EnGenius®

EZ Controller Network Management Software
User Manual

V1.1.0

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Conventions

The following conventions are used to give the user additional information about specific procedures or content. It is important to pay attention to these conventions as they will prevent the user from causing damage to themselves, equipment, or the their environment.

General Conventions

The following general conventions are used in this document.

Example:

Indicates information used to demonstrate or explain an associated concept.

Note:

Indicates additional information that is relevant to the current process or procedure.

Important:

Indicates information that is important to know for the proper completion of a procedure, choice of an option, or completing a task.

WARNING!

Warning information appears before the text it references to emphasize that the content may prevent damage to the device or equipment.

CAUTION!

CAUTIONS APPEAR BEFORE THE TEXT IT REFERENCES. CAUTIONS APPEAR IN CAPITAL LETTERS TO EMPHASIZE THAT THE MESSAGE CONTAINS VITAL HEALTH AND SAFETY INFORMATION.

Typographical Conventions

The following typographical conventions are used in this document.

Italics

Indicates book titles, directory names, file names, path names, and program/process names.

`Constant width`

Indicates computer output shown on a computer screen, including menus, prompts, responses to input, and error messages.

`Constant width bold`

Indicates commands or information literally entered by a user on the computer. Variables contained within user input are shown in angle brackets (< >).

Bold

Indicates keyboard keys that are pressed by the user.

Installing and Uninstalling

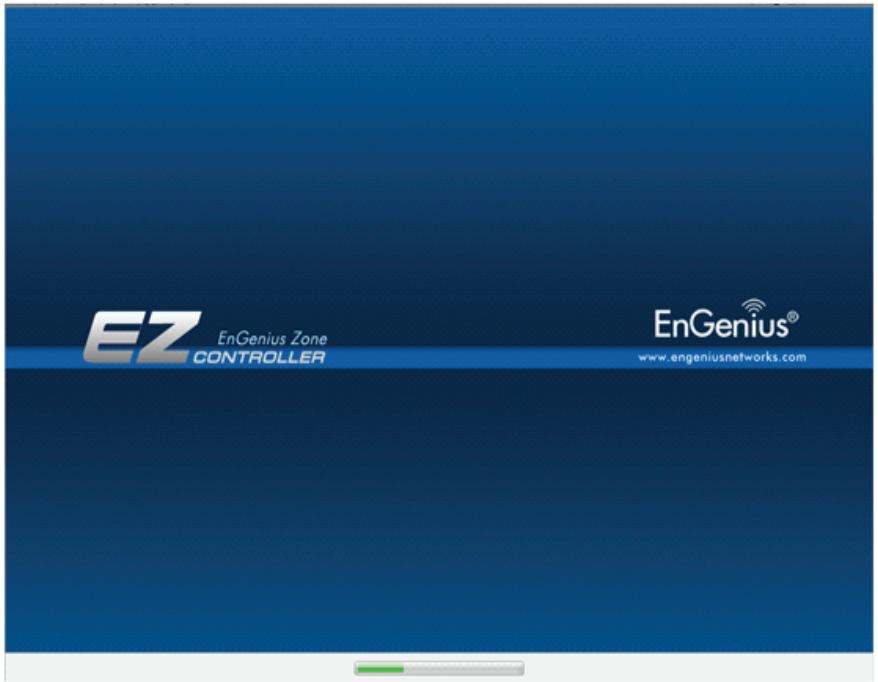
Chapter 1

1.1 Install EZ Controller

1. Copy the installation file *ezc_installer_3_2.exe* (Windows) or *ezc_installer_3_2.bin* (Linux) from the companion CD to a PC.

Note:
The installation executables may also be downloaded from the following FTP site:

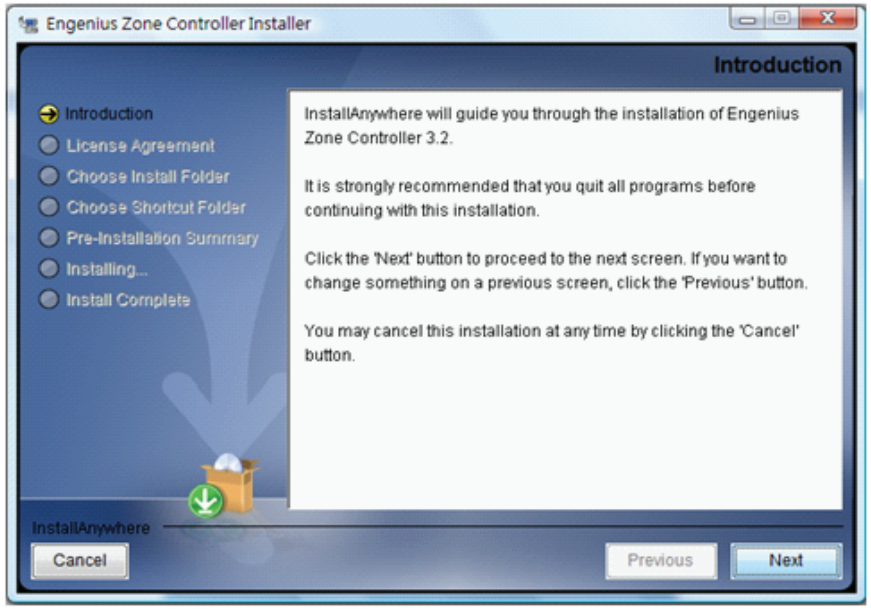
2. Click on the executable to begin the installation.



Wait for the installer to load completely and follow the installation wizard instructions.

Step 1: Introduction

1. Read the installation introduction and follow the instructions.



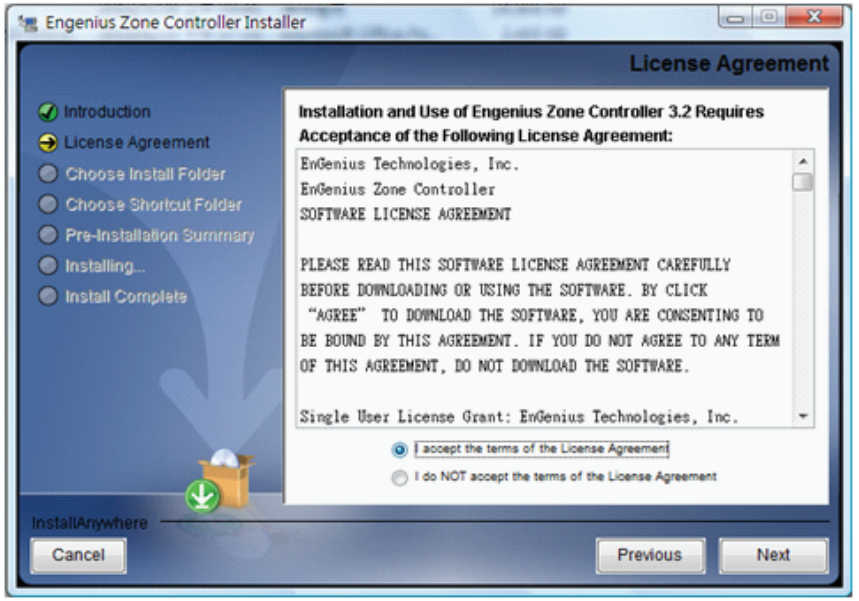
2. Click `Next` to continue to the next step, `Previous` to go back to the previous step or `Cancel` to abort the process.

Step 2: License Agreement

3. Read the license agreement.
4. Click `I Accept the terms of the License Agreement` to continue the installation or `I do NOT Accept the terms of the License Agreement` to not continue.

Note:

Clicking `I do NOT Accept the terms of the License Agreement` will not allow the installation to proceed.



5. Click `Next` to continue to the next step, `Previous` to go back to the previous step or `Cancel` to abort the process.

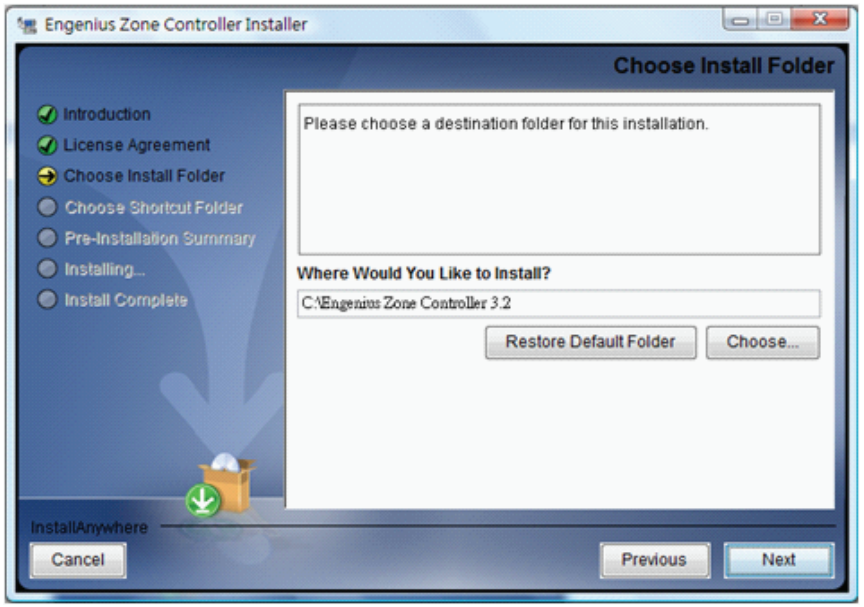
Step 3: Choose Install Folder

1. Click `Choose`, or enter a file path name in the text box, to define a program installation folder.

Note:
For a Windows installation the default folder is `\Program Files\Engenius Zone Controller #.#\`

For a Linux installation the default folder is `~\home\[user]\Engenius Zone Controller #.#\`

2. Click `Restore Default Folder` to restore the default folder settings.

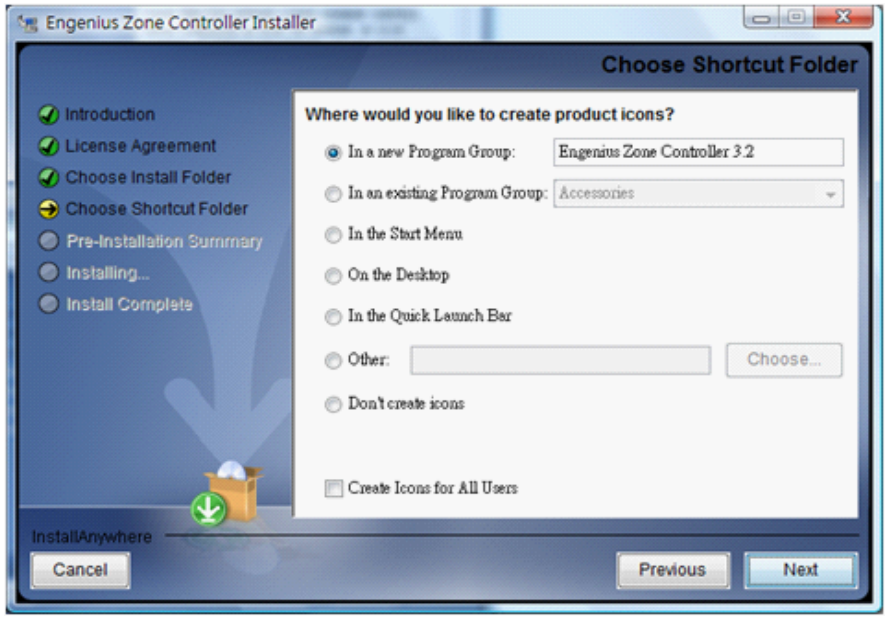


3. Click `Next` to continue to the next step, `Previous` to go back to the previous step or `Cancel` to abort the process.

Step 4: Choose Shortcut Folder

1. To choose a location for a shortcut file click on one of the following choices:
   - `In a new Program Group`, enter the name of the program group in the text box.
   - `In an existing Program Group`, select a program group from the dropdown list.
   - `In the Start Menu`
   - `On the Desktop`
   - `In the Quick Launch Bar`
   - `Other`, click `Choose` to browse for a program group folder.
   - `Don't create icons`, skip this feature

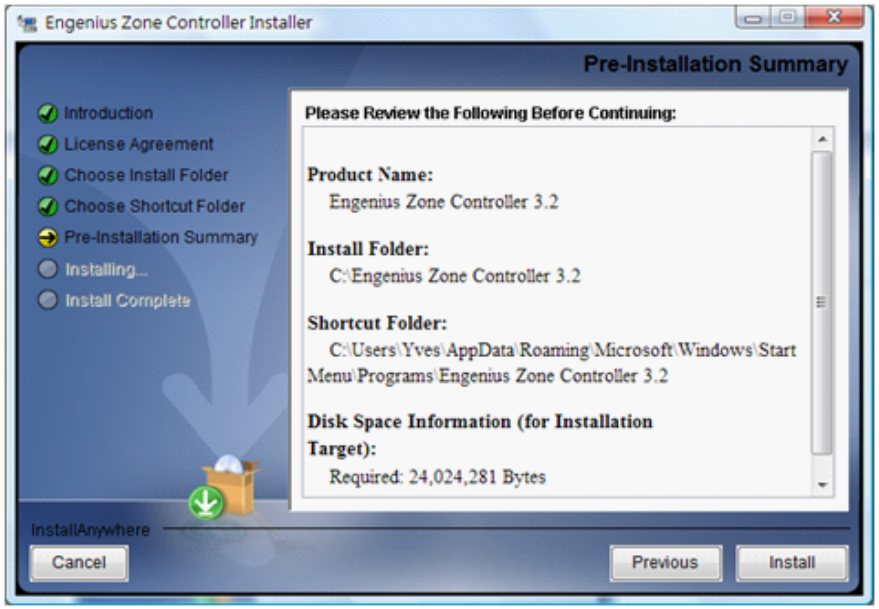
2. Click `Create Icons for All Users` to create shortcut icons for all user accounts on the PC or leave unchecked to create shortcuts for the current account.



3. Click `Next` to continue to the next step, `Previous` to go back to the previous step or `Cancel` to abort the process.

Step 5: Pre-Installation Summary

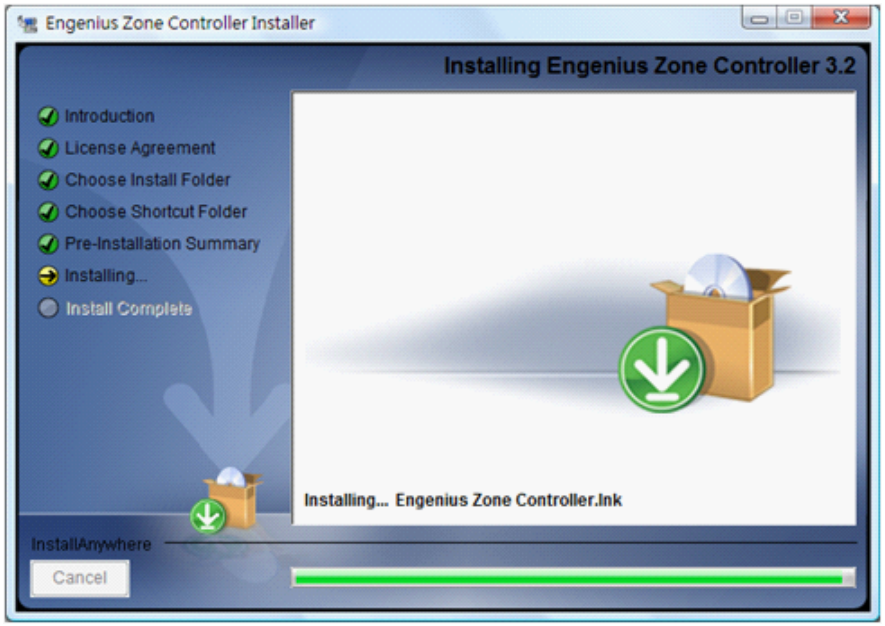
1. Review the installation properties before continuing.



2. Click `Install` to begin the installation procedure, `Previous` to go back to the previous step(s) or `Cancel` to abort the process.

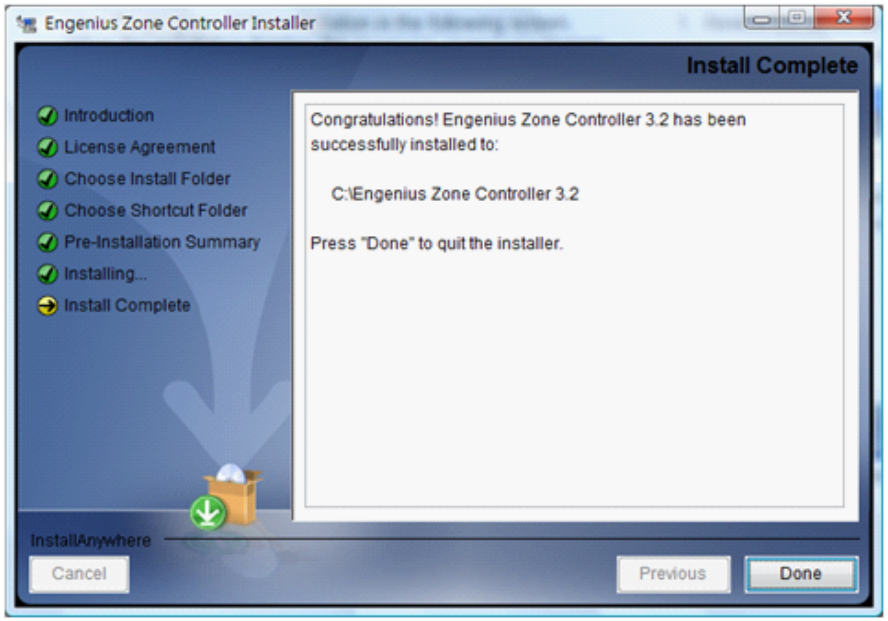
Step 6: Installing

View the progress of the installation in the following screen. When the installation finishes the `Install Complete` screen is shown.



Step 7: Install Complete

1. Review the notes on the Install Complete screen.
2. Click `Done` to close the installation wizard.



3. Launch EZ Controller from the application shortcut.

1.2 Uninstall EZ Controller

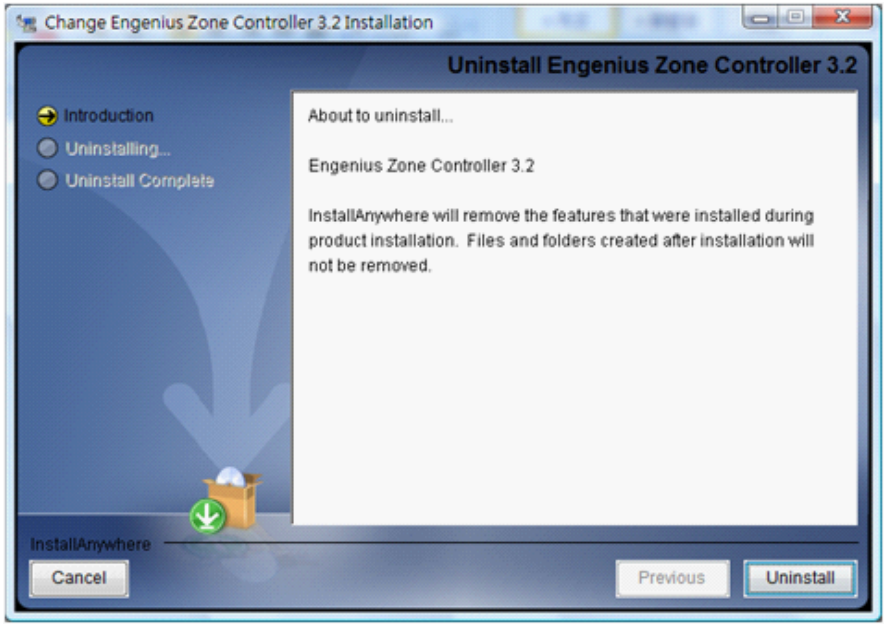
1. To uninstall EZ Controller from the system click the uninstaller executable shortcut.

Note:
If there is no shortcut to an uninstall executable, locate [EZ Controller install path]_Engenius Zone Controller 2.1_installation folder. Run the uninstall executable `Change Engenius Zone Controller 3.2 Installation.exe` (Windows) or `Change Engenius NMS 3.x Installation.bin` (Linux).

2. Wait for the uninstaller to load completely and follow the installation wizard instructions.

Step 1: Introduction

1. Read the uninstall introduction and follow the instructions.

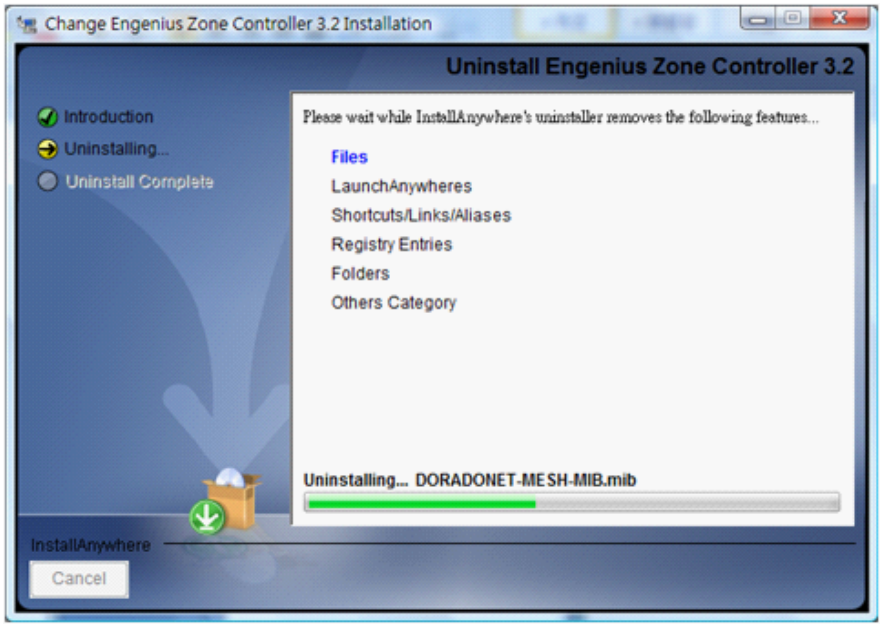


2. Click `Uninstall` to begin uninstalling the application or `Cancel` to abort the process.

Step 2: Uninstalling

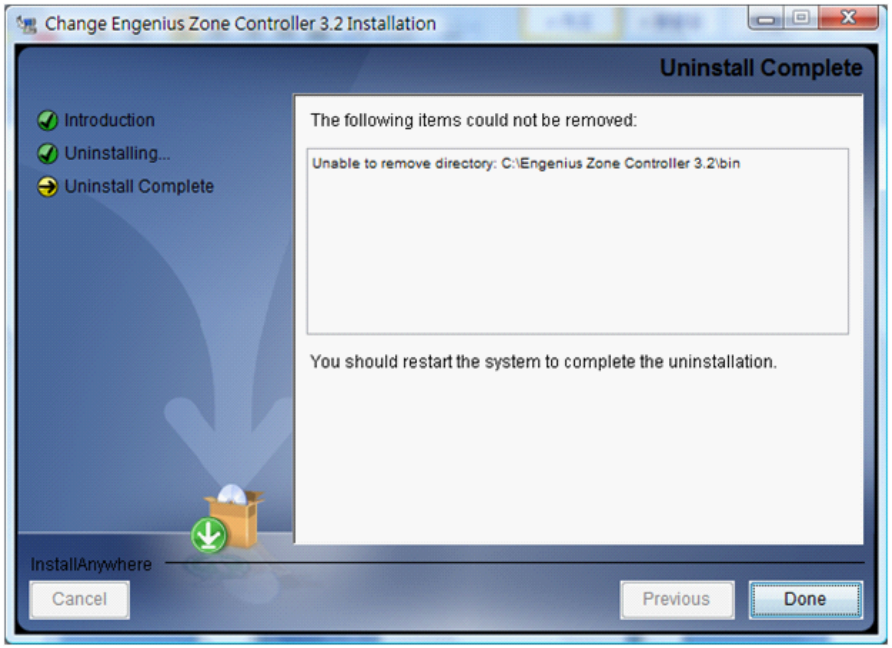
The un-installation in progress. This could take about 30 seconds.

View the progress of the uninstalling procedure in the following screen. When the installation finishes the `Uninstall Complete` screen is shown.



Step 3: Uninstall Complete

The uninstall process is complete. The EZ Controller application is now removed from the PC. Please note that the files created after the installation, such as profiles and data files, will not be removed by the uninstall process.



Software Layout

Chapter 2

SOFTWARE LAYOUT

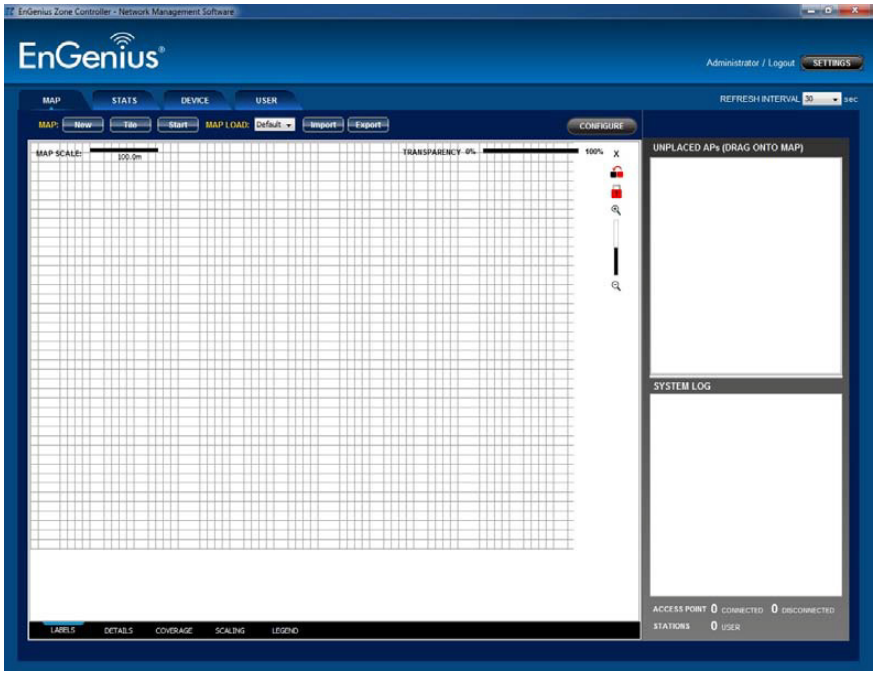
2.1 Software Layout

The EZ Controller software application is divided into four panels, *Map*, *Statistics*, *Device (Managed Access Points)* and *User (User List)*. Switch between panels by clicking on one of the tabs located near the top of the screen.

Map Panel

The Map panel displays the live status of managed network devices as a line graph. Devices that have been discovered and placed are plotted on the map area in the left section of the panel. Devices that are new and have not been placed are listed in the `Unplaced APs` list in the right section of the panel.

To place a device on the graph drag the item from the `Unplaced APs` section to the line graph section.

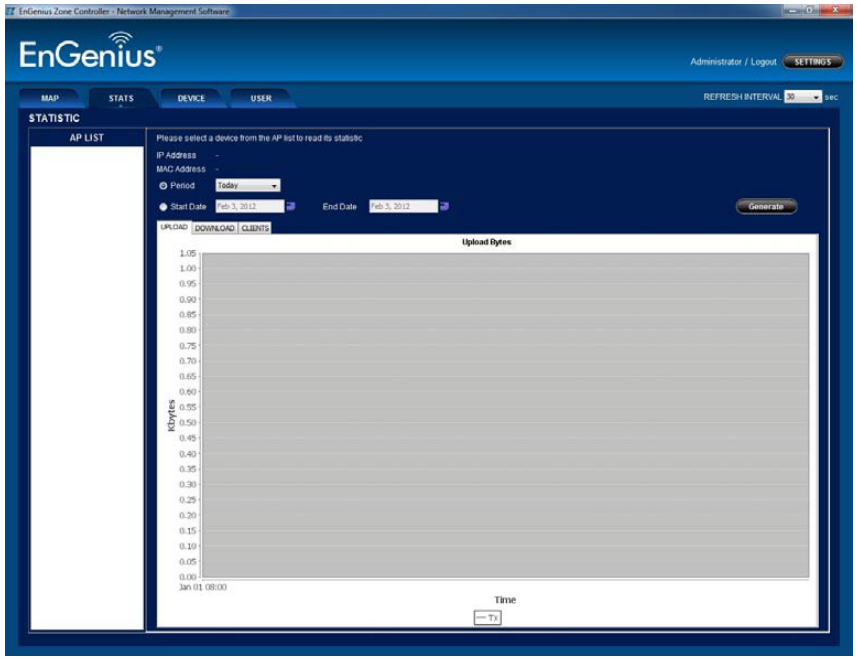


Statistics Panel

The Statistics panel monitors the network traffic statistics of node units in the access point (AP) list.

To view upload, download or client information do the following:

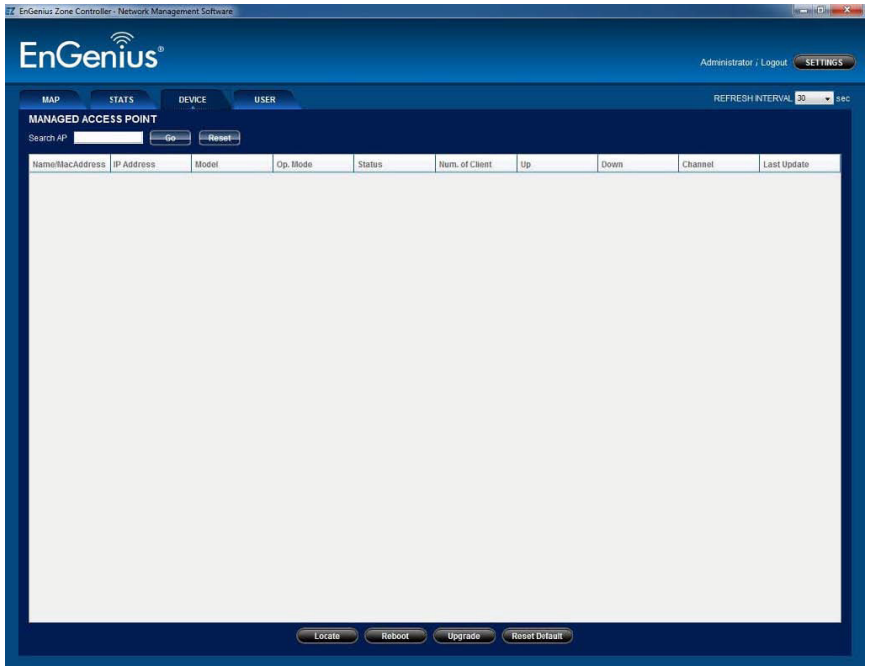
1. Click on an device in the AP list.



2. Select either a default `Period` or `Start Date` and `End Date`.
3. Click `Generate`.
4. Click `Upload`, `Download` or `Clients` to view specific information.

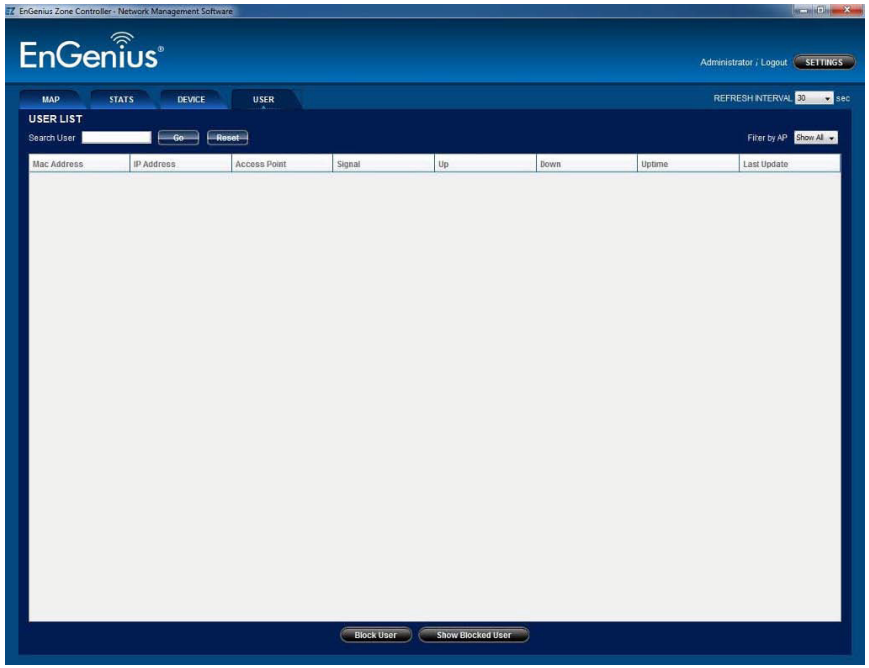
Device Panel

The device panel shows discovered APs and associated network information. From this panel, individual devices can be located, rebooted, have firmware upgraded or reset to default settings.



User Panel

The User panel shows network information for clients connected to a specific AP. From this panel individual users can be blocked or unblocked from connecting to an AP.



Feature List

Chapter 3

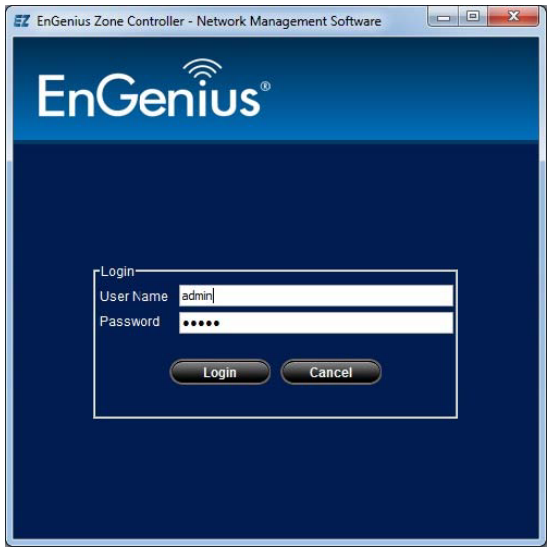
3.1 First Time Login

The first task to perform after installation is to change the default administrative password. Failure to do so could allow access to the network by unauthorized users.

Note:
The default administrator id is **admin** and the default password is **admin**.

To change the default administrative password do the following:

1. Click on the EZ Controller shortcut created during the installation to show the login screen.



2. Enter the default administrator ID and password and click `Login` to show the main screen.

3. Click `SETTINGS` to show the settings dialog.

4. Click `Admin` to show the `Login Details` panel.

5. Click `Change` to show the `Change Password` dialog.

6. Enter `admin` in the `Current Password` text box.
7. Enter a new password in the `New Password` text box.
8. Enter the new password again in the `Confirm` text box.
9. Click `OK` to save changes or `Cancel` to abort.

3.2 Logging Out

Log out at the end of each session to avoid unauthorized access by users.

To log out from the system, click `Logout`.

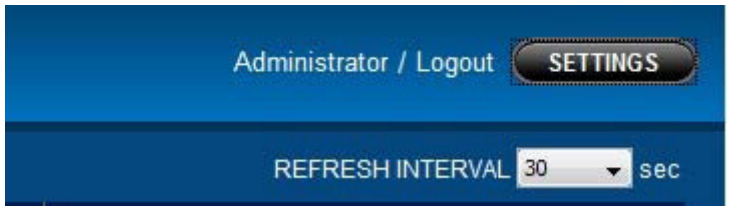
3.3 User Accounts

Multiple users can access and use the EZ Controller Network Management Software. Each user has the same privileges as the administrator except for the ability to create, edit and delete users.

Viewing the User List

To view the user list do the following:

1. On the main screen click `SETTINGS` to show the `Settings` dialog.



2. Click `Admin` to show the `Login Details` panel.

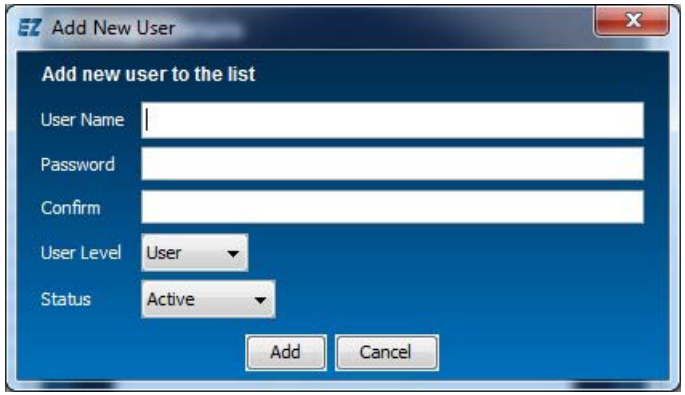
The list of users is located at the bottom of the screen.

Creating a User Account

The administrator creates user roles to allow multiple user access to the EZ Controller Network Management Software. A user role is comprised of a user name, password, user privilege level and status.

To create a user do the following:

1. View the User List in the `Settings` dialog. See *Viewing the User List*.
2. Click `Add` to show the `Add New User` dialog.
3. Enter a user name in the `User Name` text box.



4. Enter a password in the `Password` text box.
5. Enter the password again in the `Confirm` text box.
6. Select `User` from the `User Level` dropdown list.

Note:
Setting a user status to `Active` allows the user to login immediately. Setting the status to `Inactive` creates the user account but does not allow the user to login.

7. Select `Active` or `Inactive` from the `Status` dropdown list.
8. Click `OK` to save changes or `Cancel` to abort.

Editing a User Account

The administrator has the privilege level to edit the properties of a user account.

To edit a user account do the following:

1. View the User List in the `Settings` dialog. See *Viewing the User List*.
2. Select a user account from the list.
3. Click `Edit` to show the `Edit User` dialog.

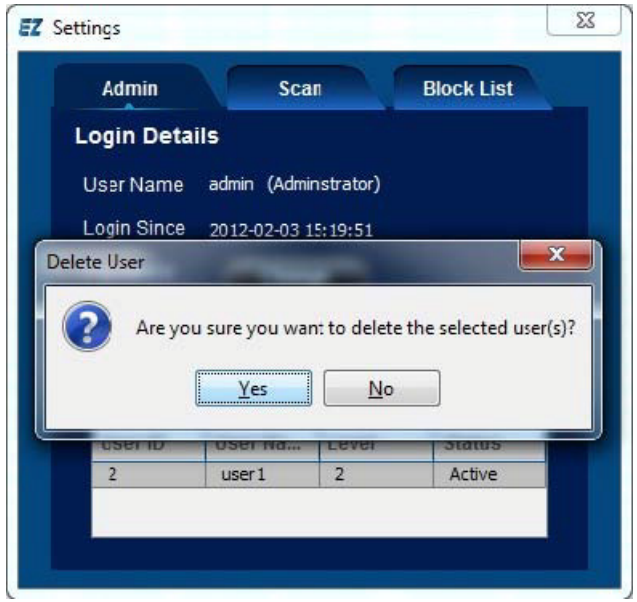
4. To change the user name, enter a user name in the `User Name` text box.
5. To change the password, click Change Password.
   a. Enter a password in the `Password` text box.
   b. Enter the password again in the `Confirm` text box.
6. To change the status, select `Active` or `Inactive` from the `Status` dropdown list.
7. Click `OK` to save changes or `Cancel` to abort.

Delete a User Account

The administrator has the privilege level to delete a user account.

To delete a user account do the following:

1. View the User List in the `Settings` dialog. See *Viewing the User List*.
2. Select a user account from the list.
3. Click `Delete` to show the `Delete User` dialog.



4. Click `Yes` to confirm deleting the user account or `No` to abort.

3.4 Network Discovery

The primary purpose of the EZ Controller Network Management Software is to monitor and manage network devices. To accomplish this task, EZ Controller broadcasts SNMP packets across the network and waits for responses from network devices, or nodes. Active devices respond to the packets and report their availability.

Note:
An active device, or network node, must implement an SNMP interface for the EZ Controller Network Management Software to discover it.

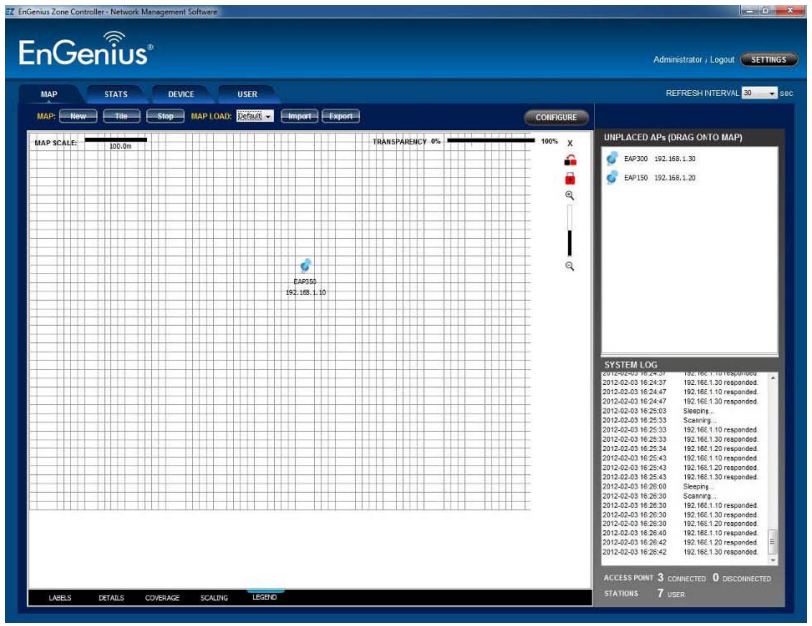
To start the discovery process, do the following:

1. Open the main screen of the application.
2. Click `MAP` to view the map panel.
3. Click `Start` to begin the scanning process.

During the scanning process the software discovers active network nodes and adds the nodes to `UNPLACED APs`. The frequency of the scanning process is determined by the `REFRESH INTERVAL` value. The default value is 30 but can be changed by clicking on the dropdown list and selecting a different value.

To view a graphical representation of the node, drag-and-drop the node to the map area.

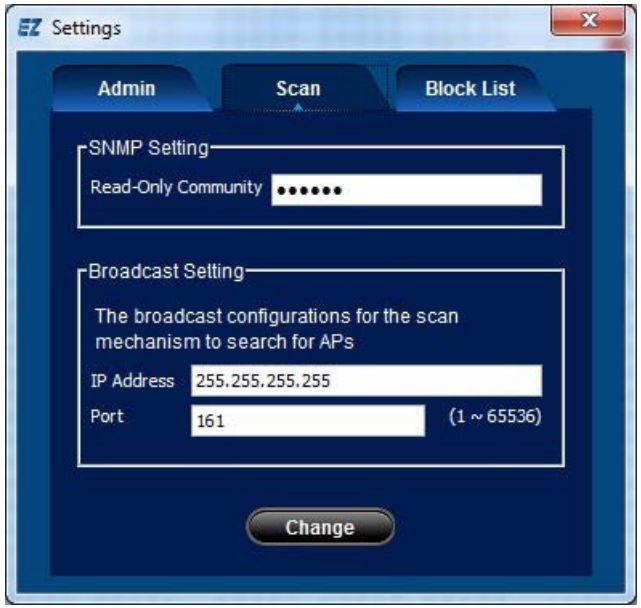
To stop the discovery process, click `Stop`.



If a network node's SNMP interface is implemented but the EZ Controller Network Management Software can not discover it, the scan settings may need to be changed.

To change the discovery settings, do the following:

4. Click `SETTINGS` to show the settings dialog.
5. Click `Scan` to show the Scan panel.
6. Enter a value shared by all network devices in `Read-Only Community`. Default value is `public`.
7. Enter the IP address of the default gateway of the network in `IP Address`. Default value is `255.255.255.255`.
8. Enter the network device SNMP port number in `Port`. Default value is `161`.
9. Click `Change` to save the settings



Restart the discovery scan to apply the changes.

3.5 MAP Tab

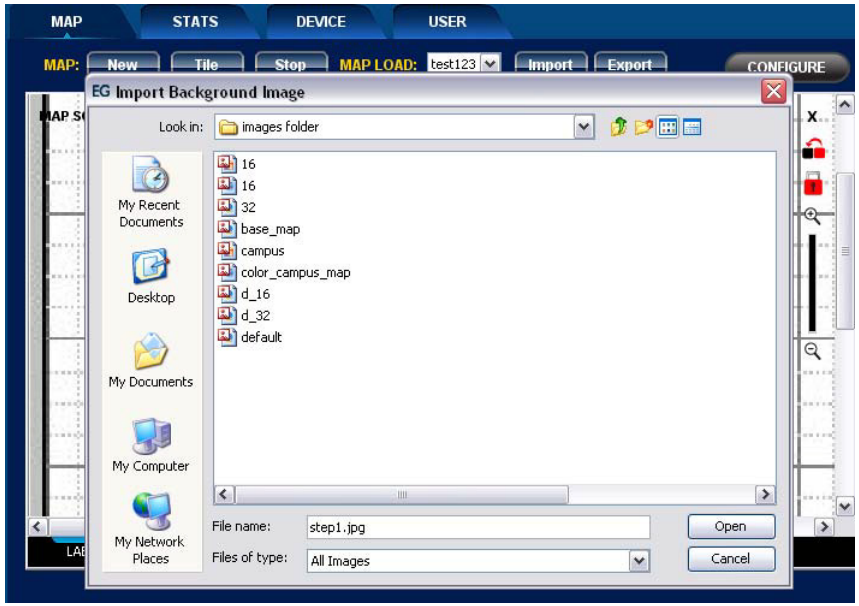
The map is the plotting area for the EZ Controller Network Management Software to illustrate the actual deployment of network node units at a site.

Background Image

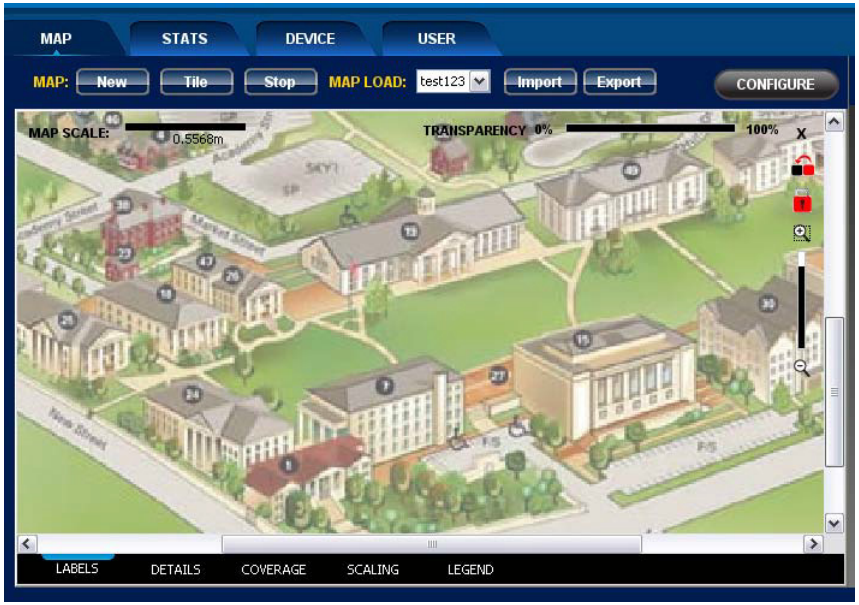
A user can upload an image file to use as the background map for EZ Controller. For example, if EZ Controller is monitoring a network on a campus, a user can upload a map of the campus to EZ Controller and drag the network node unit to a position on the map that represents the actual deployment position. The map helps users get a better understanding about the position and arrangement of the nodes.

To upload a new background image do the following:

1. Click the import icon on the map to show the image browse dialog.
2. Select a map image.



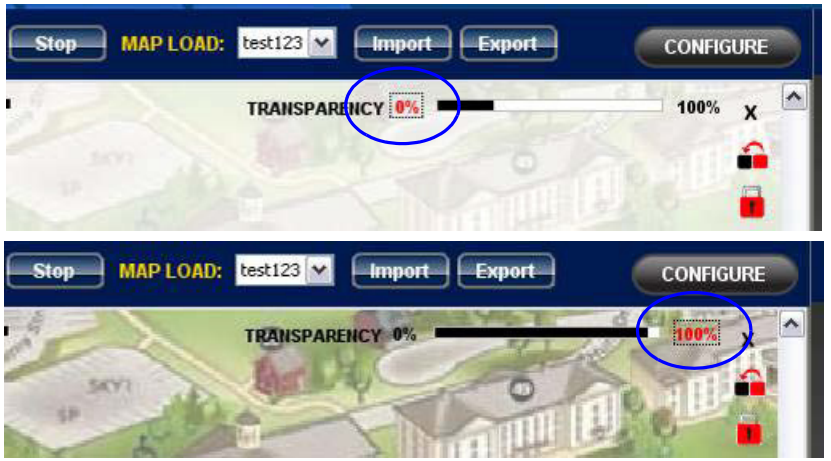
3. Click `Open` to show the image in the map area.



Transparency

Users can alter the transparency of the background map to more effectively emphasize the network nodes and the map.

To change the transparency of the map image click `0%` to decrease visibility and `100%` to increase visibility.

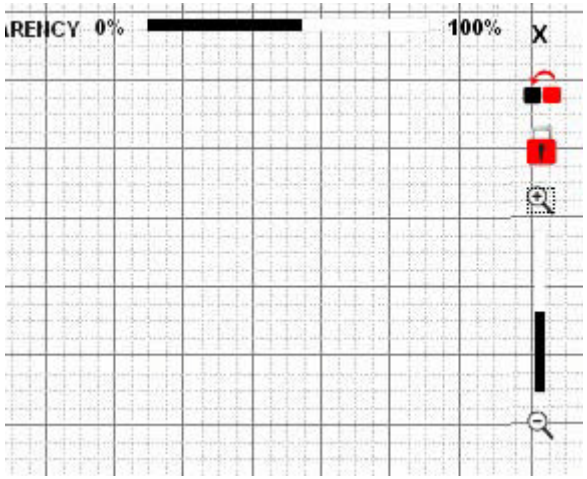


Map Zoom

Users can zoom in and out of the map area to focus on specific content.

Note:
Users are advised to zoom out on the map to the maximum when plotting a network node to get the most accurate coordinates.

The zoom tool is located on the right side of the map. To zoom in, click the `Zoom in` icon.



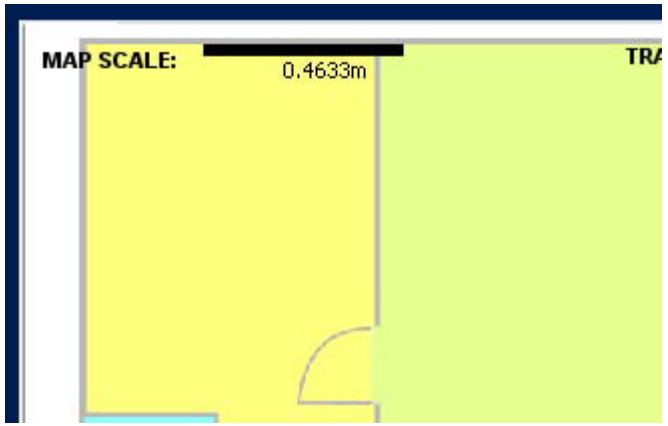
To zoom out click the `Zoom out` icon.

Map Scale

The map scale is the ratio of the distance on the map to the corresponding distance on the actual ground. Use the scale ruler located at the top left corner of the map to view the ratio.

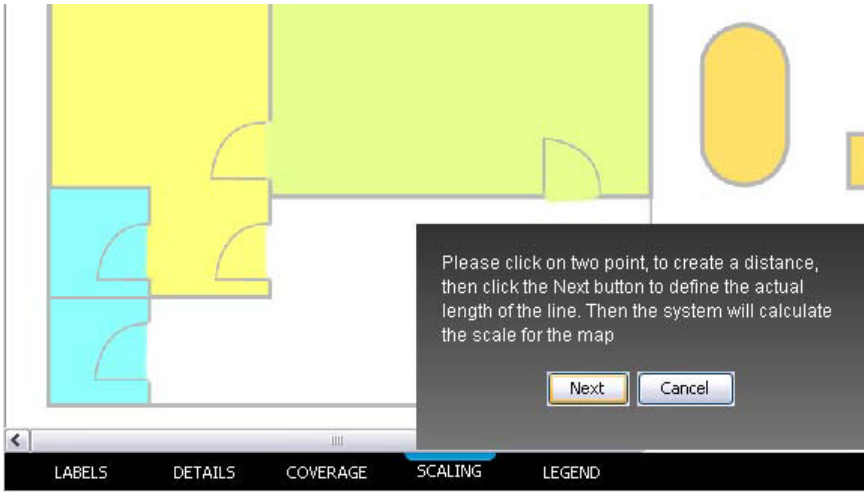
In the following image, the map scale is 0.4633m per 100 pixels on the map, meaning every 100 pixels on the map indicate 0.4633 meters on the actual site.

Note:
The width of the scale bar is equal to 100 pixels.

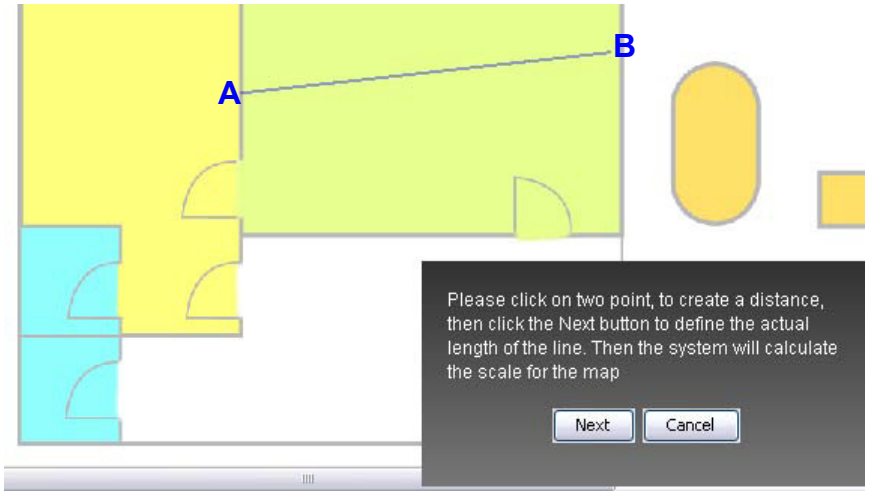


To define the scale ratio or a map do the following:

1. Click `SCALING` on the bottom menu bar to show an instruction dialog.

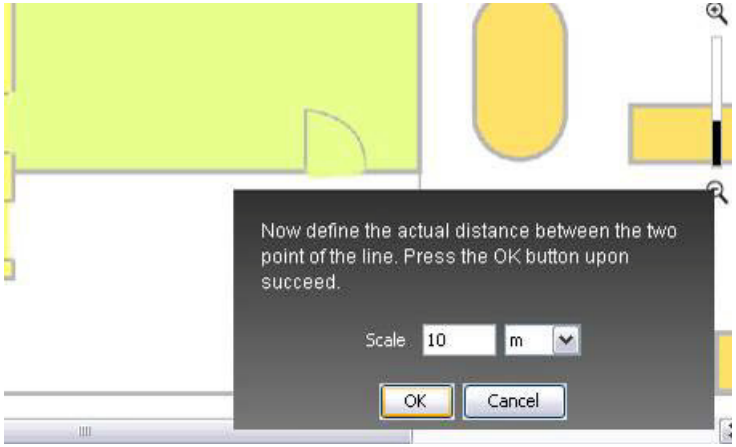


2. On the map area, click a starting point (A) and an ending point (B) to define the scaling distance.



3. Click `Next` to proceed to the next step or `Cancel` to abort.

4. Enter the actual distance value for the scale bar in the `Scale` text box.



5. .Click the scale unit dropdown to select a unit of measurement.

6. Click OK to save changes or Cancel to abort.

Create New Map

Users can create multiple maps with different backgrounds and view them simultaneously in a tiled or cascading pattern.

An example might be when the network node units are located on different floors in the same building. A user can create separate maps, each with a different background image, and place the node units accordingly.

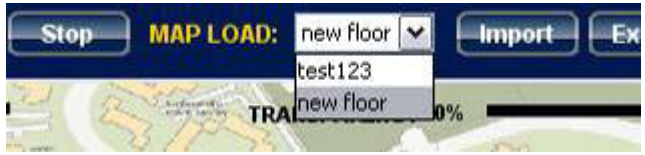
To create a new map do the following:

1. Open the main screen.
2. ,Click `New` to show the `Create Map` dialog.

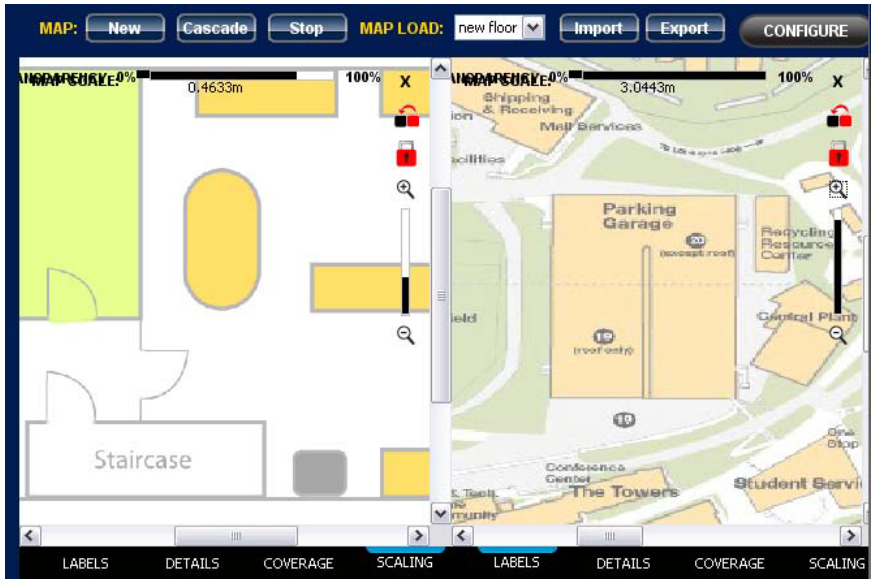
3. Enter a map name in `Map Name`.

4. Enter the file path for the map image in `Map Image`.
5. Click `OK` to save changes or `Cancel` to abort.

When more than one map is loaded, the maps are by default displayed in cascading form. Users can switch to any map by using the `Map Load` dropdown.



Users can switch the map view to tile mode by clicking `Tile`. The following image shows two maps in tile mode.



To switch back to cascade mode click `Cascade`.

Node Labels

Network nodes can be labeled with an IP address, a MAC address or a custom value.

Note:
The default label for a network node is their IP address.

To change a network node's label do the following:

1. Open the main screen.

2. Click LABELS to show the label properties dialog.

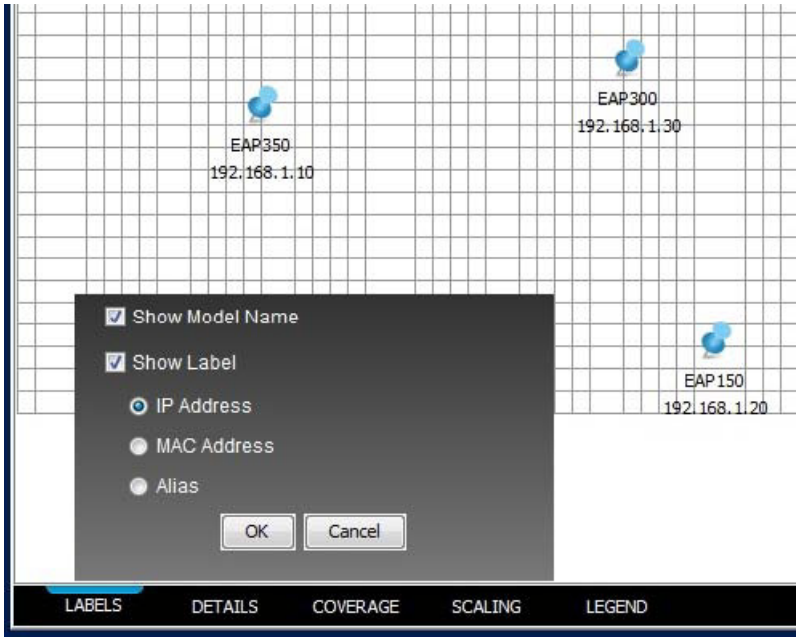


Figure 3-1: Label Type: IP Address

3. To show the network node model name on the map click Show Model Name.
4. To show the network node label on the map click Show Label.
5. To select the type of label click IP Address, MAC Address or Alias.

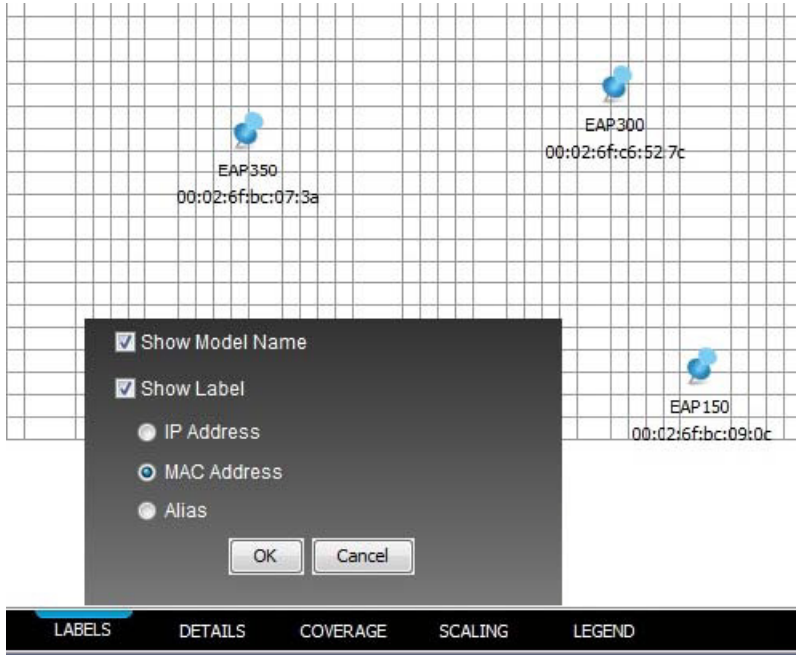


Figure 3-2: Label Type: Mac Address

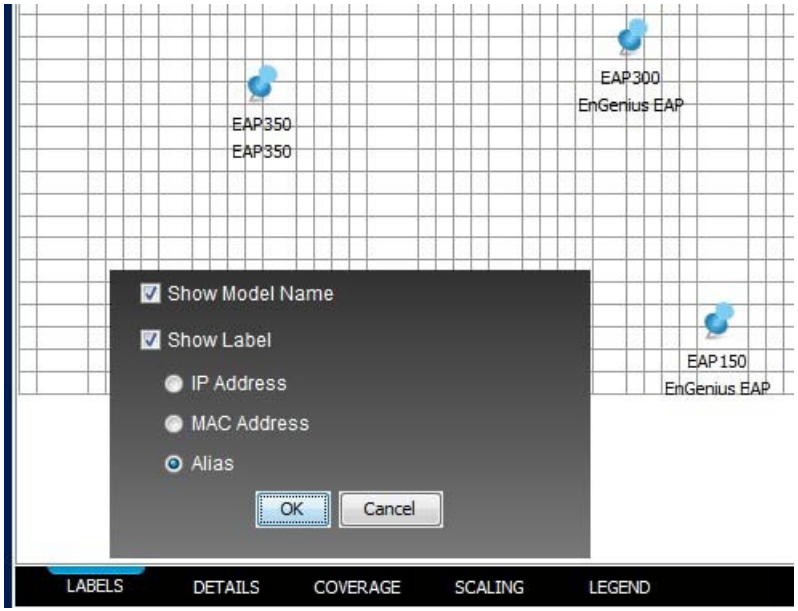
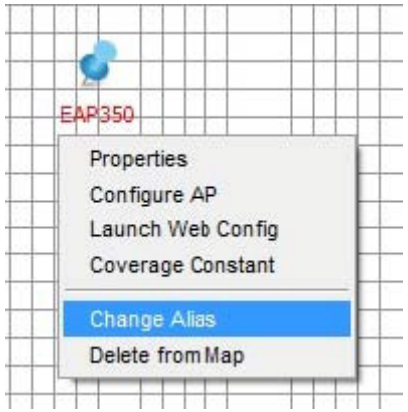


Figure 3-3: Label Type: Alias

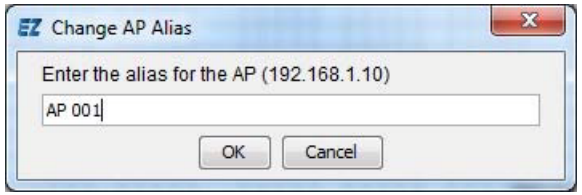
The default alias for a network node is the system name assigned to that device.

To edit a network node alias do the following:

1. Right click on a node.
2. Click `Change Alias` on the context menu to show the change AP alias dialog.



3. Enter a new alias for the selected node.

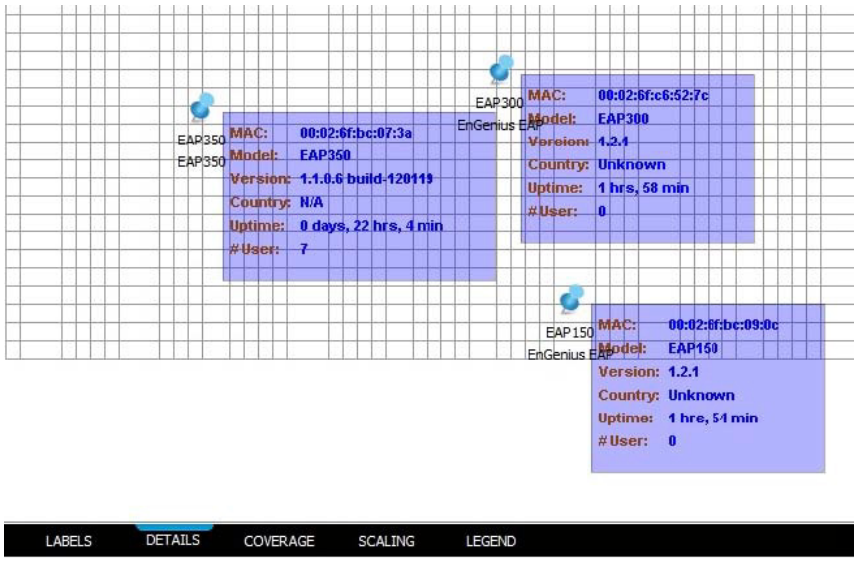


4. Click `OK` to save changes or `Cancel` to abort.

Node Details

User can set the EZ Controller Network Management Software to display the system information of the nodes plotted on the map.

To display system information for all nodes click DETAILS.

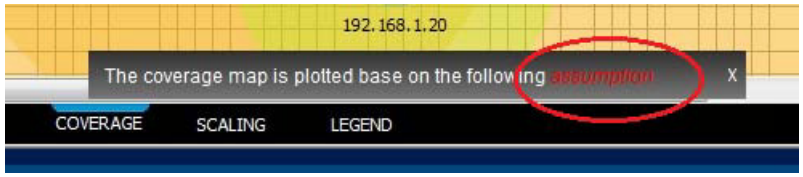


Node Coverage

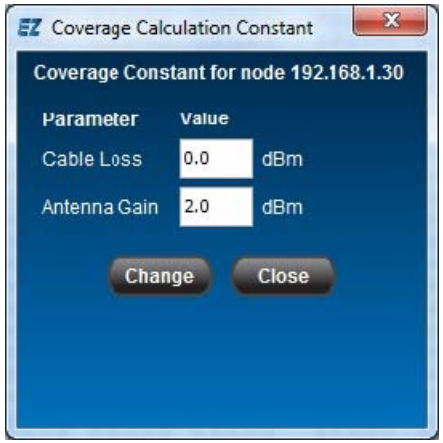
EZ Controller Network Management Software can show the estimated network node coverage area. The coverage map is plotted based on the transmit power of the node, with the assumption value of cable loss and antenna gain.

To configure the value of cable loss and antenna gain do the following:

1. Click the `assumption` link to show Coverage Calculation Constant dialog.



2. Enter the cable loss value in `Cable Loss`.

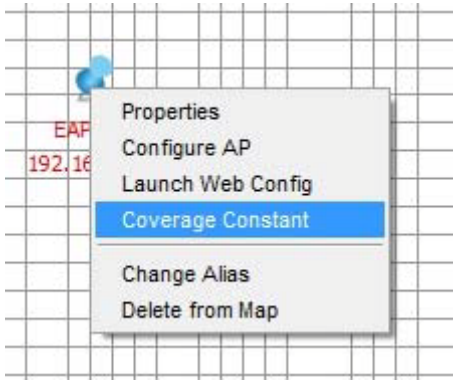


3. Enter the antenna gain value in `Antenna Gain`.
4. Click `Change` to save changes or `Cancel` to abort.

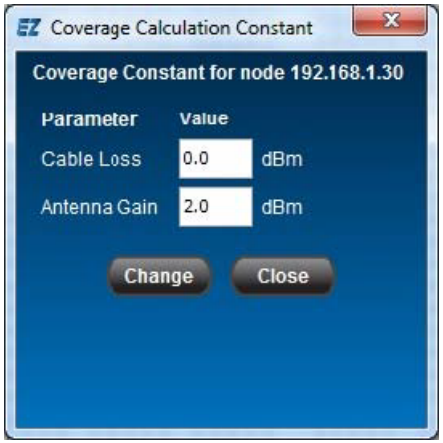
Note:
These values are the common values that apply to all nodes that are discovered by EZ Controller.

To specify the cable loss and antenna gain for a specific node do the following:

1. Right click on a node on the map



2. Click `Coverage Constant` on the context menu to show the `Coverage Calculation Constant` dialog.

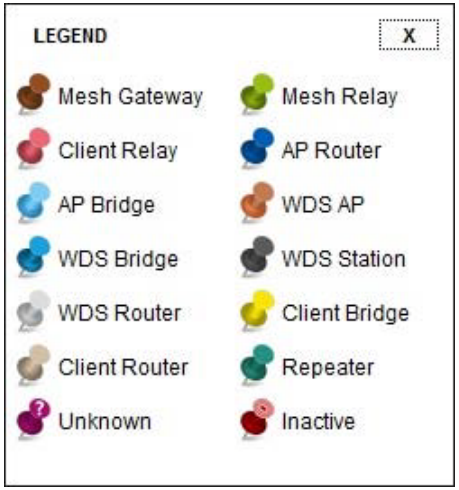


3. Enter the cable loss value for the node in `Cable Loss`.
4. Enter the antenna gain value for the node in `Antenna Gain`.

5. Click `Change` to save changes or `Close` to abort.

3.6 Nodes Properties

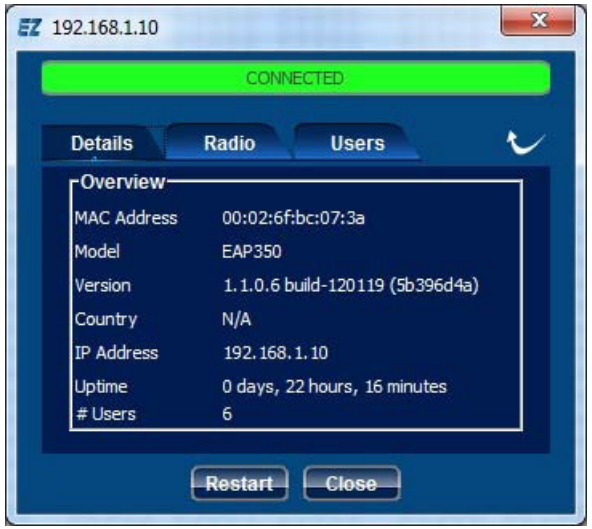
Network nodes are classified by type and visually defined on the map with icons. The node details, radio type and client list can are shown by viewing a node's properties. The icon definitions are located in a legend that can be accessed by clicking LEGEND.



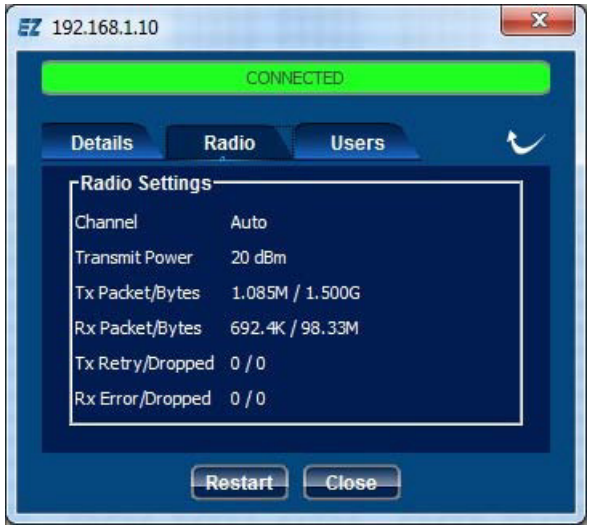
To show node properties do the following:

1. Right-click a node on the map.
2. Click Properties on the context menu to show the properties dialog.

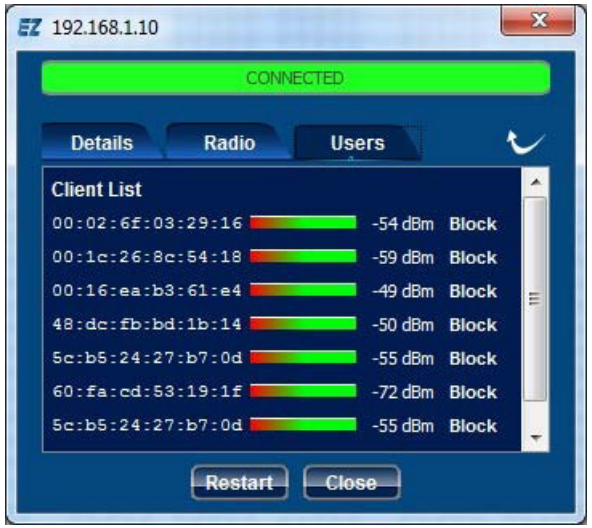
3. Click Details to show a network node's system information.



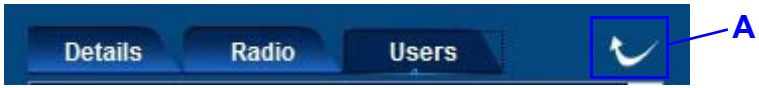
4. Click `Radio` to show information about the wireless interface.



5. Click `Users` to show all clients connected to a specific node.



Click the refresh icon (A) to reload the information shown in the properties window.



3.7 Block Node

The Block List allows the administrator define unwanted network nodes to be filtered by the discovery loop.

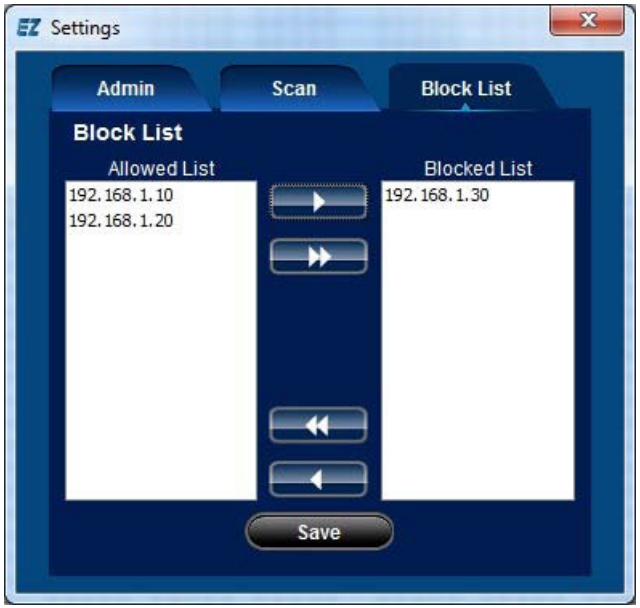
To manage the block list do the following:

1. Open the main screen.
2. Click SETTINGS to show the Settings dialog.
3. Click Block List to show the Block List panel.

Note:
When network nodes are discovered by EZ Controller they are automatically added to the Allowed List.

4. To block a network node do the following:
   - Click on the node in Allowed List.
   - Click the right arrow button to move the selected unit to the *Blocked List*.
5. To unblock a network node do the following:
   - Click on the node in Blocked List.
   - Click the left arrow button to move the selected unit to the Allowed List.

Note:
The and buttons work identical to the left and right buttons except they move all the nodes at once.



6. Select Save to save changes.

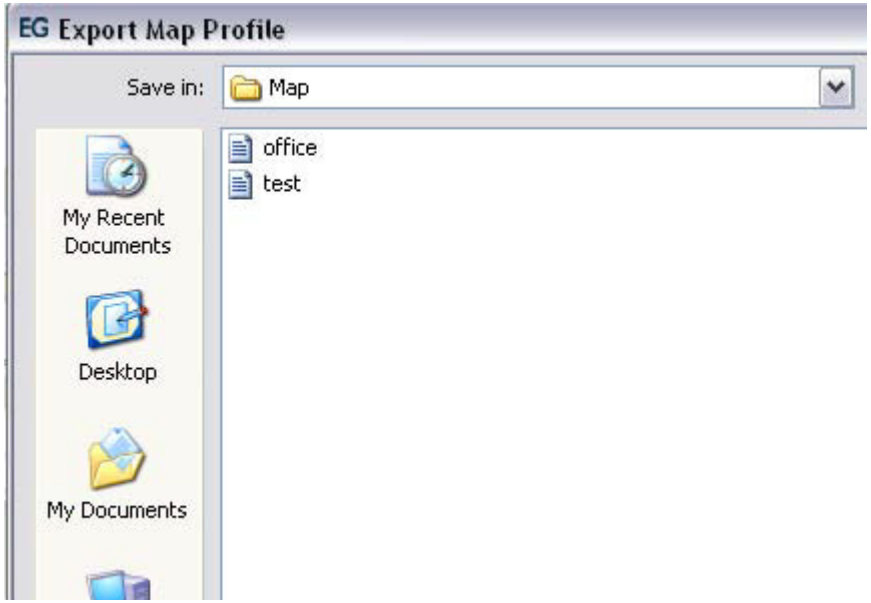
3.8 Import/Export Profile

When a user has configured EZ Controller with background images and set network node properties, the user can save the current settings as a profile. This profile can be loaded the next time the application is run so user does not need to repeat the configuration task again.

To save map and node settings as a profile do the following:

1. Click `Export` to show the *Export Map Profile* dialog.

2. Enter a profile name in `File Name`.

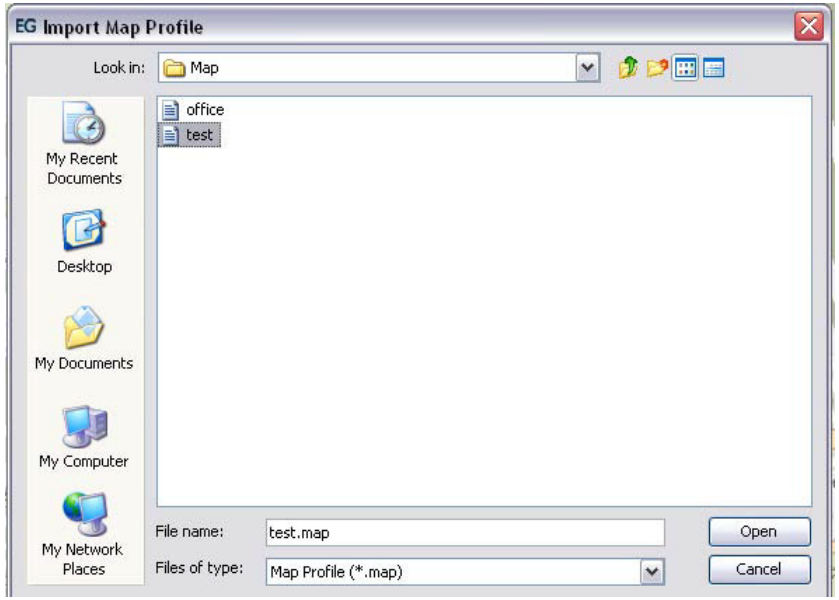


3. Click `Save` to save the file name or `Cancel` to abort.

To load a profile into the current EZ Controller session do the following:

1. Click `Import` to show the *Import Map Profile* dialog.
2. Click on a profile in the dialog.

3. Click `Open` to load the profile or `Cancel` to abort.



3.9 STATS Tab

The *Statistics* panel shows discovered network nodes and their upload, download and client connection information.

To view statistical information for a specific network node do the following:

1. Click on an IP address in the *AP List*.
2. To select a default period do the following:
   - Click `Period` to enable the period dropdown list.
   - Click the period dropdown list and select an item from the list.
3. To select a custom period do the following:
   - Click `Start Date` to enable the start and end date calendars.
   - Click the start date calendar and select a date value.
   - Click the end date calendar and select a date value.
4. Click `Generate`.

Click `UPLOAD` to view upload data usage.

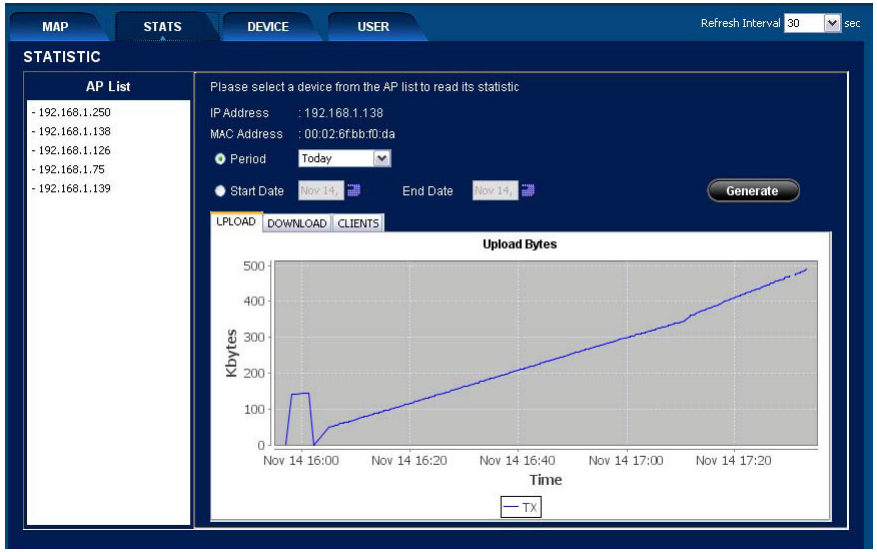


Figure 3-4: Upload Data (Kbytes)

Click DOWNLOAD to view download data usage.

Figure 3-5: Download Data (Kbytes)

Click CLIENTS to view client connections.

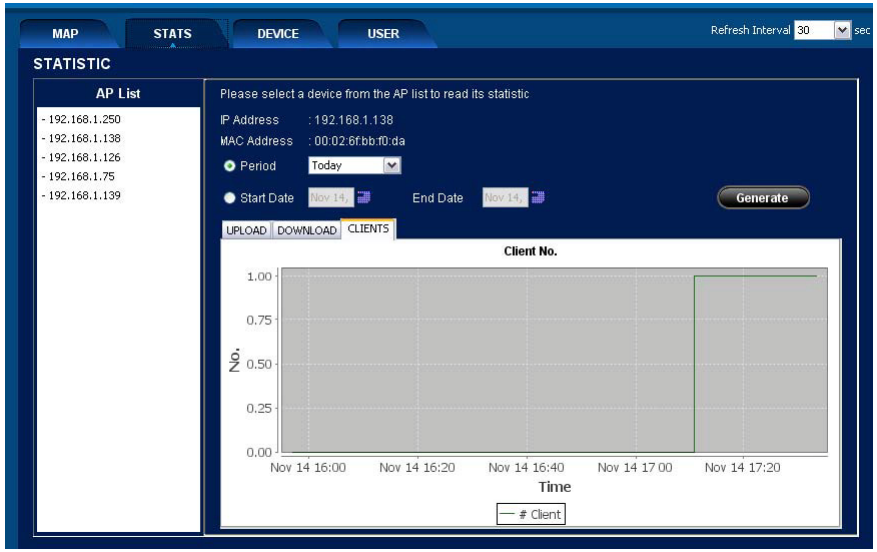
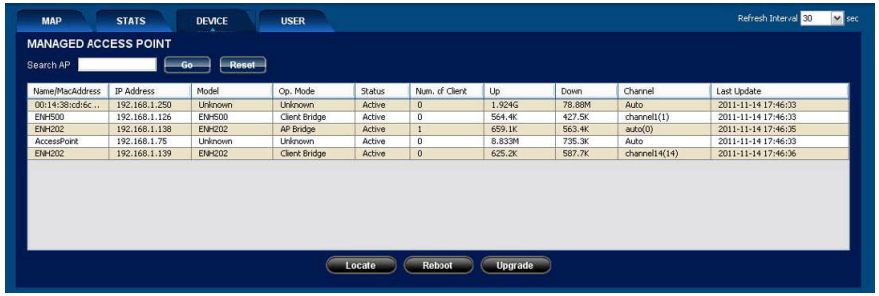


Figure 3-6: Client Count.

3.10 DEVICE Tab

The DEVICE tab, or Managed Access Point panel, shows a full or filtered table of devices connected to the active network node.

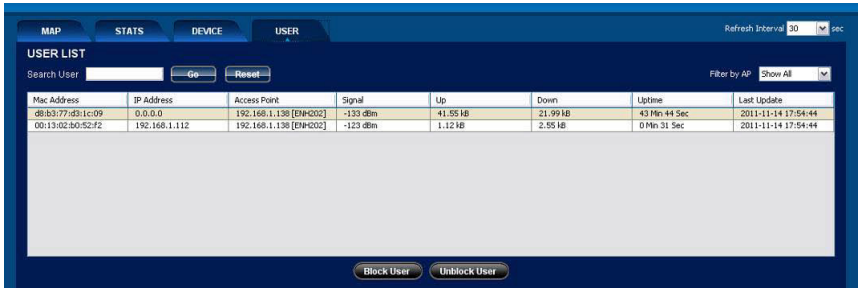


By clicking on an individual device in the table and clicking `Locate`, a user can view the location of the node on a map. This feature is useful when EZ Controller is monitoring a number of nodes or loading multiple maps.

If the user is an administrator they can also use the reboot and upgrade firmware features on selected nodes. For more information about the reboot feature, refer to *Node Reboot*. For more information about the upgrade firmware feature, refer to *Node Firmware Upgrade*.

3.11 USER Tab

The *USER* tab, or `USER List` panel, shows the active clients that are connected to the network node unit. The *Search User* and *Filter by AP* fields can be used to filter clients displayed in the list.



3.12 Block User

The administrator can block users from connecting to specific network nodes.

Blocked users are not allowed to connect to managed network nodes until they are unblocked by the administrator.

To block a user do the following:

1. Open the main screen.
2. Click on `USER` to show the User list.
3. Click on a user in the user table.
4. Click `Block User` to show the *Block User* dialog.

5. Click `Execute` to add the selected client to the block list of the network node unit.

Note:
Some network node units require a reboot for the changes to take effect. For this purpose, the administrator must click Reboot to complete the task.

3.13 Unblock User

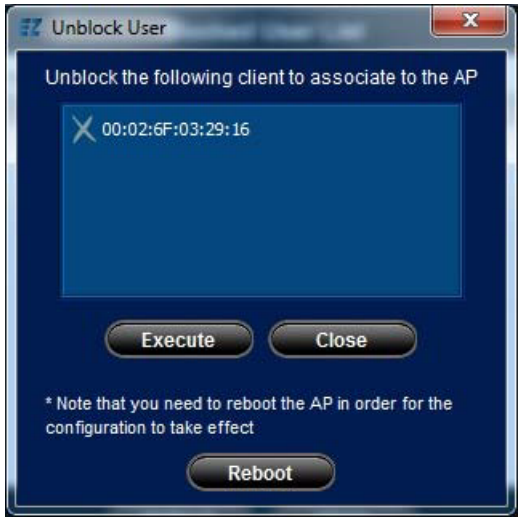
The administrator can unblock users who have been blocked from connecting to specific network nodes.

On the other hand, unblock a client is similar to the block action. Select one or more blocked client from the user list, and click the Unblock button. The *Unblock User* window would popup as illustrated

To block a user do the following:

1. Open the main screen.
2. Click on `USER` to show the User list.
3. Click on blocked user(s) in the user table.

Click `Unblock User` to show the *UnBlock User* dialog.



4. Click `Execute` to remove the selected client from the block list of the network node unit.

Note:
Some network node units require a reboot for the changes to take effect. For this purpose, the administrator must click Reboot to complete the task.

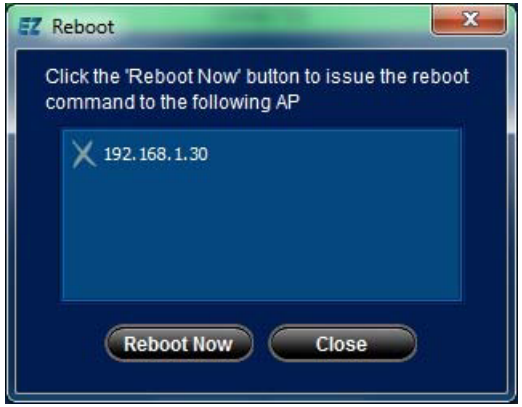
3.14 Node Reboot

There are occasions when an administrator needs to reboot a device and this can be accomplished remotely using the EZ Controller Network Management Software.

There are two methods to rebooting network node units. To use the first method do the following:

1. Open the main screen.
2. Click `DEVICE` to show the *Managed Access Point* panel.
3. Click on network node unit(s) to be rebooted.
4. Click `Reboot` to show the *Reboot* dialog.

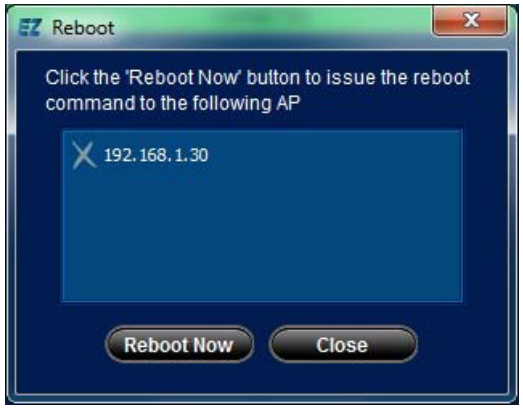
5. Click `Reboot Now` to reboot the device(s).



To use the first method do the following:

1. Right-click on a network node to show the context menu.
2. Click `Properties` to show *Properties* dialog.
3. Click `Restart` to show the *Reboot* dialog.

4. Click `Reboot Now` to reboot the device(s).



3.15 Node Firmware Upgrade

The administrator can use EZ Controller Network Management Software to perform firmware upgrades on the network node units.

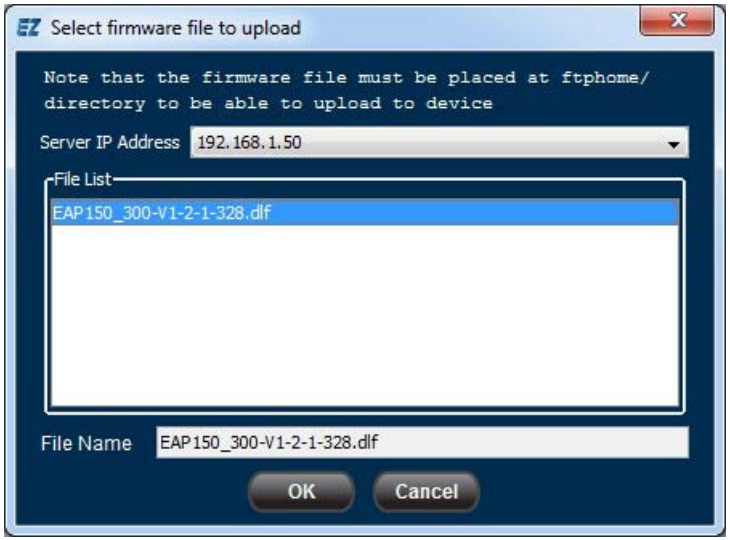
Note:
The upgrade process is executed via the web config method so users need the Web GUI Configuration page username and password.

First of all, switch EZ Controller to the *DEVICE* tab and select the unit you would like to upgrade. Then, select the **Upgrade** button at the bottom of the device list.

To perform a firmware upgrade do the following:

1. Open the main screen.
2. Click `DEVICE` to show the *Managed Access Point* panel.
3. Click on network node unit(s) to be upgraded.
4. Click `Upgrade` to show the firmware upgrade dialog.

5. Click on a firmware upgrade file in `File List`.



6. Click `OK` to upgrade or `Cancel` to abort.

Note:
The upgrade and reboot process takes about 60 seconds.

Click OK to continue.

3.16 Quick Config

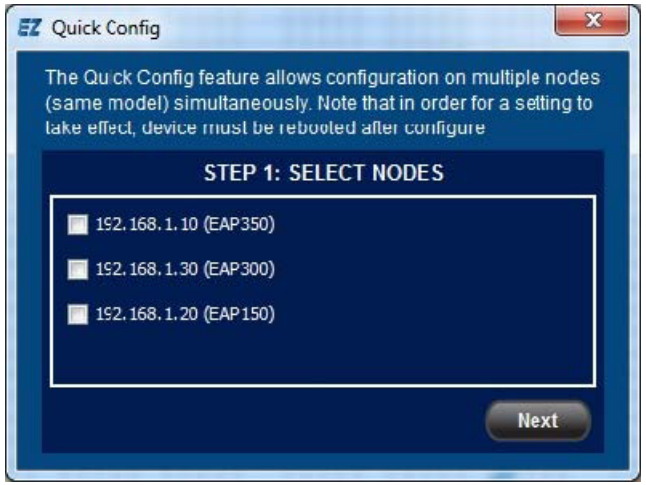
Quick Config allows simultaneous configuration of multiple nodes of the same model.

To perform a quick configuration do the following:

1. Open the main screen.
2. Click `MAP` to show the *Map* panel.
3. Click `CONFIGURE` to show the Quick Config dialog.

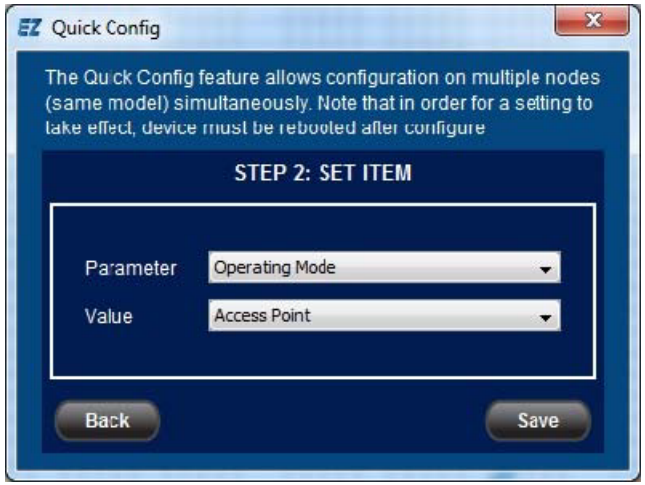
4. Click the nodes to configure.

Note:
When a node is checked other nodes that are different models are disabled.

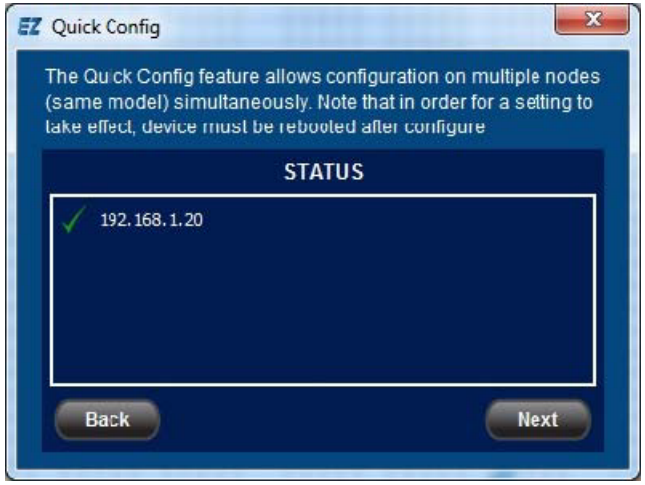


5. Click `Next` to proceed to the next step.
6. Click the `Parameter` dropdown list to select a parameter.
7. Click the `Value` dropdown list to select a value.

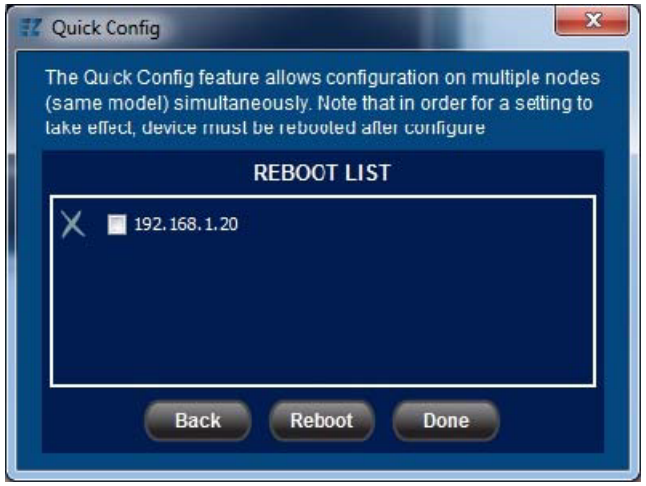
8. Click `Save` to save the configuration and show the *Status* screen or `Back` to return to the previous step.



9. Click `Next` to proceed to the *Reboot List* screen or `Back` to return to the previous step.



10. Click on nodes in the list to reboot.



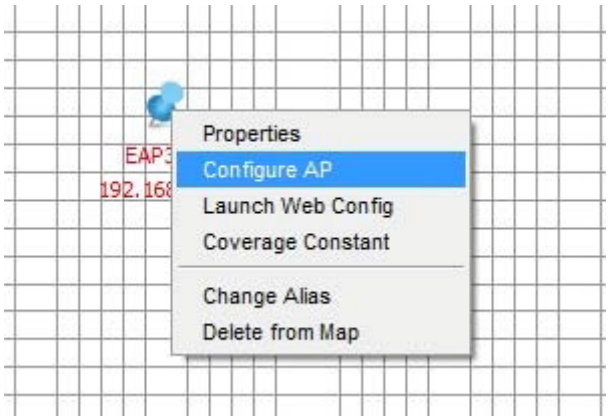
11. Click `Reboot` to reboot the device(s).

3.17 Configure Node

Network nodes discovered by EZ Controller Network Management Software can be configured using the *Configurator*.

To use the *Configurator* do the following:

1. Right click on a network node on a map to show the context menu.



2. Click `Configure AP` to show the *AP Configurator* dialog.

Note:
Only basic configuration can be done via the AP Configurator. For more advanced configuration, the user is required to launch the Web GUI configuration page of the device. The Web config page can be launched via the popup menu, as illustrated by the previous image.

General Screen

The *General* screen shows the general parameters of the node to be set, such as operating mode, WAN, LAN, DHCP, etc.

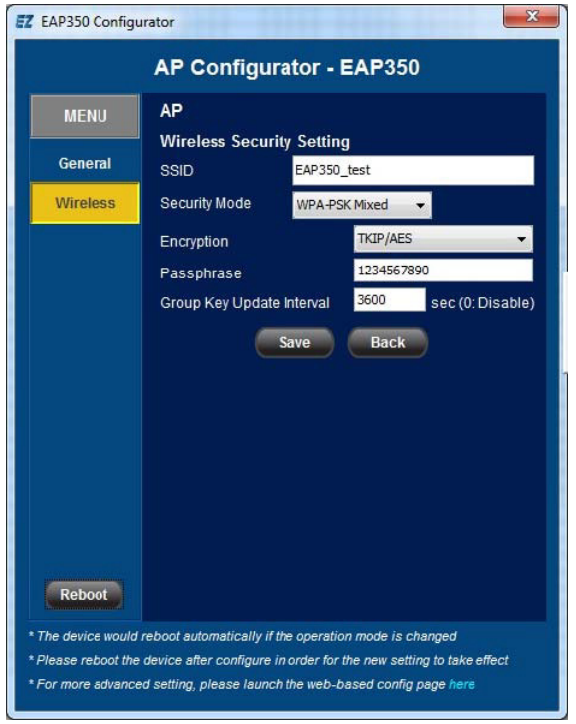
Wireless Screen

The *Wireless* screen shows the wireless parameters of the device to be set. To configure the security settings for the wireless profile click `Edit`.

Wireless > Security Screen

The Wireless Security screen shows the security parameter options available for a device. The security mode levels available are WEP, WPA and WPA2. WEP is the oldest protocol and provides the least protection while WPA and WPA2 are newer and provide greater protection.

It is recommended that WPA2 be selected as the security mode.



Click `Back` to return to the *Wireless* screen.

Appendix A

A.1 Community Name Setting for Security

EZ Controller Network Management Software can not access a network node unit if the community name of the node unit and the NMS are identical.

Default Community Name

Read Only: public

Read/Write: private

SNMP	Enable Disable
Contact	bofh@example.com
Location	office
Community Name (Read Only)	public
Community Name (Read/Write)	private
Trap Destination Address	
Trap Destination Community Name	

Figure A-1: Web page-SNMP settings

Figure A-2: NMS > Settings > Scan

Figure A-3: MIB browser-Preferences

Appendix B

B.1 WorldWide Technical Support

REGION/COUNTRY OF PURCHASE	SERVICE CENTRE		SERVICE INFORMATION
Canada	CANADA	web site	www.engeniuscanada.com
		email	rma@engeniuscanada.com
		contact numbers	Toll Free: (+1) 888-397-2788 Local: (+1) 905-940-8181
		hours of operation	Monday - Friday 9:00AM to 5:30PM EST (GMT-5)
USA	LOS ANGELES, USA	web site	www.engeniustech.com
		email	support@engeniustech.com
		contact numbers	Toll Free: (+1) 888-735-7888 Local: (+1) 714-432-8668
		hours of operation	Monday - Friday 8:00 AM to 4:30 PM PST (GMT-8)
Mexico, Central and Southern America	MIAMI, USA	web site	[ES] es.engeniustech.com [PT] pg.engeniustech.com
		email	miamisupport@engeniustech.com

REGION/COUNTRY OF PURCHASE	SERVICE CENTRE		SERVICE INFORMATION
		contact numbers	Miami: (+1) 305-887-7378 Sao Paulo, Brazil: (+55)11-3957-0303 D.F., Mexico:(+52)55-1163-8894
		hours of operation	Monday - Friday 8:00 AM to 5:30PM EST (GMT-5)
Europe	NETHERLANDS	web site	www.engeniusnetworks.eu
		email	support@engeniusnetworks.eu
		contact numbers	(+31) 40-8200-887
		hours of operation	Monday - Friday 9:00 AM - 5:00 PM (GMT+1)
Africa Middle East Russia CIS / Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine, Uzbekistan Turkey Afghanistan Pakistan Bangladesh, Maldives, Nepal, Bhutan, Sri Lanka	DUBAI, UAE	web site	www.engenius-me.com
		email	support@engenius-me.com
		contact numbers	Toll Free: U.A.E.: 800-EnGenius 800-364-364-87 General: (+971) 4357-5599
		hours of operation	Sunday - Thursday 9:00 AM - 6:00 PM (GMT+4)

REGION/COUNTRY OF PURCHASE	SERVICE CENTRE		SERVICE INFORMATION
Singapore, Cambodia, Indonesia, Malaysia, Thailand, Philippines, Vietnam China, Hong Kong, Korea India South Africa Oceania	SINGAPORE	web site	www.engeniustech.com.sg/e_warranty_form
		email	techsupport@engeniustech.com.sg
		contact numbers	Toll Free: Singapore: 1800-364-3648
		hours of operation	Monday - Friday 9:00 AM - 6:00 PM (GMT+8)
Others	TAIWAN, R.O.C.	web site	www.engeniusnetworks.com
		email	technology@senao.com

Note:

* Service hours are based on the local time of the service center.

* Please visit the website for the latest information about customer service.