InnoMedia MGCP MTA 6328-1e2S Administrator's Guide

October 2006

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About This Document

Welcome to InnoMedia MGCP MTA 6328-1e2S Administrator's Guide. The purpose of this manual is to give system integrators and service operators detailed reference information on MTA commands necessary for unit's configuration and provisioning.

This document has the following chapters:

Chapter 1, MTA 6328-1e2S Internal Port Setup, provides step-by-step instructions for installing the MTA 6328-1e2S system and setting up the IP addresses of your computer.

Chapter 2, MTA 6328-1e2S Configuration, describes how to configure MTA 6328-1e2S via a web interface and a command line interface.

Chapter 3, MTA 6328-1e2S Firmware Updates, describes the procedure for uploading MTA 6328-1e2S firmware through a web interface, an external TFTP server or HTTP server to the unit.

Chapter 1
MTA 6328-1e2S Internal Port Setup

Overview

This chapter provides step-by-step instructions for setting up MTA 6328-1e2S.

Hardware Installation Steps

Do the following steps to connect your PC to a the MTA:

NOTE: You will need to use a PC that has an Internet browser and a network interface card (NIC) properly installed.

Table 1. Hardware Installation Steps

Step	*Action*
1	Using a network cable, connect your PC's NIC to the MTA's **LAN 1** or **LAN 2** port.
2	Connect the included power adapter to the port marked **12V DC** on the back of the MTA.
3	Wait until the MTA is completely initialized. You will know that the MTA is ready when the RUN light is solid green.

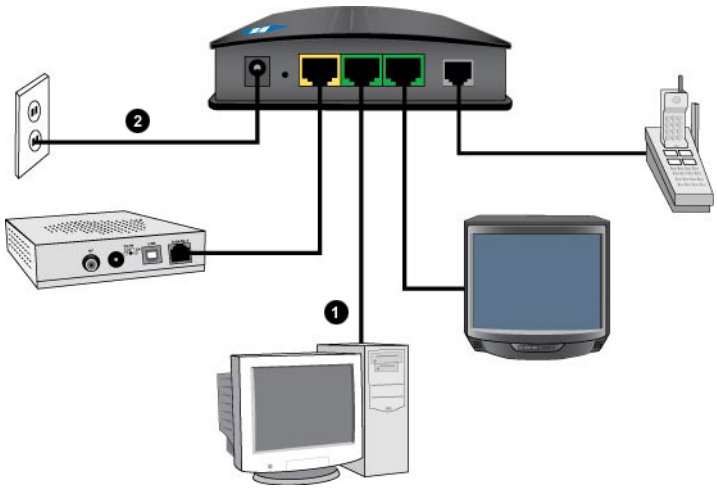

Figure 1. Hardware Installation Steps

NOTE: If you want to connect another PC to the MTA 6328-1e2S, you may connect it to LAN 2.

Setting up Your Computer

Configuring the Internal Port

Your MTA 6328-1e2S's LAN side is factory set to a static IP address of 192.168.99.1. Hook up a PC to your MTA and follow these steps to configure the IP settings. This will configure the internal port which communicates to your PC through a network cable.

We recommend that you refer to your Operating System manual to do this. An example of how to do this with Windows XP appears below:

NOTE: The procedure may be different because of your computer settings.

Table 2. Procedure for Setting up Your Computer

Step	*Action*
1	Click Start on your Taskbar.
2	Click Control panel. **NOTE**: If you are using XP professional, click Settings.
3	Click Network Connections.
4	Right mouse click on Local Area Connection (See Figure 2. Setting up Your Computer – Local Area Connections).
5	Choose Properties.

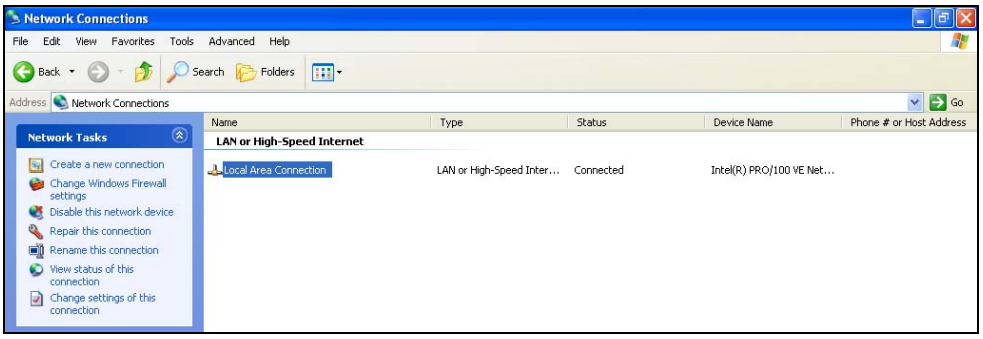

Figure 2. Setting up Your Computer – Local Area Connections

Table 3. Setting up Your Computer

Step	*Action*
6	Double Click on Internet Protocol (TCP/IP) (See Figure 3 Setting up Your Computer - Local Area Connection Properties).
7	Write down the current settings before making any changes in case you need to restore your original settings.
8	Enter an IP address that is within the same subnet as your MTA. The MTA has a default of 192.168.99.1 so if you enter 192.168.99.5, you should have no problem connecting to the MTA (See Figure 4 Setting up Your Computer - Using the Static IP Address).
9	Enter 255.255.255.0 as your subnet mask.
10	Enter 192.168.99.1 as your default gateway IP.
12	Leave the DNS information as is.
13	Click OK.

14	Verify this by typing "ipconfig" at the command prompt. Your PC should have an IP address 192.168.99.5.

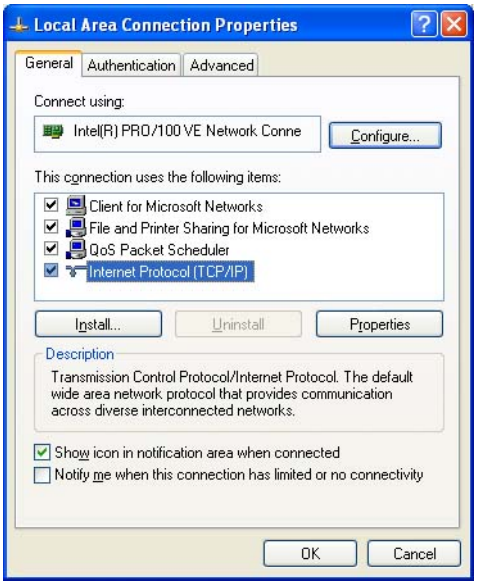

Figure 3 Setting up Your Computer - Local Area Connection Properties

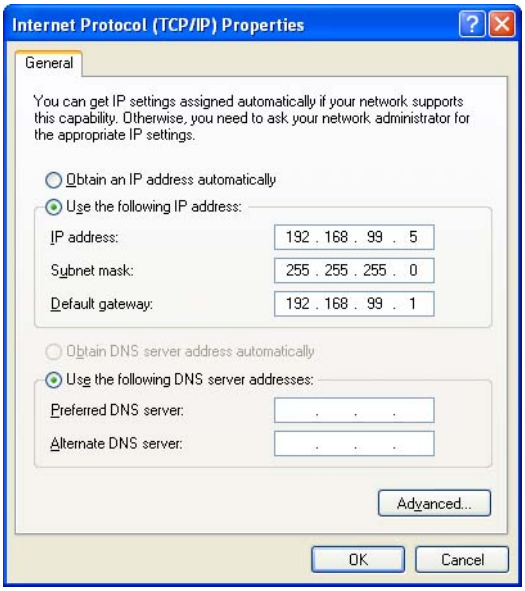

Figure 4 Setting up Your Computer - Using the Static IP Address

Chapter 2
MTA 6328-1e2S Configuration

Overview

Setup and configuration of the MTA 6328-1e2S can be managed via a Web Browser interface and a command line interface. In order to access these interfaces, your PC must be configured properly as outlined previously in Chapter 1. If you have not completed the steps outlined in Chapter 1, please do so before proceeding to the following.

- The MTA 6328-1e2S needs two IP addresses, one is for WAN (External Port) and one is for LAN (Internal Port). The internal port has already been configured. The IP address used by the "WAN" is the IP assigned by your ISP. This address can be either a dynamic or a static IP.

At this point you need to know which method is used for your connection. You will need to know this before you can proceed with configuring the MTA 6328-1e2S.

Configuring MTA 6328-1e2S via Web User Interface

Logging In

To login the Web User Main page, follow these steps:

NOTE: The following instruction is assuming you have LAN connection (that is connecting MTA via the LAN port).

Table 4. Web User Interface - Logging in

Step	*Action*
1	Open your web browser and enter the IP address of the MTA. 192.168.99.1 is the default address. The Login Dialogue Box as shown in Figure 5 appears.
2	Enter your Username and Password. **NOTE:** The default Username is "Admin" and Password is "adminpass". For security reason, it is recommended to change the default Administrator ID and Password after initial login. See 13 for details.

Figure 5. MTA 6328-1e2S Login Dialogue Box

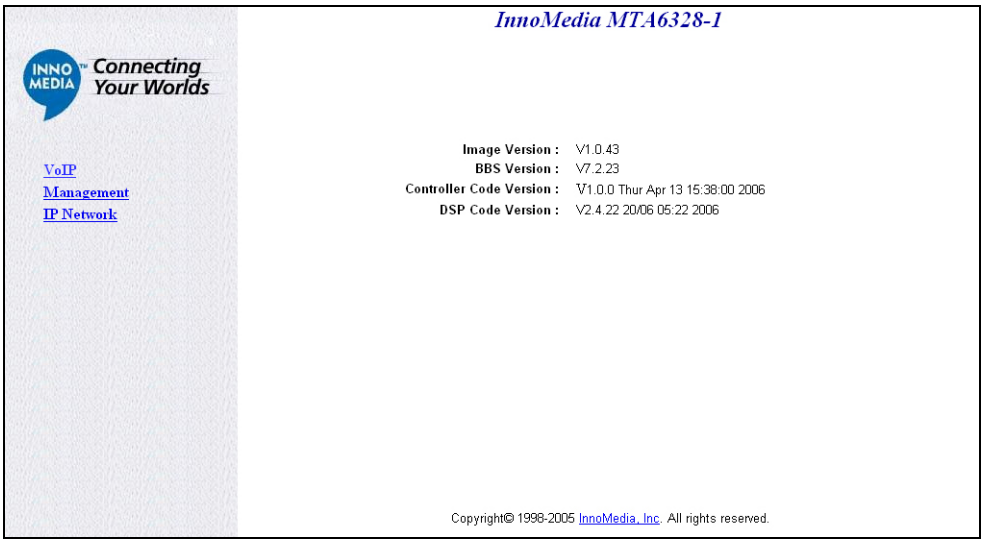

Figure 6. MTA 6328-1e2S Web User Interface - Main Page

IP Network Settings

Configuring Interface Settings

The IP address used by the "WAN" is the IP assigned by your ISP, MTA can either use a static assigned IP or get an IP dynamically by using DHCP. The default setting is DHCP.

To configure the interface settings, follow these steps:

Table 5. Configuring Interface Settings

Step	*Action*
1	Open your web browser and connect to your MTA at http://192.168.99.1 .
2	Click on IP Network, then Interface Setting.
3	If you choose to use DHCP, then click the check box, otherwise, enter your IP address, Subnet Mask, Default Gateway, DNS (if available), and FQDN (Name of unit). This information should be supplied by your ISP or network administrator.
4	Click Save & Reboot to save your changes, or click the Reset button to undo your changes.

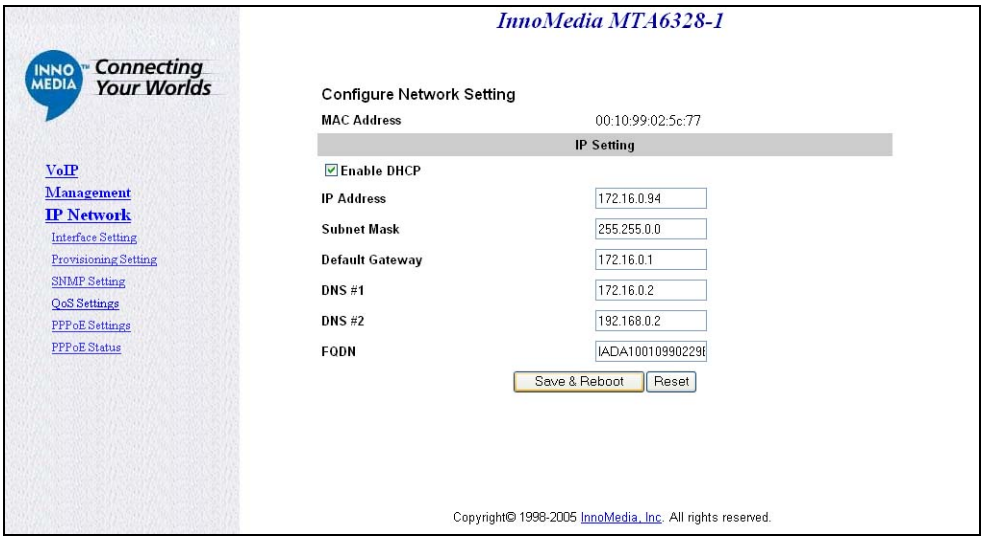

Figure 7. Configuring Network Settings

Configuring Provisioning Settings

If you would like to use a provisioning server to provision your MTA, you will need to configure the provisioning settings on your MTA. To configure the provisioning settings, follow these steps:

NOTE: Web interface only allows you to configure some basic provisioning settings. Please refer to the Telnet interface section to finish configuring the provisioning settings for your MTA.

Table 6. Configuring Provisioning Settings

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on IP Network, then Provisioning Setting.
3	Check the option box to enable the provisioning function.
4	Enter the DNS or the IP address of your provisioning server.
5	Enter the port number of your provisioning server.
6	Click Save & Reboot to save your changes, or click the Reset button to undo your changes.

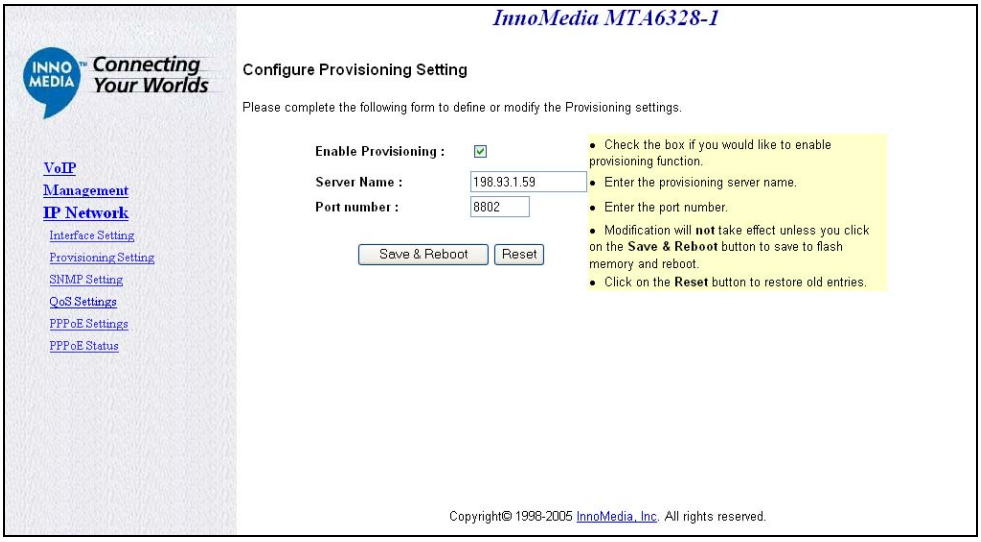

Figure 8. Configuring Provision Settings

Configuring SNMP Settings

If you want to use a SNMP Manager to monitor your MTA, you must configure the MTA SNMP settings. To configure SNMP settings, follow these steps:

Table 7. Configuring SNMP Settings

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on IP Network, then SNMP Setting.
3	Enter the SNMP Manager Address where the SNMP software is installed.
4	Enter the SNMP Community Name #1. It must match the string configured on your SNMP server. By default, SNMP community #1 is a read-only community string for SNMP Get- request.
5	Enter in the SNMP Community Name #2. It must match the string configured on your SNMP server. By default, SNMP community #2 is a read-write community string for SNMP Set-request.
6	Click Save & Reboot to save your changes, or click the Reset button to undo your changes.

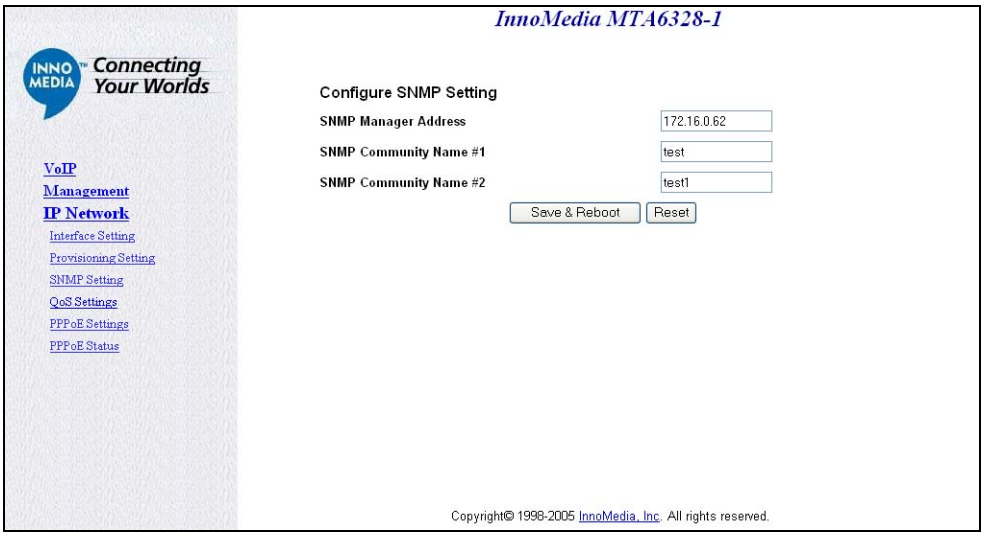

Figure 9. Configuring SNMP Setting

Configuring QoS Settings

QoS Settings allow the user to designate the amount of bandwidth available on the uplink ports of the MTA. When the QoS is enabled, the voice packets have higher priority over data packets. In addition, by enabling the ToS (Type of Service) control, you can change the LAN1, LAN2, and CPE ToS values to allow packets that pass through network devices have their relative priorities differentiated from one another.

To configure the QoS Settings, follow these steps:

Table 8. Configuring QoS Settings

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on IP Network, then QoS Settings.
3	Check the option box to enable Data Bandwidth Control.
4	Enter the maximum WAN uplink speed in the field. The maximum bandwidth can accept values up to 100000.
5	Check the option box and enter the values in the fields if you want to enable LAN1 and ToS control. **NOTE** The value field is not case sensitive and uses hex notification. You can enter any two-digit value between 00 to ff in the field.
6	Check the option box and enter the values in the fields if you want to enable Voice ToS control for each channel. **NOTE** It is recommended to set a higher value for Voice because it involves RTP packets. The precedence bit = 7.
7	Click the option box to enable WAN port VLAN setting
8	Click the option box to enable the WAN port Priority Mapping feature.
9	Enter the WAN port Traffic VLAN ID and Priority values in the fields.
10	MTA Voice Traffic VLAN ID and priority values in the field.

11	Check the option box if you want to enable the LAN port VLAN Setting.
12	Check the option box if you want to enable the LAN port priority Mapping feature.
13	Enter the LAN port traffic VLAN ID in the field.
14	Enter the LAN port Traffic Priority value in the field.
15	Click Save to save your changes, or click the Reset button to undo your changes.

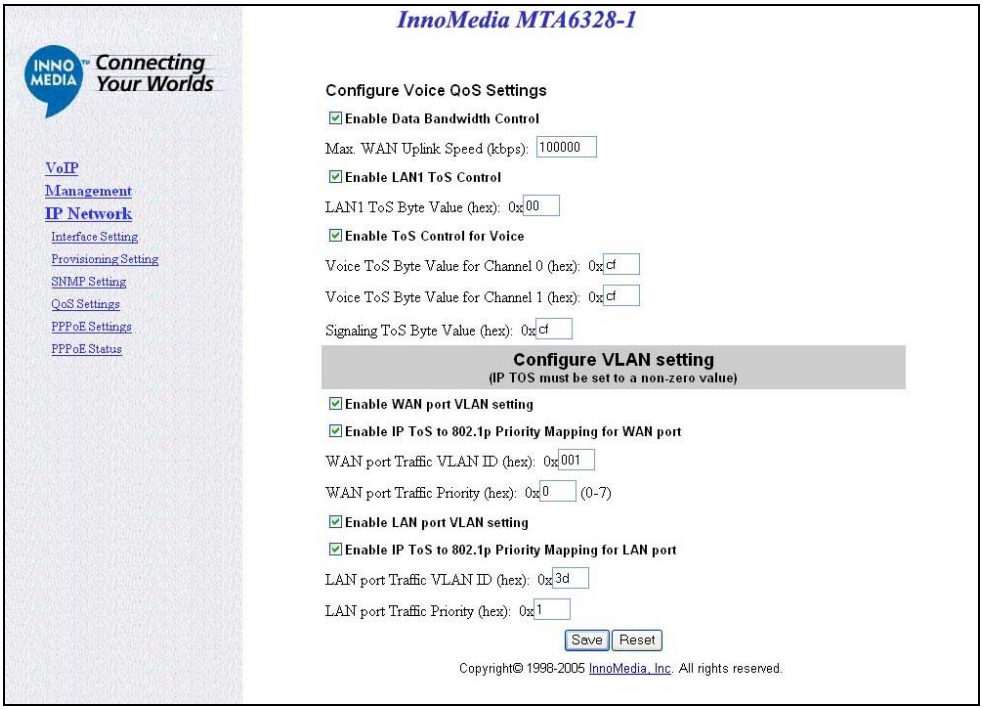

Figure 10. Configuring QoS Settings.

Configuring PPPoE Settings

If your ISP provides your external IP address using PPPoE, then you will need to configure your MTA 6328-1e2S so that it will be able to establish a PPPoE connection. To configure PPPoE settings, follow these steps:

Table 9. Configuring PPPoE settings

Step	***Action***
1	Open your web browser and connect to your MTA.
2	Click on IP Network, then PPPoE Settings.
3	Click Enable PPPoE to enable the service.
4	Check Auto Connect When System Boots up if you would like to connect to PPPoE server automatically when the system boots up.
5	Enter your Service ID if provided by your ISP. Otherwise, leave this field blank.
6	Enter your User ID, sometimes referred to as Username.
7	Enter your Password.
8	Choose the Authentication Protocol.
9	Enter the idle time out in minutes. Entering 0 means the link is

	connected all the time.
10	Click Save & Reboot to save your changes, or click the Reset button to undo your changes.

NOTE: If you are using a static IP, refer to IP Network Settings on page 11 to disable DHCP and configure your IP information. Your ISP will supply you with your IP information, User ID, Password, and Authentication Protocol.

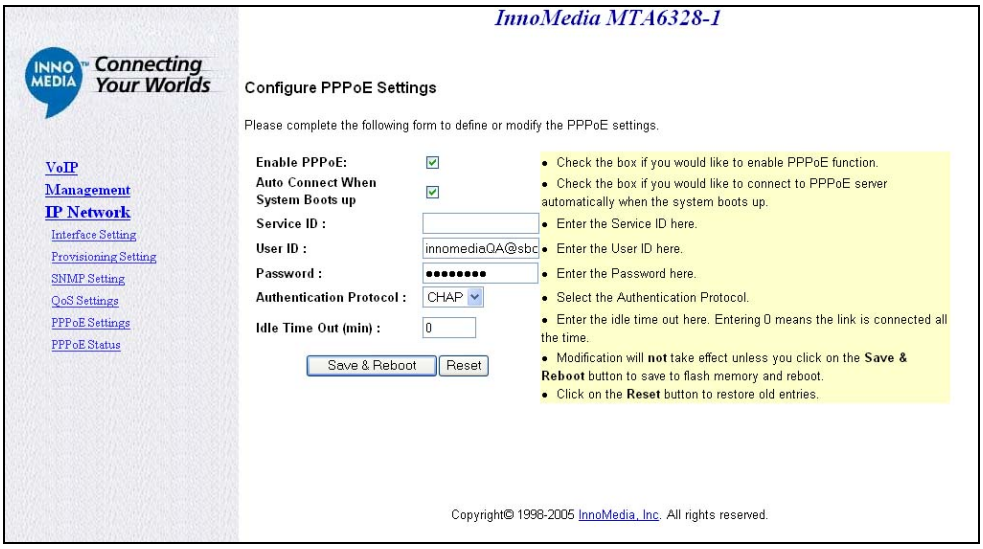

Figure 11. Configuring PPPoE settings

PPPoE Status

The PPPoE Status link allows you to manage your connection with your broadband service provider. When you power on your MTA, it normally will auto-connect to your broadband service provider using PPPoE. If you ever wish to manually disconnect and/or reconnect to your Internet connection, simply click the appropriate button on the PPPoE Status page.

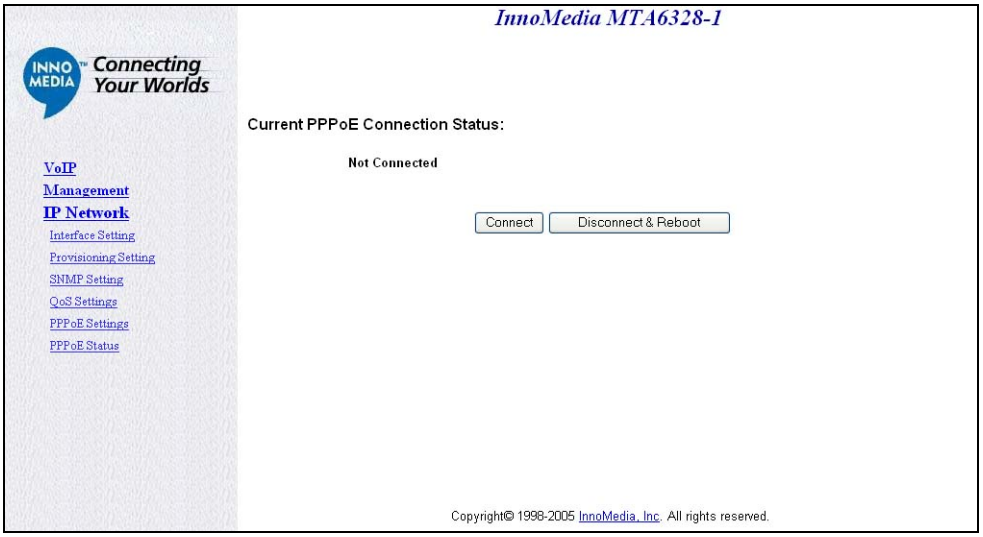

Figure 12. Current PPPoE Connection Status

Management

Changing Administrator ID and Password

To change your Administrator ID and Password, follow these steps:

Table 10. Changing Administrator ID and Password

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on Management, then Administrator.
3	Enter the new Administrator ID you wish to use.
4	Enter the new password in New Password field
5	Reenter your new password in Confirm Password field.
6	Click Update to save your new ID and Password or click the Restore button to undo your changes.

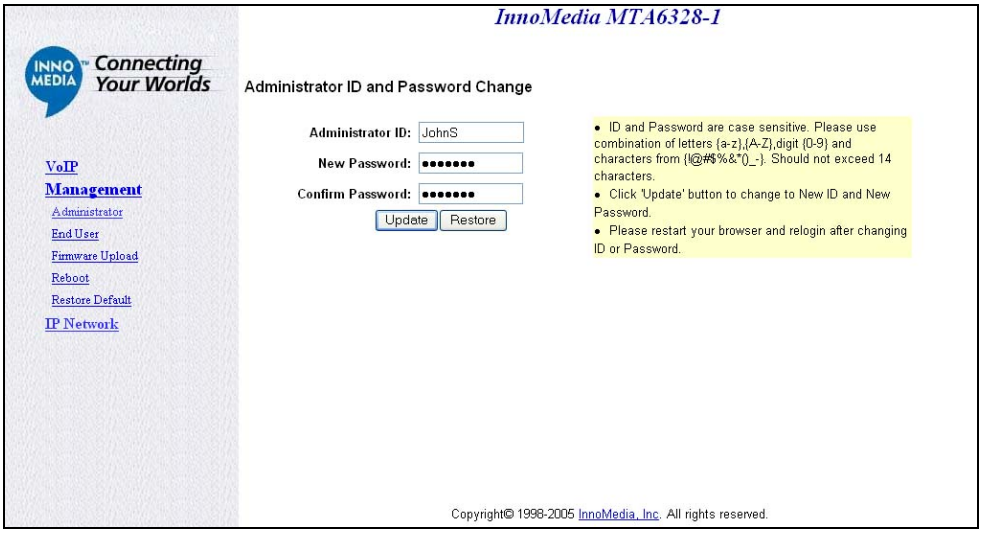

Figure 13. Changing Administrator ID and Password

Changing End User ID and Password

To change the end user ID and Password, follow these steps:

Table 11. Changing End User ID and Password

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on Management, then End User.
3	Enter the New End User ID for user to access the MTA.
4	Enter the new password in New Password field
5	Reenter your new password in Confirm Password field.
6	Click Update to save your new ID and Password or click the Restore button to undo your changes.

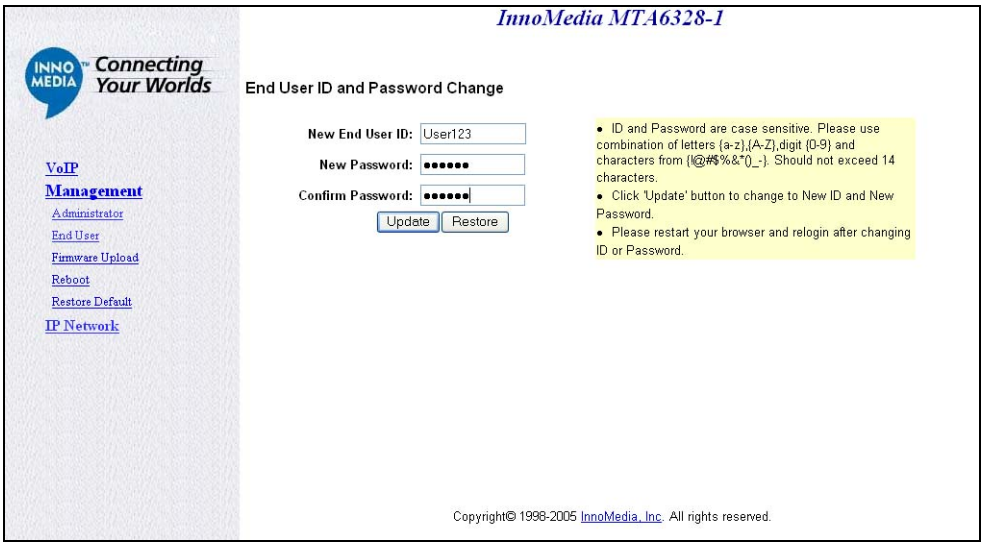

Figure 14. Changing End User ID and Password

Rebooting MTA 6328-1e2S

To reboot your MTA 6328-1e2S, follow these steps:

Table 12. Rebooting MTA 6328-1e2S

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click on Management, then Reboot.
3	Click OK to reboot the MTA, or Cancel if you do not want to Reboot at this time.

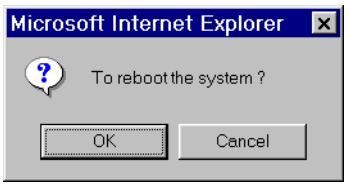

Figure 15. Rebooting MTA 6328-1e2S

Restoring Default Values

To restore default settings, follow these steps:

CAUTION: All Web-based management settings and parameters will be restored to their default values. This includes the administrator password; a user-specified password will no longer be valid. The default User Name and Password are "Admin" and "adminpass" respectively for the administrator account; "User" and "userpass" for the end user account.

Table 13. Restoring Default Values

Step	*Action*
1	Open your web browser and connect to your MTA (See Logging In on page 9 for more details).
2	Click on Management, then Restore Default.

3	Click OK to restore factory default or Cancel if you do not want to do it at this time.

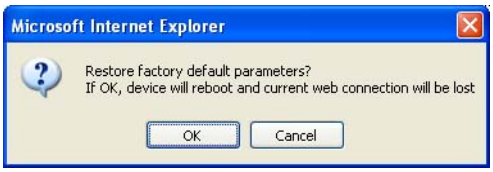

Figure 16. Restoring MTA 6328-Re to Factory Default

VoIP Settings

Configuring Call Agent Settings

To configure the Call Agent Settings, follow these steps:

Table 14. Configuring Call Agent Settings

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click VoIP, and then Call Agent.
3	Enter the IP address of your Primary and Secondary Call Agent.
4	Enter the Call Agent UDP port number.
5	Enter MTA Signaling UDP port number. The default is 2427.
6	Enter MTA RTP port number. The default is 6024. RTP port number has to be an even number with a range of 1024 to 65535 and not equal to the MGCP signaling port.
7	Click Save to save the settings to the MTA, or click the Reset button to restore the old entries.

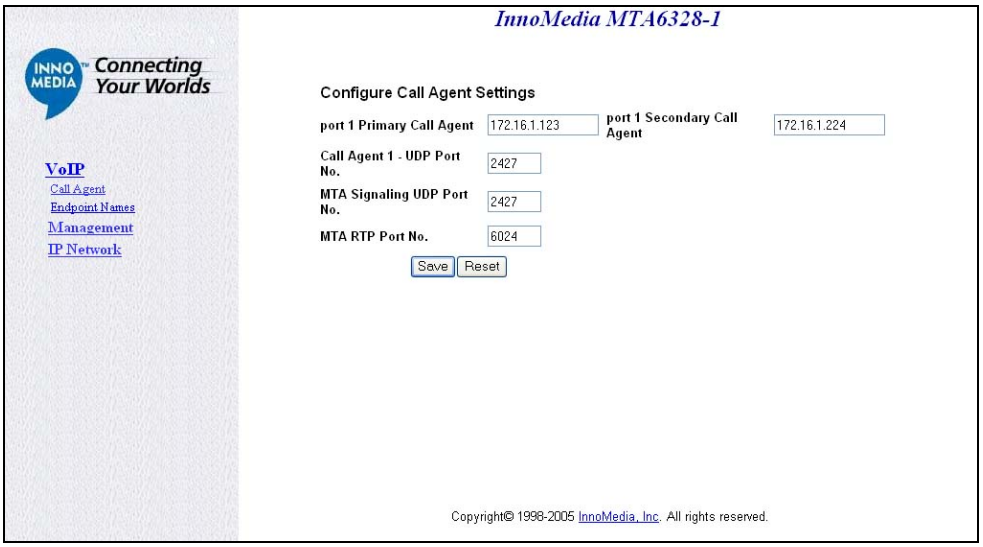

Figure 17. Configuring Call Agent Settings

Configuring Endpoint Names

The endpoint names can be either configured explicitly or automatically created by the MTA. To configure endpoint names follow these steps:

Table 15. Configuring Endpoint Names

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Click VoIP, and then Endpoint Names.
3	Select Automatic if you want the MTA using the IP address or FQDN to create the endpoint names (format: aaln/0 or aaln/1@[ip or FQDN). Otherwise, select Explicit and type the endpoint names in the fields. **NOTE:** Explicit supports up to 128 alphanumeric characters. If end point is explicitly configured, it must match with the ones defined in the call agent configuration. Otherwise, the call agent will reject the unknown end points.
4	Click Save to save the settings to the MTA, or click the Reset button to restore the old entries.

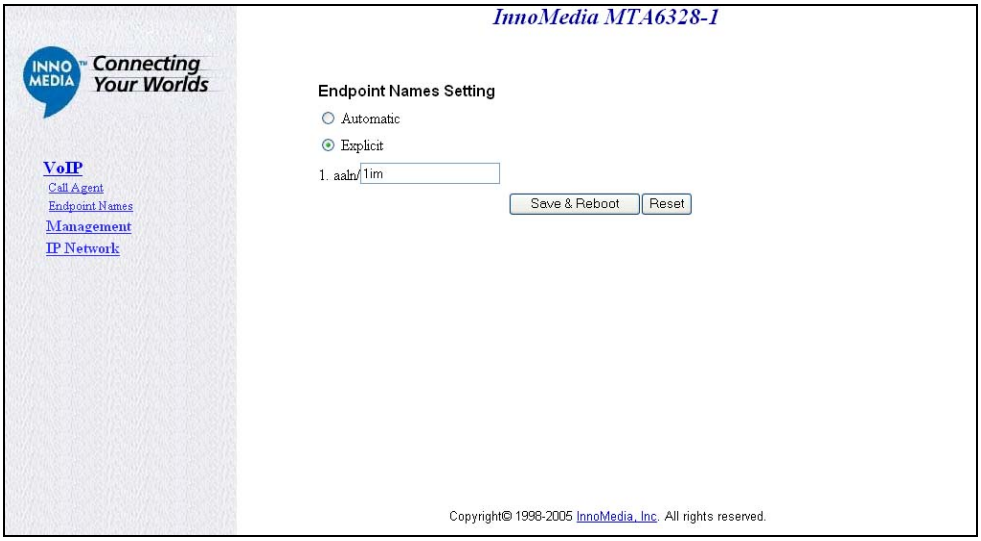

Figure 18. Configuring Endpoint Name Setting

Configuring MTA 6328-1e2S via Telnet/ HyperTerminal Interface

Overview

MTA 6328-1e2S can also be configured via a TCP/IP interface, such as Telnet or a terminal emulation program. The following instructions are for use with a terminal emulation program.

Before You Begin

1. Make sure you have performed the steps outlined in the "Setting up your computer" section in Chapter 1.

2. Connect your PC to MTA's internal port (LAN port).

3. Telnet to MTA

If your are using MS-DOS Prompt window

1. From a windows machine open a Dos command prompt.
2. Type in Telnet 192.168.99.1 (or the IP address of your MTA), then press enter.

If you are using HyperTerminal:

1. Open the HyperTerminal application on your PC.
2. Select TCP/IP from the Connect using field's drop-down menu.
3. Enter the IP address 192.168.99.1 (or the IP address of your MTA) and port number '23' in the fields.
4. Click OK.

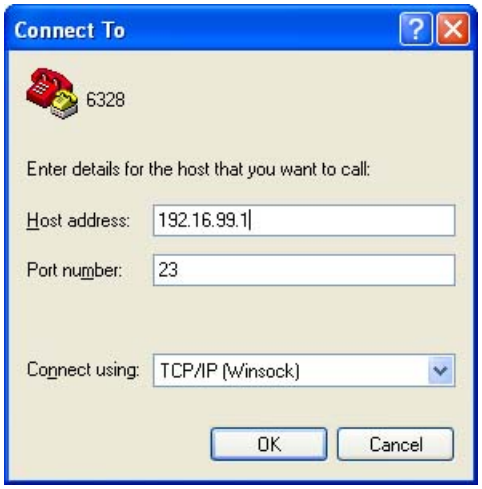

Figure 19. Configuring Your MTA via HyperTerminal-Properties

Logging In

Help (H)

Command "H" prompts for Username and Password for users to login and also displays a list of the MTA commands.

SAMPLE:

```
H
Enter Username:          Admin
Enter Password:          adminpass
Help
C:  Configuration: IP
    Cf: Get the current IP Information
    Ci: Re-Configure the IP Information
    Cv: Configure VLAN Setting
    Cw: Change password
    Cx: Configuring EMS
    Ik: Display DMS parameters

    M0: Show MTA SNTP time
    M1: Configure NTP server
    M2: Configure log server
    M3: Show syslog
    M4: Signal default timeout configure
    Ma: RFC2833 control
    Mb: System alive time
    Mc: Information of Call agent ID and port
    Md: Dynamic playtype setting
    Me: Information of control parameters
    Mf: Flash_Hook_timer_Setting
    Mg: Voice_Service_Control
    Mj: Information of Jitter Buffer Size, Bandwidth Parms
    Mk: MGCP local ports configuration
    Ml: Information of Line parameters
    Mm: Authentication for CNC
    Mn: Information of IP Information
    Mq: Dummy packet timer setting
    Mp: Configure phone lines
    Mr: Configure the voice volume
    Mt: Test SNMP trap message
    Mv: Information of VLAN Setting
    Mu: Setting endpoint start index
    Mx: Configure the endpointname
    P:  Ping
    Qr: Manually Vsp security provisioning
    Qv: Vsp security provisioning shell
    R:  Reset system
```

Viewing the Current IP Information (Cf)

Use the "**Cf**" command to view the current IP information. The configuration data shown below is an example.

SAMPLE:

```
Cf

Your current configuration:
Ether Address          = 00:10:99:02:5c:77;
You are using DHCP.
Local IP               = 10.0.0.94;
Local IP Mask          = 255.255.0.0;
Local Default GW IP    = 10.0.0.1;
Local Default GW Mask  = 255.255.0.0;
Primary DNS Server IP  = 10.0.0.2;
Your MTA's FQDN        = 100109902CA87.INNOMEDIA.COM
System Enable Provisioning Process = FALSE;

Virtual device :
IP address                = 192.168.99.1
Subnet mask               = 255.255.255.0
Gateway IP address        = 192.168.99.1
```

Configuring IP Information (Ci)

The "**Ci**" command is used to configure the IP information such as IP address, default Gateway IP address, DNS server IP address or call agent IP address. In addition, you may modify other host settings as described later in this document. Reboot the MTA when you finish the configuration.

Using DHCP

SAMPLE

```
Ci

Do you use DHCP to get dynamic IP address and IP mask? [y/n]
y
Use DHCP to get dynamic IP address, subnet mask and default
gateway's IP.

Do you want to store the changes permanently?[y/n]y
Please wait for flash update...
```

Using Static IP

SAMPLE:

```
Ci

Do you use DHCP to get dynamic IP address and IP mask? [y/n]
n
Please enter the Gateway FQDN :
```

```
Input name is :
Please enter your IP address...
Example: 192.45.6.4
10.0.0.71
IP address entered: 10.0.0.71
Please enter your IP Mask...
255.255.255.0
IP Mask entered: 255.255.255.0
Please enter your Default Gateway IP addr...
10.0.0.1
Gateway IP address entered: 10.0.0.1
Please enter the Primary DNS Server IP Address...
10.0.0.2
Primary DNS Server IP Address Entered: 10.0.0.2
Please enter the Second DNS Server IP Address...
10.0.0.3
Second DNS Server IP Address Entered: 10.0.0.3
Do you want to store the changes permanently?[y/n]y
Please wait for flash update...
Please reboot the system
```

Ci configuration description

DHCP	= Answer Y to get the IP address via DHCP or answer N to enter a static IP.
Gateway FQDN	= You may assign an FQDN (Fully Qualified Domain Name) for this MTA. This step is optional and may be left blank.
IP Address	= Enter the static IP you wish to assign to the MTA
IP Mask	= Enter the Subnet Mask used on your network
Default Gateway	= Enter the IP of the Default Gateway used on your network
DNS Sever	= Enter the primary and secondary DNS server IPs

Configure VLAN Setting (Cv)

The "**Cv**" command is used to set the parameters for VLAN tagging on the MTA. This advanced feature is only recommended if your network consists of VLAN-enabled servers and components. If you are unsure whether your network is using VLAN, leave it disabled on your MTA. To enable VLAN tagging on the WAN port, select interface "0". To enable VLAN tagging on the LAN port, select interface "1".

SAMPLE:

```
Cv

====================
 VLAN CONFIGURATION
====================
c -- change VLAN settings
w -- save and quit
p -- print VLAN settings
h -- help
q -- quit without saving
VLAN> p
====================
 VLAN CONFIGURATION
====================
   CURRENT PHYSICAL INTERFACE No. : 0
```

```
                        VLAN TAGGING : DISABLED
IP TOS TO 802.1p PRIORITY MAPPING : DISABLED
                             VLAN ID : 0x001
                     802.1p PRIORITY : 0
   CURRENT PHYSICAL INTERFACE No. : 1
                        VLAN TAGGING : DISABLED
IP TOS TO 802.1p PRIORITY MAPPING : DISABLED
                             VLAN ID : 0x002
                     802.1p PRIORITY : 0
VLAN> c
SELECT PHYSICAL INTERFACE [0-1] 0=WAN port, 1=LAN port: 0

ENABLE VLAN TAGGING (y/n): y
ENABLE IP TOS TO 802.1p PRIORITY MAPPING (y/n): y
PLEASE INPUT VLAN ID [0x000-0xFFF]: 0x001
PLEASE INPUT VLAN PRIORITY [0-7]: 0
```

Changing Password (Cw)

Use the "**Cw**" command to change your username and password.

SAMPLE:

```
Cw

Please input your OLD Password:*

Please input your NEW Username:test123

Please input your NEW Password:******

Please REENTER your NEW Password:******

INFO: read from NVS_PRIMARY (0x5d5)
INFO: write to NVS_SECONDARY (0x5d6)
INFO: write to NVS_PRIMARY (0x5d6)
FS write: OK.
```

Configuring DMS (Cx)

Use the "**Cx**" command to configure the InnoMedia DMS settings if you are using one.

NOTE: Please refer to your DMS server settings to configure the DMS parameters on your MTA.

SAMPLE

```
Cx

InnoMedia DMS feature is available,Disabled
DMS device type is 1
DMS Heartbeat type is 0
DMS Proxy=:0
DMS Local port:0
```

```
DMS regionID:0
Do you want to configure it? [y/n] y


InnoMedia DMS feature is disable
Do you want InnoMedia DMS feature? [y/n] y

Do you want to configure UDP DMS Proxy address and port?
[y/n] y
Please enter DMS Proxy FQDN(or IP address):Port...
Example: 192.45.6.4:5200
172.168.1.23:5200

DMS Proxy entered=172.168.1.23:5200

You current local DMS port is 0, Do you want to configure it?
[y/n]
 6000
You current deviceType(1 to 254) is 1,Do you want to
configure it? [y/n]
 y
Please input new deviceType:
1
You current regionID(4 bytes integer) is 0,Do you want to
configure it? [y/n]
 1408
You current HB type is 0,Do you want to configure it? [y/n]
 y
Please input new HB type (0 to 1):
1
You new HB type is 1

Do you want to store the changes permanently?[y/n]y
```

Displaying DMS parameters (Ik)

Use "**Ik**" command to view the InnoMedia DMS parameters.

SAMPLE:

```
InnoMedia DMS feature is available,Enabled
DMS device type is 4
DMS Heartbeat type is 1
DMS Proxy=172.168.1.23:5200
DMS Local port:5200
DMS regionID:1
```

Viewing MTA SNTP time (M0)

The "**M0**" command is used to show the SNTP time from the NTP server.

SAMPLE:

```
M0

Currently Date&Time= Thu Jan  1 00:44:28 1970
```

Configuring NTP server (M1)

The "**M1**" command is used to configure the IP address of the SNTP server. This allows the MTA to synchronize its system time with the NTP server.

```
M1

Currently SNTP Server = time.nist.org;
Please enter SNTP servr(FQDN/IPaddress)
 Example: 192.45.6.4 or pool.ntp.org
time.nist.org
ntp server is: time.nist.org
current ntp timer zone offset is 0
Do you want to change it?[y/n]
y
input your offset[-12,..13]
-6

Do you want to store the changes permanently?[y/n]y
```

Configuring SysLog Server (M2)

The "**M2**" command is used to configure the IP address of the Syslog server. This will allow the MTA to dump log messages to the remote server for analysis.

```
M2

1: system log feature control, currently is disabled
2: system log server configuration
1
 Please input your choice. 0:disable;1:enable
1
Do you want to store the changes permanently?[y/n]y
Please wait for flash update...

INFO: read from NVS_PRIMARY (0x59c)
INFO: write to NVS_SECONDARY (0x59d)
INFO: write to NVS_PRIMARY (0x59d) Please reboot the system

M2
1: system log feature control, currently is enabled
2: system log server configuration
```

```
2Currently SysLOG Server = [172.16.0.184];
Please enter SysLOG servr IP address...
Example: 192.45.6.4
10.0.0.202
IP address entered: 10.0.0.202

Do you want to store the changes permanently?[y/n]y
Please wait for flash update...

INFO: read from NVS_PRIMARY (0x59d)
INFO: write to NVS_SECONDARY (0x59e)
INFO: write to NVS_PRIMARY (0x59e)Please reboot the system
R
Are you sure you want to RESET system? [y/n]y
```

Displaying Syslog Message (M3)

The "**M3**" command is used to allow operators to read log messages from the local log storage. You can choose how many messages to retrieve and the starting point of the first message for viewing.

```
M3

How many records you want see?
10
Input start point?
1
IM_display_syslog:index = 1
Do you need see more record ? Y/N
n
```

Configuring Default Timeout Parameters (M4)

The "**M4**" command is used to configure the default timeout values for dialing features such as dial tone timeout, interdigit timeout, etc.

```
M4

Currently timeout setting:
busy tone timeout is 180 seconds
dial tone timeout is 360 seconds
off hook warning tone timeout is 360 seconds
inter_digit_timeout is 16 seconds
ring timeout is 180
do you want change the configuration(y/n):
y
input busy tone timeout value[0 is infinite]: 120

input dial tone timeout value[0 is infinite]: 180

input offhook warning tone timeout value[0 is infinite]: 360

input inter digit timeout value[0 is infinite]: 10
```

```
input ring timeout value[0 is infinite]: 180

do you want save the configuration's change(y/n)do you want
change the configuration(y/n):y
```

M4 configuration description

Busy tome timeout	= the duration of busy tone played in seconds before it times out.
Dial tone timeout	= the duration of dial tone played in seconds before it times out.
Off hook warning tone timeout	= the duration of offhook warning tone played in seconds before it times out.
Inter_digit_timeout	= the length of time in seconds between dialed digitals. If the timer expires while a user is dialing, the MTA will send NTFY with the current partial phone number.
Ring timeout	= the duration in seconds of ringing tone played before it times out.

RFC2833 control (Ma)

"**Ma**" command allows you to enable/disable use of RFC2833.

SAMPLE:

```
Ma

2833 feature is enabled
Signaling control MTA DTMF 2833 feature
Do you want to change current setting? [y/n]
Y
Please input your choice. 0:By signalling;1:Force
1
Do you want enable/disable 2833 redundance packet format.
0:disable;1:enable
1
Do you want to store the changes permanently?[y/n]y
Please wait for flash update...
```

System Alive Time (Mb)

For diagnostic purposes, the "**Mb**" command simply informs you how long your MTA has been running since the last time it was booted up.

SAMPLE:

```
Mb

This system already running 5 days 0 hours 4 minutes 54
seconds
```

Call Agent ID and Port (Mc)

The "**Mc**" command allows you to view and/or change the current settings for the call agent that your MTA will register to.

SAMPLE:

```
Mc

ch 0 's call agent are:
Primary Call agent ID is     :     172.16.19.42;
Secondary Call agent ID is     :     ;
call agent listen port is          :     2427;

Select line[0-0]('F' to finish)0

Enter Primary Call Agent Name: 10.0.0.29

Enter Sendary Call Agent Name:
Enter call agent signaling port:
2727

Select line[0-0]('F' to finish)F
Do you want to save it to Flash? (Y/N)y
```

Configuring Dynamic Payload Type Setting (Md)

The "**Md**" command allows the user to manually set payload types for supported codecs. It is recommended that the automatic settings be used.

```
Md

Current Dynamic playload types are
CODEC:G729E, payloadtype:105
CODEC:G726-16, payloadtype:102
CODEC:G726-24, payloadtype:103
CODEC:G726-40, payloadtype:109
CODEC:TELEPHONE-EVENT, payloadtype:106
CODEC:TEL-EVE-BLK, payloadtype:101 Do you want to change the
configuration? [y/n]
y
input q for exit

Do you want automatic setting payload type? [y/n]
y
Do you want to change the configuration? [y/n]
y
flash writing is done.
Do you want to exit? [y/n]
```

Configuring Control Parameters (Me)

Use the "**Me**" command to view or change the current control parameters for Provisioning, DHCP, DHCP Options and Software Upgrade via the provisioning server. The SW_UPGRADE is in effect only when you have provisioning enabled. Otherwise this parameter is ignored. Under the "enabled " state, the MTA will always check for a newer software version as part of the provisioning process. If "disabled" then the MTA will never check for a new software version.

NOTE: After each change, type "**Me**" again to go back to the Me menu.

SAMPLE:

```
Me

1. DHCP enable

2. SW_UPGRADE enable

3. NO Provisioning, For Nuera_ORCAV52_NCS; NO SNMP mibs

4. DHCP Check Option 43 disable

5. MTA does not take DHCP option 12 and 15

7. Currently provisioned maximum waiting delay is 3 seconds

8. HTTP Provisioning Server

9. disable endpoint bullet packet

a: setting "x-fresh" bullet packet format

b. TFTP Provisioning Server

Do you want to change [1-9,a-c/N]
```

Me configuration description

1. DHCP = select this option to enable/disable DHCP.
2. SW_UPGRADE = select this option to enable/disable software upgrade with the provisioning server. This option is only valid if provisioning is enabled
3. For TFTP Provisioning
   - 11: sec_tftp (762) - secure or non-secure

   For HTTP Provisioning
   - 13: Secure-VSP (9768) - secure and encryption type RC4. Need InnoMedia utility programs to encrypt configuration file.

4. DHCP Options 43 enable/disable = enable or disable Option 43
5. DHCP Option 12 and 15 = select 1 to take DHCP Option 12 (Host Name) and 15 (Domain Name)

6. Provisioned Maximum Waiting Delay	= enter provisioned maximum waiting delay in seconds.
7. HTTP Provisioning Server	= follow the prompts to enter the Domain Name/IP address and the port number of the HTTP server.
8. Endpoint bullet packet	= enter the bullet timer in seconds (enter 0 to disable it).
a. Bullet transaction Id	= enter the bullet transaction Id (refer to your firewall product manual).
b. TFTP Provisioning Server	= follow the prompts to configure the TFTP provisioning server name, default directory, provisioning interval, and encryption key.

Configuring Flash Hook timer (Mf)

Use the "**Mf**" command to change the default timer for sending a flash hook to the MTA. The default setting is 800ms, and you may specify it to be as short as 10ms and as long as 1270ms (step side 10 ms). For most applications, the default setting should be fine. You must reboot in order for changes to take effect.

SAMPLE:

```
Mf

Flash_Hook_timer = 800 ms, range is [10-1270 ms, this value
depends on your telephone]

Please enter Flash hook timer setting (ms): 400
Do you want to store the changes permanently? [y/n] y
Writing to Flash, please wait...
Writing to Flash is done successfully.

Reboot system to make new setting effective!
```

Voice Service Control (Mg)

Use "**Mg**" to disable or enable the MTA's ability to make phone calls.

SAMPLE:

```
Mg

Current Voice service is enable

Please enter Variant (0:disable; non zero:enable):
```

Jitter Buffer Settings (Mj)

For advanced users, the "**Mj**" command allows you to change the parameters of the MTA's jitter buffer. Jitter buffer size is measured in packets. For example, a value of 2 would mean 2 packets of jitter. It is recommended not to change these settings from their defaults. (Default Settings: Bandwidth=12800, Frames per Packet=1, and Jitter Buffer Size=60, Adaptive)

SAMPLE:

```
Mj

Bandwidth (bps) = 128000
Frames per Packet = 1
Jitter Buffer Size (ms) = 60, Adaptive

Do you want to re-configure Jitter buffer size?
Please enter 'y' to configure it or 'q' to exit.
y
Please enter Bandwidth (bps): [128000] 100000

Band Width Entered: 100000 bps
Frames per Packet: 1
Please enter Jitter Buffer Size (0-400(ms), 0 disable
it)[60]: 50

Jitter Buffer Size Entered: 50
Do you want to fix jitter buffer delay? [y/n] n
Do you want to store the changes permanently? [y/n]y
Writing to Flash, please wait...
Writing to Flash is done successfully.
```

Local Signaling Port (Mk)

The "**Mk**" command is used to set the local signaling port and the RTP port for the MTA. The default value for local signaling port is 2427 and the default value for RTP port is 6024. If an RTP port is blocked by an ISP, you can change that value to any even number between the range of 1024 to 65535.

SAMPLE:

```
Mk

The Local signaling port is 2427
The Local voice port start at 6024
which port will be changed(1:signal port;2: voice
port;others: exit)
1

Please input the signaling port for MGCP
1024
Do you want to save it to Flash? (Y/N)y
```

Viewing Line Parameter Settings (Ml)

Use the "**Ml**" command to view the various settings for the FXS port(s) on the MTA. As some MTAs have more than one port, you will need to specify which port settings you want to view.

SAMPLE:

```
Ml

Please input the channel number n/No (0-0)? 0

 Channel No =: 0;
1.Line Status is:            2;
2.Line Codec is:             1;
3.Line receiveVoiceGain is:       -2;
4.Line transmitVoiceGain is:      -4;
5.Line phone Number is:   4084305100;
6.Endpoint Name is:              aaln/;
7.Line silenceDetectionStatus is: 2;
8.Line echoCancellationStatus is: 1;
```

Ml configuration description

Line Status	= 1: Not Available 2: Onhook 3: Offhook 4: Ringing 5: Active
Line Codec	= 1: Other 2: Unknown 3: G729 4: G729A 5: G729E 6: G711 U-law 7: G711 A-law 8: G726 9: G729 10: G723 20: Fax
Line Receive Voice Gain	= Range: -2 ~ -18 db
Line Transmit Voice Gain	= Range: -4 ~ -18 db
Line Phone Number	= The phone number assigned to this MTA by the server
Endpoint Name	= The MGCP endpoint name of this line
Silence Detect Status	= 1: On 2: Off
Echo Cancel Status	= 1: On 2: Off

NOTE: The line codec used is determined by the Call Agent. Therefore, the codec parameters are not changeable.

Mm Command (Mm)

This command is used only with certain MGCP variants. Please contact InnoMedia if you need to use this feature.

IP Information (Mn)

The "**Mn**" command allows you to individually set the parameters that were specified in the Ci command earlier.

SAMPLE:

```
Mn

SystemStatus is  :           0
Box Mac Address is :         00:10:99:02:5c:77;
0. Local IP is :             172. 16.  0. 94;
1. Local Default GW IP is :  172. 16.  0.  1;
2. Local IP Mask is :        255.255.  0.  0;
3. MTA's FQDN is :          ;
4. Box Server Dns1 is :      172. 16.  0.  2;
5. Box Server Dns2 is :      192.168.  0.  2;
6. Local Default GW Mask is: 255.255.  0.  0;
7. Snmp manager IP is:         0.  0.  0.  0;
8. Snmp community 1 is:       ;
9. Snmp community 2 is:       ;

Which item do you want to change or n/No ?0

Please input Local IP: 172.16.0.123

INFO: read from NVS_PRIMARY (0x60)
INFO: write to NVS_SECONDARY (0x61)
INFO: write to NVS_PRIMARY (0x61)Local IP is : 172.16.0.123

If any change is made, Please reboot the system !
```

Line Configuration (Mp)

Use the "**Mp**" command to enable or disable the FXS ports on the MTA.

SAMPLE:

```
Mp

Currently line (0) is enabled
Do you want to change the configuration? [y/n]
 y
Do you want to enable line 0? [y/n] n
 Line 0 disable.
Do you want to store the changes permanently? [y/n]
```

Echo Timer Setting (Mq)

Use the "**Mq**" command to set the echo timer when your MTA is installed behind a firewall.

SAMPLE:

```
Mq

The timer is disabled

 Please input echo timer (seconds, 0 is disable)
30

Do you want to store the changes permanently?[y/n]y
Please wait for flash update...
```

Configuring the Voice Volume (Mr)

Use the "**Mr**" command to change your MTA's voice volume. You may adjust the volume downwards by entering the negative dB values between -2db to –18db. The default value for RX Gain level is "-2" db and for TX Gain level is "-4" db.

SAMPLE:

```
Mr

Current RX Gain level is -2
Current TX Gain level is -4
Do you want to change these configuration? [y/n] y
Please enter RX gain Variant (-2_-18) db: -3

Please enter TX gain Variant (-4_-18) db: -4
Do you want to store the changes permanently? [y/n] y
flash writing is done.
```

Testing SNMP Trap Messages (Mt)

The "**Mt**" command is used to test different TRAP messages. The test results can be viewed by a sniffer application.

SAMPLE:

```
Mt

Test SNMP trap functions
1        test trap TRAP_FLASH_ERROR
2        test trap TRAP_SW_FORCE_DOWNLOAD
```

```
3         test trap TRAP_SYSTEM_RESET_BY_SNMP_MANAGER
4         test trap TRAP_SYSTEM_RESET_BY_CONSOLE
5         test trap TRAP_LINE_SELF_TEST_ERROR
6         test trap TRAP_DSP_ERROR
7         test trap TRAP_SOFTWAREUPGRADE
```

Setting Endpoint Start Index (Mu)

The "**Mu**" command allows you to set the starting index of the endpoint aaln/x@[IP]. The automatic setting is recommended.

SAMPLE:

```
Mu

The Endpoint start index is 0

Please input NEW value[-1: automatic, 0~128: start index,
return: keep old value
-1
Do you want to save it to Flash? (Y/N)y
Change has been written to Flash, please reboot System
```

Configuring the Endpoint Name (Mx)

Use the "**Mx**" command to configure the endpoint name for each line. Enter "**0**" at the prompt if you want the MTA using the IP address or FQDN to create the endpoint names (format: aaln/0 or aaln/1@[ip or FQDN). Enter "**1**" at the prompt to manually configure endpoint names.

NOTE: Explicit supports up to 128 alphanumeric characters. If end point is explicitly configured, it must match with the ones defined in the call agent configuration. Otherwise, the call agent will reject the unknown end points.

```
Mx

The Endpoint Names are Automatic

Set Endpoint Name to be Automatic [0] or Explicit [1]:1

Select line [1-1]('F' to finish) 1

Enter Endpoint Name: aaln/1
OK for Line 1, Name: aaln/1

Select line [1-1]('F' to finish) F
Do you want to save it to Flash? (Y/N)
Y
Writing to Flash, please wait...
Writing to Flash is done successfully.
Change has been written to Flash, please reboot System!
R
```

Pinging a Remote IP Address (P)

Use the "**P**" command to ping an IP address from MTA to verify the network connections.

SAMPLE:

```
P

Do you want to ping a remote IP address from this MTA?[y/n]
y
input remote IP address...
Example: 192.45.6.4
172.16.1.66
IP address entered: 172.16.1.66
echo delay is 0 ms
```

Manually Forcing Security Provisioning (Qr)

Use "**Qr**" command to force the provisioning process to take place.

NOTE: You must use the "Me, 3" command to enable the provision process prior to use the "Qr" command

SAMPLE:

```
Qr

Sec_GetServAddr: HTTP srvName:12.22.51.56,
srvPort:8802,ticks:860283
IM_Http_Receive_TCP:timeout:10 ret:0
########Decrypted Data:
Sec-HTTPI PROV is DONE ,Total Items Found: 44
Sec_GetServAddr: HTTP srvName:12.22.51.56,
srvPort:8802,ticks:860559
```

VSP Security Provisioning Shell (Qv)

Use "**Qv**" command to configure the provisioning settings.

NOTES: You must use the "Me, 3" command to enable the provision process first. The values entered here must match the configuration on the server. You can also use the "Me, 8" command to configure provisioning settings. The default password for sec_vsp (816), sec_tftp (762), and SecHTTPI (9768) is 12345678901234567890123456789012.

SAMPLE:

```
Qv

 Prov. Server: 172.16.0.123
 Prov. Port: 8802
 Re-Prov Interval: 0 (sec)
 MTA Image URL: ""
```

```
 Using Default Prov. Password.
 You GVSP srv:209.133.49.71:port:8802 is using!


c  -- change  Prov. settings
p  -- print  Prov. settings
w  -- write changes to Flash(changes is permanent)
q  -- quit.
h  -- display the help menu
SecHTTP_Prov> p
 Prov. Server: 172.16.0.123
 Prov. Port: 8802
 Re-Prov Interval: 0 (sec)
 MTA Image URL: ""
 Using Default Prov. Password.
 You GVSP srv:172.16.0.122:port:8802 is using!
SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
1

Please enter Prov. Server(either FQDN or IP): 172.16.0.124
SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
2

Please enter Prov. Port: 8802

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
3

Please enter re-Prov. Interval (sec): 3600
SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
4

Please enter Prov. Password or hit "Enter" to use the
default:

SecHTTP_Prov>w
```

Configuring Router Functions (N)

The "**N**" command lets you set your PPPoE and NAT bandwidth.

PPPoE Setting configuration (N,1)

Use the “N,1” command to configure PPPoE function.

SAMPLE:

```
N
          Enter 1 to configure PPPoE Setting
          Enter 7 to configure Bandwidth
          Enter t to configure TOS control
1
================================
=    PPPoE  CONFIGURATION      =
================================
PPPoEDriver : DISABLE
Service ID: 2
User    ID: innomediaQA@sbcglobal.net
Autoconnect = ENABLE
IdleTimeOut = DISABLE
Authentication : PAP
LocalIPAddr 172.16.0.94
PPPSubNet 255.255.255.255
================================
Option 1)Configure 2)Dial 3)HangUp 4)Status 5)Quit:1
PPPoEDriver [DISABLE] 1)Enable 2)Disable :
```

PPPoE configuration Description for ISP

Service ID	= NULL string
User ID	= ISP registered name
User Password	= ISP registered password
Autoconnect	= If AutoConnect were enabled, system will automatically connect to your ISP when the system boots up.

PPPoE Command Description

Configure	Use this command to configure PPPoE feature and settings.
Dial	If system has not connected to your ISP yet, user can use this command to make a connection. If system is currently connected, then this command has no effect.
HangUp	Use this command to terminate current connection. If system has no connection then the command has no effect.
Status	Use this command to obtain current system status. If system is connected to your ISP, then it will show the current Gateway IP, system IP and connection times.

Quit	Use this command to leave PPPoE operation.

Configuring NAT Bandwidth (N, 7)

Bandwidth control/ Rate limiting is designed to provide QoS for voice packets by designating the amount of bandwidth available on the uplink and downlink ports on the MTA. The control of upstream data bandwidth is useful to prevent data clogging even though voice packets have higher priority over data packets. Rate limiting is only effective if the MTA detects presence of voice calls, and is done with the following steps:

- Upstream:
  - User inputs the WAN bandwidth
  - MTA: Based on the number of active voice calls, calculates available LAN bandwidth = BW(WAN)-BW(voice)
  - System limits the LAN BW.
  - If no active voice calls are in progress, no bandwidth limiting is imposed on the LAN port.

```
N

          Enter 1 to configure PPPoE Setting
          Enter 7 to configure Bandwidth
          Enter t to configure TOS control
7
The bandwidth control is Modifiable
The bandwidth control is Disabled
TCP MSS control for data packet is disabled
Do you want to change it? (y/n)
y
Do you want to make the bandwidth control NOT Modifiable? (y
or n)
n
Do you want to enable bandwidth Control? (y/n)
y
Please enter your total uplink speed (kbps)
256
The speed you entered is 256

Please enter your total downlink speed (kbps)
1500
The speed you entered is 1500

Do you want to save the change to FLASH? (y/n)
y
Please enter your total uplink speed (kbps)
64
The speed you entered is 64
Do you want to save the change to FLASH? (y/n)y
```

Configuring ToS Control (N, t)

Use the "**N, t**" command to configure the ToS Settings.

NOTE: The ToS values are not case sensitive and use hex notification. You can enter any two-digit value between 00 to ff at the prompt.

SAMPLE

```
N          Enter 1 to configure PPPoE Setting
           Enter 7 to configure Bandwidth
           Enter t to configure TOS control
t
The current TOS settings are:
TOS control for voice Packet is disabled!
TOS control for port 1 is disabled
TOS for MTA Siganling: f0
Do you want to change it [y/n]
Do you want to enable TOS control for voice packet? [y/n]
y
do you want all channel share same TOS byte?[y/n]
y
Please input TOS byte value for MTA's RTP packet (hex)
3d

TOS entered = ff
 Do you want configure MTA signaling TOS byte?[y/n]
y
Please input TOS byte value for MTA's Signaling packet (hex)
ff

TOS entered = 3d
 Do you want to enable  TOS control for port 1?[y/n]
y
Please input TOS byte value for Port 1(hex)
3d

TOS entered = 3d

Do you want to save the change to FLASH? (y/n)y
```

System Information

These hidden commands can be invoked when troubleshooting are debugging a faulty MTA unit.

Enable Debug Mode (D1) & (D0)

Use the "D1" command to enable debug mode or the "D0" to disable it.

SAMPLE:

```
D1
Debugging is enabled.
D0
Debugging is disabled.
```

Setting Project Variant (D1,Th, 1)

This command is used only with certain MGCP variants. Please contact InnoMedia if you need to use this feature. The password to get into "Th" is "InnoMedia".

Setting Line Reverse mode (D1, Th, 3)

The "D1, Th, 3" command allows you to control the device's reverse polarity feature to determine the start and end of a call for billing purposes. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1

Debugging is enabled.
Th

Password:*********
input 17 for get help
17
1: Setting Project Variant
3: Setting Line Reverse mode

6: G.726 PACKING order is lsn
8: MTA do not use UNIT Name  for endpoint name
9: MTA Umbrella Version setting
10: Reload the DSP
11: Re_enable DSP serial 0
12: Let DSP play 1KHZ 0dbM test tone to slic
13: Check the phy link status
14: Access KS8993M chip reg
15: Show and set production status
16: Channel jitter buffer length list
17: Help
18: Setting T38 Fax
19: Cannot Support Cisco T38
20: MTA Disable Ping Gateway

22: G.728 PACKING order is lsn
24: Remote RTCP report disabled
25: slic control access
27: Telnet timeout (0 means no timeout, the valid range is 0-
180): No timeout
29: LOOP_START or GROUND_START setting, now it is LOOP START.
30: Disable detect FAX CNG tone
0: exit
31: VSP re_Dir server setting
32: DSP command practice
33: fusiv chip debug
34: fusiv lan control
35: Hardware ID information setting
36: Disable report remote peer fax/modem signal
```

```
3
Currently Line Reverse is Enabled

Please enter Variant(1: enable, 0:disable):1
The entered Variant = 1
Do you want to store the changes permanently?[y/n] y
```

G726 Configuration (D1, Th, 6)

You might need to change the G726 codec configuration in order to obtain optimal voice quality when using this codec. Use the "Th" command within the debugging mode to configure G726 settings. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
Debugging is enabled.
Th

Password: *********
input 17 for get help
17
1: Setting Project Variant
3: Setting Line Reverse mode

6: G.726 PACKING order is lsn
8: MTA do not use UNIT Name  for endpoint name
9: MTA Umbrella Version setting
10: Reload the DSP
11: Re_enable DSP serial 0
12: Let DSP play 1KHZ 0dbM test tone to slic
13: Check the phy link status
14: Access KS8993M chip reg
15: Show and set production status
16: Channel jitter buffer length list
17: Help
18: Setting T38 Fax
19: Cannot Support Cisco T38
20: MTA Disable Ping Gateway

22: G.728 PACKING order is lsn
24: Remote RTCP report disabled
25: slic control access
27: Telnet timeout (0 means no timeout, the valid range is 0-
180): No timeout
29: LOOP_START or GROUND_START setting, now it is LOOP START.
30: Disable detect FAX CNG tone
0: exit
31: VSP re_Dir server setting
32: DSP command practice
33: fusiv chip debug
34: fusiv lan control
35: Hardware ID information setting
36: Disable report remote peer fax/modem signal
6
Please input your choice. 0:lsn;1:msn
```

```
1
Do you want to store the changes permanently?[y/n]y
```

Setting T.38 Fax (D1, Th, 18)

When T38 Fax is enabled, ITU-T T.38 support is added, providing a standardized method of supporting reliable fax transmission in the network. When T.38 cannot be successfully initiated between devices, MTA's fax fallback feature allows fax pass-through using a G.711 codec.

In Debugging mode (D1), use the "Th" command to configure the T.38 Fax settings (18). The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
Debugging is enabled.
Th

Password:*********
input 17 for get help
17
1: Setting Project Variant
3: Setting Line Reverse mode

6: G.726 PACKING order is lsn
8: MTA do not use UNIT Name  for endpoint name
9: MTA Umbrella Version setting
10: Reload the DSP
11: Re_enable DSP serial 0
12: Let DSP play 1KHZ 0dbM test tone to slic
13: Check the phy link status
14: Access KS8993M chip reg
15: Show and set production status
16: Channel jitter buffer length list
17: Help
18: Setting T38 Fax
19: Cannot Support Cisco T38
20: MTA Disable Ping Gateway

22: G.728 PACKING order is lsn
24: Remote RTCP report disabled
25: slic control access
27: Telnet timeout (0 means no timeout, the valid range is 0-
180): No timeout
29: LOOP_START or GROUND_START setting, now it is LOOP START.
30: Disable detect FAX CNG tone
0: exit
31: VSP re_Dir server setting
32: DSP command practice
33: fusiv chip debug
34: fusiv lan control
35: Hardware ID information setting
36: Disable report remote peer fax/modem signal
18
```

```
ch 1 T38 Fax is enabled
Do you want to change?(y or n)

 Please input Ch number:(1-1)
1

 Please input 1:T38 enabled, 0:T38 disabled
1

 Current ch 0 T38 Fax is enabled

 t38 jitter buffer is 160 ms (0 disabled)

 Do you want to configure jitter buffer (y or n)
y
 Please input new jitter buffer  (0-240 ms)
200

 Current jitter buffer is 200 ms

 t38 T2 is 240 ms

 Do you want to configure T38 T2 (y or n)
y
 Please input new T38 T2  (0-800 ms , 0 disabled)
200

 Current T38 T2 is 200 ms

 t38 low speed redundancy  is 3

 Do you want to configure T38 low speed redundancy (y or n)
y
 Please input new low speed T38 redundancy  (0-4 , 0
disabled)
1

 Current T38 low speed redundancy is 1

 t38 high speed redundancy  is 1

 Do you want to configure T38 high speed redundancy (y or n)
y
 Please input new high speed T38 redundancy  (0-4, 0
disabled)
1

 Current T38 high speed redundancy is 1

 t38 bit rate is 14400

 Do you want to configure T38 bit rate (y or n)
y
 Please input new T38 bitrate  (2400,4800,9600,14400)
2400

 Current T38 bit rate is 2400
```

```
 t38 ECM is on

 Do you want to configure T38 ECM (y or n)
y
 Please input new T38 ECM  (0:off,1:on)
1

 Current T38 ECM is on

 t38 T38FaxMaxBuffer is 200

 Do you want to configure T38FaxMaxBuffer (y or n)
y
 Please input new T38FaxMaxBuffer  (<=500)
300

 Current T38FaxMaxBuffer is 2

 t38 FaxMaxDatagram is 0

 Do you want to configure T38FaxMaxDatagram (y or n)
y
 Please input new T38FaxMaxDatagram  (<=316)
200
 Fax setting flag 0,port 0

 Fax is using voice port, it is 0

 Do you want to use voice port or fax port (y:voice port or
n: fax port)
y
 Current fax port(voice port) is 0

Do you want to store them in flash memory (y or n)
y
```

T.38 Fax configuration description

Jitter Buffer	= Enter the jitter buffer size (0-240 ms)
T2	= Timer for awaiting packets (0-800ms)
Low speed redundancy	= Number of redundant T.38 fax packets to be sent for the low-speed V.21-based T.30 fax machine protocol. Range varies by platform from 0 (no redundancy) to 4
High speed redundancy	=Number of redundant T.38 fax packets to be sent for high-speed V.17, V.27, and V.29 T.4 or T.6 fax machine image data. The value range varies by platform from 0 (no redundancy) to 4. **NOTE**: Setting the High Speed redundancy parameter greater than 0 causes a significant increase in the network bandwidth consumed by the fax call.
Bit rate	=Enter the fax transmission speed to be attempted: 2400, 4800, 9600, or 14400
ECM	= Error Correction Mode (ECM) for the gateway. By default ECM is not enabled.
Fax Max Buffer	= Maximum buffer size (default value=200). This option indicates the maximum number of octets that can be stored on the remote device before an overflow condition occurs.

Fax Max Datagram	= Maximum datagram size. This option indicates the maximum size of a UDPTL packet that can be accepted by the remote device (default value=300).
Use Voice/ Fax port	= Enter y for voice port; enter n for fax port.

Cisco T38 Support (D1, Th, 19)

If you are using Cisco Gateway, use the "**Dl, Th, 19**" command to enable the feature. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
Debugging is enabled.
Th

Password:*********
input 17 for get help
19

Please input your choice. 0:disable;1:enable
1
Do you want to store the changes permanently?[y/n]y
```

Pinging Gateway (D1, Th, 20)

Use the "**Dl, Th, 20**" command to enable or disable MTA pinging remote gateway. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
Debugging is enabled.
Th

Password:*********
input 17 for get help
20

Please input your choice. 0:disable;1:enable
1
Do you want to store the changes permanently?[y/n]y
```

Enabling/Disabling Detect FAX CNG Tone (D1, Th, 30)

Use the "**D1, Th, 30**" command to enable or disable MTA to detect Fax CNG tones. Most faxes send audible beep tones called CNG tones. This tone is a distinct beep that repeats every three (3) seconds. Once a fax has dialed the destination fax number, it generates this tone while waiting for the receiving fax to answer. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
```

```
Debugging is enabled.
Th

Password:*********
input 17 for get help
30

Please input your choice. 0:disable; 1:enable
1
Do you want to store the changes permanently?[y/n]y
```

Configuring Provison 301 Redirect Server (D1, Th, 31)

Use the "**D1, Th, 31**" command to configure redirect server. The password to get into "Th" is "InnoMedia".

SAMPLE:

```
D1
Debugging is enabled.
Th

Password:*********
input 17 for get help
31

Your Prov. reDir Server:10.12.51.56

Your Prov. reDir Server port:8802

You reDir srv:10.12.51.56:port:8802 is using!

Please input Your Prov. reDir Server
172.16.0.123

Your New Prov. reDir Server is 172.16.1.123

Please input Your Prov. reDir Server port
8802

Your New Prov. reDir Server port is 8802

Please input 0:to use GVSP,1:to use redirect
1

You reDir srv:172.16.0.123:port:8802 will be used!

Do you want to store the changes permanently?[y/n]y
```

Trace Settings (Dl)

Use the "**Dl**" command to configure the trace settings. For most debugging, set the trace level to 80.

SAMPLE:

```
Dl
1:show
2:channel
3:group
4:verbose
5:level
6:store
others: exit
3

Please enter the group you want to trace:(0xFFFFFFFF or q to
quit) FFFFFFFF

Group mask set to: 0xffffffff
```

Dl Configuration Description

1: show – display the current trace settings
2: channel – specify the channel (0-7) to be traced. Press enter –1 to trace all the channels
3: group – specify the trace group/module. Enter "FFFFFF" to trace all the groups. Enter "0" to turn off all the groups. MTA has following Group Settings:

UTIL_LOG_GROUP	0x1
SYSTEM_LOG_GROUP	0x2
UART_LOG_GROUP	0x4
FLASH_LOG_GROUP	0x8
WEB_SERVER_LOG_GROUP	0x10
DSP_LOG_GROUP	0x20
SNMP_LOG_GROUP	0x40
VOIP_LOG_GROUP	0x80
PROV_LOG_GROUP	0x100
EMS_LOG_GROUP	0x200
DHCPS_LOG_GROUP	0x400
SYNC_LOG_GROUP	0x800
TELNET_LOG_GROUP	0x2000
DQOS_LOG_GROUP	0x4000
T38_LOG_GROUP	0x8000
RTCP_LOG_GROUP	0x10000
JITTER_LOG_GROUP	0x20000
MGCPSTACK_LOG_GROUP	0x40000
NAT_LOG_GROUP	0x80000
ETHERNET_LOG_GROUP	0x20000
CALL_PROC_GROUP	0x40000

4: verbose – enable or disable trace verbose. To see more detailed trace log, enable this function; otherwise, disable it.

5: level – specify the trace level to limit the information you would like to see. Enter 0 to disable the trace function, 40 for basic debugging, 60 to access the DSP information, and 80 for most debugging.
6: store – Save new input value.

MTA Version Information (V)

Use command "**V**" to check MTA's current software version.

SAMPLE:

```
V

The Image Version is V1.1.4
Control Code Version = 1.0.7 Thur Sep 26 15:38:00 2006
 NO Provisioning, For ZTE_MGCP;
DSP Code Version = 2.4.26 07/31 12:21 2006;
BBS Code Version = 7.2.28 Thur Sep 14 15:38:00 2006
```

Restoring System Default

The following procedures are used for restoring the default settings of an MTA.

Press <system restore> button on the backside of the MTA for about 5 seconds. Then the message below will show on HyperTerminal.

```
Restoring default setting...
Writing to Flash, please wait...
Writing to flash is done successfully.

Done!
System will RESET after 10 seconds...
```

When the reset finished, the Username and password will return to the system default "Admin" and "adminpass".

Chapter 3
MTA 6328-1e2S Firmware Updates

Overview

InnoMedia is dedicated to continually improving the quality and features of MTA 6328-1e2S. This entails regular upgrades to the Digital Signal Process code (DSP) and to the Controller codes. The following section describes the procedure for uploading MTA 6328-1e2S Firmware through Web interface, an external TFTP or HTTP server to the unit.

Manually Uploading MTA 6328-1e2S Firmware via Web Interface

To upload the MTA 6328-1e2S Firmware through the Web interface, follow these steps:

Table 16. Uploading MTA 6328-1e2S Firmware by Web Interface

Step	*Action*
1	Open your web browser and connect to your MTA.
2	Enter your Username and Password.
3	When the MTA 6328-1e2S Configuration Web page appears, click on Management, and then Firmware Upload. Select the item you want to upgrade: (See Figure 20. Firmware Upgrades). ▪ System Image: for system image upgrade. ▪ Boot-loader: for Redboot code upgrade.
4	Click the Browser button to select the image file, or enter directly the location and the file name.
5	Click the Upload button.

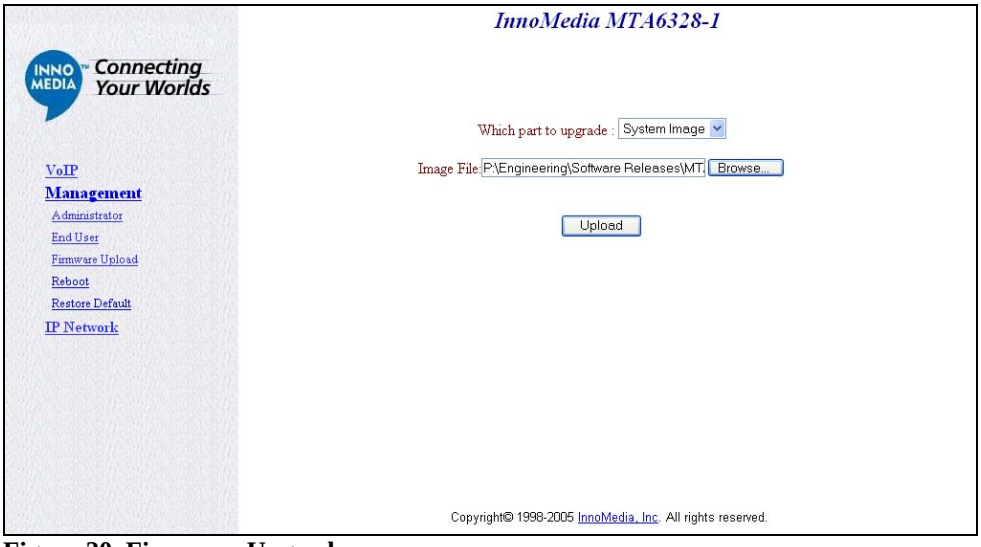

Figure 20. Firmware Upgrades

Auto-upgrading MTA 6328-1e2S Software Code from Server Side

MTA 6328-1e2S can be upgraded automatically via provisioning process. To perform the procedure, follow these steps:

Table 24. Upgrading MTA 6328-1e2S Software Code

Step	*Action*
1	Upload the new firmware to the correct directory on the provisioning server.
2	Change firmware to the intended version in the configuration file
3	Configure your MTA: • Use the "Me, 3" command to enable and configure provisioning mode (see page 30) • For HTTP provisioning – use the "Me, 8" or "Qv" command to configure the provisioning server settings. For TFTP provisioning – use "Me, b" or "Qv" to configure provisioning server name, default directory, interval, and encryption key (see page 30). • Use the "Qr" command to force provisioning process to begin. (see page 37).
4	MTA will grab the configuration file from the server at the interval set.
5	MTA will compare the file it has with the one specified in the configuration. If the file name is different, MTA will request the new firmware image from the server.

APPENDIX A: MTA 6328-1e2S LED Indicators

The front panel of the VoIP cable modem has LED indicators that should be understood before configuration. The below table describes each LED indicator.

LED	Blinking State	MTA 6328-1e2S State
PWR	Steady - Green	The device power is on.
	Off	The device power is off.
RUN	Blinking - Red	The device failed to download a configuration or an image file
	Blinking - Orange	The device is actively downloading a configuration file or a firmware update.
	Steady - Green	The device has been configured successfully and is running normally.
	Off / Other	The device is malfunctioning.
WAN	Blinking – Green (10 Base T) Blinking – Yellow (100 Base T)	PC or Voice Data is being transferred.
	Steady – Green (10 Base T) Steady – Yellow (100 Base T)	The device is connected to a broadband network.
	Off	The device is not connected to a broadband network.
LAN 1, 2	Blinking – Green (10 Base T) Blinking – Yellow (100 Base T)	PC Data is being transferred.
	Steady – Green (10 Base T) Blinking – Yellow (100 Base T)	The device is connected to an external PC.
	Off	The device is not connected to an external PC.
READY	Off	Unit failed to register with all lines
	Steady - Green	The VoIP module is internally initialized and the unit is ready to make calls.

LED	Blinking State	MTA 6328-1e2S State
PHONE	Blinking - Yellow	The connected telephone handset is on the hook (not in use) and there are new voice mail messages.
	Steady - Green	The connected telephone handset is off the hook
	Off	The connected telephone handset is on the hook (not in use) and there are no new voice mail messages.

NOTE: Blinking rates are to be 1 sec On and 1 sec Off