Table of Contents

Failed Login to Web Page	A-1
Failed Login After Web Page Displayed	A-2
Web Page Error	A-2
Failed Software Uploading	A-2
Failed Software Downloading	A-3
Disconnection from MC	A-3
• Failed Flash Display	A-3
Inconsistent MCU States	A-4
NMS Server Error	A-5

A.1 Failed Login to Web Page

Fault Symptom

After the ZXMS80 NMS Webserver is installed, the Web page fails to be accessed.

Fault Analysis

The service is not started or the Web page is conflicted.

Fault Handling

- Check whether the ZXMS80 NMS Webserver is started.
- Check whether the Name Server is started.
- If the above servers are all started, restart them and try again.
- If this problem still persists after restart, the port used by the NMS Webserver conflicts with a program. In this case, you need to re-configure the port.

A.2 Failed Login After Web Page Displayed

Fault Symptom

The Web page is displayed but login to the system fails.

Fault Analysis

The NMS Server is not started.

Fault Handling

- Check whether the NMS Server is started.
- If yes, restart the NMS Server and try again.
- If this problem persists, restart the ZXMS80 Web service.

A.3 Web Page Error

Fault Symptom

An error occurs during the operation of Web pages.

Fault Analysis

The Web page is not refreshed and the NMS Server is stopped abnormally.

Fault Handling

- Refresh the Web page.
- If this problem persists, restart the ZXMS80 NMS Webserver service.
- If this problem still persists, the ZXMS80 NMS Server works abnormally. In this case, restore its working status or restart the NMS Server.

A.4 Failed Software Uploading

Fault Symptom

Software uploading fails.

Fault Analysis

The link is disconnected or the connection between the NMS Webserver and the database is abnormal.

Fault Handling

Check whether the uploaded file exists in the $\dots/upload$ directory. If not, it indicates that the link is disconnected during software uploading. In this case, upload the file again. If the

file exists but the Web page still prompts the error, the connection between the Webserver and the database may be abnormal. In this case, restart the database and upload the file again.

A.5 Failed Software Downloading

Fault Symptom

Software downloading fails.

Fault Analysis

Find the cause by viewing the NMS Server log file.

- 201 indicates that FTP login fails.
- 202 indicates that the required file is not found.

Fault Handling

- Check whether the FTP service is started.
- Check whether the FTP path is set according to requirements.
- Check the NMSConfig.ini in the NMS Server and check whether the IP address of the SoftwareAddr is correct.

After that, try again.

A.6 Disconnection from MC

Fault Symptom

An error occurs during the operation of Web pages, which indicates that the connection to the MC is disconnected.

Fault Analysis

The communication between the MC and ZXMS80 NMS Server is abnormal.

Fault Handling

Check whether the network connection between the ZXMS80 NMS Server and MC is disconnected. In addition, check whether the MC works normally.

A.7 Failed Flash Display

Fault Symptom

During login, the system displays a security alarm.

Fault Handling

On the page, click Yes.

A.8 Inconsistent MCU States

Fault Symptom

During operations on the NMS Web page, the MCU state is inconsistent with the actual state. Moreover, the MCU states in **Control MCU**, **Diagnose MCU**, and **Version** are different from each other.

Fault Analysis

The IE browser saves temporary files and history records, and does not query data from the NMS Webserver sometimes.

Fault Handling

Clear the temporary files and history records of the IE browser.

1. Open the IE browser and choose **Tools > Internet Properties** from the main menu. The **Internet Properties** dialog box is displayed, as shown in the following figure.

Internet	Properties
General	Security Privacy Content Connections Programs Advanced
Home	page
	You can change which page to use for your home page.
	Address: about:blank
	Use Current Use Default Use Blank
Temp	orary Internet files
	Pages you view on the Internet are stored in a special folder for quick viewing later.
	Delete Conkies Delete Files Settings
Histor	The History folder contains links to pages you've visited for
	quick access to recently viewed pages.
	Days to keep pages in history: 20 📚 Clear History
Co	lors Fonts Languages Accessibility

Figure A-1 Internet Properties Dialog Box

2. Click **Delete Files** and **Clear History**, and then click **OK**.

A.9 NMS Server Error

Fault Symptom

After the NMS Server is disconnected from the MC normally, the board status of the MCU is **disconnected**.

Fault Analysis

The communication between the MC and MP is abnormal.

Fault Handling

- 1. Check whether the connection between the MC and MP is normal.
- 2. Check whether the slot configuration in the MCU template is the same as that of the actual MCU.
- 3. If not, make the slot configurations consistent. The boards that are not configured in the MCU template can exist in the slots but the boards that are configured in the MCU template must exist in the slots. Ensure that the board type corresponds to the slot.

A-6

Figures

Figure 1-1	Layers and Structures of ZXMS80	1-2
Figure 1-2	Components of ZXMS80 Network Management System	1-2
Figure 1-3	Networking of Network Management System	1-3
Figure 1-4	Functional Bar of Network Management System	1-3
Figure 4-1	Initial Page	4-1
Figure 4-2	ZXMS80 Network Management System	4-2
Figure 4-3	MCU Management Menus	4-3
Figure 4-4	Configuration Page of MCU	4-3
Figure 4-5	Adding an MCU	4-4
Figure 4-6	Deleting and Modifying MCU-Backup Setting	4-6
Figure 4-7	Basic MCU Configuration Operation-Downloading Backup Setting	4-7
Figure 4-8	Example of Viewing the Active Settings of an MCU	4-8
Figure 4-9	MCU Slot Configuration	4-9
Figure 4-10	Configuration Page of APU Board	4-10
Figure 4-11	Configuration Page of NILAN/ENIL Board	4-11
Figure 4-12	Configuration Page of ENPU Board	4-12
Figure 4-13	MCU Board Configuration-Downloading Backup Setting	4-14
Figure 4-14	Configuration Page of MCU Board	4-15
Figure 4-15	Adding a Terminal	4-16
Figure 4-16	Example of Adding a Terminal	4-17
Figure 4-17	Viewing Settings of the Current Terminal	4-17
Figure 4-18	Controlling an MCU	4-18
Figure 4-19	Diagnosing MCU	4-19
Figure 4-20	CPU Diagnosis Example	4-19
Figure 4-21	EAPU Diagnosis Loopback	4-20
Figure 4-22	Principle of Level-1 Audio Loopback on EAPU Board	4-20
Figure 4-23	Principle of Level-2 Audio Loopback on EAPU Board	4-21
Figure 4-24	Principle of Level-3 Audio Loopback on EAPU Board	4-21
Figure 4-25	Principle of Level-1 Audio Mix Loopback on EAPU Board	4-22
Figure 4-26	Principle of Level-2 Audio Mix Loopback on EAPU Board	4-22
Figure 4-27	APUMIX Diagnosis Loopback	4-23
Figure 4-28	Principle of Level-1 Loopback on APUMIX Board	4-23

ZTE中兴

Figure 4-29	Principle of Level-2 Loopback on APUMIX Board	
Figure 4-30	NILAN Diagnosis Loopback	
Figure 4-31	Principle of RTP_HPI (UDP) Loopback on NILAN Board	
Figure 4-32	Principle of RTP_NOHW (RTP) Loopback on NILAN Board	
Figure 4-33	Principle of RTP_VHW (Video) Loopback on NILAN Board	
Figure 4-34	Principle of RTP_AHW (Audio) Loopback on NILAN Board	
Figure 4-35	ENIL Diagnosis Loopback	
Figure 4-36	Principle of 8260 Network Port Loopback on ENIL Board	
Figure 4-37	Principle of 8260FIFO Loopback on ENIL Board	
Figure 4-38	Principle of C6202FIFO Loopback on ENIL Board	
Figure 4-39	Principle of Video Loopback on ENIL Board	
Figure 4-40	Principle of Audio Loopback on ENIL Board	
Figure 4-41	Principle of HW Loopback on ENIL Board	4-31
Figure 4-42	Principle of FPGA Loopback on ENIL Board	
Figure 4-43	Adding a User	
Figure 4-44	Modifying User Information	
Figure 4-45	Uploading Software	
Figure 4-46	File Selection Dialog Box	
Figure 4-47	Downloading Software	
Figure 4-48	Registration Software	
Figure 4-49	Activating the Software	
Figure 4-50	Viewing Version Information	
Figure 4-51	Upload the License File	
Figure 4-52	Progress Bar Display	
Figure 4-53	Upload the license file	4-41
Figure 4-54	Download the software	4-42
Figure 4-55	Example of registering the software	
Figure 4-56	Example of activating the software	
Figure 4-57	Unhandled Fault Log List	
Figure 4-58	Fault Handling	
Figure 4-59	Handled Fault Log List	
Figure 4-60	System Log	
Figure 4-61	User Log	
Figure 4-62	System Exit Confirmation Dialog Box	
Figure A-1	Internet Properties Dialog Box	A-4

Tables

Table 4-1	Main Page Description	. 4-2
Table 4-2	Adding an MCU	. 4-4
Table 4-3	Boards Supported by Slots of ZXMVC 8900	. 4-9
Table 4-4	Adding a User	4-32

Glossary

CORBA

- Common Object Request Broker Architecture

DB

- DataBase

MCU

- Multipoint Control Unit

NMS

- Network Management System

SQL

- Structured Query Language

ZXMS

- ZhongXing Multimedia Service management system