

ENVIROMUX® Series

E-MNG

Enterprise Environment Monitoring System Management Software

The screenshot displays the ENVIROMUX Server Environment Monitoring System Management Software interface. The main window shows a tree view on the left with 'Building 1' expanded to 'E-50 TU1'. The central area displays a 'Sensor Type: Temperature Combo' window with a large '76.4°F' reading and a color-coded gauge. Below this is a 'Group A: Summary' window with multiple tables for Power Supplies, Internal Sensors, External Sensors, Digital Inputs, IP Devices, and Output Relays. To the right, there is a 'Line Monitor' window showing a graph of 'Outdoor Porch Temperature' over time, and another 'Summary' window for 'E-20B RevC'.

Connector	Type	Description	Value	Status
Power	Main Power Supply		OK	Normal
Power	Secondary Power Supply		OK	Normal

Connector	Type	Description	Value	Status
Temperature	Internal Temperature		29.2°C	Normal
Humidity	Internal Humidity		18.0%	Normal

Connector	Type	Description	Value	Status
#1	Temperature Combo	E-50 Temperature 1	25.1°C	Normal
#1	Humidity Combo	E-50 Humidity 1	23.0%	Normal
#1	Dew Point	E-50 Dew Point 1	2.7°C	Normal
#2	Wind Speed	Wind Speed / DIO (2)	0.0MPH	Normal
#5	Temperature Combo	E-50 Temperature 5	22.3°C	Normal
#5	Humidity Combo	Sensor #5 2	27.0%	Normal

Connector	Type	Description	Value	Status
#1	Digital Input	Panic Button	Open	Normal
#2	Digital Input	Gas Leak Detector	Open	Normal
#2.16	Digital Input	Conn 2 Digital Input 16	Open	Normal

IP Device	Type	Description	Value	Status
	IP Device	DNS Server	Responding	Normal

Connector	Type	Description	Value
#1	Output Relay	Output Relay #1	Inactive
#2	Output Relay	Output Relay #2	Inactive
#2.1	Output Relay	Conn 2 Output Relay 1	Inactive
#2.2	Output Relay	Conn 2 Output Relay #2	Inactive
#2.3	Output Relay	Conn 2 Output Relay #3	Inactive
#2.4	Output Relay	Conn 2 Output Relay #4	Inactive
#2.5	Output Relay	Conn 2 Output Relay #5	Inactive
#2.6	Output Relay	Conn 2 Output Relay #6	Inactive
#2.7	Output Relay	Conn 2 Output Relay #7	Inactive
#2.8	Output Relay	Conn 2 Output Relay #8	Inactive
#2.9	Output Relay	Conn 2 Output Relay #9	Inactive
#2.10	Output Relay	Conn 2 Output Relay #10	Inactive
#2.11	Output Relay	Conn 2 Output Relay #11	Inactive
#2.12	Output Relay	Conn 2 Output Relay #12	Inactive
#2.13	Output Relay	Conn 2 Output Relay #13	Inactive
#2.14	Output Relay	Conn 2 Output Relay #14	Inactive
#2.15	Output Relay	Conn 2 Output Relay #15	Inactive
#2.16	Output Relay	Conn 2 Output Relay #16	Inactive

Connector	Type	Description	Value	Status
Power	Main Power Supply		OK	Normal
Power	Secondary Power Supply		OK	Normal

Connector	Type	Description	Value	Status
Voltage	Input Voltage		8.5V	Normal

Connector	Type	Description	Value	Status
#1	Temperature Combo	E-20-RevC Temperature	29.8°C	Normal
#1	Humidity Combo	E-20-RevC Humidity	22.0%	Normal
#1	Dew Point	E-20-RevC Dew Point	6.0°C	Normal
#2	Panic Button	E-20B-RevC Test Switch	Open	Normal

Connector	Type	Description	Value	Status
#1	Digital Input	Panic Switch	Open	Normal

IP Device	Type	Description	Value	Status
	IP Device	DNS Server	Responding	Normal

Connector	Type	Description	Value
#1	Output Relay	Output Test Relay 1	Inactive

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CHANGES

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VERSION

E-MNG Enterprise Environment Monitoring System Management Software Version 3.5.

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INTRODUCTION

The E-MNG is intuitive graphical software that provides an easy-to-use, unified interface for both monitoring and configuring up to 3,000 E-2D(REV C only), E-5D, E-16D, E-MICRO-T(RHP), E-1W and IPDU-S4/S8 units (UNITS) and all connected sensors. The software is split into two parts, the Server (to actively poll all UNITS for status information and alerts) and Client (to communicate with the Server from any location to read statuses and make configuration changes).

A License Activation Key controls how many UNITS can be monitored and configured through the Server, and a License Activation Key supporting up to 10, 50, 100, 500 or 3000 UNITS is available from <http://www.networktechinc.com/enviro-rems-gui.html>.

Features:

- Units may be monitored and configured individually or in a group.
- Display values and status for individual sensors or list of sensors.
- NTI will provide customer, without charge, copies of any appropriate updates/enhancements for 12 months. This software update service is optionally extendable every twelve months for 20% of the then current list price.
- Client/Server architecture
 - Server application actively polls all UNITS for status information as well as listens for alerts from all UNITS.
 - Client application communicates with the Server to read statuses and to deploy configuration changes.

Server and Client Requirements:

- Windows 2000/XP/Vista/7/8/10, Windows Server 2000/2003/2008/2012/2016/2019, Solaris, Linux, FreeBSD, and MAC OS 9/10.
- Requires Java Runtime Environment 1.8 or newer.
- **Note: The E-xD units must be running firmware version 2.35 or later and the ENVIROMUX-SEMS-16 units are no longer compatible with the E-MNG.**

It is recommended that both the Client PC and the Server PC be running the same version of Java due to security differences between versions.

- Requires firmware version 1.2* or later in E-16D units.
- Requires firmware version 2.0* or later in E-5D units.
- Requires firmware version 2.3* or later in E-2D units (REV C only (models with two power inputs)).
- Requires firmware version 1.3 or later in IPDU-S4/S8 units.
- Requires firmware version 3.2 or later in E-MICRO-T(RHP) units.
- Requires firmware version 2.5 or later in E-1W units

***Note: In order to fully use the features in E-MNG Version 3.0, all E-xD units must be using firmware version 2.46 or later.**

Below minimum requirements assume CPU with physical cores (rather than virtual) and an OS similar to MS Windows or Linux with minimal usage from other user applications.

Server Configuration:

1 - 20 UNITS, 1- 5 clients:

Minimum requirements: dual core CPU with 2 GB RAM 100 Mbps network

Recommended Configuration: Quad core CPU with 4 GB RAM 100 Mbps network

20 - 80 UNITS, 5 - 15 clients:

Minimum requirements: Quad core CPU, with 4 GB RAM 100 Mbps network

Recommended Configuration: 8 core CPU with 8GB RAM 100 Mbps network

80 - 300 UNITS, 10 - 25 clients:

Minimum requirements: 8 core CPU with 8GB RAM 100 Mbps network

Recommended Configuration: 12 core CPU with 16 GB RAM 1 Gbps network

300 - 700 UNITS, 15 - 35 clients:

Minimum requirements: 12 core CPU with 16 GB RAM 1 Gbps network

Recommended Configuration: 20 core CPU with 24 GB RAM 1 Gbps network

Client Configuration:

1 - 20 UNITS:

Minimum requirements: dual core CPU with 2 GB RAM 100 Mbps network

Recommended Configuration: Quad core CPU with 4 GB RAM 100 Mbps network

20 - 80 UNITS:

Minimum requirements: dual core CPU with 2 GB RAM 100 Mbps network

Recommended Configuration: Quad core CPU with 8 GB RAM 100 Mbps network

80 - 300 UNITS:

Minimum requirements: Quad core CPU with 8 GB RAM 100 Mbps network

Recommended Configuration: 8 core CPU with 16 GB RAM 1 Gbps network

300 - 700 UNITS:

Minimum requirements: 8 core CPU with 16 GB RAM 1 Gbps network

Recommended Configuration: 10 core CPU with 20 GB RAM 1 Gbps network

If installing over 700 UNITS to manage from a single machine, contact NTI for custom setup.

Server and Client Roles and User Access:

The Server is used to add and manage UNITS to be monitored or delete them from the monitoring list. The Server is also used to manage the Users that have access to the E-MNG and the UNITS monitored by it.

Only the root administrative user can access the Server.

The server is not used to view the status of sensors attached to UNITS.

The Client is used by Users to monitor and manage sensors connected to UNITS. It can also be used by the root administrative user to manage the server.

The root administrative user can login from the Client software to remotely control the Server with the same controls they would have if connected through the Server software. The root administrative user does not have access to view the status of attached sensors.

Users with administrative rights (**not user "root"**) can create projects that monitor specific UNITS connected to the Server, manage sensors connected to UNITS, and manage the users that have access to individual UNITS being monitored.

Users without administrative rights can only use the Client to view the status of any sensors connected to any UNIT. The standard user cannot make any changes to configuration.

MATERIALS

Materials supplied with this package:

NTI E-MNG ENVIROMUX Management Software including:

- mng-srvr-vx-x.zip file (for the management server) (vx-x = the version number)
- mng-clnt-vx-x.zip file (for client PCs) (vx-x = the version number)
- Adobe pdf file of this manual

LIMITATIONS

- UNITS must be individually connected to the LAN (**not cascaded**) in order for the E-MNG to function.
- The Management Software:
 - cannot simulate alerts
 - cannot change IP addresses of the UNITS
 - cannot save or restore individual UNIT configurations from within the management software
- The Server application is licensed to be applied to one CPU and will only work on the CPU with the Machine ID (MAC address) supplied at the time of license issue. To move the Server application to a different CPU, contact NTI to request an updated license.
- There is no limit to the number of Client applications that can be installed on CPUs to access the Server and connected UNITS.
- Multiple Server applications can monitor UNITS at the same time with no ill effects.
- There is no limit to the number of Clients that can access the Server at a time
- There is no limit in the program to the number of users that can be configured to use the Client to access the Server. The number of users configured will only be limited by the amount of memory in the server hosting the program.
- There is limited support for the following sensors:
 - E-ACDC-LM
 - E-DCLM-6
 - E-ACLM-3P480

You can only monitor, acknowledge or dismiss an alert for these sensors. Configuration of these sensors from the management software is not completely supported as of this version.

INSTALLATION

The E-MNG enables an administrator to manage multiple UNITS (up to 3,000) either from a central CPU acting as a server or from client CPUs. In order for a client CPU to manage UNITS, the client must have access to this server.

To install the Server software on a computer, unzip the `mng-srvr-vx-x.zip` file received via email to a directory where the software will run. (vx-x will be the version number of the software.) **Make sure the directory has write privileges enabled. (i.e. the "C:\Program Files" directory has restricted access.)**

TIP: At this time, you might want to place a shortcut on the desktop to run the `semsmanagersrvr.jar` file. (In Windows, right-click the `.jar` file, click "Send To", click "Desktop (create shortcut)".)

Note: Ensure that the server firewall allows TCP ports 9000, and 9001 access. If a UNIT is behind a firewall, ensure UDP port 161 and 162 (SNMP) and TCP port 6000 is accessible.

Note: SNMP must be enabled in each ENVIROMUX Unit monitored for the E-MNG to receive and display sensor values.

The E-MNG also enables any PC (with Java installed and with access to the Server) to additionally manage the ENVIROMUX units. The PC (Windows/Sun/Mac/Linux/etc) can access the Server via an Ethernet connection. These PCs will be referred to as "clients" throughout this manual.

To install the Client software on a computer, unzip the `mng-clnt-vx-x.zip` file received via email to a directory where the software will run. (vx-x will be the version number of the software.) **Make sure the directory has write privileges enabled. (i.e. the "C:\Program Files" directory has restricted access.)**

TIP: At this time, you might want to send a shortcut to the desktop to run the `semsmanager.jar` file. (In Windows, right-click the `.jar` file, click "Send To", click "Desktop (create shortcut)".)

Be sure that Java Runtime Environment 1.6 or later is installed on the server and each client. This software can be downloaded from <http://java.com/en/download/manual.jsp>.

Licensing

After installing the server software and Java Runtime Environment (version 1.6 or later), the Server software can be opened by double-clicking on the `SemsManagerSrvr.jar` file in the directory `mng-srvr-vx-x.zip` was unzipped to. When you start the `SemsManagerSrvr.jar` file the first time the End User License Agreement will be presented.

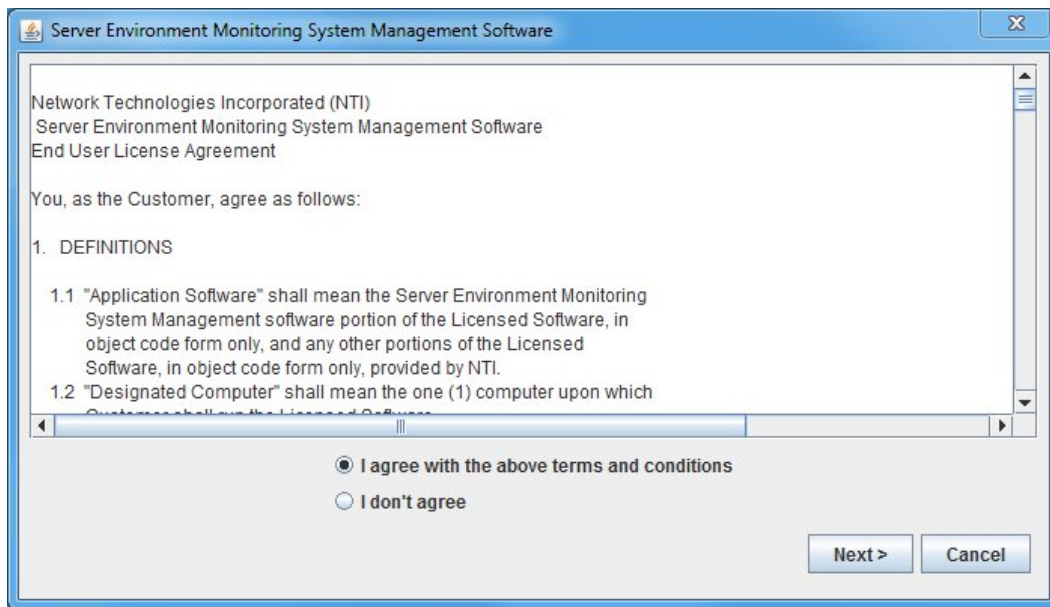


Figure 1- End User License Agreement

After reading the agreement, make sure "I agree with the above terms and conditions" has been selected and click on **Next**.

You will then be presented with a license installation screen.



Figure 2- License Installation screen

If you have not yet purchased the E-MNG and are evaluating it, a temporary license to use it in conjunction with up to 10 ENVIROMUX units for 30 days can be automatically generated. After 30 days, the software will not work unless a valid permanent license is installed, or another temporary license can be generated, but all configuration settings will be lost. Only the purchase and installation of a permanent license will avoid losing your configuration.

For now, click on “Generate 30 days license” to access the E-MNG menu.

Note: See “Deactivate User Account Control” on page 7 before generating a temporary or activating a permanent license.

To install a permanent license, you must have purchased the software and submitted for a license activation key. Upon purchasing the software, you will receive a confirmation email that includes a product serial number for the software purchase. That number, combined with the Machine ID of the computer the Server software is on, will be required to apply for the License Activation Key.

Note: It can take up to 3 business days after submitting your License Request Form to receive your License Activation Key.

Get Machine ID

With the Server software main menu now open, select “Help” and “Install License”.



Figure 3- Server software-Install License tab

The following image will open:



Figure 4- License Activation screen

The “Machine ID” of the computer is in the first line of the image (example above). Write this down exactly as shown and enter it on the Registration and License Request Form found at <http://www.networktechinc.com/license-request-env.html>.

ENVIROMUX Management Software License Request Form

Complete and submit this form to request a license activation key for your ENVIROMUX Server Environment Monitoring System Management Software. Once it has been processed, you will receive the license activation key within 3 business days.

Note: All Fields Are Required

End User Information

First Name:

Last Name:

Company:

Address:

City:

State/Province:

Postal/Zip Code:

Country:

Phone:

Email:

Confirm Email:

You will receive a key at the above email address.

ENVIROMUX Management Software Server Information

ENVIROMUX Software Serial Number: [How Do I Find?](#)

Machine ID: [How Do I Find?](#)

ENVIROMUX Software Edition:

ENVIROMUX Software Version: 2.0

Comments

End User License Agreement

You, as the Customer, agree as follows:

1. DEFINITIONS

1.1 "Application Software" shall mean the Server Environment Monitoring System Management software portion of the Licensed Software, in object code form only, and any other portions of the Licensed Software, in object code form only, provided by NTI.

1.2 "Designated Computer" shall mean the one (1)

I Agree to the End User License Agreement I Do Not Agree

I certify that I am responsible for managing the use of the ENVIROMUX Management Software at this disclosed location and on the system identified on this form. I understand that permanent keys, once issued, cannot be returned, rescinded, or RMA'd. I understand that NTI will provide, without charge, copies of any appropriate software updates/enhancements for 12 months, and that the software update service is optionally extendable every twelve months for 20% of list price.

Talk to a live agent

Call Now!

Phone available
8am-6pm EST

Figure 5- Registration and License Request Form

Install Permanent License

Within 3 business days, you will receive an email that includes a **License Activation Key**. Enter the key with the characters exactly as they are in the body of the email in the block provided in the "Activate License" screen (Figure 4). With a proper entry of the License Activation Key, click on **Activate**. The E-MNG software should now be ready to use.

NOTE: The Server application is licensed to be applied to one CPU and will only work on the CPU with the Machine ID supplied at the time of license issue. To move the Server application to a different CPU, contact NTI to request an updated license.

Deactivate User Account Control

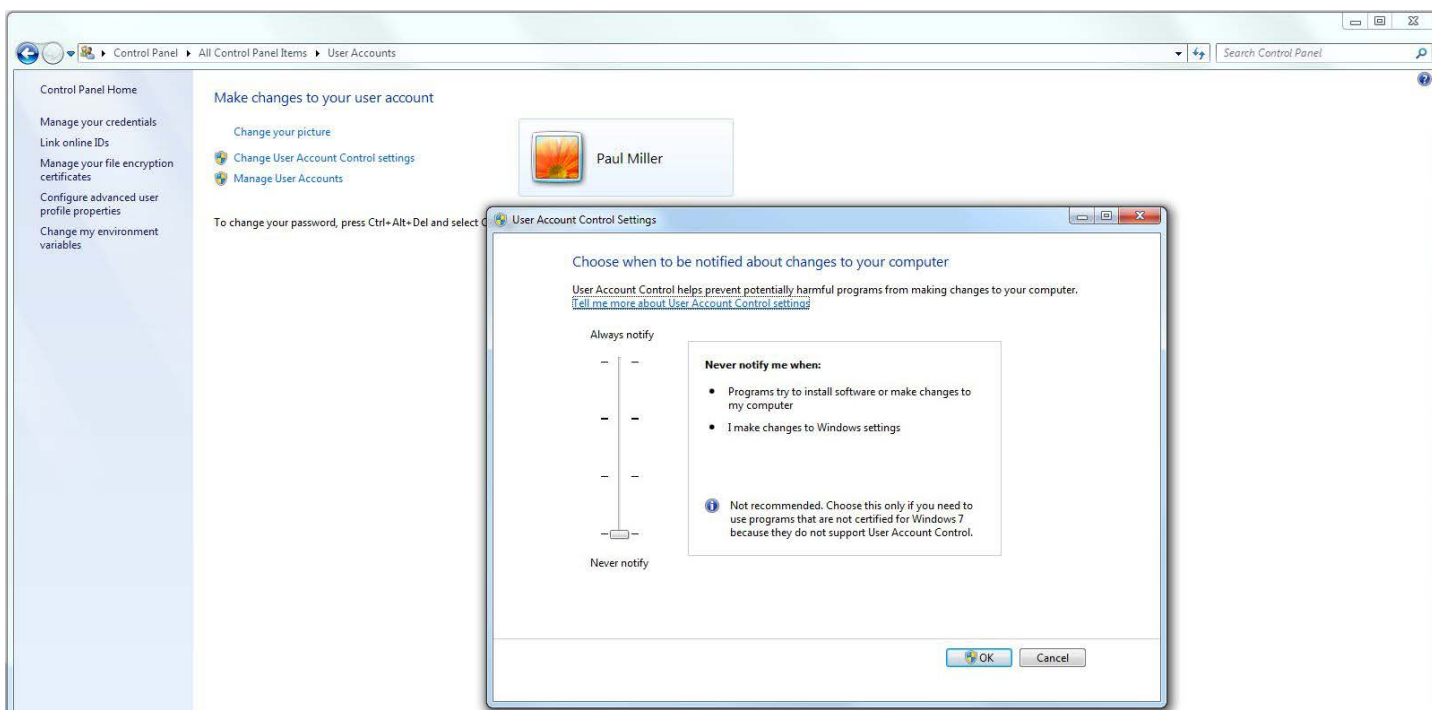
In order to install the license (permanent or temporary) to your PC when running Windows 7 (or later) or Server 2008 (or later) you will need to temporarily deactivate User Account Control. Otherwise, the license will not be able to be written to your registry and each time the E-MNG Server is restarted it will have to be re-configured.

To deactivate User Account Control:

- Go to Control Panel of the Windows Operating System
- Open User Accounts
- Click on “Change User Account Control Settings”
- Slide the button down to “Never notify”.
- Click “OK”
- Reboot the PC for this to take effect.
- Activate the E-MNG Management Software License

After activation you can change the account control setting back to their original settings.

To deactivate User Account Control in Windows 10, you must first enable the hidden administrator account. Then log into the Windows 10 PC as the “Administrator” (not just an administrative user). After deactivating User Account Control, remain logged in as “Administrator” and install the license.



From the Command Line

If the Server software is unzipped to a CPU that operates strictly from the command line, then the following commands will provide access to the Server in that environment :

From the directory the Server software has been extracted to type:

```
C:\E-MNG>java -jar SemsManagerSrvr.jar root nti -config
```

You will be prompted to accept the terms and conditions, type **Y** and press <Enter>:

```
Do you agree with above terms and conditions? (y or n): y
A valid license key was not found on your system!
```

```
Select an option:
  Generate 30 days license    <1>
  Install permanent license  <2>
  Cancel                     <3>
> 1
```

The software will check for a license key.

- If you already have one, enter <2> to be prompted to enter it and simply copy and paste the key from the email message it was received on, or carefully type the key in.
- If you don't have a license key, enter <1> to generate a temporary 30 day license.

Note: The terms and conditions will only be displayed until a temporary license is generated or a permanent license is installed. After that, only the license status and command prompt (below) will follow the initial command to open the program.

Once the license is entered, the command prompt will be ready to receive control commands to configure the server. To see a list of commands the server will accept, type <help>.

```
C:\E-MNG>java -jar SemsManagerSrvr.jar root nti -config
Nb of allowed Enviromux units: 10
Expires on: Sat Dec 29 16:57:10 EST 2012
Type 'help' to view available commands
>
```

For more on server management from the command line and a list of commands, see page 14.

Start the Server, Configuration is Done

To start the ENVIRMUX-MNG server without going into the configuration mode, type the following at the command prompt:

```
C:\E-MNG>java -jar SemsManagerSrvr.jar root nti -nogui
```

Note: If you have changed the root user password, substitute the new password for "nti" in the string above.

To stop the server, terminate the program using a command appropriate for your operating system (<Ctrl+c> for DOS, <kill> for Linux, etc).

SERVER MANAGEMENT

Manage From the GUI (Graphical User Interface)

Immediately after installing the license, and any time hereafter that you double-click on the `semsmanagersrvr.jar` file, the server management software will open to the login screen. The administrator is named “root”, and the root user will be prompted for a password.

The default password is “nti”.

Only the “root” user can access the “Server” side of the management software.

Note: *If the root user password has been changed and this installation is an update (rather than a new installation), the previous root password will not be changed with the updated software installation.*



To reset a changed password back to "nti", see page 48.

Figure 6- Login to server

The software will open to an empty list that will contain all connected UNITS to be monitored by the E-MNG. UNITS are easily added (by the “root” user only) using IP address, or DNS name (if so configured).

Note: *The server will offer to update the root password of any UNIT that has a root password other than “nti”. Otherwise, these units will require a separate login when the server software is started.*

Add UNITS to Monitor

To add a UNIT, click on the “File” menu and select “Add Unit”. A window will open as shown below.

Enter the IP address for the UNIT or the DNS name (if applicable) and press “Add”. If the IP address is valid, the UNIT will appear in the server list. If not, the message “cannot find unit” will be displayed below the “Add” and “Done” buttons. When finished adding UNITS, click the “Done” button to close the window.

TIP: *If you don’t know the IP addresses of the UNITS to be monitored, you can use the included NTI Discovery Tool (page 10) to identify them (provided they are all connected to the same LAN).*

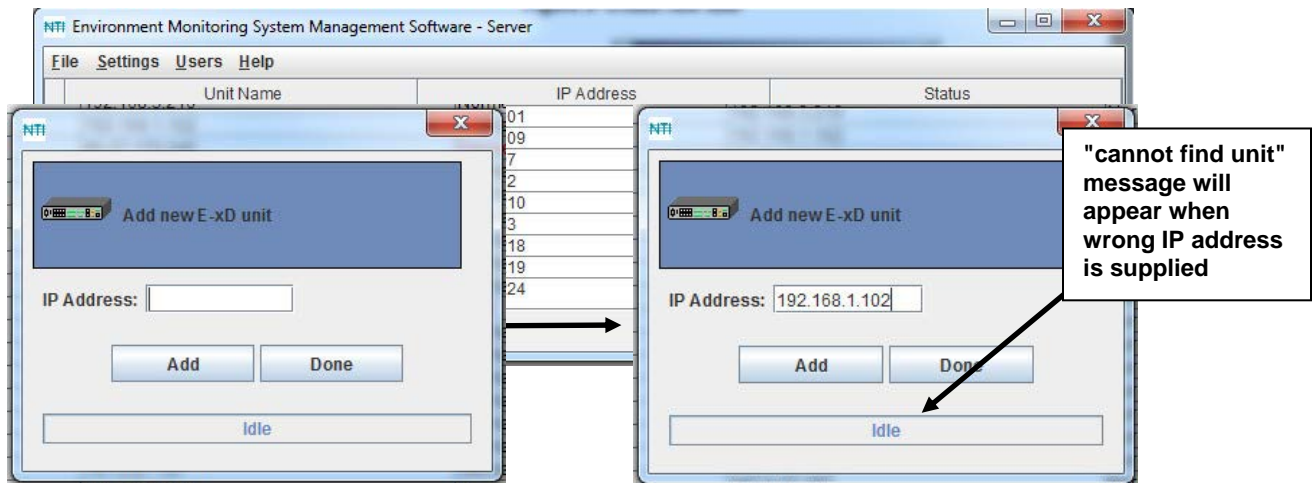


Figure 7- Add UNITS to monitor

Device Discovery Tool

In order to easily locate the UNIT on a network, the NTI Device Discovery Tool may be used. The Discovery Tool is available on many of our webpages, including <http://www.networktechinc.com/download/d-environment-monitor-16.html>. Download the discovery.zip, extract the contents to your PC and click on the file *NTIdiscover.jar*. This will open your browser and display the Device Discovery Tool page.

Note: The Device Discovery Tool requires the Java Runtime Environment to operate.

Note: The computer using the Device Discovery Tool and the ENVIROMUX must be connected to the same physical network in order for the Device Discovery Tool to work.

Network Technologies Inc Device Discovery Tool

- **START**
 - When you load this page, the NTI Device Discovery Applet should load. Accept the Certificate to allow this applet access to your network. Press the button entitled **Detect NTI Devices** to start the discovery process. After a short time, the tool will display all NTI devices on your network, along with their network settings.

Note: Do not close this page while the NTI Discovery Tool is running. Close the NTI Device Discovery Application first, then this webpage.
- **How To Use the Discovery Tool**
 - **To Change A Device's Settings**, within the row of the device whose setting you wish to change, type in a new setting and press the **Enter** key or the **Submit** button on that row. You can also press the **Submit All** button to submit all changes at once.
 - **To Refresh the list of devices**, press the **Refresh** button.
 - **To Blink the LEDs of the unit**, press the **Blink LED** button (This feature not supported on all products). The **Blink LED** button will change to a **Blinking...** button. The LEDs of the unit will blink until the **Blinking...** button is pressed, or the NTI Device Discovery Application is closed. The LEDs will automatically cease blinking after 2 hours.
 - **To Stop the LEDs of the unit blinking**, press the **Blinking...** button. The **Blinking...** button will change to a **Blink LED** button.

Detect NTI Devices

0%

Figure 8- Device Discovery Tool page

Use the Device Discovery Tool to display all NTI ENVIROMUX units on the network, along with their network settings. Follow the instructions on the Device Discovery Tool page to use the tool and to change the device settings if so desired.

Device	MAC Address	IP Address	Mask	Gateway		
ENVIROMUX	00:40:9D:24:07:70	65.243.248.18	255.255.255.128	65.243.248.1	Submit	Blink LED
		Submit All	Refresh	Close		

Add E-MNG Users

The administrator can add Users (as many as desired) that can access the MS and manage monitored UNITS. The list of users is saved in the server but can be configured from any client location. The “root” user can add users, define passwords, and assign administrator rights to a user if so desired. Only listed users will have access to the E-MNG.

Users with administrative rights are also able to manage users in the individual UNITS, allowing them to add, edit, and delete users, as well as change passwords. Only the root user can add additional UNITS to be monitored.

To add a user, click on the “Users” menu item and select “Create New User”. A window (see Figure 9) will open to define a User Name and Password. Place a checkmark in the box next to “Administrative Rights” if you want this user to have control has described above.

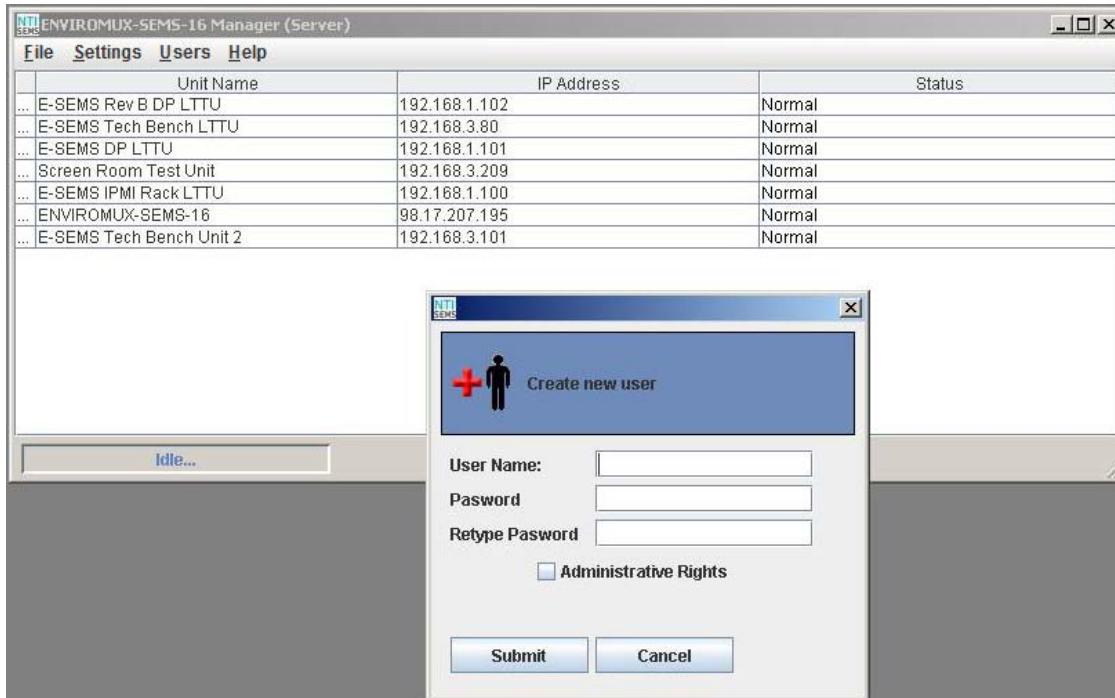


Figure 9- Create new user

Edit E-MNG Users

The root user or users with administrative rights can make changes to a user’s password and change their status as an administrator. Simply click on the “Users” menu and select “Edit User”. A window will open where the desired user can be selected and boxes are available to change user settings or delete a user (see Figure 10).

After making changes, press “Submit Changes” to have them take effect.

After all changes are complete, press “Done” to exit the window.

To delete a user, select the User name from the list and press “Delete”.

Note: A password must be provided, even if it is only 1 character.



Figure 10- Edit User

UNIT Loses Connection

If a UNIT loses connection to the network, whether via power failure or Ethernet, the E-MNG will indicate it.

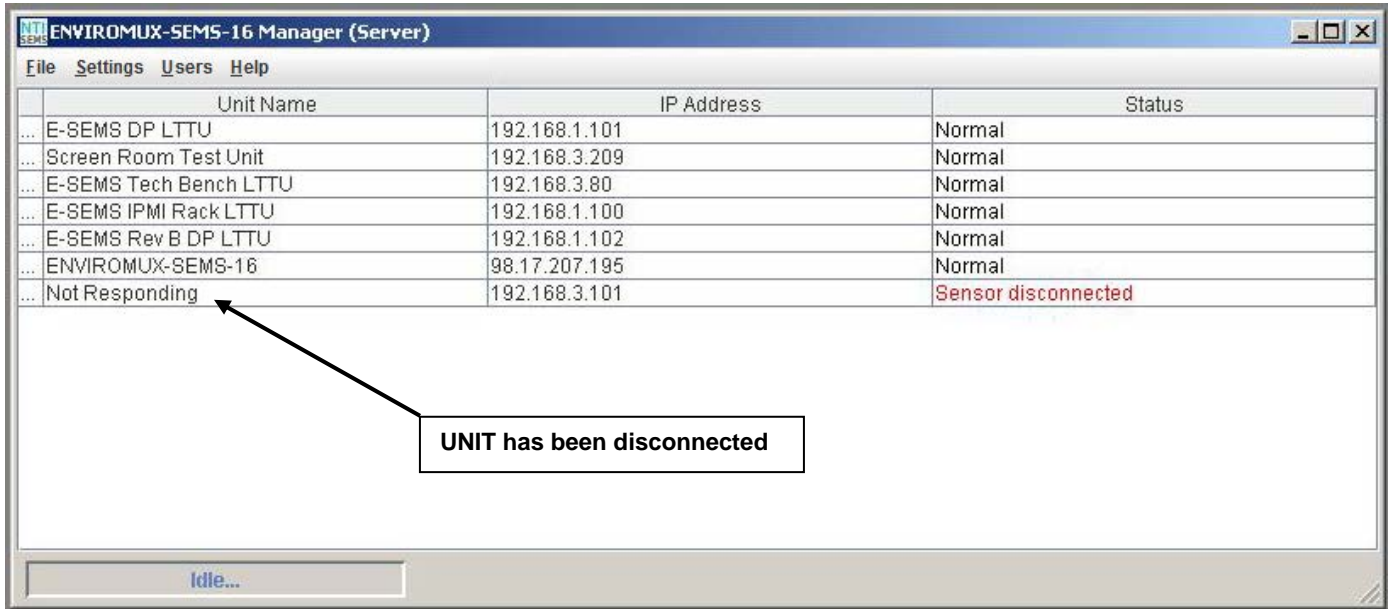


Figure 11- UNIT has lost connection to network

With the power or Ethernet connection restored, the software can be prompted to quickly reload the UNIT and restore sensing and management. Simply right-click (with the mouse) on the client IP address and be prompted to either “Reload” the UNIT or “Delete” it from the list.

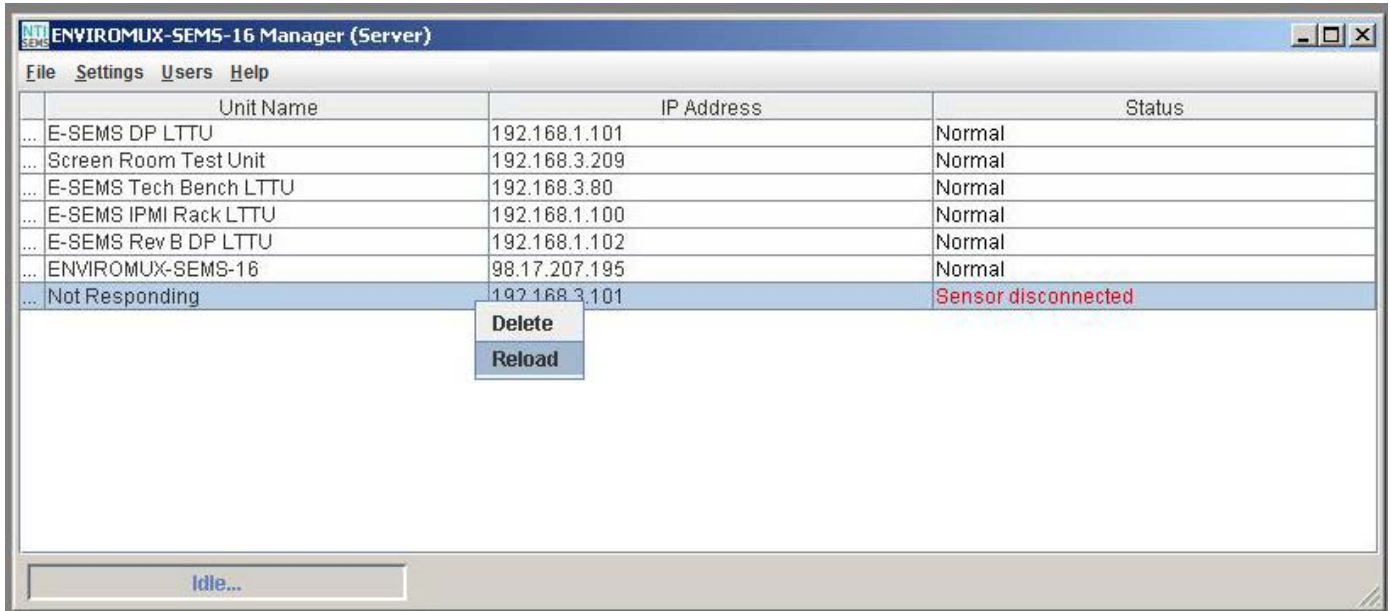


Figure 12- Reload UNIT to restore sensing and management

Alert Settings

If you click on **Setting -> Alerts**, a window will pop up.

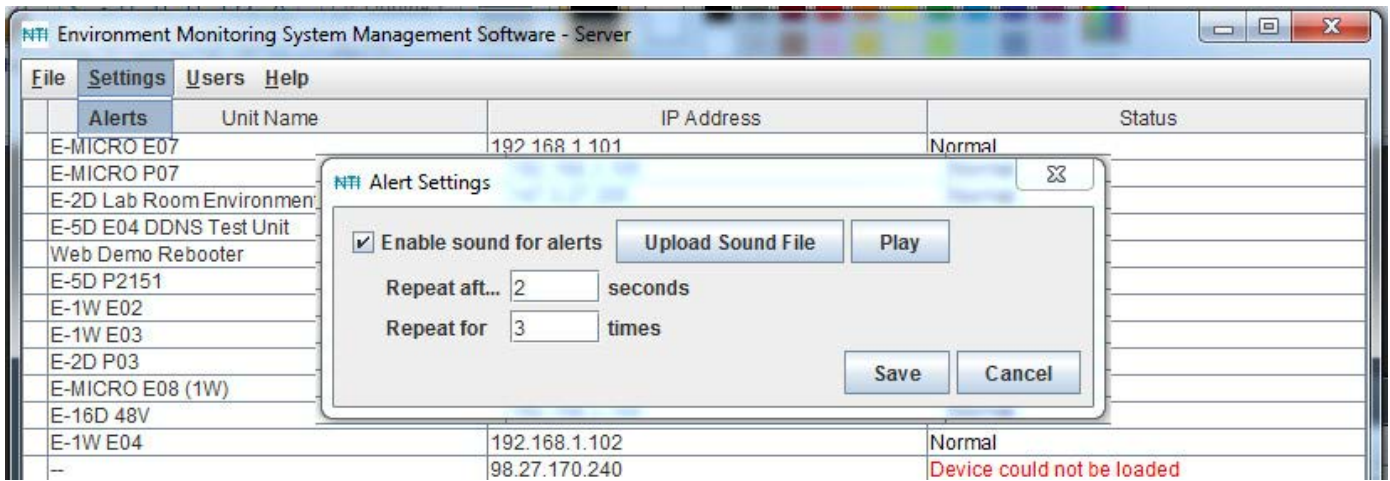


Figure 13- Settings for alerts from the Server

You can place a checkmark in "Enable sound for alerts" to have a customized sound or recorded message play on the PC the Server is installed in when alerts occur (provided the PC has speakers attached to it).

Click on "Upload sound file" to search for a .wav file on your PC to load into the software. With this loaded and enabled, when an alert occurs, the sound from that file will be heard.

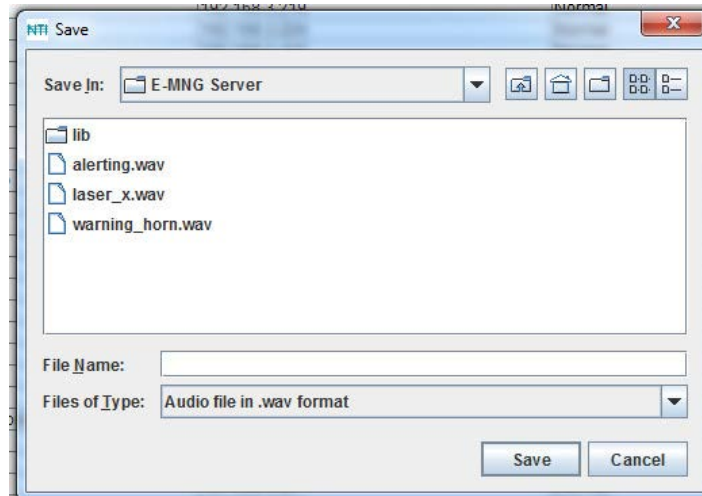


Figure 14- .wav files on your PC

To have the sound repeat, select the number of times it should repeat.

To have a delay between each repeat, select how many seconds should be between each time the .wav file plays (minimum is 1).

To hear the .wav file that has been loaded, click on "Play".

Manage From the Command Line

To control the E-MNG Server from the command line, enter the following command from the directory the server files have been unzipped to:

```
C:\E-MNG>java -jar SemsManagerSrvr.jar root nti -config
```

```
Nb of allowed Enviromux units: 10
Expires on: Sat Dec 29 16:57:10 EST 2012
Type 'help' to view available commands
```

Type <help> to view the available commands.

```
>help
  showid                - Displays the machine ID for licensing
  license <license_string> - Install license
  del_license           - Remove current license
  passwd               - Change root password
  listunits            - Lists the Enviromux units in the project
  addunit <IPAddress>  - Add an Enviromux unit with IP address
  delunit <IPAddress>  - Delete an Enviromux unit with IP address
  listusers            - Lists the available users
  adduser              - Add a user account
  deluser              - Delete a user account
  run                  - Exit config mode and start the server
  exit                 - Exit
```

If you have not yet applied for a permanent license, you will need to get the Machine ID for the License Request Form (page 6). Enter the command <showid> to see the machine ID.

```
>showid
00-0C-29-8D-43-09
```

Write down the number presented for entry into the License Request Form.

Once you receive the license, enter the command <license> and the license string provided by NTI.

```
>license <license_string>
```

If, at some point, the E-MNG Server is moved to a different CPU, the license will need to be updated to work with the new CPU. To first delete the license from the initial server, enter the command <del_license>.

Once the server is configured using the other commands to view, add, or remove ENVIROMUX Units to be managed and view, add, or remove users to have client access, either enter <run> to start the server, or <exit> to exit the configuration program.

To start the server without entering the configuration program, enter the following command (substitute current password for "nti" as applicable):

```
C:\E-MNG>java -jar SemsManagerSrvr.jar root nti -nogui
```

```
Nb of allowed Enviromux units: 10
Expires on: Sat Dec 29 16:57:10 EST 2012
Server started
```

To stop the server, terminate the program using a command appropriate for your operating system (<Ctrl+c> for DOS, <kill> for Linux, etc).

USING A CLIENT

With users and passwords assigned, a user can access the E-MNG Management Software from any computer with the Client software loaded, provided the user has access to the computer the Server software is on. There is no limit to the number of Clients that can access the Server at a time and there is no limit to the number of users that can be configured to use the Client to access the Server.

User Connection

After installing the Client software and Java Runtime Environment (version 1.6 or later), the Client software can be opened by double-clicking on the SemsManager.jar file (in the directory mng-clnt-vx-x.zip was unzipped to). A login screen will appear. Enter the IP address of the server, a valid user name (**other than root**) and password and the manager screen will open.

If you enter user name "root" and the password for "root", an administrative screen will open enabling the management of server settings. See page 46 for more about this.

Note: The client software will remember the last IP address entered, so this may not need to be repeatedly entered with each login unless the IP address of the server changes.

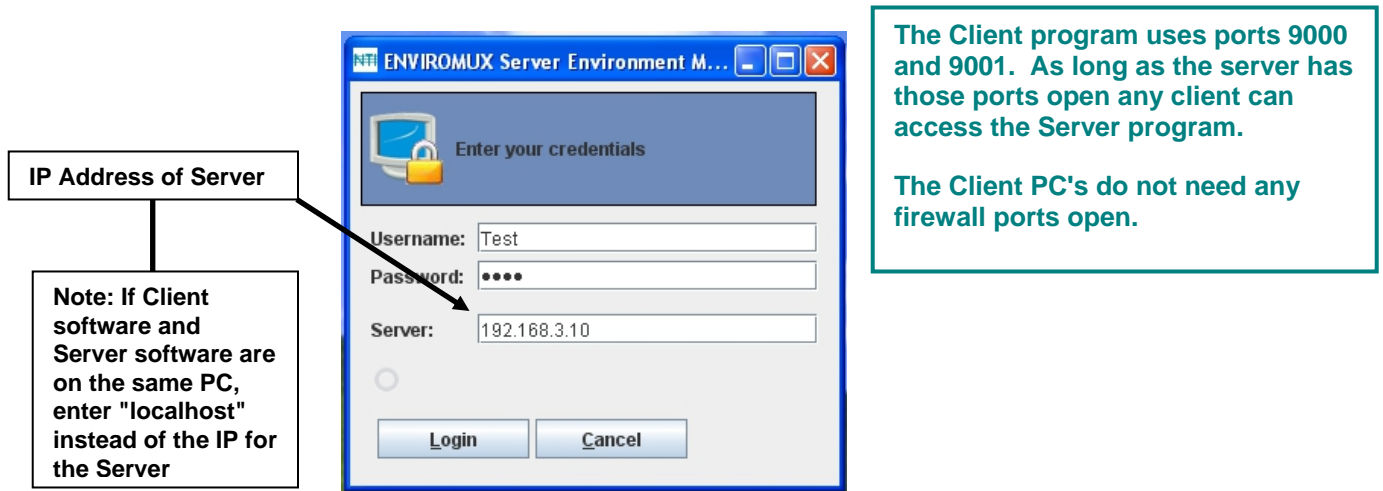


Figure 15- Login at a Client

The Client software will open to a blank window, wherein the user can create "Projects" that include groups of specific UNITS that are to be monitored. Each user can create unique projects used to monitor all available UNITS, or just a portion of them.

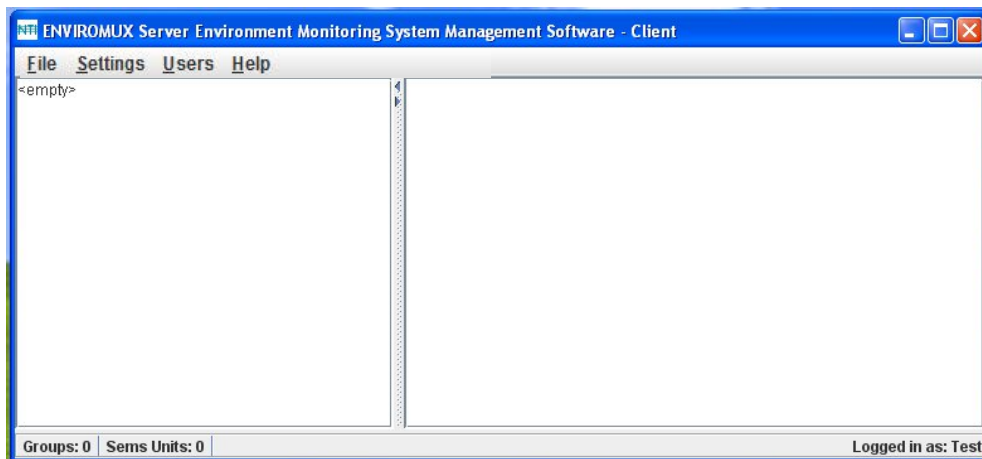


Figure 16- Empty list- no Projects defined yet

Project Management

Each user can monitor any or all connected UNITS. A project is made up of UNITS placed into a single group or can be broken up into category-specific groups for more organized monitoring. Any or all UNITS can be placed into each group. Once they are defined, the list of groups and their included UNITS can be saved as named projects for easy recall later. Multiple projects can be defined for each user. From the “File” menu, a user can create a new project, open and existing project, or delete existing projects.

Create a Project

To create a new project go to the “File menu” and select “New Project”. The word “<empty>” will be replaced by “New Project”.

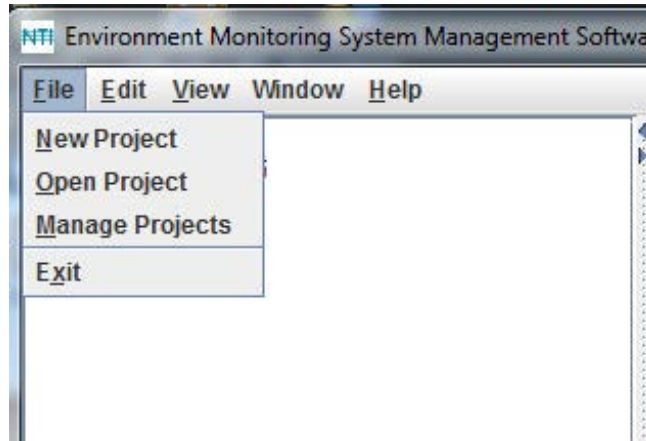


Figure 17- File Menu choices

With the project “New Project” highlighted, go to “Edit” menu and select “Project Settings”. A project window will open.

FYI: The “Project Settings” selection is also used to edit an existing project.

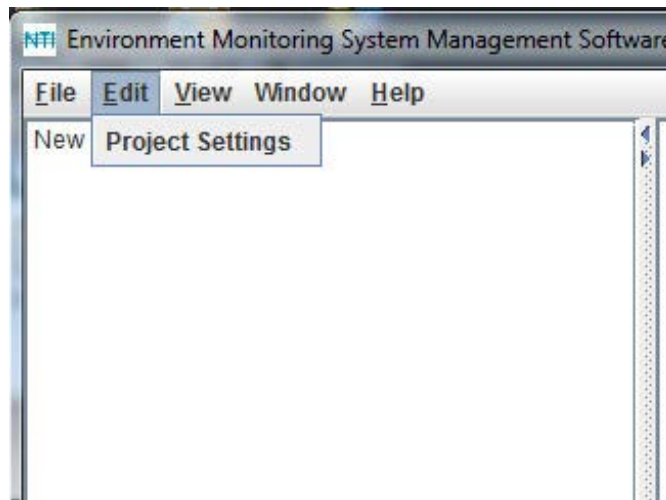


Figure 18- Select Project Settings

From the project window, click on the “New Group” button to add a group number under “New Project”. Then click on the group name to select it. Select each UNIT from the list of “Available ENVIROMUX units” list that should be included in this group. With the UNITS selected either:

- click on “Save” to save the project, then “Cancel” to exit the project window,
- click on “New Group” to define another group of UNITS,
- or just click “Cancel” to cancel the action, save nothing, and return to the empty “New Project” window.

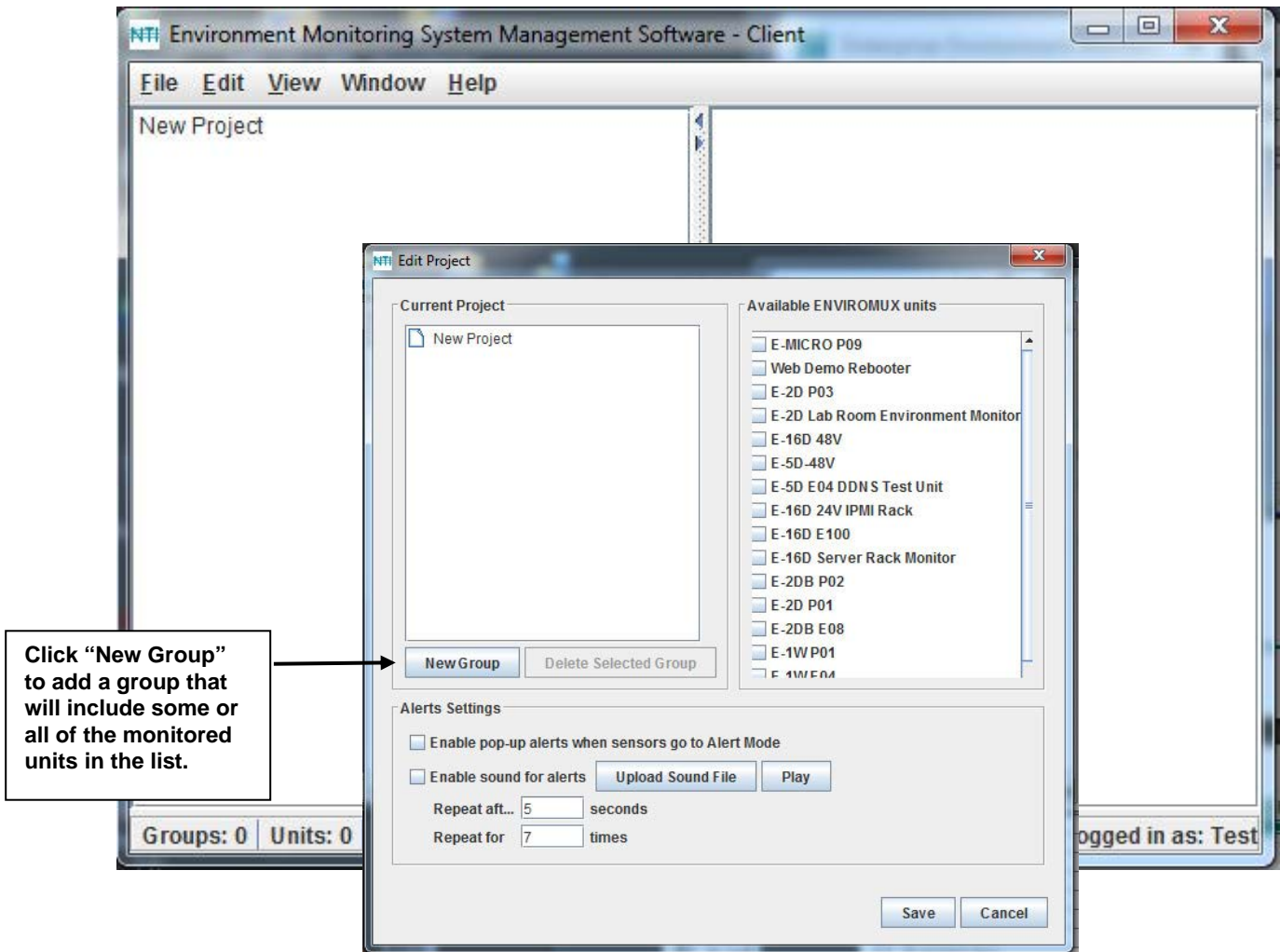


Figure 19- Define a new project

A unique name can be assigned to the Project.

To change the Project name double-click on the name and type the new Project name.

Press <Enter> to save it, or <Esc> to cancel.

Perform the same steps to change Group names.

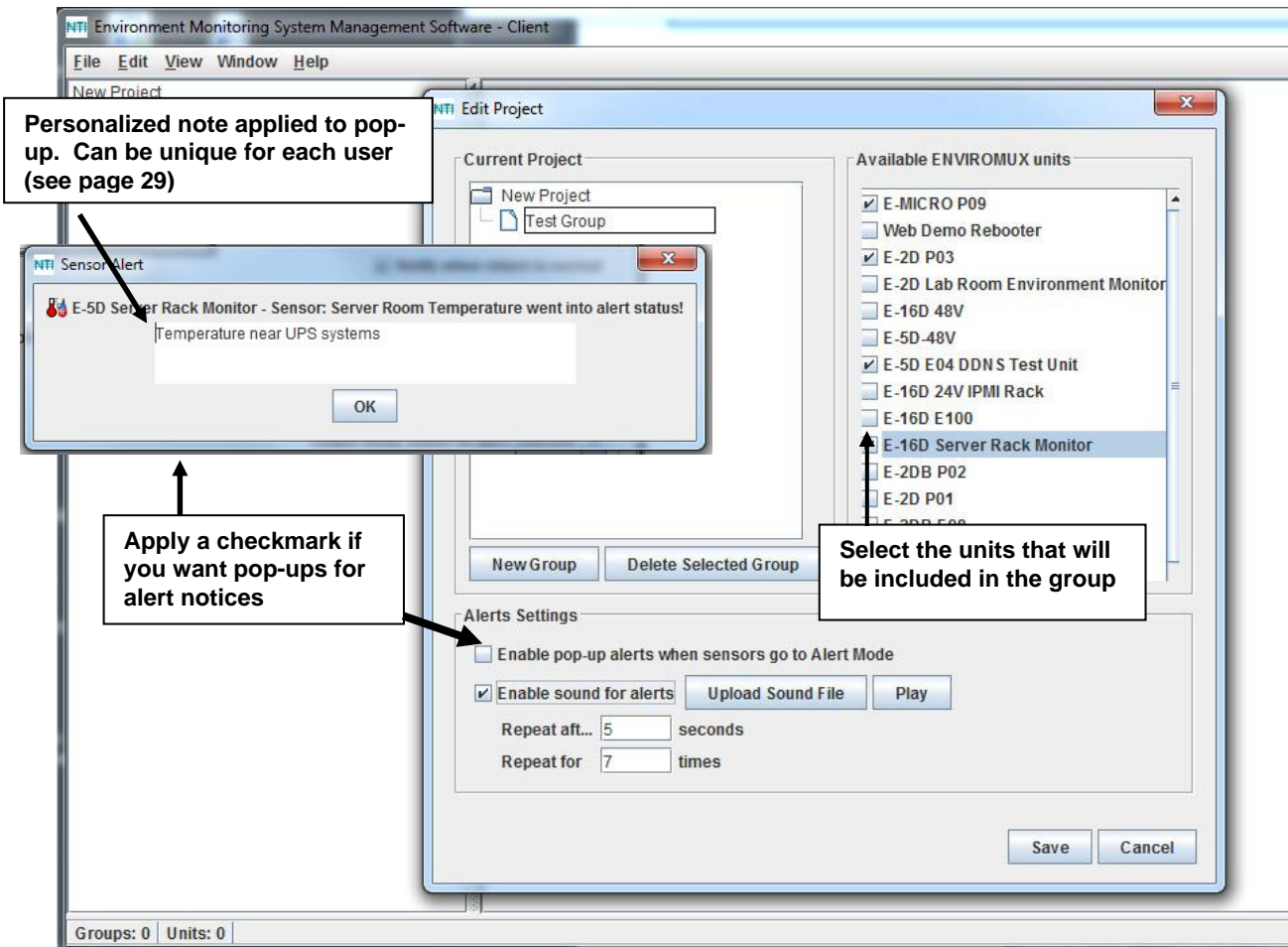


Figure 20- Change names of project and groups

If you apply a checkmark to the “Enable pop-up alerts when sensors go to Alert Mode” box, then any sensor that calls for an alert will cause a pop-up on your computer screen and an audible indication as long as you are logged-into the client software and you have speakers connected to the Client PC.

Alternatively, place a checkmark in "Enable sound for alerts" to have a customized sound or recorded message play when alerts occur.

Click on "Upload sound file" to search for a .wav file on your PC to load into the software. With this loaded and enabled, when an alert occurs, the sound from that file will be heard as long as you are logged-into the client software.

To have the sound repeat, select the number of times it should repeat.

To have a delay between each repeat, select how many seconds should be between each time the .wav file plays (minimum is 1).

To hear the .wav file that has been loaded, click on "Play".

Note: If you select both "Enable pop-up alerts when sensors go to Alert Mode" and "Enable sound for alerts", then the .wav file will not play until the pop-up on your screen has been dismissed. We do NOT recommend enabling both.

With the project settings defined, and groups defined, click on the group names to see the UNITS selected listed below each (Figure 19).

Notice, below, that some UNITS in one group are also in the other. A UNIT can belong to as many groups as desired.

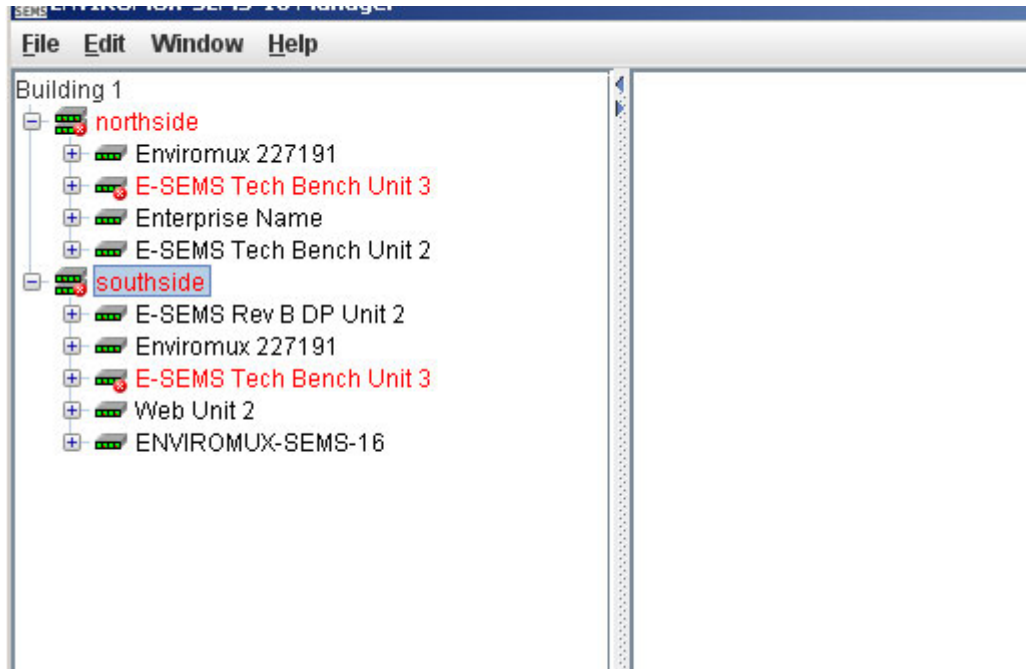


Figure 21- Project and groups exploded to view UNITS

1. Select a UNIT to view the sensor category list.
2. Select a category to see the sensors in that category.
3. Select a sensor to see the status of that sensor.

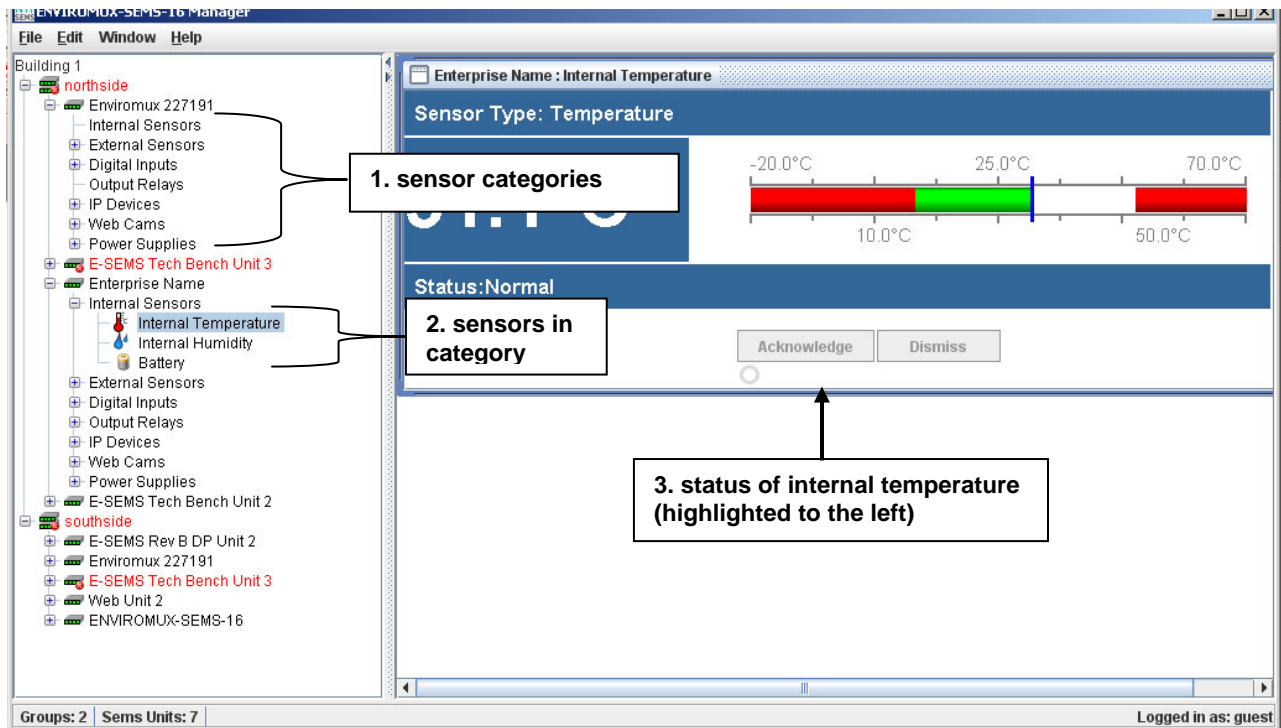


Figure 22- Exploded view of E-MNG

Open a Project

In the image below, rather than creating a new project and re-selecting UNITS to be monitored, the user will open the “Guest View” project, a previously created project that contains all the UNITS the user wants to monitor.

1. Go to the “File” menu and select “Open Project”.

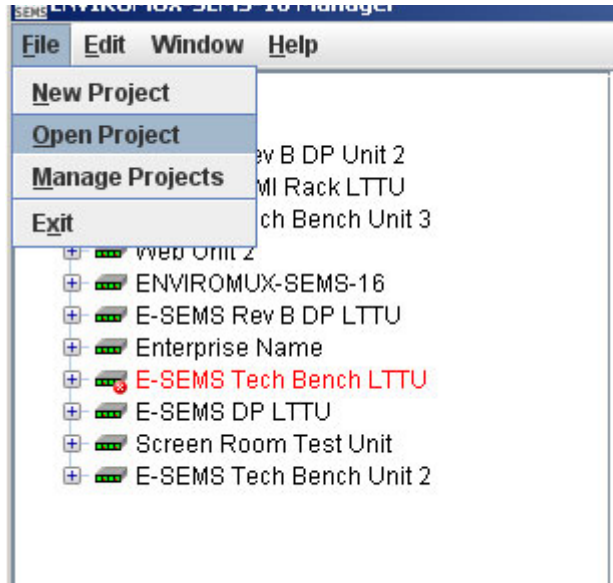


Figure 23- Open existing project

2. A list of existing projects previously defined will appear. Select the one desired and click “Open”.

Click “Open” to open the pre-defined “Guest View” Project

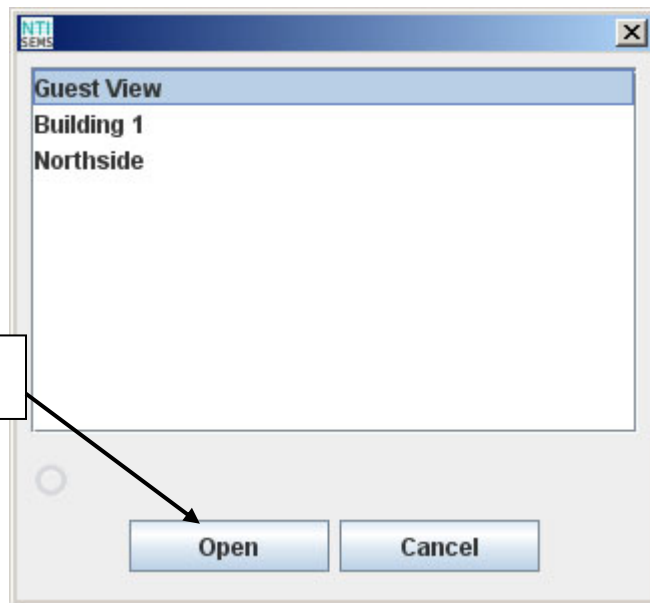


Figure 24- List of existing projects

3. The selected project is now open and ready to review.

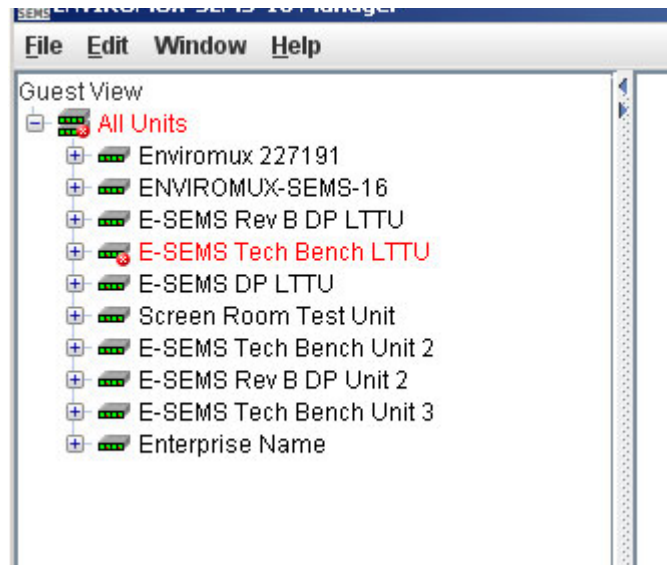


Figure 25- Existing project open, ready for viewing

Delete a Project

To delete a project, select "Manage Projects" (Figure 23) from the "File" menu. Select the project name to remove and click the "Delete": button. That project and any groups defined within it will be removed from the projects list.

FYI: The user can also open an existing project from the Manage Projects window, if desired.

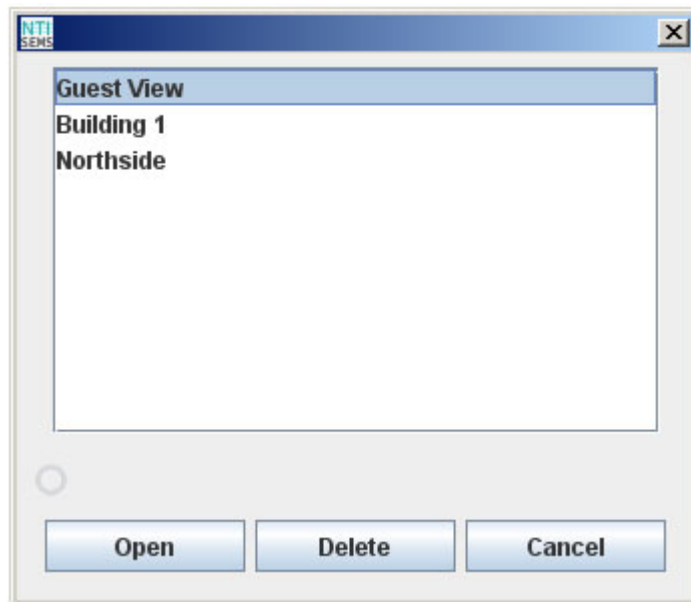


Figure 26- Deleting a project

Remote UNIT Management

From the E-MNG manager, the user can perform many UNIT management functions that otherwise can only be performed when connected to the individual UNIT through the web interface. To open a menu for making configuration changes to a UNIT, right click the UNIT name in the list. From here, the following areas of a monitored UNIT can be managed:

- **View summary**- to view a summary status of all connected sensors
- **View scrolling summary**- to view a scrolling summary with a controlled window size of all or select categories of connected sensors
- **Configure System**- Fields for entering the time and date, language, and the LCD monitor settings for the UNIT being managed
- **Configure Enterprise**- Fields for assigning the company name, address, contact person and phone number, and the UNIT e-mail address.
- **Configure Network**- Fields for providing all the network settings
- **Configure Security**- Apply SNMP agent settings
- **Users**- Add and edit all user settings including passwords (available to users with administrative privileges only)
- **Configure Groups** - See below
- **Reboot**- This will cause the selected unit to reboot
- **Configure Log**- Define how log capacity will be handled and how user will be alerted as it becomes full

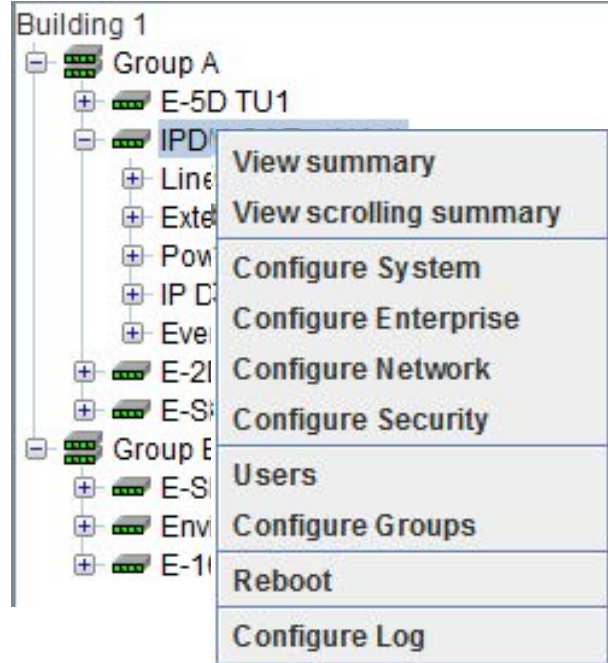


Figure 27- Options with right click on UNIT

The window for Configure Groups lets you change the names of the groups for the selected unit (press "Apply"), or for all of the units in the managed group (press "Apply to group...").

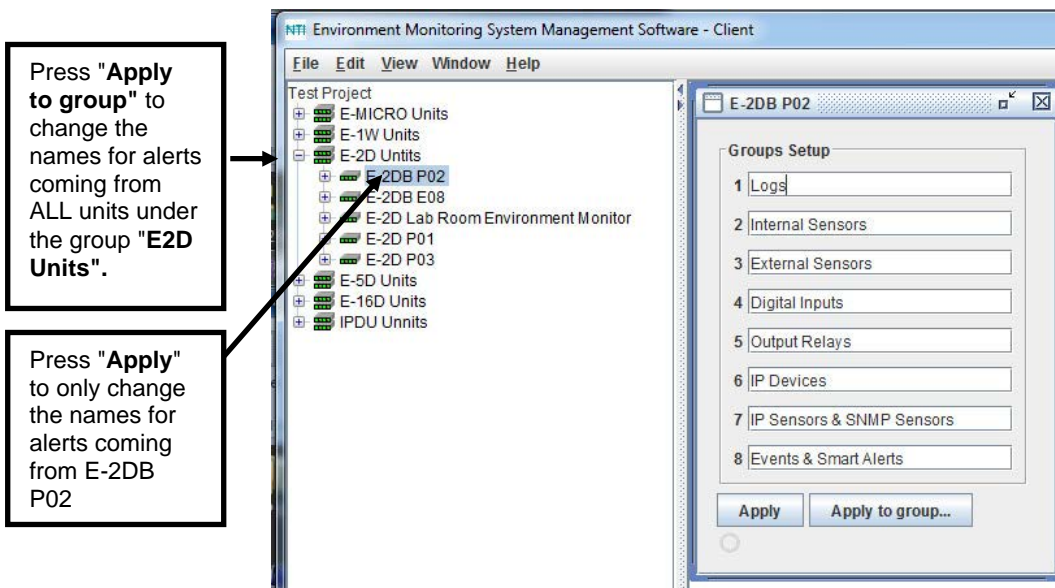


Figure 28- Use Configure Groups

The management options of E-MICRO-T(RHP) and E-1W have a few differences:

- **View summary-** to view a summary status of all connected sensors
- **View scrolling summary-** to view a scrolling summary with a controlled window size of all or select categories of connected sensors
- **Configure Enterprise-** Field for entering the name of the E-Micro UNIT being managed
- **Configure Network-** Fields for viewing all the network settings and changing the DNS server settings if desired.
- **Configure SNMP Agent-** Apply SNMP agent settings
- **Configure Email Server-** Apply email settings for the E-Micro
- **Configure Time-** Apply Date and Time settings for the E-Micro
- **Users-** Add and edit all user settings including passwords (available to users with administrative privileges only)

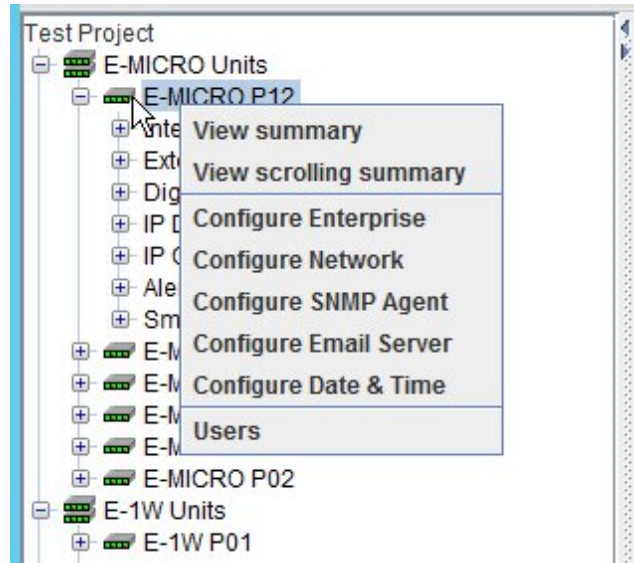


Figure 29- Options for the E-MICRO and 1W UNITS

View Summary

With the UNIT selected, right click and select “View Summary” to see a summary view of the status of all sensors connected to a UNIT.

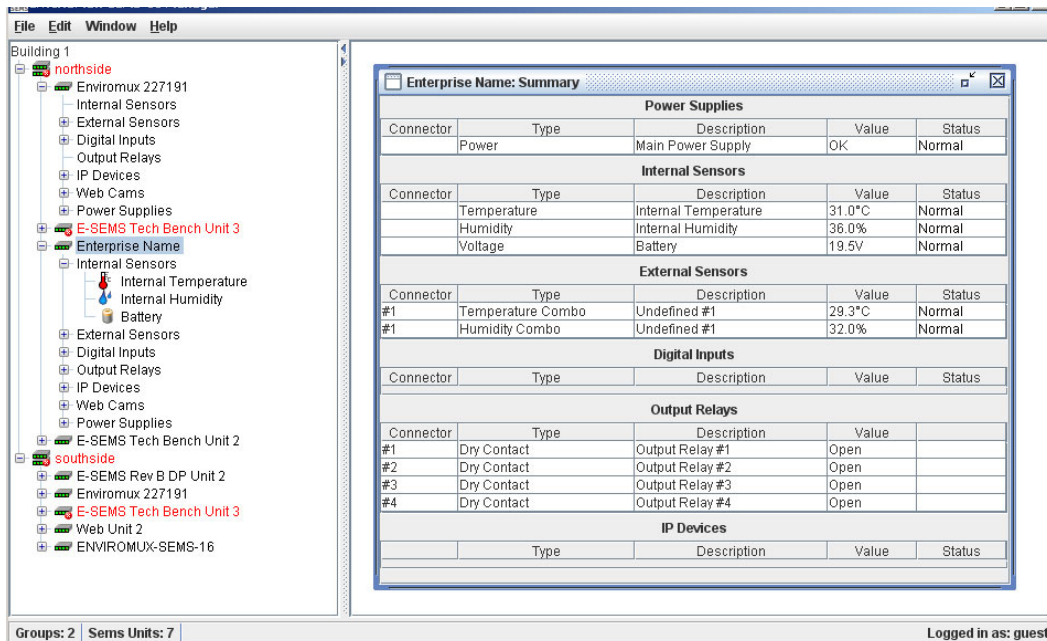


Figure 30- Summary view of sensors in a UNIT

If desired, the Summary view for each unit can be opened for easy monitoring. They can be arranged in a “Cascade” view, like in Figure 31, or in “Tile” view, like in Figure 32. Simply select the summary view for each UNIT to be displayed, then select the view method. The view methods of “Cascade” or “Tile” are found under the “Window” menu.

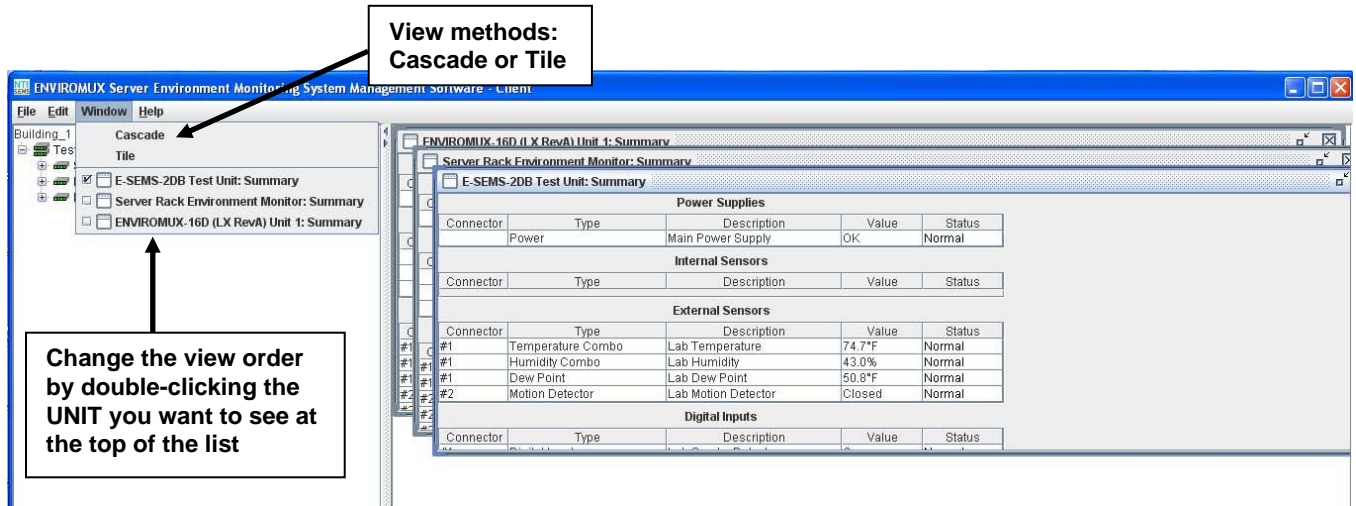


Figure 31- View multiple summary pages in Cascade View

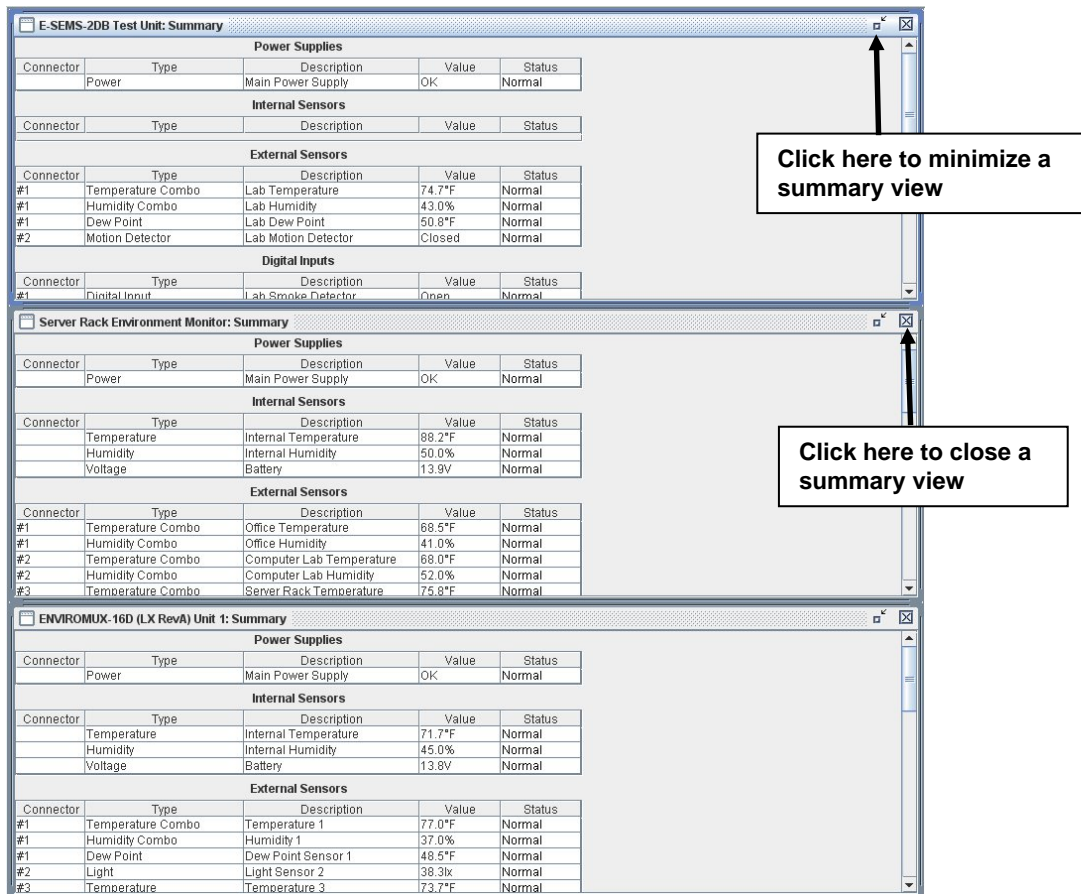


Figure 32- View summary pages in Tile View

View Scrolling Summary

The scrolling summary provides a more controlled way to limit the amount of screen space used for summary view and to view only those sensors that you want to keep on.

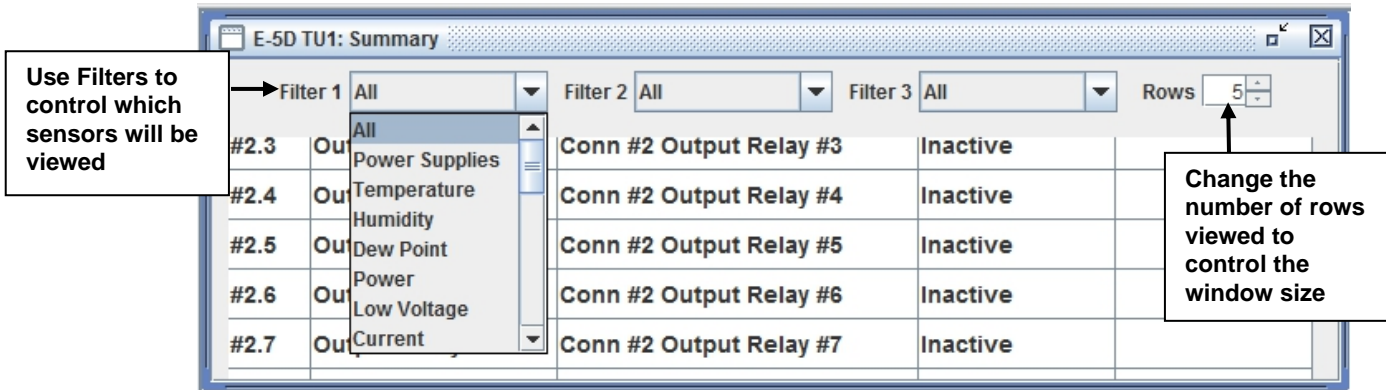


Figure 33- Scrolling window for controlled view of sensor status

By applying limitations to the Filters (1-3), limit the view of the scrolled sensors to only those types of sensors you have an interest in seeing the information on. The status of each is updated dynamically based on the configured refresh rate of each sensor.

A scrolling summary can include only the sensors for a specific unit (as shown in Figure 33), or, it can include sensors from an entire group of ENVIROMUXs (shown in Figure 34).

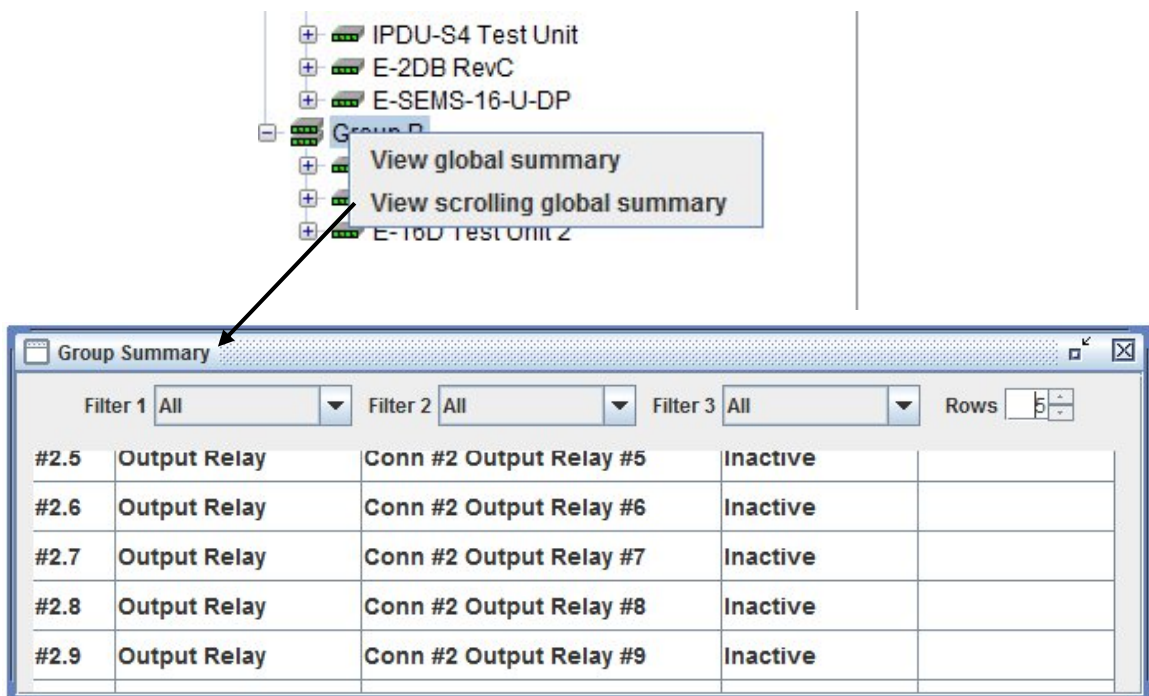


Figure 34- Scrolling summary window can be used for a group of Units

Configuration Options

Click on “Configure System”, “Configure Enterprise”, “Configure Network” or “Configure Security” to access the configuration options of the ENVIROMUX you are managing.

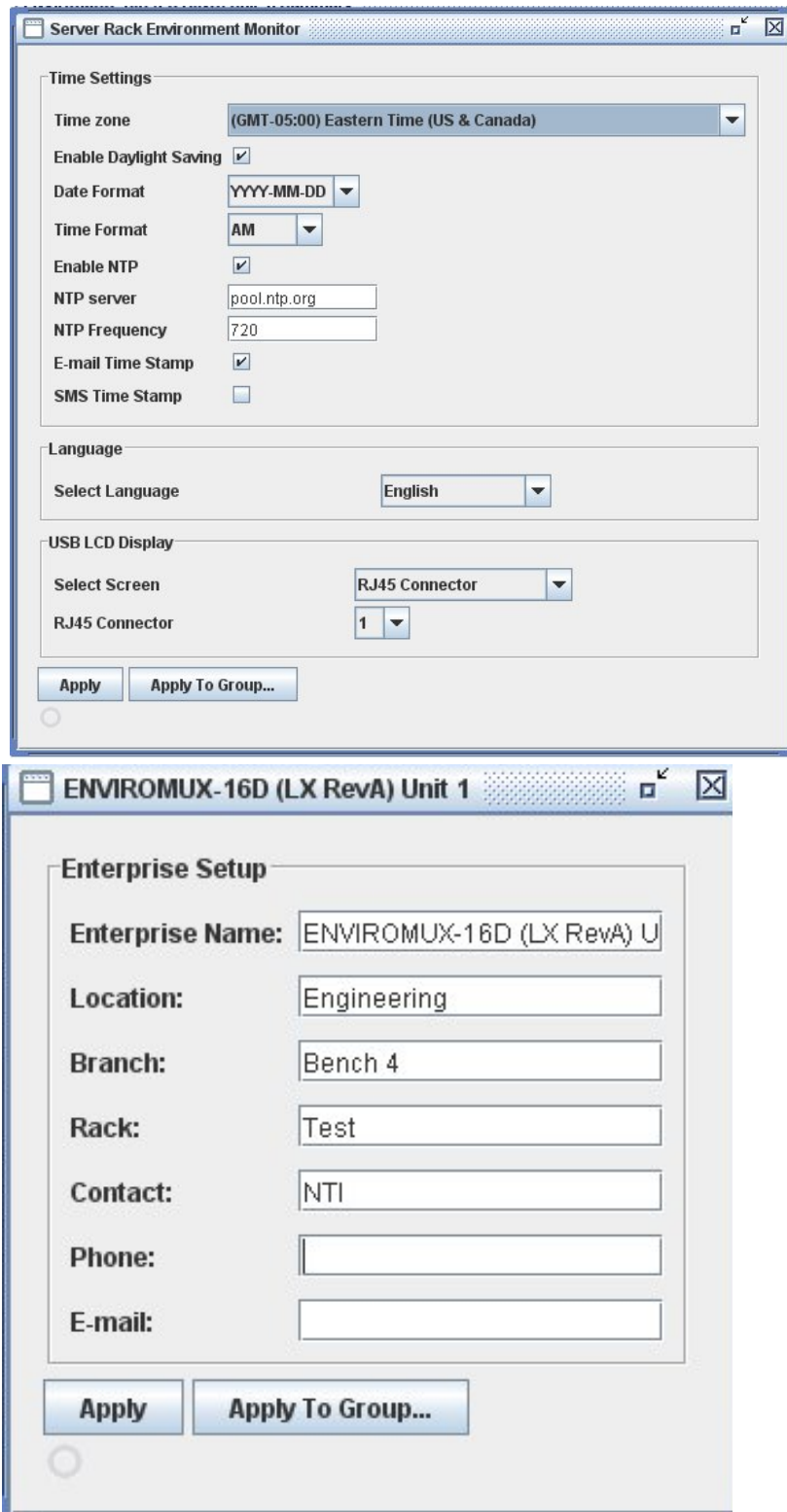


Figure 35- Configure System and Enterprise Settings

IPv4 Settings

IPv4 Mode: **Static**

IP Address: 192.168.3.100

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.3.3

Preferred DNS Server: 192.168.1.52

Alternate DNS Server: 166.102.165.11

IPv6 Settings

IPv6 Mode: **Disabled**

IPv6 Address: []

IPv6 Default Gateway: []

Enable 6to4 tunnel: **Disabled**

Local IPv4 Address: []

Remote IPv4 Address: []

SMTP Settings

SMTP Server: smtp.gmail.com

Port: 465

Use SSL: Use STARTTLS:

Use Authentication:

Username: []

Password: []

SNMP Settings

Enable SNMP Agent: **SNMPv1/v2c/v3**

Enable SNMP Traps:

Read-write community name: private

Read-only community name: public

Server Settings

Enable Telnet:

Enable SSH:

Enable HTTP Access:

HTTP Port: 80

HTTPS Port: 443

Web Timeout: 0

User Authentication

Mode: **Local**

LDAP Primary Server: []

LDAP Secondary Server: []

LDAP Server Type: **Generic LDAP Server**

LDAP User Base DN: []

IP Filtering

No.	Enabled	Mode	Filter Rule
1	Disabled	DROP	192.168.0.0/32
2	Disabled	DROP	192.168.0.1/32
3	Disabled	DROP	192.168.0.2/32
4	Disabled	DROP	192.168.0.3/32
5	Disabled	DROP	192.168.4.0/24
6	Disabled	DROP	192.168.5.0/24
7	Disabled	DROP	192.168.6.0/24
8	Disabled	DROP	192.168.7.0/24
9	Disabled	DROP	192.168.8.0/24
10	Disabled	DROP	192.168.9.0/24
11	Disabled	DROP	192.168.10.0/24
12	Disabled	DROP	192.168.11.0/24
13	Disabled	DROP	192.168.12.0/24
14	Disabled	DROP	192.168.13.0/24
15	Disabled	DROP	192.168.14.0/24
16	Disabled	DROP	0.0.0.0/0

NOTE: SNMP must be enabled in each ENVIROMUX Unit monitored for the E-MNG to receive and display sensor values.

Figure 36- Configure Network and Security Settings

E-MICRO-T(RHP),-1W, and IPDU Configuration Options

The screenshot shows the 'Enterprise Setup' dialog box for 'E-MICRO P12'. It contains a text input field for 'Enterprise Name' with the value 'E-MICRO P12'. Below the input field are two buttons: 'Apply' and 'Apply to group...'.

The screenshot shows the 'Network Settings' dialog box for 'E-MICRO P12'. It includes several configuration fields: 'IPv4 Mode' (Static), 'IP Address' (10.175.1.50), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (10.175.1.1), 'Preferred DNS Server' (209.18.47.61), and 'Alternate DNS Server' (209.18.47.62). At the bottom are 'Apply' and 'Apply to group...' buttons.

The screenshot shows the 'Email Server Setup' dialog box for 'E-MICRO P12'. It contains fields for 'Email' (larry.e.plummer@neo.rr.com), 'SMTP Server' (smtp-server.neo.rr.com), and 'Port' (25). There are also checkboxes for 'Use SSL' and 'Use Authentication', and empty text fields for 'Username' and 'Password'. 'Apply' and 'Apply to group...' buttons are at the bottom.

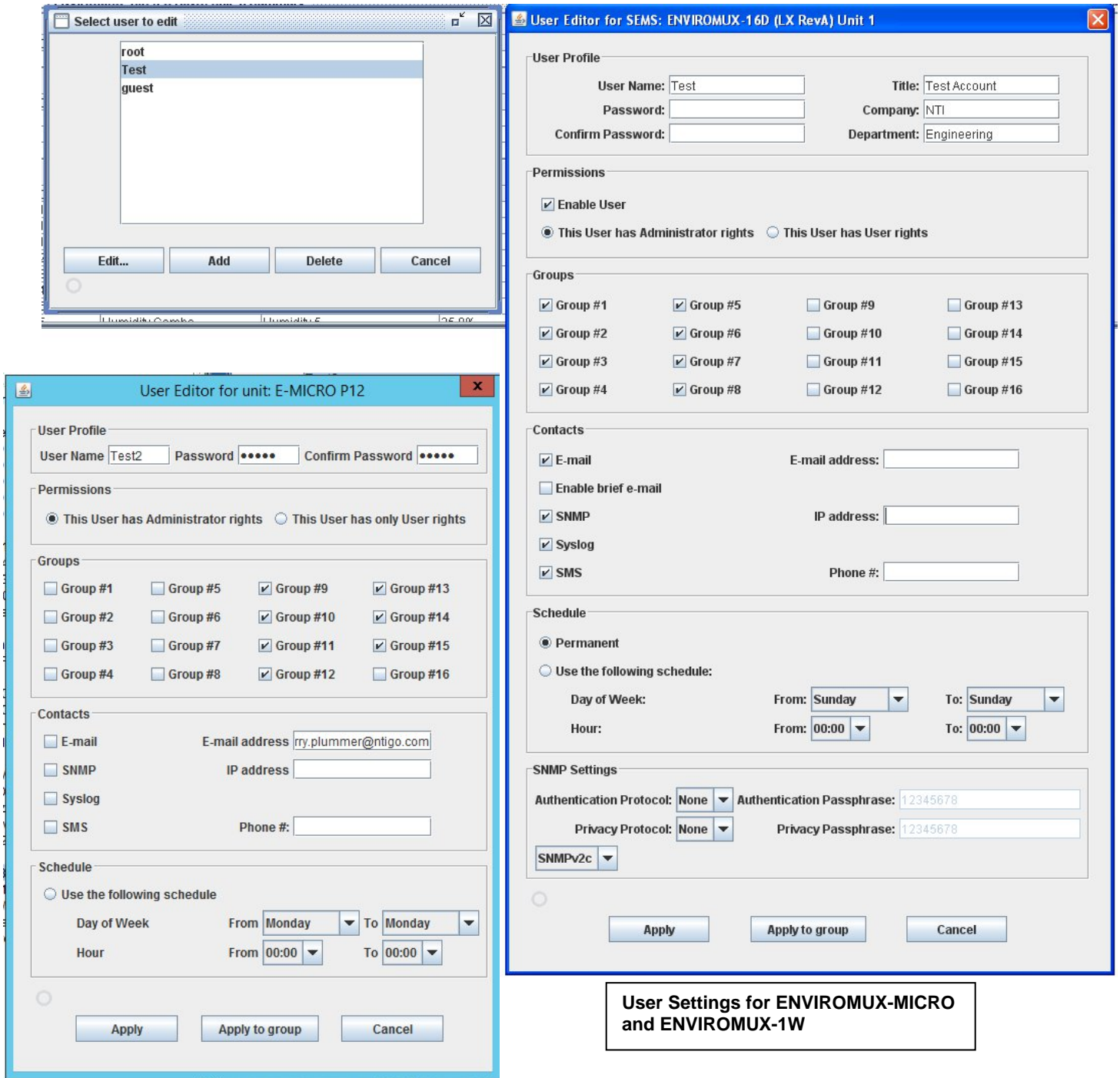
The screenshot shows the 'SNMP Agent Setup' dialog box for 'E-MICRO P12'. It includes fields for 'Read Community' (public) and 'Write Community' (private), and a 'Trap Type' dropdown menu set to 'SNMPv1'. 'Apply' and 'Apply to group...' buttons are at the bottom.

The screenshot shows the 'Date & Time Setup' dialog box for 'E-MICRO P12'. It features a 'Time Zone' dropdown set to '(GMT-05:00) Eastern Time', a checked 'Enable DST' checkbox, 'Date Format' (MM-DD-YYYY) and 'Time Format' (24-hour) dropdowns, a checked 'Enable NTP' checkbox, an 'NTP Server' field (0.nti1.pool.ntp.org), and an 'NTP Frequency' field (180 minutes). 'Apply' and 'Apply to group...' buttons are at the bottom.

Figure 37- E-MICRO-T(RHP) and -1W Configuration Options

User Configuration

Click on "Users" to access individual user configurations within each ENVIROMUX.



User Settings for ENVIROMUX-MICRO, IPDU and ENVIROMUX-1W

User Settings for ENVIROMUX-MICRO and ENVIROMUX-1W

Figure 38- Manage User Settings

Log Configuration

Click on “Configure Log” to control event and data logging information for the connected UNITS. (Not applicable to E-MICRO or E-1W.) Determine which sensor groups will generate logs, what types of information should be logged, how overflow is handled, and how users will be communicated with.

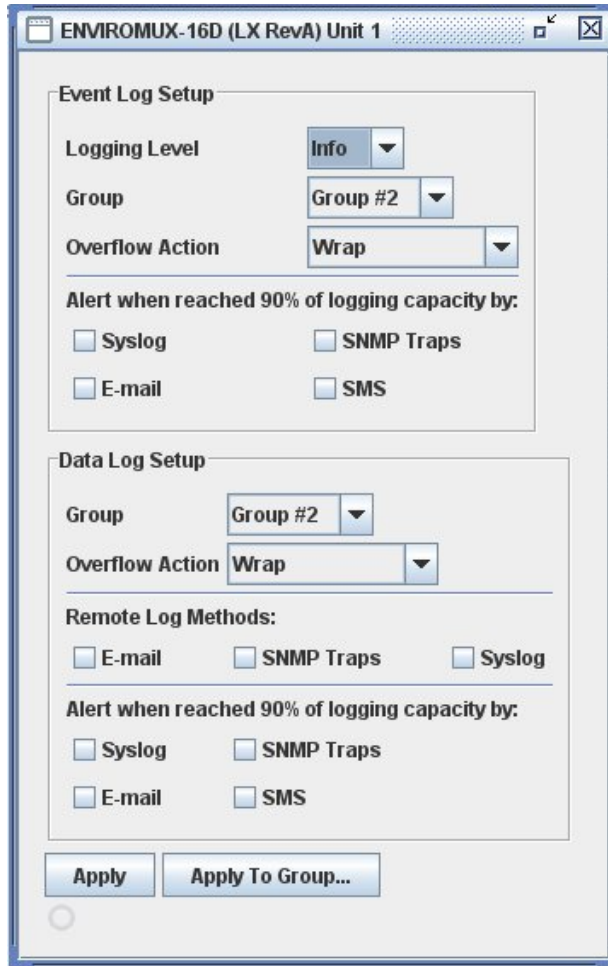


Figure 39- Configure Event Log Setup

E-MNG Log Files

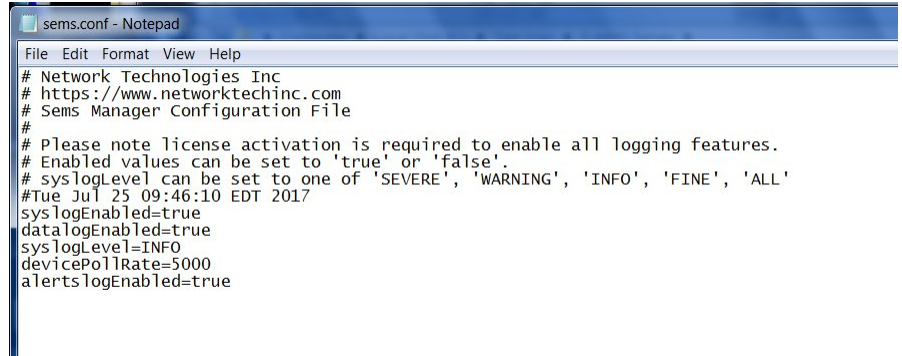
Log files can be generated as they pertain to the events monitored by the E-MNG software. By configuring the `sems.conf` files found in the directories the Server and Client were extracted into, log files can be generated and then viewed for use in troubleshooting, generating reports, or other programs intended to cause actions based on alert status.

Server Logs

Datalogs and alert logs on **Server** Software can be configured by editing “`sems.conf`” file (using a text editor such as Notepad) below.

Please note license activation is required to enable all logging features.

```
syslogEnabled=true
datalogEnabled=true
syslogLevel=INFO
devicePollRate=5000
alertslogEnabled=true
```



1. “Enabled” values can be set to “**true**” or “**false**”.

2. “syslogLevel” can be set to one of 'SEVERE', 'WARNING', 'INFO', 'FINE', 'ALL'. Recommended Setting: INFO

- SEVERE will log only system crash like messages.
- WARNING will log severe messages and messages that user needs to look into
- INFO will log all above messages plus some rudimentary messages like “server started”
- FINE or ALL will log all communications and may generate several GB of data over a few days (**not recommended**)

3. “devicePollRate” is the period between polling of sensors for same unit in milliseconds. (1000 milliseconds = 1 second) Polling rate has to be between 900ms and 3,600,000ms. It can be adjusted based on refresh rate, data log rate # required and system load on the server.

4. When syslog is enabled, the Server software logs any errors and usage to a `system.log` file (in the same directory) which can be used for troubleshooting.

5. When alertslog is enabled, the Server software logs sensor status changes to an `alerts.log` file in tab delimited format (example record given below):

DATE_TIME	SENSOR_TYPE	SENSOR_INDEX	LOG_LEVEL	ALERT_STATUS	ENVIRONMENT_UNIT_ID	UNIT_IP_ADDRESS	UNIT_NAME
				SENSOR_NAME			
Mon Jul 31 10:08:04 EDT 2017	DIGITALOUTPUT	3	INFO	NORMAL	983168	192.168.3.100	E-16D
				E-16D-M Door Strike 4			

6. When datalog is enabled, server software logs sensor data per device poll rate to 'data.log' in below tab delimited format (example record given). Sensor value may contain appropriate sensor unit separated by whitespace:

DATE_TIME	SENSOR_TYPE	SENSOR_INDEX	LOG_LEVEL	ENVIRONMENT_UNIT_ID	UNIT_IP_ADDRESS	UNIT_NAME	SENSOR_VALUE
				SENSOR_SNMP_OID		SENSOR_NAME	
Mon Jul 31 10:07:59 EDT 2017	INTERNAL	0	INFO	.1.3.6.1.4.1.3699.1.1.10.1.3.1.1.6.	192.168.3.217	Internal Temperature	32.8 °C
				1048667		E-5D-48V	

Note: For the edited `sems.conf` file to take effect, it must be edited and saved, and then the E-MNG Server must be shut down (close the application) and then restarted.

Client Logs

Datalogs can be configured on **Client** Software by editing “sems.conf” file as below.

Please note license activation is required to enable all logging features.

```
syslogEnabled=true
syslogLevel=INFO
datalogEnabled=true
alertslogEnabled=true
```

1. “Enabled” values can be set to “**true**” or “**false**”.
2. "syslogLevel" can be set to one of 'SEVERE', 'WARNING', 'INFO', 'FINE', 'ALL'. Recommended Setting: INFO
 - SEVERE will log only system crash like messages.
 - WARNING will log severe messages and messages that user needs to look into
 - INFO will log all above messages plus some rudimentary messages like "server started"
 - FINE or ALL will log all communications and may generate several GB of data over a few days (not recommended)
3. When syslog is enabled, the Client software logs any errors and usage to a `system.log` file (in the same directory) which can be used for troubleshooting.
4. When datalog is enabled, the Client software logs only currently monitored sensor data, every 8-10 seconds, to “`data.log`” in tab delimited format (example record given below). Sensor value may contain appropriate sensor unit separated by whitespace:

DATE_TIME	SENSOR_TYPE	SENSOR_INDEX	LOG_LEVEL	ENVIRONMENT	SENSOR_NAME	UNIT_ID	UNIT_IP_ADDRESS	UNIT_NAME
Mon Jul 31 10:08:06 EDT 2017	EXTERNAL	0	INFO	E-16D-M	Temperature	1	192.168.3.100	E-16D Unit 1
							83.1 °F	

Note: For the edited sems.conf file to take effect, it must be edited and saved, and then the E-MNG Client must be shut down (close the application) and then restarted.

Additional configuration options that apply to the Server and Client software (requires version 3.1) include:

```
datalogRollPeriod=
alertslogRollPeriod=
syslogRollPeriod=
```

1. These can be set to one of 'HOUR', 'DAY', 'WEEK', 'MONTH' which rolls the log every such period.
 - Except for HOUR, the rest of the options trigger log roll at midnight local time.
 - End Of WEEK is considered Saturday at midnight

Log Roll support provides the ability to save data accumulated for set periods of time. Once the period of time has expired, the Server and/or Client (as configured) will save the data into a numbered archive file. The newest archive will be numbered "1" (i.e. `data_archive1.log`, or `alert_archive1.log`). When the period expires again, archive "1" will be renamed archive "2" and the newest archive will again be archive "1". Archives will continue to be added to depending upon how many have been configured to be kept (see value for "numSyslogsToKeep", "numDatalogsToKeep" or "numAlertslogsToKeep").

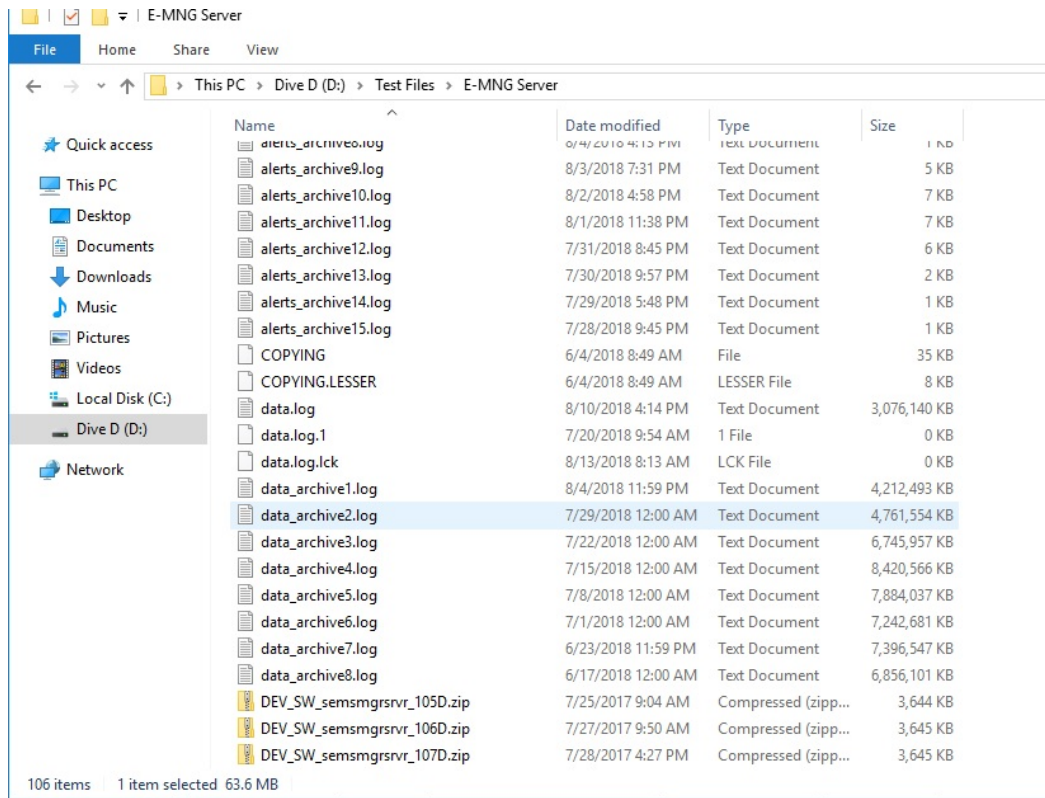


Figure 40- Directory view of accumulated log archives

`numSyslogsToKeep=`

`numDataLogsToKeep=`

`numAlertslogsToKeep=`

2. These can be set to any integer value between 1 and 5000. This will **keep** as many archives as configured and **purge** logs older than this.

Note: After installing Server and Client software version 3.1 (or later), the `sems.conf` file will not automatically update with the new options. To use the new configuration options, either

A. Delete and Edit

1. Close the Server software and Client software.
2. Delete the `sems.conf` file from the Server software directory (same directory `SemsManagerSrvr.jar` file is in) and Client software directory (same directory `SemsManager.jar` file is in).
3. Restart the Server and Client software. The updated `sems.conf` file will be generated and ready to edit.
4. Edit the `sems.conf` file with the values desired and save it.
5. Close the Server software and Client software.
6. Restart the Server and Client software. The values entered will now take effect.

B. Edit Only (saving the values you already have in place without having to re-enter them)

1. Open the `sems.conf` file (will need to be done for the Server, and again for the Client)
2. Add the options below to the `sems.conf` file manually. (It would be easiest to copy from this document and paste them in.)

```

datalogRollPeriod=
alertslogRollPeriod=
syslogRollPeriod=
numSyslogsToKeep=
numDatalogsToKeep=
numAlertslogsToKeep=

```

3. Enter the desired values for the options using the instruction on pages 31 and 32.
4. Save the completed `sems.conf` file.
5. Close the Server/Client software.
6. Restart the Server/Client software. The options and values entered will now take effect.

Note: The syntax of the values entered is important for configuration to be successful (sems.conf file content sample below):

The order the configuration options are listed in does not matter.

```

syslogEnabled=true
syslogLevel=ALL
syslogRollPeriod=DAY
numSyslogsToKeep=7
datalogEnabled=true
datalogRollPeriod=DAY
numDatalogsToKeep=7
alertslogEnabled=true
alertslogRollPeriod=DAY
numAlertslogsToKeep=7
devicePollRate=5000

```

How to search the data log to find particular sensor data.**Option 1**

1. Select the data log file corresponding to the date you are interested in.

Remember, Log files are kept in the same directory the Server and/or Client software is executed from. Time periods for the logs are dependent upon how you have the Log Roll periods configured (page 32).

2. Open the log file as a Tab Delimited spreadsheet (for example using Excel).
3. Add a data filter in Excel for the sensor you are searching for.

Option 2

Import the data log files into a data base and use various SQL based tools to search for the sensor of interest.

Option 3

Use an operating system command line to filter the sensor from the log file using “grep” in Linux or “Select-String” in Windows

Drive Space for Logs

Log files contain a considerable amount of information that can be used to analyze the application environment. The memory space needed to accumulate those logs can be easily calculated.

Total Log size = (Log entry size X Number of log entries per day) X Number of days being saved.

Example: 200 sensor values being logged every 30 minutes over a 6 month period

Each Log entry is 270 Bytes

Logging every 30 minutes will produce 48 log entries per sensor, per day.

48 log entries X 200 sensors = 9600 log entries per day.

9600 x 270 Bytes = 2,592,000 Bytes per day

2,592,000 x 180 days = 466,560,000 Bytes or 466.56 Mb of space

Sensor Monitoring and Configuration

Sensor readings can be monitored, settings can be quickly configured to change the criteria for reporting alerts, or they can be removed altogether. Right-click on a sensor to bring up a menu enabling you to Monitor, Configure, Remove a sensor, Start Recording sensor readings taken and View a History Graph of those readings.

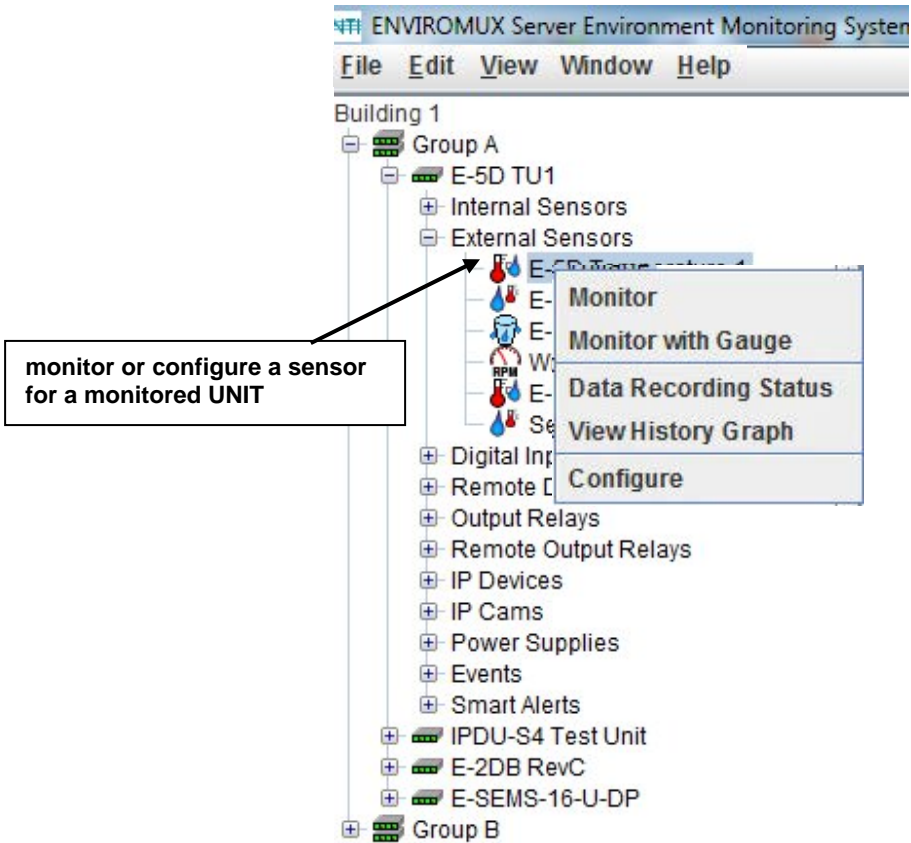
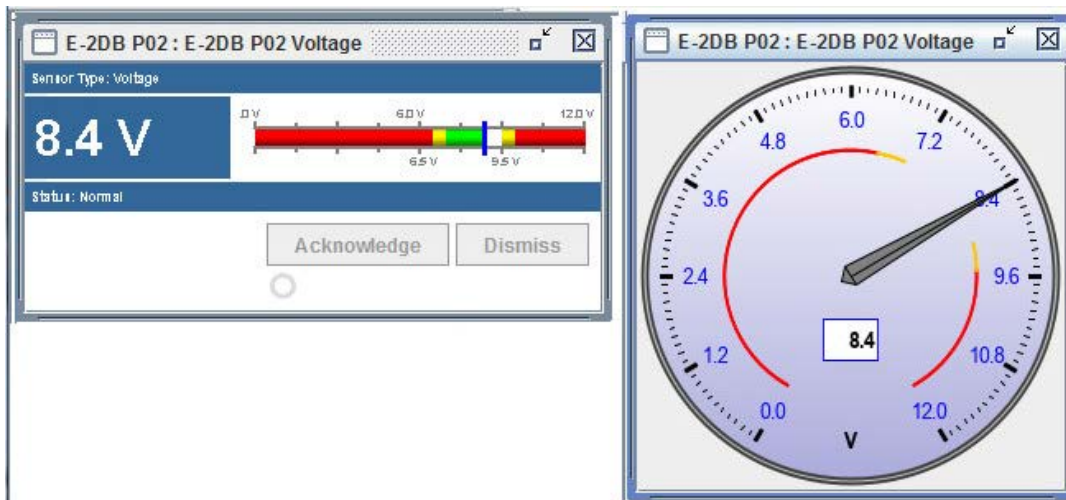


Figure 41- Manage a sensor- choose action

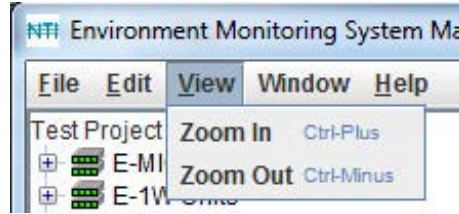
Select "Monitor" to see the status of the sensor as a bar graph or "Monitor with Gauge" to view the status in gauge format. (This option only applies to RS485 sensors.)



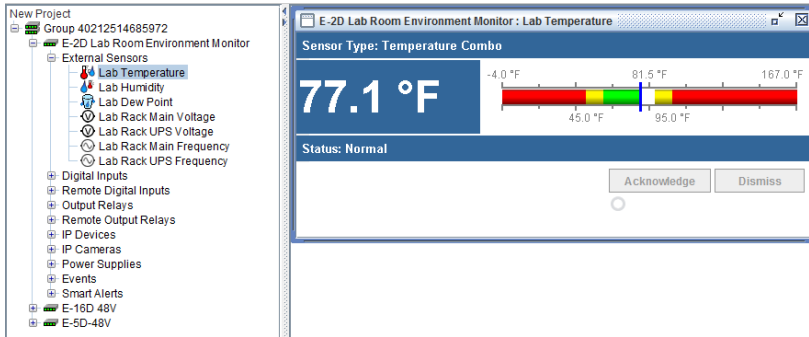
(Viewed as a bar graph (left), or as a gauge (right))

Figure 42- Monitor status of the "Undefined" external sensor

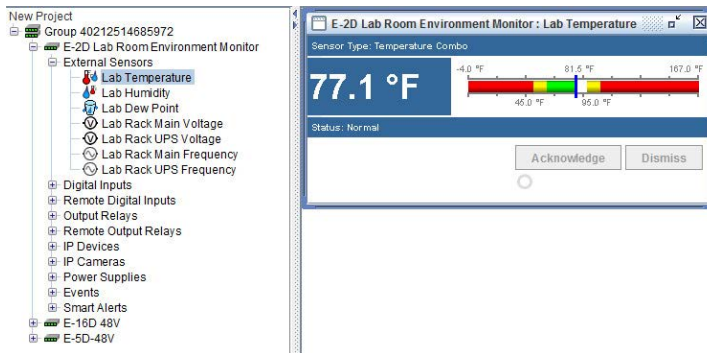
When viewing the status of a sensor, you have the ability to enlarge the bar graph or reduce the bar graph as it is displayed in the window. Select **View -> Zoom In** or **Zoom Out** as desired.



Note: This feature does not effect the Gauge view of a monitored sensor.



Select **Zoom Out** (or press <Ctrl -Minus>) to make the bar graph appear smaller.....



Select **Zoom In** (or press <Ctrl -Plus>) to make the bar graph appear larger.....

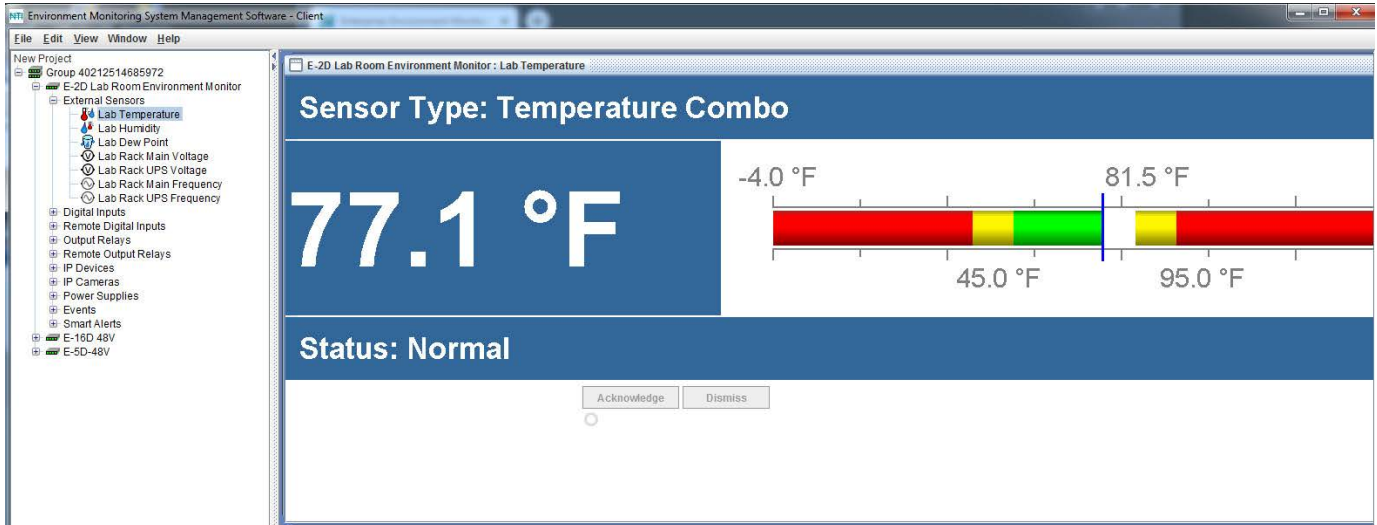
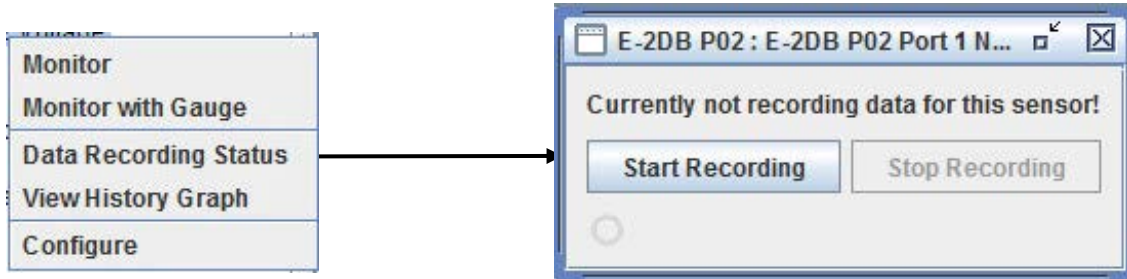


Figure 43- Change size of bar graph view for monitored sensor

Select "Data Recording Status" ->"Start Recording" to have the readings for the sensor stored in memory. Readings will be stored for up to 120 days, after which old readings will drop off to make room for new readings.



To view the readings stored, select "View History Graph".

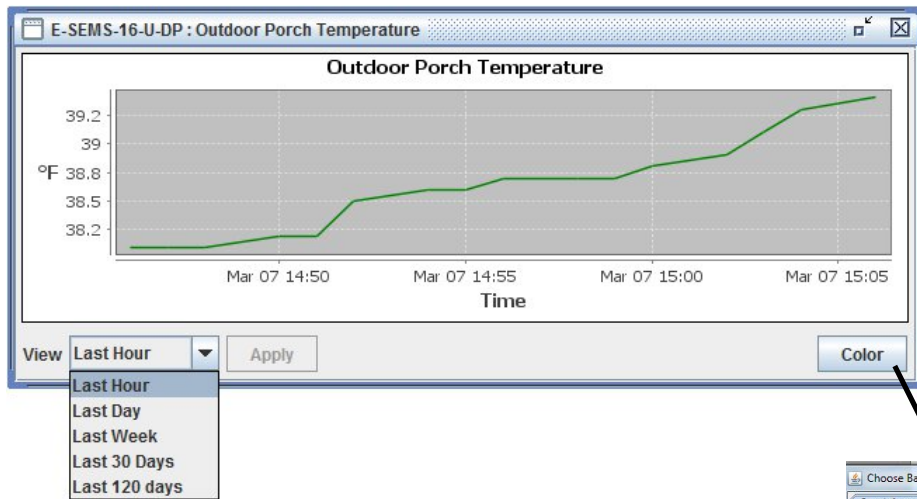


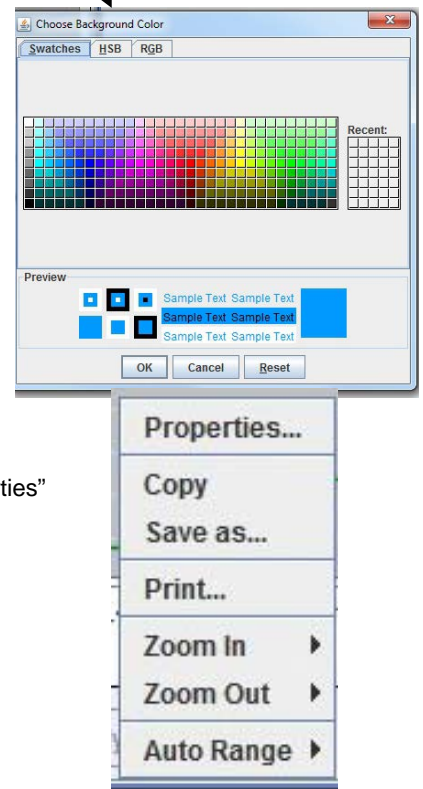
Figure 44- View History Graph

A graph that shows a sensor's readings can be viewed. The time period displayed can be changed to show the last hour, last day, last week, last 30 days or the last 120 days.

The color of the graph can be changed. Click on "Color" to bring up a color chart. Select the desired color and press "OK". (The color change will only take effect as long as you have the history graph open. Once closed, upon reopening the graph the original color will be displayed again.)

The range of readings displayed will adjust as the readings are taken. For example, in the above image, for the time period displayed the range of readings was between 38.2°F. to 39.2°F. If expanded to view the Last Day, the range would automatically update to a wider range of temperatures and adjust the graph accordingly.

If you right-click inside the graph, a menu with more options will be presented. Click on "Properties" to bring up options to change the "Chart Properties" or appearance of the graph.



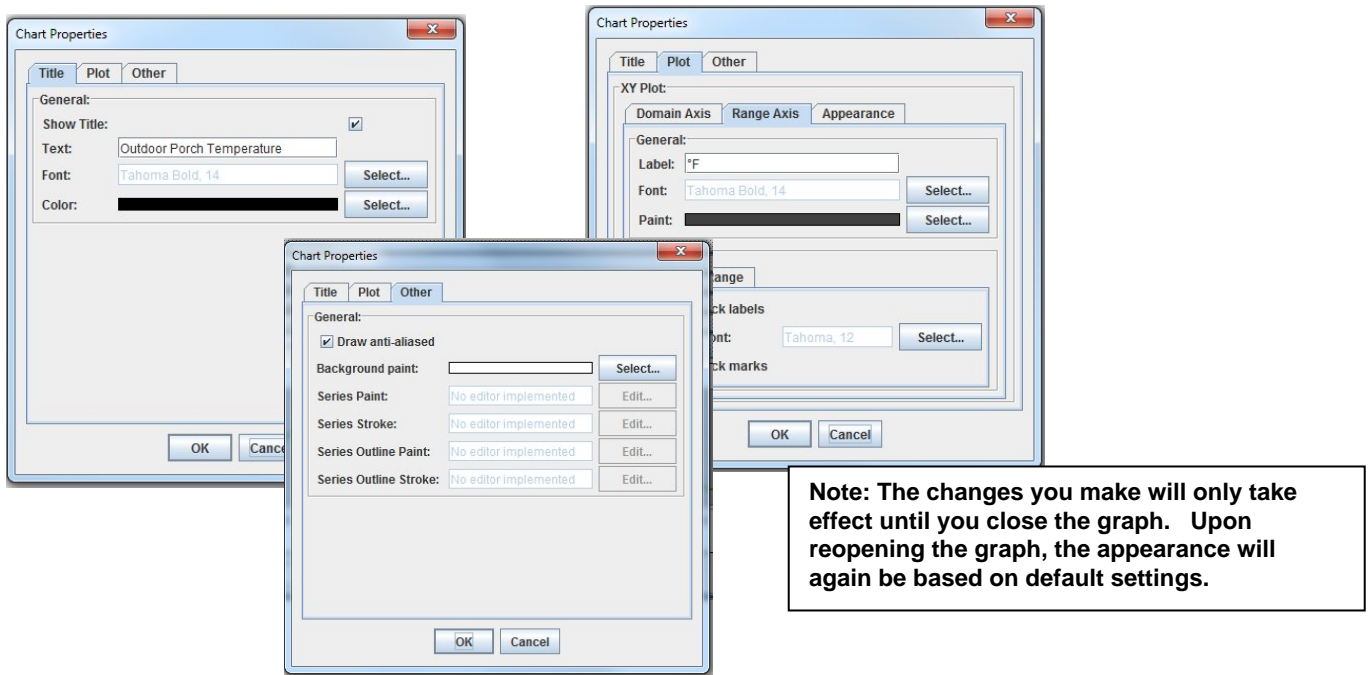


Figure 45- Change the appearance of your graph (temporary)

To copy the graph image to your computer's clipboard for pasting into another document, click "Copy".

To save the graph image as a .png image file on your computer, select "Save as..." .

To send the graph image to a printer, select "Print..." .

To see greater detail in the graph, the range and/or domain axis can be zoomed in or out. To quickly return to a normal view of the graph, click on "Auto Range-Both Axes".

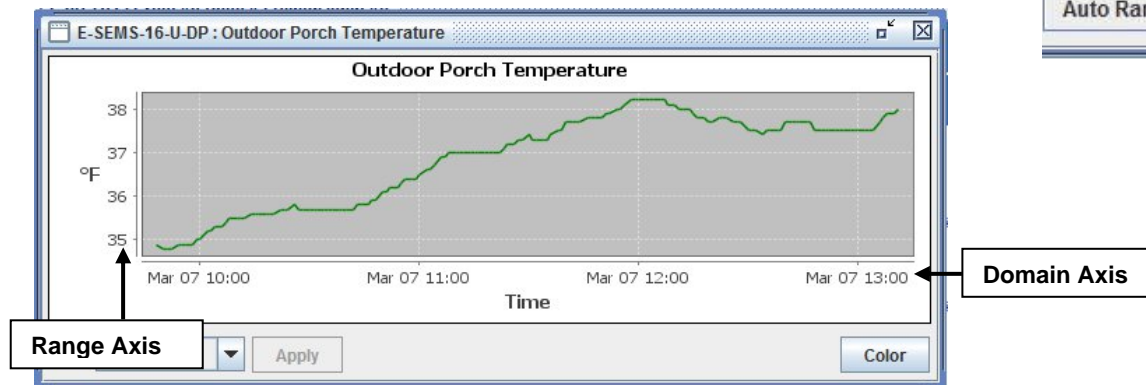
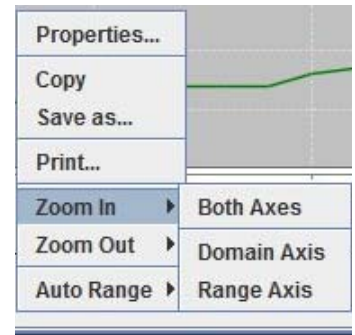


Figure 46- You can zoom your axes

Another way to see greater detail is to select a specific area on the graph dragging from the top in a downward diagonal motion. When you let go of the mouse the graph will update with a closeup of the area you selected.

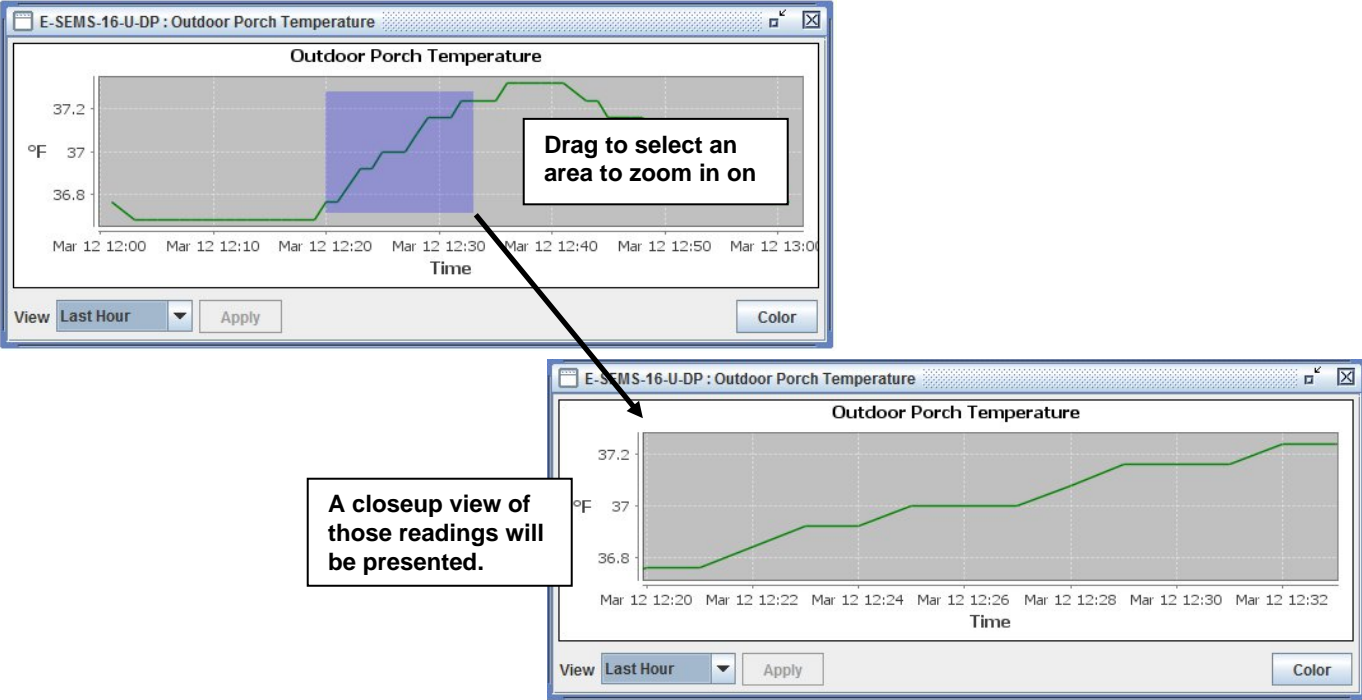


Figure 47- Drag a selected area to zoom in on

To restore the default appearance of the graph, drag upward on the graph.

Select "Configure" (from Figure 41) to configure the settings for that sensor.

The screenshot shows the configuration interface for an external sensor. Key sections include:

- General:** Type: Temperature Combo, RJ45 Connector: 1, Description: Room Temperature, Units: °F.
- Schedule:** Permanent (selected), Day of Week From: Sunday, Hour From: 00:00.
- Thresholds:** Non-Critical Min. Threshold: 60.0, Non-Critical Max. Threshold: 85.0, Critical Min. Threshold: 55.0, Critical Max. Threshold: 90.0.
- Sampling:** Sampling Period: 10 Sec, Add to Data Log File (checked), Add Reading to Log File Every: 240 Min.
- Non-Critical Alert Settings:** Alert Delay: 30 Sec, Notify again after: 4 Hour, Output Relay status on alert: Inactive.
- Critical Alert Settings:** Alert Delay: 30 Sec, Notify again after: 4 Hour, Output Relay status on alert: Inactive.

Two 'Add Note' buttons are visible, one for Non-Critical Alerts and one for Critical Alerts. An 'Edit Note' dialog box is open, showing a text area and 'Apply' and 'Cancel' buttons. A red arrow points to the 'Apply' button. A text box at the bottom states: "A note can accompany an alert message and be displayed in the Pop-Up message (page 17) and on the sensor status window. Each user can provide personalized content for each sensor."

Figure 48- Configure the "Undefined" external sensor

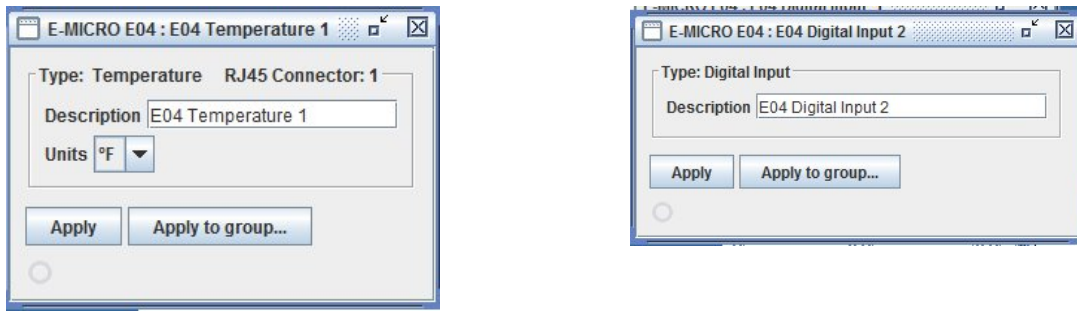


Figure 49- Configure Temp. Sensor or Digital Input on E-MICRO or -1W

Respond to Alerts

When an alert is present, the first screen in the project will indicate it by displaying the group name in red.



Figure 50- Alert 1- Indication in group

Click on the group name to see which UNIT is reporting an alert.

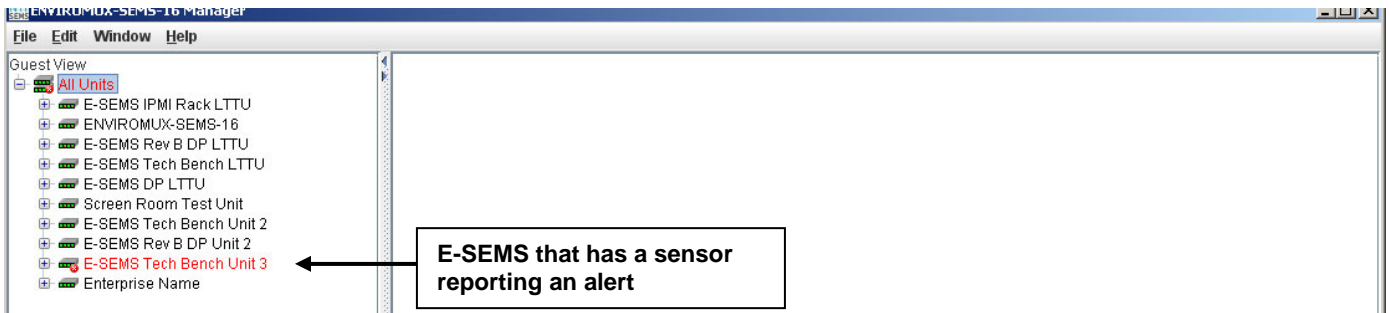


Figure 51- Alert 2- Indication of which UNIT

Click on the UNIT to see which sensor category has an alert.

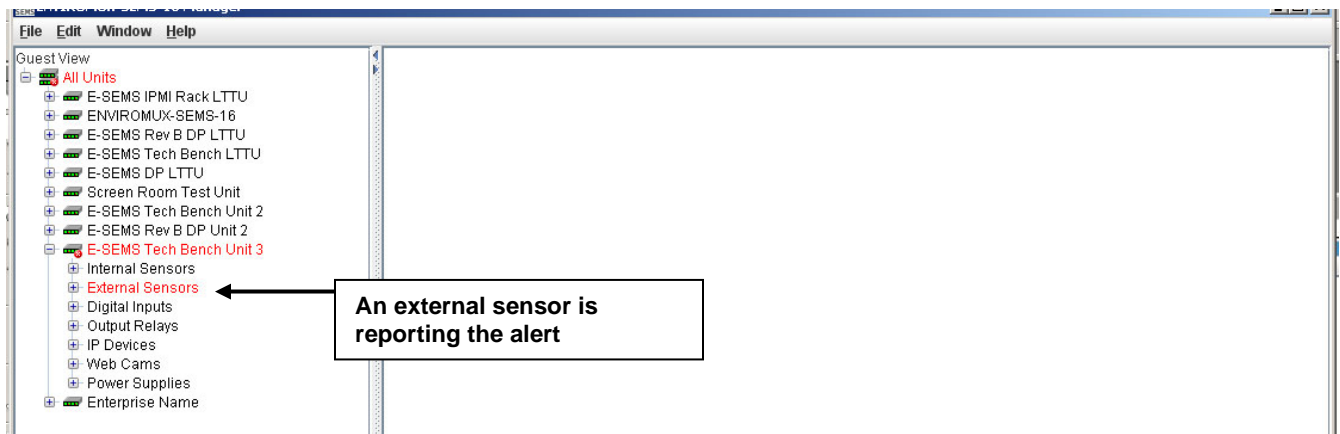


Figure 52- Alert 3- Indication of which sensor group

Click on the sensor group to see which sensor is in alert status.



Figure 53- Alert 4- Indication of which sensor is in alert

Click on the sensor to see the status of the alert and be given opportunity to respond to the alert.

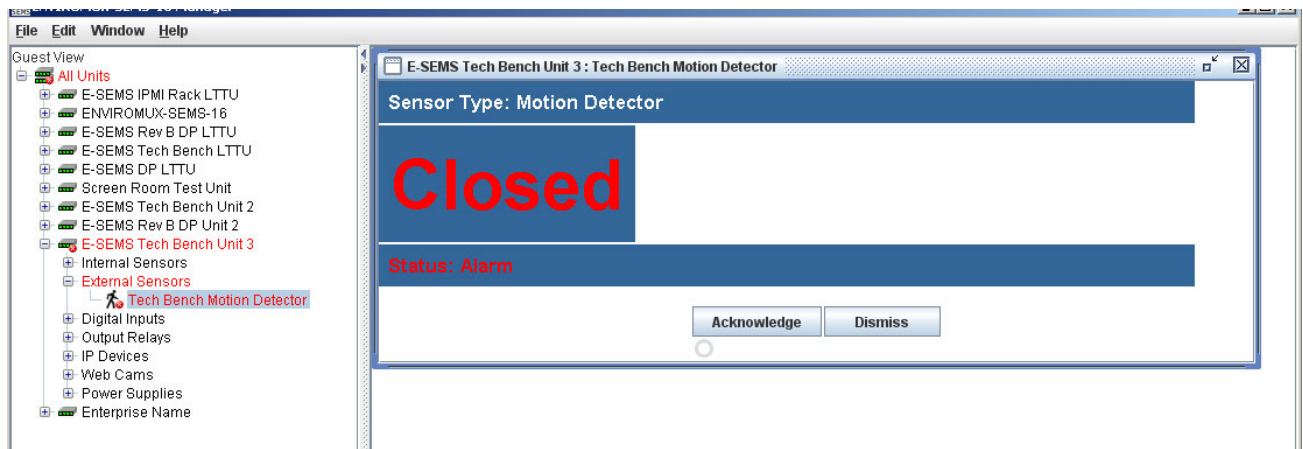


Figure 54- Alert 5- See the alert status

With the sensor status returned to normal, the sensor tree returns to an alert-free appearance.

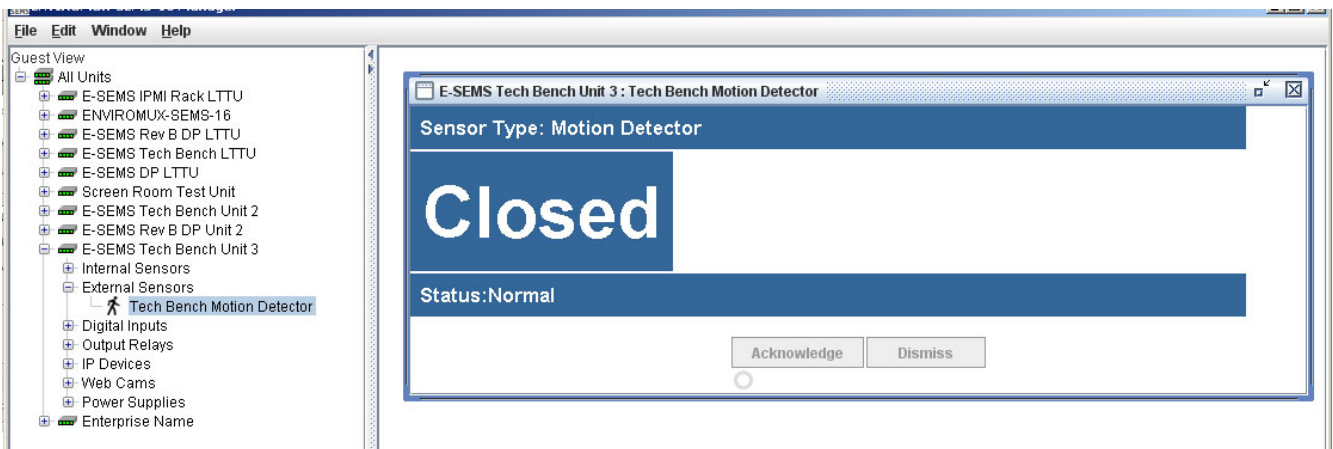


Figure 55- Alert 6- Alert has been acknowledge-status normal

IP Device, Camera and Power Supply Monitoring and Configuration

The status of IP devices, IP cameras and power supplies can be monitored and settings can be quickly configured. Right-click on any of these to bring up a menu enabling you to Monitor or Configure them, just as you would connected directly through the web interface.

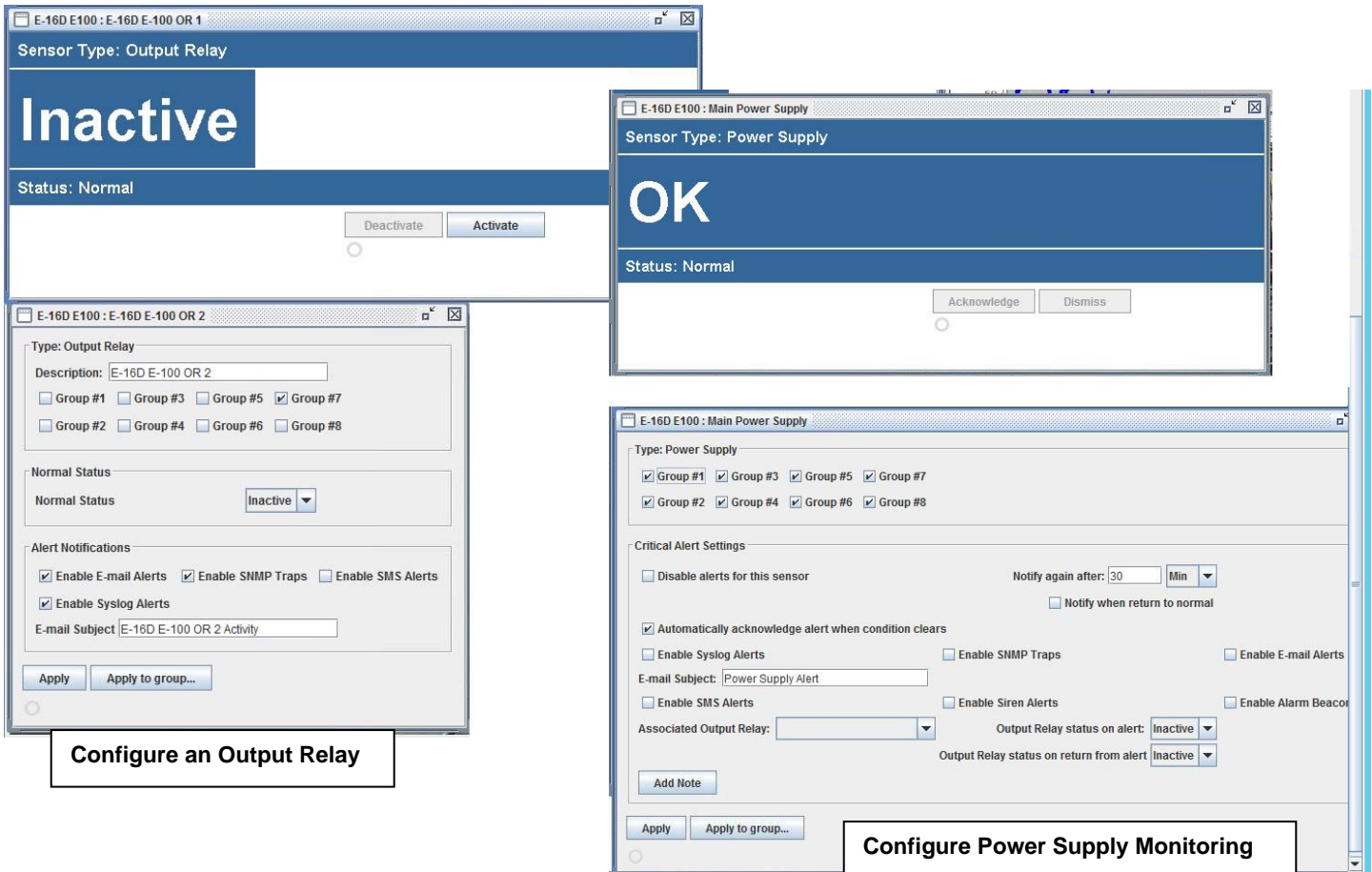
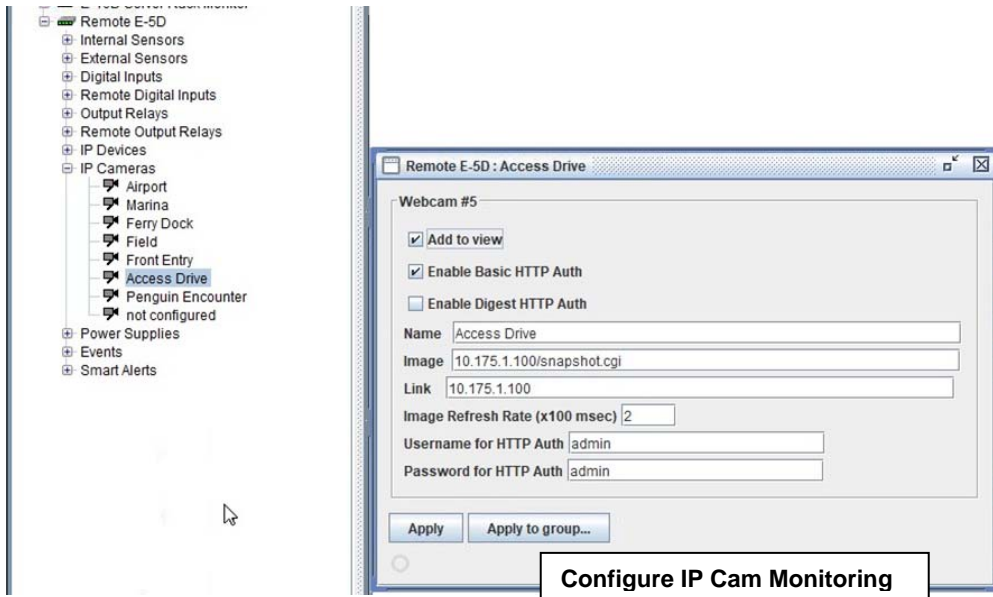


Figure 56- Monitor and Configure IP devices and more

Cycle Power to Connected Digital Input Sensors

Some sensors require power cycling in order to reset their function (i.e. a smoke detector in alert). The power to digital input sensors can now be cycled (requires E-MNG version 3.4 (and later) and E-xD firmware version 2.60 (and later)). To cycle power to digital input sensors, click on the "Cycle Power" button in the sensor status page.

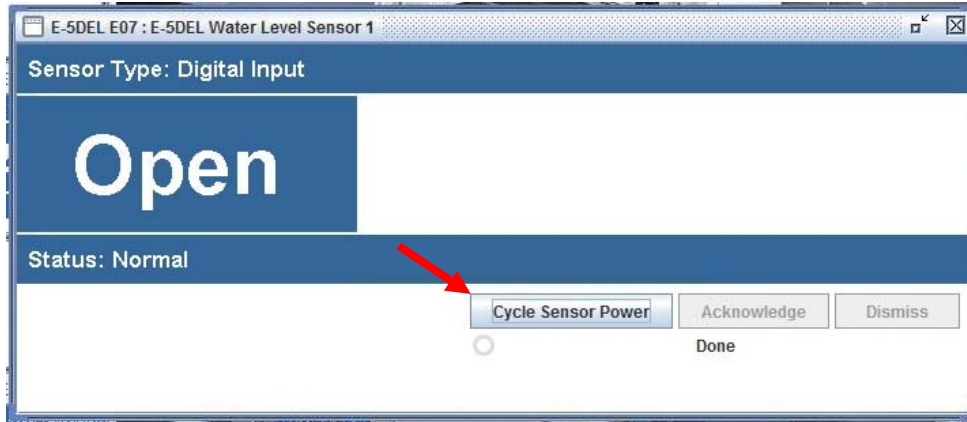


Figure 57- Cycle digital input sensor power

When this is used from the E-MNG management software, for E-16D the individual Digital Inputs (1-8) will have their "12V" connections interrupted for 5 seconds. When used on an E-5D or E-2D, the "AUX PWR" connection will be interrupted for 5 seconds.

Note that anything connected to AUX PWR on the E-5D or E-2D will have its power interrupted during this period.

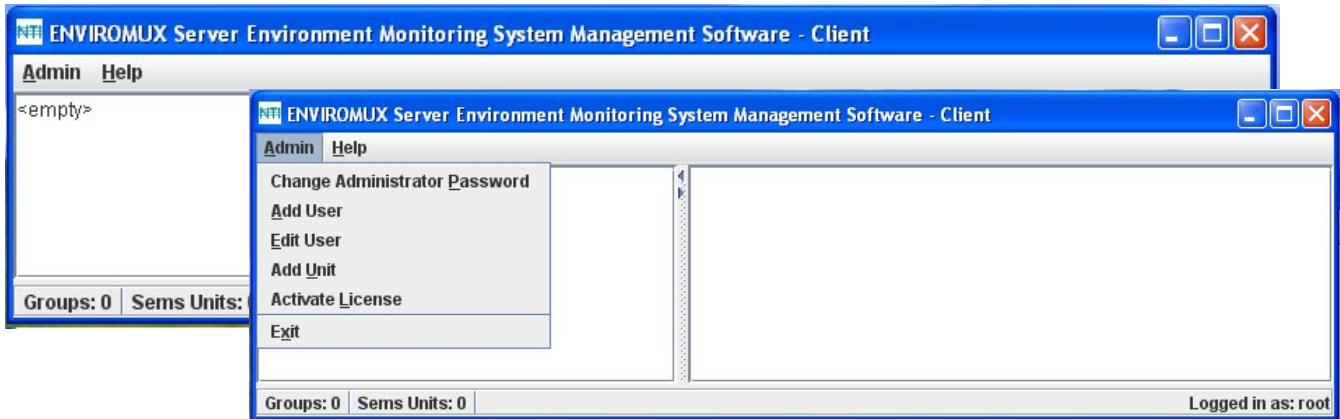
Server Management from the Client

If, at the login screen, you enter the username “root” and the password for root (default is “nti”), the program will open to an administrative menu that provides options for server management. The server can be managed from the graphic interface provided by the server software, from the command line interface, or, in this case, through the client software.



Figure 58- Login as root from Client

The menu for root includes only administrative functions.



Using these functions you can perform configure the server for password preference, adding, editing, or removing users, adding units, or activating the license.

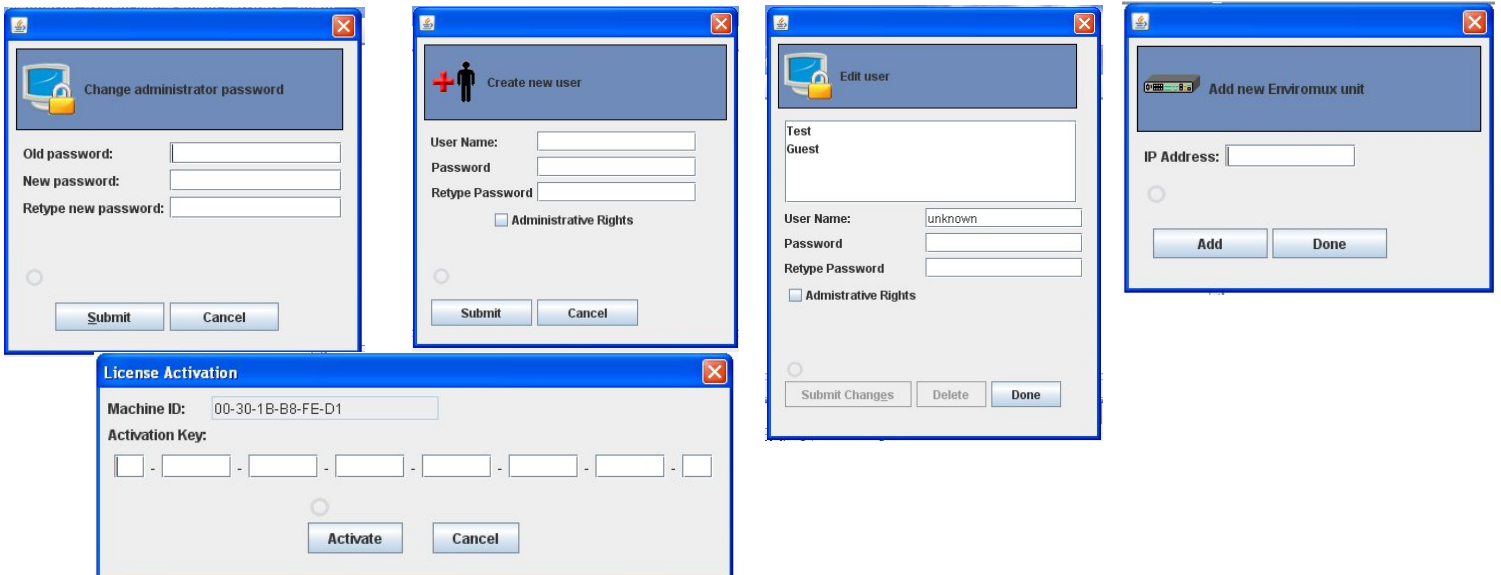


Figure 59- Manage Server from Client

SOFTWARE UPDATE

When newer versions of the E-MNG become available, you may desire to update your client and/or server software. You will be notified by email that new versions are available, what changes were made to the software, and how to obtain updated software.

To perform an update, simply unzip the new client (`mng-clnt-vx-x.zip`) or server (`mng-srvr-vx-x.zip`) software files into the same directory the present client or server files were installed to (see "Installation" on page 4).

Do not delete any files. None of your data, license, or configuration files will be affected. Once the new files have been unzipped, simply open the client or server as normal (pages 46 and 15). No additional changes or configuration are necessary.

SETUP E-MNG TO RUN AT STARTUP

You may want to have the server that runs the E-MNG server application to run the application automatically each time the server that hosts it powers ON. The instruction below should assist you in setting this up.

1. Create a batch file: `SemsManagerSrvr.bat` containing the following 2 lines:

```
@ECHO OFF
```

```
START "SEMS" /D"<PATH TO SEMS MANAGER SERVER>" "<PATH TO JAVA>" -jar SemsManagerSrvr.jar root nti
```

2. Replace the 2 paths:

PATH TO SEMS MANAGER SERVER = the path to the directory containing `SemsManagerSrvr.jar` (e.g. `C:\Test Files\Server`)

PATH TO JAVA =the path to the Java Runtime executable (e.g. `C:\Program Files\Java\jre7\bin\java`)

3. Replace the root password "nti" with the one you are using.

EXAMPLE: `START "SEMS" /D"\Test Files\Server" "\Program Files (x86)\Java\jre7\bin\java" -jar SemsManagerSrvr.jar root 123`

4. Depending on your operating system version, follow the instructions provided by the links to open the Group Policy Editor and add "SemsManagerSrvr.bat" as a startup script. For Windows 2003, also enable the policy "Run startup scripts asynchronously".

For Windows 2008

1. Open the Local Group Policy Editor: <http://technet.microsoft.com/en-us/library/cc731745.aspx>
2. Assign Computer Startup Scripts: <http://technet.microsoft.com/en-us/library/cc770556.aspx>

For Windows 2003

1. Open Group Policy as an MMC snap-in: <http://technet.microsoft.com/en-us/library/cc782895%28WS.10%29.aspx>
2. Assign Computer Startup Scripts: <http://technet.microsoft.com/en-us/library/cc779329%28WS.10%29.aspx>
3. Run startup scripts asynchronously: <http://msdn.microsoft.com/en-us/library/ms811602.aspx>

TROUBLESHOOTING

Problem:

License key is not accepted. When you enter the number and click "Activate", nothing happens.

Cause:

The PC the server is installed on is running Windows 7 and has Java version 1.8 installed. Java 1.8 will not allow the license to be installed.

Solution:

1. Uninstall Java version 1.8 from the Windows 7 PC. Install Java version 1.7 instead.
2. Deactivate User Account Control (see page 7)
3. Install the License key completely.
4. Re-install Java version 1.8.
5. If desired, reactivate User Account Control in Windows 7.

RESTORE ROOT PASSWORD TO DEFAULT

You can restore the default root password without losing the server configuration by performing the following:

Note: You will need the E-MNG License Key to perform this operation.

1. Shut down the E-MNG server program.
2. Browse to the folder containing the E-MNG server program.
3. Delete the file "serverLib.dll"
4. Re-start the E-MNG server program. You should see the "License Terms" window
5. Accept the license terms. You should see a "License Error" window
6. Select "Install Permanent License"
7. Enter in your License Key, then select "Activate"
8. You should get a "License Activated" message; Select "OK" You should then get the root login prompt.
9. Enter in "nti" and select "Login".

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