OVERVIEW

The “Maintenance” feature of Enterprise Manager allows system administrators to perform the following system functions:

- Alarm Setup
  - Alarm Slot
  - System Alarm
- Call Processing Status
- Enterprise Manager Redundancy
- HTTPS Configuration
- Licensing
  - Licensing Control
  - License Information
- Memory Access
- Phone Labeling
- Phone Software Update
- QoS Report
- SNMP Community Name
- System Initial Setup
  - Network Setup
- System Maintenance
  - Alarm Notification
  - Core System Processes
  - Hardware Monitoring
  - IGS Fault Protection
  - Program Rollback
  - Program Update
- Traffic Measurement
  - Control Setup
  - Traffic Report

BULIT-IN TROUBLESHOOTING

Built-in troubleshooting tool for Enterprise Manager allows an administrator to run Wireshark network monitoring. Using the Webmin application in Enterprise Manager the monitring can be started or stopped. The reports are downloaded using the Webmin menus.

OVERVIEW

Built-in troubleshooting tool provides an interface for reporting and troubleshooting using Wireshark™.

System Requirements

The troubleshooting custom commands are available on IPedge systems running R1.6.1 and later software and VIPedge R1.4.5 and later systems.

START WIRESHARK

To start a capture select **Application > Webmin**, in the Webmin window select **Others > Custom Commands**.

There are two types of custom commands:

Live View

The Live View displays the packets on screen as they are captured. The displayed packet captures cannot be saved. This packet display will run for 10 minutes unless manually canceled before the 10 minute timer expires. The capture is manually stopped by clicking on any Webmin menu item.

File Capture

During File Capture the packets are captured and saved in a file on the IPedge server. The captures run until manually stopped.

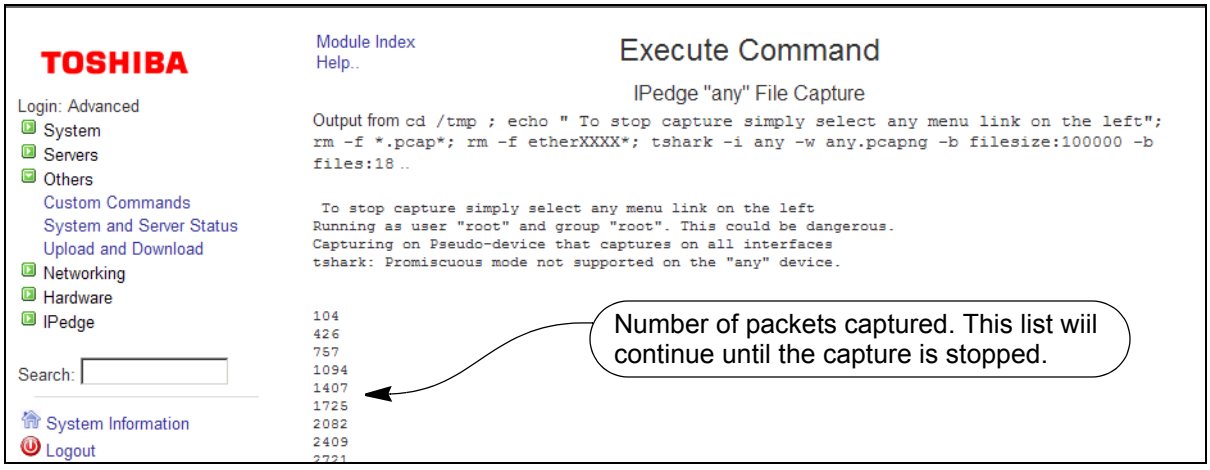
This application saves the packet captures in 100 MB files. The system will save up to 18 files. If the capture continues to run the files will be over written in rotation. The last 18 files will be available for download. This could be up to three hours of capture time. With filtering and lower traffic dynamics as much as four hours or more of capture time could be achieved. All of the saved files are deleted when the next capture is started.

Note: When a capture is started the following message will be displayed. This is a normal message from the system and should be ignored.

```
Running as user "root" and group "root". This could
be dangerous.
Capturing on bond0.
```

While file capture is running a running list of the number of packets captured will be displayed. The list will continue until the capture is

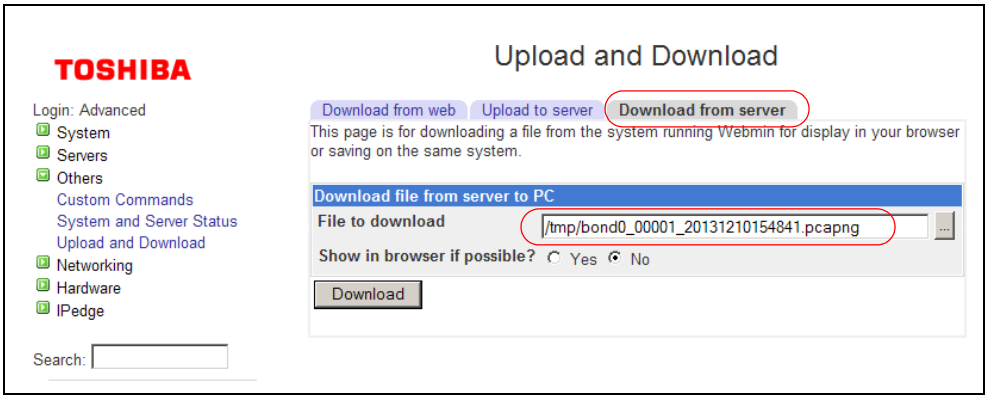
stopped. To stop the File Capture select any Webmin menu item on the left side of the screen.



Important! At the start of a new capture all existing capture files will automatically be deleted..

Download Wireshark Files

The Wireshark capture pcap files are stored in the system's /tmp directory. The files can be moved to the administrator's PC using the Webmin **Upload and Download** menu.

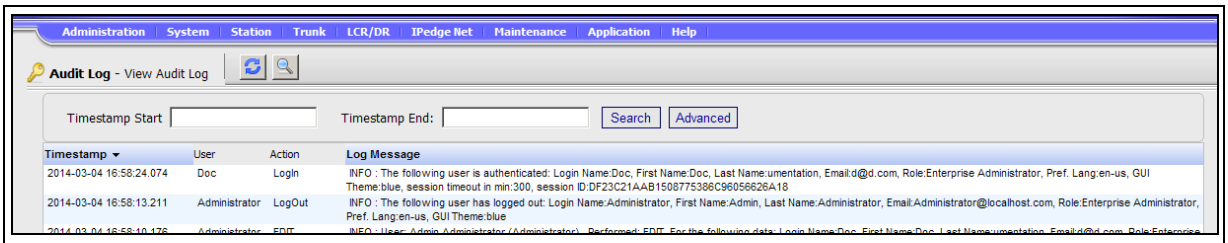


Use Wireshark running on a PC to display the downloaded files.

AUDIT LOG

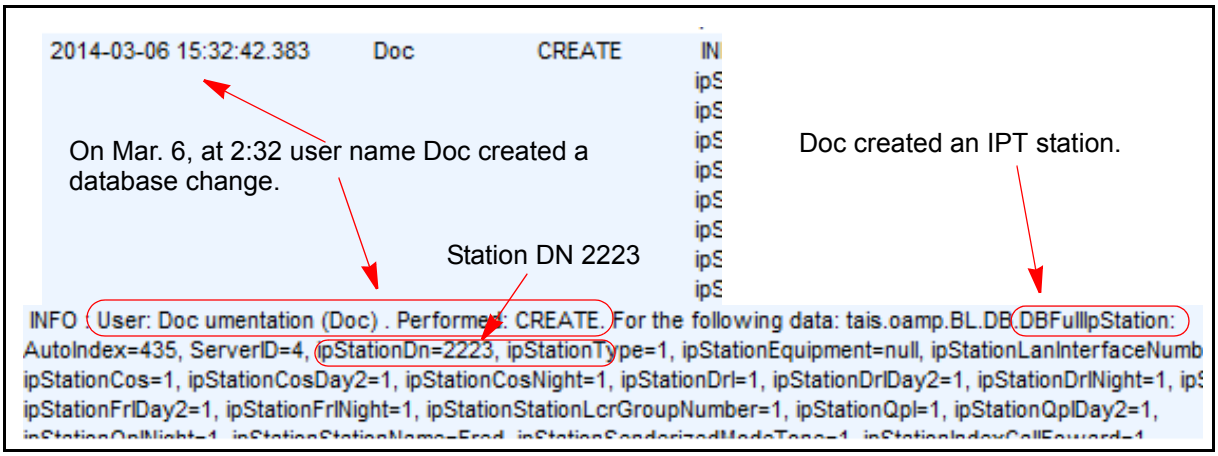
The Audit Log is available on IPedge systems running R1.6.1 and later software. The log is accessed through Enterprise Manager by selecting **Maintenance > Troubleshooting Tools Audit Log**. Select the audit log

you wish to display from the list then click on the View icon. The audit log will be displayed with the latest entry at the top.



The user, Administrator made a database edit. A new user, Doc, was added on 2014-03-04 at 16:58:10
The Administrator logged out at 16:58:13.
The user; Doc, created by Administrator, logged in at 16:58:24

The Audit Log displays User Namr of each administrator that logs into Enterprise Manager or EMPA, the date and time of the login, and what changes were made.



Maintenance

IPedge maintenance activities related to Maintenance and Traffic Measurement are established and updated in Enterprise Manager.

Maintenance > Initial Setup – Allows the administrator to run the Initial System Setup process.

Traffic Measurement, control setup, and reporting

Alarm Setup – Refer to the IPedge Install manual.

Call Processing Status – When an error in a resource used for IPT stations or SIP trunks the IPedge system will make the item busy. The IPedge system will automatically disable the component, circuit, or channel. This screen will indicate the failure status as; Disabled by Fault. The Error Reason column will display an error code.

- CR = IPT is programmed in the database but is not recognized by the system.
- DO = Disabled by fault, the station or trunk is not connected.

Components can manually be made to **Stop**, **Start**, or **Restart**.

Stations can manually be set to **Enable**, **Disable**, or **Forced Disabled**.

Enterprise Manager Redundancy – A redundant member of a multi-node IPedge system can be setup to allow Enterprise Manager to the multi-node members in the event that connection to the Primary node is lost. A member node of a multi-node system can be configured as the Redundant Enterprise Manager server.

HTTPS Configuration – Refer to the IPedge Install manual.

Licensing

- License Control – View, Upload, Apply, Delete license files.
- License Information – Details of the applied licenses can be displayed.

Memory Access – Should only be used under the direction of a Toshiba engineer.

Phone Labeling retrieves the IP Telephone, ADM and DSS module parameters from the system database. The data output in a CSV file for use with a phone labeling application. Refer to the Telephone Keystrip Printing feature description.

Phone Software Update – Refer to the IPedge Install manual.

QoS Report – Voice packet (RTP) delay and jitter are both measured and collected on a per call basis and per IPT. The data can be read out of IPedge through SNMP by external devices. When the measured data

exceeds the preprogrammed threshold, it is recorded in the error log. The thresholds are set by selecting; **System > Voice Packet Configuration**. The data may then be used by the network administrator for current system status, and to improve and optimize the network. Quality of Service (QOS) reports are available via Enterprise Manager under Maintenance > QOS Reports. Select the server, and click **Download**. Refer to the Voice Packet Config feature description document.

There are six parameters to be measured by IPedge and five parameters to be measured by the IPT.

- Number of RTP packets sent
- Number of RTP packets received
- Ratio of RTP packet loss
- Jitter
- Averaged Delay
- Ratio of RTP packets discarded
- (Ratio of “RTP packets discarded” is measured by IPedge but not by IPT.) SNMP Community Name

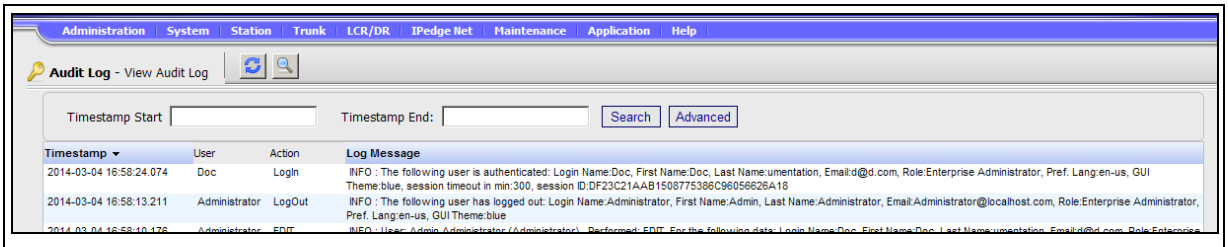
System Initial Setup

Maintenance > System Maintenance: Notification, monitoring, and rollback

Traffic Measurement

Troubleshooting Tools

The **Audit Log** is available on IPedge systems running R1.6.1 and later software. The log is accessed through Enterprise Manager by selecting **Maintenance > Troubleshooting Tools Audit Log**. Select the audit log you wish to display from the list then click on the View icon. The audit log will be displayed with the latest entry at the top.



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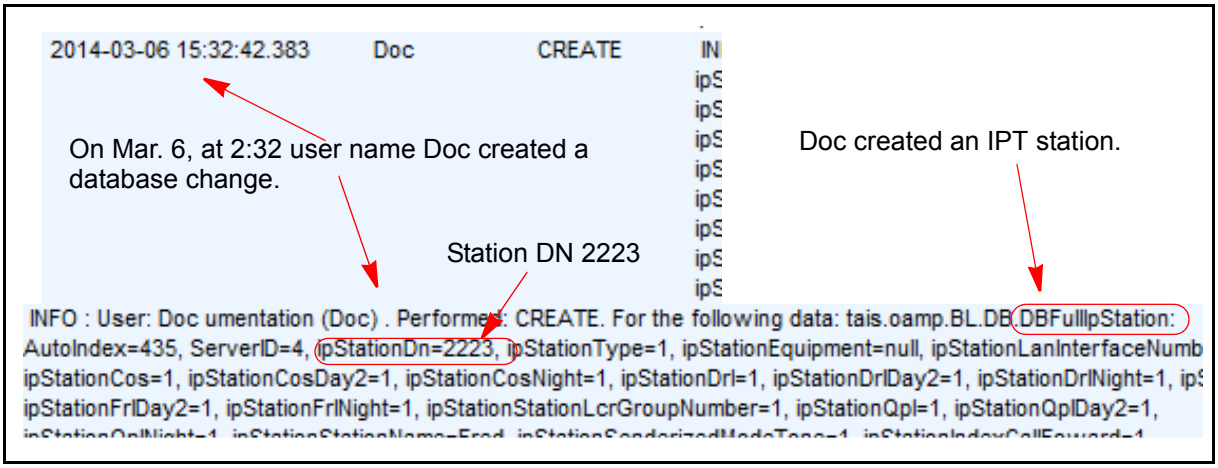


Maintenance

The Toshiba IPedge system is an all IP telephone system running on an IP network. When troubleshooting consider that problems may be with the network as well as with the server.

The following procedure can be performed to help identify voice quality problems:

1. Run a network assessment while the trouble is occurring.
2. Collect Wireshark logs during the issue
3. Document the time, Day, the extension involved in the call.
4. Document any functions performed. (i.e. User pressed the conf/trans key, poor voice quality while reviewing voicemail, etc.)
5. Document whether the call was internal (station-to-station) or external (station-to-trunk).
6. Check managed switch and/or logs for errors.
7. If over WAN, MPLS, or P2P check for any carrier errors.
8. Check IPedge logs.
9. Check any gateways involved in the call for issues.
10. Provide database of gateway if requested by Technical Services.
11. Provide the system logs from the gateway if requested by Technical Services.

PROGRAMMING Maintenance settings are accessible via Enterprise Manager:

Alarm Slot **Maintenance > Alarm Setup > Alarm Slot**

1. Enter the Component Name.

Note: To view the component name in the window, the mouse may have to be clicked and dragged left or right

2. Enter the cabinet and slot # for the card being enabled for alarm notification in **Virtual Equipment.**
3. Set Alarm Notification to **Enable** or **Disable**.

Call Processing Status **Maintenance > Call Processing Status**

This section allows tabbed browsing for the following reporting features:

- Core Component
- IP Stations
- SIP Trunks
- IP Trunks
- Transfer Log Data

Enterprise Manager Redundancy **Maintenance > Enterprise Manager Redundancy**

1. To configure a redundant Primary server, click on Configure Redundant Server button.

HTTPS Configuration **Maintenance > HTTPS Configuration**

To configure HTTPS:

1. Click HTTPS on radio button.
2. Click **Save**.
3. If there is no SSL certificate available, create new one - click **Create New Server Certificate** button.

Licensing Upload and Apply License (IPedge only, does not apply to VIPedge)

1. Login to the Enterprise Manager on the IPedge server you are going to license.
2. Select **Maintenance > Licensing > License Control**.
3. Click on the **Upload License** file icon.
4. Enter the location and name of the license file or click on the Browse button to locate the license file.
5. Click on **OK**.
6. The license file name, server MAC address and the server name will be displayed. Verify that the MAC address is the correct address for this server. Double click on this line for a detailed list of the licenses.

7. Click to check-mark the uploaded file then, click on the **Apply** icon.
8. After the license is applied, the license result should show "Successful".
9. Then check "**Yes, I want to reboot the system now**" and click on **OK**.

Note: The reboot sequence may take several minutes.

Display License Information

To display the items and quantities licensed on the server (IPedge only, does not apply to VIPedge):

1. Select **Maintenance > Licensing > License Information**.
2. Login to the Enterprise Manager on the IPedge server you are going to license.
3. Select **Maintenance > Licensing > License Control**.
4. A list of all the licenses on the server will be displayed.
5. Click to check-mark a license then, click on the **View** icon.
6. After the IPedge server has restarted, login to Enterprise Manager.
7. In Enterprise Manager select **Administration > Enterprise > Servers**.
8. Check the Server Name box and click the **Server Synchronization** icon.
9. The Enterprise - Servers Status screen displays. Check the Table Name box then click on the "**Order database synchronization**" icon.
10. A confirmation dialog window will display. Click on **OK** to start the database synchronization. Wait for the database synchronization to finish. This will take a few minutes.

Over Subscribing

It is possible to assign more of some system resources than are licensed. This allows the administrator to program stations, or trunk resources at the expected level but only license to the current requirement. The rescores in excess of the license will not function until a new license is applied. For example; 250 stations programmed on a system licensed for 200 stations. The first 200 stations to register will operate.

Memory Access

Maintenance > Memory Access

1. Select the server.
2. Enter the memory address.
3. Select the Memory Block Size
4. Select the number of Memory Blocks.

Phone Labeling

Maintenance > Phone Labeling

Phone Labeling Preferences

The phone label files are created by applying rules in the selected Phone Label Definition Template to the actual key assignment data for each station, ADM module and DSS module in the server.

Select whether you want to use the Default Phone Label Definition Template, or a customized Phone Label Definition Template. Customized Phone Label Definition Templates should be uploaded before they can be selected here.

Phone Label Definition Source: Default Phone Label Definition Template
Customized Phone Label Definition Template

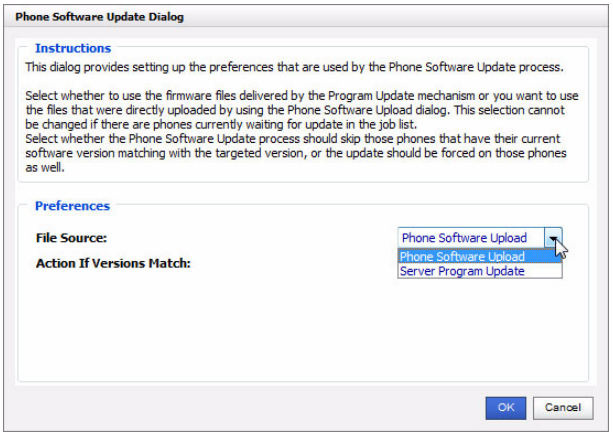
If no customized Phone Label Definition Template has been uploaded, the selection will be limited to default setting.
Upload, export, and begin

Phone Software Update **Maintenance > Phone Software Update**

INSTALLATION

The installation steps for each server, in summary, are:

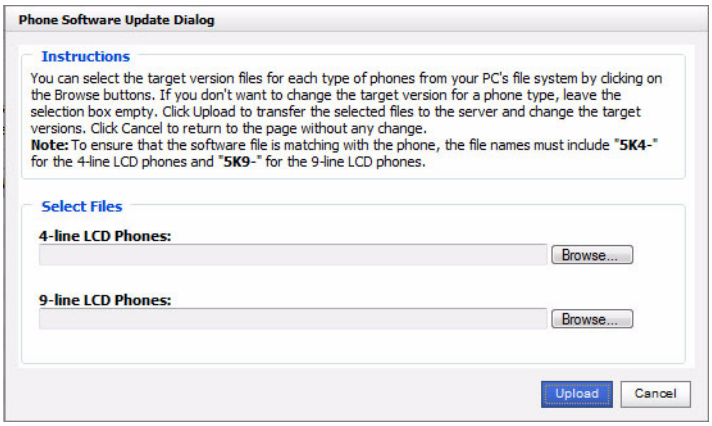
1. Login the Enterprise Manager.
2. Select **Maintenance** > **Phone Software Update**.
3. Click on the Phone Software Preference icon.
4. Select the File Source, and Action If (phone software) Versions Match then, click on **OK**.



5. If Phone Software Upload was selected click on the Upload Phone Software icon.
   If Server Program Update was selected the update process will use the phone software version included in the last server update file stored in the IP*edge* server.

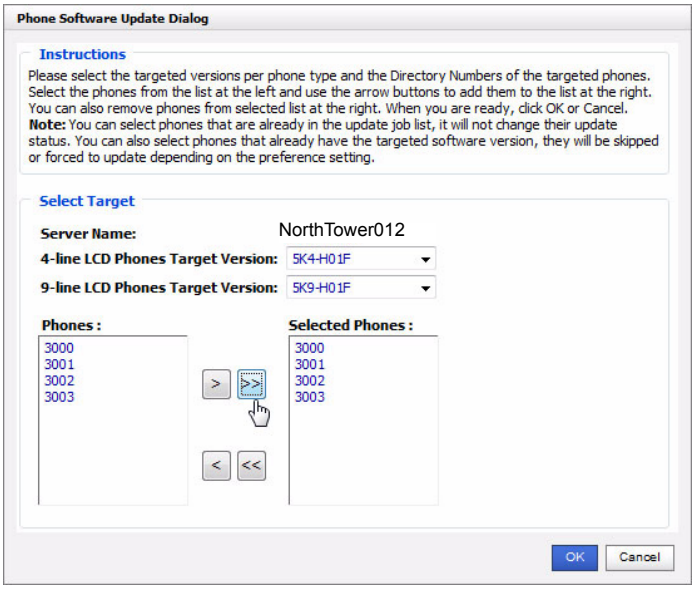
Note: The latest software version will always be available on the Toshiba FYI web site.

6. Select the 4-line LCD and 9-line LCD software file locations. Use the Browse button to navigate to the files. Then, click on **Upload.**



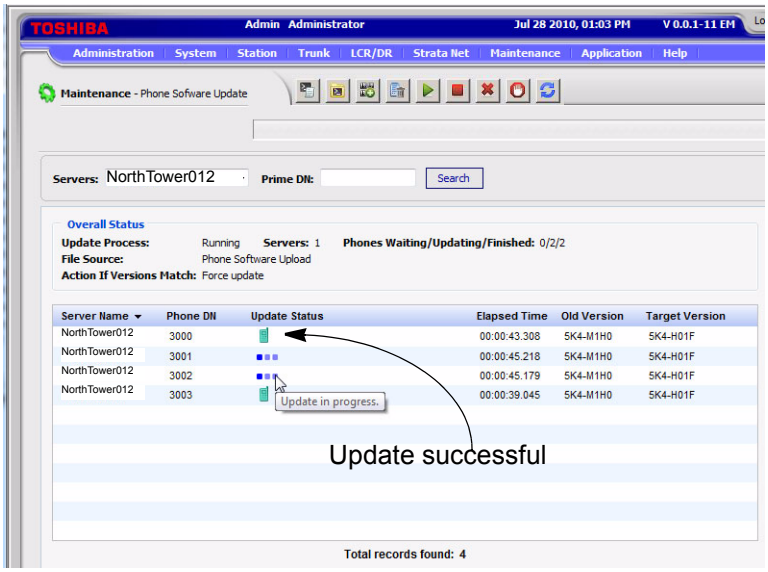
Note: If a USB drive plugged into the IP*edge* server was used to load the update software remove the USB device as soon as the upload is complete. If the USB device is left in the server cannot reboot.

7. Select an IP*edge* server to update. Click on the Phones to Update icon to select the IP Phones to update on that server. Click on **OK**.

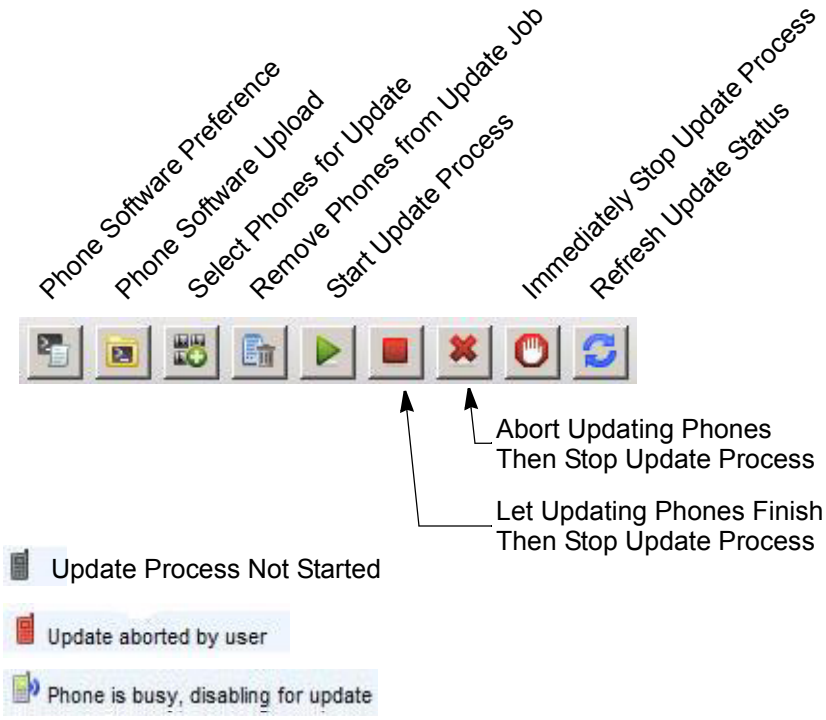


8. You can continue to select servers and IP telephones in those servers.
9. When all of the phones you wish to update have been selected click on the Start Update Process icon.

10. The screen will show the update process status.



The indicators and control icons for the IP Phone software update process are shown below.



QoS Report **Maintenance > QoS Report**

The QoS report will provide a spreadsheet with the following fields:

- Data Type
- Protocol
- Time Stamp
- Local IP Address
- Local RTP Port
- Remote IP Address
- Remote RTP Port
- Number of Send Packet
- Number of Receive Packet
- Jitter
- Delay
- Packet Loss

1. Select **"Download"**.
2. Choose **Open** or **Save** to a chosen location.

SNMP Community Name

Maintenance > SNMP Community Name

This setting allows Read/Write privileges for SNMP "Communities" on the IPedge System by assigning SNMP ID, SNMP Community Name, and an IP Address.

System Initial Setup

Maintenance > System Initial Setup (IPedge only, does not apply to VIPedge)

SYSTEM INSTALLATION PROCEDURE

The following steps include instructions for IPedge server installation with or without using a Model Database. The instructions also consider on-site system configuration and off-site pre-configuration. (IPedge only, does not apply to VIPedge)

Login To The IPedge Server

1. Connect the IPedge server to a PC through a 'cross-over' cable or through a network switch.
2. Plug in the power cord(s). If there is a rear panel power switch set it to 1 (on).
3. Press the front panel power button. Initial boot-up will require approximately 8 ~ 10 minutes.

4. Login to Enterprise Manager on the IPedge server using the default IP address, User ID and Password.

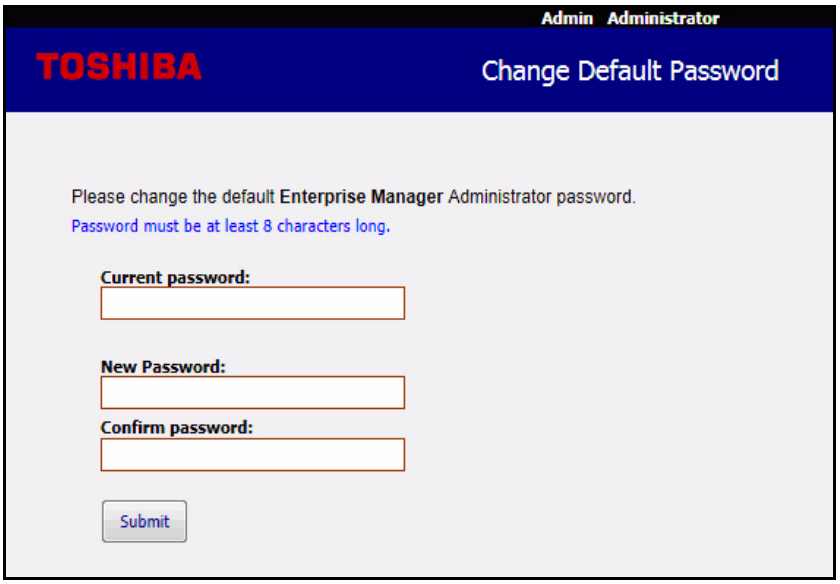
5. When the Administrator logs into Enterprise Manager for the first time, Enterprise Manager will detect that the Administrator account password is the default value and it prompts the user to change the password.

   The new password should be a ‘strong’ password with the following:

   - At least eight characters, not more than 100 characters
   - At least one character should be a capital letter
   - At least one character should be a number
   - At least one character must be a special character: period (.), underscore (_), or hyphen (-)

   Note: The password cannot be; password.

Note: The new password cannot be; password.



Important! This new password cannot be recovered. Once it has been changed, if you lose or forget the password contact Toshiba's Technical Support department.

Initial Setup and Network Configuration

When the system administrator logs in Enterprise Manager checks the Network configuration. If the values are still at default the following screen is presented.

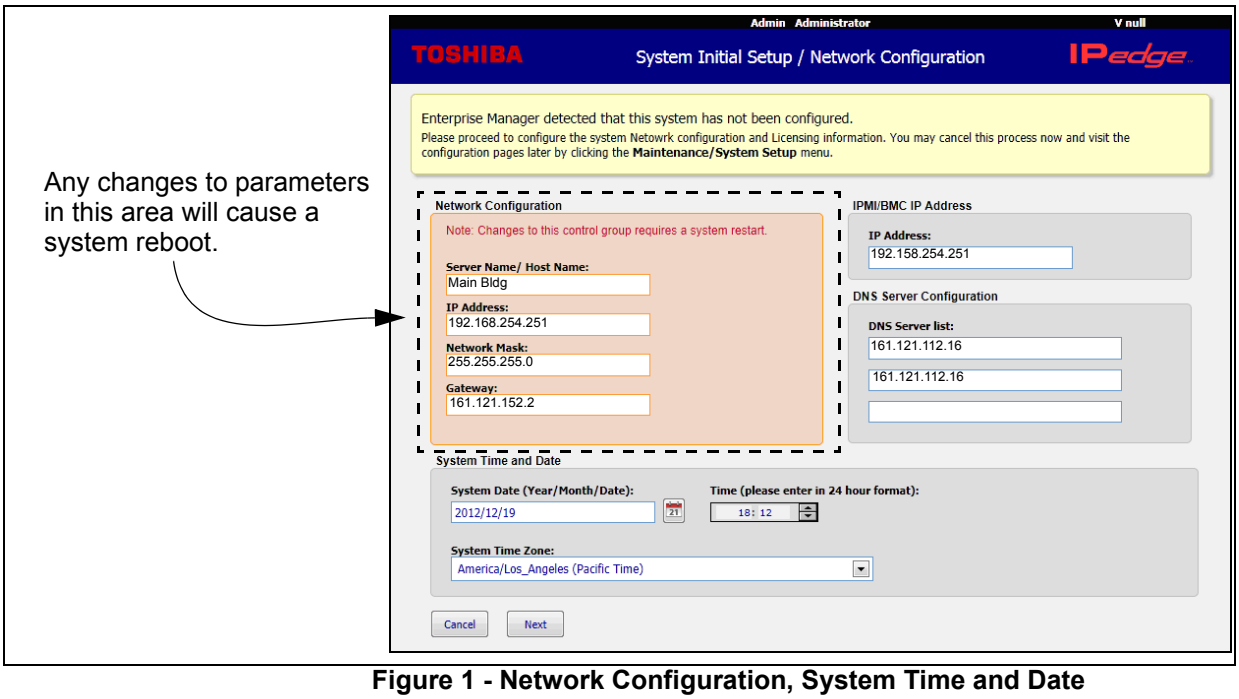


Figure 1 - Network Configuration, System Time and Date

Notes:

- The IPMI default IP address is 192.168.254.251 for EM and EC servers. Refer to the Maintenance chapter for additional information. The IPedge EP server does not have an IPMI interface.
- The DNS server list must be entered to support Online Update operation.

Enterprise Manager will not apply the settings on this page until all data is collected from all initial setup pages and at the end it will show all entered data on a confirmation page where the user can either apply all changes or cancel. The next setup page includes the following:

- Enterprise Information
- IPedge Server Community Name
- IPedge Region
- License File Information
- IPedge Data Model (Model Database, if applied)

6. The administrator can Apply changes, go Back to change information or Cancel. When the administrator clicks on Apply the initial setup settings, Enterprise Manager will perform all actions and will reboot the server.

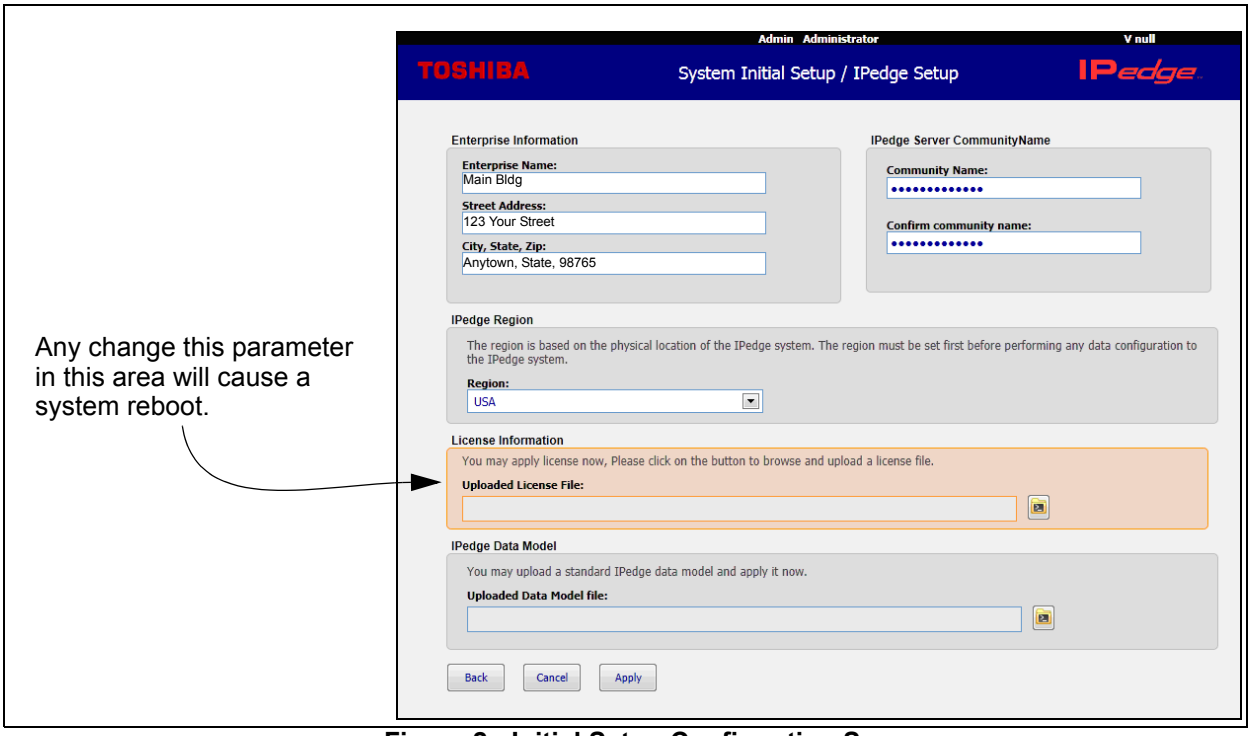


Figure 2 - Initial Setup Confirmation Screen

Important! If you use a model Database the Enterprise Name and address may be overwritten back to the default values.

Important! When using a model database, change the IPT Primary Server address in the **Station - IPT Auto Config** assignment. Set the address to the new IPedge server address BEFORE the IPTs connect.

System Summary Information

7. Click on the Apply button to save configuration.

8. Verify the data, click on the OK button to restart the server.
9. If a Model Database was loaded the System Summary information must be entered. The first screen shown after login is the System Summary. Click on the **Edit** icon. Enter the Enterprise Name and Address for this server. Enter the phone number and an email address. Click on the **OK** button.

   Note: The Enterprise Name and address entered on this screen will be used in the https root security certificate. This information saved as the root certificate cannot be changed after the security certificate is created. The Enterprise Name and information can be changed at any time.

System Maintenance **Maintenance > System Maintenance**

- Alarm Notification
- Core System Processes
- Hardware Monitoring
- IGS Fault Protection
- Program Rollback

- Program Update

Traffic Measurement **Maintenance > Traffic Measurement**

- Control Setup
- Traffic Report

CAPACITY N/A

AVAILABILITY N/A

RESTRICTIONS N/A

HARDWARE No additional hardware is necessary for this feature.

FEATURE INTERACTION

Not applicable