Getting Started

This chapter defines the prerequisites for deploying your Access/One Network and instructions for how to install the Manager/One plug-in.

2

Host Network Requirements

Your Access/One Network requires the presence of several network servers and services in the host wired network, including:

◗ DHCP Server (see also "Non-DHCP Server Environment" on page 25)

◗ FTP Server

◗ Internet Browser (Internet Explorer, version 6.0 and above)

DHCP Server

A DHCP server is necessary to distribute IP addresses and ancillary information to your Access/One Network. Many routers contain DHCP servers and allow the specification of DHCP options necessary to provide network information that would otherwise be configured manually. Strix recommends that each module is given a DHCP reservation allowing it to obtain the same IP address whenever it's required. The reservation is based on MAC address and may allow system administrators to specify options unique to a module as well as a network.

> *Because modules within Access/One Network change their addresses frequently (due to the network's dynamic self-configuration capability), the DHCP server must support IP address persistence. Without IP address persistence different addresses will be assigned every time, resulting in invalid self-configurations and network topologies.*

2

To prevent any interruption in service, the DHCP lease time should be set to infinite whenever possible, though Strix recommends configuring a reservation for each Access/One Network module regardless of the lease time. Doing so will avoid any unanticipated problems and maintain management consistency. All modules within your Access/One Network require the following RFC 2132 option numbers to be specified:

Option	Title	Description
1	Subnet Mask	Network subnet mask, as applied to the given IP address.
2	Time Offset	Number of hours the DHCP client will add or subtract from SNTP time.
3	Default Router	Specifies the default gateway for this network segment.
6	DNS Server	Specifies one or two DNS servers (by priority).
12	Host Name	Specifies the unique system name of the module.
15	Domain Name	Specifies the domain name for this network. This is used to fully qualify any hostname operations that the module may generate (for example, ping node1 = ping node1.strixsystems.com). This applies to module operations only and does not affect users.
42	NTP Server	Specifies the NTP server IP address (local or Internet).

Examples of DHCP servers include (but are not limited to):

◗ Windows 200X Server

◗ Cisco IOS

◗ Linux

◗ Sun OS

Non-DHCP Server Environment

In the absence of a DHCP server, Strix modules utilize zero configuration networking protocols to allocate IP addresses. In this case, modules will automatically select unique and non-conflicting IP addresses, enabling users to statically configure the modules and manage the Strix network effectively.

2

> *For Access/One Network to operate properly in the automatic mode, IP gateway, DNS server or DHCP server IP addresses must be configured correctly.*

FTP Server

An FTP (or secure FTP) server is required to transfer firmware and configuration data from distribution media to Access/One Network modules. Software distribution via an FTP server relies on user accounts to maintain security.

> *Access/One Network firmware and configuration files must be transferred and distributed throughout your Access/One Network from the Manager/One interface, using the FTP configuration parameters you provide. Any other method for transferring and distributing files is not supported by Strix Systems.*

Access/One Network modules are capable of specifying a user name and password (including **anonymous**) to log into an FTP server. Directory access may be configurable based on the FTP server software, so files related to your Access/One Network may be available only to Access/One Network modules. TFTP is not currently supported.

Some examples of FTP servers include:

◗ Windows 200X Server

◗ Linux

◗ Sun OS

◗ Many shareware/freeware implementations

Internet Browser

Access/One Network and the Manager/One interface are supported in Windows Internet Explorer, version 6.0 and above.

*Privacy settings for Internet Explorer must be set to **medium** or **low** for interoperability with Manager/One. Also, Internet Explorer may stop responding if connectivity to the network server is interrupted for extended periods (this does not apply to normal network reboots or outages). In this case, use the Windows Task Manager to manually end the task. (Ctrl + Alt + Del). Do not leave Internet Explorer running unless you are actively managing the network server.*
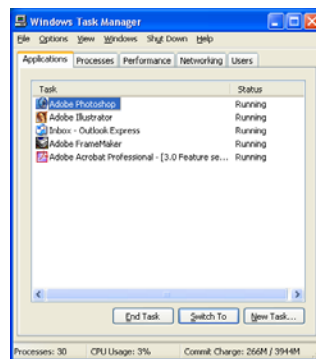
Figure 7. Windows Task Manager

Screen Resolution

Manager/One uses detailed graphical designs within its interface. The quality and relative sizes of the screen images generated by Manager/One will depend on the preferences you have set for your screen resolution. For best results, Strix recommends using a screen resolution of 1280 x 1024 pixels.

About Manager/One

Manager/One is a graphical management interface that runs on Internet Explorer, version 6.0 or above. It allows you to view, monitor, configure and manage your Access/One Network at any level (network, subnet, node, or individual module) from your Web browser. Figure 8 shows an example of the Manager/One interface at the subnet level, where network nodes and the individual modules contained within each node are displayed.
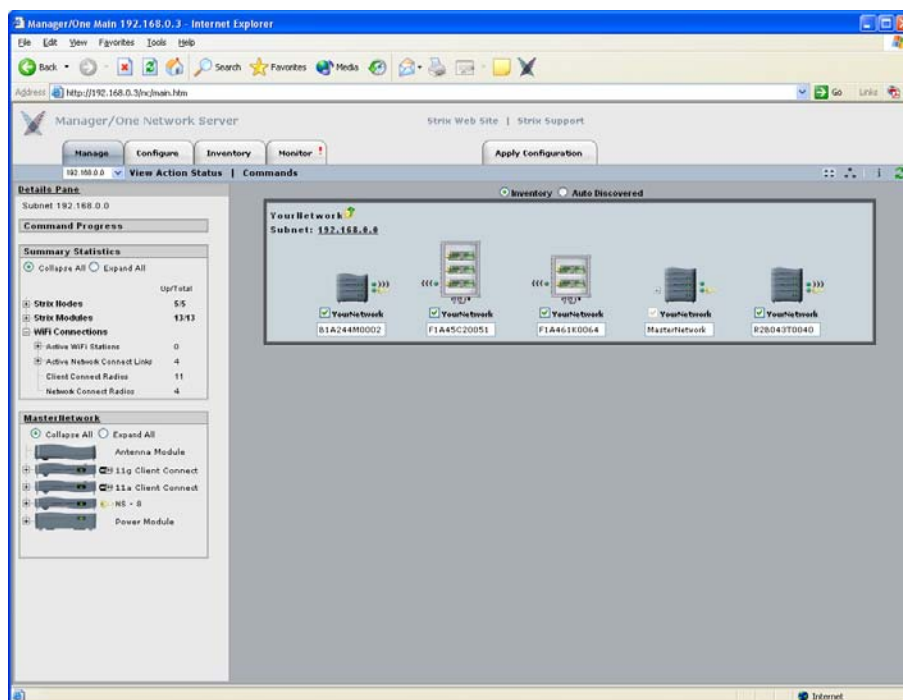
2

Figure 8. Manager/One Interface (Subnet Level)

Installing the Manager/One Plug-In

The Manager/One plug-in for Internet Explorer must be installed on your PC to facilitate discovery and management of your Access/One Network and all of its individual elements. Once installed, the Manager/One plug-in performs an automatic self-discovery procedure, effectively capturing an accurate and detailed image of the network and providing you with a powerful graphical interface to it.

Perform the following procedure to download and install the Manager/One plug-in.

2

1. The Manager/One plug-in file is stored in a compressed (.zip) folder. Go to our Web site at http://www.strixsystems.com/support/ and download the compressed folder to your local computer. Contact Strix for a username and password to access the support section of our Web site.

2. Open the compressed folder and double-click on the **EXE** file contained in the folder (the full name of the file may be different, depending on the revision level currently available).

3. When the Access/One Network setup wizard appears (it takes a few seconds), follow the wizard's on-screen instructions to complete the installation.
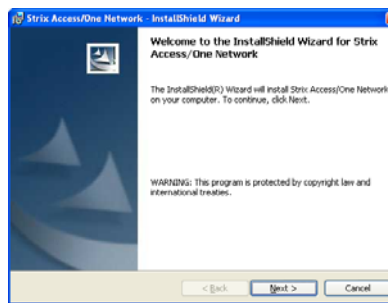
Figure 9. Access/One Network Setup Wizard

4. When the Manager/One plug-in is installed successfully, the next time you launch your Web browser, the Manager/One icon (Strix Wings) can be found in your browser's taskbar.
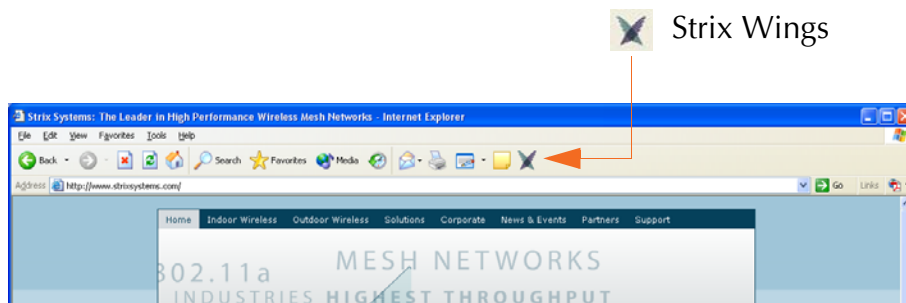

Strix Wings

Figure 10. Manager/One Icon

Launching the Manager/One Utility Pane

To launch the Manager/One utility pane, click on the **Manager/One Icon** in your browser's taskbar. The window splits into a right pane (containing your browser) and a left pane (containing the Manager/One utility pane). This new utility pane is driven by an applet that you loaded when you installed the Manager/One plug-in.

2

Utility Pane   Internet Browser

Figure 11. Manager/One Utility Pane

Your New Manager/One Utility Pane

📖 *The applet that generates the Manager/One utility pane is provided as a simple and intuitive way to find your network servers before you start managing the network. It should not be used for network management or as a substitute for debugging tools, as any other use of the utility pane is not authorized or supported by Strix Systems.*

The new Manager/One utility pane (left pane) contains the following items:

◗ A link to the Strix Systems Home Page.

◗ Your Strix Access/One Network, including an expandable listing of all network nodes and the modules residing within the nodes. The list is populated by label and serial number, and maintained in real time as a result of Access/One Network's intelligent self-discovery feature.

You can expand any node (drill down to the individual modules contained within the node) by double-clicking on the node's label. You can also **Page**, **Ping**, or **Telnet** into any module listed in the utility pane. Simply right-click on your chosen module to display the available options.
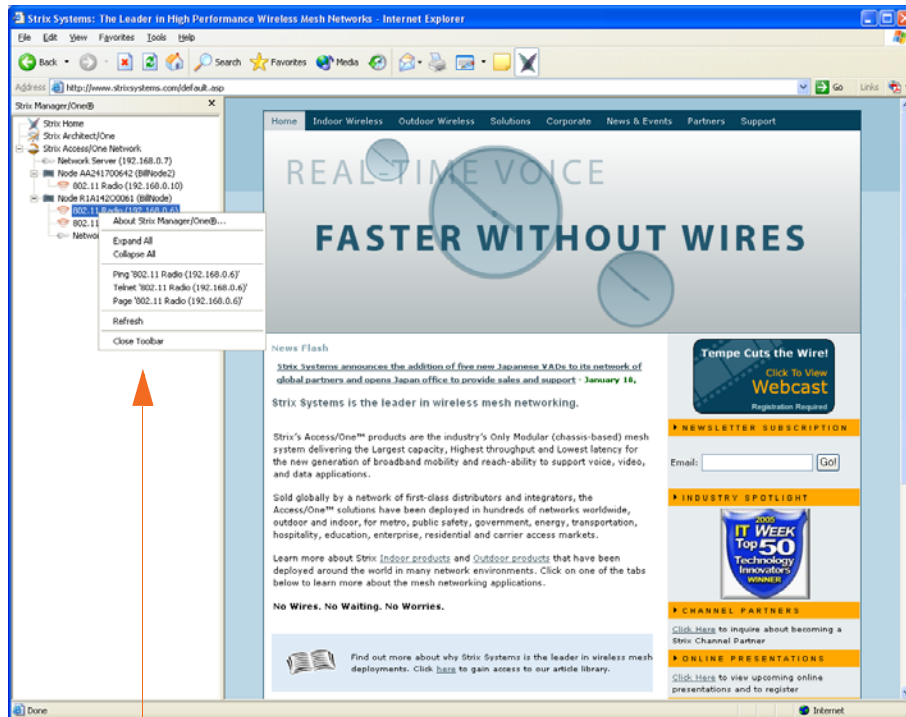
Options

Figure 12. Expanded Utility Pane Tree

To begin managing your Access/One Network, expand your chosen node and double-click on any network server shown in the list. A login window appears as the selected network server prompts you for a valid **User Name** and **Password**.

Figure 13. Manager/One Session Login Prompt

📖 *The factory default for both the user name and password is **Admin** (with a capitalized A). For your own security, we strongly recommend that you assign new user login parameters immediately.*

After inputting a valid user name and password, click on the **OK** button to start your initial Manager/One management session.

Accessing Manager/One for the First Time

The first time you access Manager/One, the system immediately prompts you for a network name change (the factory default name is **AccessOne**). You must change the default name—the default name is reserved. Be aware that once you assign a network name, the name cannot be changed.
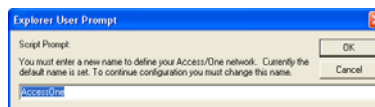

Figure 14. Defining Your Network Name

At the dialog prompt, enter a meaningful network name that will define your new Access/One Network, then click on the **OK** button. The new name is created and Manager/One displays its main management window. From here you can manage and configure all components residing within your Access/One Network.

Starting a New Network

When starting a new network (cloud), the following information should be taken into account:

◗ Wait for the network server to finish its discovery process and include all of the modules within its stack. When this is done, the entire node becomes gray. Once this is successful, more nodes can be admitted to the network.
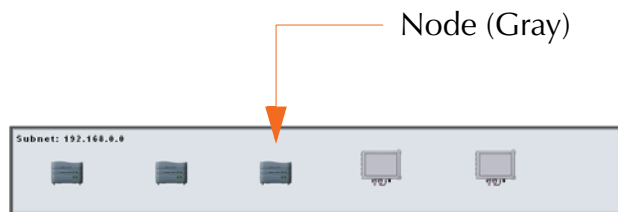
Node (Gray)

Subnet: 192.168.0.0

Figure 15. Network (Cloud) View

◗ In situations where a hierarchical network topology is used that has a Central Office (main subnet with its master network server) and remote subnets, the entire network must be managed from the master network server at the Central Office—all network configuration must be performed from this master network server, then apply the configuration across the entire network (initiated from the master network server at the Central Office).

See also:

• "Communicating Across Remote Subnets" on page 16.
• "Enabling Communication Between Remote Subnets" on page 125.

Enabling Windows 2000 Servers for NTP Requests

To enable a Windows 2000 server to respond to NTP (Network Time Protocol) requests from your Access/One Network, you must modify the registry.

☎ *Modifying registry settings can cause serious problems, including loss of service. Strix Systems assumes no responsibility for changes made to your server's registry.*

2

1. From your computer's Start menu, choose **Run** and type **regedit** in the Open field (you can also type **regedit.exe** but the EXE extension is not a requirement).
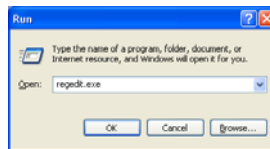
Figure 16. Run Dialog (Editing the Registry)

2. Click on the **OK** button to run the regedit.exe program.

3. From the Registry Editor window, select:

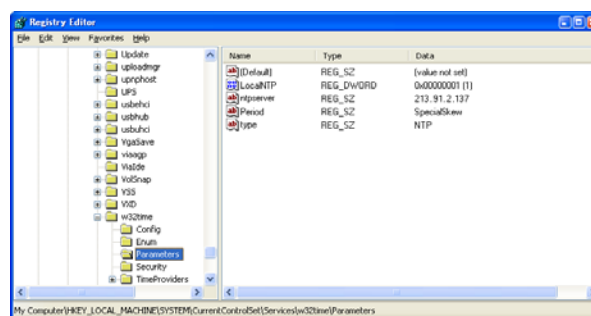   HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters

Figure 17. Registry Editor

4. Change **LocalNTP** to 1 (instead of 0).

5. Set the DHCP option 42 on the DHCP server to the NTP server's IP address so that your Access/One Network devices will synchronize to the Windows 2000 server clock. See also "DHCP Server" on page 23.

6. If world accuracy is required, set the IP address of an Internet NTP server in the **ntpserver** field to allow the server to synchronize with a level 1 or level 2 clock.

7. Reboot the server for your changes to take effect.

Updating the Firmware

This brief but important chapter shows you the correct method to use when updating the Access/One Network firmware (to the entire network or to an individual module), with some important notes that will ensure your network and its modules are upgraded to the latest version without problems.

Before proceeding, read the following critical bullet points:

◗ You must have an FTP (or secure FTP) server.

◗ Access/One Network firmware and configuration files must be transferred and distributed throughout your Access/One Network from the Manager/One interface, using the FTP configuration parameters you provide. Any other method for transferring and distributing files is not supported by Strix Systems.

◗ A mixed multi-version environment is not supported. When updating your Access/One Network firmware, all network nodes and modules (IWS and OWS) must be updated.

◗ All steps in this procedure must be performed from the same network server.

◗ Never attempt to bypass this procedure. Any method other than the one described here is not authorized or supported by Strix Systems and may violate regulatory restrictions.

◗ Errors caused by ignoring important steps in this procedure may result in some nodes disappearing from your Manager/One interface. Strix Systems assumes no responsibility for misconfigured networks caused by neglect.

Prerequisite Steps

1. Make a note of your FTP server's configuration and security parameters, including:

   • Host name and/or IP address

   • User ID

   • Password

3

2. Go to the Partner Login page on our Web site and enter your username and password to log in. If you don't have access to this section of the Web site, please contact your Strix representative for a copy of the latest firmware.
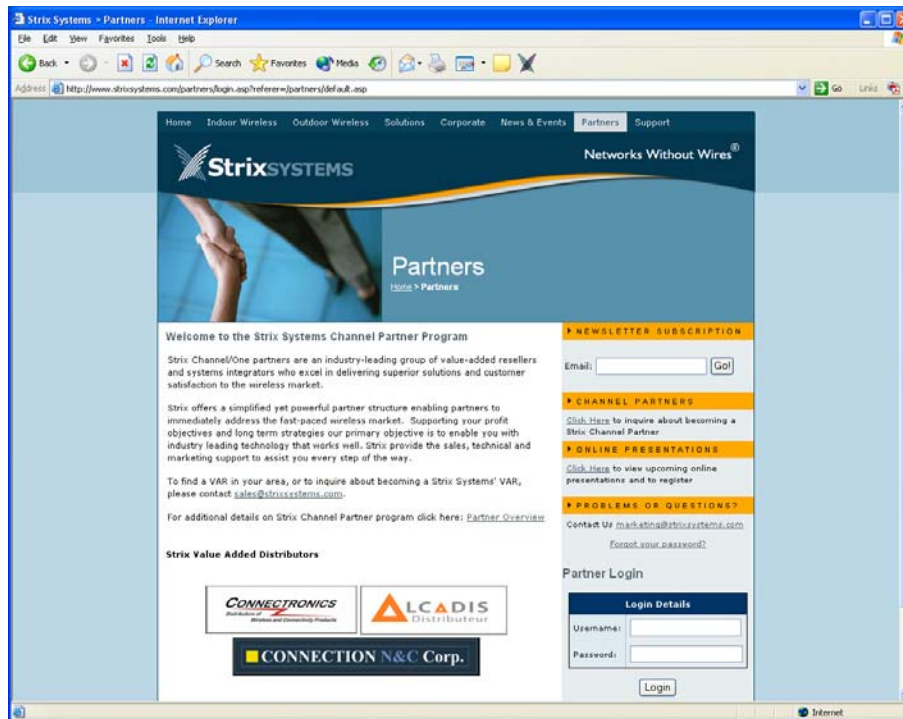

Figure 18. Partner Login

3. Go to the **Downloads** section and choose the firmware update file you want from the list. The file is in the form of a compressed folder (zip file).

4. Save the zip file to a convenient location on your computer. The zip file contains multiple files:

- Release notes, highlighting the changes in this version of the firmware.

- Two binary image (BIN) files (**accessone.bin** and **accessone_m.bin**).

5. Move both BIN files to a suitable location on your FTP server.

6. To update firmware at the network level, go to "Updating Firmware Across the Network" on page 37. To update firmware on an individual module, go to "Updating Firmware on Individual Modules" on page 41.

Updating Firmware Across the Network

1. From Manager/One at the network level, go to Configure>System and use the **Firmware Updates** command to set up your FTP parameters (so the system knows where to locate the BIN files).

Figure 19. Firmware Updates Command (Network Level)

The parameters you establish here will be propagated to all modules within your Access/One Network. You must define the following:

- **FTP Server (IP address or name)**: For example, ftp.myserver.com.
- **User Name**: Ask your network administrator.
- **Password**: Ask your network administrator.
- **Path**: Enter a path if you placed the BIN files in a specific directory.

2. At the network level, Manager/One offers you the opportunity of setting up how "aggressive" you want your FTP updates to be. This criteria includes:

- **Number of Simultaneous Update Sessions**: The default is 10 but you can increase or decrease this number, as needed. The lower this number, the faster any simultaneous FTP update sessions will be executed.
- **Update Session Start Interval**: This number defines the elapsed time (in seconds) between the start of firmware update sessions. The default is 1 second.
- **Update Session Timeout**: This number defines the elapsed idle time (in seconds) before the current FTP update session is aborted. The default is 600 seconds.

3. Click on the **Update** button to inform Manager/One that you have made changes to this page. When you click on the Update button you will notice that the Apply Configuration tab changes to BLUE (to let you know that your changes need to be applied across the network).

4. Click on the **Apply Configuration** tab to propagate your FTP session changes across the network. You will be warned that the changes you made with the Firmware Updates command will affect multiple devices on the network.
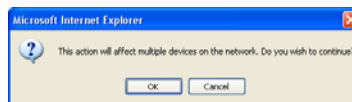
Figure 20. Warning and Confirmation Request

5. Click on the **OK** button to confirm that you want to apply your changes across the network, or click on the **Cancel** button to abort the process.

6. Go to Manage>Commands and use the **Load Firmware on Network** command to load the new firmware's image (BIN file) to all modules contained in all network nodes within your Access/One Network.

When the firmware update process is started, you can review its progress in the Command Progress frame (located at the top of the Details Pane).
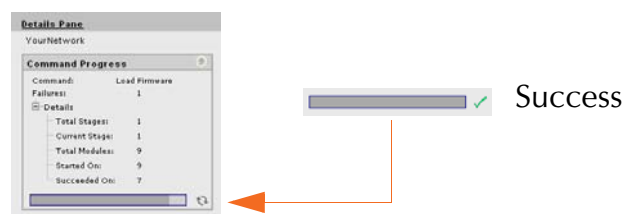

Figure 21. Command Progress (Firmware)

Updating firmware across the entire network involves communicating with all nodes and all modules within your Access/One Network. This process will take several minutes to complete. When completed successfully, a GREEN check mark appears next to the progress bar.

If the update process fails for any module, keep trying to download the firmware, but do not reboot. Devices which already have the new firmware but haven't rebooted will not download the firmware again. Any failures will be reported in the **View Action Status** window.
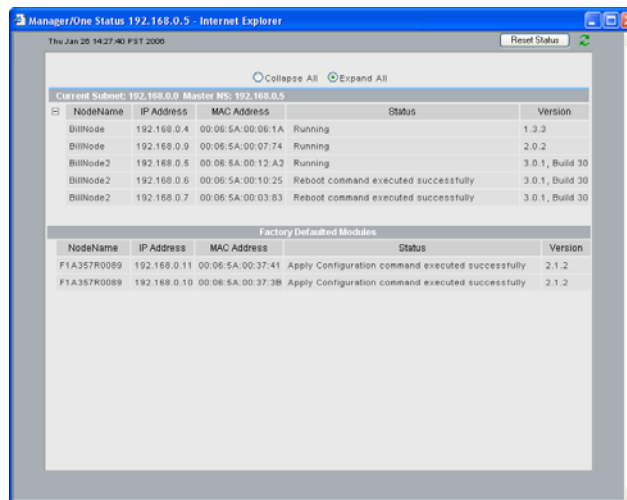

Figure 22. View Action Status Window

If the command fails on all modules, return to Step 1 and check that your FTP parameters have been set up correctly.

If for any reason the update process repeatedly fails on any specific module (or modules), move on to Step 7 and reboot the network (you will locate the failed module later in this procedure then be directed to update its firmware separately).

7. When the update process has completed (all network modules upgraded with the new firmware), go to Manage>Commands at the network level and use the **Reboot Network** command to reboot the network.

The Reboot Network command reboots each of the modules in all nodes within your Access/One Network. Rebooting is always required when any configuration changes are made at the network level.

See also, "Important Note About Rebooting" on page 4.

3

8. After the network has rebooted, click on the Inventory tab and verify that all modules have been upgraded. You will find the version number in the far right side column of the Inventory window.

If all your Access/One Network modules have been upgraded successfully, go directly to Step 10 (skip Step 9).
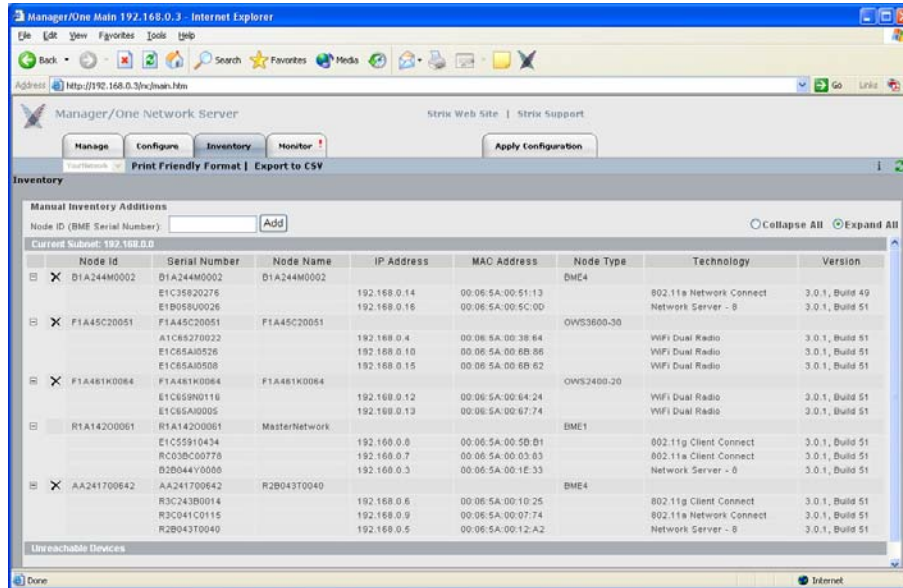

Figure 23. Inventory Window

9. This step only applies if the firmware update process across the network failed on any module(s). In this case, make a note of the affected module(s) then go to "Updating Firmware on Individual Modules" on page 41.

Because Access/One Network does not support a mixed multi-version environment, you must upgrade the firmware on ALL modules before proceeding.

10. With the firmware update process now completed (all modules upgraded), you can log into the master network server and resume managing your Access/One Network.

Updating Firmware on Individual Modules

1. From Manager/One, log in to the module you want to upgrade.

2. Go to Configure>System and use the **Firmware Updates** command to configure your FTP parameters (so the system knows where to locate the BIN files).

Figure 24. Firmware Updates Command (Module Level)

You must define the following:

*   **FTP Server (IP address or name**: For example, ftp.myserver.com.

*   **User Name**: Ask your network administrator.

*   **Password**: Ask your network administrator.

*   **Path**: Enter a path if you placed the BIN files in a specific directory.

*   **File Name**: This field is exclusive to modules—it does not appear in the Firmware Updates window at the network level. The file name is entered here automatically by Manager/One (either accessone.bin or accessone_m.bin), depending on which BIN file Manager/One sees when it looks at the module's existing configuration image. Do **not** change the name of this file when updating the module's firmware. The file name in this field should be changed ONLY when updating configuration files (not firmware).

3. After defining your FTP parameters, click on the **Update** button to apply your changes to this module.

4. Go to Manage>Actions and choose the **Load Firmware/Configuration** command. In the Action Configuration window, select **Download** (for Action Type) and select **Image** (for File Type). With these selections, the File Version field is grayed out (not accessible).
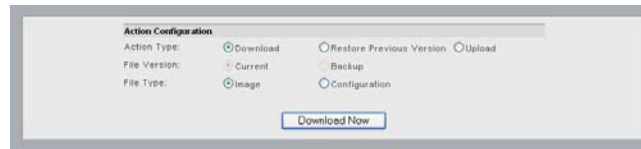

Figure 25. Action Configuration Window

5. Click on the **Download Now** button to download the new firmware to the module. The update process will take a few minutes. Manager/One will confirm when the process completes successfully.
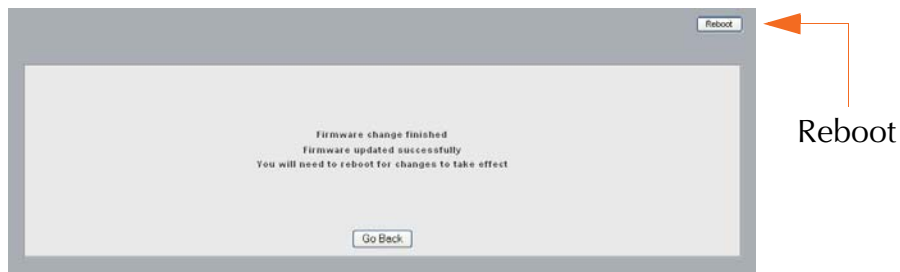
Reboot

Figure 26. Firmware Update Completed Successfully

If the command fails, return to Step 2 and check that your FTP parameters have been set up correctly. Do not reboot the module at this time.

If your FTP parameters are set up correctly and the command fails repeatedly, try resetting the module to its factory default state and repeat this procedure. In this case, after the firmware has been upgraded you will need to reconfigure the module for your network.

6. When the update process has completed successfully, click on the **Reboot** button to reboot the module—or click on the **Go Back** button if you prefer to reboot the module at a later time (the Reboot command is also available from the Manage/Actions menu). Rebooting is always required when any configuration changes are made to a module.

The Manager/One Interface

Manager/One is an easy-to-use graphical interface to your Access/One Network, residing on all modules within the network. Manager/One provides you with the tools you need to ensure that your network is functioning efficiently and effectively, and allows you to configure the network to suit your individual needs.

The visual aids contained in this chapter will help you to become more familiar with the content and structure of Manager/One and your Access/One Network. Detailed explanations and sample screens are provided for all management functions, regardless of your network's configuration.

The Manager/One interface is accessed from your Web browser, or by using the IP address of any network server as a URL within Internet Explorer (version 6.0 and above). The first time you launch Manager/One, the system prompts you to name your Access/One Network—you cannot use the factory default name. Only after assigning a network name can you begin to manage the network.

4

The Manager/One Plug-In

The presence of our Manager/One icon (Strix Wings) in your browser's taskbar indicates that the Manager/One plug-in for Internet Explorer is installed. The plug-in provides convenient tools for communicating with your Access/One Network components (ping, Telnet and paging). If you don't already have the plug-in installed, go to "Installing the Manager/One Plug-In" on page 27 and install it now.
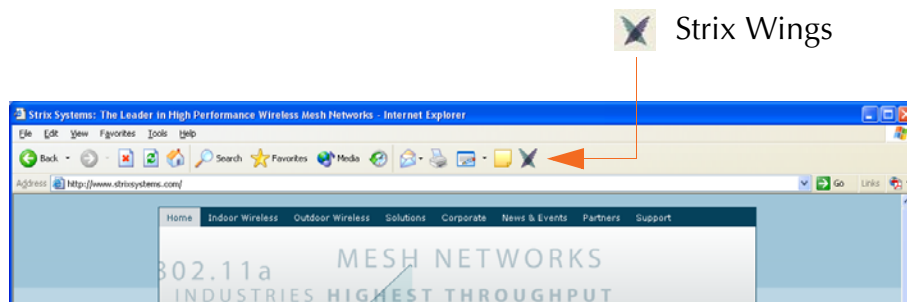
Strix Wings

Figure 27. Manager/One Icon

The General Layout

Manager/One uses a straightforward tabbed page design with supplementary frames that contain detailed information about your Access/One Network and its components. The frames and/or the information they contain change as you make selections and drill down into the system. The following graphic shows an example of the Manager/One interface at the subnet level.
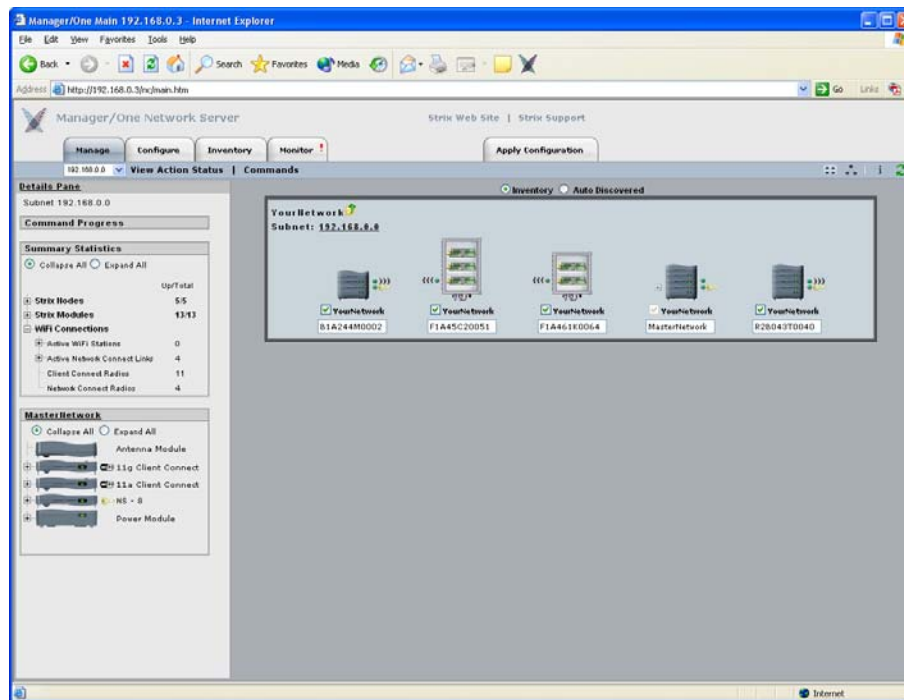

Figure 28. The Manager/One Interface (Default Flat View)

In Figure 28 you will notice that icons are used in Manager/One's main window to represent elements within the network (for example, network nodes, network servers, wireless modules, base modules, and antennas). Various graphics and color schemes are associated with these icons to denote the following:

◗ The type of component you're looking at (for example, IWS or OWS)

◗ The function of the component within the network

◗ The active state of the component

A Choice of Layouts

Manager/One gives you the option of changing its layout (the way you see your network) from a **Flat View**, as shown in Figure 27, to a Logical Mesh Topology View, which will be referred to simply as the **Logical View** from this point forward. The logical view uses SVG (Scalable Vector Graphics) technology, so you will need the Adobe® SVG plug-in which can be downloaded from http://www.adobe.com/svg/.

The primary difference between the two layouts is how the logical view offers an immediate snapshot of your Access/One Network's topology—the interconnectivity between wireless network nodes and other wired network components, such as a router or Ethernet switch. The logical view also offers some additional navigational features (discussed later in this chapter). But regardless of which view you are looking at, Manager/One retains all of its functionality—the logical view is simply providing you with another way of looking at the same thing. The following graphic shows the subnet used in Figure 28, but in its logical view format.
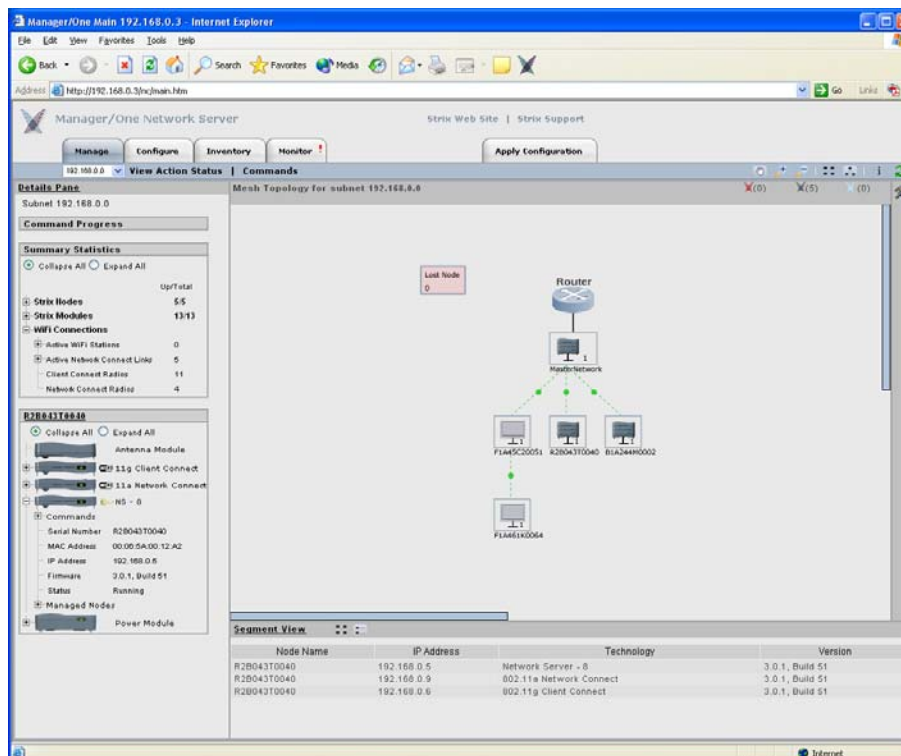

Figure 29. The Manager/One Interface (Logical View)
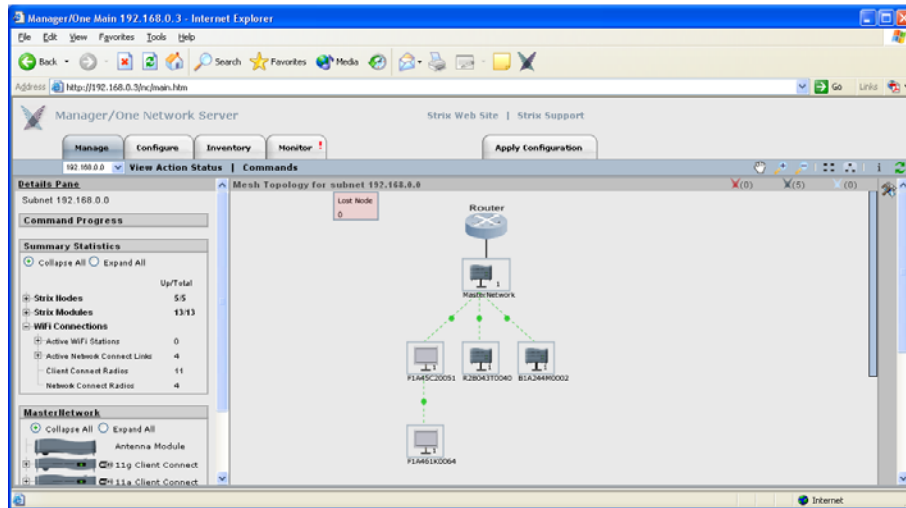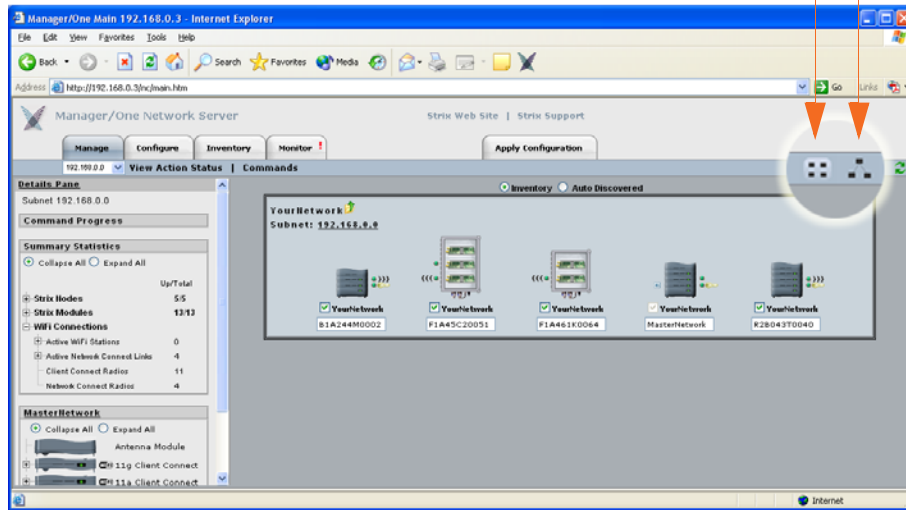
Features of the Logical Mesh Topology View

This section covers the navigational features in Manager/One that are specific to the logical view, which include:

- ◗ The Segment View
- ◗ Tools
- ◗ Logical View Legend
- ◗ Panning and Zooming
- ◗ Node Status Registers

These features only apply to the logical view and are provided for navigational purposes only—they do not affect the functionality of your Access/One Network in any way whatsoever. All other sections in this chapter are applicable to both the flat view and the logical view. The layout you choose is simply a matter of personal preference.
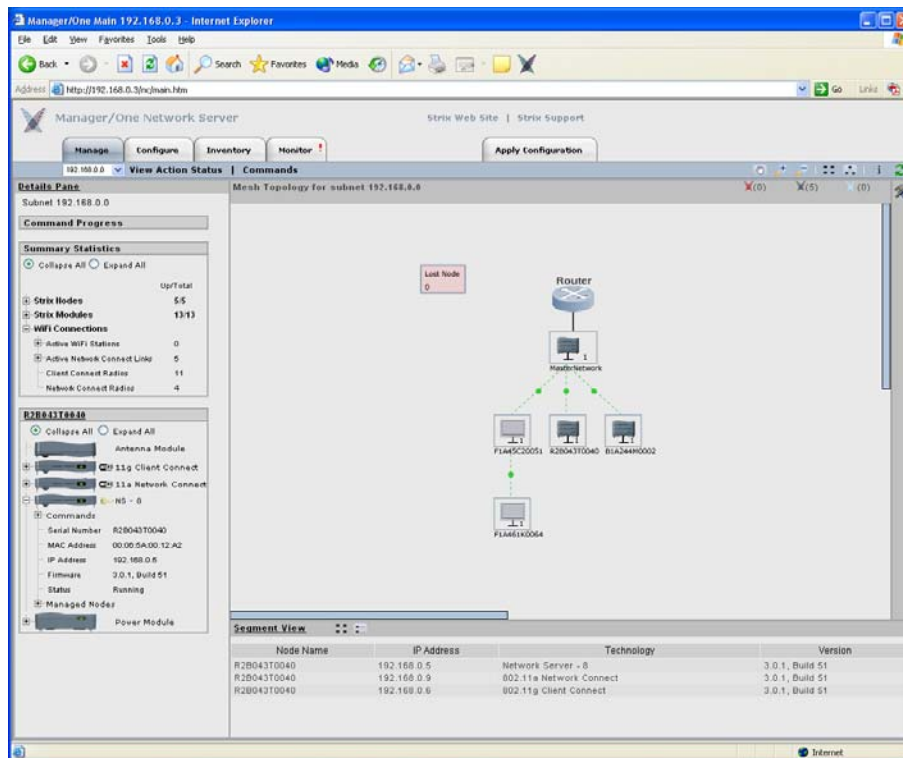
4

Figure 31. Logical Mesh Topology View

The Segment View

The segment view becomes available when you switch to Manager/One's logical view layout. It is located at the bottom of the main window and provides a snapshot of each network connect segment.

4

Click here to reveal the Segment View

Segment View Pane

Click on any node to see its details in the Segment View pane

Figure 32. Segment View (List Format)

When you click on any Access/One Network node shown in the main window, the segment view provides the node name, a listing of each module's IP address, their role in the network, and the current firmware level. The list format is the default, but you can change the view to a graphical icon format at any time.

Switching from Segment View List to Segment View Icons

To switch the segment view from the default list format to an icon format, click on the **Segment Flat View** button. The following graphic shows the same network segment used in Figure 32, but in its icon format.
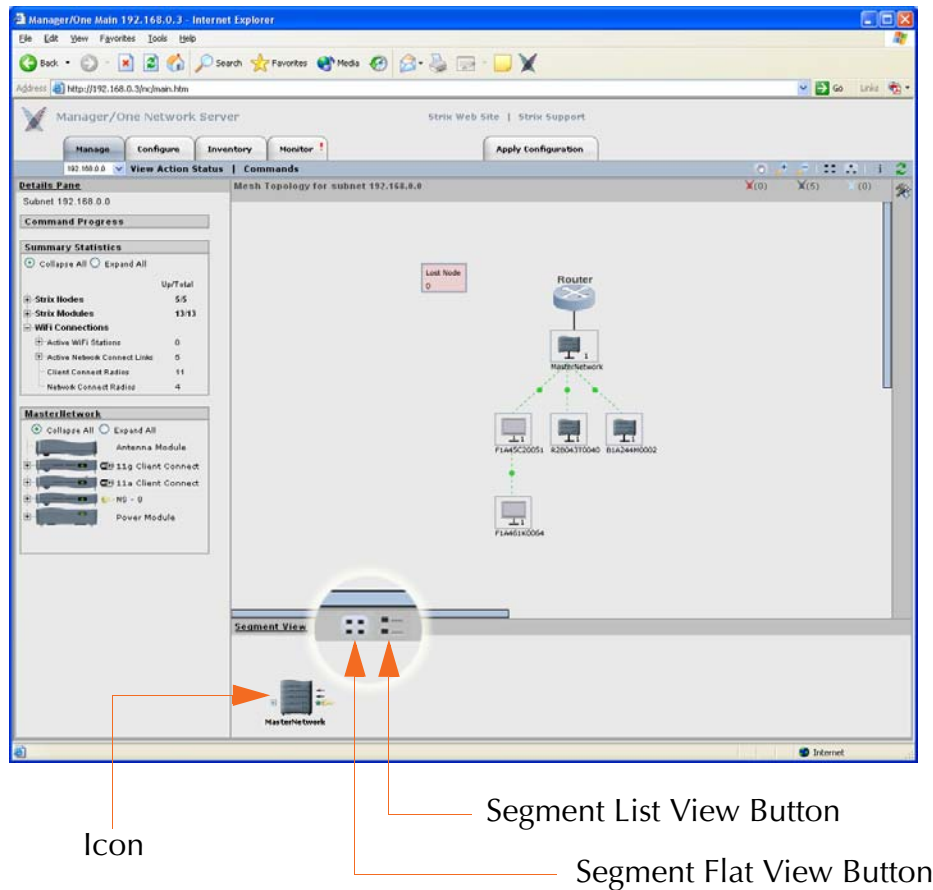
Figure 33. Segment View (Icon Format)

In the icon format you can roll your mouse pointer over any module within the selected node stack and see detailed information about the module in the form of a pop-up window that is generated by Manager/One's intuitive mouse-over feature (discussed later in this chapter). When using the mouse-over feature, the information displayed in the pop-up window differs slightly from the information provided by the list view (for example, it provides channel data, the current data mode, and network server dependencies).
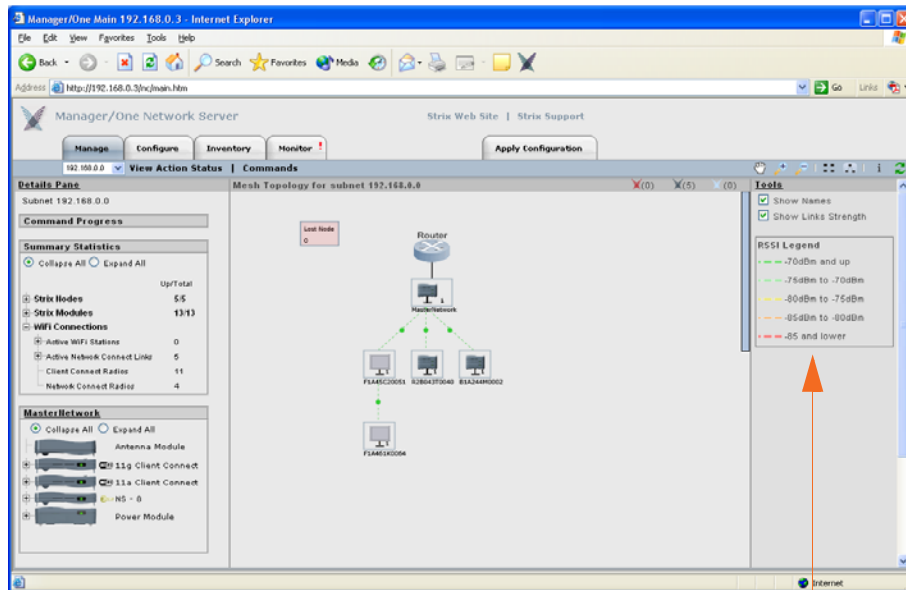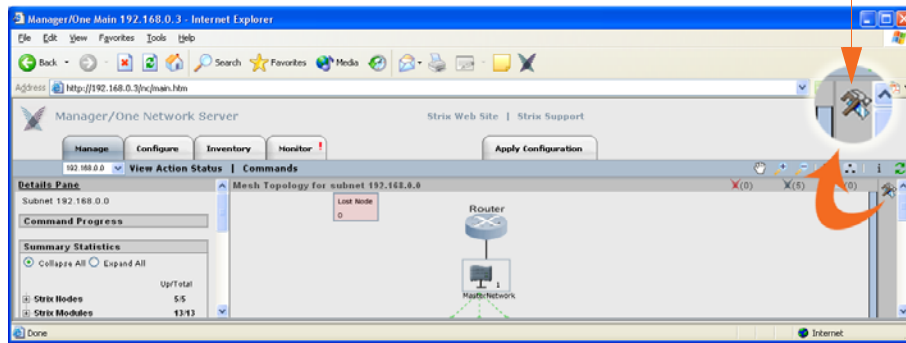
Tools

Each time you log into Manager/One and switch to its logical view layout, the Tools pane is hidden (by default). To reveal the Tools pane you need to click on the Tools button (located in the upper right corner of the main window).

Tools Button

Tools Pane

Figure 34. Accessing the Tools Pane

The Tools pane provides two configurable options of how the logical view of your Access/One Network is displayed. These are:

◗ **Show Names**

With this feature enabled, the main window displays the assigned names in your Access/One Network of each node (under the relevant node).

Enabled ➡   ⬅ Disabled

Figure 35. Show Names

◗ **Show Link Strengths**

With this feature enabled, all wireless links will be coded according to the legend shown in the Tools pane. For example, a wireless link with an RSSI (Received Signal Strength Indicator) value of -70 dBm and above will appear as a GREEN broken line between nodes. If the RSSI changes, the appearance of the link in the logical view will also change. With this feature disabled, all wireless links are displayed as GRAY broken lines. The RSSI is a measure of the energy observed by an antenna when receiving a signal.

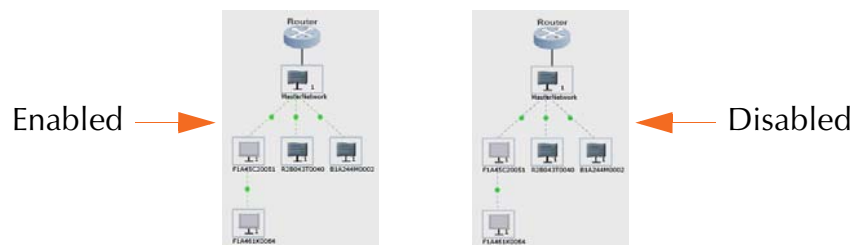Enabled ➡   ⬅ Disabled

Figure 36. Show Link Strengths

Either or both of these options in the Tools pane can be enabled or disabled, depending on your preference.

Logical View Legend

The following graphic highlights the network elements that are displayed in the main window when you have your Manager/One session set to its logical view.

Number of Nodes with Lost Links

Lost Link Container

Wireless Link

Ethernet

Segment

Node Type (OWS or IWS)
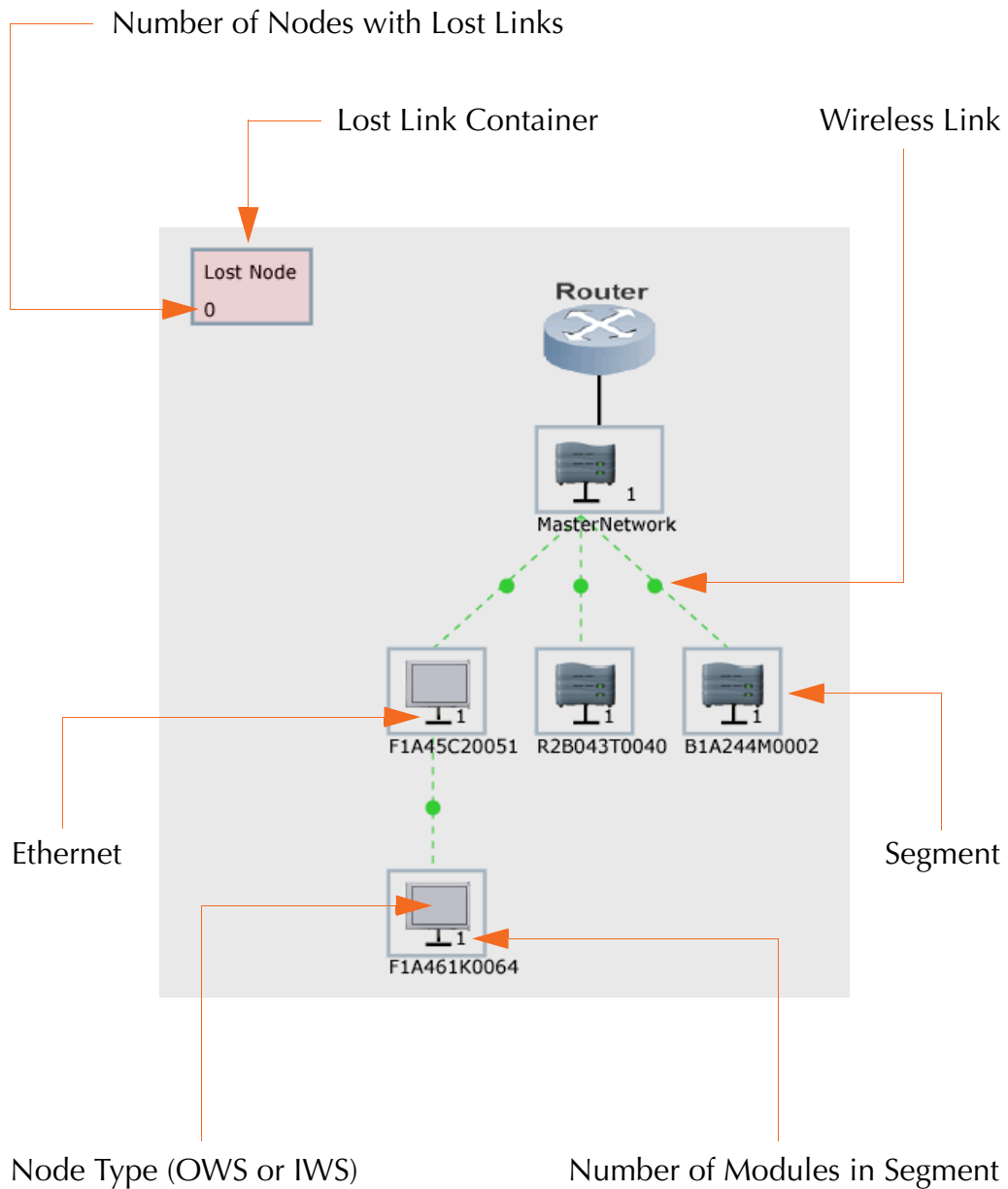
Number of Modules in Segment

Figure 37. Logical View Legend

Panning and Zooming

When the Manager/One interface is set to its logical view, you have the ability to pan and zoom (in or out), as needed. The panning feature allows you to move the image to any position within the main window (for example, if you are managing a large Access/One Network, some of the network elements may not be within view of the main window and you'll need to pan the image to see them).

In other cases, you may want to zoom into a specific area of the network for a clearer image—Manager/One utilizes SVG (Scalable Vector Graphics) so there's little or no degradation in the quality of the image when using the zoom feature.
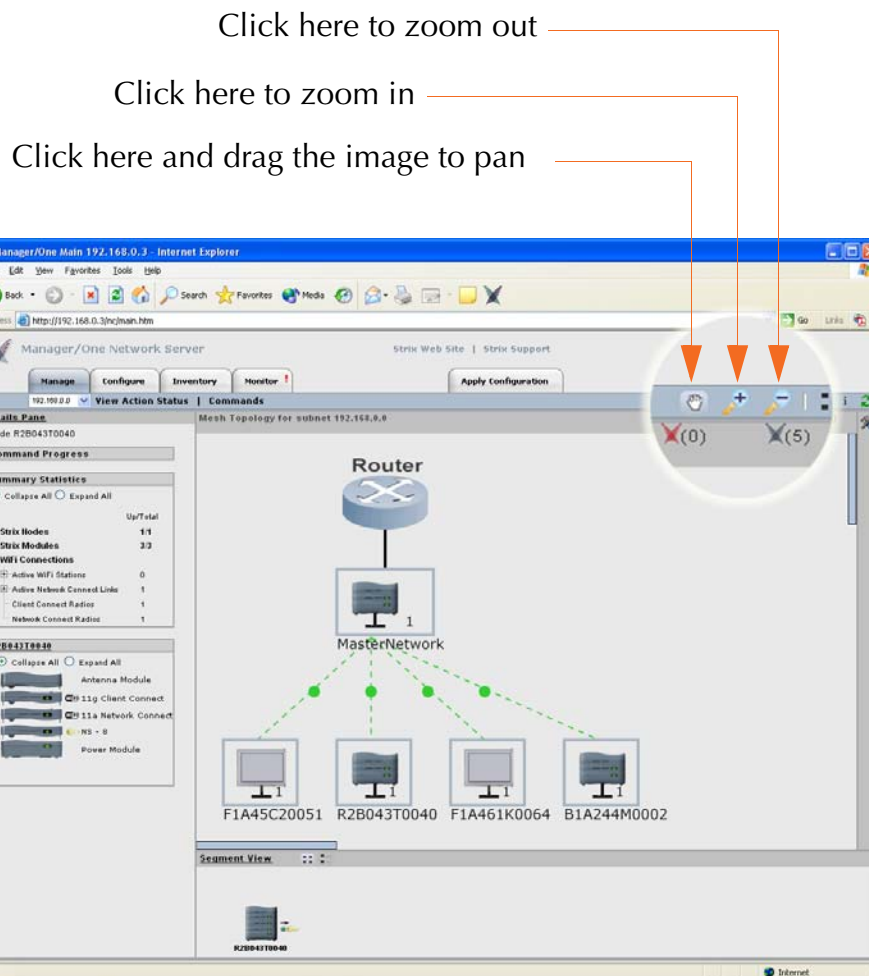

Figure 38. Panning and Zooming

Node Status Registers

In addition to its color scheme for denoting the operational status of nodes and module, when set to its logical view, Manager/One includes a feature that registers how many nodes (not individual modules) are in a particular operational state. These registers are located in the upper right corner of the main window when the logical view is selected.
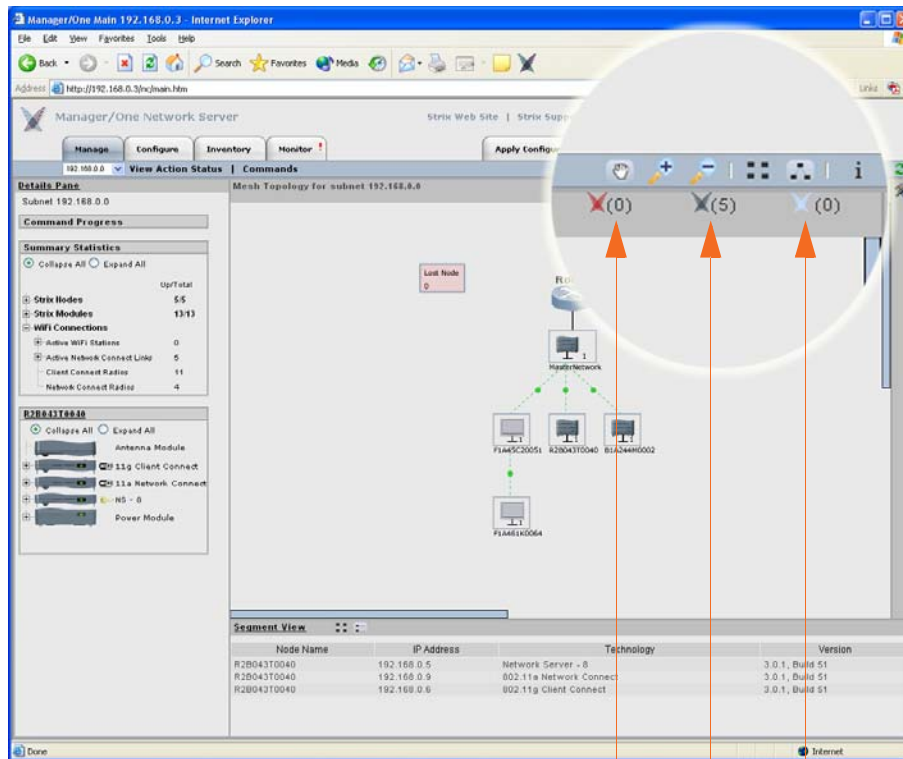
Figure 39. Node Status Registers

Management Tools and Features (Any Layout)

This section covers Manager/One's management tools and features, applicable to both the flat view and the logical view. These items include:

◗ The Details Pane

◗ Node Operational Status Indicators

◗ The Toolbar

◗ Intuitive Mouse Over

◗ Inputting Data

4

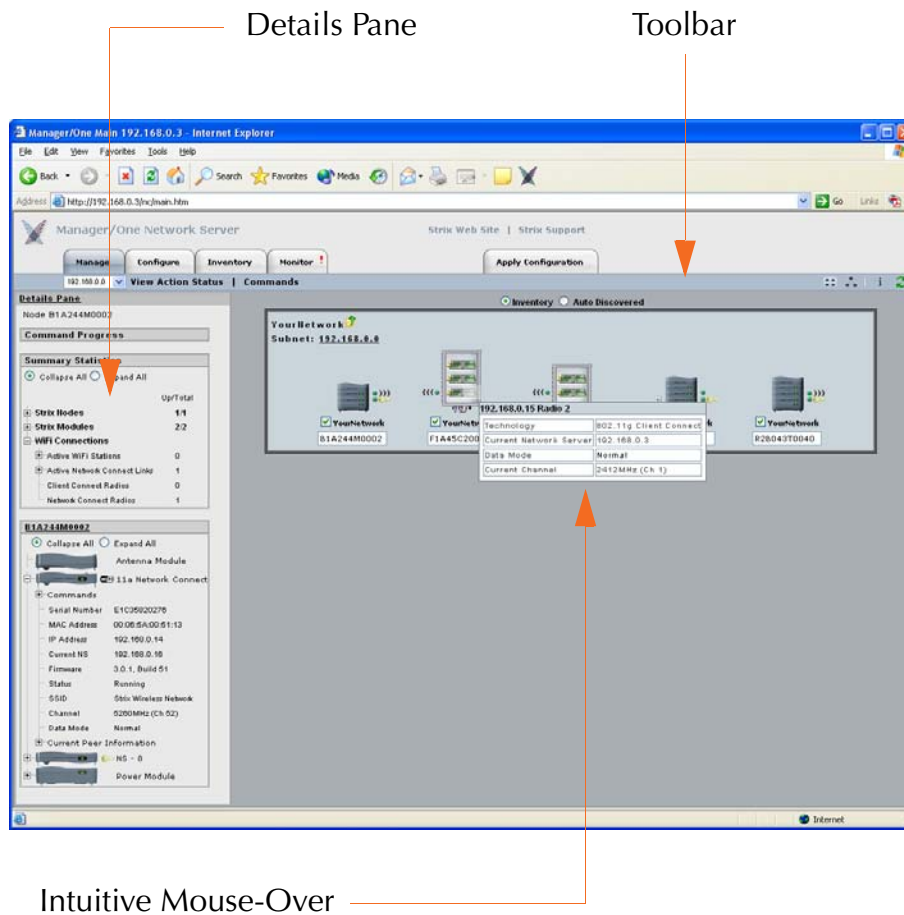Details Pane   Toolbar

Intuitive Mouse-Over

Figure 40. Management Tools and Features

The Details Pane

The Details Pane is located on the left side of the main window and contains the following informational frames:

◗ **Command Progress**
Shows the progress of any commands you initiate and details about the command when the tree is expanded. Upon the successful completion of a command, a GREEN check mark appears at the right side of the progress bar.

◗ **Summary Statistics**
This frame provides a summary of statistical data regarding your Access/One Network and its components, in the form of a collapsible/expandable tree structure. The information contained in this frame includes how many Strix nodes, modules and wireless connections are currently up and running.

◗ **Node Monitoring**
The content of this frame is determined by which node you have selected. If no node is selected then this frame remains blank (default). To see the current status of a node, simply click on any node in the main window. Node details are displayed in the form of a collapsible/expandable tree structure.

You can hide or show the details of any of the above frames (or the entire Details Pane) by clicking on its title.

Figure 41. Details Pane

Node Operational Status Indicators

As Manager/One monitors your Access/One Network, it is continually monitoring the operational status of its network nodes and the modules that reside within each node. The operational status of a node or module is easily determined by how Manager/One represents the node/module in its user interface—a combination of graphics and color scheme. The operational status of a node or module can fall into any of the following categories:

◗ **Normal**
The node/module is operating normally and is identified as a valid network segment within your Access/One Network. The standard color scheme for any node or module operating normally is GRAY.

◗ **Factory Default**
The node/module is set to its factory default state and is currently not assigned to your Access/One Network. The standard color scheme for any node set to its unassigned factory default state is BLUE.

◗ **Link Lost**
Access/One Network cannot establish a link (wired or wireless) with this node or module. The standard color scheme for any node or module that has lost its link to your Access/One Network is RED.
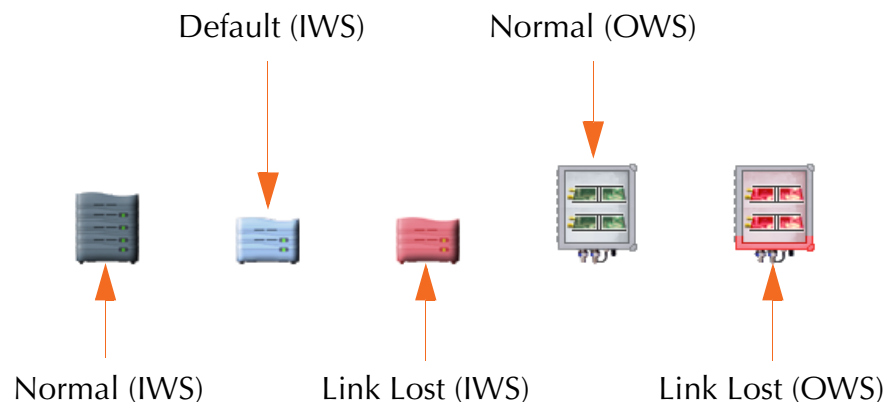

Figure 42. Operational Status of Nodes

The Toolbar

This is where all the Manager/One management tools reside, including:

- ◗ Tabbed Pages
- ◗ Commands
- ◗ Legends
- ◗ Refresh
- ◗ Factory Default
- ◗ Exporting Your Inventory File to an Excel Spreadsheet

The only feature not discussed in this section (even though the buttons to support it are included in the toolbar) is the ability to switch the layout of Manager/One from a flat view to a logical view. This feature has already been covered.

Tabbed Pages

Manager/One's tabbed pages are organized by function. These function tabs do not change, regardless of what management or configuration task you are implementing within Manager/One. However, which tabs you see will depend on whether you're logged in at the network level or the module level.
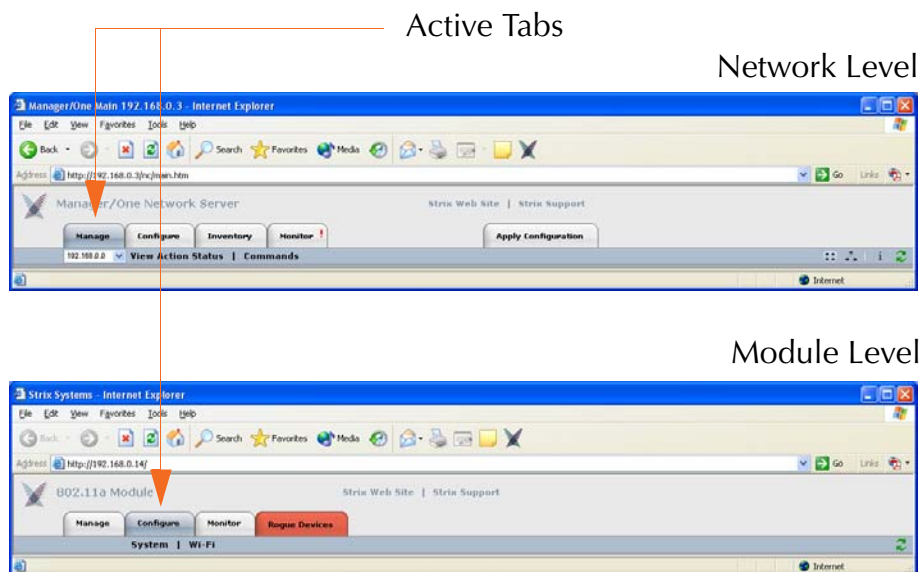

Figure 43. Function Tabs

You will always know which tabbed page you have selected because the active tab is displayed as BLUE/GRAY (see Figure 43). Manager/One's tabbed pages have the following functions:

◗ **Manage**

At the network level, this page provides a set of commands that allow you to manage your Access/One Network at either the network or subnet levels. At the module level, the available command set from this page is different and any management commands you initiate are applied only to the module you are logged into.

◗ **Configure**

This page provides a set of commands that allow you to configure your Access/One Network at the network level only (not subnets). If you are currently looking at a subnet, clicking on this tab will default you to the network level. At the module level, the available command set from this page is different and any configuration commands you initiate are applied only to the module you are logged into.

◗ **Inventory**

Clicking on this tab generates an inventory list in the main window, showing the current inventory status of your Access/One Network (not available at the module level).

◗ **Monitor**

Provides a set of monitors that allow you to view the active state of your network and its components (the available monitors are different depending on which level of the network you are logged into).

◗ **Apply Configuration**

If there are any configuration changes that need to be applied across the network the color of this tab changes to BLUE. When blue, click on this tab to apply your changes (not available at the module level).

◗ **Rogue Devices**

Shows a list of any rogue AP devices that are detected by your Access/One Network modules (not available at the network level).

Commands

Manager/One provides many commands that you can initiate across the network or apply to individual modules within a network node. Commands are accessed from pull-down menus, and the content of these menus is determined by which tabbed page you are viewing. The following graphic shows an example of Manager/One commands that are available from the Configure tab at the network level.
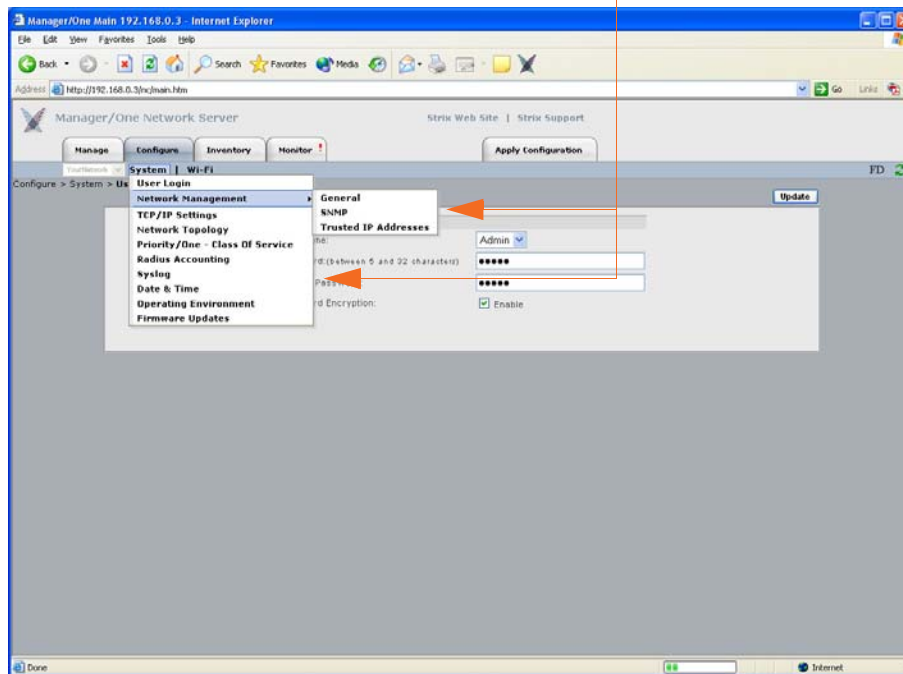

Figure 44. Commands

When you choose a command from one of the pull-down menus, the content of Manager/One's main window is propagated with the selected command's interface, including configurable fields, check boxes, radio buttons, and other options that you can apply to your network and/or modules. All commands are fully documented in "Managing the Network" on page 65.

Legends

A legend is simply a graphical representation of network elements with a corresponding explanation of the icons it contains. There are three legends available in Manager/One:

◗ **Legend (general elements)**: Available at the network level from the Manage or Inventory pages by clicking on the Information button (**i**) in the toolbar.

◗ **RSSI (Received Signal Strength Indicator) Legend**: Available at the network level in the Monitors page, or at the module level from the Rogue Devices page by clicking on the Information button (**i**) in the toolbar.

◗ **Wi-Fi Legend**: Available at the module level from the SSIDs / VLANs List page by clicking on the Information button (**i**) in the toolbar.
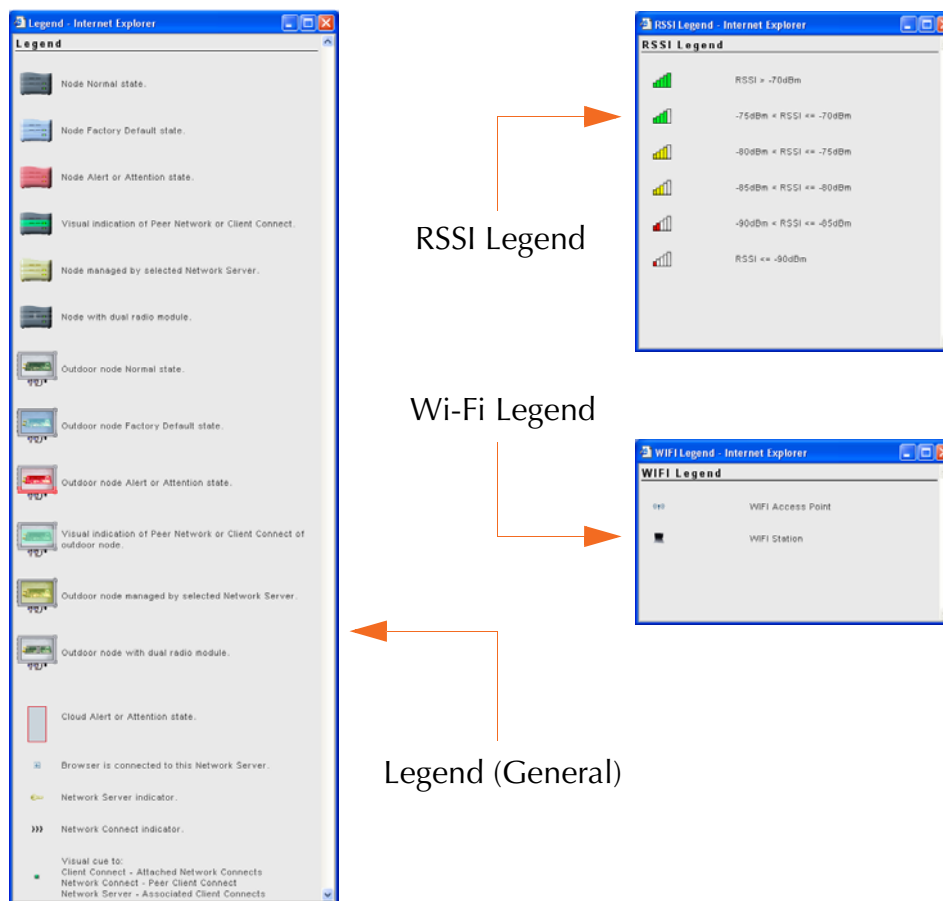
RSSI Legend

Wi-Fi Legend

Legend (General)

Figure 45. Legends

Refresh

This feature is available at the network level or the module level and provides a simple method for refreshing the current page by clicking on the Refresh button in the toolbar. It does not reboot any devices.
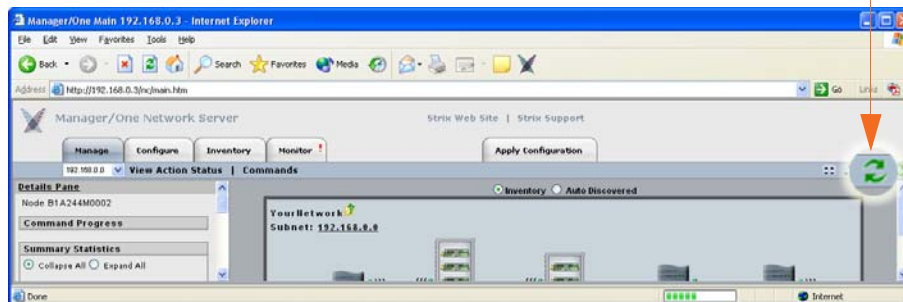
Refresh Button

Figure 46. Refresh Button

Factory Default

This feature is only available at the network level from the Configure page and provides a one-step method for setting all items on the current page to their factory default state. Using this feature will generate a prompt asking if you want to continue. You must confirm your request before the operation is executed.
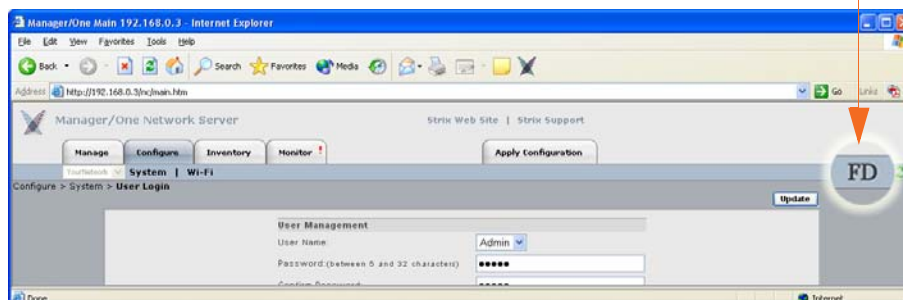
Factory Default Button

Figure 47. Factory Default Button

Exporting Your Inventory File to an Excel Spreadsheet

From the Inventory page (only available at the network level), clicking on the Information button (**i**) generates a separate window that contains a procedure for Exporting your current inventory file to an editable Excel spreadsheet. this procedure is also available in "Managing the Network" on page 65.

Inventory or Auto Discovered

When set to the flat view, you have the option of defining how Manager/One sees your Access/One Network. You can inform Manager/One to base its view on the current inventory of modules, or use Access/One's ability to auto-discover itself.

All network nodes automatically identify themselves to the network, and as a consequence each node discovers the identities and configurations of its neighbors, as well as their current active state. In short, they know who they are, what they are, and what they're doing. Access/One Network's self-tuning, self-healing and rogue detection features depend heavily on this functionality. Alternatively, you can configure and manage the network based on an inventory list of physical components. The inventory list is generated by Manager/One automatically, but you can add and/or delete items from the list, as needed.
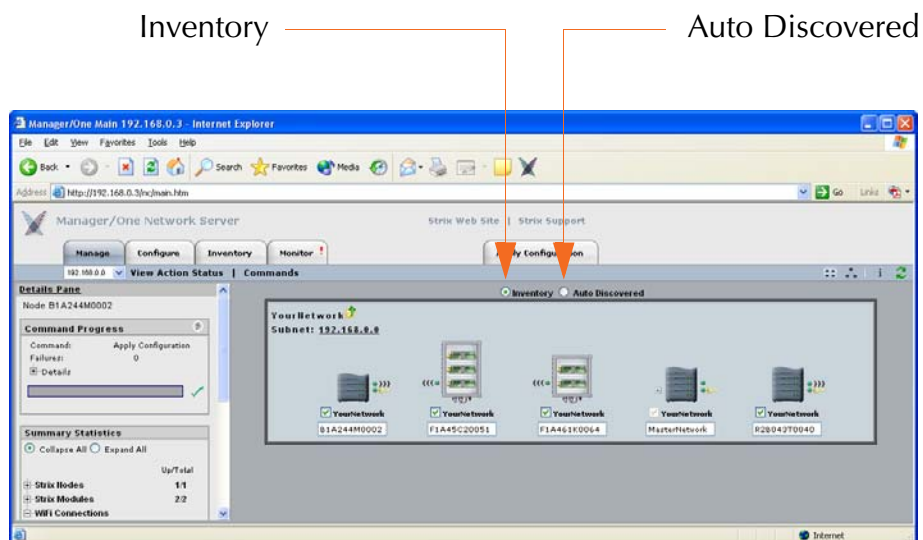

Figure 48. Inventory or Auto Discovered

Intuitive Mouse Over

Manager/One employs an intuitive mouse-over feature to assist you with navigation and to provide detailed information at your fingertips. By rolling your mouse pointer over any network element, you will generate a pop-up window that provides information relative to that element. This feature is available in either the flat view or the logical view. The following graphic provides two samples of the intuitive mouse-over feature in action (there are just too many examples to show here).
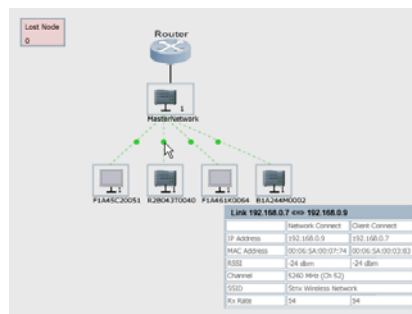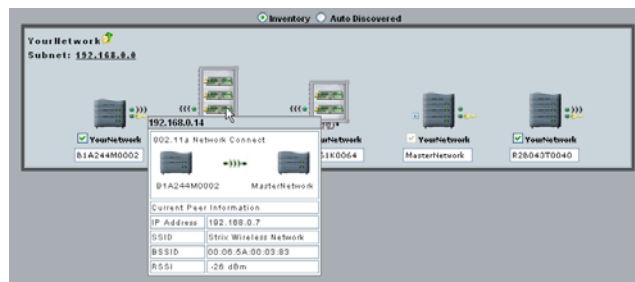

Figure 49. Intuitive Mouse-Over

Inputting Data

When inputting strings in Manager/One (for example, to assign SSIDs, system name, node names, etc.), do not use any of the following characters:

        &   **<**   **>**   **'**   **"**

These characters conflict with the HTML and XML processing requirements of Internet Explorer.

Managing the Network

This chapter covers management and configuration tasks at the network level. If you are managing a subnet, go to "Managing Subnets and Nodes" on page 127. If you are managing or configuring an individual module (for example, a wireless module or network server), go to "Managing Modules" on page 133.

The following graphic shows the network (cloud) view in Manager/One's main window. Do not click anywhere in this cloud otherwise Manager/One takes you to the subnet level and the view changes. All tasks in this chapter are performed at the network (or cloud) level.

Figure 50. Network (Cloud) View

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The Manage Function

This function provides you with the tools you need to manage your Access/One Network and includes the following commands:

- ❱ View Action Status
- ❱ Commands
  - Load Firmware on Network
  - Reboot Network
  - Update Node Names
  - Update Network Membership
  - Transfer System Files
  - Remote Network Server
    - Include
    - Exclude

View Action Status

Clicking on View Action Status in Manager/One's toolbar launches a separate window that displays a list of all the modules within your Access/One Network with their current operating status. The list consists of a node name, the IP addresses of each module within the node, its current status, and the version number of the software that is running on the module. You can choose to expand or collapse this list by selecting either **Expand All** or **Collapse All** (or by clicking on the +/- box next to the Node Name column).

The information in this window is refreshed every 5 seconds, providing the most current active state of the network—however, some of the displayed values can occur too quickly for observation. You can reset (refresh) the status window at any time by clicking on the **Reset Status** button.
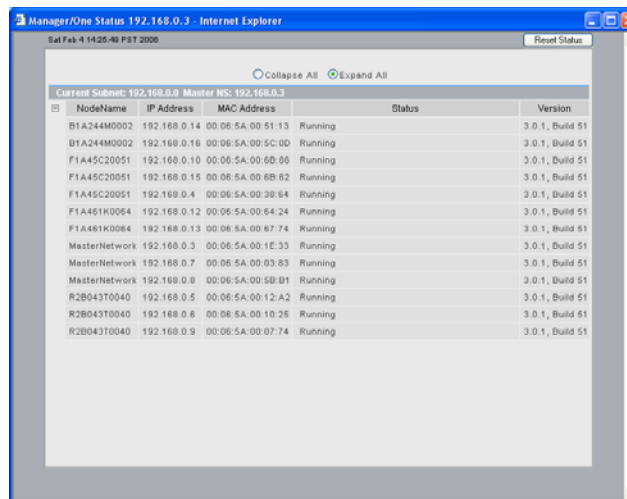

Figure 51. View Action Status Window

Action Status Results

The following table defines the messages you will see in the Status column.

Status	Definition
Running	There are no pending commands for this module and it is communicating with the network server.
Link Lost	Manager/One has lost contact with this module for more than one minute.
Command Started	Manager/One is attempting to execute the command.
Command Sent Successfully	The command was received by the module.
Command Received	The module acknowledged that the command was received.
Command Executed Successfully	The command was executed on the module.
Command Not Sent	Manager/One failed to send the command to the module.
Command Sent	Manager/One sent the command but the module did not respond.
Command Failed	The module received the command but failed to execute the command.

5

Commands

Clicking on **Commands** in Manager/One's toolbar generates a pull-down menu containing all the commands that are available within the Manage function.

Load Firmware on Network

This command allows you to load a new firmware image to each of the modules contained in all network nodes within your Access/One Network. However, before you can load a new image, your FTP server parameters must be established correctly to let Manager/One know where to locate the new image (BIN) file.

To establish the correct FTP parameters and load new firmware at the network level, go to "Updating the Firmware" on page 35.

Reboot Network

This command reboots each module in all of the nodes within your Access/One Network. Rebooting is required when network-level configuration changes are made or a new firmware image is loaded.

To monitor the progress of the reboot operation, the network server generates the request in stages. When each module reports receiving the reboot command and successfully reboots, the network server performs a final self-reboot. You can monitor reboot progress reports with the View Action Status command.

Whenever you initiate the Reboot Network command, the system warns you that this action will affect multiple devices on the network and asks you to confirm the request. If you want to proceed, click on the **OK** button to initiate the reboot process, otherwise click on the **Cancel** button to abort the command.

See also, "Important Note About Rebooting" on page 4.

Update Node Names

This command must be executed at the node level. Go to "Update Node Names" on page 130.

Update Network Membership

This command must be executed at the subnet level. Go to "Update Network Membership" on page 69.

Transfer System Files

This command allows you to transfer network (cloud) or device (module) configuration files between the network and your assigned FTP server. This is a useful tool if you want to backup or restore configuration files. However, before executing this command your FTP server parameters must be set up correctly using the Firmware Updates command.

When you choose the Transfer System Files command, Manager/One presents you with options to upload configuration files from their source on the network (either cloud or device) to your FTP server, or download configuration files from your FTP server to their source.
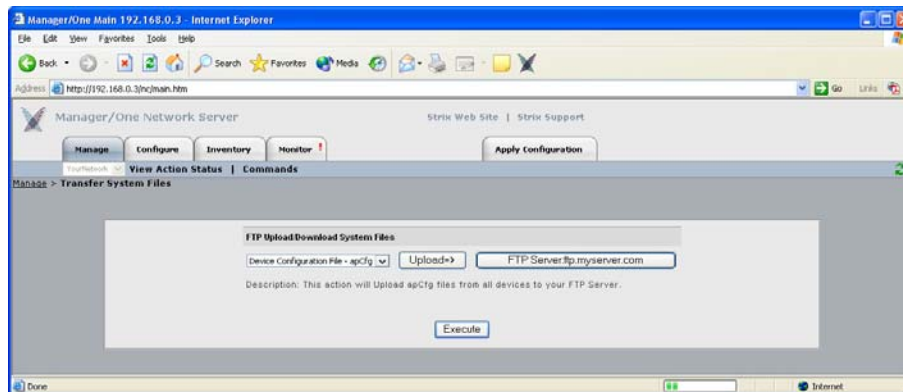

Figure 52. Transferring System Files

Select either Device Configuration File or Cloud Configuration File from the pull-down list then click on the Download/Upload button to define the action you want to initiate.

If you need to reset your FTP parameters, click on the **FTP Server:** button, otherwise click on the **Execute** button. When asked to confirm the action, click on the **OK** button to begin transferring files, or click on the **Cancel** button to abort the command.

Remote Network Server

This command allows to you include or exclude remote network servers.

Include

Choose this command to include a remote network server within your Access/One Network—a static network server must be specified in Network Topology before executing this command. When prompted, enter the IP address of the server you want to include then click on the **OK** button.
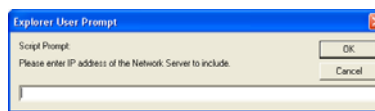

Figure 53. Including Remote Servers

Exclude

Choose this command to exclude a remote network server from your Access/One Network—you can only exclude a server that is already included in your network. When prompted, enter the IP address of the server you want to exclude then click on the **OK** button.
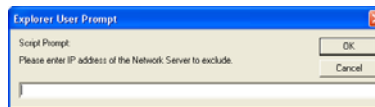

Figure 54. Excluding Remote Servers

The Configure Function

This function provides you with the tools you need to configure your Access/One Network at the network level and includes the following commands:

◗ System
- User Login
- Network Management
  – General
  – SNMP
  – Trusted IP Addresses
- TCP/IP Settings
- Network Topology
- Priority/One - Class of Service
- Radius Accounting
- Syslog
- Date and Time
- Operating Environment
- Firmware Updates

◗ Wi-Fi
- Radio Parameters
- Client Connect
- Network Connect
- Rogue Scan

System

This area of Manager/One contains the primary configuration commands for your Access/One Network in the system environment. Any commands executed here are automatically propagated across the network, so make sure the changes you initiate are changes that you want to apply to the entire network, otherwise go to "Managing Subnets and Nodes" on page 127 or "Managing Modules" on page 133.

User Login

This command displays the User Management window, allowing you to change the login password for users and enable/disable password encryption.
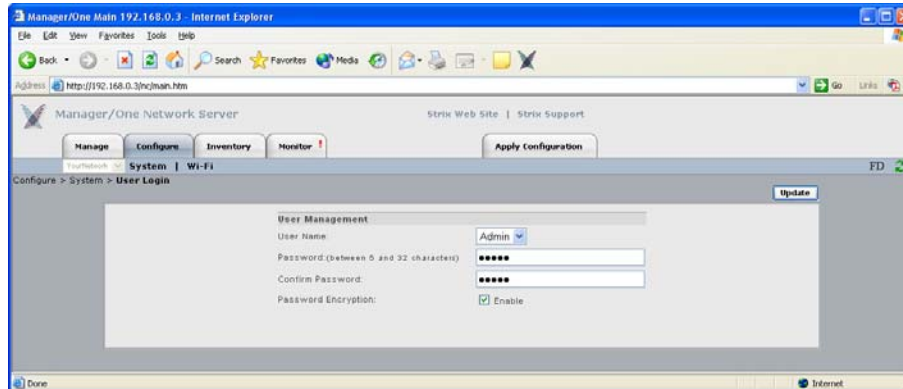

Figure 55. Managing User Logins

5

The following options are available with this command:

◗ **User Name**

Choose a user name from the pull-down list. A valid user name is required to access the Web server interface within the network server module.

◗ **Password**

Enter a meaningful password (between 5 and 32 characters) that you are likely to remember. The password is case-sensitive.

◗ **Confirm Password**

Confirm your password here otherwise the system will reject it.

> *The default for the user name and the password is Admin (with a capitalized A) for both. We strongly recommend that you change the default password immediately after your initial login.*

◗ **Password Encryption**

Check this box if you want Access/One Network to encrypt your password for additional security.