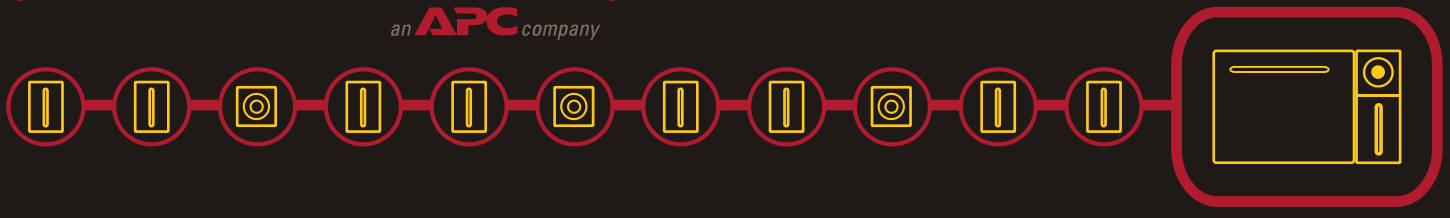
Using Your Appliance

NetBotz®

an APC company

BotzWare® 2.5 Edition



Preface

Copyright

Trademarks

Federal Communications Commission (FCC) Declaration of Conformity Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures may be necessary to correct the interference at their own expense.

U.S. Government Restricted Rights

Restricted rights legend. Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c) (1) and (2) of the Commercial Computer Software-Restricted Rights clause at CFR 52.227-19, as applicable.

Certifications

CE

The appliance described in this publication, is CE certified.

FCC

Power - 5V @ 3Amps max; 3.3V @ 3Amps max

Jack - 4 Pin Power Din

Leakage Current - Less than 3.5 mA

VCCI

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI－ A

Cleaning

Use only a dry cloth to clean the appliance. To clean your appliance, gently wipe the surface of the appliance with a dry cloth.

Misuse

Use your appliance ONLY in the manner specified. If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired. NetBotz is not responsible for misuse.

Improper Use of Audio/Video Recording Capabilities

Attention: THE EQUIPMENT CONTAINS, AND THE SOFTWARE ENABLES, AUDIO/VISUAL AND RECORDING CAPABILITIES, THE IMPROPER USE OF WHICH MAY SUBJECT YOU TO CIVIL AND CRIMINAL PENALTIES. APPLICABLE LAWS REGARDING THE USE OF SUCH CAPABILITIES VARY BETWEEN JURISDICTIONS AND MAY REQUIRE AMONG OTHER THINGS EXPRESS WRITTEN CONSENT FROM RECORDED SUBJECTS. YOU ARE SOLELY RESPONSIBLE FOR INSURING STRICT COMPLIANCE WITH SUCH LAWS AND FOR STRICT ADHERENCE TO ANY/ALL RIGHTS OF PRIVACY AND PERSONALTY. USE OF THIS SOFTWARE FOR ILLEGAL SURVEILLANCE OR MONITORING SHALL BE DEEMED UNAUTHORIZED USE IN VIOLATION OF THE END USER SOFTWARE AGREEMENT AND RESULT IN THE IMMEDIATE TERMINATION OF YOUR LICENSE RIGHTS THEREUNDER.

Availability of Open Source Technologies

This product includes technologies that are governed by the GNU Public License. The GPL source code contained in our products is available for free download from:

http://support.netbotz.com/gpl

Contents

Advanced View: Configuring Pods and Alerts 59

Advanced View: Configuring Appliances 105

What's New?

Users who are familiar with the core features delivered in BotzWare version 2.0 can use this version history to quickly identify new or improved features, as well as information about features that were introduced in previous BotzWare releases.

BotzWare Version 2.5 Features

In addition to additional hardware support and performance improvements, BotzWare 2.5 introduced the following new features and enhancements:

- **New Play Custom Audio Alert Action:** Used in conjunction with the Custom Audio Alerts task, this new alert action enables your NetBotz appliance to play customized, user-specified audio alerts. For more information on the Play Custom Audio alert action see "Creating a Play Custom Audio Alert Action" on page 163.
- **New Custom Audio Clips Configuration Task:** Use this new task to upload custom audio clips to your NetBotz appliance, or to delete previously uploaded clips from the NetBotz appliance. Once uploaded, audio clips can be used with the new Play Custom Audio alert action. For more information on the Custom Audio Clips task see "Custom Audio Clips" on page 107.

BotzWare Version 2.41 Features

In addition to additional hardware support and performance improvements, BotzWare 2.41 introduced the following new features and enhancements:

- **Enhanced SeaLink PIO-48 Support:** NetBotz 500 appliances now support connection of up to 4 SeaLink PIO-48 dry contact hub devices (increased from 2).
- **New CCTV Pod Configuration Options:** CCTV Pod configuration settings now include settings specifically designed for use with black and white CCTV cameras.
- **MTU Settings Support:** Added support for specifying MTU settings on Ethernet and 802.11 network interfaces.

BotzWare Version 2.4 Features

In addition to additional hardware support and performance improvements, BotzWare 2.4 introduced the following new features and enhancements:

- **New Map View:** Appliances that have the BotzWare Premium Software Module 2.4 installed can now Display maps that have been configured for use with the appliance. The alert state of all devices shown on the Map View are indicated with simple color coding (red indicates that an alert state currently exists, while green indicates that no alert state is currently being reported by the sensor or device).
- **New IPMI Devices Task:** Appliances that have the BotzWare Premium Software Module 2.4 installed can use the IPMI Devices task to add network-attached, Intelligent Platform Management Interface-enabled devices to the list of devices that are monitored by your NetBotz appliance.
- **New Pod Sharing Capabilities:** NetBotz 500 appliances that have the BotzWare Premium Software Module 2.4 installed can now connect with and receive data directly from devices

integrated with or connected to NetBotz 320, 420 or 500s in your network. Once a pod has been shared with the NetBotz 500, it functions as though it were connected directly to the appliance.

- **NAS Support Added to External Storage Task: NetBotz 500** appliances that have the BotzWare Premium Software Module 2.4 installed can now use a network attached storage device (a Windows share or an NFS mount) for External Storage functionality.
- **Enhanced, Component-Level Logging:** Appliance logging capabilities are now broken out into specific components and/or functions. By default, all components log at the level specified by the Global Level setting. However, you can also specify a unique login level setting for each component.
- **Include Maps and Graphs in Periodic Reports:** Maps and Graphs can now be included in periodic e-mail and FTP reports generated by your appliance.

BotzWare Version 2.3 Features

In addition to additional hardware support and performance improvements, BotzWare 2.3 introduced the following new features and enhancements:

- **New Configuration Wizard:** This configuration wizard, which runs automatically when the Advanced View is used to access the appliance after installation, guides the user through all the steps necessary to get their new appliance up and running.
- **Camera Settings Enhancement — Interactive Mode Limit:** Specifies the maximum image resolution that will be made available to users that are using the appliance interactively (such as viewing images from the Cameras View in the Advanced View). This can be used to limit the performance impact that can be caused by multiple clients with high image resolution settings accessing your appliances interactively. For more information see "Settings" on page 67.
- **Advanced Device Crawlers Enhancement — Delete SNMP Sensors if Not Found:** Allows the user to automatically remove previously defined SNMP-based sensors on a target when, after a successful scan, the sensors are found to no longer be present (no longer defined, unavailable, and so forth). If the sensors are not deleted, they will be displayed with sensor reading values of "N/A" or "null." For more information see "Device Crawlers" on page 77.
- **New Picture Export Formats feature for Send E-Mail and Send Data to FTP Server Alert Actions:** Appliances that have the BotzWare Premium Software Module 2.3 installed can now send images captured by the appliance cameras as JPEGs, M-JPEG AVI Files, or Signed M-JPEG AVI files. M-JPEG AVI files are motion picture files that can be played using standard media player software (such as Windows Media Player). Signed files provide proof that the generated images have not been tampered with or altered in any way, and are therefore more likely to be admissible as evidence in legal proceedings. For more information see "Creating a Send Data to FTP Server Alert Action" on page 166 and "Creating a Send E-mail Alert Action" on page 168.
- **Block Out Masking Functionality**: Appliances that have the BotzWare Premium Software Module 2.3 installed can now configure cameras so that specified areas of the image cannot be seen. For example, an administrator could place a Block Out Mask over the area of the image that shows a monitor image, thereby preventing users from seeing the information that is shown on the monitor. For more information see "Masking Settings" on page 72.

BotzWare Version 2.2.2 Features

In addition to additional hardware support and performance improvements, BotzWare 2.2.2 introduced the following new features and enhancements:

- **4-20mA Sensor Pod Support:** Support for the 4-20mA Sensor Pod, which enables you to connect up to four 4-20mA sensors to your NetBotz 420 or NetBotz 500 appliance. For more information see "Configuring 4-20mA Sensor Pods" on page 24 and "Sensor Pods" on page 97.
- **BotzWare now supports the use of 0-5V sensors**, which can be connected to any external sensor port using a NetBotz 0-5V Sensor Cable. 4 external sensor ports are integrated with NetBotz 320 or 420 appliances, and are included on each Sensor Pod 120 as well.
- **Added BotzWare Web Services Interfaces:** The NetBotz BotzWare Web Services interfaces are intended to provide a set of common, programmer-friendly APIs to 3rd party product and solution developers, as well as end customers. For more information, see the BotzWare V2.x Web Services Specification PDF, included on your BotzWare CD and available from the NetBotz support web site.
- **Call Web Services Alert Receiver (New Alert Action):** A new alert action that is designed for use with the BotzWare Web Services Interface (see above).
- **Added support for the SeaLINK PIO-48**. When you connect a SeaLINK PIO-48 (available from Sealevel Systems) to a USB port on your NetBotz 500 or NetBotz 420 appliance, it provides 48 digital connections. This enables you to connect and monitor up to 48 dry contact sensors from a single appliance without requiring you to purchase and deploy a large number of Sensor Pod 120s.
- **Added support for RAEWatch** (new sensor type).
- **New Simplified Basic View for Use with Supported PDAs:** NetBotz appliances now support a simplified version of the Basic View that can be viewed using supported Personal Digital Assistants (PDAs). Supported PDAs include Palm Tungsten handhelds running Palm OS 5.2.1, HP iPAQ handhelds running Windows Mobile Pocket PC 2003 or Windows Mobile Pocket PC 2003, and Blackberry 6xxx & 7xxx Series Devices running 3.7 OS. For more information see "Using the Simplified Basic View" on page 14.
- **Send Custom Text File to FTP Server (New Alert Action):** Sends a customized text file with user-specified content to an FTP server. This alert action type enables you to use macros supported by BotzWare (including Appliance, Location, and Alert macros) to define the name of the directory on the server in which custom text files will be stored and the base filename that will be used for the text files.
- **Advanced Device Crawlers has been enhanced** to enable it to monitor NetBotz appliances running BotzWare 2.x.
- **Additional Network Interface Settings:** When configuring a network interface, you can now specify both the network speed and the duplex mode for the interface.
- **Added Include XML-encoded Alert Parameter (xmlalert)**, a check box for the Custom HTTP Get action that appends the parameter xmlalert=<*xml alert encoding*> to the provided URL for the action. The encoded XML is the same as is generated by the HTTP POST code, but is URL-

encoded to enable those that can't easily handle "multi-part/form-data" encoded POSTS to get the XML for the alert.

- **BotzWare OIDs Have Been Enhanced:** A 1000x and a 1000000x column have been added a to the OtherNumericSensor table, enabling customers to more easily gather RTT Ping data from devices that have a RTT Ping time of less than 1 second.
- **Enhanced Logging for E-mail Operation Failures:** Added protocol debug logging for all SMTP protocol messages to all e-mail operations (alert, periodic reports, and test e-mail). Logging info appears at the INFO level.
- **SMS Alert Action macros now show Return To Normal information.**

BotzWare Version 2.2 Features

In addition to additional hardware support and performance improvements, BotzWare 2.2 (released August 18, 2004) introduced the following new features and enhancements:

- **Support for Navigation Pane Folders:** Folders enable you to create virtual groups of pods and devices that can be used to simplify organization of your various pods and devices for management purposes. For more information see "Using Folders" on page 32.
- **Expanded Support for RAE Systems Devices:** RAE Systems Sensors Option is a license key-enabled BotzWare enhancement that enables you to use a variety of RAE Systems toxic vapor and gas sensors with your appliances. BotzWare 2.2 support the use of MultiRAE Plus, ppbRAE, miniRAE, AreaRAE, and RAELink devices with your appliance. For more information see "Add-Ons: RAE Systems Sensors Option" on page 181
- **Support for Remote RAE Client/Server Communications:** This functionality enables you to aggregate the data reported by all of your appliance-connected RAE Systems devices into a single interface, and to set thresholds, monitor alerts, and graph data reported by the RAE Systems devices on Remote RAE Clients just like any other sensor connected to and supported by your appliance. For more information see "Remote RAE Clients and Servers" on page 181.
- **"Alerting Sensors" Added to Navigation Pane:** Alerting Sensors is a new "virtual device" that appears in the Navigation Pane and that presents a dynamic overview of all currently alerting sensors as reported by the appliance as well as pods and other devices connected to the appliance. For more information see "The Navigation Pane" on page 31.
- **Ability to Lock Selection in the Navigation Pane:** This new functionality enables you to lock the Navigation Pane so that only a specific device is selected.Once the Navigation pane is locked, you will not be able to select any other devices from the Navigation pane until you unlock the pane, and the Advanced View will automatically start with the pane in the locked state.
- **Network Interface Sensors Added:** New sensors that specify the link status of each network interface installed in your appliance are now available when the appliance is selected from the Navigation Pane.

BotzWare Version 2.1.3 Features

BotzWare 2.1.3 (released April 30, 2004) introduced the following new features and enhancements:

- **Wireless Receiver 120 and THS-100 Wireless Temperature/Humidity Sensor Support:** Support for Wireless Receiver 120s and THS-100 Wireless Temperature/Humidity Sensors. For more information see "Sensor Pods" on page 97, and "Wireless Sensor Discovery" on page 104.
- **Support for RAE Systems MultiRAE Plus:** Enables the addition of a license key-enabled enhancement that permits use of RAE Systems MultiRAE Plus toxic vapor and gas sensors with

supported appliances. Designed as a "building block" system, the MultiRAE can be configured from a simple, inexpensive Oxygen/LEL monitor all the way to an affordable five gas monitor for total protection in toxic environments.

- **Send Custom HTTP GET Alert Action:** New alert action that enables you deliver alert notifications as custom HTTP GET commands. The URL generated as a result of the alert action is completely user definable, and can include BotzWare macro values. For more information see "Creating a Send Custom HTTP Get Alert Action" on page 164
- **Support for Additional Wireless Network Adapters:** In addition to previously supported adapters, BotzWare 2.1.3 includes support for the following:
  - D-Link Air Xpert DWL-AG650 Tri-Mode Dualband Wireless CardBus Adapter
  - Netgear WAG511 Dual Band Wireless PC Card (32-bit CardBus)
  - Cisco Aironet 802.11a/b/g Wireless CardBus Adapter

BotzWare Version 2.1.2 Features

BotzWare 2.1.2 (released February 20, 2004) introduced the following new features and enhancements:

- **Output Control:** New functionality that provides user interface and alert notification support for use with supported digital output devices such as the Output Relay Pod 120 and Power Control Pods. For more information see "Associating Relays or Switches with Integrated Cameras and Camera Pods" on page 68, "Output Control" on page 86, "Creating an Activate Button Output Alert Action" on page 161, and "Creating a Set Switch Output State Alert Action" on page 174.
- **Multiple Alert Profiles:** Enhanced Alert Profile functionality now enables the creation of multiple unique Alert Profiles. This enables you to define distinctive notification or action responses for sensor thresholds. For more information see "Alert Profile" on page 62.

BotzWare Version 2.1.1 Features

BotzWare 2.1.1 (released December 5, 2003) introduced the following new features and enhancements:

- **Device Crawlers:** New functionality that enables you to monitor the critical status information of up to 48 remote SNMP targets (such as servers, routers, and switches). If any operational difficulties are noted on a monitored target your appliance can generate an alert notification, enabling you to quickly address the problem. For more information see "Device Crawlers" on page 77.
- **Support for Advanced Device Crawlers:** Enables the addition of a license key-enabled enhancement to Device Crawlers that greatly extends your ability to monitor the operational status of your SNMP targets. Advanced Device Crawlers extends the capabilities of Basic Device Crawlers to provide far more detailed device-specific information and to enable OID-specific monitoring and alerting. For more information see "Add-Ons: Advanced Device Crawlers" on page 177.

BotzWare Version 2.1 Features

BotzWare 2.1 (released October 23, 2003) introduced the following new features and enhancements:

- **Serial Device Support:** Provides an extensible framework for the management of serial devices. With this functionality, appliances can detect and manage multiple serial-class devices (including supported modems, GPS devices, and various RS-232 and RS-485 attached devices). Supported serial devices can be connected using an appliance expansion slot (expansion slots are not available

on all appliances), directly to a USB port, or through a number of supported USB-to-Serial adapter cables. For more information see "Serial Devices" on page 133.

- **PPP Support:** Provides support for point-to-point protocol network connectivity using supported wired or GSM/GPRS modems. For more information see "PPP/Modem" on page 122.
- **SMS Messaging Support:** When used in conjunction with a supported GSM/GPRS modem, an additional alert action is enabled that permits delivery of alert notifications as SMS messages. For more information see "SMS" on page 133 and "Creating a Send Wireless SMS Message Alert Action" on page 173.
- **Support for CCTV Adapter Pods:** Designed for use with your appliance and a single closed circuit television (CCTV) or other video source, the CCTV Adapter Pod accepts multi format S-Video and Composite Video and features DIN, BNC and RCA input jacks. This pod also features a USB port that enables the pod to be tethered to the appliance using a standard USB cable. Using the CCTV Adapter Pod, your analog video source is digitally converted and integrated with your physical security solution. Streaming audio (using the pod's integrated microphone or an external microphone connected to the pod) is also available.
- **Support for PS100 Particle Sensor:** The PS100 Particle Sensor enables your appliance to monitor a location for the presence or dust and other particulates larger than 1 micro meter.
- **Support for Supported NMEA-Compliant GPS Receivers:** Enables your NetBotz 500 to report status and readings from supported GPS receivers. GPS receivers associate location information (such as latitude, longitude, altitude, and so forth) with alert data, which can be useful for mobile applications.
- **IP Filtering:** Provides full support for IP-address based packet filtering, allowing for an additional level of protection against illegal access or denial-of-service attacks. For more information see "IP Filter" on page 113.
- **Improved SSL Security:** The SSL implementation used by BotzWare has been upgraded to OpenSSL 0.9.7c, providing support for *256-bit AES with RSA and SHA1* and *128-bit AES with RSA and SHA1*.
- **HTTP Compression:** The Basic View and Advanced View interfaces now support HTTP compression, significantly reducing non-picture related traffic and improving interface performance when used over slower network interfaces (such as PPP or ISDN).

About the Interfaces

NetBotz appliances support two interfaces for the purposes of monitoring sensor data, viewing camera images, triggering relay outputs, and appliance configuration: The Basic View and the Advanced View. Brief descriptions of each of these interfaces follow.

The Basic View

The Basic View enables authorized users to use a supported web browser to view the current sensor data, image capture, and other appliance data in a simple HTML-based interface. In addition, some basic appliance configuration can be performed, and relay output actions triggered, using the Basic View. However, the configuration tasks that are available from the Basic View are highly limited and are included primarily to assist in initial appliance installation and setup. This view is provided primarily for user's who wish to use a web browser to view appliance status and who are either unwilling or unable to install the software required to use the Advanced View.

Basic View System Requirements

To use the Basic View to monitor or configure an appliance, your system must be running one of the following supported web browsers:

- Netscape Navigator 4.79, 6.0 or later
- Internet Explorer 5.5 or later
- Mozilla 1.3 or later

NetBotz appliances running BotzWare version 2.2.2 or later also support a simplified version of the Basic View that can be viewed using the following Personal Digital Assistants (PDAs):

- Palm Tungsten handhelds running Palm OS 5.2.1, with Palm OS 5 Web Browser
- HP iPAQ handhelds running Windows Mobile Pocket PC 2003 or Windows Mobile Pocket PC 2003, with Pocket Internet Explorer
- Blackberry 6xxx & 7xxx Series Devices running 3.7 OS with WebViewer 3.5 from ReqWireless

For more information, see "Using the Basic View on Your PDA" on page 13.

The Advanced View

The Advanced View is the primary user interface for appliance monitoring and management. This interface enables authorized users to view current sensor data, camera images, and other appliance data in a custom Java application. The Advanced View also enables authorized users to trigger relay output actions and configure all appliance features. Unlike the Basic View (which uses a web browser to display the appliance data), the Advanced View is a stand-alone application that must be installed on a supported network-attached system.

Advanced View System Requirements

To run the Advanced View application, your system must meet these system requirements:

- Minimum Configuration:
  - Either a PC with an Intel™ Pentium™ II 450 processor (or equivalent) running Microsoft Windows (2000 or XP SP1), Red Hat EL 3, Fedora Core 3, or Debian GNU 3 **or** a Sparc workstation running Solaris 9 with all patch bundles recommended by Sun installed
  - 128MB RAM
  - Sun's Java Runtime Environment v 1.4.1_03 (if not present, the JRE will be installed automatically during Advanced View installation)
- Recommended Configuration:
  - Intel™ Pentium™ III 600 processor (or equivalent)
  - 256MB RAM

For instructions on installing the Advanced View, see the *About Your Appliance* booklet that was included with your appliance.

Appliance SSL Support

By default, SSL is enabled on your appliance and all browser/appliance interaction can be carried out using SSL by connecting to the appliance using a URL formatted beginning with "https" (for example, https://*IP_address*). Your appliance can also use SSL when posting alert notification and sensor data to web servers, and the Advanced View can be configured to use SSL when communicating with your appliance.

The SSL certificate that is needed for SSL communications is self-generated by the appliance ("self-signed") at first power-up and requires no user-interaction. If the hostname or domain of the appliance is changed the certificate is automatically regenerated, as the certificate includes the fully-qualified DNS name of the appliance. Alternately, you can request and install a signed SSL certificate from a certification authority if desired. For information on how to install a signed SSL certificate, see "SSL" on page 136.

- Your browser will generate a warning the first time you attempt to communicate with the appliance using SSL after a new self-generated SSL certificate has been created. This is normal behavior and you can accept the certificate without concern.
- To use SSL when communicating with the appliance using the Basic View, use **https://** at the beginning of the web address of the appliance. For more information about the Basic View see "About the Basic View" on page 11.
- To use SSL when posting alert notifications and sensor data to a web server, use **https://** at the beginning of the web address of the web server when configuring the Send Using HTTP Post Alert Action. For information on configuring Send Using HTTP Post Alert Actions see "Creating Alert Actions" on page 61 and "Creating a Send HTTP Post Alert Action" on page 170.

- To use SSL when monitoring or managing your appliance using the Advanced View, check the **Use SSL** check box in the Advanced View interface. For more information about the Advanced View see "The Advanced View is a stand-alone Java application that enables you to monitor and configure your appliance and any Camera Pod 120s, Sensor Pod 120s, CCTV Adapter Pod 120s, Output Relay Pod 120s, 4-20mA Sensor Pods, external sensors, or supported RS232-based sensors that are connected to the appliance. Using the Advanced View, you can quickly and easily view the current sensor readings being reported by any pods, supported RS232-based sensors, external sensors connected to integrated external sensor ports (NetBotz 320/420 only) or Sensor Pod 120s, 4-20mA sensors connected to a 4-20mA Sensor Pod, and devices being monitored using Device Crawlers, view a list of all currently active and recently resolved alert conditions, and view the images currently being captured by any Camera Pod 120s or CCTV Adapter Pod 120s connected to your appliance. In addition, the Advanced View provides complete appliance and pod configuration functionality, enabling you to perform all of the tasks necessary for complete management of all of your appliances and pods." on page 29.

About the Basic View

The Basic View is an HTML-based interface that enables you to view data about all objects that are currently being monitored by your appliance. Using a supported web browser, you can quickly and easily view the current sensor readings being reported by any Camera Pod 120s, Sensor Pod 120s, external sensors connected to Sensor Pod 120s, and devices being monitored using Device Crawlers, view a list of all currently active and recently resolved alert conditions, and view the images currently being captured by any Camera Pod 120s connected to your appliance. In addition, the Basic View enables you to trigger relay output actions and provides some simple sensor configuration capabilities to assist you during the initial appliance installation process.

Accessing the Basic View

To access an appliance using the Basic View, point a supported web browser at the hostname or IP address of the appliance.

- If the appliance's Guest account is configured with a **Sensor (No Camera)**, **Sensor**, **Application**, or **Administrator** privilege set (see "Users" on page 137) you will automatically be granted access to the appliance and you will be able to view the Basic View panes that are permitted by the privilege set (see "Basic View Panes Accessible by Privilege Set" on page 12). If you have a user account on the appliance with greater privileges than those allowed to guests, click the **Logon** link in the lower left-hand corner of the Basic View (beside the company logo) and provide your User ID and Password.
- If the Guest account is configured with no privileges (privilege set of None), you will be prompted to provide a **User ID** and **Password** to access the appliance. Once you have logged in, you will be able to view the Basic View panes that are permitted by the privilege set assigned to your user account (see "Basic View Panes Accessible by Privilege Set" on page 12).

Basic View Panes Accessible by Privilege Set

The Basic View panes that are accessible, depending on the privilege set of the account that is logged in and using the Basic View, are:

Privilege Set	Accessible Panes
Administrator	**Cameras**, **Graphs**, **Alerts**, **Setup**, and **About** panes.
Application	**Cameras**, **Graphs**, **Alerts**, and **About** panes.
Sensor	**Cameras**, **Graphs**, and **About** panes.
Sensor (No Camera)	**Graphs** and **About** panes.
None	Does not permit access to any appliance features.

Interface Navigation

The Basic View interface is divided into three primary regions:

- **The Navigation Pane:** Located in the upper-left corner of the interface, the Navigation pane is used to select your appliance, pods that are attached to the appliance, and other managed and monitored objects, such as devices that are being monitored using Device Crawlers (for more information, see “Device Crawlers” on page 77). It may also include one or more folders (virtual groupings of pods and other devices created using the Advanced View. For more information see “Using Folders” on page 32). To view information about an item that appears in the Navigation pane you must first select it.
- **The Sensor Data Pane:** Located in the lower-left hand corner of the interface, the Sensor Data pane displays the current readings and alert status of any sensors that are associated with the item that is currently selected in the Navigation pane. If the selected item is an output relay device (such as a Output Relay Pod 120 or a supported RS232-based relay output device) then the current state of the relay is displayed along with a button that enables authorized user accounts to trigger the relay output action. Note that the relay output trigger buttons will appear only if the currently logged-in user account is authorized to trigger relay outputs.

  If the selected item features a large number of sensors, the sensors may also be divided into *sensor sets*. Sensor sets enable you to filter the contents of the Sensor Data pane to display only sensors that are associated with a specific interface or portion of the selected device. To display all of the sensors included in the selected device select **All Sensors** from the **Set** drop-box. To view only the sensors associated with a sensor set, select the desired sensor set from the **Set** drop-box.
- **The Action/Information Pane:** Located on the right-hand side of the interface, the Action/Information pane contains a series of tabs that enable you to view information and perform configuration tasks on your appliance and pods. The following tabs are available from the Action/Information pane:
  - **Cameras:** Select this tab to display the images currently being captured by your appliance’s integrated camera (NetBotz 320 and 420 models only) or by any Camera Pod 120s or CCTV Adapter Pod 120s connected to the appliance.
  - **Alerts:** Select this tab to view alerts that are currently being reported by the appliance, any pods that are connected to the appliance, or any devices that are being monitored using Device

Crawlers. Alerts that have occurred in the past 24 hours, but which have been resolved, can be shown as well.

– **Maps:** Select this tab to view any Advanced View maps that have been configured for use with this appliance. The Map View, available for use only on appliances for which the BotzWare Premium Software Module 2.4 has been purchased, enables you to view user-created maps that show the location of your NetBotz appliances, pods, and sensors. The alert state of all devices shown on the Map View are indicated with simple color coding (red indicates that an alert state currently exists, while green indicates that no alert state is currently being reported by the sensor or device). The BotzWare Premium Software Module is available as part of NetBotz Extended Warranty Coverage. For more information, contact your NetBotz authorized reseller or the NetBotz support team).

– **Graphs:** Select this tab to display graphs of up to 24 hours of environmental data that has been collected from any sensor that is connected to the appliance (including sensors that are built into pods, external sensors connected to Sensor Pod 120s, devices that are being monitored using Device Crawlers, and RS232-based sensors that are connected to your appliance using a USB-to-serial-port adapter).

– **Setup:** Select this tab to specify a label that can used to uniquely identify the appliance and any pods that are connected to the appliance. If you have output control devices connected to your appliance, you can use this tab to specify output types and labels for each relay. This tab also enables you to configure and uniquely label any external sensors that may be connected to the external sensor ports on a NetBotz 320 or 420 appliance, Sensor Pod 120, or 4-20mA Sensor Pod, as well as any devices that are being monitored using Device Crawlers.

– **About:** Select this tab to display information about your appliance and all connected pods.

Using the Basic View on Your PDA

NetBotz appliances running BotzWare version 2.2.2 or later also support a simplified version of the Basic View that can be viewed using the following Personal Digital Assistants (PDAs):

- Palm Tungsten handhelds running Palm OS 5.2.1, with Palm OS 5 Web Browser
- Palm handheld devices, such as the Treo PDA/Phone, running the Blazer web browser
- HP iPAQ handhelds running Windows Mobile Pocket PC 2003 or Windows Mobile Pocket PC 2003, with Pocket Internet Explorer
- Blackberry 6xxx & 7xxx Series Devices running 3.7 OS with WebViewer 3.5 from ReqWireless

To use the simplified Basic View, simply point your supported PDA's web browser at the hostname or IP address of the appliance.

- If the appliance's Guest account is configured with a **Sensor (No Camera)**, **Sensor**, **Application**, or **Administrator** privilege set (see "Users" on page 137) you will automatically be granted access to the appliance
- If the Guest account is configured with no privileges (privilege set of None), you will be prompted to provide a **User ID** and **Password** to access the appliance. Log in to continue.

Using the Simplified Basic View

Due to the limited screen space and resolution available on PDAs, you will note a number of significant differences in the Basic View with accessed with your PDA. The most significant difference is that unlike the standard Basic View, which shows the Navigation, Sensor Data, and Action/Information panes simultaneously, the simplified Basic View shows only a single region of the Basic View interface at any time.

When you initially log in, you will see only the contents of the Navigation pane. From this pane, you can "drill down" to the appliance and sensor data that you require. Using the PDA's pen, select **About** to display information about your appliance and all connected pods, or select the appliance or other component (such as a pod or the Alerting Sensors group) to switch to the Sensor Data view for the selected item. From the **Sensor Data** view, you can access graphs, alert reports, and camera images.

Select **Back** to return to the Navigation pane from the **Sensor Data** pane.

Viewing Graphs

To display a graph of environmental data that has been collected from a sensor, simply select from the Reading column the current sensor reading beside the sensor that you want to graph. By default a graph displaying data collected over the past 60 minutes is shown. Use the **Time** drop box to change the amount of data to be graphed. Select **Refresh** to refresh the contents of the graph. Select **Back** to return to the **Sensor Data** view from the **Graph** view.

Viewing Alerts

To display a list alerts associated with the selected component, simply select any current Alert reading from the Status column to switch to the Alerts View. A list of alerts that are currently being reported by the component you selected from the Navigation View is displayed. To include alerts that have occurred in the past 24 hours but that have been resolved, check the Include Returned to Normal Alerts check box in the Alerts View. Select **Back** to return to the **Sensor Data** view from the **Alerts** view.

For additional Alert Details, select any of the alerts that are listed in the Alerts View. Select **Back** to return to the **Alerts** view from the **Alert Details** view.

Viewing Camera Images

To display the images currently being captured by a camera that is integrated with or connected to your appliance, select the camera pod or the appliance from the Navigation pane, and then select the camera link from the **Sensor Data** view. A camera image (in 160x120 mode, by default) is displayed. To change the display mode, select a new setting from the Mode drop box. To change the rate at which the image is updated, select a new setting from the Rate drop box. Select **Back** to return to the **Sensor Data** view from the camera view.

Configuring Your Appliance

Just like the standard Basic View, the simplified Basic View provides some simple sensor configuration capabilities to assist you during the initial appliance installation process. Select from the Navigation pane the appliance, pod, or other device you want to configure. Then, in the Sensor Data pane for that device, select **Setup**. The settings available for configuration will be displayed in the resulting Configuration pane.For example, you can:

- Configure and uniquely label any external sensors that may be connected to external sensor ports on a NetBotz 320 or 420 appliance, Sensor Pod 120, or 4-20mA Sensor Pod
- Configure and uniquely label any devices that are being monitored using Device Crawlers.
- Specify output types and labels for each relay on output control devices connected to your appliance.

Select **Back** to return to the **Sensor Data** view from the **Setup** view.

Basic View: Monitoring Appliances

The Basic View is primarily designed to provide you with a simple-to-use appliance monitoring interface that does not requiring the presence of the Advanced View application and Java Runtime Environment. The monitoring tasks that are available when using the Basic View are viewing sensor readings, viewing camera images, graphing collected sensor data, and viewing currently active and resolved alert conditions.

Viewing Sensor Readings

You can use the Basic View to view the monitored value and alert status of any sensor that is currently connected to the appliance. Sensors are included in the Camera Pod 120 (camera motion, door switch, microphone plug, speaker plug) and Sensor Pod 120 (air flow, temperature, humidity, dew point, audio, as well as up to 4 external sensors). NetBotz 320 and 420 models camera feature an integrated camera and sensor pod and include camera motion, door switch, air flow, temperature, humidity, dew point, and audio sensors and can support up to 4 additional external sensors.

Additionally, Basic Device Crawlers, add-on devices (such as RS232-based sensors) and add-on applications (such as Advanced Device Crawlers) provide additional items in the Navigation pane, with each monitored device providing additional sensor data. Finally, the current state of any relay-based devices that are connected to your appliance (using a Output Relay Pod 120 or a Power Control Pod) are displayed when the device is selected from the Navigation pane.

The air flow sensor, integrated in the Sensor Pod 120 and in NetBotz 320 and 420 appliances, must accumulate up to 3 minutes of sensor data before it can provide accurate air flow sensor readings. After the Sensor Pod or appliance is powered on, air flow sensor data will appear as “N/A” until enough data has been collected.

To view sensor readings, simply select an item that includes sensors from the Navigation pane. The Sensor Data pane is automatically updated to display the current reading being reported by any sensors that are associated with the selected item, as well as the current alert status for each sensor. If the selected item features a large number of sensors, the sensors may be divided into sensor sets. To display all of the sensors included in the selected device select **All Sensors** from the **Set** drop-box. To view only the sensors associated with a sensor set, select the desired sensor set from the **Set** drop-box. If a sensor is reporting an alert state, it’s table row will be colored red.

- To view a graph of all data that has been collected by a sensor in the last 60 minutes, click on the sensor’s current value in the Sensor Data pane. The Action/Information pane automatically switches to the Graph view and displays a graph of the data that has been collected from the selected sensor in the past hour.
- If you have selected an integrated camera, Camera Pod 120, or CCTV Adapter Pod 120 from the Navigation pane, you can quickly view the image being captured by that camera by clicking View Camera in the Sensor Data pane. The Action/Information pane automatically switches to the Camera View, with the selected camera pod image displayed.

Viewing Camera Images

To view images being captured by any integrated camera or Camera Pod 120s or CCTV Adapter Pod 120s connected to the appliance, click on the Cameras tab in the Action/Information pane. Images for all integrated or connected cameras are displayed in the Cameras panel, with one camera image displayed in a larger, timestamped format. To switch the large format view to a different camera image, select the thumbnail image that you wish to view.

You can also use the Cameras panel controls to specify the mode and dimensions of the large format camera view, as well as the frequency with which the image is updated.

- To specify the dimensions of the image, select from the Mode drop box the desired mode (640x480 VGA is selected by default; other available modes are 160x120, 320x240, 800x600, 1024x768, and 1280x1024).
- To specify the frequency with which the image is updated, select from the Rate drop box the desired rate (1 frame per second is selected by default; rates are also available ranging from 1 frame every 30 seconds to 30 frames per second depending on resolution).

- CCTV Adapter Pod 120s support only 160x120, 320x240, and 640x480. Resolutions higher than 640x480 are available only from Camera Pod 120s.
- Actual frame rate available from image processor depends on the resolution and image quality of generated images. Maximum framerate of 30 frames per second is available only at Normal Quality or lower and only at resolutions up to 640x480. Maximum frame rate for 800x600, 1024x768, and 1280x1024 at Normal Quality or lower is 10 frames per second. If you configure the Camera Pod 120 to capture images in High Quality, the Maximum Frame Rate for some resolutions changes: At 640x480 and lower resolution the maximum frame rate drops from 30 frames per second to 20 frames per second. In 800x600 the maximum frame rate is unchanged (stays at 10 frames per second). In 1024x768 and 1280x1024 the maximum frame rate drops from 10 frames per second to 8 frames per second. Also, the maximum frame rate describes the maximum number of images that the camera imager is capable of producing each second. The actual frame rate that will be visible in the Basic View or Advanced View is largely dependent on the amount of available bandwidth.

Viewing Alerts

To view alert conditions that are presently being reported by your appliance or any attached pods or sensors:

1. Select the Alerts tab from the Action/Information pane.
2. Select from the Pods drop box the appliance or the pod or other device (such as RS232-based sensors connected to the appliance using a USB-to-serial-port adapter) that you want to check for currently active alert conditions. By default, the appliance is selected.
   – If you want to view currently active alert conditions on the appliance and on all connected pods, select All from the Pods drop box.
   – If you want to view records of previously reported alert conditions that have since been resolved check the Include Resolved Alerts check box. Previously resolved alerts can be stored on the appliance for up to 24 hours. The period of time for which previously resolved alerts will be available on the appliance is configured using the Advanced View.

Alerts that are currently active or that were previously resolved for the item that is selected from the Pods drop box are displayed in a table on the Alerts panel. Alert-specific data for previously resolved alerts is shown in *italics*. The following information is available for each previously resolved or currently active alert condition:

- **Time:** The time at which the alert occurred. If the alert has since been resolved, a second time stamp indicates the time at which the alert was resolved.
- **Severity:** The severity value of the alert. Potential severity values, from most severe to least severe, are Failure (the most severe), Critical, Error, Warning, and Information.
- **Sensor/Device:** The device or sensor that is reporting the alert condition (or, if the alert has been resolved, on which the alert condition previously occurred).
- **Alert Type:** A brief, general description of the alert condition.
- **Description:** A detailed description of the specific conditions that caused the alert to be reported.

To view detailed information about a selected alert, click on the description of the alert. The Alerts panel will update to show an Alert Details view. This view provides additional details about the selected alert, including the current value being reported by the sensor that reported the alert, the external sensor port to which the sensor is connected, the alert profile name that applies to this alert, and the alert ID value. To return to the Alerts view, click on the View Alerts link in the upper-right hand corner of the Alert Details view.

In addition to the previously mentioned details, alert-specific data -- including graphs of the sensor values and camera images if appropriate -- is preserved on the appliance to aid in evaluating the cause and resolution of alert conditions as long as space is available on the appliance. If additional alert-specific data is available it will appear on the Alert Details view as a series of links in an Available Captured Data table. To view the captured data, simply click on the description of the data. To return to the Alert Details view click the Return to Alert Details link in the upper right-hand corner of the Additional Captured Data view.

Saving Picture Sequences to Your System

If you have installed the BotzWare Premium Software Module 2.4 and an alert includes a picture sequence as part of the alert event, you can save the picture sequence to your system as a M-JPEG AVI or as a digitally signed M-JPEG AVI file. M-JPEG AVI files are motion picture files that can be played using standard media player software (such as Windows Media Player). Signed files provide proof that the generated images have not been tampered with or altered in any way, and are therefore more likely to be admissible as evidence in legal proceedings.

To save a picture sequence as an M-JPEG AVI or as a Signed M-JPEG AVI, select an alert from the Alerts view, select the picture sequence from **Available Captured Data** list for the alert, and then click on either **Get M-JPEG AVI** or **Get Signed M-JPEG AVI**.

For information on how to verify that signed AVI files have not been tampered with, see “Verifying Signed M-JPEG AVI Files” on page 199.

Viewing Maps

The Map View, available for use only on appliances for which the BotzWare Premium Software Module 2.4 has been purchased, enables you to view user-created maps that show the location of your NetBotz appliances, pods, and sensors. The alert state of all devices shown on the Map View are indicated with simple color coding (red indicates that an alert state currently exists, while green indicates that no alert state is currently being reported by the sensor or device). The BotzWare Premium Software Module is available as part of NetBotz Extended Warranty Coverage. For more information, contact your NetBotz authorized reseller or the NetBotz support team).

You can use the Basic View to view only previously created maps. To create, edit, or delete a map you must use the Advanced View.

To view a map using the Basic View, select the Maps tab in the Action/Information pane. The first available map that is stored on the appliance is automatically loaded in to the Action/Information pane. If there is more than one map stored on the appliance you can select additional map views from the Maps drop box.

Once the map is loaded, the alert status of any appliances, pods, sensors, or other devices that have been placed on the map can be observed by noting the color of the background of each device's label box. If the background is red then an alert state currently exists for that sensor or device. If the background is green, then no alert state is currently being reported.

To view sensor readings for any device displayed in the Map view, simply select the device from the Map view. The Sensor Data pane is automatically updated to display the current reading being reported by any sensors that are associated with the selected item, as well as the current alert status for each sensor. If the selected item features a large number of sensors, the sensors may be divided into sensor sets.

Viewing Graphs

To view a graph of the data collected by a single sensor that is connected to your appliance:

1. Select the Graphs tab in the Action/Information pane.
2. Select from the Pods drop box the pod or other device (such as a device being monitored using Device Crawlers, or RS232-based sensors connected to the appliance using a USB-to-serial-port adapter) that either includes the sensor you wish to view or to which the external sensor that you wish to view is connected.
   - Camera Pod 120s and CCTV Adapter Pod 120s include camera motion, door switch, speaker plug, and microphone plug sensors.
   - Integrated cameras (NetBotz 320 and 420 models only) include camera motion and door switch sensors.
   - Sensor Pod 120s and integrated Sensor Pods (NetBotz 320 and 420 models) include temperature, humidity, dew point, air flow, and audio sensors, as well as up to 4 additional external sensors.
   - Devices being monitored using Basic Device Crawlers report System/Status data, including Online status, Ping RTT, SNMP System Uptime, as well as one additional sensor set for each interface included in the device.
   - Devices being monitored using Advanced Device Crawlers for which there is DDF-based data will feature an additional Advanced Data sensor set that includes the sensor data collected by Advanced Device Crawlers. The sensor data available from this sensor set is device-specific, but may include items such as temperature, voltage, air flow, and so forth.
3. If necessary, select from the Set drop box the sensor set that includes the sensor that you want to graph.
4. Select from the Sensors drop box the sensor for which the available data will be graphed. Only sensors that are available on the device selected from the Pods drop box, and that are included in the

currently selected sensor Set (if applicable) will be listed in the Sensors drop box.

5. Select from the Graph Time drop box the period of time prior to the present for which data from the selected sensor will be graphed. By default, all data available from the past 60 minutes will be graphed. Up to 24 hours of data can be graphed, depending on sensor configuration.

Triggering Relay Outputs

If you have Output Relay Pod 120s or supported RS232-based output control devices connected to your appliance **and** the currently logged in user account is authorized to trigger outputs, you can trigger outputs using the Basic View. To trigger an output action, select from the Navigation pane the output control device to which the relay-based device you want to trigger is connected. Then, locate the desired relay in the list of relays located in the Sensor Readings pane. To trigger the relay, click the button that corresponds to the relay.

Basic View: Configuring Appliances

The Basic View is designed primarily for viewing the sensor data, camera images, and alert conditions that are currently being reported by the appliance and the pods or sensors that are connected to the appliance. The vast majority of appliance, pod, and sensor configuration must be performed using the Advanced View interface. However, the Basic View does provide some limited configuration capabilities to assist in initial appliance, pod, and sensor installation, when access to a system capable of running the Advanced View application may not be convenient. All available configuration tasks are performed using the Setup tab in the Actions/Information pane.

Configuring the Appliance

The only configuration task that can be performed on an appliance using the Basic View is specifying a unique identification label for the appliance. This label will be used to uniquely identify the appliance in the Basic View interface and in alert notifications associated with the appliance.

To specify a label for the appliance, select the appliance from the Pods drop box in the Setup panel. Then, type in the Pods Label field the label that will be used to identify the appliance. When you have finished typing in the label value, click Update to save the label value for your appliance.

Configuring Camera Pod 120s and Integrated Cameras

The only configuration task that can be performed on a Camera Pod 120 or integrated camera (NetBotz 320/420 models only) using the Basic View is specifying a unique identification label for the Camera Pod 120 or integrated camera. This label will be used to uniquely identify the Camera Pod 120 or integrated camera in the Basic and Advanced View interfaces and in alert notifications associated with the camera.

To specify a label for the Camera Pod 120 or integrated camera, select the Camera Pod 120 or integrated camera from the Pods drop box in the Setup panel. Then, type in the Pods Label field the label that will be used to uniquely identify the camera. When you have finished typing in the label value, click Update to save the label value.

Configuring CCTV Adapter Pod 120s

The only configuration task that can be performed on a CCTV Adapter Pod 120 using the Basic View is specifying a unique identification label for the CCTV Adapter Pod 120. This label will be used to uniquely identify the CCTV Adapter Pod 120 in the Basic and Advanced View interfaces and in alert notifications associated with the CCTV Adapter Pod 120.

To specify a label for the CCTV Adapter Pod 120, select the CCTV Adapter Pod 120 from the Pods drop box in the Setup panel. Then, type in the Pods Label field the label that will be used to uniquely identify the CCTV Adapter Pod 120. When you have finished typing in the label value, click Update to save the label value for your CCTV Adapter Pod 120.

Configuring Sensor Pod 120s

The only configuration tasks that can be performed on a Sensor Pod 120 using the Basic View are specifying a unique identification label for the Sensor Pod 120, specifying the type of external sensors that are attached to each of the external sensor ports on the Sensor Pod 120, and providing a unique identification label for each external sensor. These labels will be used to uniquely identify the Sensor Pod 120 and the external sensors in the Basic and Advanced View interfaces and in alert notifications associated with the Sensor Pod 120 or external sensors.

To specify a label for the Sensor Pod 120, select the Sensor Pod 120 from the Pods drop box in the Setup panel. Then, type in the Pods Label field the label that will be used to uniquely identify the Sensor Pod 120. When you have finished typing in the label value, click Update to save the label value for your Sensor Pod 120.

To specify the type of external sensors that are connected to each of the external sensor ports on your Sensor Pod 120, and to specify a label for each of these sensors, select the Sensor Pod 120 to which the external sensors are connected from the Pods drop box in the Setup panel. Then, select from the drop box beside the External Sensor Port ID the specific external sensor that is connected to each port. If desired, type in the Port Label field a label that will be used to uniquely identify the Sensor Pod 120 and port to which it is connected. When you have finished, click Update to save the label value for your Sensor Pod 120.

Configuring Integrated Sensor Pods (NetBotz 320/420 Only)

The only configuration tasks that can be performed on integrated Sensor Pods (included with NetBotz 320/420 models only) using the Basic View are specifying the type of external sensors that are attached to each of the external sensor ports on the NetBotz appliance and providing a unique identification label for each external sensor. These labels will be used to uniquely identify the external sensors in the Basic and Advanced View interfaces and in alert notifications associated with the external sensors.

To specify the type of external sensors that are connected to each of the external sensor ports on your NetBotz appliance, and to specify a label for each of these sensors, select the integrated Sensor Pod from the Pods drop box in the Setup panel. Then, select from the drop box beside the External Sensor Port ID the specific external sensor that is connected to each port. If desired, type in the Port Label field a label that will be used to uniquely identify the sensor and port to which it is connected. When you have finished, click Update to save the label value.

Configuring 4-20mA Sensor Pods

Note

Before continuing, be sure that you have correctly connected the 4-20mA Sensor Pod to your appliance.

The only configuration tasks that can be performed on a 4-20mA Sensor Pod using the Basic View are specifying a unique identification label for the 4-20mA Sensor Pod, specifying the type of 4-20mA sensors that are attached to each of the ports on the 4-20mA Sensor Pod, and providing a unique identification label for each 4-20mA sensor. These labels will be used to uniquely identify the 4-20mA Sensor Pod and the 4-20mA sensors in the Basic and Advanced View interfaces and in alert notifications associated with the 4-20mA Sensor Pod or 4-20mA sensors.

To specify a label for the 4-20mA Sensor Pod, select the 4-20mA Sensor Pod from the Pods drop box in the Setup panel. Then, type in the Pods Label field the label that will be used to uniquely identify the 4-20mA Sensor Pod. When you have finished typing in the label value, click **Update** to save the label value for your 4-20mA Sensor Pod.

To specify the type of 4-20mA sensors that are connected to each of the sensor ports on your 4-20mA Sensor Pod, and to specify a label for each of these sensors, select the 4-20mA Sensor Pod to which the 4-20mA sensors are connected from the Pods drop box in the Setup panel. Then, select from the drop box beside the External Sensor Port ID the specific 4-20mA sensor that is connected to each port. If desired, type in the Port Label field a label that will be used to uniquely identify the 4-20mA Sensor Pod and port to which it is connected. When you have finished, click **Update** to save the label value for your 4-20mA Sensor Pod.

Configuring Output Relay Pod 120s

Before continuing, be sure that you have correctly connected the Output Relay Pod 120 to your appliance.

The only configuration tasks that can be performed on a Output Relay Pod 120 using the Basic View are specifying a unique identification label for the Output Relay Pod 120, specifying the output type that will be used for each relay, and providing a unique identification label for each relay.

To configure an Output Relay Pod 120 from the Basic View:

1. Click on the **Setup** button.
2. Select the output control device you wish to configure from the **Pods** drop-box. A list of available output ports on the selected device appears.
3. Select from the **Output Type Configured** drop-box beside each port the output control action you want to assign to the corresponding port. The following output types are available by default:
   - **None:** No output action is associated with this port.
   - **One-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 1 second, and then switched back to closed.
   - **One-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 1 second, and then switched back to open.
   - **Switch (NC):** When activated, a normally closed (NC) relay is switched to an open state.
   - **Switch (NO):** When activated, a normally open (NO) relay is switched to a closed state.
   - **Ten-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 10 seconds, and then switched back to closed.
   - **Ten-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 10 seconds, and then switched back to open.

   If you have used the Advanced View to define custom output types, your custom output types will be available from this list as well.
4. Type in the **Port Label** field the label that will be used to uniquely identify the device connected to output control device port.
5. Click **Update** to save your output device settings.

Configuring Power Control Pods

You can use the Basic View to specify the Power Control Pod model that you have connected to your appliance using a USB-attached serial port device or hub. You can also specify a unique identification label for the each Power Control Pod, specify the output type that will be used for each outlet on the pod, and providing a unique identification label for each outlet.

To specify the Power Control Pod model that is connected to each serial port:

1. Click on the **Setup** button.
2. Select the appliance from the **Pods** drop box in the Setup panel.
3. Select from the **Device Type Installed** drop box beside each identified serial port the specific Power

Control Pod model (110, 115, 230, or 235) that is connected to that port.

4. Click **Update** to save your serial device settings.

To specify the output type that will be assigned to each outlet on your Power Control Pod and to specify a unique label for each outlet:

1. Click on the **Setup** button.
2. Select the Power Control Pod you wish to configure from the **Pods** drop-box. A list of available outlets (1 outlet for Power Control Pod 110s and 230s, 5 outlets for Power Control Pod 115s and 235s) on the selected pod appears.
3. Select from the **Output Type Configured** drop-box beside each outlet the output control action you want to assign to the corresponding port.

When configuring output types on Power Control Pods, the “closed” relay state causes the circuit on the outlet to be closed and the power to be “on.” The “open” relay state opens the circuit on the outlet and causes the power to be “off.” For example, selecting a **Ten-Second Button (NC)** output type would, when activated, “open” the outlet and interrupt the power supplied to the device that is connected to the outlet for 10 seconds, after which the outlet would be “closed,” restoring power to the device.

The following output types are available by default:

- **None:** No output action is associated with this port.
- **One-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 1 second, and then switched back to closed.
- **One-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 1 second, and then switched back to open.
- **Switch (NC):** When activated, a normally closed (NC) relay is switched to an open state.
- **Switch (NO):** When activated, a normally open (NO) relay is switched to a closed state.
- **Ten-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 10 seconds, and then switched back to closed.
- **Ten-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 10 seconds, and then switched back to open.

If you have used the Advanced View to define custom output types, your custom output types will be available from this list as well.

4. Type in the **Port Label** field the label that will be used to uniquely identify the device connected to output control device port.
5. Click **Update** to save your output device settings.

Testing Device Power-On Behavior

Before connecting a device to a Power Control Pod, be sure to first test the device to ensure that when power is restored to the device it powers up without requiring user interaction (such a pressing a power button, for example).

To test the device's power-on behavior, simply plug it directly into a standard power outlet. If the device power on fully without requiring additional interaction it can be used properly with the Power Control Pod. However, if you determine that the restoring power to the device does not enable the device to return to a fully operational state then you may need to update or modify the device (such as changing power control options in the BIOS of a server or workstation, for example) to ensure that the device will work properly when used with your Power Control Pod.

Configuring Serial and RS232-Based Sensors

You can use the Basic View to specify which supported serial communications device you have installed in the PC Card slot of your appliance, or to specify which RS232-based sensors (such as a NMEA-compliant GPS receiver or a supported RAE Systems device) you have connected to your appliance using a USB-attached serial port device or hub. You can also specify a label for each serial port.

RAE Systems device support is available only with the additional purchase of a RAE Systems Sensors Option license. If you are configuring a RAE Systems device be sure to use the Advanced View License Keys task (see "License Keys" on page 114) to activate RAE Systems device support on your appliance. For more information on RAE Systems Sensors Option see "Add-Ons: RAE Systems Sensors Option" on page 181.

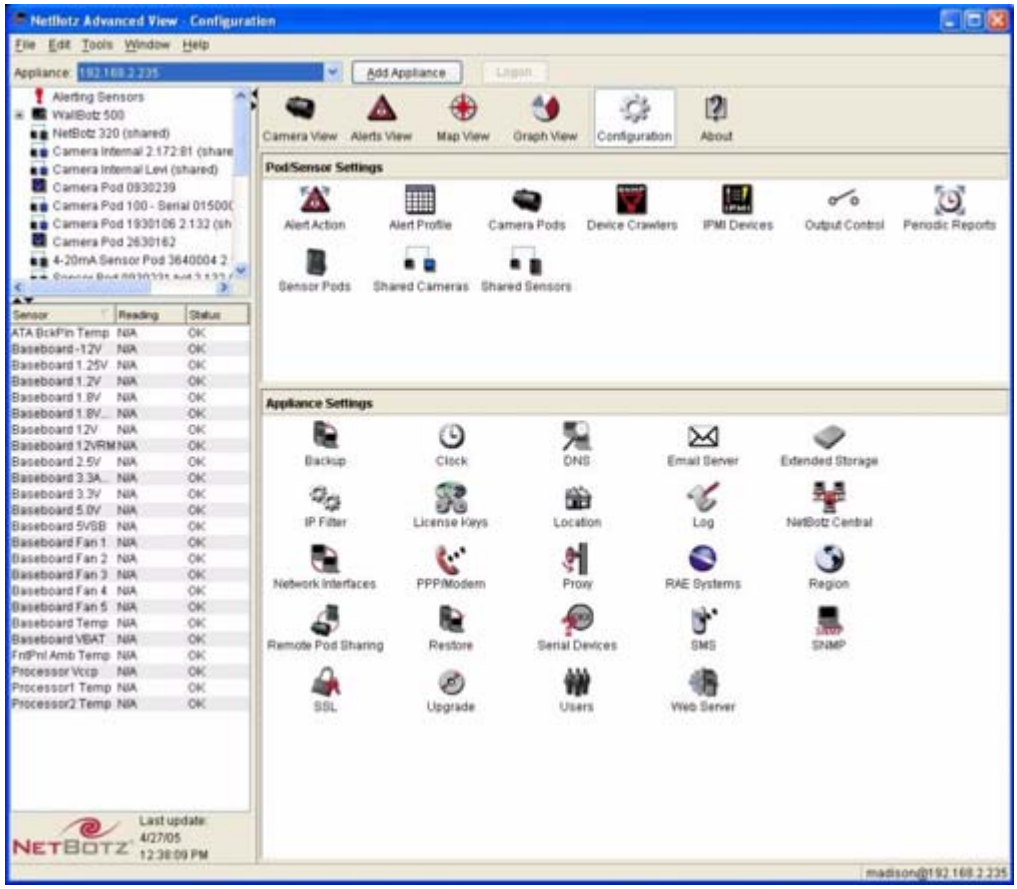
To specify the serial communications device or sensor that is connected to each serial port, select the appliance from the **Pods** drop box in the Setup panel. Then, select from the **Device Type Installed** drop box beside each identified serial port the device that is connected to that port. When you have finished, click **Update** to save your serial device settings.

To specify a label for each serial port, select the appliance from the **Pods** drop box in the Setup panel. Then, type in the **Port Label** beside each identified serial port field the label that will be used to uniquely identify this serial port. When you have finished, click **Update** to save your serial device settings.

About the Advanced View

The Advanced View is a stand-alone Java application that enables you to monitor and configure your appliance and any Camera Pod 120s, Sensor Pod 120s, CCTV Adapter Pod 120s, Output Relay Pod 120s, 4-20mA Sensor Pods, external sensors, or supported RS232-based sensors that are connected to the appliance. Using the Advanced View, you can quickly and easily view the current sensor readings being reported by any pods, supported RS232-based sensors, external sensors connected to integrated external sensor ports (NetBotz 320/420 only) or Sensor Pod 120s, 4-20mA sensors connected to a 4-20mA Sensor Pod, and devices being monitored using Device Crawlers, view a list of all currently active and recently resolved alert conditions, and view the images currently being captured by any Camera Pod 120s or CCTV Adapter Pod 120s connected to your appliance. In addition, the Advanced View provides complete appliance and pod configuration functionality, enabling you to perform all of the tasks necessary for complete management of all of your appliances and pods.

The Advanced View.



Adding Appliances

Before you can use the Advanced View to manage an appliance you must first add the appliance's IP address or hostname to the **Appliance** list. To add an appliance to the Appliance list:

1. Click **Add Appliance**. The Add Appliance window opens.
2. Type in the **IP Address or Hostname** field the IP address or hostname of the appliance.

The Add Appliance window.

3. Type in the **Port** field the TCP port through which you will communicate with this appliance.
4. Enable SSL encryption (optional). To use SSL encryption to communicate with this appliance, check the **Use SSL** check box.
5. Click **OK** to add the appliance to the Appliance list.

Once you have added an appliance to the **Appliance** list, the Advanced View will automatically attempt to load data from the appliance into the Advanced View. Once an appliance has been added to the **Appliance** list, you can quickly navigate to it by selecting the appliance's address or hostname from the **Appliance** list. Note that if you specified **Use SSL** when adding the appliance then "(SSL") will appear in the selection list beside the appliance's IP address or hostname.

Accessing and Logging Into the Appliance Using the Advanced View

Once you have added an appliance to the **Appliance** list, select the appliance from the **Appliance** list to attempt to access it.

- If the appliance's Guest account is configured with a **Sensor (No Cameras)**, **Sensor**, **Application**, or **Administrator** privilege set (see "Users" on page 137) you will automatically be granted access to the appliance and you will be able to view the Advanced View panes that are permitted by the privilege set (see "Advanced View Panes Accessible by Privilege Set" on page 31). If you have a user account on the appliance with greater privileges than those allowed to guests, click the **Logon** button at the top of the Advanced View interface and provide your User ID and Password.
- If the Guest account is configured with no privileges (privilege set of None), you will be prompted to provide a **User ID** and **Password** to access the appliance. Once you have logged in, you will be able to view the Advanced View panes that are permitted by the privilege set assigned to your user account (see "Advanced View Panes Accessible by Privilege Set" on page 31).

Advanced View Panes Accessible by Privilege Set

The Advanced View panes that are accessible, depending on the privilege set of the account that is logged in and using the Advanced View, are:

Privilege Set	Accessible Panes
Administrator	**Cameras View**, **Graphs View**, **Alerts View**, **Configuration**, and **About** panes.
Application	**Cameras View**, **Graphs View**, **Alerts View**, and **About** panes.
Sensor	**Cameras View**, **Graphs View**, and **About** panes.
Sensor (No Cameras)	**Graphs View** and **About** panes.
None	Does not permit access to any appliance features.

Interface Navigation

The Advanced View interface is divided into three primary regions: The Navigation Pane, the Sensor Data Pane, and the Action/Information Pane.

The Navigation Pane

Located in the upper-left corner of the interface, the Navigation pane is used to select your appliance; pods that are attached to or integrated with the appliance; other managed and monitored objects, such as RS232-based sensors or output control devices that are being monitored using Device Crawlers (for more information, see “Device Crawlers” on page 77); or Alerting Sensors, which is a “virtual device” that presents a dynamic overview of all currently alerting sensors as reported by the appliance as well as pods and other devices connected to the appliance. The device selected from the Navigation Pane filters the contents of the Sensor Data Panel. To view information about an item that appears in the Navigation pane you must first select it.

As pods are connected to your appliance, they will automatically appear in the Navigation pane. Newly added pods will be labeled by their pod type (for example, Sensor Pod, Camera Pod, CCTV Pod, or Output Relay Pod) and their serial number. Once a pod has been added, you can change its label using either the Camera Pods, Sensor Pods, or Output Control tasks.

In addition to 1 docked Camera Pod or integrated camera and 1 docked or integrated Sensor Pod, the Navigation pane can contain only up to 4 unique tethered Camera Pod or CCTV Adapter Pod entries, up to 16 unique tethered Sensor Pod entries, and up to 4 unique tethered Output Relay Pod entries (pods or devices that appear in folders as well as in the main appliance tree count as a single entry. For information about folders, see “Using Folders” on page 32).

If you connect a pod and then disconnect it, its entry will remain in the Navigation pane, but will be “grayed out.” If your reconnect a previously disconnected pod, its Navigation pane entry will become active again. However, if you have reached the maximum number of pod-specific entries in the Navigation pane (5 Camera Pods/CCTV Adapter Pods, 17 Sensor Pods, 4 Output Relay Pods) including “grayed out” entries, additional pods will not appear in the Navigation pane until you delete a pod entry of the same type from the list.

Also, note that the maximum number of pod-specific entries in the Navigation pane (5 Camera Pods/ CCTV Adapter Pods, 17 Sensor Pods, 4 Output Relay Pods) is greater than the maximum number of Camera and Sensor Pods that can be used by any NetBotz appliance other than a NetBotz 500.

Using Folders

If desired, you can create folders in the Navigation Pane. Folders enable you to create virtual groups of pods and devices that can be used to simplify organization of your various pods and devices for management purposes.

By default, the Navigation Pane does not feature any folders. Instead, the Navigation Pane presents a selectable list of all pods and devices that are associated with the appliance. When you add a folder, you include one or more pods or devices that are associated with the appliance in the folder as well. Devices that are included in a folder continue to be listed in the selection list as well, and an individual pod or other device can be included in multiple folders.

Folders offer a convenient way to organize devices into user-specified groupings. Furthermore, when a folder is not expanded, the color of the folder represents the current "worst" alert state of any device that exists within the folder. for example, if you create a folder that contains all of the devices in a specific building and one of those devices enters an alert state, the name of the folder will turn red to indicate that one of the devices in the folder is alerting.

Folders can be created, modified, or deleted only when using the Advanced View. However, any folders that are created using the Advanced View will be visible in the Navigation Pane of the Basic View.

To create or modify a folder:

1. Right-click on the background of the Navigation pane (**not** on a device) and then select **Add Folder**. To modify a previously created folder, right-click on the folder and select **Modify Folder**.
2. The Add Folder window appears. Type in the **Folder Name** field a name for this folder.
3. To add devices, select from the **Available Enclosures** selection list one or more devices that you want to include in this folder, and then click the "right arrow" (>) button to move the selected devices into the **Selected Enclosures** selection list.
4. To remove devices, select from the **Selected Enclosures** selection list one or more devices that you do not want to include in this folder, and then click the "left arrow" (<) button to move the selected devices into the **Available Enclosures** selection list.
5. Click **OK** to save the folder.

To delete a previously created folder, right-click on the folder and click **Delete Folder**.

Locking a Navigation Pane Selection

If desired, you can lock the Navigation pane so that only a specific device is selected.Once the Navigation pane is locked, you will not be able to select any other devices from the Navigation pane until you unlock the pane. Once you have locked the Navigation pane, the Advanced View will automatically start with the pane in the locked state.

To lock the pane to a specific device, first select the desired device. Then, right-click on the device and select **Lock selection**. To unlock the pane, right-click on any device in the Navigation pane and select **Lock selection**.

The Sensor Data Pane

Located in the lower-left hand corner of the interface, the Sensor Data pane displays the current readings and alert status of any sensors that are associated with the item that is currently selected in the Navigation pane. If the selected item is an output relay device (such as a Output Relay Pod 120 or a supported RS232-based relay output device) then the current state of the relay is displayed.

If the selected item features a large number of sensors, the sensors may also be divided into *sensor sets*. Sensor sets enable you to filter the contents of the Sensor Data pane to display only sensors that are associated with a specific interface or portion of the selected device. To display all of the sensors included in the selected device select **All Sensors** from the **Set** drop-box. To view only the sensors associated with a sensor set, select the desired sensor set from the **Set** drop-box.

The air flow sensor, integrated in the Sensor Pod 120, must accumulate up to 3 minutes of sensor data before it can provide accurate air flow sensor readings. After the Sensor Pod is powered on, air flow sensor data will appear as “N/A” until enough data has been collected.

The Action/Information Pane

Located on the right-hand side of the interface, the Action/Information pane contains a series of buttons that enable you to view information and perform configuration tasks on your appliance and pods. Each button, when selected, presents a different panel in the Action/Information pane. The following panels are available from the Action/Information pane:

- **Camera View:** Displays the images currently being captured by any integrated camera (NetBotz 320 and 420 only) or Camera Pod 120s or CCTV Adapter Pod 120s connected to the appliance. Also enables you to listen to an audio stream from a selected Camera Pod 120 or CCTV Adapter Pod 120. If relay outputs are associated with any of your camera pods (“Associating Relays or Switches with Integrated Cameras and Camera Pods” on page 68) then buttons that correspond to each associated switch or relay will appear on the camera image to which they correspond.
- **Alerts View:** Displays alerts that are currently being reported by the appliance, any pods that are connected to the appliance, or any devices that are being monitored using Device Crawlers. Alerts that have recently occurred, but which have been resolved, can be shown as well.
- **Maps View:** Displays maps that have been configured for use with this appliance. The alert state of all devices shown on the Map View are indicated with simple color coding (red indicates that an alert state currently exists, while green indicates that no alert state is currently being reported by the sensor or device). The Map View is available for use only on appliances for which the BotzWare Premium Software Module 2.4 has been purchased.The BotzWare Premium Software Module is available as part of NetBotz Extended Warranty Coverage. For more information, contact your NetBotz authorized reseller or the NetBotz support team.
- **Graph View:** Displays a graph of up to 24 hours of environmental data that has been collected from any sensor that is connected to the NetBotz appliance (including sensors that are built into pods, external sensors connected to Sensor Pod 120s, devices that are being monitored using Device Crawlers, RS232-based sensors that are connected to your appliance using a USB-to-serial-port adapter, and relay-based devices connected to Output Relay Pod 120s).
- **Configuration:** Enables you to access the configuration tasks that are available for your appliance, as well as any pods that are connected to the appliance or external sensors that are connected to your pods. Also enables you to configure Device Crawlers to monitor additional devices.
- **About:** Displays information about your appliance and all connected pods.

Advanced View Menus

The Advanced View features the following pull-down menus, located at the top of the interface:

- **File:** Use the selections available from the File pull-down menu to **Add** appliances to or **Remove** appliances from the Appliance selection pull-down and to **Exit** the Advanced View application.
- **Edit:** Use the selections available from the Edit pull-down menu to Cut, Copy, Paste, and Delete text (when possible), and to configure Client Preferences. For more information on editing Client Preferences, see “Editing Client Preferences” on page 35.
- **Tools:** Use the selections available from the Tools pull-down menu to:
  - View Messages (information generated by the Advanced View for logging and debugging purposes)
  - Put the appliance in NetBotz Central Post-only Mode. This mode is designed for use only with appliances that are located behind a firewall that does not permit NetBotz Central appliances to access the appliances directly. For more information, see “Using NetBotz Central Post-Only Mode” on page 34.
  - View the Appliance Log (information regarding appliance functionality that is generated and logged according to the Log settings. For more information, see “Log” on page 116)
  - Change the Root Password (the password needed to access the appliance when communicating with it using the serial port. For more information, see your *About Your Appliance* booklet)
  - Reboot the appliance

The NetBotz Central Post-Only Mode, Appliance Log, Change Root Password, and Reboot Appliance menu selections are available only to user accounts that have administrator privileges. For more information see “Users” on page 137.

  - **Window:** Use the selections available from the Window pull-down menu to launch a **New Window** (creating an additional instance of the Advanced View), or to switch between multiple Advanced View windows that are currently running.
  - **Help:** Use the selections available in the Help pull-down menu to access information **About** the Advanced View and to access the online **Help** system.

Using NetBotz Central Post-Only Mode

If you will be using NetBotz Central to monitor and manage your appliance, and the appliance is located behind a firewall, NetBotz Central may not be able to communicate directly with the appliance. Placing the appliance in NetBotz Central Post-Only Mode will cause the appliance to post all monitoring data to a specified NetBotz Central appliance at a user-specified interval. If desired, SSL encryption can be used for secure posting of data.

To use NetBotz Central Post-Only Mode:

1. Start the Advanced View and log into the appliance using a User account that has administrator privileges.
2. Select **Advanced > NetBotz Central Post-Only Mode** from the Tools pull-down menu. The NetBotz Central Post-Only Mode Configuration window opens.
3. Specify an **Interval between posts** value. This determines how frequently the appliance will post

data to the specified NetBotz Central appliance.

4. Specify the **NetBotz Central IP Address/Hostname**. This is the IP address or hostname of the NetBotz Central appliance to which data will be posted.
5. Specify the Port on which the NetBotz Central appliance is configured to receive HTTP post data. Default value is 80.
6. If desired, select an SSL Option. You can select **Do not use SSL**, **Require SSL - No Verification**, **Require SSL - Verify Certificate**, or **Require SSL - Verify Certificate and Hostname**.
7. Click **OK** to save your settings.

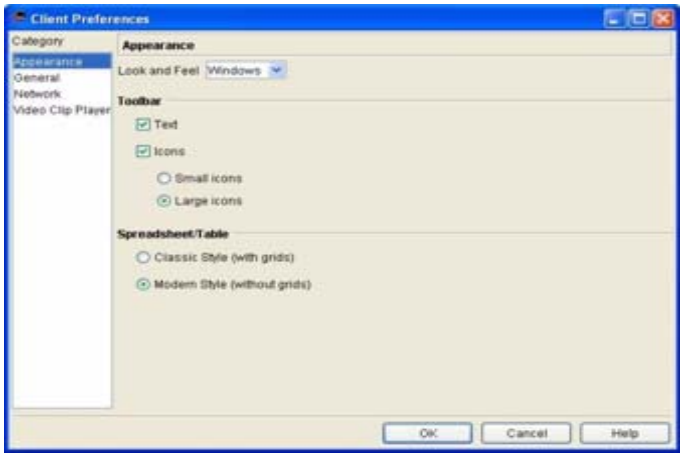
Editing Client Preferences

The Advanced View features a number of user-configurable client preferences. Unlike other configuration tasks that you perform using the Advanced View, changes to client preferences apply only to the look, feel, and functionality of the Advanced View application on your client system. These settings are saved on your client system, not on your appliance.

To edit your client preferences, select **Client Preferences** from the Edit pull-down menu. Client preferences are divided into three categories:

- Appearance
- General
- Network

The Client Preferences window.



Appearance Preferences

To edit your client's Appearance settings, open the Client Preferences interface and then select **Appearance** from the **Categories** selection list. You can configure the following appearance settings:

Field	Description
Look and Feel	Controls the basic appearance of the interface and the interface controls (buttons, menus, drop boxes, etc.). You can choose CDE/Motif, Kunststoff, Metal, or Windows.

Field	Description
Toolbar	Controls that specify the look and feel of the buttons in the **Action/Information** pane. You can: • Specify the button content: – If you want the buttons to include text, check the **Text** check box. – If you want the buttons to include icons, check the **Icons** check box. – To include both text and icons, check both check boxes • Specify icon size: – If icons are selected, specify whether the icons should be **Small** or **Large**. **Note:** You can also change the button appearance by right-clicking in the button bar and selecting/deselecting button appearance options from the pop-up menu.

When you are finished specifying client Appearance preferences, click **OK** to save your settings and close the Client Preferences window.

General Preferences

To edit your client's General settings, open the Client Preferences interface and then select **General** from the **Categories** selection list. You can configure the following general settings:

Field	Description
Browser Location	The fully qualified path and executable name of the web browser program that will be used to display online help. You can use the **Browse...** button to navigate to the drive and directory that contains your web browser executable if desired.
Restore minimized window on new alerts check box	If this option is enabled and the Advanced View window is running but minimized, the Advanced View will be maximized automatically when any alert condition occurs.
Use non-default local time display	Use this option to force the Advanced View to display time using a 12-hour or 24-hour clock, regardless of the default clock type that is specified by the appliance's Region settings.

When you are finished specifying client General preferences, click **OK** to save your settings and close the Client Preferences window.

Network Preferences

To edit your client's General settings, open the Client Preferences interface and then select **General** from the **Categories** selection list. You can configure the following general settings:

Field	Description
Connection Timeout	Type in this field the amount of time that the Advanced View should wait when attempting to connect to an appliance before giving up.
Proxy Hostname and Port	Type in these fields the host name or IP address of the Proxy server (if the client system uses a Proxy server for e-mail, HTTP Posts, and other outbound communications) and the IP port number used to connect to the Proxy server (typically 1080, and must be between 1 and 65535).

When you are finished specifying client Network preferences, click **OK** to save your settings and close the Client Preferences window.

Performing Configuration Tasks

The Configuration panel is divided into two areas: **Pod/Sensors Settings**, and **Appliance Settings**. Each area features a number of icons that represent the configuration tasks that you can perform. To perform a specific configuration task you simply double-click on the appropriate icon.

Pod and Alert Settings Tasks

The tasks available from the Pod/Sensors Settings portion of the panel enable you to configure the pods and sensors that are connected to your appliance and to configure the alert actions and policies that will be used when alerts are reported by your sensors. It also features the Device Crawlers task, which enables you to configure your appliance to monitor SNMP target devices on your network. The following tasks are available from the **Pod/Sensors Settings** portion of the Configuration panel:

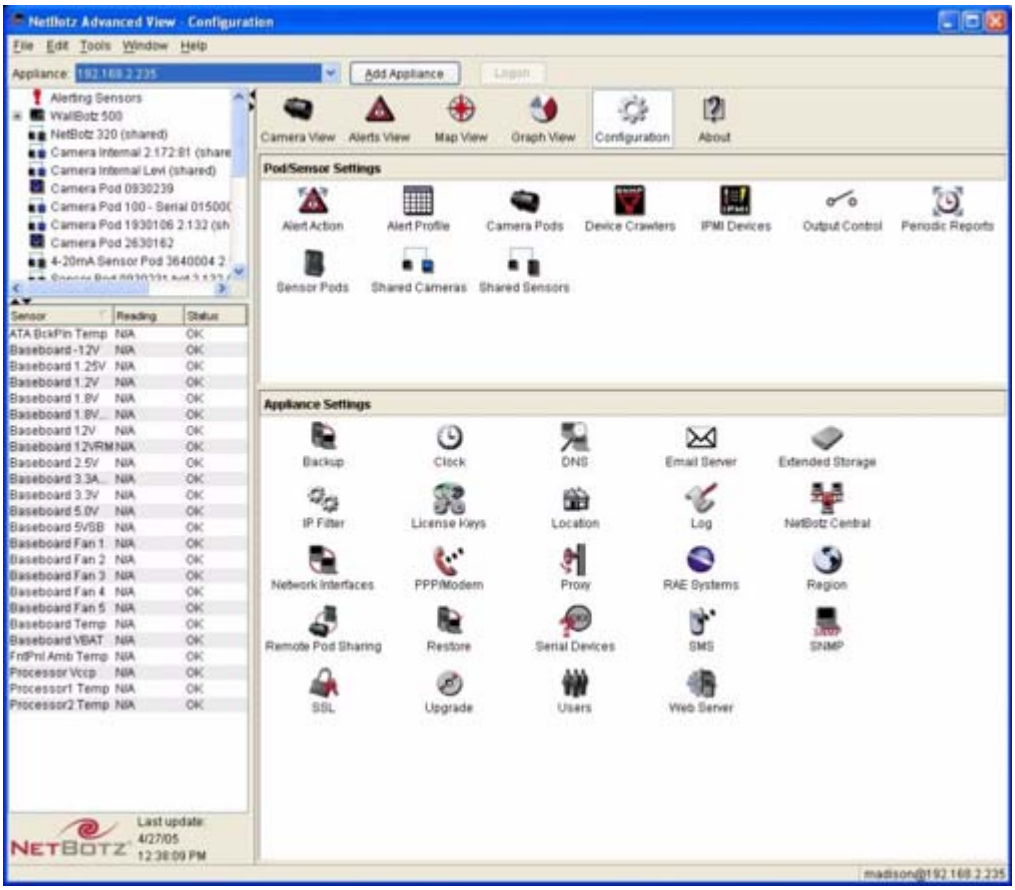
- **Alert Action:** Use the **Alert Action** task to configure specific alert notification actions that will be taken by the appliance in response to alert conditions. Alert actions specify a notification method (such as sending e-mail or posting to web server) and provide the necessary information to direct the alert notification to the specified recipient (such as e-mail addresses or the address of your web server).
- **Alert Profile:** Use the **Alert Profile** task to customize your appliance's alert notification policy. The alert notification policy determines which alert actions are taken in response to alert conditions, when those actions are taken, and how often they are repeated
- **Camera Pods:** Use the **Camera Pods** task to configure any integrated camera (NetBotz 320 and 420 only) or any Camera Pod 120s or CCTV Adapter Pod 120s that are connected to your appliance. You can specify labels for each of your pods, set sensor thresholds, specify the visual mode use by the camera, set image capture settings, configure the camera motion sensor, and apply motion masks to the camera motion sensor. This task will be available only if your appliance features an integrated camera or if one or more Camera Pod 120s or CCTV Adapter Pod 120s are connected to your appliance.
- **Device Crawlers:** Use Device Crawlers to monitor individual remote SNMP targets (such as servers, routers, and switches) for critical status information, enabling you to identify and resolve problems faster. With Basic Device Crawlers (included with your appliance), you can configure your appliance to periodically check the operating condition of up to 48 SNMP targets. If any

operational difficulties are noted on a monitored target the appliance can generate an alert notification, enabling you to quickly address the problem. Advanced Device Crawlers (a license key-based add-on application, available for purchase separately) extends the capabilities of Basic Device Crawlers to provide far more detailed device-specific information and to enable OID-specific monitoring and alerting.

- **IPMI Devices:** Use the IPMI Devices task to add network-attached, Intelligent Platform Management Interface-enabled devices to the list of devices that are monitored by your NetBotz appliance.
- **Output Control:** Use the Output Control task to configure any output control devices (such as Output Relay Pod 120s or Power Control Pods) that are connected to your appliance. You can specify labels for each of your pods, set relay thresholds, and configure the external relay ports on the Output Relay Pod 120 and power outlets on the Power Control Pod. This task will be available only if one or more Output Relay Pod 120s or Power Control Pods are connected to your appliance.
- **Periodic Reports:** Use the Periodic Reports task to configure your appliance to generate sensor reading reports and deliver them to e-mail recipients, HTTP servers, or FTP servers on a user-specified schedule.
- **Sensor Pods:** Use the **Sensor Pods** task to configure any Sensor Pod 120s that are connected to your appliance or Sensor Pods that are integrated with your appliance (NetBotz 320 and 420 models only). You can specify labels for each of your pods, set sensor thresholds, and configure the external sensor ports integrated with NetBotz 320 or 420 appliances as well as those on Sensor Pod 120s. If you have connected a Wireless Receiver 120 to your appliance, you can also use the Sensor Pods task to configure thresholds for your wireless sensors. This task will be available only if one or more Sensor Pod 120s are connected to or integrated with your appliance.
- **Wireless Sensor Discovery:** Use the **Wireless Sensor Discovery** task to specify the discovery settings that will be used when detecting the presence of wireless sensors. This task will be available only if a Wireless Receiver 120 is connected to your appliance.

For detailed descriptions of all of the configuration tasks available from the Pod/Sensors Settings portion of the configuration panel, see “Advanced View: Configuring Pods and Alerts” on page 59.

The Configuration View.



Appliance Settings Tasks

The tasks available from the Appliance Settings portion of the panel enable you to configure your appliance. The following tasks are available from the **Appliance Settings** portion of the Configuration panel:

- **Backup:** Use the Backup task to save your appliance configuration to a password-protected, encrypted file.
- **Clock:** Use the **Clock** task to view or change the date and time that are configured on the appliance internal clock, or to configure your appliance to obtain and synchronize its clock settings from an NTP server.
- **DNS:** Use the **DNS** task to view or change the appliance DNS settings.
- **E-Mail:** Use the **E-mail** task to specify the e-mail servers that will be used to deliver any e-mailed alert notifications.
- **External Storage:** Use the External Storage task to configure your appliance to store data on the optional Extended Storage System (sold separately) or a network attached storage device (a Windows share or an NFS mount).
- **IP Filter:** Use the IP Filter task to limit access to your appliance to only specified IP addresses or IP address-ranges.
- **License Keys:** Use the License Keys task to activate or deactivate available license key-enabled applications that are available for use on this appliance.
- **Location:** Use the Location task to configure additional sensor-specific location information that will also be included in alert notifications generated by the appliance.
- **Log:** Use the Log task to specify what events will be stored and displayed in the Appliance Log, and to configure the appliance to post log data to a remote syslog server.
- **Network Interfaces:** Use the **Network Interface** task to view or change the network settings for each network interface that is available on the appliance. By default there is only 1 network interface (for the integrated Ethernet controller). However, if you install a wireless network adapter in the PC Card slot then this additional network interface is configured using this task as well.
- **PPP/Modem:** Use the PPP/Modem task to configure PPP communications settings. This task will be available only if a supported USB or PC Card modem has been connected to or installed in your

appliance and you have used the Serial Devices task to specify the modem that is associated with the appropriate serial port.

- **Proxy:** Use the **Proxy** task to provide the necessary settings to allow the appliance to utilize an HTTP, Socks V4, or V5 Proxy Server.
- **Region:** Use the Region task to specify the region in which the appliance is being used, to specify the time zone, and to configure the appliance clock to report time using a 12- or 24-hour clock.
- **Pod Sharing:** Use the Pod Sharing task to configure your NetBotz 500 series appliance to host "virtual pods." Using Pod Sharing, your NetBotz 500 can connect with and receive data directly from devices integrated with or connected to NetBotz 320, 420 or 500s in your network.
- **Restore:** Use the Restore task to restore your NetBotz 500 configuration using a configuration file created using the Backup task.
- S**erial Devices:** Use the Serial Devices task to specify the types of serial port-based sensors or devices (such as modems) you have connected to your appliance.
- **SMS:** Use the SMS task to view or change the SMS (Short Messaging Service) settings used by your appliance. This task will be available only if a supported PC Card modem that supports SMS functionality has been installed in your appliance and you have used the Serial Devices task to specify the modem that is associated with the appropriate serial port.
- **SNMP:** Use the **SNMP** task to view or change the appliance's SNMP settings.
- **SSL:** Use the SSL task to install an SSL certificate for use with SSL-encrypted communication between clients using the Advanced View application and the appliance.
- **Upgrade:** Use the **Upgrade** task to display the currently installed BotzWare version level and to update the BotzWare on your appliance.
- **Users:** Use the **Users** task to configure user accounts for personnel that will be permitted access to your appliance, or to modify the Administrator and Guest account settings.
- **Web Server:** Use the **Web Server** task to view or change the IP ports through which the appliance web server performs HTTP and HTTPS web server communications.

For detailed descriptions of all of the configuration tasks available from the Appliance Settings portion of the configuration panel, see "Advanced View: Configuring Appliances" on page 105.

Advanced View: Monitoring Appliances

The Advanced View enables you to easily view sensor readings, view camera images, graph collected sensor data, and view currently active and resolved alert conditions. If you have purchased NetBotz Extended Warranty Coverage and have added the BotzWare Premium Software Module 2.4 license key to your appliance you can also create, view, and delete maps for use in the Map view.

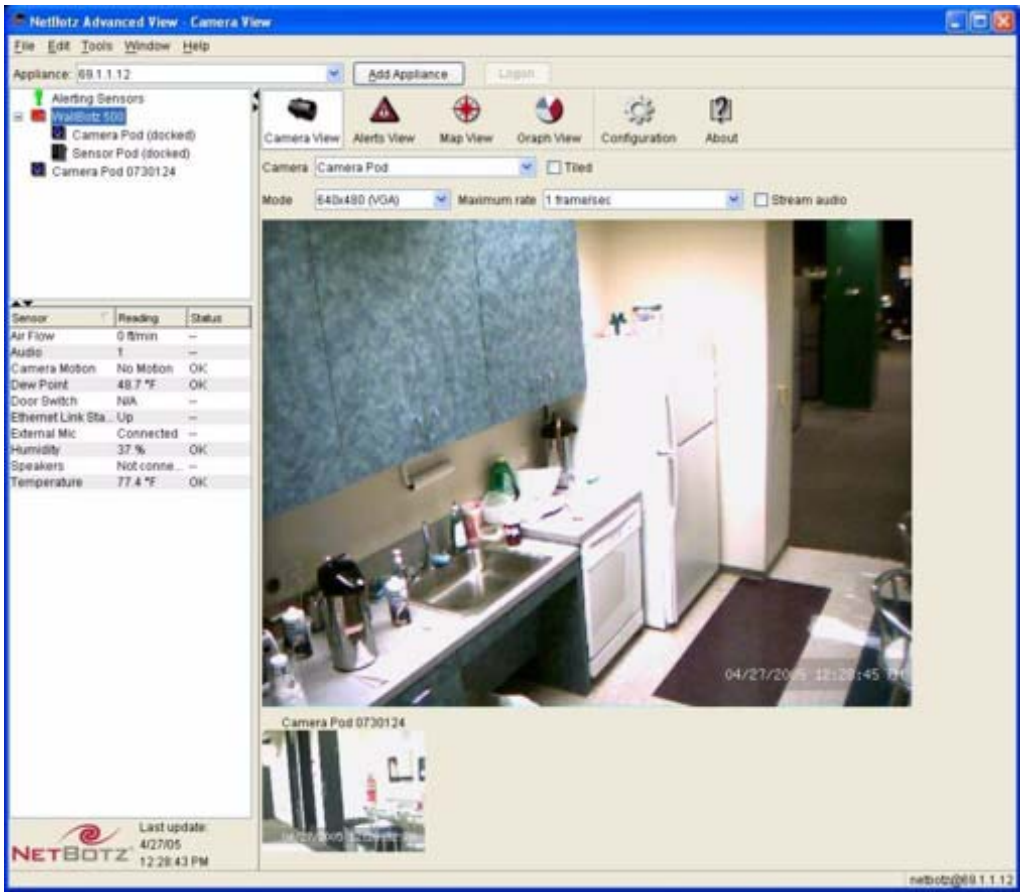
You can use the Advanced View to view the monitored value and alert status of any sensor that is currently connected to the appliance. Sensors are included in the Camera Pod 120 (camera motion, door switch, microphone plug, speaker plug) and Sensor Pod 120 (air flow, temperature, humidity, dew point, audio, as well as up to 4 external sensors). Additionally, Basic Device Crawlers, add-on devices (such as RS232-based sensors) and add-on applications (such as Advanced Device Crawlers) provide additional items in the Navigation pane, with each monitored device providing additional sensor data.

To view sensor readings, simply select an item that includes sensors from the Navigation pane. The Sensor Data pane is automatically updated to display the current reading being reported by any sensors that are associated with the selected item, as well as the current alert status for each sensor. If the selected item features a large number of sensors, the senors may be divided into sensor sets. To display all of the sensors included in the selected device select **All Sensors** from the **Set** drop-box. To view only the sensors associated with a sensor set, select the desired sensor set from the **Set** drop-box. If a sensor is reporting an alert state, it's table row will be colored red.

Viewing Camera Images

To view images being captured by any Camera Pod 120s or CCTV Adapter Pod 120s connected to the appliance, click on the **Camera View** tab in the Action/Information pane. Images for all connected camera pods are displayed in the Camera View panel, with one camera image displayed in a larger, timestamped format. To switch the large format view to a different camera image, select the thumbnail image that you wish to view.

The Camera View.



You can also use the Camera View panel controls to specify the mode and dimensions of the large format camera view, as well as the frequency with which the image is updated.

- To specify the dimensions of the image, select from the Mode drop box the desired mode (640x480 VGA is selected by default; other available modes are 160x120, 320x240, 800x600, 1024x768, and 1280x1024).
- To specify the frequency with which the image is updated, select from the **Rate** drop box the desired rate (1 frame per second is selected by default; rates are also available ranging from 1 frame every 30 seconds to 30 frames per second. Maximum rate available is determined by Mode value).
- To view the images of all of the integrated or connected Camera Pods in a tiled view, check the **Tiled** check box.
- To listen to streaming audio from the currently selected Camera Pod check the **Stream audio** check box.

- CCTV Adapter Pod 120s support only 160x120, 320x240, and 640x480. Resolutions higher than 640x480 are available only from Camera Pod 120s.
- Actual frame rate available from image processor depends on the resolution and image quality of generated images. Maximum framerate of 30 frames per second is available only at Normal Quality or lower and only at resolutions up to 640x480. Maximum frame rate for 800x600, 1024x768, and 1280x1024 at Normal Quality or lower is 10 frames per second. If you configure the Camera Pod 120 to capture images in High Quality, the Maximum Frame Rate for some resolutions changes: At 640x480 and lower resolution the maximum frame rate drops from 30 frames per second to 20 frames per second. In 800x600 the maximum frame rate is unchanged (stays at 10 frames per second). In 1024x768 and 1280x1024 the maximum frame rate drops from 10 frames per second to 8 frames per second. Also, the maximum frame rate describes the maximum number of images that the camera imager is capable of producing each second. The actual frame rate that will be visible in the Basic View or Advanced View is largely dependent on the amount of available bandwidth. Advanced View is largely dependent on the amount of available bandwidth.

Image Zooming

You can use the Advanced View to select and zoom in on an area of the camera image. Simply click and drag in the camera image to select the area that you want to view. Then, right-click on the camera image and select **Zoom in**. The full camera image is then replaced with only the portion of the frame that you selected. Once you have zoomed in on an image, you can return to the full camera image by right-clicking on the zoomed image and selecting **Zoom out**.

The camera image is a standard 4:3 ratio image. However, if you select an area that does not closely match this standard 4:3 the resulting zoomed image can be significantly distorted. To avoid these distortions in your zoomed images, right-click on the camera image and select **Maintain aspect ratio**. With this option enabled you will automatically select areas of the camera image that conform to the 4:3 ratio, thereby minimizing distortion in the zoomed image.

Recording Camera Images

You can use the Advanced View to record camera images and save them to a user-specified directory. By default, recorded camera images are saved to a subdirectory with the same name as the Camera Pod, located within a directory named camera in your Home directory. For example, a user account named NetBotz on a Windows XP system recording images from a Camera Pod labeled “My Camera” would, by default, store recorded images in the directory `C:\Documents and Settings\NetBotz\My Camera`. Images are stored as JPG files, and are named “image*xxx*.jpg” by default, where *xxx* is a picture count number that is automatically incremented as images are captured and saved.

You can use the Camera Preferences settings to specify camera recording settings. To open Camera Preferences, right-click in the camera image and then select **Preferences**. Using this interface you can specify the filename format to be used when recording camera images, and can also specify a maximum number of pictures and/or maximum amount of disk space used to store recorded images on your system.

From this window you can configure the following camera image recording settings:

Field	Description
Directory	The directory in which recorded camera images will be stored. You can click **Browse** to select a specific target directory. You can also use selected BotzWare macros to determine the storage location. To select a macro, right-click inside the **Directory** field, click **Macros**, and then select the macro that you want to insert in the **Directory** field. You can also combine both absolute locations and macro-specified target directories. For more information on macros supported by BotzWare see "BotzWare Macros" on page 187.
Filename	The filename that will be used to identify recorded camera images. By default, this filename is "image${INDEX}.jpg" which would produce files named image*xxxxxx*.jpg where *xxxxxx* is the incremental image number as determined by the ${INDEX} macro. You can specify absolute filename values (such as "image.jpg"), use selected BotzWare macros to dynamically assign a filename to the recorded camera images (such as "${INDEX}.jpg") or combine both absolute and macro-specified values to determine the filename (such as the default setting). To select a macro, right-click inside the **Filename** field, click **Macros**, and then select the macro that you want to insert in the **Filename** field. For more information on macros supported by BotzWare see "BotzWare Macros" on page 187.
Minimum Index Digits	The minimum number of index digits that will be used when the ${INDEX} macro is used to specify the filename of recorded images.
Sample File	As you make changes to the Directory, Filename, and Minimum Index Digits fields, this field will update automatically with a a sample of the directory structure and filename that the current settings would produce.
Number of pictures	The maximum number of recorded camera images that will be stored on the system. By default, the **Unlimited** check box is checked, permitting an unlimited number of images to be stored on the system. To limit the number of images that can be stored, uncheck the **Unlimited** check box and then type in the **Number of pictures** field the maximum number of images that can be stored. If this maximum number of images is reached, the Advanced View will stop recording images, and will be unable to record more images until the number of stored images is reduced.

Field	Description
Total size (KB)	The maximum amount of disk space, in KBs, that will be used to store recorded camera images on the system. By default, the **Unlimited** check box is checked, permitting an unlimited amount of disk space to be used to store images. To limit the amount of disk space available for use in storing images, uncheck the **Unlimited** check box and then type in the **Total size (KB)** field the maximum number of kilobytes of disk space that can be used to store images. If this maximum amount of space is reached, the Advanced View will stop recording images, and will be unable to record more images until the amount of space being used to store previously recorded images is reduced.

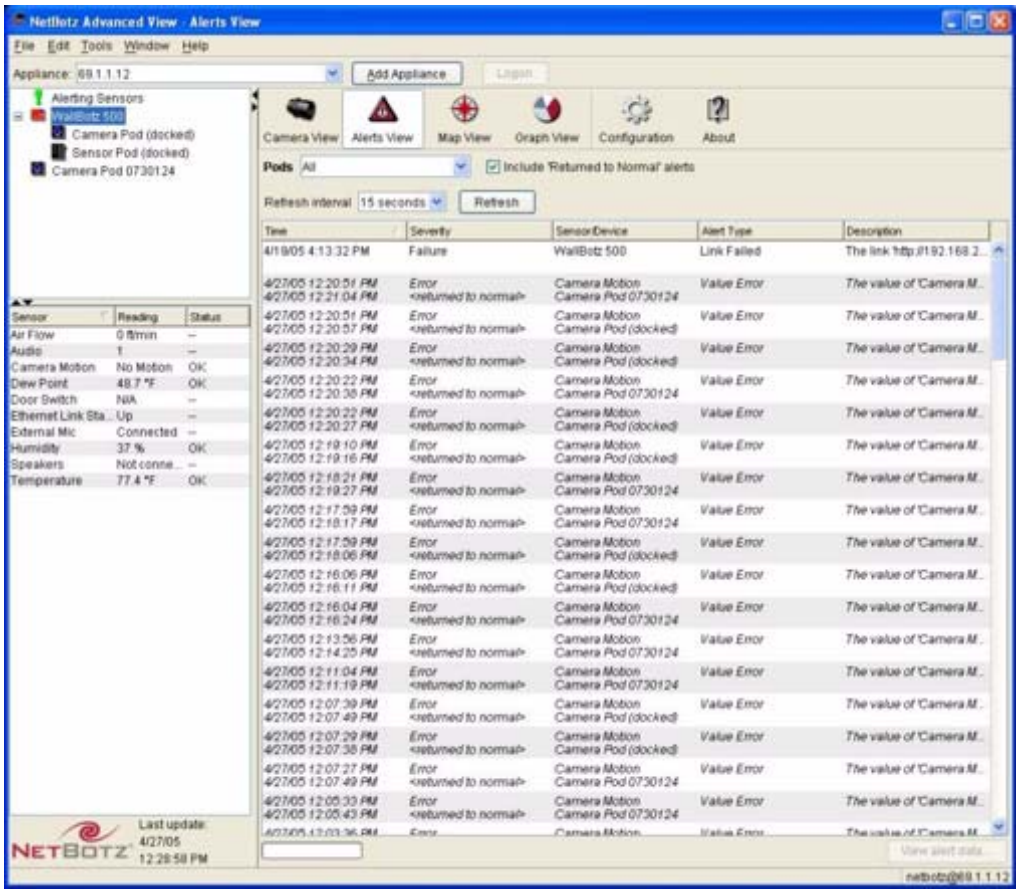
Viewing Alerts

To view alert conditions that are presently being reported by your appliance or any attached pods or sensors:

1. Select the **Alerts View** tab from the Action/Information pane.
2. Select from the **Pods** drop box the appliance or the pod or other device (such as RS232-based sensors) that you want to check for currently active alert conditions. By default, the appliance is selected. If you want to view currently active alert conditions on the appliance and on all connected pods, select **All** from the Pods drop box.
3. Use the **Refresh Interval** drop box to specify how often the Alerts View content will be updated. Available choices include none, 15 seconds, 30 seconds, 45 seconds, 1 minutes, 2 minutes, 3 minutes, 4 minutes, and 5 minutes. You can also click the **Refresh** button to refresh the contents of the Alert View immediately. By default, a 15 second Refresh Rate value is selected.
4. If you want to view records of previously reported alert conditions that have since been resolved check the **Include Return to Normal** check box. Previously resolved alerts can be stored on the appliance for up to 24 hours. The period of time for which previously resolved alerts will be

available on the appliance is configured using the Advanced View.

The Alerts View.



Alerts that are currently active or that were previously resolved for the sensor that is selected from the Pods drop box are displayed in a table on the Alerts panel. Alert-specific data for previously resolved alerts is shown in *italics*. The following information is available for each previously resolved or currently active alert condition:

- **Time:** The time at which the alert occurred. If the alert has since been resolved, a second time stamp indicates the time at which the alert was resolved.
- **Severity:** The severity value of the alert. Potential severity values, from most severe to least severe, are Failure (the most severe), Critical, Error, Warning, and Information.
- **Sensor/Device:** The device or sensor that is reporting the alert condition (or, if the alert has been resolved, on which the alert condition previously occurred).
- **Alert Type:** A brief, general description of the alert condition.
- **Description:** A detailed of the specific conditions that caused the alert to be reported.

To view detailed information about an alert, double-click on the description of the alert. A new window will open, displaying detailed information about the selected alert, including the current value being reported by the sensor that reported the alert, the external sensor port to which the sensor is connected and the alert ID value. Click **Close** to return to the Alerts view.

In addition to the previously mentioned details, alert-specific data — including graphs of the sensor values and camera images if appropriate — is preserved on the appliance to aid in evaluating the cause and resolution of alert conditions as long as space is available on the appliance. If additional alert-specific data (such as graphs or captured images) is available they will appear on the Alert Details view as entries in additional tabs. To view the captured data, simply select the tab and then double-click on the description of the data.

Saving Picture Sequences to Your System

If you have installed the BotzWare Premium Software Module 2.4 and an alert includes a picture sequence as part of the alert event, you can save the picture sequence to your system as a M-JPEG AVI or as a digitally signed M-JPEG AVI file. M-JPEG AVI files are motion picture files that can be played using standard media player software (such as Windows Media Player). Signed files provide proof that the generated images have not been tampered with or altered in any way, and are therefore more likely to be admissible as evidence in legal proceedings.

To save a picture sequence as an M-JPEG AVI or as a Signed M-JPEG AVI, select an alert from the Alerts view, select the Camera Images tab, select the picture sequence, and then click **View Camera Sequence**. Then, right-click in the camera image and select either **Download AVI (Signed)** or **Download AVI (Unsigned)**.

For information on how to verify that signed AVI files have not been tampered with, see “Verifying Signed M-JPEG AVI Files” on page 199.

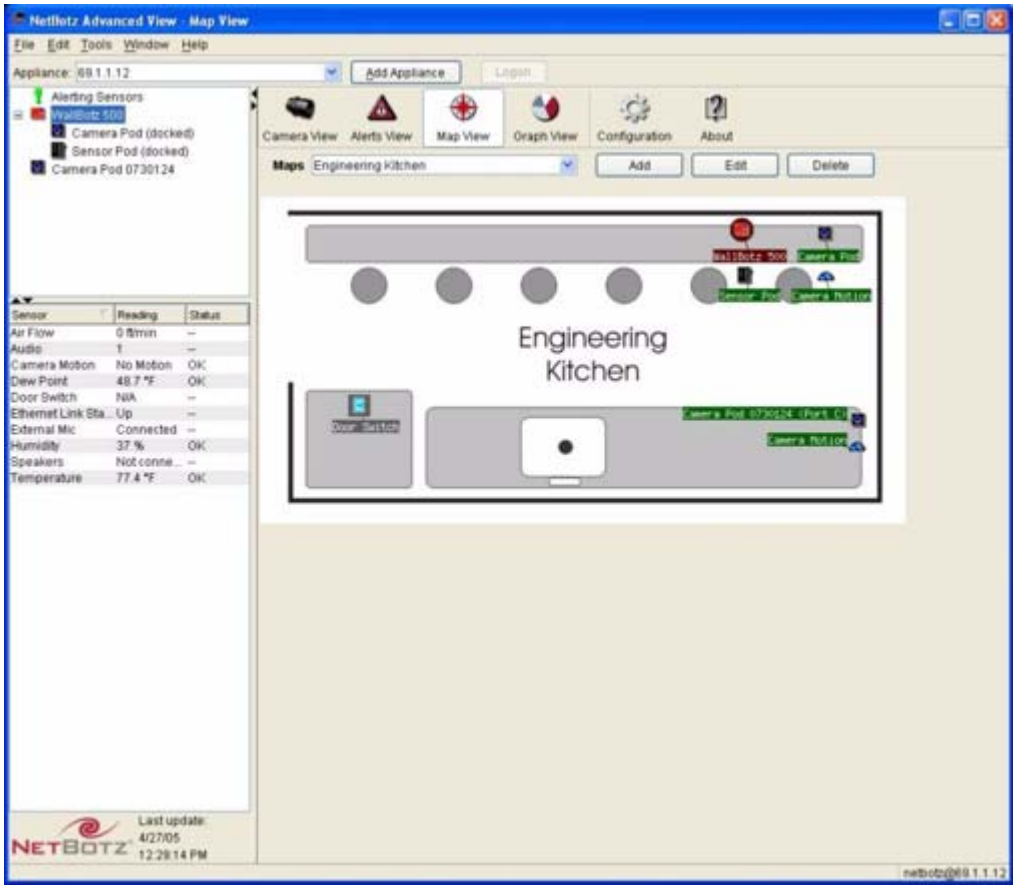
Viewing Maps

The Map View, available for use only on appliances for which the BotzWare Premium Software Module 2.4 has been purchased, enables you to create, edit, and delete user-created maps that show the location of your NetBotz appliances, pods, and sensors. The alert state of all devices shown on the Map View are indicated with simple color coding (red indicates that an alert state currently exists, while green indicates that no alert state is currently being reported by the sensor or device).

Note

The BotzWare Premium Software Module is available as part of NetBotz Extended Warranty Coverage. For more information, contact your NetBotz authorized reseller or the NetBotz support team).

The Maps View.



To view a map using the Advanced View, select the Maps tab in the Action/Information pane. The first available map that is stored on the appliance is automatically loaded in to the Action/Information pane. If there is more than one map stored on the appliance you can select additional map views from the **Maps** drop box.

Once the map is loaded, the alert status of any appliances, pods, sensors, or other devices that have been placed on the map can be observed by noting the color of the background of each device's label box. If the background is red then an alert state currently exists for that sensor or device. If the background is green, then no alert state is currently being reported.

To view sensor readings for any device displayed in the Map view, simply select the device from the Map view. The Sensor Data pane is automatically updated to display the current reading being reported by any sensors that are associated with the selected item, as well as the current alert status for each sensor. If the selected item features a large number of sensors, the sensors may be divided into sensor sets.

Creating and Editing Maps

To create a new map for use in the Map View (or to edit a previously created map):

1. Select the **Maps View** tab in the Action/Information pane.
2. To create a new map, click **Add**. To edit a previously created map, select the map you wish to edit from the **Maps** drop box and then click **Edit**. The Map Configuration window opens.
3. Type in the **Name** field a name for this map.
4. A default background image is provided for use with the device map. To use a different image, click **Change Background Image**. Then, use the file selection interface to select a graphic file (JPG, PNG, or GIF format, no larger than 640x480) and click **OK**.

There is a limited amount of background image file storage available on your apliance. NetBotz 500 appliances have a total of 4MB of space available for images (shared with any custom audio clips that have been stored on the appliance. For more information, see “Custom Audio Clips” on page 107), while NetBotz 320/420 appliances have 1MB of space available for images. Be sure to take these limitations into consideration when choosing background image files.

5. Place available devices or sensors on the map. To position a device on the map, select the device’s icon from the device tree at the left side of the window and then click **Add Selected Pod/Sensor**, or simply click and drag the icon from the tree onto the map.
   – To specify a new label for icons placed on the map, right click on the icon and then select **Change map label...**. Then, type in the new label you wish to use for the icon and click **OK**.
   – To remove an icon from the map, right-click on the icon and then select **Remove**.
6. When you’ve finished placing icons on the map, click **OK** to save the map to your NetBotz appliance.

Viewing Graphs

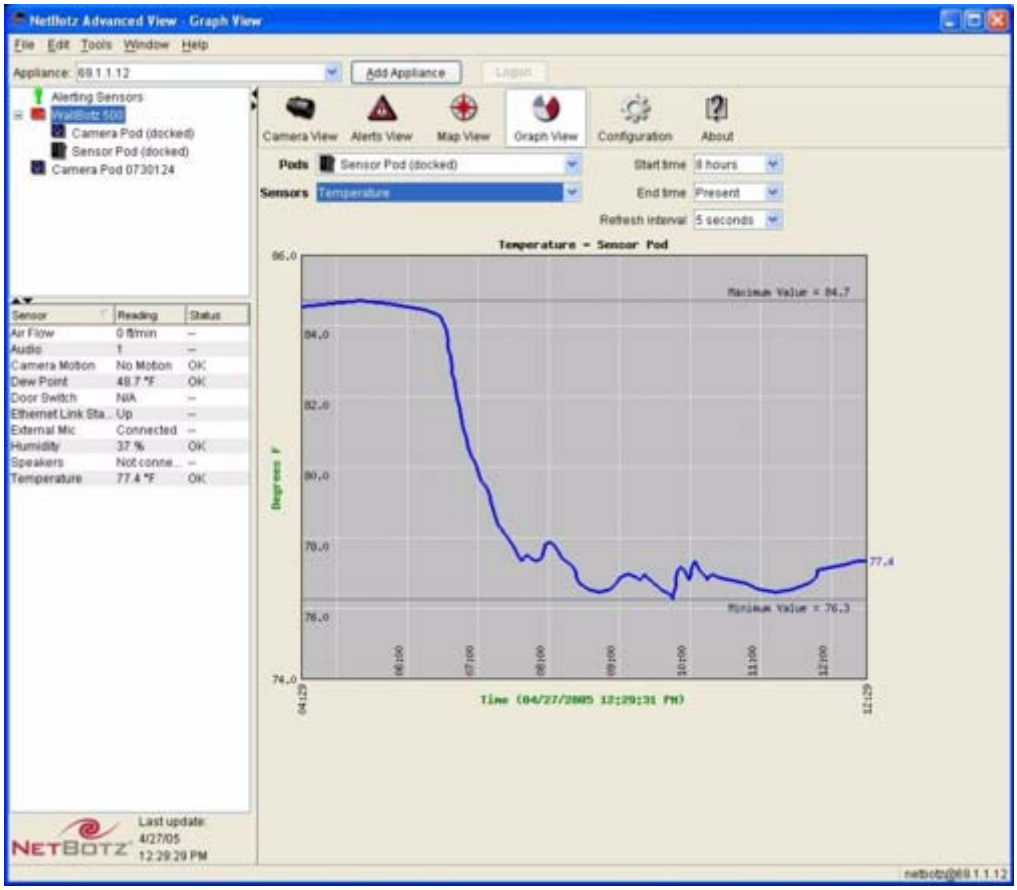
To view a graph of the data collected by a single sensor that is connected to your appliance:

1. Select the **Graph View** tab in the Action/Information pane.
2. Select from the **Pods** drop box the pod that either includes the sensor you wish to view or to which

the external sensor that you wish to view is connected.

- Camera Pod 120s and CCTV Adapter Pod 120s include camera motion, door switch, speaker plug, and microphone plug sensors.
- Sensor Pod 120s include temperature, humidity, dew point, air flow, and audio sensors, as well as up to 4 additional external sensors.
- Devices being monitored using Basic Device Crawlers report System/Status data, including Online status, Ping RTT, SNMP System Uptime, as well as one additional sensor set for each interface included in the device.
- Devices being monitored using Advanced Device Crawlers for which there is DDF-based data will feature an additional Advanced Data sensor set that includes the sensor data collected by Advanced Device Crawlers. The sensor data available from this sensor set is device-specific, but may include items such as temperature, voltage, air flow, and so forth.

The Graphs View.



3. If necessary, select from the **Set** drop box the sensor set that includes the sensor that you want to graph.
4. Select from the **Sensors** drop box the sensor for which the available data will be graphed. Only sensors that are available on the device selected from the Pods drop box, and that are included in the currently selected sensor set (if applicable) will be listed in the Sensors drop box.
5. Use the **Start Time** and **End Time** drop boxes to specify the range of time for which sensor data will be graphed, and use the **Refresh Interval** drop box to specify how often the graph content will

be updated. By default, all data available from the past 60 minutes will be graphed (default **Start Time** value is 60 minutes, default **End Time** value is Present). Start Time selections are determined by the **History** setting for the selected sensor. The History setting specifies how much data is stored on the appliance for a given sensor, and is configured using the Sensor Configuration portion of the camera Pod or Sensor Po configuration task. For more information see “Capture Settings” on page 69 (for Camera Pod 120s and CCTV Adapter Pod 120s) or “Settings” on page 97 (for Sensor Pod 120s).

Advanced View: Configuring the Appliance

The Configuration panel is divided into two areas: Pod/Sensors Settings, and Appliance Settings. Each area features a number of icons that represent the configuration tasks that you can perform. To perform a specific configuration task you simply double-click on the appropriate icon.

Pod and Alert Settings Tasks

The tasks available from the Pod/Sensors Settings portion of the panel enable you to configure the pods and sensors that are connected to your appliance and to configure the alert actions and policies that will be used when alerts are reported by your sensors. It also features the Device Crawlers task, which enables you to configure your appliance to monitor SNMP target devices on your network. The following tasks are available from the **Pod/Sensors Settings** portion of the Configuration panel:

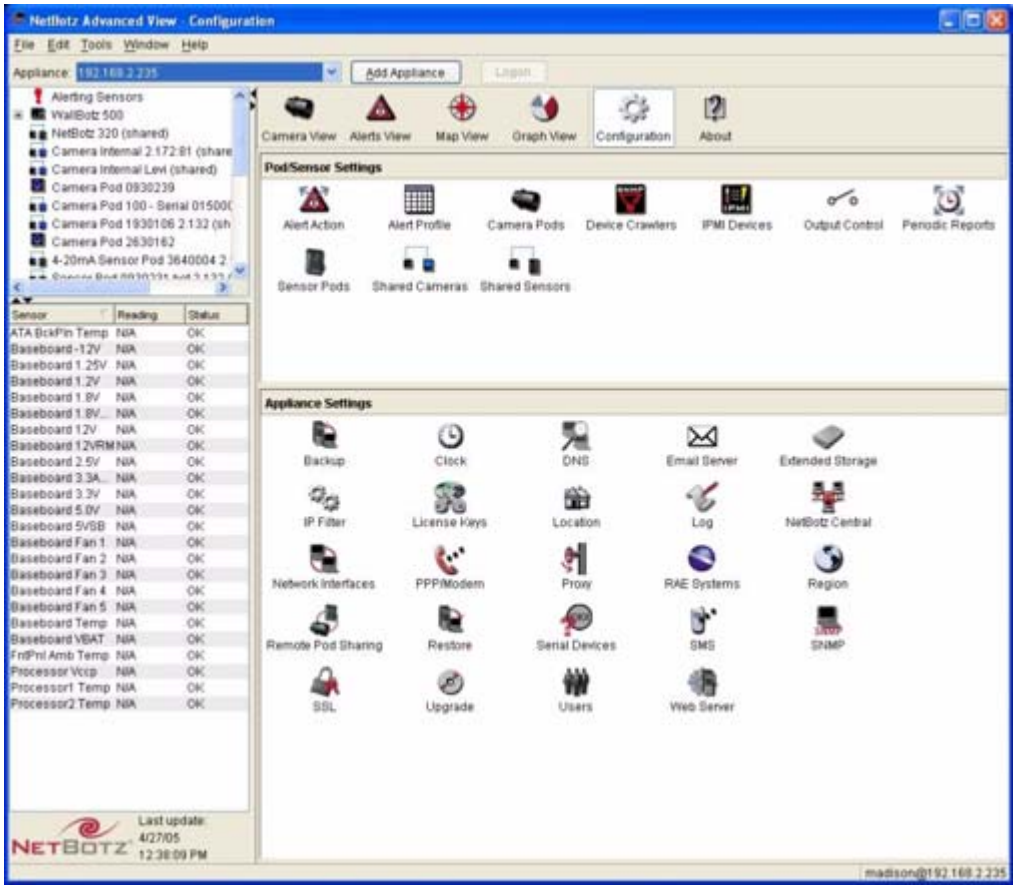
- **Alert Action:** Use the **Alert Action** task to configure specific alert notification actions that will be taken by the appliance in response to alert conditions. Alert actions specify a notification method (such as sending e-mail or posting to web server) and provide the necessary information to direct the alert notification to the specified recipient (such as e-mail addresses or the address of your web server).
- **Alert Profile:** Use the **Alert Profile** task to customize your appliance's alert notification policy. The alert notification policy determines which alert actions are taken in response to alert conditions, when those actions are taken, and how often they are repeated
- **Camera Pods:** Use the **Camera Pods** task to configure any integrated cameras or Camera Pod 120s or CCTV Adapter Pod 120s that are connected to your appliance. You can specify labels for each of your pods, set sensor thresholds, specify the visual mode use by the camera, set image capture settings, configure the camera motion sensor, and apply motion masks to the camera motion sensor. This task will be available only in one or more Camera Pod 120s or CCTV Adapter Pod 120s are connected to your appliance.
- **Device Crawlers:** Use Device Crawlers to monitor individual remote SNMP targets (such as servers, routers, and switches) for critical status information, enabling you to identify and resolve problems faster. With Basic Device Crawlers (included with your appliance), you can configure your appliance to periodically check the operating condition of up to 48 SNMP targets. If any operational difficulties are noted on a monitored target the appliance can generate an alert notification, enabling you to quickly address the problem. Advanced Device Crawlers (a license key-based add-on application, available for purchase separately) extends the capabilities of Basic Device Crawlers to provide far more detailed device-specific information and to enable OID-specific monitoring and alerting.
- **IPMI Devices:** Use the IPMI Devices task to add network-attached, Intelligent Platform Management Interface-enabled devices to the list of devices that are monitored by your NetBotz appliance. The Intelligent Platform Management Interface (IPMI) standard defines a hardware and software management interface and implementation that provide different hardware platforms with compatible server management and control functions. The IPMI standard is promoted and supported by over 150 server manufacturers.
- **Output Control:** Use the Output Control task to configure any output control devices (such as Output Relay Pod 120s or Power Control Pods) that are connected to your appliance. You can specify labels for each of your pods, set relay thresholds, and configure the external relay ports on the Output Relay Pod 120 and power outlets on the Power Control Pod. This task will be

available only if one or more Output Relay Pod 120s or Power Control Pods are connected to your appliance.

- **Sensor Pods:** Use the **Sensor Pods** task to configure any Sensor Pod 120s that are connected to your appliance or Sensor Pods that are integrated with your appliance (NetBotz 320 and 420 models only). You can specify labels for each of your pods, set sensor thresholds, and configure the external sensor ports integrated with NetBotz 320 or 420 appliances as well as those on Sensor Pod 120s. If you have connected a Wireless Receiver 120 to your appliance, you can also use the Sensor Pods task to configure thresholds for your wireless sensors. This task will be available only if one or more Sensor Pod 120s are connected to or integrated with your appliance.
- **Wireless Sensor Discovery:** Use the **Wireless Sensor Discovery** task to specify the discovery settings that will be used when detecting the presence of wireless sensors.

For detailed descriptions of all of the configuration tasks available from the Pod/Sensors Settings portion of the configuration panel, see “Advanced View: Configuring Pods and Alerts” on page 59.

The Configuration View.



Appliance Settings Tasks

The tasks available from the Appliance Settings portion of the panel enable you to configure your appliance. The following tasks are available from the **Appliance Settings** portion of the Configuration panel:

- **Backup**: Use the Backup task to save your appliance configuration to a password-protected, encrypted file.
- **Clock:** Use the **Clock** task to view or change the date and time that are configured on the appliance internal clock, or to configure your appliance to obtain and synchronize its clock settings from an NTP server.
- **Custom Audio Clips:** Use the **Custom Audio Clips** task to upload custom audio clips to your NetBotz appliance, or to delete previously uploaded clips from the NetBotz appliance. Once uploaded, audio clips can be used with the Play Custom Audio alert action.
- **DNS:** Use the **DNS** task to view or change the appliance DNS settings.
- **E-Mail:** Use the **E-mail** task to specify the e-mail servers that will be used to deliver any e-mailed alert notifications.
- **External Storage:** Use the External Storage task to configure your appliance to store data on the optional Extended Storage System (sold separately) or a network attached storage device (a Windows share or an NFS mount).
- **IP Filter:** Use the IP Filter task to limit access to your appliance to only specified IP addresses or IP address-ranges.
- **License Keys:** Use the License Keys task to activate or deactivate available license key-enabled applications that are available for use on this appliance.
- **Location:** Use the Location task to configure additional sensor-specific location information that will also be included in alert notifications generated by the appliance.
- **Log:** Use the Log task to specify what events will be stored and displayed in the Appliance Log, and to configure the appliance to post log data to a remote syslog server.
- **Network Interfaces:** Use the **Network Interface** task to view or change the network settings for each network interface that is available on the appliance. By default there is only 1 network interface (for the integrated Ethernet controller). However, if you install a wireless network adapter in the PC Card slot then this additional network interface is configured using this task as well.
- **PPP/Modem:** Use the PPP/Modem task to configure PPP communications settings. This task will be available only if a supported USB or PC Card modem has been connected to or installed in your appliance and you have used the Serial Devices task to specify the modem that is associated with the appropriate serial port.
- **Proxy:** Use the **Proxy** task to provide the necessary settings to allow the appliance to utilize an HTTP, Socks V4, or V5 Proxy Server.
- **Region:** Use the Region task to specify the region in which the appliance is being used, to specify the time zone, and to configure the appliance clock to report time using a 12- or 24-hour clock.
- **Pod Sharing:** Use the Pod Sharing task to configure your NetBotz 500 series appliance to host “virtual pods.” Pod Sharing, available for use only on NetBotz 500 appliances for which the BotzWare Premium Software Module 2.4 has been purchased, enables your NetBotz 500 to connect with and receive data directly from devices integrated with or connected to NetBotz 320, 420 or 500s in your network. Shared pods can be the integrated camera or sensor pod or externally

connected pods on a NetBotz 320, 420, or 500. Pod Sharing enables you to use a single NetBotz 500 as a facility “host” to manage alerts from many other NetBotz appliances distributed throughout your network.

- **Restore:** Use the Restore task to restore your NetBotz 500 configuration using a configuration file created using the Backup task.
- **Serial Devices:** Use the Serial Devices task to specify the types of serial port-based sensors or devices (such as modems) you have connected to your appliance.
- **SMS:** Use the SMS task to view or change the SMS (Short Messaging Service) settings used by your appliance. This task will be available only if a supported PC Card modem that supports SMS functionality has been installed in your appliance and you have used the Serial Devices task to specify the modem that is associated with the appropriate serial port.
- **SNMP:** Use the **SNMP** task to view or change the appliance’s SNMP settings.
- **SSL:** Use the SSL task to install an SSL certificate for use with SSL-encrypted communication between clients using the Advanced View application and the appliance.
- **Upgrade:** Use the **Upgrade** task to display the currently installed BotzWare version level and to update the BotzWare on your appliance.
- **Users:** Use the **Users** task to configure user accounts for personnel that will be permitted access to your appliance, or to modify the Administrator and Guest account settings.
- **Web Server:** Use the **Web Server** task to view or change the IP ports through which the appliance web server performs HTTP and HTTPS web server communications.

For detailed descriptions of all of the configuration tasks available from the Appliance Settings portion of the configuration panel, see “Advanced View: Configuring Appliances” on page 105.

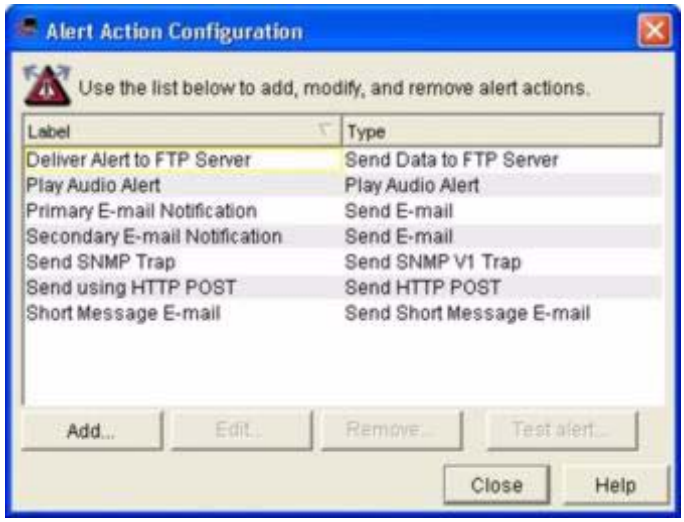
Advanced View: Configuring Pods and Alerts

The tasks available from the Pod/Sensors Settings portion of the Configuration panel enable you to configure the pods and sensors that are connected to your appliance and to configure the alert actions and policies that will be used when alerts are reported by your sensors. Detailed information about the tasks available from the Pod and Alert Settings portion of the Configuration panel follows.

Alert Actions

Use the Alert Actions task to define Alert Actions for use in the individual Alert Sequences that make up your Alert Profiles. When you create an Alert Action, you select a specific alert notification type (such as sending an e-mail notification, sending an SNMP trap, or posting the alert information to an HTTP server) and provide necessary configuration settings (such as an e-mail recipient's address, the IP address of your SNMP trap recipient, or the IP address of your HTTP server) that will enable the Alert Action to be successfully carried out.

The Alert Actions task.



Pre-configured Alert Actions

Your appliance comes with the following pre-configured Alert Actions:

- Deliver Alert to FTP Server
- Play Audio Alert
- Primary E-mail Notification
- Secondary E-mail Notification
- Send SNMP Trap
- Send using HTTP Post
- Short Message E-Mail

To use the pre-configured Alert Actions you will need to provide additional information, typically by editing the Alert Action to provide recipient information. For example, for E-mail Notification Alert Actions you must either edit the Alert Action and specify the E-mail Addresses to which the alert notification will be sent, or check the Include Addresses from Thresholds check box and specify the E-mail address to which notifications will be sent in each threshold configuration.

Available Alert Notification Methods

An Alert Action consists of a single alert notification method and any specific information that is necessary to deliver the alert notification. Your appliance supports the following alert notification methods:

- **Activate Button Output:** Triggers an output relay that has been defined as a Button Relay.

This alert notification method is designed for use only with relay output devices.

- **Play Audio Alert:** Plays a description of the alert, in spoken language, through the headphones or powered speakers that are connected to a selected Camera Pod 120.
- **Play Custom Audio Alert:** Plays a user-specified audio clip the headphones or powered speakers that are connected to a selected Camera Pod 120. Audio clips are uploaded to the appliance using the Custom Audio Clip task. For information about the Custom Audio Clips task see “Custom Audio Clips” on page 107.
- **Send Custom HTTP GET:** Delivers alert notifications as custom HTTP GET commands. The URL generated as a result of the alert action is completely user definable, and can include BotzWare macro values.
- **Send Custom Text File to FTP Server:** Sends a customized text file with user-specified content to an FTP server. This alert action type enables you to use macros supported by BotzWare (including Appliance, Location, and Alert macros) to define the name of the directory on the server in which custom text files will be stored and the base filename that will be used for the text files. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.
- **Send Data to FTP Server:** Sends an alert notification that contains information about the nature of the alert to an FTP server. This alert action type enables you to use macros supported by BotzWare (including Appliance, Location, and Alert macros) to define the name of the directory on the server

in which data files will be stored and the base filename that will be used for FTP data files. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.

- **Send E-mail:** Sends an alert notification e-mail that contains information about the nature of the alert to one or more e-mail recipients. The alert notification e-mail can optionally include images captured by a Camera Pod 120 and a graph of the sensor-specific data associated with the alert.
- **Send HTTP Post:** Sends an HTTP post to a specified HTTP server that contains information about the nature of the alert. The alert notification post can optionally include images captured by a Camera Pod 120 and a graph of the sensor-specific data associated with the alert.

The appliance will post all data according to the specifications detailed in *BotzWare 2.x HTTP Post/FTP Data Parameter Definitions*, a stand-alone technical document available from the NetBotz technical support web site. You must configure the target HTTP server appropriately to receive the posted data.

- **Send Short Message E-mail:** Sends a user-configurable alert notification in an e-mail format designed for use with devices that have limited display capabilities, such as cellular telephones and personal data assistants (PDAs). This alert action type enables you to use macros supported by BotzWare (including Appliance, Location, and Alert macros) to specify the contents of the title and body of the e-mail message. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.
- **Send SNMP v1 Trap:** Sends an SNMP trap to a specified SNMP trap recipient that contains information about the nature of the alert.
- **Send Wireless SMS Message:** Sends a short (up to 160 characters) alert notification using a wireless SMS connection. Available only if a modem that supports SMS messaging has been installed in or connected to the appliance. For more information, see “SMS” on page 133.
- **Set Switch Output State:** Triggers an output relay that has been defined as a Switch Relay.

This alert notification method is designed for use only with relay output devices.

Creating Alert Actions

To create a new Alert Action (or edit a previously created Alert Action):

1. Double-click on the Alert Actions icon.
2. Click **Add...** If you are editing a previously created Alert Action, select it from the **Alert Action** selection list and click **Edit...** and proceed to step 4 .
3. Select the alert notification method that will be used for this action from the Add Alert Action pop-up window, and then click **OK**.
4. Specify notification information for this Alert Action. The information that must be provided for an Alert Action depends on which alert notification method you have selected. For detailed notification method-specific instructions, see “Advanced View: Creating Alert Actions” on page 161.
5. Click **OK** to save your new Alert Action (or to commit changes you’ve made to a previously created Alert Action.

Once you have saved your Alert Action it will appear in the list of defined Alert Actions, and will be available for use in your Alert Profile.

Alert Profile

Use the Alert Profile Task to customize your appliance's Default alert notification policy, or to create additional alert notification policies to simplify alert management. Alert policies define the notification actions that are taken by the appliance in response to alert conditions. Each Alert Profile consists of one or more Alert Sequences. An Alert Sequence specifies:

- The period of time that must pass before an alert condition results in notification.
- The number of times the notification will be repeated if the alert condition goes uncorrected.
- The time interval at which the notification is enacted
- One or more Alert Actions that are taken as part of the Alert Sequence's notification process
- The schedule that determines whether the Alert Sequence is active at the date and time that the alert occurs.

You can also use the Alert Profile task to temporarily disable all alert notifications globally associated with an Alert Profile.

The Alert Profile task.

The Default Alert Profile

Your appliance comes pre-configured with a Default Alert Profile. This Default policy features the following 4 pre-configured Alert Sequences, all of which are scheduled to be active 24 hours a day, 7 days a week:

- **Alert Level 1:** Begins immediately after an alert condition occurs (Start Value of 0), repeats 2 times at a 5 minute interval. Initiates the following pre-defined Alert Actions: Primary E-Mail Notification, HTTP Post, FTP Data Delivery.
- **Alert Level 2:** Begins 20 minutes after an alert condition occurs, repeats 1 time at a 10 minute interval. Initiates the following pre-defined Alert Actions: Secondary E-Mail Notification, HTTP Post, FTP Data Delivery.
- **Alert Level 3:** Begins 90 minutes after an alert condition occurs, repeats 2 times at a 60 minute interval. Initiates the following pre-defined Alert Actions: Primary E-Mail Notification, Secondary E-Mail Notification, HTTP Post, FTP Data Delivery.
- **Continuous Alert:** Begins immediately after an alert condition occurs (Start Value of 0), repeats indefinitely at a 1 minute interval. Initiates the following pre-defined Alert Actions: Send SNMP Trap.

Pre-defined Alert Actions or individual sensor Thresholds may require additional information (such as e-mail addresses, server IP addresses, output devices, etc.) for notifications to be successfully delivered. Be sure to adequately configure Alert Actions and Thresholds that will be used in your Alert Profile.

The Default Alert Profile can be edited, but it cannot be Removed. When sensor thresholds are created, the Default Alert Profile will be used unless you use Advanced Threshold Settings to specify otherwise. In many cases, the Default Alert Profile will adequately meet your alert management needs. However, you can also create additional Alert Profiles if needed.

The Default Alert Profile is **always** used for alerts generated when pods are unplugged or go offline.

Creating an Alert Profile

To create a new Alert Profile (or modify a previously created Alert Profile):

1. Double-click on the Alert Profile icon.
2. Click **Add...**. If you are modifying a previously created Alert Profile, select from the **Profile** table the desired Alert Profile and then click **Edit...**.
3. Type in the **Label** field a name for the new Alert Profile.
4. Create one (or more) Alert Sequences for use with this Alert Profile. for instructions on how to create an Alert Sequence, see “Creating an Alert Sequence” on page 64.
5. Click **OK** to save the Alert Profile.

Creating an Alert Sequence

To create a new Alert Sequence (or modify a previously created Alert Sequence):

1. Double-click on the Alert Profile icon.
2. Select the Alert Profile to which you would like to add a new Alert Sequence and then click **Edit**.
3. Click **Add...**. If you are modifying a previously created Alert Sequence, select from the **Sequence** table the desired Alert Sequence and then click **Edit...**.
4. Type in the **Label** field a name for the Alert Sequence.
5. Type in the **Start** field (or use the arrow buttons in the field to select) the number of minutes that must pass before an alert condition results in the notification specified by this Alert Sequence. For example, if you want notifications to begin only if the alert condition has gone uncorrected for 5 minutes or more, specify a Start Time of 300 seconds. If you want notifications to begin immediately, specify a Start Time of 0 seconds.
6. Check the **Repeat Until Normal** check box if you want the Alert Actions specified by this Alert Sequence to be repeated automatically until the alert condition no longer exists. If you want the actions to be repeated only a specific number of times, then leave this check box unchecked and instead use the Repeats value to specify how many times to repeat the actions
7. (Optional) Check the **Automatically add new alert actions to this schedule** check box if you want any new Alert Actions created after this Alert Schedule is defined to be automatically added to this schedule.
8. Type in the **Repeats** field (or use the arrow buttons in the field to select) the number of times that the notifications specified by this Alert Sequence will be repeated. This field will not be available if the **Repeat Until Normal** check box is checked.
9. Type in the **Interval** field (or use the arrow buttons in the field to select) the number of seconds that will pass between repeated notifications in this Alert Sequence.
10. Specify **Capture Settings** for graphs and pictures associated with this Alert Sequence. Capture settings can be used to override the **Maximum Camera Pictures** and **Include a Graph with the Alert** settings for all Alert Actions that you associate with this Alert Sequence.
11. By default, alert sequence **Capture Settings** are set to **Capture if requested**, which indicates that this alert sequence will capture graphs and pictures if alert actions are configured to request them (i.e. if the **Maximum Camera Pictures** setting is greater than 0 or the **Include a Graph with the Alert** check box is checked). While this setting ensures that pictures and graphs are included with alert notifications, in some circumstances you may wish to receive images or graphs only from some alert sequences (such as the initial alert notification), or you might want to preserve graphs and images on the appliance even if they are not included with alert notifications.

    Rather than creating multiple copies of the same Alert Action, some which enable the inclusion of camera pictures and graphs and some that do not, you can just create one Alert Action (for example, e-mail) and use the capture controls to override the Alert Action settings as follows:

    – Set the **Graph** or **Picture Capture Settings** to **Never capture**. When **Capture Settings** are set to **Never capture**, images or graphs are not included with any alert actions that are associated with the Alert Sequence, regardless of the **Maximum Camera Pictures** and **Include a Graph with the Alert** settings for the alert actions.

    – Set the **Graph** or **Picture Capture Settings** to **Always capture**. When **Capture Settings** are set to **Always capture**, images or graphs are always captured by the appliance, even if the

Maximum Camera Pictures and **Include a Graph with the Alert** settings for the individual alert actions are not set to capture this data. While this data will not be included with the alert notifications associated with your alert actions, the images and graphs associated with the alerts will be available for use via the Alerts View.

Don't forget that images will only be captured and included in an alert notification, regardless of Capture Settings, if you have checked at least one **Cameras to Trigger** check box when defining a threshold.

12. Specify the Alert Actions that will be carried out as part of this Alert Sequence. Click **Add Actions...**, and then select one or more Alert Actions from the Add Action window. Click **OK** to add the selected actions to your Alert Sequence.
13. Click **OK** to save the Alert Sequence to your Alert Profile.

Globally Disabling Alert Notifications

You can also use the Alert Profile task to temporarily disable all alert notifications associated with a selected Alert Profile globally. This temporarily prevents your appliance from generating any alert notifications associated with a selected Alert Profile until a time and date you specify. Once enabled, alert notifications that are associated with the selected Alert Profile will not be generated, even if an enabled threshold is violated. Once the specified time and date arrives alert notifications will resume normally.

- Disabling alert notifications prevents your appliance from automatically notifying you of conditions that may be hazardous to your critical assets and spaces. This task is designed for use only when scheduled maintenance or downtime would result in your appliance generating alert notifications in response to environmental conditions that you are aware of and are expecting to occur for brief periods of time.
- When alert notifications are disabled, enabled sensors in the Sensor Readings pane will continue to turn red to provide a visual indication that a threshold has been violated.
- Disable Alert Notification settings are not persistently stored on the appliance.
- If the appliance loses power or restarts for some reason prior to the time at which you specified that alert notifications should resume, alert notifications will no longer be suspended.

To globally disable alert notifications:

1. Select the Alert Profile for which you wish to globally disable alert notifications from the Alert Profile window and then click **Edit...**.
2. Select the Advanced tab.
3. Check the **Globally disable alert notification** check box.
4. Use the calendar control to specify the date and time of day at which alert notification functionality will resume.
5. Click **OK** to globally suspend all alert notifications from the appliance.

Camera Pods

Use the Camera Pods task to configure any integrated cameras and Camera Pod 120s or CCTV Adapter Pods 120s that are connected to your appliance. You can use the Camera Pods task to perform the following configuration tasks on your cameras:

- Specify the imaging mode (Wide Screen or Pan and Scan) and the window of interest to use for Pan and Scan imaging on your integrated camera or Camera Pod 120s (not available when configuring CCTV Adapter Pod 120s or integrated cameras).
- Specify the label used to identify the integrated camera or camera pod and specify whether the integrated camera subsystem or camera pod should generate an alert if the door switch sensor is disconnected.
- Configure camera sensors, including specifying the label that is used to identify an individual sensor, specifying the maximum number of hours of sensor data that will be preserved on the appliance, and creating thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.
- Configure camera image capture settings, including mode, frame rate, total number of images to be captured when alerts are reported, and total number of images saved prior to an alert condition to include in alert notifications.
- Configure camera motion sensors, including adjusting the sensitivity of the camera motion sensor and masking areas of the image where motion is expected to help prevent false alerts.
- Disable all video output from the Camera Pod (useful for temporarily disabling video, or in situations where you do not require video monitoring but still require audio monitoring or the door switch sensor).

To configure an integrated camera or camera pod, double-click on the Camera Pods icon to start the Camera Pods task. A list of integrated cameras, Camera Pod 120s, and CCTV Adapter Pod 120s that are connected to your appliance appears. Select the camera you want to configure, and the click the button that corresponds to the configuration task you want to perform:

- Click **Settings** to specify labels for the camera and to specify an interactive camera frame rate limit and interactive camera mode limit.
- Click **Capture** to configure the camera image capture settings.
- Click **Masking** to configure the camera motion sensor and to specify motion and block-out masks (if available).
- Click **Visual Modes** to specify the imaging mode (Wide Screen or Pan and Scan), and to specify the window of interest for use with Pan and Scan mode (available when configuring Sensor Pod 120s only).
- Click **Sensors** to configure the sensors that are associated with the integrated camera or camera pod and to create thresholds for those sensors.

Visual Modes settings are not available for use when configuring CCTV Adapter Pods.

Settings

After you have selected a camera from the Camera Pods window and clicked **Settings**, the Camera Pods Settings window opens. From this window you can configure the following camera settings:

Field	Description
Pod Label	The label that will be used to uniquely identify the pod. Appears only when configuring a Camera Pod 120 or CCTV Adapter Pod
Camera Label	An additional identifying label for the camera on this pod (if configuring a Camera Pod 120 or CCTV Adapter Pod) or integrated camera. If you provide both a Pod Label and a Camera Label value, images and alerts that are generated by this camera and this camera will be identified as *Pod Label (Camera Label)*.
Microphone Label	An additional identifying label for the microphone on this pod (Camera Pod 120s and CCTV Adapter Pods only).
Speaker Label	An additional identifying label for the speaker on this pod (Camera Pod 120s and CCTV Adapter Pods only).
Unplugged Alert Severity	Specify the severity of alerts that are generated in response to this pod being unplugged.
Unplugged Alert Profile	Specifies the Alert Profile that will be used to determine what alert notification actions will be taken in if the Camera Pod is unplugged. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.
Disable video from camera	Check this check box to disable all video output from the camera pod.
Disable audio from camera	Check this check box to disable all audio output from the camera pod.
Interactive Frame Rate Limit (Percent)	Specifies what percentage of the total possible frame rate for a given camera resolution will be made available to users that are using the appliance interactively (such as viewing images from the Cameras View in the Advanced View). For example, if you have specified an Interactive Frame Rate Limit of 50% and your maximum frame rate for 640x480 resolution is 10 frames per second interactive will only be able to select frame rate values of up to 5 frames per second.

Field	Description
Interactive Mode Limit	Specifies the maximum image resolution that will be made available to users that are using the appliance interactively (such as viewing images from the Cameras View in the Advanced View). This can be used to limit the performance impact that can be caused by multiple clients with high image resolution settings accessing your appliances interactively. For example, if you have specified an Interactive Mode Limit of 320x240 then the maximum resolution mode available in the Cameras view of Advanced View users accessing the appliance will be 320x240, regardless of the capabilities of the image processor in the appliance.

To configure the camera settings, type in the **Pod Label** and **Camera Label** fields the label that will be used for this pod and camera (if desired) and specify the Interactive Frame Rate Limit and Interactive Mode Limit. When you are finished, click **OK** and any changes you have made will be saved to the appliance. Click **Cancel** to close this window without saving any changes.

Associating Relays or Switches with Integrated Cameras and Camera Pods

Relays and switches can be associated with integrated cameras or camera pods to simplify manually changing relay states from the Camera View. Once a relay is associated with an integrated cameras or camera pod, the action associated with that relay can be triggered manually by right-clicking on the camera's image in the Camera View and selecting the relay output action from the context menu. You can also configure the Advanced View to include in the Camera View buttons that correspond to any the relay sensors that are associated with the integrated camera or camera pod.

To associate a relay or switch with an integrated camera or camera pod and, if desired, include in the Camera View buttons that correspond to the associated relays:

1. Double-click on the **Camera Pods** icon to start the Camera Pods task.
2. A list of integrated cameras, Camera Pod 120s and CCTV Adapter Pod 120s that are connected to your appliance appears. Select the camera you want to configure.
3. Click **Settings**
4. Select the Associated Sensors tab.
5. Select from the **Available Sensors** selection list one or more relays that you want to associate with the selected camera. Then, click **->** (right arrow) to move the selected relays to the **Selected Sensors** selection list. To remove a previously associated sensor from the list, select one or more relays from the **Selected Sensors** selection list, and then click **<-** (left arrow) to move the selected account to the **Available Sensors** selection list.
6. To include buttons for the associated relay actions in the Camera View pane, check the **Overlay Buttons on Camera Image** check box.
7. Select the radio button that corresponds to the location in the camera image (**Top Left, Top Right, Bottom Left, Bottom Right**) in which the buttons that correspond to associated relay actions will be placed.
8. Click **OK** to save your Associated Sensors settings.

Capture Settings

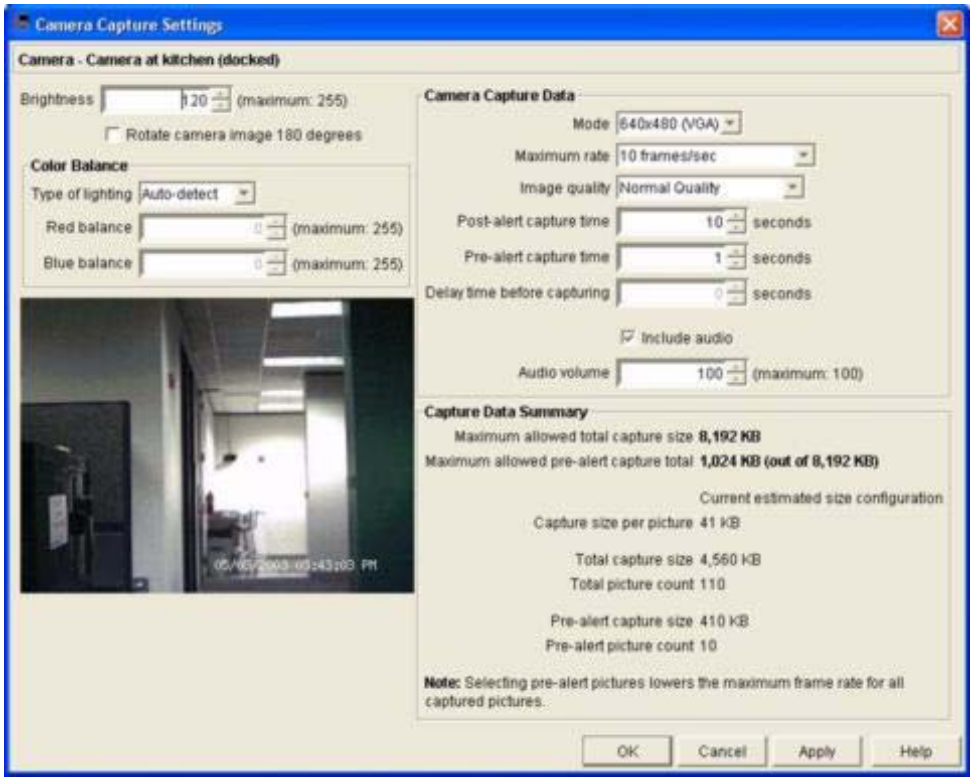
After you have selected a camera from the Camera Pods window and clicked **Capture**, the Camera Capture Settings window opens. Use the Camera Capture Settings window to configure various camera and image capture settings. From this window you can configure the following camera and image capture settings:

Field	Description
Brightness	Specifies the brightness of the image captured by the camera. The brightness value of the image can be set to values from 0 to 255.
Gamma correction	Use the Gamma correction control to adjust the overall brightness of the camera image. Gamma correction enables you to display captured image more accurately on your computer screen. Images which are not properly corrected can look either bleached out, or too dark.
Video Format	Used to specify the format in which video is transmitted by the video source. Available selections include: NTSC-M, NTSC-Japan, PAL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAL-M, PAL-N Combination, and SECAM. **Note:** This option is available only when configuring Capture settings for CCTV Adapter Pods.
Rotate camera image 180 degrees	Check this check box to rotate the image captured by the camera 180 degrees. This is useful for correctly orienting the image captures included in alert notifications and in the Advanced View when the appliance has been mounted upside down due to installation location restrictions. **Note:** This option is not available for use when configuring Capture settings for CCTV Adapter Pods.
Flicker filter	Check this check box to minimize image brightness flickering. In some situations, typically outdoors or in locations with large areas of both brightly lit and low light regions, the brightness level of the dark areas in the image can occasionally flicker or pulse. Enabling flicker filter will eliminate this flickering. Notes: Enabling flicker filter can also have a slight impact on the number of frames per second at which images are captured and displayed. This impact is typically noticeable only at higher image capture rates (more than 5 per second). This option is not available for use when configuring Capture settings for CCTV Adapter Pods.
Timestamp	Use this control to specify the location of the timestamp within the image capture. Available selections include None (no timestamp will be included in the image), Bottom Right, Bottom Center, Bottom Left, Top Right, Top Center, and Top Left.

Field	Description
Color Balance / Type of Lighting / Red Balance / Blue Balance	Use this control to specify the color balance settings that will be used by the camera. The four pre-configured Color Balance selections are: • Fluorescent: Best color balance settings for locations with fluorescent lighting. • Incandescent: Best color balance settings for locations with incandescent lighting. • Daylight: Best color balance settings for locations with natural lighting. • Auto-detect: Analyzes the current lighting conditions and automatically selects the best. You can also select Custom and specify Red Adjustment and Blue Adjustment values. Use the sliders to adjust the Red and Blue Adjustment values. Values from 0 to 255 are available.
Mode	The resolution at which images are captured for use in alert notifications. Note that this resolution setting does not affect the resolution of the image displayed in the Cameras View.
Rate	Specifies the refresh rate for image captures when a picture alert is triggered. Note that this rate setting does not affect the refresh rate of the image displayed in the Cameras View.
Image Quality	Specifies the amount of compression that will be applied to captured images. As compression is increased, file sizes decrease but the quality of the image decreases as well. The available values, from highest image quality/largest file size to lowest image quality/ smallest file size, is High Quality, Normal Quality, Normal Compression and High Compression. **Note:** Actual frame rate available from image processor depends on the resolution and image quality of generated images. Maximum frame rate of 30 frames per second is available only at Normal Quality or lower and only at resolutions up to 640x480. Maximum frame rate for 800x600, 1024x768, and 1280x1024 (if available) at Normal Quality or lower is 10 frames per second. For example, if you configure a Camera Pod 120 to capture images in High Quality, the Maximum Frame Rate for some resolutions changes: At 640x480 and lower resolution the maximum frame rate drops from 30 frames per second to 20 frames per second. In 800x600 the maximum frame rate is unchanged (stays at 10 frames per second). In 1024x768 and 1280x1024 the maximum frame rate drops from 10 frames per second to 8 frames per second.

Field	Description
Post-Alert Capture Time	Specifies the total number of seconds after the alert triggering event for which images will be included in alert notifications. The number of post-alert images that are captured is equal to the Post-Alert Capture Time multiplied by the Rate value. Note that the individual Alert Actions may specify a Maximum Camera Pictures setting that is less than the total number of images captured in response to an alert. If the total number of pictures captured by the camera (including both post-alert captures and pre-alert captures) is larger than the Maximum Camera Pictures setting for an Alert Action then the most recent images captured are given preference and included in the alert notification. For more information, see Creating a Send E-Mail Alert Action.
Pre-Alert Capture Time	Specifies the total number of seconds prior to the alert triggering event for which available images will be included in the alert notification. The number of post-alert images that are captured is equal to the Pre-Alert Capture Time multiplied by the Rate value. Notes: Pre-alert captures are not supported on NetBotz 320 appliances. The individual Alert Actions may specify a Maximum Camera Pictures setting that is less than the total number of images captured in response to an alert. If the total number of pictures captured by the camera (including both post-alert captures and pre-alert captures) is larger than the Maximum Camera Pictures setting for an Alert Action then the most recent images captured are given preference and included in the alert notification. For more information, see Creating a Send E-Mail Alert Action.
Delay Time Before Capturing	Specifies the number of seconds between the triggering of the alert and the first picture capture.
Include Audio	Specifies whether the Camera Pod should also use either the integrated microphone or an external microphone (if one has been plugged into the External Microphone jack on the pod) to capture audio and include it with the alert for the duration of time covered by the alert notification. **Note**: This option is available only when configuring Capture settings for Camera Pod 120s and CCTV Adapter Pods.
Audio Volume	Specifies the volume at which audio will be captured.
Capture Data Summary Information Field	Shows a variety of information about the files that will be generated by the pod using the currently selected Capture settings. The information in this field will update automatically as new settings are specified or selected.

The Camera Capture Settings window.



Type the new values in the appropriate fields. To see an example of an image capture using the currently selected Brightness, Color Balance and Image Quality settings click **Apply** and the sample image in the Capture window will be updated using the new values. When you are finished, click **OK** and any changes you have made will be saved to the appliance. Click **Cancel** to close the Camera Capture Settings window without saving any changes.

Masking Settings

After you have selected a camera from the Camera Pods window and clicked **Masking**, the Mask Settings window opens. Use the Mask Settings window to specify the conditions that will cause the camera motion sensor to generate an alert, to specify a Motion Sensitivity Mask (to ignore motion is user-specified areas of the image, or to specify a Block-Out Mask (to prevent user-specified regions of the image from being seen. Available only on appliances for which the BotzWare Premium Software Module 2.4 has been purchased. The BotzWare Premium Software Module is available as part of NetBotz Extended Warranty Coverage. For more information, contact your NetBotz authorized reseller or the NetBotz support team).

Camera-based motion sensing is accomplished by comparing concurrent image captures, determining if there are any differences between the images, and then determining whether any detected changes are significant enough to indicate motion and generate an alert. An alert is generated only if observed changes meet the criteria specified by both the Sensitivity and Area of Motion settings.

The Mask Settings window.

Note

If you have the BotzWare Premium Software Module (PSM) installed, this window will feature two tabs: Motion Mask and Block Out Mask. If the PSM is not installed, only the items that are available on the Motion Mask tab will appear.

The Motion Mask Tab

The following controls are available on the Motion Mask tab:

Field	Description
Sensitivity	The Sensitivity setting specifies how much change in a portion of the image capture will be tolerated before the changed image data is considered movement. Lower values indicate less tolerance for change between images and therefore higher sensitivity.
Area of Motion	The Area of Motion setting specifies how large an area of the image capture must change (as determined by the Sensitivity value) before the changed image data is considered movement. Lower Area of Motion values indicate smaller areas and therefore higher sensitivity.
Enable Camera Motion check box	Check this check box to enable the camera motion sensor.
Show outline of detected motion check box	When this option is enabled, any region of an image captured by the appliance that is determined to be indicative of motion is surrounded by a dotted-line outline. Note that if this option is enabled then the dotted-line outline will appear in the camera image that is displayed in the Sensor Pane as well.
Motion Sensitivity Mask	Use the Motion Sensitivity Mask to specify regions of the image that will be ignored by the Camera Motion sensor.

Use the Motion Sensitivity Mask to configure your Camera Motion sensor to ignore movement that is detected in specified regions of the image capture. To mask a portion of the image, click and drag in the image to draw a box around the region you want to ignore. Then click **Mask Selection** to mask the selected region. Red X's will appear in the region of the image in which movement will be ignored.

To unmask a portion of a previously masked region, click and drag in the image to draw a box around the region you want to unmask. Then, click **Unmask Selection** to remove the mask from the selected region. Any red X's that were displayed in the selected region will then be removed.

Type the new values in the appropriate fields. When you are finished, click **OK** and any changes you have made will be saved to the appliance. Click **Cancel** to close the Camera Motion Configuration window without saving any changes.

The Block Out Mask Tab

The following controls are available on the Block Out Mask tab:

Field	Description
Enable Block Out Mask check box	Check this check box to enable the Block Out Mask functionality.
Block Out Mask	Use the Block Out Mask to specify regions of the image that will not be visible when the camera image is viewed.

Use the Block Out Mask to configure your camera so that specified areas of the image cannot be seen. For example, you could place a Block Out Mask over the area of the image that shows a monitor image, thereby preventing users from seeing the information that is shown on the monitor. Instead, a gray box will appear in the masked area.

To mask a portion of the image, click and drag in the image to draw a box around the region you want to ignore. Then right-click and select **Mask Selection** to mask the selected region. A blue block will appear in the region of the image to be blocked.

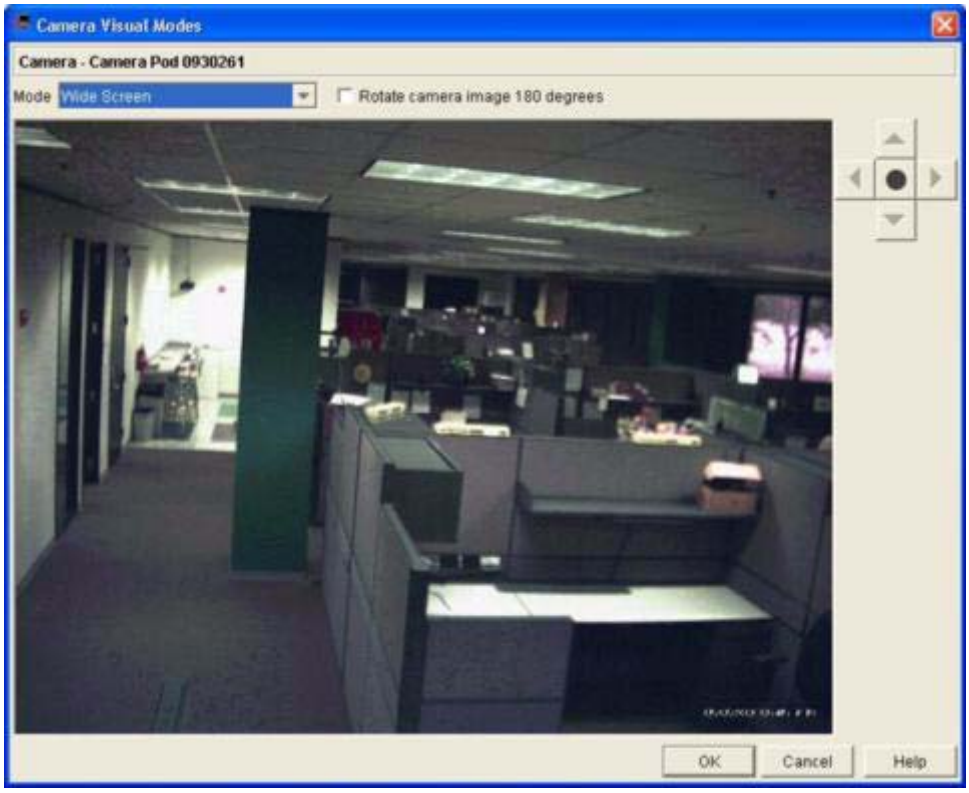
To unmask a portion of a previously masked region, click and drag in the image to draw a box around the region you want to unmask. Then, click **Unmask Selection** to remove the mask from the selected region. Any portion of the blue block out mask that you selected will then be removed.

When you are finished, click **OK** and any changes you have made will be saved to the appliance. Click **Cancel** to close the Camera Motion Configuration window without saving any changes.

Visual Mode Settings

Use the Visual Modes task to select the imager mode that will be used by the camera, and to select the window of interest to be used when Pan and Scan mode is active.

The Visual Modes window.



The Camera Pod 120's imager is capable of capturing images at resolutions up to 1280x1024, and supports two imaging modes: **Wide Screen** mode and **Pan and Scan** mode. In Wide Screen mode all images that are captured are based on the entire 1280x1024 frame, while in Pan and Scan mode a portion of the total 1280x1024 field of view is selected and used to determine what portion of the total field of view to include in image captures. For more information about camera imager modes see the *About Your Appliance*, booklet included with your appliance.

Use the Mode drop box to specify the imager mode that will be used by the camera.

- To specify Wide Screen, select **Wide Screen** from the **Mode** drop box and then click **OK**.
- To specify Pan and Scan, select **Pan and Scan** from the **Mode** drop box. Then, use the arrow buttons to move the image view displayed in this window until the contents of the image correspond to the window of interest you wish to view and then click **OK**.

Sensor Settings

After you have selected a camera from the Camera Pods window and clicked **Sensors**, the Sensor Configuration window opens. Use the Sensor Configuration window specify a unique identification label for a sensor, to specify the total amount of data from the selected sensor that will be preserved on the appliance, and create or modify thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.

The Sensor Configuration window is divided into two selection lists: Sensors and Thresholds. Any sensors that are available for configuration on this pod are listed in the **Sensors** selection list. Once you select a sensor from the Sensors selection list any thresholds that have been defined for the selected sensor appear in the **Thresholds** selection list.

To specify a label for a sensor, or to specify the total amount of time that data reported by a selected sensor should be stored on the appliance:

1. Select from the Sensors selection list the sensor you want to modify.
2. Click **Modify** to open the Modify Sensor window.
3. Type in the **Label** field a label to identify this sensor. This label can be up to 64 characters in length, and will be used to identify the sensor in the Sensor Data pane, Advanced View interfaces, and in alert notifications.
4. Select from the **Sensor Value History** drop box the total amount of time that data reported by this sensor should be stored on the appliance. The total amount of data available on the appliance affects the maximum amount of data that can be graphed (for more information see “Viewing Graphs” on page 51).
5. Click **OK** to save the new Sensor values. Click **Cancel** to close this window without saving any changes.

To configure a threshold, select the sensor for which you will create a threshold from the **Sensors** selection list. Any previously configured thresholds for the selected sensor appear in the **Thresholds** selection list. All sensors have a default, pre-configured threshold that will be generated automatically by the Advanced View. This predefined threshold provides the most typical threshold that would be used for the specific sensor type. However, thresholds are highly customizable and configurable, enabling you to create a wide variety of thresholds to suit your needs. Sensor thresholds are explained in detail in “Advanced View: Defining Thresholds” on page 141.

To enable or modify a predefined sensor threshold:

1. Select a sensor from the **Sensor** selection list.
2. A list of currently defined thresholds for the selected sensor appears in the Thresholds selection list. Select the threshold you wish to enable or modify from the Thresholds selection list.
3. Click **Edit...**.
4. The Edit Threshold window appears.
   - To enable the threshold, check the **Enabled** check box.
   - To change threshold settings, use the controls in the Edit Threshold window to set new values as desired.

Click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

The controls that are available in the Edit Threshold window are determined by the type of threshold that you are creating or editing. For detailed instructions on how to create or edit thresholds, see “Advanced View: Defining Thresholds” on page 141.

Motion in Pan and Scan Mode

When the Camera Pod 120 is in Pan and Scan mode (see the *About Your Appliance* booklet included with your appliance) and you enable the Camera Motion sensor, only motion that is detected within the 640x480 window of interest will result in an alert condition. Also, if you have enabled the **Show outline of detected motion** functionality and specify a **Mode** in the Cameras tab that is 800x600 or greater, outlines will appear only in the 640x480 window of interest that you specified.

Device Crawlers

Use the Device Crawlers task to monitor the critical status information of up to 48 remote SNMP targets (such as servers, routers, and switches). If any operational difficulties are noted on a monitored target your appliance can generate an alert notification, enabling you to quickly address the problem. As you add SNMP targets, each target appears in the Navigation pane of both the Basic and the Advanced View. Once added, you can set thresholds, monitor alerts, and graph data reported by the Device Crawlers targets, just as with pods and other sensors.

Device Crawlers monitors the following MIB II SNMP values on all specified SNMP targets:

- **Online:** State sensor that reports whether the target is Online or Offline.
- **Ping RTT:** Analog sensor that reports amount of time it takes SNMP queries or ICMP Ping requests to complete a send and reply from the appliance.
- **SNMP System Contact:** Displays the target’s system contact data (does not support configuration of thresholds).
- **SNMP System Description:** Displays the target’s system description data (does not support configuration of thresholds).
- **SNMP System Location:** Displays the target’s system location data (does not support configuration of thresholds).
- **SNMP System Name:** Displays the target’s system name data (does not support configuration of thresholds).
- **SNMP System Object ID:** Displays the target’s system object ID data (does not support configuration of thresholds).
- **SNMP System Uptime:** Analog sensor that reports the uptime value of the target.
- **System Model:** Displays the target’s system model data (does not support configuration of thresholds).
- **System Type:** Displays the target’s system type data (does not support configuration of thresholds).
- **System Vendor:** Displays the target’s system vendor data (does not support configuration of thresholds).

In addition, Device Crawlers will also gather and present the following information about the network interfaces of all configured SNMP targets in individual sensor sets:

- **Admin Status:** State sensor that reports the admin status of the interface.
- **IF Description:** Displays the interface's description value (does not support configuration of thresholds).
- **IF MAC Address:** Displays the interface's MAC address (does not support configuration of thresholds).
- **IF Type:** State sensor that reports the interface type value.
- **Incoming Discards:** Analog sensor that reports the number of incoming packets discarded by the interface.
- **Incoming Errors:** Analog sensor that reports the number of incoming packets containing errors received by the interface.
- **Incoming Non-Unicast Packets:** Analog sensor that reports the number of incoming non-unicast packets received by the interface.
- **Last Change:** Analog sensor that reports the last change value for the interface.
- **OP Status:** Analog sensor that reports the OP status of the interface.
- **Outgoing Errors:** Analog sensor that reports the number of outgoing packets containing errors sent by the interface.
- **Outgoing Non-Unicast Packets:** Analog sensor that reports the number of non-unicast packets sent by the interface.
- **Outgoing Octets:** Analog sensor that reports the number of outgoing octets sent by the interface.
- **Outgoing Unicast Packets:** Analog sensor that reports the number of outgoing unicast packets sent by the interface.

About Advanced Device Crawlers

Advanced Device Crawlers builds on the functionality provided by the basic Device Crawlers application, greatly extending your ability to monitor the operational status of your SNMP targets. Advanced Device Crawlers, a license-key based Device Crawlers upgrade, extends the capabilities of Device Crawlers to provide far more detailed device-specific information and to enable OID-specific monitoring and alerting.

Also, with Advanced Device Crawlers you can use Device Description Files (provided by NetBotz) that make it quick and easy to monitor the environmental and physical data reported by some supported SNMP devices.

For more information about Advanced Device Crawlers, see "Add-Ons: Advanced Device Crawlers" on page 177.

Adding, Editing, and Removing SNMP Targets

To add an SNMP target to the list of devices monitored by Device Crawlers (or to edit a previously created SNMP target entry):

1. Start the Device Crawlers task. The *SNMP Target* view is displayed. If you have installed the Advanced Device Crawlers license key-based upgrade, additional views (*Device Definition Files*, *Supplemental OIDs*) will be available as well. For more information "Add-Ons: Advanced Device Crawlers" on page 177.
2. To add a new SNMP target, click **Add**. To edit a previously created target, select the target from the SNMP Targets selection list and then click **Edit**.
3. The Edit Device Crawlers window opens. This window contains the following fields:

Item	Description
Host/IP Address	Type in this field the hostname or IP address of the SNMP target.
Port	Type in this field the port number used for SNMP communications on the target. The default value is 161.
Read Community	Type in this field the read only community string used for SNMP communications on the target. The default value is *public*.
Timeout	Select the number of seconds that Device Crawlers will wait for a response from a target before Device Crawlers either retries communications or considers the target to be unresponsive. The default value is 30 seconds.
Retries	Select the number of times Device Crawlers will retry communications with an SNMP target that is not responding before considering the target to be unresponsive and moving on to the next target.
Scan MIB2 Interfaces	If checked, all MIB2 communications interfaces on the device will be scanned. Some devices (routers, for example) can include many communications interfaces, and scanning all MIB2 interfaces on these devices can cause significant delays on Device Crawlers performance. To avoid these impacts, disable MIB2 scanning on these devices.
Scan Advanced DDFs	To enable Advanced Device Crawler functionality on this SNMP target, check the Scan Advanced DDFs check box. **Note:** If you have not purchased and applied an Advanced Device Crawler license key, the Advanced Device Crawler functionality can be enabled only on a single SNMP target.If the Advanced Device Crawler functionality is already enabled on an SNMP target, you must first uncheck the Scan Advanced DDFs check box in the enabled target's settings before you can enable it on another target.

Item	Description
Delete SNMP Sensors if Not Found on Crawled Device	When checked, automatically removes previously defined SNMP-based sensors on a target when, after a successful scan, the sensors are found to no longer be present (no longer defined, unavailable, and so forth). If the sensors are not deleted, they will be displayed with sensor reading values of “N/A” or “null.”
Send Offline alert if SNMP agent becomes unavailable	Check this check box if the monitored device has an SNMP agent and you want Device Crawlers to generate an alert if the device’s SNMP agent on this target is unavailable. If the SNMP agent is unavailable, the Device Crawlers Online sensor status for this device will report an Online status value of “No,” enabling you to configure thresholds and generate alert notifications in response to this status change. **Note:** If the target device does not have an SNMP agent, be sure to leave this check box unchecked. If this check box is checked **and** the target does not have an SNMP agent the Online sensor status will always report a “No” value, regardless of whether the device is online or not.
Send Offline alert if ICMP ping times out	Check this check box if you want Device Crawlers to generate an alert if ICMP Pings directed at the target device time out. If this time out occurs, the Device Crawlers Online sensor status for this device will report an Online status value of “No,” enabling you to configure thresholds and generate alert notifications in response to this status change.

4. Type the appropriate values in the fields, and then click **OK** to save the settings for this SNMP target.

To remove previously created SNMP targets from the SNMP Targets selection list, select one (or more) SNMP target entries from the list and then click **Remove**.

Specifying Global SNMP Settings

Click Global SNMP Settings to configure SNMP settings that will be used by Device Crawlers for all SNMP target communications. The Global SNMP Settings window opens. This window contains the following fields:

Item	Description
Scan Interval	Use this control to specify the number of minutes that must pass between Device Crawlers target queries.
Maximum Route Hops	Use this control to specify the maximum number of hops that will be recorded and saved by Device Crawlers route tracing support.
Include Route Trace in Alerts check box	Check this check box to enable Device Crawlers route tracing support. If this check box is not checked, route tracing is disabled and alert notifications will not include route tracing data.

Item	Description
Update Device Descriptions button	Device Crawlers uses a device descriptions data file to identify the System Model, Type, and Vendor value for SNMP targets. NetBotz periodically updates the contents of the device descriptions file to include new or previously unidentified target types as they become available. Click **Update Device Descriptions** to contact the NetBotz web site (or browse to a local device descriptions update file) and update the content of the Device Crawlers device description file.

Type the appropriate values in the fields, and then click **OK** to save the global SNMP settings.

Sensor Settings

After you have selected an SNMP target from the SNMP Targets view and clicked **Sensors**, the Sensor Configuration window opens. Use the Sensor Configuration window specify a unique identification label for a sensor, to specify the total amount of data from the selected sensor that will be preserved on the appliance, and create or modify thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.

The Sensor Configuration window is divided into two selection lists: Sensors and Thresholds. Any monitored values that are available from the selected SNMP target are listed in the **Sensors** selection list. Once you select a sensor from the Sensors selection list any thresholds that have been defined for the selected sensor appear in the **Thresholds** selection list.

If the selected sensor does not support configuration of thresholds a message advising you of this appears in the Thresholds area of the interface.

To specify a label for a sensor, or to specify the total amount of time that data reported by a selected sensor should be stored on the appliance:

1. Select from the Sensors selection list the sensor you want to modify.
2. Click **Modify** to open the Modify Sensor window.
3. Type in the **Label** field a label to identify this sensor. This label can be up to 64 characters in length, and will be used to identify the sensor in the Sensor Data pane, Advanced View interfaces, and in alert notifications.
4. Select from the **Sensor Value History** drop box the total amount of time that data reported by this sensor should be stored on the appliance. The total amount of data available on the appliance affects the maximum amount of data that can be graphed (for more information see “Viewing Graphs” on page 51).
5. Click **OK** to save the new Sensor values. Click **Cancel** to close this window without saving any changes.

To configure a threshold, select the sensor for which you will create a threshold from the **Sensors** selection list. Any previously configured thresholds for the selected sensor appear in the **Thresholds** selection list.

If the selected sensor does not support configuration of thresholds a message advising you of this appears in the Thresholds area of the interface.

All sensors have a default, pre-configured threshold that will be generated automatically by the Advanced View. This predefined threshold provides the most typical threshold that would be used for the specific sensor type. However, thresholds are highly customizable and configurable, enabling you to create a wide variety of thresholds to suit your needs. Sensor thresholds are explained in detail in “Advanced View: Defining Thresholds” on page 141.

To enable or modify a predefined sensor threshold:

1. Select a sensor from the **Sensor** selection list.
2. A list of currently defined thresholds for the selected sensor appears in the Thresholds selection list. Select the threshold you wish to enable or modify from the Thresholds selection list.
3. Click **Edit...**.
4. The Edit Threshold window appears.
   – To enable the threshold, check the **Enabled** check box.
   – To change threshold settings, use the controls in the Edit Threshold window to set new values as desired.

Click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

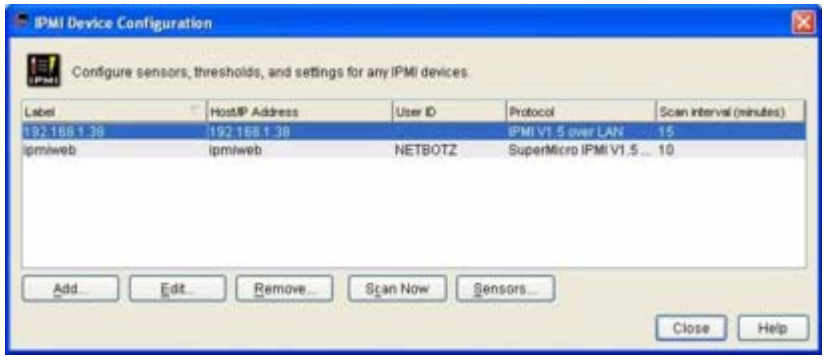
The controls that are available in the Edit Threshold window are determined by the type of threshold that you are creating or editing. For detailed instructions on how to create or edit thresholds, see “Advanced View: Defining Thresholds” on page 141.

IPMI Devices

Use the IPMI Devices task to add network-attached, Intelligent Platform Management Interface-enabled devices to the list of devices that are monitored by your NetBotz appliance. The Intelligent Platform Management Interface (IPMI) standard defines a hardware and software management interface and implementation that provide different hardware platforms with compatible server management and control functions. The IPMI standard is promoted and supported by over 150 server manufacturers.

As you add IPMI-enabled devices, each device appears in the Navigation pane of both the Basic and the Advanced View. Once added, you can set thresholds, monitor alerts, and graph data reported by the IPMI-enabled devices device's IPMI interface (such as system temperatures, voltages, fans, power supplies, bus errors, system physical security, and so forth), just as with pods and other sensors.

The IPMI Devices task



Note

The IPMI Devices task is available for use only on NetBotz appliances for which the BotzWare Premium Software Module 2.4 has been purchased.

Adding, Editing, and Removing IPMI Devices

To add an IPMI device to the list of devices monitored by your NetBotz appliance (or to edit a previously created IMPI Device entry):

1. Start the IPMI Devices task. The *IPMI Device Configuration* view is displayed.
2. To add a new IPMI device, click **Add**. To edit a previously created target, select the device from the IPMI Devices selection list and then click **Edit**.
3. The **Add** (or **Edit**) **IPMI Devices** window opens. This window contains the following fields: Type

Item	Description
Host/IP Address	Type in this field the hostname or IP address of the IPMI-enabled device.
User ID	Type in this field the User ID that, along with the appropriate Password, will be used to access the IPMI interface on the IPMI-enabled device.
Password / Confirm Password	Type in this field the Password that, along with the appropriate User ID, User ID that will be used to access the IPMI interface on the IPMI-enabled device.
Protocol	Select from the drop box that IPMI protocol that will be used to communicate with the IPMI interface on the IPMI-enabled device. You can select any of the following protocols: • IPMI V1.5 over LAN • IPMI V2.0 over LAN • SuperMicro IPMI V1.5 over LAN

Item	Description
Scan Interval	Specify how frequently the appliance should query IPMI device for data. **Note:** You can force the appliance to do a scan at any time by click **Scan Now** in the *IPMI Device Configuration* window.

the appropriate values in the fields, and then click **OK** to save the settings for this IPMI-enabled device.

To remove previously created IPMI devices from the IPMI Devices selection list, select one (or more) IPMI-enabled device from the list and then click **Remove**.

Sensor Settings

After you have selected an IPMI-enabled device from the IPMI Devices view and clicked **Sensors**, the Sensor Configuration window opens. Use the Sensor Configuration window specify a unique identification label for a sensor, to specify the total amount of data from the selected sensor that will be preserved on the appliance, and create or modify thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.

The Sensor Configuration window is divided into two selection lists: Sensors and Thresholds. Any monitored values that are available from the selected IPMI-enabled device are listed in the **Sensors** selection list. Once you select a sensor from the Sensors selection list any thresholds that have been defined for the selected sensor appear in the **Thresholds** selection list.

If the selected sensor does not support configuration of thresholds a message advising you of this appears in the Thresholds area of the interface.

To specify a label for a sensor, or to specify the total amount of time that data reported by a selected sensor should be stored on the appliance:

1. Select from the Sensors selection list the sensor you want to modify.
2. Click **Modify** to open the Modify Sensor window.
3. Type in the **Label** field a label to identify this sensor. This label can be up to 64 characters in length, and will be used to identify the sensor in the Sensor Data pane, Advanced View interfaces, and in alert notifications.
4. Select from the **Sensor Value History** drop box the total amount of time that data reported by this sensor should be stored on the appliance. The total amount of data available on the appliance affects the maximum amount of data that can be graphed (for more information see “Viewing Graphs” on page 51).
5. Click **OK** to save the new Sensor values. Click **Cancel** to close this window without saving any changes.

To configure a threshold, select the sensor for which you will create a threshold from the **Sensors** selection list. Any previously configured thresholds for the selected sensor appear in the **Thresholds** selection list.

If the selected sensor does not support configuration of thresholds a message advising you of this appears in the Thresholds area of the interface.

All sensors have a default, pre-configured threshold that will be generated automatically by the Advanced View. This predefined threshold provides the most typical threshold that would be used for the specific sensor type. However, thresholds are highly customizable and configurable, enabling you to create a wide variety of thresholds to suit your needs. Sensor thresholds are explained in detail in “Advanced View: Defining Thresholds” on page 141.

To enable or modify a predefined sensor threshold:

1. Select a sensor from the **Sensor** selection list.
2. A list of currently defined thresholds for the selected sensor appears in the Thresholds selection list. Select the threshold you wish to enable or modify from the Thresholds selection list.
3. Click **Edit...**.
4. The Edit Threshold window appears.
   – To enable the threshold, check the **Enabled** check box.
   – To change threshold settings, use the controls in the Edit Threshold window to set new values as desired.

Click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

The controls that are available in the Edit Threshold window are determined by the type of threshold that you are creating or editing. For detailed instructions on how to create or edit thresholds, see “Advanced View: Defining Thresholds” on page 141.

Output Control

Use the Output Control task to configure any output control devices (such as Output Relay Pod 120s and Power Control Pods) that are connected to your appliance. You can use the Output Control task to perform the following configuration tasks:

- Specify the label used to uniquely identify each output control device connected to your appliance.
- Specify the type of relay output or remote power switch that is attached to each of the external ports on your output control devices, and specify a label for each port.
- Specify the label that is used to identify an individual relay or switch.
- Specify the maximum number of hours of data regarding the reported state of the relay that will be preserved on the appliance.
- Limit user account access to the relay outputs.
- Create automation schedules that will automatically trigger output controls according to a user-specified schedule.
- Create thresholds for each relay which, if violated, will result in an alert condition being reported to the appliance.

To configure a supported output control device, double-click on the Output Control icon to start the Output Control task. A list of supported devices that are connected to your appliance appears.

- The Output Control task will appear only if a supported output control device has been connected to your appliance. If an Output Relay 120 pod is connected, the Output Control task will appear automatically. However, if a supported RS232-based output control device (such as a Power Control Pod) is connected the Output Control task will not appear until you have used the Serial Devices task to specify the output control device type that corresponds to the appropriate serial port.
- If you are configuring a Power Control Pod, be sure to use the Serial Devices task to specify the output control device that is connected to your appliance prior to using Output Control to configure the device. RS232-based output control devices like the Power Control Pod will not appear in this task until they have been specified in the Serial Devices task.

Select the output control device you want to configure, and the click the button that corresponds to the configuration task you want to perform:

- Click **Label** to specify a label for the output control device.
- Click **External Ports** to specify output actions for each of the ports supported by the selected output control device and to provide a unique identification label for each port. You can also define custom output types.
- Click **Sensors** to specify labels for individual relays supported by the select output device, specify the maximum number of hours for which state data will be saved, limit user access to relays, create automation schedules, define sensors for use with the output control device, and create thresholds for those sensors.

Output Control Label Settings

After you have selected a device from the Output Control Configuration window and clicked **Label**, the Output Control Settings window opens. From this window you can specify the label that will be used to uniquely identify the output control device. Type in the **Label** field the label that will be used for this device, and then click **OK** to save this label to the appliance. Click **Cancel** to close this window without saving any changes.

Output Control External Port Settings

After you have selected an output control device from the Output Control Configuration window and clicked **External Ports**, the Edit External Ports window opens. To specify the output action type that will be configured for devices that are connected to each of the external ports of your output control devices, and to specify a label for each of these devices:

1. Select from the **Relay Output Installed** drop-box beside each port the output control action you want to assign to the corresponding port.

   When configuring output types on Power Control Pods, the “closed” relay state causes the circuit on the outlet to be closed and the power to be “on.” The “open” relay state opens the circuit on the outlet and causes the power to be “off.” For example, selecting a **Ten-Second Button (NC)** output type would, when activated, “open” the outlet and interrupt the power supplied to the device that is connected to the outlet for 10 seconds, after which the outlet would be “closed,” restoring power to the device.

   The following output types are available by default:

   – **None:** No output action is associated with this port.

   – **One-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 1 second, and then switched back to closed.

   – **One-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 1 second, and then switched back to open.

   – **Switch (NC):** When activated, a normally closed (NC) relay is switched to an open state.

   – **Switch (NO):** When activated, a normally open (NO) relay is switched to a closed state.

   – **Ten-Second Button (NC):** When activated, a normally closed (NC) relay is switched to an open state for 10 seconds, and then switched back to closed.

   – **Ten-Second Button (NO):** When activated, a normally open (NO) relay is switched to a closed state for 10 seconds, and then switched back to open.

   – **Reboot Button:** When activated, powr to the outlet is interrupted for 10 seconds, and is then restored.

   If you have defined custom output types (see “Defining Custom Output Action Types” on page 88), your custom output types will be available from this list as well.

2. Type in the **Port Label** field the label that will be used to uniquely identify the device connected to output control device port.

3. When you have finished, click **OK** to save your new settings. Click **Cancel** to close the window without saving any changes.

Defining Custom Output Action Types

If the predefined output action types do not meet your needs, you can create custom output action types. Once defined and saved, the new output action type will be available for selection from the **Relay Output Installed** selection list when specifying output control external port settings (see "Output Control External Port Settings" on page 87).

Once a custom output action type is added, it cannot be edited. Custom output actions can only be added or removed. You can view the custom settings for selected output actions by clicking **View Custom**.

To create a custom output action type, click **Add custom** and then select the type of output action that you wish to create. You can select **Button Relay** or **Switch Relay**:

- Button Relays

  Button Relay actions cause the state of the relay device to switch from its default ("Unpressed") state to its alternate ("Pressed") state for a specified period of time, after which the relay will automatically revert to the "Unpressed" state. To create a Button Relay action:

  a. Select **Button Relay** and then click **OK**.

  b. The Add Button Relay Output window opens. This window features the following fields and controls:

Field	Description
Relay Output Type	The label represents the name of the custom output action definition. For example, if you are creating a custom sensor definition for use with push button Model 42 from MyCo, Inc., you might want to use "MyCo Model 42 Button" as the Output Type Label. Once defined, the Output Type Label appears only in the **Relay Output Installed** selection list when specifying output control external port settings.
Default Relay Output Label	This is the text that is used, by default, as a label for any new output types added using this custom output definition. This label is used to identify each individual output type in the Sensor Readings pane, as well as in all interfaces and alert notifications. Once an output type has been added to your appliance, you can use the Output Control Settings task (see "Output Control Sensor Settings" on page 90) to modify the labels for easier output-specific identification.
Pressed Value	The text used to describe the relay when it is in its active, "pressed" state.
Unpressed Value	The text used to describe the relay when it is in its passive, "unpressed" state.
Active Time (ms)	The amount of time (in milliseconds) that the relay will, when activated, remain in a "pressed" state before reverting to the "unpressed" state.

Field	Description
Button Contact Type	Specifies whether the relay is in an “on” state when pressed or in an “off” state when pressed.

a. Type in or select the appropriate values for the Button Relay action.

b. When you have finished, click **OK** to add this output action to the list of available output actions.

- Switch Relays

  Switch Relay actions cause the state of the relay device to switch from its current state (“On” or “Off”) to its alternate state. Once switched, the relay will remain in the new state until another switch action changes its state again. To create a Switch Relay action:

  a. Select **Switch Relay** and then click **OK**.

  b. The Add Switch Relay Output window opens. This window features the following fields and controls:

Field	Description
Relay Output Type	The label represents the name of the custom output action definition. For example, if you are creating a custom sensor definition for use with toggle switch Model 42 from MyCo, Inc., you might want to use “MyCo Model 42 Toggle” as the Output Type Label. Once defined, the Output Type Label appears only in the **Relay Output Installed** selection list when specifying output control external port settings.
Default Relay Output Label	This is the text that is used, by default, as a label for any new output types added using this custom output definition. This label is used to identify each individual output type in the Sensor Readings pane, as well as in all interfaces and alert notifications. Once an output type has been added to your appliance, you can use the Output Control Settings task (see “Output Control Sensor Settings” on page 90) to modify the labels for easier output-specific identification.
On Value	The text used to describe the relay when it is in its “on” state.
Off Value	The text used to describe the relay when it is in its “off” state.

Field	Description
Switch Initial State	The state (“On” or “Off”) in which the relay is assumed to be at the time the output action is assigned. **Note:** This is also the state to which the switch will be set when the appliance is powered up, regardless of what state the switch was in when the appliance was powered down. For example, if the Switch Initial State value is “Off,” but the switch output is in an “On” state when the appliance is powered off, the switch state will automatically revert to the Switch Initial State of “Off” when power is restored.

c. Type in or select the appropriate values for the Switch Relay action.

d. When you have finished, click **OK** to add this output action to the list of available output actions.

Output Control Sensor Settings

After you have selected an output control device from the Output Control Configuration window and clicked **Sensors**, the Sensor Configuration window opens. Use the Sensor Configuration window specify a unique identification label for a sensor, to specify the total amount of data from the selected sensor that will be preserved on the appliance, to specify user accounts that are authorized to manually change the state of selected relays, to create automation schedules for selected relays, and to create or modify thresholds for each relay which, if violated, will result in an alert condition being reported to the appliance.

The Sensor Configuration window is divided into two selection lists: Sensors and Thresholds. Any relays that are available for configuration on this device are listed in the **Sensors** selection list. Once you select a relay from the Sensors selection list any thresholds that have been defined for the selected sensor appear in the **Thresholds** selection list.

Relay/Sensor Settings

To specify a label for a relay, the total amount of time that data reported by a selected sensor should be stored on the appliance, the users that are permitted to manually change the state of the relay, or to specify an automation schedule for the selected relay:

1. Select from the **Sensors** selection list the relay you want to modify.
2. Click **Modify** to open the Modify Sensor window.
3. Type in the **Label** field a label to identify this relay. This label can be up to 64 characters in length, and will be used to identify the relay in the Sensor Data pane, Advanced View interfaces, and in alert notifications.
4. Select from the **Sensor Value History** drop box the total amount of time that data reported by this sensor should be stored on the appliance. The total amount of data available on the appliance affects the maximum amount of data that can be graphed (for more information see “Viewing Graphs” on page 51).
5. Check the **Prompt user before manually changing sensor state** check box to prompt the user with a pop-up verification window prior to changing the state of the selected relay.
6. Specify which non-Administrator accounts are authorized to manually change the relay state. To authorize a non-Administrator account to change relay states manually, select the name of the user account from the **Available Users** selection list and then click -> (right arrow) to move the selected

account to the **Authorized Accounts** selection list. To remove a previously authorized account, select the user account name from the Authorized Accounts selection list, and then click <- (left arrow) to move the selected account to the Available Users selection list.

7. Specify an **Automation Schedule**. If you want to automatically trigger the output action assigned to this relay on a user-specified schedule, select the Automation Schedule tab. Then, select blocks of time from the schedule interface and select the button that corresponds to the output action ("Schedule Switch On," "Schedule Switch Off," or "Schedule Button Press") that will be triggered during the selected periods of time.
8. Click **OK** to save your settings.

Relay Threshold Settings

To configure a threshold, select the relay for which you will create a threshold from the **Sensors** selection list. Any previously configured thresholds for the selected relay appear in the **Thresholds** selection list. Sensor thresholds are explained in detail in "Advanced View: Defining Thresholds" on page 141.

To enable or modify a predefined sensor threshold:

1. Select a relay from the **Sensor** selection list.
2. A list of currently defined thresholds for the selected relay appears in the **Thresholds** selection list. Select the threshold you wish to enable or modify from the **Thresholds** selection list.
3. Click **Edit...**.
4. The Edit Threshold window appears.
   - To enable the threshold, check the **Enabled** check box.
   - To change threshold settings, use the controls in the Edit Threshold window to set new values as desired.

Click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

The controls that are available in the Edit Threshold window are determined by the type of threshold that you are creating or editing. For detailed instructions on how to create or edit thresholds, see "Advanced View: Defining Thresholds" on page 141.

Testing Device Power-On Behavior

Before connecting a device to a Power Control Pod, be sure to first test the device to ensure that when power is restored to the device it powers up without requiring user interaction (such a pressing a power button, for example).

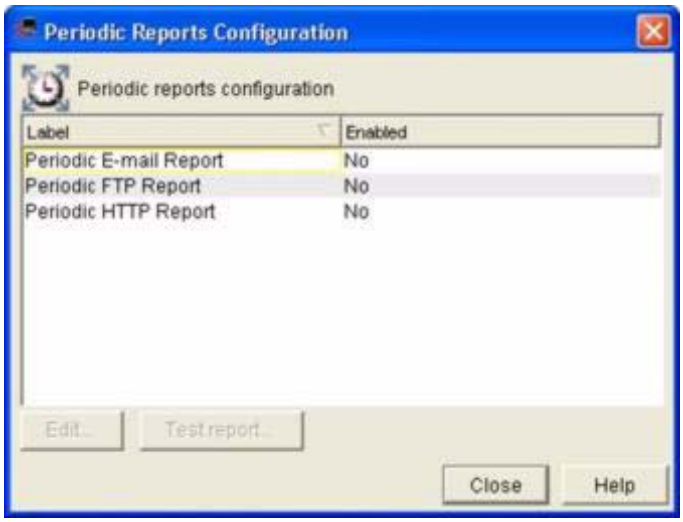
To test the device's power-on behavior, simply plug it directly into a standard power outlet. If the device power on fully without requiring additional interaction it can be used properly with the Power Control Pod. However, if you determine that the restoring power to the device does not enable the device to return to a fully operational state then you may need to update or modify the device (such as changing power control options in the BIOS of a server or workstation, for example) to ensure that the device will work properly when used with your Power Control Pod.

Periodic Reports

Use the Periodic Reports task to configure your appliance to generate sensor reading reports and deliver them to e-mail recipients, HTTP servers, or FTP servers on a user-specified schedule. These reports contains the current readings for all sensors that are connected to your appliance. To start this task, double-click on the Periodic Reports icon to open the Periodic Reports Configuration window. This window displays a table that displays the following periodic reporting methods:

- Periodic E-mail Report
- Periodic FTP Report
- Periodic HTTP Report

The Periodic Reports task.



The column beside the periodic report method shows whether the report method is currently enabled. If a periodic report has been enabled and configured, you can click **Test Reports** to immediately generate and deliver reports to all enabled report recipients.

Configuring Periodic E-mail Reports

To configure your appliance to periodically generate and e-mail sensor reports to specified recipients:

1. Select **Periodic E-mail Report** from the Periodic Reports Configuration window and then click

Edit.

2. The Edit Periodic E-mail Report window opens. This window contains the following fields:

Field	Description
Enabled	Check this check box to enable periodic e-mail reporting.
Include camera pictures	Check this check box to include current image captures by Camera Pod 120s connected to the appliance in the e-mailed report.
Include Maps	Check this check box to include any maps that are stored on the appliance in the e-mailed report.
Include Graphs	Check this check box to include graphs of the sensor readings for all sensors that are associated with the appliance in the e-mailed report.
Interval	The frequency with which e-mail reports will be generated.
Sensor Priority	Acts as a filter that can be used to limit the amount of sensor data that is included with the periodic report. You can select High, Medium, or Low priority settings: • **High:** Only sensor data associated with physical sensors that are integrated with or connected to the appliance are included in the report. Sensor data associated with remote devices, such as MIB II data gathered from remote targets using Basic Device Crawlers and Advanced Data that is gathered using add-on applications such as Advanced Device Crawlers, is not included in the report. • **Medium:** Sensor data associated with physical sensors and with Advanced Data sensor sets from remote devices (such as that which is gathered using Advanced Device Crawlers) is included in the report. Data associated with remote devices that is not grouped in an Advanced Data sensor set, such as MIB II data gathered from remote targets using Basic Device Crawlers, is not included in the report. • **Low:** Sensor data from all sensors is included in the report.
E-mail Addresses	The addresses to which periodic e-mail reports will be delivered.

3. Type the appropriate values in the fields.
4. Specify Advanced Scheduling for the Periodic Report (optional). By default, all Periodic Reports will be generated according to the Interval value you specify. However, you can specify that a Periodic Report will be active only occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Periodic Report for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Periodic Report for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Periodic Report task.

5. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Configuring Periodic FTP Reports

To configure your appliance to periodically generate and deliver sensor reports to a specified FTP server:

1. Select **Periodic FTP Report** from the Periodic Reports Configuration window and then click **Edit**.
2. The Edit Periodic FTP Report window opens. This window contains the following fields:

Field	Description
Enabled	Check this check box to enable periodic FTP reporting.
Include camera pictures	Check this check box to include current image captures by Camera Pod 120s connected to the appliance in the FTP post.
Include Maps	Check this check box to include any maps that are stored on the appliance in the FTP post.
Include Graphs	Check this check box to include graphs of the sensor readings for all sensors that are associated with the appliance in the FTP post.
Interval	The frequency with which FTP reports will be generated.
Sensor Priority	Acts as a filter that can be used to limit the amount of sensor data that is included with the periodic report. You can select High, Medium, or Low priority settings: • **High:** Only sensor data associated with physical sensors that are integrated with or connected to the appliance are included in the report. Sensor data associated with remote devices, such as MIB II data gathered from remote targets using Basic Device Crawlers and Advanced Data that is gathered using add-on applications such as Advanced Device Crawlers, is not included in the report. • **Medium:** Sensor data associated with physical sensors and with Advanced Data sensor sets from remote devices (such as that which is gathered using Advanced Device Crawlers) is included in the report. Data associated with remote devices that is not grouped in an Advanced Data sensor set, such as MIB II data gathered from remote targets using Basic Device Crawlers, is not included in the report. • **Low:** Sensor data from all sensors is included in the report.
FTP Hostname	The hostname or IP address of the FTP server to which the report will be delivered.
User ID	The user ID that will be used, along with the **FTP Password**, to gain access to the specified FTP server.
FTP Password	The password that will be used, along with the **User ID**, to gain access to the specified FTP server.
Confirm Password	Type the **FTP Password** here again to confirm the password.

Field	Description
Target Directory	The relative directory path to be used for storing the data on the FTP server. This should always be a path relative to the default directory associated with the user ID used to log on to the FTP server. If the directories on the path do not exist they will be created automatically. The **Target Directory** field accepts BotzWare macros. For more information on macros supported by BotzWare see "BotzWare Macros" on page 187.
Base Filename	The base filename to be used for storing the data on the FTP server. The alert data will be stored in a file with this name, followed by the ".nbalert" file extension. Pictures from alerts will be stored in files with this name, followed by the ".*n*.jpg" file extension, where *n* is the picture number (1, 2, 3, etc.). The **Base Filename** field accepts BotzWare macros. For more information on macros supported by BotzWare see "BotzWare Macros" on page 187.

This window features **Primary** and **Backup** tabs, each of which has the same fields available. The settings specified on the Primary tab are used by default for any periodic FTP reports. The settings on the Backup pane are used if communication with the Primary server fails.

3. Type the appropriate values in the fields.
4. Specify Advanced Scheduling for the Periodic Report (optional). By default, all Periodic Reports will be generated according to the Interval value you specify. However, you can specify that a Periodic Report will be active only occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Periodic Report for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Periodic Report for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Periodic Report task.

When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Configuring Periodic HTTP Reports

To configure your appliance to periodically generate and post sensor reports to a specified HTTP server:

1. Select **Periodic HTTP Report** from the Periodic Reports Configuration window and then click **Edit**.
2. The Edit Periodic HTTP Report window opens. This window contains the following fields:

Field	Description
Enabled	Check this check box to enable periodic HTTP reporting.

Field	Description
Include camera pictures	Check this check box to include current image captures by Camera Pod 120s connected to the appliance in the HTTP post.
Interval	The frequency with which HTTP reports will be generated.
Sensor Priority	Acts as a filter that can be used to limit the amount of sensor data that is included with the periodic report. You can select High, Medium, or Low priority settings: • **High:** Only sensor data associated with physical sensors that are integrated with or connected to the appliance are included in the report. Sensor data associated with remote devices, such as MIB II data gathered from remote targets using Basic Device Crawlers and Advanced Data that is gathered using add-on applications such as Advanced Device Crawlers, is not included in the report. • **Medium:** Sensor data associated with physical sensors and with Advanced Data sensor sets from remote devices (such as that which is gathered using Advanced Device Crawlers) is included in the report. Data associated with remote devices that is not grouped in an Advanced Data sensor set, such as MIB II data gathered from remote targets using Basic Device Crawlers, is not included in the report. • **Low:** Sensor data from all sensors is included in the report.
SSL Options	Select from this drop-box the SSL options that will be used for this post.
Target URL	The URL of the web server to which the report will be posted.
Target User ID	The user ID that will be used, along with the **Target Password**, to gain access to the specified web server.
Target Password	The password that will be used, along with the **Target User ID**, to gain access to the specified web server.
Confirm Password	Type the **Target Password** here again to confirm the password.

This window features **Primary** and **Backup** tabs, each of which has the same fields available. The settings specified on the Primary tab are used by default for any periodic HTTP reports. The settings on the Backup pane are used if communication with the Primary server fails.

3. Type the appropriate values in the fields.
4. Specify Advanced Scheduling for the Periodic Report (optional). By default, all Periodic Reports will be generated according to the Interval value you specify. However, you can specify that a Periodic Report will be active only occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Periodic Report for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Periodic Report for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Periodic Report task.

5. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Sensor Pods

Use the Sensor Pods task to configure any integrated Sensor Pods (NetBotz 320 and 420 models only) and any Sensor Pod 120s, Wireless Receiver 120s, 4-20mA Sensor Pods, or NMEA-compliant GPS receivers that are connected to your appliance. You can use the Sensor Pods task to perform the following configuration tasks:

- Specify the label used to identify the Sensor Pod 120, Wireless Receiver 120, or GPS receiver.
- Configure sensors associated with these devices or with integrated Sensor Pods, including specifying the label that is used to identify an individual sensor, specifying the maximum number of hours of sensor data that will be preserved on the appliance, and creating thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.
- Specify the type of external sensors that are attached to each of the external sensor ports on your Sensor Pod 120s, 4-20mA Sensor Pods, or your integrated Sensor Pod (NetBotz 320 and 420 models only), and specify a label for each external sensor port.

To configure a supported device, double-click on the Sensor Pods icon to start the Sensor Pods task. A list of supported devices that are connected to your appliance appears. Select the device you want to configure, and the click the button that corresponds to the configuration task you want to perform:

- Click **Settings** to specify settings for the device.
- Click **Sensors** to configure the sensors that are built into or connected to the device and to create thresholds for those sensors.
- Click **External Ports** to specify the type of external sensors that are attached to each of the external sensor ports that are integrated with your appliance (NetBotz 320 and 420 models only) or on your Sensor Pod 120s, and to provide a unique identification label for each external sensor. You can also define custom dry contact and analog sensors.

Settings

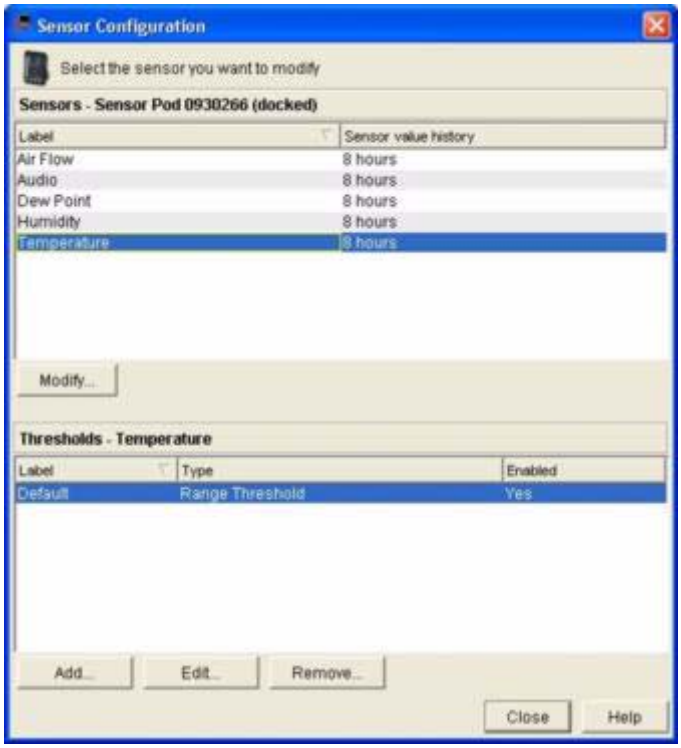
After you have selected a device from the Sensor Pods window and clicked Settings, the Sensor Pod Settings window opens. From this window you can specify the label that will be used to uniquely identify the device and specify the severity of the alert that will be generated if the selected device is unplugged (if applicable. Unplugged Alert Severity is available only for devices that can be disconnected from an appliance).

If it is available, type in the Label field the label that will be used for this device. Then, select from the **Unplugged Alert Severity** drop box the severity of the alert that will be generated if the device is unplugged from the appliance. Then click **OK** to save these settings to the appliance. Click **Cancel** to close this window without saving any changes.

Sensors

After you have selected a device from the Sensor Pods window and clicked **Sensors**, the Sensor Configuration window opens. Use the Sensor Configuration window specify a unique identification label for a sensor, to specify the total amount of data from the selected sensor that will be preserved on the appliance, and to create or modify thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.

The Sensor Pods Sensor Configuration task.



The Sensor Configuration window is divided into two selection lists: Sensors and Thresholds. Any sensors that are available for configuration on this device are listed in the **Sensors** selection list. Once you select a sensor from the Sensors selection list any thresholds that have been defined for the selected sensor appear in the **Thresholds** selection list.

To specify a label for a sensor, or to specify the total amount of time that data reported by a selected sensor should be stored on the appliance:

1. Select from the Sensors selection list the sensor you want to modify.
2. Click **Modify** to open the Modify Sensor window.
3. Type in the **Label** field a label to identify this sensor. This label can be up to 64 characters in length, and will be used to identify the sensor in the Sensor Data pane, Advanced View interfaces, and in alert notifications.
4. Select from the **Sensor Value History** drop box the total amount of time that data reported by this sensor should be stored on the appliance. The total amount of data available on the appliance affects the maximum amount of data that can be graphed (for more information see “Viewing Graphs” on page 51).
5. Click **OK** to save the new Sensor values. Click **Cancel** to close this window without saving any changes.

To configure a threshold, select the sensor for which you will create a threshold from the **Sensors** selection list. Any previously configured thresholds for the selected sensor appear in the **Thresholds** selection list. All sensors have a default, pre-configured threshold that will be generated automatically by the Advanced View. This predefined threshold provides the most typical threshold that would be used for the specific sensor type. However, thresholds are highly customizable and configurable, enabling you to create a wide variety of thresholds to suit your needs. Sensor thresholds are explained in detail in "Advanced View: Defining Thresholds" on page 141.

To enable or modify a predefined sensor threshold:

1. Select a sensor from the **Sensor** selection list.
2. A list of currently defined thresholds for the selected sensor appears in the **Thresholds** selection list. Select the threshold you wish to enable or modify from the **Thresholds** selection list.
3. Click **Edit...**.
4. The Edit Threshold window appears.
   - To enable the threshold, check the **Enabled** check box.
   - To change threshold settings, use the controls in the Edit Threshold window to set new values as desired.

Click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

The controls that are available in the Edit Threshold window are determined by the type of threshold that you are creating or editing. For detailed instructions on how to create or edit thresholds, see "Advanced View: Defining Thresholds" on page 141.

External Ports

After you have selected a Sensor Pod 120 or integrated Sensor Pod from the Sensor Pods window and clicked **External Ports**, the External Port Configuration window opens. To specify the type of external sensors that are connected to each of the external sensor ports, and to specify a label for each of these sensors, select from the **Sensor Type Installed** drop box (located beside the **External Sensor Port ID**) the specific external sensor that is connected to each port. If desired, type in the **Port Label** field a label that will be used to uniquely identify the Sensor Pod 120 and port to which it is connected. When you have finished, click **OK** to save your new threshold settings. Click **Cancel** to close the Edit Threshold window without saving any changes.

From time to time, NetBotz certifies new external sensor types available for use with your appliance. To add new sensor definitions to the selectable list of sensor types, click **Update Sensor Definitions**. You can then choose to either download a list of current sensor definitions from the NetBotz web site, or load a sensor definition list from a file on your system.

Defining Custom Dry Contact or Analog Sensors

> **For Advanced Users Only!** This is an advanced appliance feature. It is intended for use only by technically experienced users, such as network administrators or network systems management coordinators. To configure a custom dry contact or analog sensor you must have extensive knowledge of the sensor hardware for which you are creating a definition and of how sensors work in general. Please refer questions about sensors and sensor hardware to your site web master, your network administration and IT staff, or to the manufacturer of the sensor hardware.

If the predefined output dry contact or analog sensor types do not meet your needs, you can create custom sensor definitions. Once defined and saved, the new sensor definition will be available for selection from the **Sensor Type Installed** drop box when specifying Sensor Pod external port settings (see "External Ports" on page 99), enabling you to use this new sensor definitions for all additional dry contact or analog sensors of the same type.

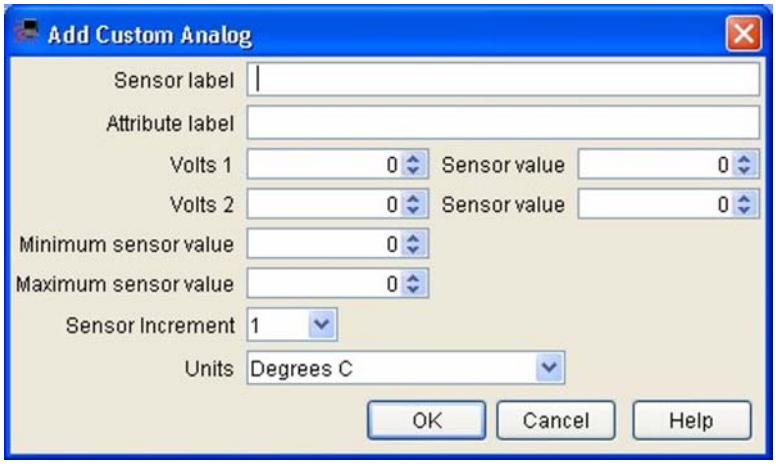
Note Once a custom sensor is added, it cannot be edited. Custom sensors can only be added or removed. You can view the custom sensor settings for selected sensors by clicking **View**.

To add a custom sensor:

1. Click **Add custom...**. The Select Sensor Type window opens.
2. Select the radio button that corresponds to the type of sensor you want to define (**Dry Contact, Analog (0-3.3V)**, **Analog (0-5.0V)**, or **4-20mA)** and click **OK**.
   - To define a custom 0-3.3V or 0-5.0V analog sensor, see "Define the custom analog sensor" on page 100.
   - To define a custom dry contact sensor, see "Define the custom dry contact sensor" on page 101
   - To define a custom 4-20mA sensor, see "Define the custom 4-20mA sensor" on page 103.

- Define the custom analog sensor
  a. After you select **Analog (0-3.3V)** or **Analog (0-5.0V)** and click **OK**, the Add Analog Sensor window opens.

The Add Custom Analog window



This window features the following fields and controls:

Field	Description
Sensor Type Label	The label represents the name of the custom sensor definition. For example, if you are creating a custom sensor definition for use with temperature sensor Model 42 from MyCo, Inc., you might want to use “MyCo Model 42 Temperature Sensor” as the Sensor Type Label. Once defined, the Sensor Type Label appears only in the **Sensor Type Installed** drop box when specifying Sensor Pod external port settings.
Default Sensor Label	This is the text that is used, by default, as a label for any new sensors added using this custom sensor definition. This label is used to identify each individual sensor in the Sensor Readings pane, as well as in all interfaces and alert notifications. Once a sensor has been added to your appliance, you can use the Sensor Pod Settings task (see “Settings” on page 97) to modify the labels for easier sensor-specific identification.
Volts 1 / Sensor Value and Volts 2 / Sensor Value	Use the Volts 1 / Sensor Value and Volts 2 / Sensor Value fields to specify 2 reference points (between 0 and 3.3 volts for 0-3.3V analog sensor and between 0 and 5.0 volts for 0-5.0V analog sensors) for the sensor readings. Using these two points, the appliance will use linear interpolation to determine the full range of sensor values that correspond to the voltage readings reported by the sensor. For example, if you specify Volts 1 /Sensor Value as “1.0” and “10”, and Volts 2 / Sensor Value as “2.0” and “20,” then the appliance can determine that a voltage reading of 3.1 from the analog sensor represents a sensor value of 31.
Minimum Sensor Value	The lowest value that will be reported by the sensor.
Maximum Sensor Value	The highest value that will be reported by the sensor.
Sensor Increment	The numeric increments in which the sensor reading rises or falls.
Units	The unit of measurement that is used for this sensor.

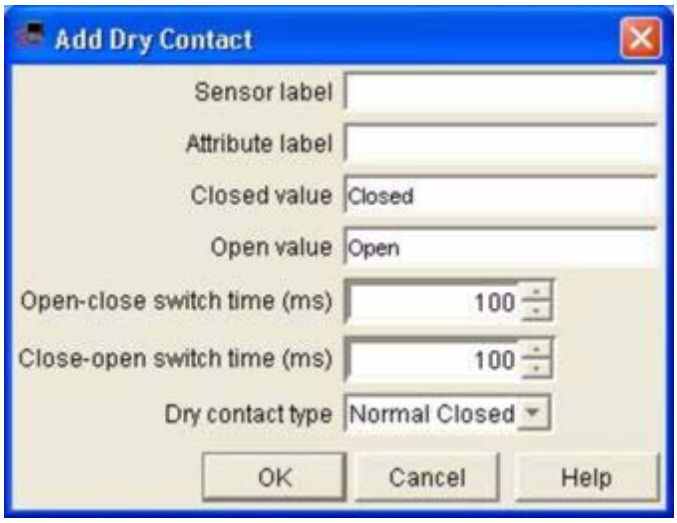
b. Type in the appropriate values for the analog sensor hardware.

c. When you have finished, click **OK** to add this sensor definition to the list of available Sensor Types.

- Define the custom dry contact sensor

a. After you select **Dry Contact** and click **OK**, the Add Dry Contact Sensor window opens.

The Add Dry Contact window.



This window features the following fields and controls:

Field	Description
Sensor Type Label	The label represents the name of the custom sensor definition. For example, if you are creating a custom sensor definition for use with a normally closed (NC) motion temperature sensor Model 42 from MyCo, Inc., you might want to use “MyCo Model 42 Motion Sensor (NC)” as the Sensor Type Label. Once defined, the Sensor Type Label appears only in the **Sensor Type Installed** drop box when specifying Sensor Pod external port settings.
Default Sensor Label	This is the text that is used, by default, as a label for any new sensors added using this custom sensor definition. This label is used to identify each individual sensor in the Sensor Readings pane, as well as in all interfaces and alert notifications. Once a sensor has been added to your appliance, you can use the Sensor Pod Settings task (see “Settings” on page 97) to modify the labels for easier sensor-specific identification.
Closed Value	The text used to describe the sensor value that is reported when the dry contact sensor is in a Closed state. For example, if you are defining a motion detector sensor that is normally closed (NC), the Value Label (Closed) text could read “None” or “No motion” or “OK.”
Open Value	The text used to describe the sensor value that is reported when the dry contact sensor is in a Open state. For example, if you are defining a motion detector sensor that is normally closed (NC), the Value Label (Open) text could read “Detected” or “Motion” or “Alert!”
Open-Close Switch Time (ms)	The amount of time that must pass (in milliseconds) when the dry contact sensor goes from Open state to Closed state before the state change is reported.

Field	Description
Close-Open Switch Time (ms)	The amount of time that must pass (in milliseconds) when the dry contact sensor goes from Closed state to Open state before the state change is reported.
Dry Contact Type	Specifies whether the dry contact sensor is a normally open (NO) or normally closed (NC) dry contact sensor.

b. Type in the appropriate values for the dry contact sensor hardware.

c. When you have finished, click **OK** to add this sensor definition to the list of available Sensor Types.

- Define the custom 4-20mA sensor

a. After you select **4-20mA** and click **OK**, the Add Custom 4-20mA Sensor window opens.

This window features the following fields and controls:

Field	Description
Sensor Type Label	The label represents the name of the custom sensor definition. For example, if you are creating a custom sensor definition for use with temperature sensor Model 42 from MyCo, Inc., you might want to use “MyCo Model 42 Temperature Sensor” as the Sensor Type Label. Once defined, the Sensor Type Label appears only in the **Sensor Type Installed** drop box when specifying Sensor Pod external port settings.
Default Sensor Label	This is the text that is used, by default, as a label for any new sensors added using this custom sensor definition. This label is used to identify each individual sensor in the Sensor Readings pane, as well as in all interfaces and alert notifications. Once a sensor has been added to your appliance, you can use the Sensor Pod Settings task (see “Settings” on page 97) to modify the labels for easier sensor-specific identification.
mA 1 / Sensor Value *and* mA 2 / Sensor Value	Use the mA 1 / Sensor Value and mA 2 / Sensor Value fields to specify 2 reference points (between 4 and 20 mA) for the sensor readings. Using these two points, the appliance will use linear interpolation to determine the full range of sensor values that correspond to the voltage readings reported by the sensor.
Minimum Sensor Value	The lowest value that will be reported by the sensor.
Maximum Sensor Value	The highest value that will be reported by the sensor.
Sensor Increment	The numeric increments in which the sensor reading rises or falls.
Units	The unit of measurement that is used for this sensor.

b. Type in the appropriate values for the analog sensor hardware.

c. When you have finished, click **OK** to add this sensor definition to the list of available Sensor Types.

Wireless Sensor Discovery

Use the Wireless Sensor Discovery task to specify the discovery settings that will be used when detecting the presence of THS-100 Wireless Temperature/Humidity Sensors.

Wireless sensors can be used only in conjunction with a Wireless Receiver 120. This task will not be available for use unless a Wireless Receiver 120 has been connected to your appliance and the serial port has the receiver assigned to it using the Serial Devices task.

Field	Description
Discovery mode	This setting determines the circumstances under which new wireless sensors will be discovered and added to the list of sensors available from the Wireless Receiver 120. There are two discovery mode settings available: • **Any:** Any detected wireless sensor will automatically be added to the list of wireless sensors. • **None:** No additional wireless sensors will be discovered.
Timeout (minutes)	The number of seconds that can pass after data has been received from a wireless sensor before, if no additional data is received, the sensor is considered to be offline. The default setting is 10 minutes.
Serial numbers to exclude	If desired, use the **Add** button to add to this list the serial numbers of wireless sensors that you want to ignore.

To change the Wireless Sensor Discovery settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Advanced View: Configuring Appliances

The tasks available from the Appliance Settings portion of the Configuration panel enable you to configure your appliance. Detailed information about the tasks available from the Appliance Settings portion of the Configuration panel follows.

Backup

Use the Backup task to save your appliance configuration to a password-protected, encrypted file. This backup file contains your entire appliance configuration, including user accounts settings, pod configurations, alert actions and profiles. Once your appliance configuration is saved, you can use the Restore task (see “Restore” on page 132) to restore this configuration to your appliance at a later date.

The Backup task.

To use the Backup task:

1. Start the task by double-clicking on the Backup icon.
2. Type in the **Backup File** field the file name that will be used for the backup file.
3. Click **Browse** and then use the file navigation window to select a drive and directory in which the backup file will be stored. When you are finished, click **OK** to return to the Backup task window.
4. Type in the **Password** field the password that will be used to protect this backup file. Note that without this password you will not be able to use the Restore task to decrypt and restore the appliance settings.
5. Type the password again in the **Confirm** field.
6. Click **OK** to save your appliance configuration.

Clock

Use the Clock task to view or change the date and time that are configured on the appliance internal clock, or to configure your appliance to obtain and synchronize its clock settings from an NTP server. To start this task, double-click on the Clock icon to open the Clock Settings window. The following controls are available from the Clock task:

Field	Description
Enable NTP check box	Check this check box to enable the NTP functionality. Uncheck this check box to enable the clock and calendar controls on this pane.
Primary, Secondary, and Tertiary NTP Servers	IP address of NTP servers for use in automatically setting the appliance clock.
Date/Time Controls	Use the arrows in the **Time** field, the **Month** drop box, the arrows in the **Year** field, and the Calendar control to manually configure the day, date, and time used by your appliance's internal clock.

The Clock task.

To change the Clock settings, use the controls to specify the desired values in the appropriate fields. When you are finished, click **OK** and any changes you have made will be saved to the appliance.

Custom Audio Clips

Use the Custom Audio Clips task to upload custom audio clips (in WAV or OGG format) to your NetBotz 500 appliance, or to delete previously uploaded clips from the NetBotz 500 appliance. Once uploaded, audio clips can be used with the Play Custom Audio alert action. For more information about the Play Custom Audio alert action see “Creating a Play Custom Audio Alert Action” on page 163. This task is available for use only with NetBotz 500 appliances.

There is a limited amount of audio clip storage available on your NetBotz 500 appliance. NetBotz 500 appliances have a total of 4MB of space available for custom audio clips (shared with any background images that have been stored on the appliance. For more information, see “Creating and Editing Maps” on page 51). Be sure to take these limitations into consideration when choosing background image files.

Adding Custom Audio Clips

To upload a custom audio clip to your appliance:

1. Start the task by double-clicking the **Custom Audio Clips** icon.
2. Click **Add custom audio clip**.
3. Use the file selection interface to select a sound file. Files must conform to the following specifications:
   – OGG format: 8khz or 16khz sample rate, mono or stereo.
   – Windows WAV format (PCM only): Any sample rate, mono or stereo. Note that WAV files will be encoded into OGG files on upload, so the actual storage space used will be significantly less than the initial WAV file size.
4. Click **OK** to upload the file to your appliance.

Once the file is uploaded, it will be available for use with the Play Custom Audio Alert action.

Deleting Custom Audio Clips

To delete a previously uploaded custom audio clip from your appliance, selec the audio clip you wish to delete from the Custom Audio Clips selection list and then click **Delete custom audio clip**.

DNS

Use the DNS task to view or change the NetBotz domain name server settings and to enable and configure Dynamic DNS functionality. To start this task, double-click on the DNS icon to open the DNS Settings window. This task consists of two panes: the DNS pane and the Dynamic DNS pane.

Configuring DNS Settings

The DNS pane contains the following fields:

Field	Description
DNS Domain	The DNS domain name to which this appliance belongs.
Primary DNS Server	The IP address of the primary domain name server.
Secondary DNS Server	The IP address of the secondary domain name server.
Tertiary DNS Server	The IP address of the tertiary domain name server.

To change the NetBotz appliance DNS settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Configuring Dynamic DNS Settings

The Dynamic DNS service, hosted by DynamicDNS.org, allows you to alias a dynamic IP address to a static hostname in any of the many domains they offer, allowing your appliance to be more easily accessed from various locations on the Internet.

To use Dynamic DNS support, you will first have to sign up for an account at http://www.dyndns.org and then register a hostname for this appliance (MyNetBotz500.dyndns.org, for example) for use with the Dynamic DNS service. Once you have signed up for an account, activated the account, and registered a hostname, use the controls in the Dynamic DNS pane to configure Dynamic DNS functionality on your appliance. This pane includes the following controls:

Field	Description
Service	Use this drop box to specify the type of Dynamic DNS service account you have configured. You can choose DynDNS.org (Static), DynDNS.org (Dynamic), or DynDNS.org (Custom).
IP Address	Use this drop box to specify the method that will be used by the Dynamic DNS service to determine the IP address to which traffic will be forwarded. You can choose Use Local IP Address (which will configure the Dynamic DNS service to use the IP address that is assigned to your appliance) or Use Web-Based Lookup (which will configure the Dynamic DNS service to use the IP address that is reported for your appliance using http://checkip.dyndns.org).
Hostname	Type in this field the hostname that is associate d with this appliance by the Dynamic DNS service.
User ID / Password	Type in these fields the User ID and password associated with your Dynamic DNS account.

When you have finished providing the needed data, click OK to save your settings. Be sure to check the **Enable** check box to activate Dynamic DNS functionality.

E-mail Server

Use the E-mail Server task to specify the e-mail address that will appear in the “From” field of any e-mails generated by the appliance, to specify primary and backup mail servers that will be used to deliver any e-mail alert notifications, and to configure SSL options the appliance should apply for use when communicating with the primary and backup SMTP servers. To start this task, double-click on the E-mail Server icon to open the E-Mail Server Settings window. This window contains the following fields:

Field	Description
From Address	The e-mail address that will appear in the “From” field of any e-mail generated by the appliance.
SMTP server	The IP address of the SMTP server used to send E-mail.
Port	The IP port on the e-mail server used for SMTP communications

Field	Description
Requires Logon check box	Check this check box if the server requires you to log in to send e-mail.
User ID	Provide a User ID that will be accepted by the SMTP server when sending e-mail.
Password	Provide a Password that will be accepted by the SMTP server when sending e-mail.
Confirm	Type the password again to confirm.
SSL Options	Select from this drop box the selection that corresponds to the SSL communication options that you want to apply to communications between the appliance and the SMTP server. You can choose the following options: • **SSL disabled:** Do not use SSL for mail delivery, even if supported • **Use SSL if available:** Attempt to use SSL if the server supports it, but proceed with un-encrypted delivery otherwise. If SSL is used, no certificate verification is required. This is the default. • **Require SSL: No verification:** Require SSL support on the server (do not deliver without it), but accept any certificate provided by the server (i.e. self signed certificates will be allowed). • **Require SSL - verify certificate:** Require SSL support on the server (do not deliver without it), and only accept certificates signed by a trusted certificate authority (i.e. self signed certificates will not be allowed, but Verisign and the like certificates will be accepted even if the hostname does not match the host in the certificate). • **Require SSL - verify certificate and hostname:** Require SSL support on the server (do not deliver without it), and only accept certificates signed by a trusted certificate authority and which contain a hostname matching that used to contact the server (i.e. only certificates issued by trusted sources and which contain the same hostname as used to access the server are allowed).

All settings except the From Address field are available for both a Primary e-mail server, as well as a second Backup e-mail server that will be used if the appliance is unable to connect to the primary e-mail server. To change the NetBotz appliance E-mail Server settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Test E-mail Server** to test your e-mail server settings. Click **Cancel** to close this window without saving any changes.

External Storage

Use the External Storage task to configure your appliance to store data on the optional Extended Storage System (sold separately, for use only with NetBotz 500 appliances) or a network attached storage device (a Windows share or an NFS mount). A maximum of 5000 objects (such as alerts and picture clips) can be stored using External Storage. Sensor readings do not count against the maximum number of sobject stored.

- Before you can use this task to configure an Extended Storage System, you must use the License Keys task to activate the External Storage task, using the license key you received when you purchased the Extended Storage System. The Extended Storage System is available for use only on NetBotz 500 appliances. For more information about License Keys, see “License Keys” on page 114.
- The use of network attached storage, such as a Windows share or an NFS mount, for extended storage purposes is available for use only on NetBotz 500 appliances for which the BotzWare Premium Software Module 2.4 has been purchased.

You can use this task to:

- Use an Extended Storage System (a USB drive that is connected directly to your NetBotz 500 USB port) for extended storage
- Use network attached storage (NAS) for extended storage. The following NAS implementations are supported:
  - MS Windows 2000 / XP / 2003
  - MS Windows Storage Server
  - Samba V2.2.6 or later (on Linux)
  - NFS V3.x or later
- Remove previously configured extended storage

Not all NAS devices that work with Windows systems necessarily use one of the supported implementations. Also, some devices may use proprietary protocols and standards that require additional drivers in order to communicate with the share. Therefore, some NAS devices may not be mountable or useable.

When this task is started, if an Extended Storage System or NAS is configured for use by your appliance its status and size are displayed in the External Storage window.

Configuring Your Appliance to Use External Storage

To configure your appliance to use an Extended Storage System or NAS for extended storage, start the External Storage task and then click **Add**. The Select Storage Type pane appears. Three selections are available:

- **USB Drive:** Configures the appliance to use an Extended Storage System for extended storage. Your appliance cannot be configured to use an Extended Storage System until you have used the License Keys task to activate the External Storage task, using the license key you received when

you purchased the Extended Storage System **and** the USB drive has been connected to the appliance.

- **Windows Share:** Configures the appliance to use a Windows file system share on a NAS as extended storage.
- **NFS Mount:** Configures the appliance to use an NFS Mount on a NAS as extended storage.

Refer to the subsections below for specific instructions on adding each type of extended storage to your appliance.

Using an Extended Storage System

To configure your appliance to use an Extended Storage System for extended storage:

1. Select **USB Drive** from the Select Storage Type pane and then click **Next**.
2. The Select operation pane appears. Two selections are available:
   - **Use Extended Storage:** Configure the appliance to use the Extended Storage System without formatting the file system first. Can be used if the Extended Storage System you have connected to your appliance has previously been formatted and contains camera and sensor data already.
   - **Format and use Extended Storage:** Formats the Extended Storage System's file system and then configures the appliance to use the Extended Storage System.
3. Select the operation you wish to perform and then click **OK**.
   - If you selected **Use Extended Storage**, a confirmation message appears advising you that the appliance will need to restart to complete the task. Click **Finish** to restart the appliance. When the restart is complete all Extended Storage System functionality will be available for use.
   - If you selected **Format and use Extended Storage**, a confirmation message appears, advising you that formatting the extended storage device will destroy any data stored on the device and that formatting can take 10 or more minutes to complete, after which the appliance must restart to begin using extended storage. Click **Finish** to complete this task. Once the Extended Storage System is formatted, your appliance will restart automatically. When the restart is complete all External Storage functionality will be available for use.

Using a Windows Share

Because problems can occur with your NAS devices that would adversely affect appliance behavior, be sure to use the Backup task to back up your appliance configuration before using External Storage to configure the appliance to use a Windows share. This will help ensure that, should you encounter problems with the Windows share, you can easily restore your appliance to an operational state.

To configure your appliance you use network attached storage for extended storage purposes:

1. Select **Windows Share** from the Select Storage Type pane and then click **Next**.
2. The Windows Share Settings pane appears. This pane features the following fields and controls:

Field	Description
Remote Hostname/IP	The hostname or IP address of the NAS.
Remote Share Name	The name of the Windows share on the NAS.
Subdirectory (optional)	The subdirectory in the Windows share that will be used to store data. If no subdirectory is specified, data will be stored in the root directory of the share.
Domain	The Windows domain to which the NAS is connected.
User ID	The User ID required to access the Windows share.
Password / Confirm Password	The Password that is required to access the Windows share.
Use all available space check box	If checked, the appliance will not delete data from the share until all available space on the share has been exhausted. If unchecked, use the **Limit space to (MB)** and **Allocation Unit** controls to specify how much space on the share will be allocated for use by the appliance.

3. Once you've filled in all of the required information, click **Next** to continue.
4. The Select Action pane appears. Two selections are available:
   – **Use network extended storage:** Configure the appliance to use the specified Windows share without clearing the share of data first.
   – **Initialize:** Clears all existing data from the Windows share and then configures the appliance to use the Windows share.
5. Select the operation you wish to perform and then click **OK**.

Using an NFS Mount

Because problems can occur with your NAS devices that would adversely affect appliance behavior, be sure to use the Backup task to back up your appliance configuration before using External Storage to configure the appliance to use a NFS mount. This will help ensure that, should you encounter problems with the NFS mount, you can easily restore your appliance to an operational state.

To configure your appliance you use network attached storage for extended storage purposes:

1. Select **NFS Mount** from the Select Storage Type pane and then click **Next**.
2. The NFS Settings pane appears. This pane features the following fields and controls:

Field	Description
Remote Hostname/IP	The hostname or IP address of the NAS.
Remote Mount	The name of the NFS mount on the NAS.
Subdirectory (optional)	The subdirectory in the NFS mount that will be used to store data. If no subdirectory is specified, data will be stored in the root directory of the mount.
Authenticate using UID check box	check this check box to authenticate all appliance access to the mount using UID. If checked, be sure to specify the correct UID value as well.
Use all available space check box	If checked, the appliance will not delete data from the mount until all available space on the mount has been exhausted. If unchecked, use the **Limit space to (MB)** and **Allocation Unit** controls to specify how much space on the mount will be allocated for use by the appliance.

3. Once you've filled in all of the required information, click **Next** to continue.
4. The Select Action pane appears. Two selections are available:
   - **Use network extended storage:** Configure the appliance to use the specified NFS mount without clearing the share of data first.
   - **Initialize:** Clears all existing data from the NFS mount and then configures the appliance to use the NFS mount.
5. Select the operation you wish to perform and then click **OK**.

Removing External Storage

To remove a previously added and configured NAS or Extended Storage System from your appliance:

1. Start the **External Storage** task and then click **Stop Using**. The following confirmation message appears: "Remove configured drive? This will cause the appliance to reboot."
2. Click **OK** to remove the Extended Storage System. Your appliance will restart automatically.
3. If you are removing an Extended Storage System, power off your appliance. Then, unplug the Extended Storage System USB cables from the appliance and power your appliance on again.

IP Filter

Use the IP Filter task to limit access to your appliance to users connecting from specified IP addresses or IP address ranges. By default, clients from any IP address can attempt to access your appliance. While access to the appliance is granted only when appropriate user account IDs and passwords are provided, IP Filtering provides additional security by preventing connections from IP addresses that do not meet the IP filter criteria you specify.

Note: If no IP Filter criteria are specified, then connections from **all** IP addresses are permitted.

To specify IP Filter criteria, click Add and then specify an IP that will be permitted access. You can also use wildcards to specify a range of addresses. For example, providing an address of 192.168.1.* would permit connections only from clients with an IP address of 192.168.1.0 through 192.168.1.255.

After you have typed in the IP address, click OK to add the address value to the list of IP Filter criteria. When you have finished specifying IP Filter values, click **OK** save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

License Keys

Use the License Keys task to activate or deactivate license key-enabled applications that are available for use on this appliance. A list of available applications appears in the License Keys task window, as well as an indicator of whether the application is enabled or not. If a license key has been applied for an available function the license key will be displayed as well. You can also use this task to add new license keys to this appliance or to remove previously implemented license keys from this appliance.

To enable a license key-based application, select the application from the License Keys list and click **Edit**. Then, type in the **License Key** field the License Key that received when you purchased a license for the application and click **OK**.

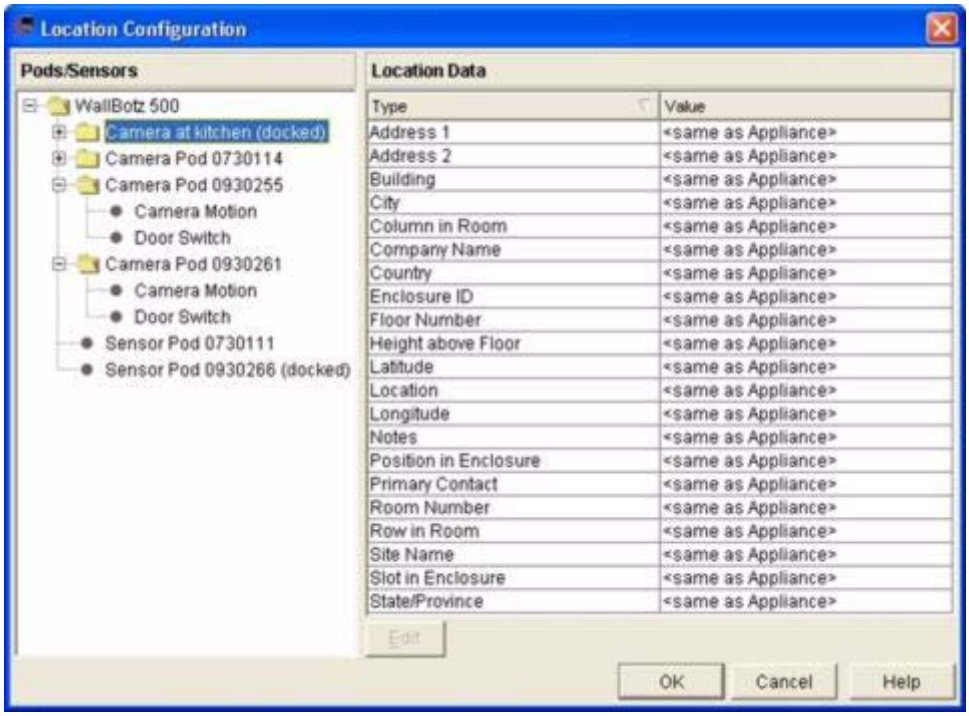
To disable a previously enable license key-based application, select the application from the **License Keys** list and then click **Edit**. A confirmation message appears, asking whether you wish to remove the application. Click **OK** to remove the license key and disable the application.

Location

Use the Location task to configure additional sensor-specific location information that will also be included in alert notifications generated by the appliance. Location values can be assigned to the appliance and to all pods and external sensors connected to the appliance. Location settings for pods and sensors can be inherited from their “parent” (for example, a pod can inherit Location settings from the appliance, or a sensor can inherit Location setting from the pod to which it is connected), or you can specify pod-specific and sensor-specific Location settings as well. To start this task, double-click on the Location icon to open the Location Settings window. This window contains the following fields:

Field	Description
Pods/Sensors Selection Tree	Use this tree to select the appliance, pod, or sensor for which you wish to specify Location settings.
Location Data: Type	A list of Location settings that are available for the currently selected appliance, pod, or sensor to which you can assign additional information attributes.
Location Data: Value	The currently assigned Location value for each of the Location settings available for the selected component. If no Location value has been specified, the Value field beside the Location Data Type is blank. By default, pods and sensors will inherit all Location Values from the parent object (the appliance and the pod respectively).

The Location task.



To change the Location settings, select the appliance, pod, or sensor for which you wish to specify Location values from the Pods/Sensors selection tree. Then, select the desired Location Data Type and click **Edit** to open the Edit Location Attribute window. Type in the new Location value and click **OK** to the Edit Location Attribute window. When you have finished specifying Location values, click **OK** save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Log

The Log task is used to determine what events will be stored and displayed in the Appliance Log (accessed from the Advanced View Tools pull-down menu). When you select a log level, it instructs the appliance to save only events that have a log value that is equal to or lower than the selected Level value. Therefore, if you select a lower Log Level value, fewer events will be recorded in the Appliance Log. For example, if you select a log Level of 6 - Notice, all events that have a Log Level of 6 or lower will be recorded in the Audit Trail, while events that have a Log Level of 7 or 8 will not be recorded.

Your NetBotz appliance logging capabilities are broken out into specific components and/or functions. By default, all components log at the level specified by the Global Level setting. However, you can also specify a unique login level setting for each component.

Note that the components that are available for logging are determined by appliance model and user access privileges. Therefore, some items may not be available on some models or to some user accounts.

The Log task.

The log level values are:

- 1 - Emergency
- 2 - Alert
- 3 - Critical
- 4 - Error
- 5 - Warning
- 6 - Notice
- 7 - Information
- 8 - Trace

NetBotz strongly recommends a minimum Log Level of **6 - Notice**. This will ensure that log messages that are associated with alerts are recorded in the Audit Trail.

You can also configure the appliance to post log data to a remote syslog server. Syslog is a comprehensive logging system that is used to manage information generated by the kernel and system utilities in your network. Syslog enables you to sort messages based on their source or their importance, and also enables you to route messages to other destinations within your network. When the syslog functionality is enabled, all events that are stored in the Audit Trail will also be forwarded to a remote syslog host for logging to a user-specified syslog facility.

When this task is selected, the following fields appear in the Action pane:

Field	Description
Global Level	The Global Level setting determines the global level of logging that will be displayed on the Audit Page. By default, all components will log at the level specified by the Global Level setting. The lower you set the logging level, the less thorough the logging will be.
Component Log Levels	This selection list contains a list of all available components or functions for which logging is available. By default, each component will log at the level specified by the Global Level setting. To specify a component-specific log setting, select the Level drop box/field beside the desired component and then select the desired log level for the component.
Hostname	Type in this field the IP address or hostname of the remote system that is acting as the syslog host system.
Port	Type in this field the TCP port number used by the remote syslog server for syslog communications. Default is 514.

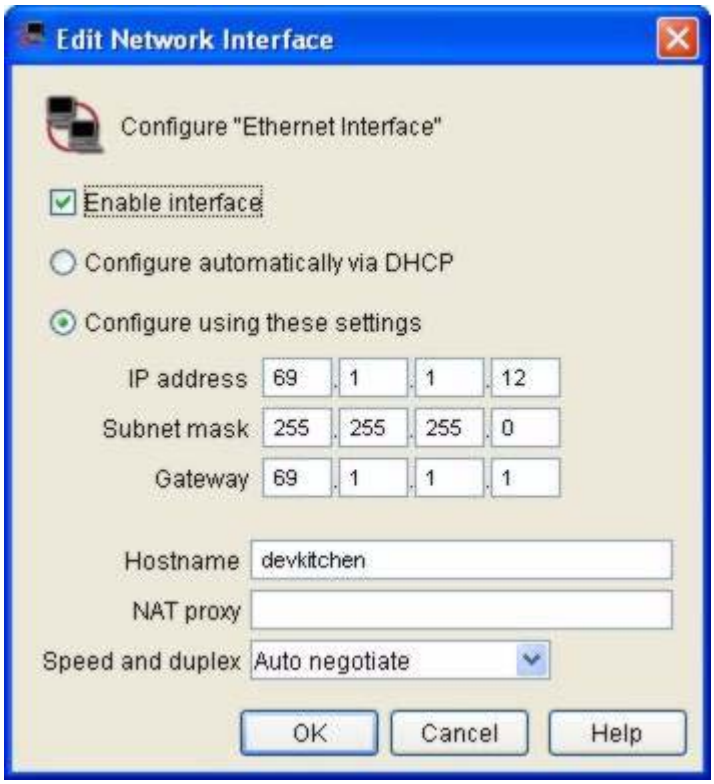
To enable logging of events to a remote syslog host type in the **Hostname** field the IP Address or Hostname of the remote syslog server. If the remote syslog server is using a port other that 514 for syslog communications, type in the Port field the appropriate port number. When you are finished, Click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Network Interfaces

Use the Network Interface task to view or change the NetBotz appliance network settings for you appliance's network interfaces. By default there is a single network interface: the Ethernet Interface for the appliance's built-in Ethernet connection. If you have not installed additional network interfaces to your appliance and you start this task the Edit Network Interface window will open. If you have installed a supported wireless network PC Card then you will first be presented with a selection list containing the names of the network interfaces available for configuration on your appliance.

When you select an interface and then click Edit the Edit Network Interfaces window opens, with settings specific to the selected network interface available for editing.

The Network Interfaces task window for Ethernet settings.



Ethernet Network Interface

If you are editing the Ethernet network interface configuration, the following controls and fields appear in the Edit Network Interface window:

Field	Description
Enable Interface	Check this check box to enable this network interface.
Configure via DHCP radio button	Select this radio button to configure the selected network interface to use a DHCP server on the network to obtain its IP address, subnet mask, and gateway server settings. If you are using DHCP, the time remaining until the appliance will need to renew its IP address lease is displayed beneath this radio button.
Configure using these settings radio button	Select this radio button if you want to specify the IP address, subnet mask, and gateway address values for the selected network interface.

Field	Description
IP	The IP address assigned to the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Subnet Mask	The subnet mask for the network that will be used by the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Gateway	The IP address of the gateway in the network that will be used by the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Hostname	The host name assigned to the appliance. If you change the hostname value and are using a DHCP server for IP configuration the appliance will use the new hostname until the next time it renews its IP address license and will request that the DHCP server use the hostname you entered as the appliance's hostname from now on.
NAT Proxy Name	The name or IP address that is used by a NAT Proxy server in your network to enable users to connect to the appliance from outside the firewall. This address will be included in E-mail alert notifications that are generated by the appliance instead of the IP address used to identify the appliance within the firewall. Recipients will then be able to click on the link contained in the E-mail and connect to the appliance even if they are outside the firewall. **Note:** A NAT Proxy Name is needed only if your appliances are behind a NAT Proxy firewall. If you are not using a NAT Proxy, leave this field blank.
Speed and Duplex	Use this setting to force the network interface to use specific speed and duplex settings, or to configure the interface to auto-negotiate these settings. You can choose Auto Negotiate, 100BaseTx Full Duplex, 100BaseTx Half Duplex, 10BaseT Full Duplex, 10BaseT Half Duplex, or 1000Base Tx Full Duplex (1000Base Tx Full Duplex will be available only if a supported gigabit Ethernet card is installed and properly configured).
MTU	Specifies the Maximum Transmission Unit, the largest physical packet size, measured in bytes, that a network can transmit. Any messages larger than the MTU are divided into smaller packets before being sent. Every network has a different MTU, which is set by the network administrator. Ideally, you want the MTU to be the same as the smallest MTU of all the networks between your machine and a message's final destination. Otherwise, if your messages are larger than one of the intervening MTUs, they will get broken up (fragmented), which slows down transmission speeds.

When you are finished editing the network interface settings, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Wireless Network Interface

If you are editing a wireless network interface configuration, the following controls and fields appear in the Network and Wireless tabs of the Edit Network Interface window:

Field	Description
Enable Interface	Check this check box to enable this network interface.
Configure via DHCP radio button	Select this radio button to configure the selected network interface to use a DHCP server on the network to obtain its IP address, subnet mask, and gateway server settings. If you are using DHCP, the time remaining until the appliance will need to renew its IP address lease is displayed beneath this radio button.
Configure using these settings radio button	Select this radio button if you want to specify the IP address, subnet mask, and gateway address values for the selected network interface.
IP	The IP address assigned to the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Subnet Mask	The subnet mask for the network that will be used by the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Gateway	The IP address of the gateway in the network that will be used by the selected network interface. This field is available only if you have selected the **Configure using these settings** radio button.
Hostname	The host name assigned to the NetBotz appliance. If you change the hostname value and are using a DHCP server for IP configuration the appliance will use the new hostname until the next time it renews its IP address license and will request that the DHCP server use the hostname you entered as the appliance's hostname from now on.
NAT Proxy Name	The name or IP address that is used by a NAT Proxy server in your network to enable users to connect to the appliance from outside the firewall. This address will be included in E-mail alert notifications that are generated by the appliance instead of the IP address used to identify the appliance within the firewall. Recipients will then be able to click on the link contained in the E-mail and connect to the appliance even if they are outside the firewall. **Note:** A NAT Proxy Name is needed only if your appliances are behind a NAT Proxy firewall. If you are not using a NAT Proxy, leave this field blank.
ESS ID	The Extended Service Set value shared by this appliance and other members of the wireless network.

Field	Description
Mode	Determines the wireless communication method to use within your wireless network. If your wireless network uses Wireless Access Points (WAPs), select Managed. If your wireless network does not use WAPs, select Ad-Hoc. If you are unsure of whether wireless access points are in use in your network, select Automatic and the adapter will attempt to determine if WAPs are present and self-determine its mode.
Channel	The wireless channel on which the adapter will communicate. Wireless networking clients and WAPs within an ESS must be configured with the same ESS ID and the same channel.
Band	For wireless adapters that support multiple WiFi communication bands, specifies the wireless band that the card will attempt to use for communications. You can select: **Automatic:** Searches first for 11a, then 11b, then 11g, and finally for 11a Turbo. The appliance will use the first band connection/ESSID match it discovers. • **11a:** Looks for only 802.11a band connections • **11b:** Looks for only 802.11b band connections • **11g:** Looks for only 802.11g band connections • **11a Turbo:** Looks for only proprietary 802.11a band connection
Encryption	Use this drop box to specify Specify the type of encryption that will be used on the wireless transmissions. You can select **WEP**, **LEAP**, or **None**. • If you select WEP, you must also specify whether an **ASCII** or **Hex** WEP Key will be used, as well as the WEP **Key** value. • If you select LEAP, you must also specify the LEAP **Username** and **Password** that will be used. **Note:** LEAP communications are supported only when used with Cisco 1200 Series AP 12.01T1 wireless access points.
MTU	Specifies the Maximum Transmission Unit, the largest physical packet size, measured in bytes, that a network can transmit. Any messages larger than the MTU are divided into smaller packets before being sent. Every network has a different MTU, which is set by the network administrator. Ideally, you want the MTU to be the same as the smallest MTU of all the networks between your machine and a message's final destination. Otherwise, if your messages are larger than one of the intervening MTUs, they will get broken up (fragmented), which slows down transmission speeds.

The following status information can be observed in the Wireless Status tab of the Edit Network Interface pane: Link Status, Link Quality, Like Rating, Link Speed, Link Frequency and WAP MAC.

When you are finished editing the network interface settings, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

PPP/Modem

Use the PPP/Modem task to configure your appliance to establish a Point-to-Point Protocol (PPP) connection with your TCP/IP network using a supported USB or PC Card modem and a standard analog telephone connection.

For a list of supported modems, see the *About Your Appliance* booklet included with your appliance.

With PPP support, you can:

- Provide a substitute for an Ethernet connection if your appliance cannot be connected to an Ethernet network
- Use PPP connectivity in conjunction with or as a backup for an Ethernet connection. Appliances can be configured to dial into your network at specified times of days for specified periods or to remain online at all times
- Use PPP connectivity to dial out and connect with remote systems only in response to alert conditions
- Use PPP connectivity to enable dial-in functionality on your appliance, enabling you to use a computer and modem to remotely dial into and monitor your appliance

PPP/Modem connection are far slower than LAN connections. Advanced View performance with PPP/Modem connected appliances will be significantly slower than with those that are connected directly to your LAN, particularly in regard to image collection and display and delivery of alert notifications that include picture data.

When configuring appliances that will use PPP/Modem connections, you should also configure the camera pod camera settings with as low a Picture Count setting as is acceptable for your needs.

The PPP/Modem Configuration task pane consists of three panes: Basic, Advanced, and Status. When the Basic tab is selected, the following controls appear in the Basic pane:

Field	Description
Hostname	The hostname that will be associated with the PPP interface.
Phone Number	The telephone number that the modem will dial to establish a PPP connection.
User ID	The User ID that will be provided when establishing a PPP connection.
Password / Confirm Password	The Password that will be provided when establishing a PPP connection.

Field	Description
Country (if supported by modem)	Some modems support country-specific communications parameters to ensure that the modem adheres to communications standards and requirements in use in the country. If your modem supports these strings the **Country** drop-box will be available. Select from the **Country** drop box the country in which the appliance will be dialing out. You can also select **None**, which will configure the modem to use the default communications parameters.
Schedule: Dial-Out Enable	Check this checkbox to create a schedule of times at which your appliance will establish a PPP connection, regardless of whether alerts have been generated or not. **Note:** By default no scheduled dial-out events are configured. If you choose to enable scheduled dial-outs, you should then click the **Set Schedule** button located beside the **Enable Dial-Up** checkbox to specify the days and times at which PPP connections will be established.
Schedule: Dial-In Enable	Check this check box to enable PPP dial-in support on your appliance. If dial-in support is enabled, you will be able to use a system and modem to dial into the appliance and establish a PPP connection. The remote system must provide a Supervisor User ID and Password to establish the PPP connection. For information on how to manage an appliance that you have dialed into, see “Managing your Appliance Using a Dial-In PPP Connection” on page 125. **Notes:** • By default dial-in access is enabled 24 hours a day, 7 days a week, unless you use the dial-in scheduler to enable and disable dial-in access for specified days and times. To configure a dial-in access schedule, click the **Set Schedule** button located beside the **Enable Dial-in** check box. • Note that, if the appliance encounters a situation that requires it to dial-out (due to schedule, alert, or a immediate dial-out request), it will immediately over-ride any current dial-in session without warning.
Alert Dial-out Settings: Dial-out Response to Alerts/Reports	Select from this drop-box the PPP dial-up action that will be taken by the appliance when alerts or periodic reports are generated. You can select any of the following: • Disabled — No dial-up action is taken when alerts or reports are generated. • Enabled — Use PPP to connect to the network whenever an alert or report is generated. • Delivery Failure — Use PPP to connect to the network only if network-based alert notification (e-mail, FTP, HTTP posting, etc.) or report delivery fails.
Alert Dial-out Settings: Remain connected after alerts/reports sent	Use the spin buttons to specify the number of minutes the appliance will keep the PPP connection active after connecting to the network to deliver alert or report information.

The following controls appear in the Advanced pane:

Field	Description
LCP - Send LCP echo requests to peer	When this check box is checked, your appliance will send LCP echo requests, allowing PPP to know that the PPP link is active even when there is no network traffic.
Exclusive route - Route all data through PPP when dialed-out	If this check box is checked, all data will be routed via the PPP interface during PPP dial out sessions. When this check box is not checked, the Ethernet interface will be used for communication with hosts that are on the same subnet as the appliance. However, all communication with hosts not on the same subnet as the appliance will be carried out using the PPP interface.
Debug - Send debug messages to syslog	When checked, debug messages will be forwarded to the syslog host specified in the Log task (for more information see “Log” on page 116).
SIM PIN / Confirm SIM PIN	For modems that use a SIM (subscriber identification module), specify the PIN that is used to unlock the SIM. **Note:** A SIM may or may not require a PIN in order to function. For modems that do not have a SIM this field must be blank.
Extra Initialization Commands	If necessary, type additional initialization commands that will be appended to the commands noted in the Initialization commands field here.
Use default modem commands	Check this check box to use the default modem initialization string for your modem.
Initialization commands	If necessary, edit the initialization string used for your modem here.
E-mail Addresses for IP Address Notification	When a PPP connection is established, an e-mail continuing the IP address that has been assigned to the appliance will be sent to all e-mail addresses listed in this field. To add addresses to this field, click Add, type an address in the E-mail Address field, and then click OK.

The following controls and data appear in the Status pane:

Field	Description
Modem Status	Shows the current status reported by the modem to which the appliance is connected.
Hostname	The hostname being used to identify the PPP interface. Note that this will only show a hostname if you configured one in the **Hostname** field in the Basic pane.
IP Address / Subnet Mask	The IP address and subnet mask that has been assigned to the appliance by the PPP Gateway.
Gateway	Shows the IP address of the PPP Gateway.

Field	Description
DHCP	Shows whether DHCP is in use for this connection.
Connect Speed	Shows the speed of the current PPP connection.
Dial-Out Due to Schedule (*Yes* or *No*)	If Yes, indicates that the current PPP connection was initiated as a result of a user-specified dial-out schedule.
Dial-Out Due To Alert/Report (*Yes* or *No*)	If Yes, indicates that the current PPP connection was initiates as a result of an alert or report being generated by the appliance.
Dial-Out Due to Immediate Request (*Yes* or *No*)	If Yes, indicates that the current P connection was initiated as a result of a user-specified immediate dial-out request.
Dial-in Due to Schedule	If Yes, indicates that the current PPP connection was initiated as a result of a user-specified dial-in schedule.
Request Immediate Dial-Up/ Cancel Dial-Up Request	If the appliance does not currently have an active PPP connection to a network, you can click Request Immediate Dial-Out to establish a connection. The PPP connection, once initiated, will stay active until you click **Cancel Dial-Up Request** or the appliance reboots.

To change the PPP dial-out/dial-in settings, use the controls to specify the desired settings. When you are finished, click OK and any changes you have made will be saved to the appliance. To end the task without making any changes to your appliance click Cancel. Click Refresh to update the contents of the task pane with the values that are currently stored on the appliance.

Managing your Appliance Using a Dial-In PPP Connection

When dial-in support is enabled, the appliance places the external modem in “auto-answer” mode. This enables the user to initiate a dial-in connection to to the appliance through the external modem. When dialing into the appliance, you must provide a user ID and password for a user account with Administrator access to authenticate the PPP connection. Once the PPP connection has been established you can access the appliance using IP address 192.168.254.1.

IP traffic is not routed through the appliance, so you will not be able to use the appliance PPP connection to access other devices or systems that are on the same Ethernet network as the appliance (assuming the appliance is connected to an Ethernet network as well as a modem).

PPP Performance Considerations

PPP/Modem connections are substantially slower than Ethernet and wireless network connections. Using SSL to communicate with an appliance over a PPP/Modem link will slow communications even further, and if the appliance is attempting to send too much data over a PPP connection you can encounter a bottleneck situation, where events never get delivered or get delivered long after they occur.

When monitoring or managing an appliance that is connected to your network using only a PPP/Modem connection, some functions may be unavailable and some performance limitations will be apparent. These limitations can become far worse if the PPP connection is slow (lower than 25000 V42bis) or the appliance is configured in a manner that causes it to send a lot of images, audio, or other data. Some performance issues that will occur include:

- **Loading the Alerts View:** If the appliance currently has a very large number of active or resolved alerts stored on the appliance (or, more likely, stored on an Extended Storage System or NAS), loading the Alerts View may take a very long time, or may even fail to load correctly and completely. If this is an issue, limit the number of alerts that are being loaded by un-checking the **Include "Returned to Normal" Alerts** check box. Also, once you have successfully loaded the Alerts View you must set the **Refresh Interval** value to **None**. If you do not do this the Advanced View will automatically attempt to periodically reload the Alerts View, which will greatly impact the amount of data that the appliance can send over the PPP connection and could prevent you from being able to load alerts or other data.
- **Streaming Audio:** Streaming audio does not perform well over PPP/Modem connections. If you enable streaming audio, you will likely encounter large gaps in the audio stream.
- **Access by Multiple Clients:** If more than one client is accessing an appliance over a PPP/Modem connection simultaneously performance will be severely degraded.
- **Delivering Higher Resolution Images, Setting High Frame Rates:** Large image captures (as part of an alert notification, or simply delivering images for viewing in the Cameras View) can take a significant amount of time. If your appliance is generating a lot of alert notifications, all of which include large amounts of image data, delivery of the notifications will get delayed due to the slow PPP connection. If too many notifications get "backed up" on the appliance notifications can start to get dropped. Appliances that will be communicating using PPP should have their Camera Pod Capture settings and Cameras View frame rates set to with the lowest acceptable values (320x240, 1 frame every 10 seconds respectively).
- **Viewing Alert Captures:** Loading and viewing alerts that include a large number of image captures and/or audio clips can take a very long time. Also, if the alert includes audio the audio may not load properly, and may not be synchronized with the images. Also, loading alerts that include many image captures in the Basic View over a PPP/modem connection can be extremely slow, and can cause the browser to become unstable. When using a PPP connection to view alerts, we strongly recommend you use the Advanced View to do so.
- **Performing Multiple Alert Actions Simultaneously:** Appliances that will be communicating over a PPP connection should to be configured to perform more than 2 alert actions simultaneous, particularly if the alert actions include image captures or in any of actions use the Send Data to FTP Server notification method. This can cause notifications to get "backed up" on the appliance, which can result in notifications getting dropped.
- **Sensor Data Fails to Load:** If the appliance is in the process of transmitting a large amount of data (caused by Maximum Rate or Mode settings in the Cameras View or by attempting to load an alert that includes graphs or a large amount of image and audio data, for example) attempts to load sensor data may fail. Once load on the appliance has been reduced, the sensor data will re-appear

Using SIM Security

If you will be using the Advanced SIM PIN features, be sure to enter the PIN correctly. If your SIM requires a PIN and you enter the PIN incorrectly the appliance attempts to use the wrong PIN repeatedly, which could cause the SIM to become "blocked." If your SIM is blocked, you will require a Pin Unblocking Key (PUK) from your service provider.

If, after the SIM is disabled, the appliance continues to attempt to use the SIM while using an incorrect PIN the SIM may become permanently disabled.

Upgrading Over PPP

Depending on connection speed this process can take in excess of one and a half hours (including an appliance reboot). If your PPP connection fails before the upgrade files are entirely downloaded, then the upgrade will not proceed and upgrade must be re-initiated once the PPP connection is re-established. Make sure you configure your appliance's dial-out or dial-in schedule to allow for at least a full hour and a half from the time you starts the upgrade process. If you do not do this, the Advanced View may not be able to reconnect with the appliance after the appliance reboots, and will therefore be unable to complete the Upgrade process.

Upgrading Over a Dial-Out Connection

Before beginning the Upgrade process, ensure that the dial-out schedule is set to establish PPP connections for at least a one and a half hour period from the time you begin the upgrade.

Once the upgrade image has been downloaded and applied to the appliance, the appliance will automatically reboot. When this happens, the Advanced View will display an "Attempting to Re-Connect" status box. The upgrade and reboot process can take several minutes to complete, so click Cancel, wait about 5 minutes to allow the appliance to finish upgrading, rebooting, and re-establishing the PPP network connection, and then use the Advanced View to reconnect with the appliance. Once reconnected, use the Upgrade task to confirm that the upgrade was successful.

Upgrading Over a Dial-In Connection

Before beginning the Upgrade process, ensure that the dial-in schedule is set to permit dial-in PPP connections for at least a one and a half hour period from the time you begin the upgrade. Also, make sure that all dial-out configuration is disabled. Dial-out overrides dial-in in all cases, so if during the upgrade process the appliance needs to dial-out due to an alert or other notification event the dial-in session will be terminated immediately and without warning so that the dial-out session can be established.

Once the upgrade image has been downloaded and applied to the appliance, the appliance will automatically reboot. However, once the appliance reboots the dial-in connection will close, and the Advanced View will appear to halt "Attempting to Re-Connect" status window. In this case, click Cancel in the Status window, wait about 5 minutes to permit the appliance to finish upgrading and rebooting, and then re-establish the dial-in connection to the appliance. Once reconnected, use the Upgrade task to confirm that the upgrade was successful.

Note that if you are upgrading both BotzWare and the Advanced View simultaneously, once you click Cancel in the Attempting to Re-connect status box the Advanced View upgrade will commence automatically. Once it has finished, re-start the Advanced View and proceed with the upgrade instructions above.

Proxy

Use the Proxy task to provide the necessary settings to allow the appliance to utilize an HTTP, Socks V4, or V5 Proxy Server. When configured, the appliance will use the proxy server for all e-mail and HTTP Post communications, allowing these communications to cross the firewall. These settings do not apply to communications to the appliance: only communications from the appliance.

The Proxy task.

To start this task, double-click on the Proxy icon to open the Proxy Settings window. This window contains an HTTP tab and a SOCKS tab, each of which contains the following fields:

Field	Description
Hostname	The host name or IP address of the proxy server the appliance should use for e-mail, HTTP Posts, and other outbound communications.
Port	The IP port number to connect to on the proxy server.
User-ID	Some proxy servers can be configured to require a user-ID and password in order to allow access through the server. This field allows the user-ID to be specified.
Password/Confirm Password	Some proxy servers can be configured to require a user-ID and password in order to allow access through the server. This field allows the password to be specified.

To change the NetBotz appliance Proxy settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Region

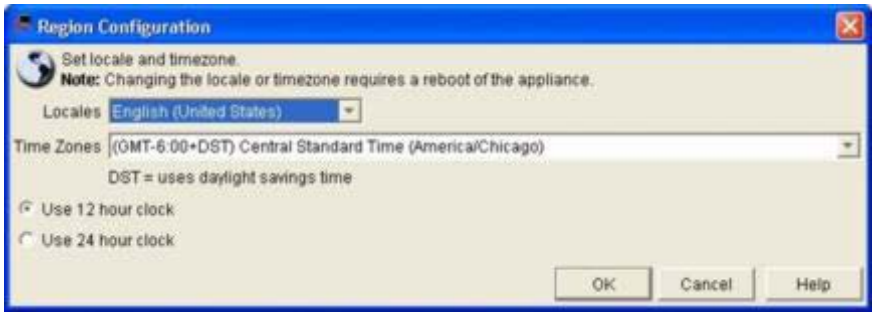
Use the Region task to specify the region in which the appliance is being used and to configure the appliance clock to report time using a 12- or 24-hour clock.

Note

Region settings affect only the date and time stamp displayed in the image captures and the format of sensor readings and dates or times specified in alert notifications generated by the appliance itself. The regional format of dates, times, and sensor readings that are displayed in the Advanced View (such as in the Sensor Readings pane) are determined by the region settings reported by the operating system of the system on which the Advanced View is running.

To start this task, double-click on the Region icon to open the Region Settings window.

The Region task.



This window contains the following fields:

Field	Description
Supported Locales	A list of all locales supported by the appliance.
Time Zones	A list of time zones supported by the appliance.
Use 12 Hour Clock	Select to configure the appliance to report time using a 12-hour clock (for example, 2:30PM).
Use 24 Hour Clock	Select to configure the appliance to report time using a 24-hour clock (for example, 14:30).

To change the Region settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Note

Changes to the Locale or Time Zone of an appliance will not take affect until the appliance is restarted. Use the **Reboot Appliance** tool (located in the Tools pull-down menu) to restart the appliance when you have finished configuring the Region settings if needed.

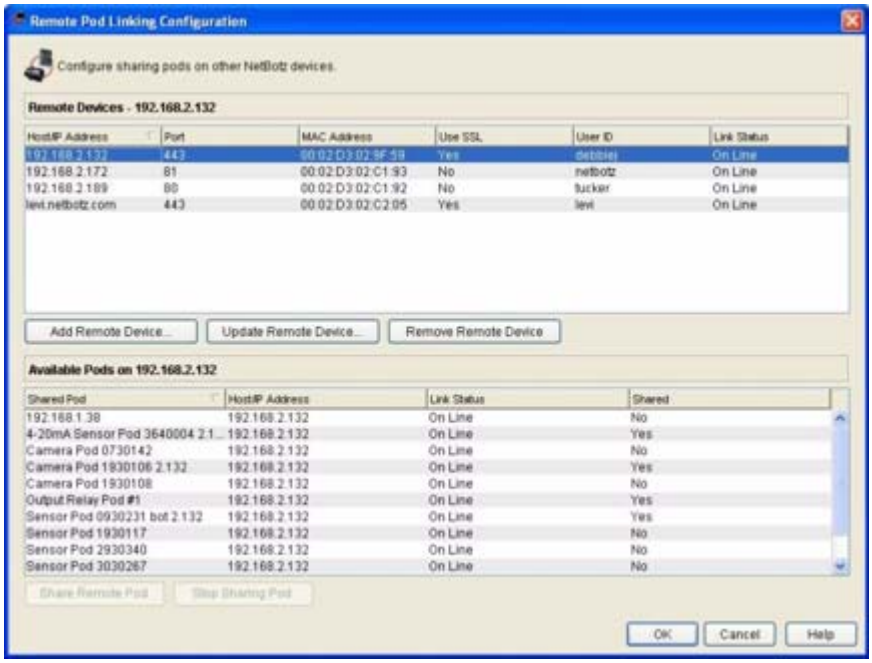
Pod Sharing

Use the Pod Sharing task to configure your NetBotz 500 series appliance to host “virtual pods.” Pod Sharing, available for use only on NetBotz 500 appliances for which the BotzWare Premium Software Module 2.4 has been purchased, enables your NetBotz 500 to connect with and receive data directly from devices integrated with or connected to NetBotz 320, 420 or 500s in your network. Shared pods can be the integrated camera or sensor pod or externally connected pods on a NetBotz 320, 420, or 500. Pod Sharing enables you to use a single NetBotz 500 as a facility “host” to manage alerts from many other NetBotz appliances distributed throughout your network.

Once a pod has been shared with the NetBotz 500, it functions as though it were connected directly to the appliance. A single NetBotz 500 can host up to 16 shared pods, total. Up to 4 of the shared pods can be Camera Pod 120s or CCTV Adapter pods. The shared pods can be physically connected to up to 8 target NetBotz appliances.

Shared pods are configured using additional shared pod tasks that appear in the Sensor/Pod Settings portion of the Configuration pane. The Shared Camera Pods and Shared Sensor Pods tasks appear only after at least one pod of the appropriate type is being hosted by the NetBotz 500 appliance. Functionally, these tasks are nearly identical to the Sensor Pods and Camera Pods tasks (see “Sensor Pods” on page 97 and “Camera Pods” on page 66 for more information).

The Pod Sharing task.



Some settings (such as camera capture settings) can be set directly from the NetBotz 500 using these tasks. However, other settings (such as motion masking, block-out, and adding external sensors) require the Advanced View to communicate directly with the appliance to which the pod is physically connected. If you select a task that requires direct communication with the remote appliance, a dialog box will appear asking if you'd like to connect with the remote appliance and providing a button that, when clicked, switches the Advanced View to managing the remote appliance. Once the configuration task on the remote appliance is complete, simply click on the Return button, located beside the Logo button at the top of the Advanced View interface, to return to managing the NetBotz 500 that is hosting the pod.

- Only the NetBotz 500 that will host remote pods requires the BotzWare Premium Software Module. Remote appliances to which pods are physically connected and then shared with the NetBotz 500 appliance do not require the BotzWare Premium Software Module.
- Pods that are not physically connected to an appliance do not count against the total number of USB-connected appliances allowed for the appliance model (NetBotz 420s support 1 additional camera pod and up to 4 additional non-camera pods; NetBotz 500s support up to 4 camera pods and up to 17 non-camera pods).
- Framerate from remotely hosted camera pods is limited to 10 frames per second.
- The camera image resolution available from a hosted camera pod is determined by the maximum resolution available to the appliance to which the pod is physically connected. For example, if you are remotely sharing a Camera Pod 120 that is connected to a NetBotz 500, the maximum resolution available will be 1280x1024. However, if the Camera Pod 120 is shared from a NetBotz 420 the maximum available resolution will 640x480.

To use the Pod Sharing task to host a pod (or other device that is connected to or integrated with a remote appliance):

1. Start the task by double-clicking on the Pod Sharing icon. The Pod Sharing Configuration window opens.
2. Click on **Add Remote Device**. The Configure Remote Device window opens. This window

contains the following fields:

Field	Description
Host/IP Address	The hostname or IP address of the remote appliance that the device to be hosted is either integrated with or connected to.
Port	TCP port over which pod sharing communications will occur. Default is 80 for HTTP, and 443 for HTTPS.
SSL Options	Select from this drop-box the SSL options that will be used for pod sharing communications.
User ID	Type in this field the User ID that will be used to access the remote appliance. Note that some remote pod functionality may be unavailable if a user account that does not have Administrator privileges is used to access the appliance.
Password / Confirm Password	Type in these fields the Password that will be used to access the remote appliance.
Timeout (seconds)	Specify the number of seconds that the appliance will wait for a response from the remote appliance before it considers the target to be unresponsive.

3. Type in all required values and then click **OK** to add the remote appliance to the **Remote Devices** list.
4. Next, select from the **Remote Devices** list the remote appliance you just added. A list of devices that are available for sharing from the remote device appears in the **Available Pods** selection list.
5. Select a device from the **Available Pods** list and then click **Share Remote Pod** to share the pod with your NetBotz 500.
6. Click **OK** when you have finished adding shared devices.

Restore

Use the Restore task to restore your NetBotz 500 configuration using a configuration file created using the Backup task (see “Backup” on page 105).

The Restore task.

To use the Restore task:

1. Start the task by double-clicking on the Restore icon.
2. Type in the **Backup Filename** field the name and fully qualified path to the backup file or click **Browse** and then use the file navigation window to navigate to the drive and directory in which the backup file is stored, then select the file and click **OK** to return to the Backup task window.
3. Type in the **Password** field the password that you used to protect the backup file. Note that without this password you will not be able to use the Restore task to decrypt and restore the appliance settings.
4. Click **OK** to restore your appliance configuration.

Serial Devices

Use the Serial Devices task to specify what serial devices are connected to any serial pots that have been added to your appliance. Serial ports can be added by installing or connecting a serial communications device (such as a modem) to your appliance, or by connecting a USB-to-Serial-Port adapter to your appliance or to a USB hub that is connected to your appliance.

This task will be available only if a device that features one or more serial ports, such as a PC Card modem or a USB-to-Serial-Port adapter, has been installed in or connected to your appliance.

As serial ports are detected by your appliance, entries corresponding to each serial port appear automatically in the Serial Devices task. Once a serial port is detected, use this task to specify the serial device that is connected to the serial port. You can also specify a label that will be used to uniquely identify the port to which each device is connected.

For example, if you install a PC Card modem in your appliance, a serial port will appear in the Serial Devices task window. You must then select from the Device Type Installed drop box beside the serial port the modem type that was installed in the PC Card slot.

When you have finished specifying devices using this task, click **OK** to save your changes. Click **Cancel** to close this window without saving any changes.

Removing Serial Ports

If a previously detected serial port is not presently detected by the appliance (for example, if the USB-to-serial port connector has been disconnected from the appliance), a **Remove** button will appear beside the port. Click **Remove** to remove the port configuration.

SMS

Use the SMS task to view or change the SMS (Short Messaging Service) settings used by your appliance. These settings must be configured correctly for the Send Wireless SMS Message alert action (see “Creating a Send Wireless SMS Message Alert Action” on page 173) to function properly.

This task will be available only if a modem that supports SMS messaging has been installed in and configured for use with your appliance.

The SMS Configuration task consists of Basic, Advanced, and Status panes. The following controls and data appear in the Basic pane:

Field	Description
SIM PIN / Confirm SIM PIN	For modems that use a SIM (subscriber identification module), specify the PIN that is used to unlock the SIM. **Note:** A SIM may or may not require a PIN in order to function. For modems that do not have a SIM this field must be blank. For information about your SIM PIN please contact your GSM/GPRS service provider.
Service Center (SMSC)	The address of the "Short Message Service Center" used by your SMS service. The SMSC is essentially an SMS "server" that is used to send the messages. The address for the SMSC is typically programmed into the SIM and therefore you can typically leave this field blank. Entering a value in this field will override automatic SMSC selection. **Note:** For information about your SMSC please contact your GSM/GPRS service provider.
Destination	The destination "address" used to send an SMS to an e-mail destination. The default value for this field is "0000000000," which is the value that works with AT&T Wireless. When an SMS message needs to be sent to an e-mail destination address, the appliance puts the e-mail address at the beginning of the message and sends it to the Destination address. The SMSC receives the message, pulls out the e-mail address, and sends the remainder of the message to the e-mail address. **Note:** For information about your SMS Destination please contact your GSM/GPRS service provider.
Interrupt PPP when an SMS alert occurs check box	If your modem supports both SMS and PPP communications, enabling this setting will allow SMS communications to override PPP communications when necessary. If PPP dial-out is active when the appliance needs to send an SMS alert, PPP will be interrupted while the SMS message is sent. Once the SMS message has been sent, the PPP connection will be reestablished.

The following controls and data appear in the Advanced pane:

Field	Description
Send debug messages to syslog	When checked, debug messages will be forwarded to the syslog host specified in the Log task (for more information see "Log" on page 116).
Use default SMS settings	Check this check box to use the default SMS values for your SMS-capable modem. If you need to use custom settings, uncheck this check box and then use the **Use protocol descriptor unit** check box and the **Character set** and **Initialization commands** fields to specify customs settings.

Field	Description
Use protocol descriptor unit (PDU)	Specifies whether the appliance should use Protocol Descriptor Unit (PDU) mode or “mode” when communicating with the modem to send the SMS message. PDU mode is preferred because it is more versatile than text mode. Some modems do not support both modes.
Character set	Specifies the character set used when communicating with the modem to send the SMS message.
Initialization commands	The initialization string used for the modem that will be used to send SMS messages.

The Status pane enables you to check the current level and quality of the SMS signal.

To change the SMS settings, use the controls to specify the desired settings. When you are finished, click OK and any changes you have made will be saved to the appliance. To end the task without making any changes to your appliance click Cancel.Click Refresh to update the contents of the task pane with the values that are currently stored on the appliance.

SNMP

Use the SNMP task to view or change the NetBotz SNMP settings.

For Advanced Users Only!

This is an advanced feature of NetBotz appliances. It is intended for use only by technically experienced users, such as network administrators or network systems management coordinators. To use the SNMP capabilities of a NetBotz appliance effectively you must have extensive knowledge of how to set up, configure, and use SNMP-based systems management and network management platforms (such as HP OpenView, CA Unicenter, or WhatsUp Gold). Please refer questions about how to use SNMP to your network administration and IT staff.

The SNMP task.

To start this task, double-click on the SNMP icon to open the SNMP Settings window. This window contains the following fields:

Field	Description
Enable SNMP Agent check box	Check this check box to enable the SNMP agent on your appliance.
SNMP Read-Only Community	The SNMP Read-Only Community name is the read-only community name for SNMP read requests.
(Re-type when changing)	If you want to update or change the SNMP Read-Only Community name, you must type the new value in this field as well.
SNMP Read/Write Community	The SNMP Read/Write Community name is the read/write community name for SNMP set requests.
(Re-type when changing)	If you want to update or change the SNMP Read/Write Community name, you must type the new value in this field as well.
Port	Type in this field the port number to be used for SNMP communications. The default value is 161.

To change the NetBotz appliance SNMP settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

SSL

Use the SSL task to install an SSL certificate for use with SSL-encrypted communication between clients using the Advanced View application and the appliance. Paste your signed certificate data into the **Install SSL Certificate** pane and then click **OK** to install the certificate.

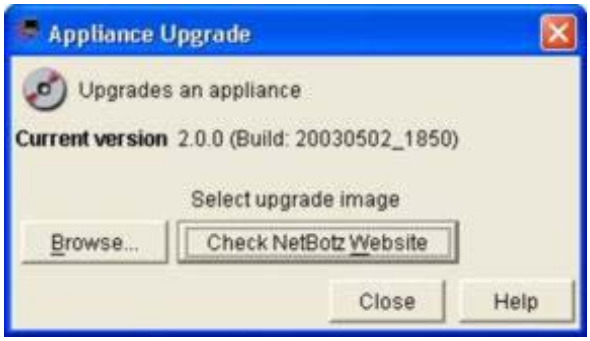
If you received a Privacy Enhanced Mail (PEM) file from your certification authority, click **Import Certificate**, select the PEM file, and then click **OK** to import the contents of the PEM file into the **Install SSL Certificate** pane. To install the imported file, click **OK**.

Depending on your certification authority, you may receive two PEM files instead of one (one containing the public key, and the second containing the private key). If you have received two PEM files, simply use the Import Certificate process to import and install both files.

Upgrade

Use the Upgrade task to check the BotzWare version installed on your appliance or to upgrade the BotzWare on your appliance. To start this task, double-click on the Upgrade icon to open the Upgrade Appliance window. The current BotzWare version is displayed at the top of the window.

The Upgrade task.



To check the NetBotz web site for an updated version of BotzWare click **Check NetBotz Website**. The currently installed BotzWare and User Interface versions are displayed, as well as the most current versions available from the web site. If an upgrade is available, the check box beside the upgrade file will be available. To upgrade, check the check boxes that correspond to the components you want to upgrade and then click **OK**. Upgrade files will then be downloaded from the web site and applied to your appliance. When the upgrade process is complete the appliance will restart. Once the restart is complete, a pop-up notifies your that the appliance is now online.

If the BotzWare upgrade files are stored on a computer or a CD-ROM, click **Browse** and navigate to the upgrade file drive and directory. Select the upgrade file and click **OK** to upgrade the appliance.

Users

Use the Users task to configure user accounts for personnel that will be permitted access to your appliance. Each user account has a specific User IDs and Password, as well as an account-specific Privilege Set. Each Privilege Set determines what appliance features the account can access. The four available Privilege Sets are:

Privilege Set	Description
Administrator	Gives user access to all information and configuration tasks available on the appliance.
Application	Gives user access to only the Navigation, Sensor Data and selected portions of the Information/Action panes. User accounts configured with the Application Privilege Set can view the Cameras, Graphs, Alerts, and About panes. However, this Privilege Set does not permit access to the Configuration pane or to the Appliance Log, Change Root Password, and Reboot Appliance Tool menu selections.

Privilege Set	Description
Sensor	Gives user access to only the Navigation, Sensor Data and selected portions of the Information/Action panes. User accounts configured with the Sensor Privilege Set can view the Cameras, Graphs, and About panes. However, this Privilege Set does not permit access to the Alerts pane, Configuration pane, or to the Appliance Log, Change Root Password, and Reboot Appliance Tool menu selections.
Sensor (No Camera)	Gives user access to only the Navigation, Sensor Data and selected portions of the Information/Action panes. User accounts configured with the Sensor (No Camera) Privilege Set can view Graphs and About panes. However, this Privilege Set does not permit access to the the Cameras pane, Alerts pane, Configuration pane, or to the Appliance Log, Change Root Password, and Reboot Appliance Tool menu selections.
None	Does not permit access to any appliance features.

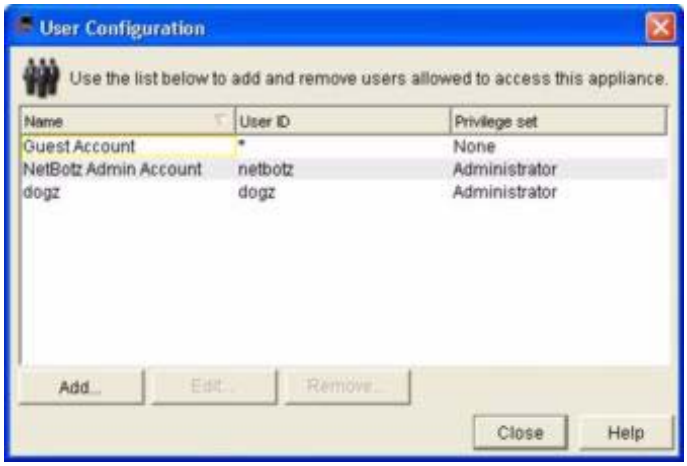
By default, your appliance comes pre-configured with two User accounts:

- **Guest:** Available to users that do not provide a User ID or Password at login. By default has access a Privilege Set of **None**.
- **Administrator:** Accessed by providing the default User ID/Password at login. By definition has an unchangeable Privilege Set of **Administrator**. For more information about your appliance's default User ID and Password, refer to the *About Your Appliance* booklet that came with your appliance.

Note

To ensure security, be sure to change the default Administrator account User ID and Password.

The Users task.



Note

The Guest and Administrator Accounts are permanent and cannot be removed. However, their settings can be modified as needed.

To create a new User ID, or to modify a previously configured User Account:

1. Click **Add** to create a new user account entry. If editing a previously created user account, select the account from the Users pane and then click **Edit**.
2. Type in the **Name** field a name for this account.
3. Select from the **Privilege Set** drop box the Privilege Set that will be assigned to this account.
4. Type in the **User ID** field the User ID that corresponds to this account.
5. Type in the **Password** field the Password that corresponds to this account.
6. Re-type the Password in the **Confirm Password** field.
7. Click **OK** to save these account settings.

To delete a previously configured account, select the account from the Users pane and then click **Remove**.

Web Server

Use the Web Server task to view or change the IP ports through which the appliance web server performs HTTP and HTTPS web server communications. To start this task, double-click on the Web Server icon to open the Web Server Settings window. This window contains the following fields:

Field	Description
HTTP Port	The IP port through which HTTP communications are performed.
HTTPS Port	The IP port through which HTTPS communications are performed.
Enable HTTP Port/Enable HHTPS Port check boxes	Check the check box to enable the corresponding web server port.

The Web Server task.

To change the NetBotz appliance web server port settings, type the new values in the appropriate fields. When you are finished, click **OK** to save any changes to the appliance. Click **Cancel** to close this window without saving any changes.

Advanced View: Defining Thresholds

The sensors used by the appliance fall into two categories: Analog sensors and state sensors. Analog sensors report sensor readings as a current value within a broad range of potential values defined by a minimum and maximum value, such as temperature or humidity readings. State sensors, on the other hand, report sensor readings as one of two mutually exclusive states, such as a door being “open” or “closed” or motion being “detected” or “not detected.” Due to the differences in the kind of data reported by these two sensor types, the thresholds that can be applied to each sensor type differ greatly.

Analog Sensor Thresholds

The following threshold types can be assigned to any analog sensor:

- **Maximum Value Threshold:** An alert condition occurs if the current sensor value exceeds a specified acceptable value.
- **Minimum Value Threshold:** An alert condition occurs if the current sensor value falls below a specified acceptable value.
- **Range Threshold:** An alert condition occurs if the current sensor value is not within a specified range of acceptable values.
- **Above Value for Time Threshold:** An alert condition occurs when the current sensor value exceeds a specified value for a specified amount of time.
- **Below Value for Time Threshold:** An alert condition occurs when the current sensor value falls below a specified value for a specified amount of time.
- **Rate of Decrease Threshold:** An alert condition occurs if the value reported by the sensor decreases more than a specified amount within a specified amount of time.
- **Rate of Increase Threshold:** An alert condition occurs if the value reported by the sensor rises more than a specified amount within a specified amount of time.

State Sensor Thresholds

The following threshold types can be assigned to any state sensor:

- **Alert State Threshold:** An alert condition occurs if a specified state is reported by the sensor.
- **Alert State for Time Threshold:** An alert condition occurs if a specified state is reported by the sensor for more than a specified time.
- **State Mismatch Threshold:** An alert condition occurs if any state other than the specified “normal” state is reported by the sensor.
- **State Mismatch for Time Threshold:** An alert condition occurs if any state other than the specified “normal” state is reported by the sensor for more than a specified time.

Defining Analog Thresholds

Detailed instructions on how to define each of the available analog threshold types follow.

Maximum Value Threshold

A *maximum value* threshold is defined by specifying a maximum acceptable value for the sensor. If the value reported by the sensor exceeds the specified value an alert condition is reported. To define a maximum value threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window.
5. Select **Maximum Value Threshold** and then click **OK** to close the Select Threshold window.
6. Type in the **Threshold Name** field a name for this threshold.
7. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Maximum** field (or use the arrows in the field to specify) the highest acceptable value for the selected sensor. This is the value that, if exceeded, will result in an alert condition.
   b. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   c. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

      where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

8. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   – Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
      a. Click **Advanced Schedule...**. The Schedule Threshold window opens.

b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

- Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."
- Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.


Note

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

- Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.
- Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

9. Click **OK** to save this threshold.

Minimum Value Threshold

A *minimum value* threshold is defined by specifying a minimum acceptable value for the sensor. If the value reported by the sensor falls below the specified value an alert condition is reported. To define a minimum value threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window.
5. Select **Minimum Value Threshold** and then click **OK** to close the Select Threshold window.
6. Type in the **Threshold Name** field a name for this threshold.
7. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Minimum** field (or use the arrows in the field to specify) the lowest acceptable value for the selected sensor. This is the value that, if fallen below, will result in an alert condition.

b. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.

c. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

   If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

   sms:*sms_device_address*

   where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

8. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:

   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).

   – Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:

     a. Click **Advanced Schedule...**. The Schedule Threshold window opens.

     b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

     c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

   – Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

   – Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds.

However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see “Creating an Alert Profile” on page 63.

- Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.
- Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

9. Click **OK** to save this threshold.

Range Threshold

A *range* threshold is defined by defining an acceptable range of values for a sensor by specifying a minimum and maximum value. If the value reported by the sensor falls outside of the limits defined by the range an alert condition is reported. To define a range threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Range Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Maximum** field (or use the arrows in the field to specify) the highest acceptable value for the selected sensor. This is the value that defines the upper limit of the acceptable range for this sensor. If the sensor reading exceeds this value an alert condition results.
   b. Type in the **Minimum** field (or use the arrows in the field to specify) the lowest acceptable value for the selected sensor. This is the value that defines the lower limit of the acceptable range for this sensor. If the sensor reading falls below this value an alert condition results.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you’ve installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, “sms:5123334444” or “sms:user@mycorp.com”).

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see “Alert Actions” on page 59 and “Advanced View: Creating Alert Actions” on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   - Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   - Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
     a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
     b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
     c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.
   - Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be “Error.”
   - Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see “Creating an Alert Profile” on page 63.

   - Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.
   - Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.
8. Click **OK** to save this threshold.

Above Value for Time Threshold

An *above value for time* threshold is defined by specifying a maximum acceptable value for the sensor and a maximum period of time value. If the value reported by the sensor exceeds the specified value for more than the specified period of time an alert condition is reported. To define an above value for time threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Above Value for Time Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Maximum** field (or use the arrows in the field to specify) the highest acceptable value for the selected sensor. This is the value that, if exceeded for greater than the number of seconds specified in the **Time Allowed Above Maximum** field, will result in an alert condition.
   b. Type in the **Time Allowed Above Maximum** field (or use the arrows in the field to specify) the number of seconds that the reported value can exceed the value specified in the **Maximum** field before an alert condition is generated.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

      where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered

returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).

– Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:

  a. Click **Advanced Schedule...**. The Schedule Threshold window opens.

  b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

  c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

– Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

– Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

– Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

Below Value for Time Threshold

A *below value for time* threshold is defined by specifying a minimum acceptable value for the sensor and a maximum period of time value. If the value reported by the sensor falls below the specified value for more than the specified period of time an alert condition is reported. To define a below value for time threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the

Thresholds selection list.

4. Click **Add...** to open the Select Threshold window. Select **Below Value for Time Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Minimum** field (or use the arrows in the field to specify) the highest acceptable value for the selected sensor. This is the value that, if fallen below for greater than the number of seconds specified in the **Time Allowed Below Minimum** field, will result in an alert condition.
   b. Type in the **Time Allowed Below Minimum** field (or use the arrows in the field to specify) the number of seconds that the reported value can fall below the value specified in the **Minimum** field before an alert condition is generated.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

      where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   – Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
      a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
      b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

– Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

– Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

– Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

Rate of Decrease Threshold

A *rate of decrease* threshold is defined by specifying a maximum acceptable decrease in value for the sensor and a period of time value. If the value reported by the sensor falls by more than the specified maximum acceptable decrease in less than the specified period of time an alert condition is reported. To define a rate of decrease threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Rate of Decrease Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Maximum Decrease** field (or use the arrows in the field to specify) the highest acceptable change value for the selected sensor. If the value reported by the sensor decreases by more than the Maximum Decrease value in a period of time that is equal to or less than the number of seconds specified in the **Time Period** field, an alert condition results.
   b. Type in the **Time Period** field (or use the arrows in the field to specify) the number of seconds that defines the unacceptable change period. If the value reported by the sensor decreases by

more than the **Maximum Decrease** value in a period of time that is equal to or less than the Time Period value an alert condition is generated.

c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.

d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

sms:*sms_device_address*

where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:

– Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).

– Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:

a. Click **Advanced Schedule...**. The Schedule Threshold window opens.

b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

– Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

– Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds.

However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see “Creating an Alert Profile” on page 63.

– Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

Rate of Increase Threshold

A *rate of increase* threshold is defined by specifying a maximum acceptable increase in value for the sensor and a period of time value. If the value reported by the sensor rises by more than the specified maximum acceptable increase in less than the specified period of time an alert condition is reported. To define a rate of decrease threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Rate of Decrease Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Type in the **Maximum Increase** field (or use the arrows in the field to specify) the highest acceptable change value for the selected sensor. If the value reported by the sensor increases by more than the Maximum Increase value in a period of time that is equal to or less than the number of seconds specified in the **Time Period** field, an alert condition results.
   b. Type in the **Time Period** field (or use the arrows in the field to specify) the number of seconds that defines the unacceptable change period. If the value reported by the sensor increases by more than the **Maximum Increase** value in a period of time that is equal to or less than the Time Period value an alert condition is generated.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

sms:*sms_device_address*

where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   - Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   - Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
     a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
     b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
     c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.
   - Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."
   - Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

   - Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to

your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

Defining State Thresholds

Detailed instructions on how to define each of the available state threshold types follow.

Alert State Threshold

An *alert state* threshold is defined by specifying the state which, if reported by the sensor, will cause an alert condition to be reported. If the state reported by the sensor is the specified state for any length of time an alert condition is reported. To define an alert state threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Alert State Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Select from the **Alert State** drop box the state that, if reported by the sensor, will result in an alert condition.
   b. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   c. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

      where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From

the Advanced tab in the Thresholds pane:

- Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
- Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
  a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
  b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
  c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.
- Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be “Error.”
- Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.


Note

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see “Creating an Alert Profile” on page 63.

- Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.
- Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

Alert State for Time Threshold

An *alert state for time* threshold is defined by specifying both a maximum time permitted value and the state which, if reported by the sensor, will cause an alert condition to be reported. If the state reported by the sensor is the specified state and the state remains unchanged for more than the specified maximum time permitted value an alert condition is reported. To define an alert state threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate

icon.

2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **Alert State for Time Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Select from the **Alert State** drop box the state that, if reported by the sensor, will result in an alert condition.
   b. Type in the **Time Allowed in Alert State** field (or use the arrows in the field to specify) the number of seconds that the reported value can be in the selected **Alert State** before an alert condition is generated.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

      where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   – Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
      a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
      b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled

period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

– Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

– Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

– Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

State Mismatch Threshold

A *state mismatch* threshold is defined by specifying a "normal" state for the sensor. If any state other than the normal state is reported by the sensor, an alert condition is reported. To define an alert state threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **State Mismatch Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Select from the **Normal State** drop box the state that is the normal operational state for the device. If any state other than the selected "normal" state is reported by the sensor an alert condition is generated.
   b. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.

c. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

sms:*sms_device_address*

where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, "sms:5123334444" or "sms:user@mycorp.com").

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see "Alert Actions" on page 59 and "Advanced View: Creating Alert Actions" on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:

– Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).

– Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:

a. Click **Advanced Schedule...**. The Schedule Threshold window opens.

b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.

– Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be "Error."

– Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see "Creating an Alert Profile" on page 63.

– Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to

your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.

– Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.

8. Click **OK** to save this threshold.

State Mismatch For Time Threshold

A *state mismatch for time* threshold is defined by specifying both a "normal" state for the sensor and a maximum time permitted value. If any state other than the normal state is reported by the sensor for more than the maximum amount of time permitted an alert condition is reported.

This threshold type is not available for use on NetBotz 320 appliances.

To define an alert state mismatch for time threshold:

1. Start the Camera Pods, Sensor Pods, or Device Crawlers task by double-clicking on the appropriate icon.
2. Click **Sensors...** to open the Sensor Configuration window.
3. Select from the **Sensors** selection list the sensor for which you will define a threshold. A list of thresholds that have been previously defined for the selected sensor, if any, appears in the **Thresholds** selection list.
4. Click **Add...** to open the Select Threshold window. Select **State Mismatch Threshold** and then click **OK** to close the Select Threshold window.
5. Type in the **Threshold Name** field a name for this threshold.
6. Specify Basic threshold settings. From the Basic tab in the Thresholds pane:
   a. Select from the **Normal State** drop box the state that is the normal operational state for the device. If any state other than the selected "normal" state is reported by the sensor an alert condition is generated.
   b. Type in the **Time Allowed in Alert State** field (or use the arrows in the field to specify) the number of seconds that the reported value can be in a state other than the selected Normal State before an alert condition is generated.
   c. Check the **Enabled** check box to enable the threshold. If this check box is not checked, the alert threshold will be saved but will not be active.
   d. Add to the **Threshold-Specific Addresses** list the e-mail addresses of any personnel to whom e-mail alert notifications should be sent if this threshold triggers an alert condition. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

      If you've installed an SMS-capable modem you can deliver alert notification to SMS-enabled devices by entering threshold-specific addresses for them in the following format:

      sms:*sms_device_address*

where *sms_device_address* is the telephone number or e-mail address associated with the SMS-enabled device (for example, “sms:5123334444” or “sms:user@mycorp.com”).

These threshold-specific notifications are sent only if your appliance has one or more Alert Actions defined that use the Send E-Mail Message alert notification method and that have the **Include Addresses from Thresholds** check box checked. For more information, see “Alert Actions” on page 59 and “Advanced View: Creating Alert Actions” on page 161.

7. If desired, specify Advanced Threshold settings. All Advanced threshold settings are optional. From the Advanced tab in the Thresholds pane:
   – Specify a **Return To Normal Delay** value. Use the controls to specify the number of seconds that must pass after this threshold has returned to normal before the threshold state is considered returned to normal. Default value is 0 (state returns to normal immediately after the measured value is no longer violating the threshold).
   – Set an **Advanced Schedule** for this threshold (optional). By default, all thresholds are assumed to be enabled 24 hours a day, 7 days a week. However, you can specify that a threshold will be enabled only during specific time ranges. To set an Advanced Schedule:
     a. Click **Advanced Schedule...**. The Schedule Threshold window opens.
     b. By default, all time periods in the schedule are set to Enabled. To disable the threshold for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the threshold for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
     c. When you have finished creating your Advanced Threshold, click **OK** to save the schedule and return to the Thresholds task.
   – Select an **Alert Severity** value for this threshold. Available Alert Severities are, in order of escalating severity: Information, Warning, Error, Critical, or Failure. By default, the Alert Severity generated by this threshold will be “Error.”
   – Specify the **Alert Profile** that will be used to determine what alert notification actions will be taken in response to this threshold. By default, the Default Alert Profile is used for all thresholds. However, if you have created additional Alert Profiles you can specify that a threshold use an Alert Profile other than Default.

The **Alert Profile** drop box will appear in the Advanced tab only if additional Alert Profiles have been created. For more information see “Creating an Alert Profile” on page 63.

   – Select **Cameras to Trigger** in response to the alert. If desired, alert notifications generated in response to this threshold can include image captures from any Camera Pod 120s connected to your appliance. To include images from one or more connected Camera Pod 120s, check the check boxes that correspond to the desired pods.
   – Specify a **User-specified URL** and **User-specified Description**. You can use these fields to include additional user-specific information with any alert notifications that are generated using this threshold.
8. Click **OK** to save this threshold.

Advanced View: Creating Alert Actions

The information that must be provided for an Alert Action depends on which alert notification method you have selected. The following alert notification methods are available:

- Activate Button Output
- Call Web Services Alert Receiver
- Play Audio Alert
- Play Custom Audio Alert
- Send Custom HTTP Get
- Send Custom Text File to FTP Server
- Send Data to FTP Server
- Send E-mail
- Send HTTP Post
- Send Short Message E-mail
- Send SNMP v1 Trap
- Send Wireless SMS Message (available only if a modem that supports SMS messaging has been installed in or connected to the appliance. For more information, see “SMS” on page 133)
- Set Switch Output State

Alert notification method-specific instructions for creating Alert Actions follow.

Creating an Activate Button Output Alert Action

If you are creating an Alert Action that will use the Activate Button Output alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Activate Button Output** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this Alert Action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.

6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which buttons will be activated.
7. Select from the **Button Output Device** drop box the Button Relay device that will be triggered by this alert action. All Button Relay devices (for more information, see "Output Control External Port Settings" on page 87) that are defined for use with this appliance appear in this selection list.
8. If you want this alert action to also be carried out when violated thresholds return to a normal state, check the **Also Activate on Return-to-Normal** check box.
9. Click **OK** to save this Alert Action.

Creating a Call Web Services Alert Receiver Alert Action

The Call Web Services Alert Receiver alert action is an advanced functionality alert action that is specifically designed for use with the BotzWare Web Services Interfaces. BotzWare Web Interfaces are intended to provide a set of common, programmer-friendly APIs to 3rd party product and solution developers, as well as end customers. For more information on the BotzWare Web Services Interfaces, please see:

- The *BotzWare V2.x Web Services Specification*, included (in both PDF and DOC formats, enclosed in a single compressed file named WebServicesAPI.zip) in the webservices/doc directory of your *NetBotz Installer* CD-ROM.
- The NetBotz Web Services Toolkit forum, located at:

  http://forums.netbotz.com

You must be a registered NetBotz forums user to access the Web Services Toolkit forum.

Creating a Play Audio Alert Action

If you are creating an Alert Action that will use the Play Audio alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Play Audio Alert** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this Alert Action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled

period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.

6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which audio alerts will be played.
7. Select **Output Devices** that will play the audio alerts through their headphone/speaker output jacks. Any Camera Pod 120s that are connected to your appliance will be available for selection.
8. Select an **Output Volume** for the audio alert. By default, audio alerts are played at 75% of the output device's maximum volume.
9. Click **OK** to save this Alert Action.

Creating a Play Custom Audio Alert Action

If you are creating an Alert Action that will use the Play Custom Audio alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Play Custom Audio Alert** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this Alert Action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which audio alerts will be played.
7. Select **Output Devices** that will play the audio alerts through their headphone/speaker output jacks. Any Camera Pod 120s that are connected to your appliance will be available for selection.
8. Select an **Output Volume** for the audio alert. By default, audio alerts are played at 75% of the output device's maximum volume.
9. Select from the **Custom Audio Clip** drop-box an audio that will be played when an alert condition occurs.
10. Select from the **Custom Audio Clip (Return To Normal)** drop-box an audio that will be played

when the alert condition no longer exists.

11. Click **OK** to save this Alert Action.

Before an audio clip is available for use in the Play Custom Audio alert action it must first be uploaded to the NetBotz appliance. Audio clips are uploaded to the appliance using the Custom Audio Clip task. For information about the Custom Audio Clips task see “Custom Audio Clips” on page 107.

Creating a Send Custom HTTP Get Alert Action

If you are creating an Alert Action that will use the Send Custom HTTP GET alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send Custom HTTP GET** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this Alert Action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which audio alerts will be played.
7. The bottom of the pane features a Basic and an Advanced tabbed pane. On the Basic pane, type the appropriate information in the following fields:
   – Type in the **Target URL** field the custom HTTP GET statement that will be generated by the appliance.
   – Type in the **Target User ID** and **Password** fields the User ID and Password needed to execute the custom HTTP GET command at the **Target URL**.
   – Type the **Password** again in the **Confirm Password** field.

The **Target URL** field accepts BotzWare macros. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.

8. If desired, click the Advanced tab and select optional **SSL Verify Options** for the custom HTTP GET commands (used for both the primary and backup hosts), or to provide information for use in

delivering the custom HTTP GET command to an alternate web host. This backup URL would be used only if attempts to deliver the alert data to the primary Target Host failed. You can also check the following check boxes:

- **Use POST instead of GET:** Uses the POST command instead of the GET command.
- **Include XML-encoded Alert Parameter (xmlalert):** Appends the parameter "xmlalert=<*xml alert encoding*>" to the provided URL for the action. The encoded XML is the same as is generated by the HTTP POST code, but is URL-encoded to enable those that can't easily handle multi-part/form-data encoded POSTS to get the XML for the alert.

9. Click **OK** to save this Alert Action.

Example Target URLs

When creating a Send Custom HTTP GET alert action, a data handling application of some sort (CGI script, ASP script, servlet, etc.) must be invoked on the web host invoked in the Target URL, and appropriate data must be passed to the application in a format that is appropriate. Therefore, the content of the Target URL field is entirely dependent on the configuration of the target server which will process the HTTP GET. The following examples demonstrate two possible ways in which this alert action could be configured, and are intended to help you to construct an appropriate Target URL value.

Example #1:

In this first example, the custom HTTP GET command provides user-specified values for a CGI script (pagersend.cgi). This custom HTTP GET would send the *message* "hello there," with a *subject* of "test message," *from* "mike" to the specified *pin* (telephone number):

http://www.mymmode.com/messagecenter/pagersend.cgi?pin=512
5551212&from=mike&subject=test+message&message=hello+there

Example #2:

In this example, alert data is sent to a pager using the same CGI script (pagersend.cgi) as we used in Example #1, but this time we use BotzWare macros to dynamically generate the message content:

http://www.mymmode.com/messagecenter/pagersend.cgi?pin=512
5551212&from=${HOSTNAME}&subject=test+message&message=${SENSORNAME}+${SEN
SORVAL}+at+${ALERTPOD}

A message generated by this Target URL could read "Humidity 94% at Sensor Pod 0930261" from "mybotz.netbotz.com."

Creating a Send Custom Text File to FTP Server Alert Action

If you are creating an Alert Action that will use the Send Custom Text File to FTP Server alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send Custom Text File to FTP Server** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:

a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.

b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.

6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which alert notifications will be sent.

7. The bottom of the pane features a Basic and an Advanced tabbed pane. On the Basic pane, type the appropriate information in the following fields:

   – Type in the **Text File Contents (inc. macros)** field the data that you want to include in the custom text file that will be sent to the specified FTP server.

   – Type in the **FTP Server Hostname** field the TCP/IP hostname or IP address of the FTP server to which the text file will be delivered.

   – Type in the **User ID** and **Password** fields the User ID and Password needed to deliver the text file to the FTP server at the specified **FTP Server Hostname**.

   – Type the **Password** again in the **Confirm Password** field.

   – Type in the **Target Directory** field the relative directory path to be used for storing the text file on the FTP server. This should always be a path relative to the default directory associated with the user ID used to log on to the FTP server. If the directories on the path do not exist they will be created automatically.

   – Type in the **Base Filename** field the base filename to be used for storing the text file on the FTP server.

The **Text File Contents (inc. macros)**, **Target Directory,** and **Base Filename** fields accept BotzWare macros. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.

8. If desired, click the Advanced tab and provide information for use in delivering the data to a backup FTP server. This backup server would be used only if attempts to deliver the alert data to the primary FTP server failed.

9. Click **OK** to save this Alert Action.

Creating a Send Data to FTP Server Alert Action

If you are creating an Alert Action that will use the Send Data to FTP Server alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.

2. Click **Add** to open the Select Notification Method window.

3. Select **Send Data to FTP Server** from the Select Notification Method pop-up window and then

click **OK** to open the Add Alert Action window.

4. Type in the **Alert Action Name** field a name for this alert action.
5. Type in the **Maximum Camera Pictures** field (or use the arrow buttons in the field to select) the maximum number of available images that will be included with the generated data. Note that, depending on the **Total Number of Pictures** setting (located in the camera configuration task), additional images may be captured by the appliance. The Maximum Camera Pictures setting specifies only how many of the pictures captured by the appliance will be included in data.
6. If you want a graph of the sensor values associated with the alert to be included in the data, check the **Include a Graph with the Alert** check box.
7. If you want audio captured by the Camera Pod to be included in the data check the **Include a Sound Clip with the Alert** check box.
8. If you have the BotzWare Premium Software Module (PSM) installed and wish to include maps that indicate the sensor that triggered the alert action check the **Include Related Maps with the Alert** check box. Note that only maps that include the sensor that triggered the alert will be sent.
9. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
10. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which alert notifications will be sent.
11. The bottom of the pane features a Basic and an Advanced tabbed pane. On the Basic pane, type the appropriate information in the following fields:
   – Type in the **FTP Server Hostname** field the TCP/IP hostname or IP address of the FTP server to which the data will be delivered.
   – Type in the **User ID** and **Password** fields the User ID and Password needed to deliver post data to the FTP server at the specified **FTP Server Hostname**.
   – Type the **Password** again in the **Confirm Password** field.
   – Type in the **Target Directory** field the relative directory path to be used for storing the data on the FTP server. This should always be a path relative to the default directory associated with the user ID used to log on to the FTP server. If the directories on the path do not exist they will be created automatically.
   – Type in the **Base Filename** field the base filename to be used for storing the data on the FTP server. The alert data will be stored in a file with this name, followed by the ".nbalert" file

extension. Pictures from alerts will be stored in files with this name, followed by the ".*n*.jpg" file extension, where *n* is the picture number (1, 2, 3, etc.).

The **Target Directory** and **Base Filename** fields accept BotzWare macros. For more information on macros supported by BotzWare see "BotzWare Macros" on page 187.

12. If desired, click the Advanced tab and provide information for use in delivering the data to a backup FTP server. This backup server would be used only if attempts to deliver the alert data to the primary FTP server failed.
13. If you have the BotzWare Premium Software Module installed, you can choose to send images captured by the appliance cameras as JPEGs, M-JPEG AVI Files, or Signed M-JPEG AVI files. M-JPEG AVI files are motion picture that can be played using standard media player software (such as Windows Media Player). Signed files provide proof that the generated images have not been tampered with or altered in any way, and are therefore more likely to be admissible as evidence in legal proceedings. To specify the format in which captured images will be sent, select the Advanced tab and then select the desired format from the **Picture Export Format** drop box.
14. Click **OK** to save this Alert Action.

For information on how to verify that signed AVI files have not been tampered with, see "Verifying Signed M-JPEG AVI Files" on page 199.

Creating a Send E-mail Alert Action

If you are creating an Alert Action that will use the Send E-Mail alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send E-mail** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Type in the **Maximum Camera Pictures** field (or use the arrow buttons in the field to select) the maximum number of available images that will be included with the generated e-mail. Note that, depending on the **Total Number of Pictures** setting (located in the Camera Pod 120s configuration task), additional images may be captured by the appliance. The **Maximum Camera Pictures** setting specifies only how many of the pictures captured by the appliance will be included in e-mailed alert notifications.
6. If you want a graph of the sensor values associated with the alert to be included in the e-mail, check the **Include a Graph with the Alert** check box.
7. If you want audio captured by the Camera Pod to be included in the data check the **Include a Sound Clip with the Alert** check box.
8. If you have the BotzWare Premium Software Module (PSM) installed and wish to include maps that indicate the sensor that triggered the alert action check the **Include Related Maps with the Alert** check box. Note that only maps that include the sensor that triggered the alert will be sent.
9. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced

Scheduling:

a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.

b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.

10. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which e-mail notifications will be sent.

11. Add to the **E-mail Addresses** field the addresses of the recipients to whom the e-mail notification will be sent. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.

12. If desired, check the **Include Addresses from Thresholds** check box to include threshold-specific e-mail recipients.

- If the E-mail Addresses field is left blank and you uncheck the **Include Addresses from Thresholds** check box then no e-mail notifications will be sent
- If the E-mail Addresses field is left blank and you check the **Include Addresses from Thresholds** check box then e-mail notifications will be sent only if the threshold that is exceeded has a Threshold-Specific Address List. For more information on threshold-specific notification lists see “Advanced View: Defining Thresholds” on page 141.

13. If you do not want e-mail notifications to be sent when sensor readings that previously triggered an alert return to a “normal” state, select the Advanced tab and then check the **Do Not Send Return-To-Normal Messages** check box.

14. Some e-mail services attempt to control spam e-mail by automatically deleting e-mail messages that contain header information that is not absolutely necessary for message delivery, such a header data that indicates that the message is “High Priority.” To include only the header information that is necessary to ensure delivery of the e-mail message, select the Advanced tab and then check the **Minimize Header Usage** check box.

15. If you have installed the BotzWare Premium Software Module installed, you can choose to send images captured by the appliance cameras as JPEGs, M-JPEG AVI Files, or Signed M-JPEG AVI files. M-JPEG AVI files are motion picture files that can be played using standard media player software (such as Windows Media Player). Signed files provide proof that the generated images have not been tampered with or altered in any way, and are therefore more likely to be admissible as evidence in legal proceedings. To specify the format in which captured images will be sent, select the Advanced tab and then select the desired format from the **Picture Export Format** drop box.

16. Click **OK** to save this Alert Action.

For information on how to verify that signed AVI files have not been tampered with, see “Verifying Signed M-JPEG AVI Files” on page 199.

Creating a Send HTTP Post Alert Action

If you are creating an Alert Action that will use the Send HTTP Post alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send HTTP Post** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Type in the **Maximum Camera Pictures** field (or use the arrow buttons in the field to select) the maximum number of available images that will be included with the generated HTTP post. Note that, depending on the **Total Number of Pictures** setting (located in the camera configuration task), additional images may be captured by the appliance. The **Maximum Camera Pictures** setting specifies only how many of the pictures captured by the appliance will be included in HTTP post.
6. If you want a graph of the sensor values associated with the alert to be included in the HTTP post, check the **Include a Graph with the Alert** check box.
7. If you want audio captured by the Camera Pod to be included in the data check the **Include a Sound Clip with the Alert** check box.
8. If you have the BotzWare Premium Software Module (PSM) installed and wish to include maps that indicate the sensor that triggered the alert action check the **Include Related Maps with the Alert** check box. Note that only maps that include the sensor that triggered the alert will be sent.
9. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
10. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which HTTP post notifications will be sent.
11. The bottom of the pane features a Basic and an Advanced tabbed pane. On the Basic pane, type the appropriate information in the following fields:
    – Type in the **Target URL** field the URL (including host, port, and any of the common parameters supported by the appliance) of the system to which HTTP post data will be posted.
    – Type in the **Target User ID** and **Target Password** fields the User ID and Password needed to post data to the server at the specified **Target URL**.
    – Type the **Target Password** again in the Confirm Password field.

If desired, click the Advanced tab and fill type the appropriate information in the following fields:

- Type in the **Backup Target URL** field the URL (including host, port, and any of the common parameters supported by the appliance) of a system to which HTTP post data will be posted if posting to the primary Target URL fails.
- Type in the **Backup User ID** and **Backup Target Password** fields the User ID and Password needed to post data to the backup server at the specified **Backup Target URL**.
- Type the **Backup Target Password** again in the Confirm Password field.
- Type in the **SSL Verify Options** field any desired SSL verification options.

12. Click **OK** to save this Alert Action.

Creating a Send Short Message E-mail Alert Action

If you are creating an Alert Action that will use the Send Short Message E-Mail alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send Short Message E-Mail** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which SNMP trap notifications will be sent.
7. Add to the **E-mail Addresses** field the addresses of the recipients to whom the e-mail notification will be sent. Click **Add...**, type in the e-mail address to which the alert notification will be sent, and then click **OK**.
8. If desired, check the **Include Addresses from Thresholds** check box to include threshold-specific

e-mail recipients.

- If the E-mail Addresses field is left blank and you uncheck the **Include Addresses from Thresholds** check box then no e-mail notifications will be sent
- If the E-mail Addresses field is left blank and you check the **Include Addresses from Thresholds** check box then e-mail notifications will be sent only if the threshold that is exceeded has a Threshold-Specific Address List. For more information on threshold-specific notification lists see “Advanced View: Defining Thresholds” on page 141.

9. Type in the **Message Subject** field the text that will be used for the Subject of the short-format e-mail message.
10. Type in the **Message** field the text that will be used for the body of the short-format e-mail message.

The **Message Subject** and **Message** fields accept BotzWare macros. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.

11. Set Advanced Alert Action settings, if desired.
    – Click the Advanced tab, and the use the controls to specify a **Message Size Limit** for e-mail messages generated by this alert action. This ensures that no message larger than the value you specify will be sent to the recipients.
    – Some e-mail services attempt to control spam e-mail by automatically deleting e-mail messages that contain header information that is not absolutely necessary for message delivery, such a header data that indicates that the message is “High Priority.” To include only the header information that is necessary to ensure delivery of the e-mail message, select the Advanced tab and then check the **Minimize Header Usage** check box.
12. Click **OK** to save this Alert Action.

Creating a Send SNMP v1 Trap Alert Action

If you are creating an Alert Action that will use the Send SNMP v1 Trap alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send SNMP v1 Trap** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
    a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
    b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the

desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.

c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.

6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which SNMP trap notifications will be sent.
7. Type in the **Target Host Address** field the Hostname or IP address of the SNMP based management system.
8. Type in the **Community String** field the target-specific community string that will be used when sending traps to the **Target Host Address**.
9. Click **OK** to save this Alert Action.

Creating a Send Wireless SMS Message Alert Action

This alert action is available only if a modem that supports SMS messaging has been installed in or connected to the appliance. For more information, see “SMS” on page 133.

If you are creating an Alert Action that will use the Send Wireless SMS Message alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Send Wireless SMS Message** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this alert action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which SNMP trap notifications will be sent.
7. Type in the **Destination Addresses** field the addresses (such as e-mail addresses or telephone numbers of SMS-enabled devices) of the recipients to whom the wireless SMS message alert

notification will be sent.

8. Type in the **Message** field the text that will be used for the body of the short-format e-mail message.

The **Message** field accepts BotzWare macros. For more information on macros supported by BotzWare see “BotzWare Macros” on page 187.

9. Set Advanced Alert Action settings, if desired. Click the Advanced tab, and the use the controls to enable of disable sending of Return-to-Normal alert notifications using this alert notification method, to specify a **Message Size Limit** for alert notifications generated by this alert action (maximum value is 160 characters), and to specify a Message Validity Period for this message (values range from 5 minutes to 3 days. Once the validity period expired the SMS service will no longer attempt to deliver the message).
10. Click **OK** to save this Alert Action.

Creating a Set Switch Output State Alert Action

If you are creating an Alert Action that will use the Set Switch Output State alert notification method:

1. Double click on the Alert Actions icon to start the Alert Actions task.
2. Click **Add** to open the Select Notification Method window.
3. Select **Set Switch Output State** from the Select Notification Method pop-up window and then click **OK** to open the Add Alert Action window.
4. Type in the **Alert Action Name** field a name for this Alert Action.
5. Specify **Advanced Scheduling** for the Alert Action (optional). By default, all Alert Actions are assumed to be active 24 hours a day, 7 days a week. However, you can specify that an Alert Action will be active only when alert conditions occur during specific time ranges. To configure Advanced Scheduling:
   a. Click **Advanced Scheduling...**. The Advanced Scheduling window opens.
   b. By default, all time periods in the schedule are set to Enabled. To disable the Alert Action for a currently enabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Disable**. To enable the Alert Action for a currently disabled period of time, highlight the period of time by clicking-and-dragging over the desired time range, and then click **Enable**.
   c. When you have finished creating your Advanced Schedule, click **OK** to save the schedule and return to the Alert Action task.
6. Check the check boxes in the **Severities** check box group that correspond to the alert severities for which switches will be triggered.
7. Select from the **Switch Output Device** drop box the Switch Relay device that will be triggered by this alert action. All Switch Relay devices (for more information, see “Output Control External Port Settings” on page 87) that are defined for use with this appliance appear in this selection list.
8. Select from the **Switch State on Alert** drop-box the state (“On” or “Off”) to which the Switch Relay device will be set when an alert occurs.
9. Select from the **New Switch State on Return to Normal** drop-box the state (“Unchanged,” “On,” or “Off”) to which the Switch Relay device will be set when the violated threshold returns to a

normal state.

10. Click **OK** to save this Alert Action.

Add-Ons: Advanced Device Crawlers

Advanced Device Crawlers is a license key-enabled enhancement to Device Crawlers that greatly extends your ability to monitor the operational status of your SNMP targets. Advanced Device Crawlers extends the capabilities of Basic Device Crawlers to provide far more detailed device-specific information and to enable OID-specific monitoring and alerting.

OID-Specific Monitoring

Advanced Device Crawlers provides two methods by which you can monitor individual OIDs on your SNMP targets:

- Selecting OIDs surfaced using Device Definition Files
- Manually adding individual supplemental OIDs

Device Description Files (provided and periodically updated by NetBotz) make it quick and easy to monitor the environmental and physical data reported by some supported SNMP devices. Identifying and monitoring a device's individual OIDs can be a painstaking process. MIBs can contain thousands of individual OIDs, and most of these are of little or no interest or use for monitoring purposes. Device Description Files make it simple to monitor the environmental and physical data reported on supported devices by automatically surfacing the OIDs that report data that is pertinent to environmental monitoring, making the process of monitoring the condition of these devices far simpler.

If you want to monitor the values reported by OIDs on SNMP targets for which Device Definition Files is not available, Advanced Device Crawlers also enables you to manually add supplemental OID data which can then be monitored.

Enhanced Environmental Monitoring

Advanced Device Crawlers greatly enhance the functionality of Device Crawlers by giving far more access to the environmental monitoring data that is stored in the MIBs of your SNMP targets. This is accomplished in two ways:

- Using Device Definition Files to quickly and easily surface environmental monitoring-oriented OIDs on supported SNMP targets. Any information surfaced using a DDF will appear as a sensor set named Advanced Details.
- Enabling monitoring of any user-specified and defined supplemental OIDs on an SNMP target

Enhanced Alert Notification

In addition to enhancing your ability to gather SNMP-based data from your SNMP targets, Advanced Device Crawlers enables you to generate alert notifications when monitored OID values change. Using both the Device Definition Files and the Supplemental OID functionality, you can extend your environmental monitoring and notification abilities to include environmental conditions in and around all of your SNMP targets as well as those around your appliances.

Enabling Advanced Device Crawlers

To enable Advanced Device Crawlers, you must purchase and add an Advanced Device Crawlers license key to your appliance. License keys are available for purchase from NetBotz, Inc. and from NetBotz authorized resellers.

To add your Advanced Device Crawlers license key to your appliance:

1. Use the Advanced View to start the License Key task on your appliance. When the task starts,

you should see Advanced Device Crawlers listed in the list of available applications.

2. Select Advanced Device Crawlers from the list and then click **Edit**.
3. Type in the **License Key** field the Advanced Device Crawlers license key.
4. Click **OK** to add the license key to your appliance.

The appliance will need to restart, after which Advanced Device Crawlers will be enabled for use on your appliance.

Using Advanced Device Crawlers

Because Advanced Device Crawlers is an extension to the Device Crawlers task, you access Advanced Device Crawlers functionality using the Device Crawlers task. After enabling Advanced Device Crawlers, two additional views will be available from the Device Crawlers task pane:

- The **Device Definition Files** view, which displays the names and versions of all currently installed Device Definition Files (DDFs), and enables you to download and install new or updated DDFs as they become available.
- The **Supplemental OIDs** view, which enables you to configure Device Crawlers to monitor the SNMP value of any OID on an SNMP target.

The Device Definition Files View

Advanced Device Crawlers greatly simplify the process of surfacing and monitoring environmental monitoring-oriented OIDs on supported SNMP device through the use of Device Definition Files, or DDFs. DDFs, available from NetBotz, are specially prepared data files that isolate and surface the OIDs for specified devices that are of use for environmental monitoring purposes.

Each DDF file is specifically designed to provide advanced data for a particular product set from a particular manufacturer. For example, NetBotz provides a DDF for NetBotz products which surfaces all of the OIDs for NetBotz appliance environmental sensors.

Downloading DDFs

DDFs are downloaded and installed using the Device Definition Files view in the Device Crawlers task.

The Device Definition Files view includes the following information and controls:

Column	Description
Device Definition Files	Displays the name and version of all Device Definition Files that are currently installed on this appliance.
Add/Update Definitions	Click this button to download additional DDFs or updated DDFs for use with Advanced Device Crawlers.

To add a new Device Definition File:

1. Click **Add/Update Definitions**.
2. The Installation Options window appears. Select the location from which you want to download DDFs. Select the **NetBotz Web** radio button to download DDFs from the NetBotz website, or select the **Local file** radio button to install DDFs from a drive and directory on your system and then click **Browse** and navigate to the directory where the DDF file is stored. Select the DDF and click **OK** to select it.
3. Click **Next.** A list of available Device Definition Files (including version numbers) appears. Select

one or more DDFs that you want to install and use with Advanced Device Crawlers and then click **Next**.

4. A list of the DDFs you have selected appears. Click next to download and install the selected DDFs.

After you have installed a Device Definition File any previously added targets that are defined by the contents of the DDF will now have the Advanced Data sensor set available.

The Advanced Data Sensor Set

When an SNMP target that includes Advanced Data is selected from the Navigation pane or from a Pod selection list in the Alerts or Graphs view, the Advanced Data sensor set will be displayed by default. The Advanced Data sensor set consists of all supplemental OIDs that have been surfaced from the SNMP target using an installed DDF.

The Advanced Data sensor set is available only for SNMP target devices which are defined by a separately installed Device Definition File.

Once Advanced Data is available for use on an SNMP target, you can easily monitor and receive alert notifications for any target OIDs that are surfaced by Advanced Device Crawlers, just like any other monitored value on a pod or SNMP target. For information on how to define thresholds and specify sensor settings on Advanced Data sensor values, see “Sensor Settings” on page 81.

The Supplemental OIDs View

Even if advanced data is not available for some of your SNMP targets, you can still configure Advanced Device Crawlers to monitor individual OIDs on your target. While not as simple as using the surfaced OID data provided by a Device Definition File in an Advanced Data sensor set, you can use the Add Supplemental OID function to manually configure Advanced Device Crawlers to monitor any valid OID on your SNMP targets.

The Supplemental OID view displays a list of any currently defined supplemental OIDs, as well as a user-defined description of the OID. To add a supplemental OID:

1. Click **Add**.
2. The Add Supplemental OID window opens.
3. Type in the **OID** field the OID that you want to monitor on the selected SNMP target (for example, “1.3.6.1.4.1.318.1.1.1.2.2.2”).
4. Type in the **Description** field a description of the OID (for example, “UPS Temperature”).
5. Click **OK.** Advanced Device Crawlers will then query the SNMP target to determine whether the OID you entered is valid and if so to determine what sort of data is returned by the OID, whether the data can be treated as an analog sensor or a state sensor, and so forth. If the OID is valid it will be added to the Advanced Data sensor set.

Once the supplemental OID has been added, it will automatically be detected on any SNMP target to which it applies, and you can easily monitor and receive alert notifications for it just like any other monitored value on a pod or SNMP target. For information on how to define thresholds and specify sensor settings on Advanced Data sensor values, see “Sensor Settings” on page 81.

Add-Ons: RAE Systems Sensors Option

RAE Systems Sensors Option is a license key-enabled BotzWare enhancement that enables you to use a variety of RAE Systems toxic vapor and gas sensors with your appliances. The following devices are supported:

- MultiRAE Plus
- ppbRAE
- miniRAE
- AreaRAE
- RAELink

For more information on RAE Systems complete line of innovative gas detection products see http://www.raesystems.com.

Additional Features

Once enabled, RAE Systems Sensors Option will enable you to use any supported RAE Systems device as an external sensor. Each device is connected to the appliance using a USB-to-serial port adapter. Alternately, MultiRAE Plus, miniRAE, and ppbRAE systems can be made wireless with the use of the RAELink wireless communication upgrade package. In this case, only the RAELink is connected to the appliance.

Once connected, use the Serial Devices task (see “Serial Devices” on page 133) to configure the serial port to which the RAE Systems device is connected.

Supported RAE Systems devices that are connected to your appliance (either directly or via a RAELink) will appear as selectable devices in the Navigation pane of the Basic and Advanced View interfaces. When a RAE Systems device is selected from the Navigation pane, additional and readings are displayed in the Sensor Data pane. The specific sensors that appear in the Sensor Data pane vary by device type and device configuration.

Remote RAE Clients and Servers

In addition to supporting RAE Systems devices, RAE Systems Sensors Option enables you to configure a licensed appliance to act as a Remote RAE Client or Remote RAE Server:

Remote RAE Clients automatically gather data from all RAE Systems devices connected to the appliance and forward it to a user-specified RAE Systems Sensors Option licensed appliance. This remote appliance is referred to as a Remote RAE Server. RAE Systems device data that is forwarded to a Remote RAE Server appliance is displayed in the interface of the Remote RAE Server just as though the RAE Systems devices were directly connected to that appliance. This functionality enables you to aggregate the data reported by all of your appliance-connected RAE Systems devices into a single interface, and to set thresholds, monitor alerts, and graph data reported by the RAE Systems devices on Remote RAE Clients just like any other sensor connected to and supported by your appliance.

Enabling RAE Systems Sensors Option

To enable RAE Systems Sensors Option, you must purchase and add an RAE Systems Sensors Option license key to your appliance. License keys are available for purchase from NetBotz, Inc. and from NetBotz authorized resellers.

To add your RAE Systems Sensors Option license key to your appliance:

1. Use the Advanced View to start the License Key task on your appliance. When the task starts, you should see RAE Systems Sensors Option listed in the list of available applications.
2. Select RAE Systems Sensors Option from the list and then click **Edit**.
3. Type in the **License Key** field the RAE Systems Sensors Option license key.
4. Click **OK** to add the license key to your appliance.

The appliance will need to restart, after which RAE Systems Sensors Option will be enabled for use on your appliance.

The sensors provided by the RAE Systems devices will be available for use, enabling you to set thresholds (using the RAE Systems task), assign alert actions, graph sensor data, and generate reports from the data reported by these sensors, just like any other sensor connected to and supported by your appliance.

New Pod/Sensor Settings Task: RAE Systems Sensors

Once you have enabled RAE Systems Sensors Option and have added one or more RAE Systems devices to your appliance (by either connecting one or more RAE Systems devices using a USB-to-serial port adapter or RAELink, or by configuring your appliance to act as a Remote RAE Server) the RAE Systems Sensors task icon will appear in the Pod/Sensor Settings portion of the Configuration pane.

The RAE Systems Sensors task is a RAE Systems device-specific version of the Sensor Pods task that you use to configure any RAE Systems devices that are connected to your appliance. You can use the RAE Systems Sensors task to perform the following configuration tasks:

- Specify the label used to identify the RAE Systems devices.
- Configure sensors associated with RAE Systems devices, including specifying the label that is used to identify an individual sensor, specifying the maximum number of hours of sensor data that will be preserved on the appliance, and creating thresholds for each sensor which, if violated, will result in an alert condition being reported to the appliance.

To configure a RAE Systems device, double-click on the RAE Systems Sensors icon to start the RAE Systems Sensors task. A list of supported RAE Systems devices that are connected to your appliance appears. Select the device you want to configure, and the click the button that corresponds to the configuration task you want to perform:

- Click **Label** to specify a label for the device.
- Click **Sensors** to configure the sensors that are built into or connected to the device and to create thresholds for those sensors.

This task is specifically for use with supported RAE Systems devices. However, it otherwise functions precisely the same as the Sensor Pods task. For detailed instructions on using this task please refer to “Sensor Pods” on page 97.

New Appliance Settings Task: RAE Systems

Once you have enabled RAE Systems Sensors Option the RAE Systems task icon will appear in the Appliance Settings portion of the Configuration pane.

The RAE Systems task is used to:

- Configure communications settings for use with any RAE Systems devices that are connected to your appliance (via either a USB-to-serial port cable or a RAELink wireless communication upgrade package)
- Specify Remote RAE Client settings (which enable you to share RAE Systems device data with a Remote RAE Server)
- Enable and configure Remote RAE Server settings, which enable you to configure your appliance to receive RAE Systems device data from other appliances and set thresholds (using the RAE Systems task), assign alert actions, graph sensor data, and generate reports from the data reported by these devices just like any other sensor connected to and supported by your appliance

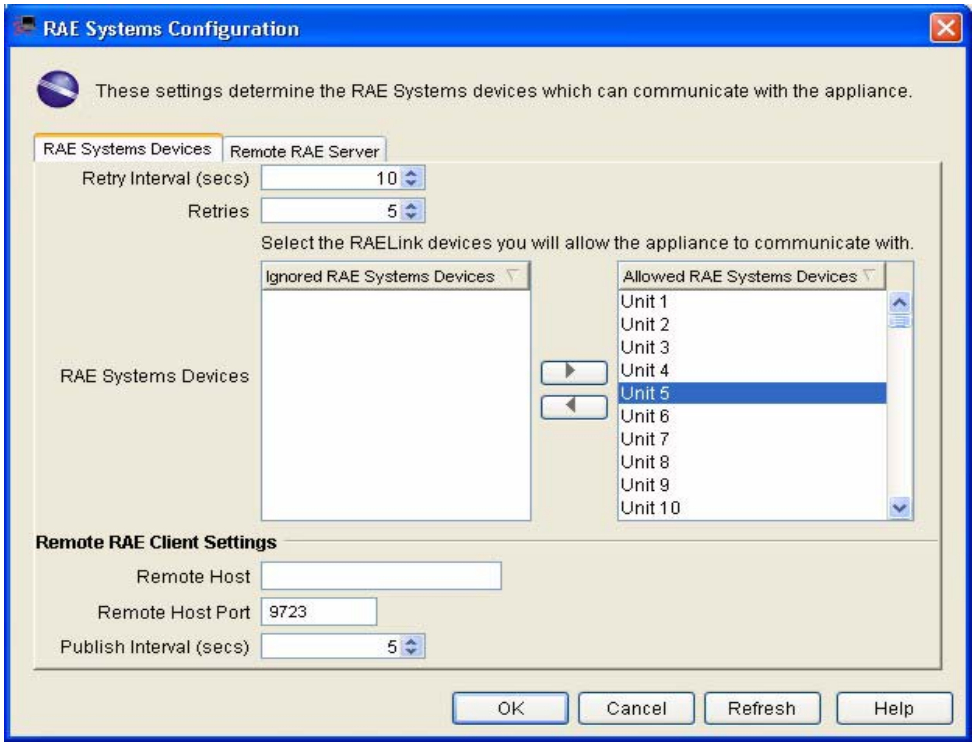
The RAE Systems Devices Tab

Note

This tab appears only if one or more RAE Systems devices is connected to the appliance, via either a USB-to-serial port cable or a RAELink wireless communication upgrade package. If no RAE Systems devices are present, only the Remote RAE Server tab contents will be available from the RAE Systems task.

Use the selections available within the RAE Systems Devices tab to configure communication settings for any RAE Systems devices that are connected to your appliance (via either a USB-to-serial port cable or a RAELink wireless communication upgrade package), to specify whether specific detected RAE Systems devices should be ignored by your appliance, and to configure Remote RAE Client settings on your appliance.

The RAE Systems Devices tab



The following controls are available from the RAE Systems Devices tab of the RAE Systems task:

Field	Description
Retry Interval	Specify the number of seconds that the appliance will wait for a response from any RAE Systems device before the appliance either retries communications or considers the target to be unresponsive.
Retries	Specify the number of times the appliance will retry communications with any RAE Systems device that is not responding before considering the device to be unresponsive.
Ignored / Allowed RAE Systems Devices	Any RAE Systems devices connected to your appliance (via either a USB-to-serial port cable or a RAELink wireless communication upgrade package) will automatically appear in the list of **Allowed RAE Systems Devices**. Devices in the **Ignored RAE Systems Devices** selection list do not appear in the Navigation Pane and will not be shared with a Remote RAE Server if the Remote RAE Client is configured for use. • To remove one or more RAE Systems devices from your Navigation Pane, select one or more devices from the **Allowed RAE Systems Devices** selection list and then click the “left arrow” (<) to move the selected devices to the **Ignored RAE Systems Devices** selection list. • To include one or more RAE Systems devices in the Navigation Pane, select one or more devices from the **Ignored RAE Systems Devices** selection list and then click the “right arrow” (>) to move the selected devices to the **Allowed RAE Systems Devices** selection list. **Note:** If your appliance is configured to act as a Remote RAE Client, data will be collected and forwarded to the Remote RAE Server only from those devices that are in the Allowed RAE Systems Devices selection list.
Remote Host	The hostname or IP address of a remote appliance that has been configured to act as a Remote RAE Server.
Remote Host Port	The IP port that has been specified for use in Remote RAE Client/Server communications on the Remote Host appliance.
Publish Interval	The interval (in seconds) at which data from all RAE Systems devices connected to this appliance will be published to the Remote Host.

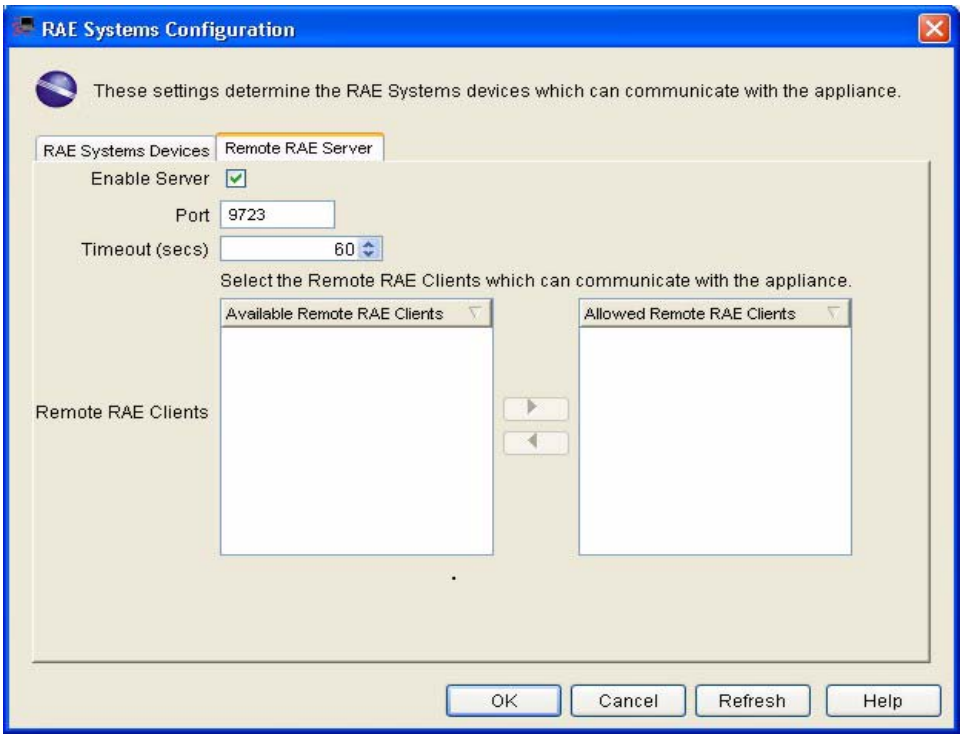
To change the RAE Systems Devices settings, use the controls to specify the desired values in the appropriate fields. When you are finished, click **OK** and any changes you have made will be saved to the appliance.

The Remote RAE Server Tab

Once your appliance is licensed to use RAE Systems Sensors Option, you can configure your appliance to receive RAE Systems device information from Remote RAE Clients in your network and then collect the data into a single interface, and to set thresholds, monitor alerts, and graph data reported by the RAE Systems devices on Remote RAE Clients just like any other sensor connected to and supported by your appliance.

Use the settings available in the RAE Remote Server tab to enable or disable the RAE Remote Server functionality on this appliance (enabling other licensed appliances to forward RAE Systems device data to this appliance), to specify the network settings that will be used for Remote RAE Client/Server communications, and to specify which detected RAE Remote Clients will be allowed to report data to this Remote RAE Server.

The Remote RAE Server pane



The following controls are available from the Remote RAE Server tab of the RAE Systems task:

Field	Description
Enable Server	Check this check box to configure this appliance to act as a Remote RAE Server. This will enable other licensed appliances to forward RAE Systems device data to this appliance. Device data will be collected and displayed by this appliance just as though the devices were directly connected to the appliance.
Port	Specify the IP port number that will be used for Remote RAE Client/Server communications.
Timeout	Specify the number of seconds that the appliance will wait for a response from a Remote RAE Client before it considers the target to be unresponsive.

Field	Description
Available/Allowed Remote RAE Clients	Any appliance that attempts to forward RAE Systems device data to this appliance will be automatically added to the **Available Remote RAE Clients** selection list. However, only data from clients that are in the Allowed Remote RAE Clients selection list will be collated and displayed in the interfaces. • To include one or more Remote RAE Clients, select one or more clients from the **Available Remote RAE Clients** selection list and then click the “right arrow” (>) to move the selected devices to the **Allowed Remote RAE Clients** selection list. • To remove one or more Remote RAE Clients, select one or more clients from the **Allowed Remote RAE Clients** selection list and then click the “left arrow” (<) to move the selected devices to the **Available Remote RAE Clients** selection list.

To change the Remote RAE Server settings, use the controls to specify the desired values in the appropriate fields. When you are finished, click **OK** and any changes you have made will be saved to the appliance.

BotzWare Macros

This appendix defines the various macros supported by BotzWare.

Macros are case-sensitive and must be entered exactly as shown.

Appliance Macros

The following macros are supported for use in the settings for attributes that support Appliance macros:

Macro	Definition	Example
${SERIAL}	The serial number of the appliance.	00_02_D3_00_01_13
${IP}	The dotted-decimal IP address of the appliance.	192.168.2.23
${HOSTNAME}	The hostname of the appliance.	testbot.netbotz.com
${MODEL}	The model of the appliance.	NetBotz 500
${TIMESTAMP}	The current UTC time (seconds since 1/1/1970).	998885130
${DATE}	The current date (year-month-day).	2001-08-27
${YEAR}	The current year.	2001
${MONTH}	The current month (2 digit number, January=01).	08
${DAY}	The current day of the month (2 digit number).	27
${TIME}	The current time (24-hour, hour-minute-second).	23-30-01
${HOUR}	The current hour of the day (2 digit, 24 hour time).	23
${MIN}	The current minute of the hour.	30
${SEC}	The current second of the minute.	01
${VER}	The current BotzWare version.	A1_2_3_7-20010822P

Location Macros

The following macros are supported for use in the settings for attributes that support Location macros:

Macro	Definition	Example
${LOCATION}	The location attribute of the appliance.	Test Lab
${ENCLOSURE}	The current enclosure ID (specified in the Location task settings) for the appliance.	RACK1234
${SLOT}	The slot in the enclosure (specified in the Location task settings) for the appliance.	A23
${ENCRELLOC}	The relative location within the enclosure (specified in the Location task settings) for the appliance.	ATUPS
${ROOM}	The room (specified in the Location task settings) for the appliance.	C-100
${ROOMROW}	The row within the room (specified in the Location task settings) for the appliance.	AA
${ROOMCOL}	The column within the room (specified in the Location task settings) for the appliance.	25
${HEIGHT}	The height above the floor (specified in the Location task settings) for the appliance.	60
${BLDG}	The building (specified in the Location task settings) for the appliance.	205
${FLOOR}	The floor number (specified in the Location task settings) for the appliance.	3
${COMPANY}	The company name (specified in the Location task settings) for the appliance.	NetBotz
${ADDRESS1}	The first address line (specified in the Location task settings) for the appliance.	11044 Research Blvd.
${ADDRESS2}	The second address line (specified in the Location task settings) for the appliance.	Bldg. C, Suite 100
${CITY}	The city (specified in the Location task settings) for the appliance.	Austin
${STATE}	The state/province/territory (specified in the Location task settings) for the appliance.	TX
${COUNTRY}	The country (specified in the Location task settings) for the appliance.	USA
${CONTACT}	The primary contact (specified in the Location task settings) for the appliance.	USA
${SITE}	The Site Name (specified in the Location task settings) for the appliance.	USA

Macro	Definition	Example
${NOTES}	The Notes value (specified in the Location task settings) for the appliance.	IT Closet, Server Room
${LATITUDE}	The Latitude value (specified in the Location task settings) for the appliance.	30° 18’ N
${LONGITUDE}	The Longitude value (specified in the Location task settings) for the appliance.	97° 42’ W
${GPSLOC}	Reports the current longitude and latitude data at alert time (units to which a GPS pod is connected only).	30° 18’ N / 97° 42’ W

Alert Macros

Alert macros are used to access attributes particular to the alert being processed at the time the macros are resolved. The following macros are supported for use in the settings for attributes that support Alert macros:

Macro	Definition	Example
${SENSORLUID}	The locally unique ID of the sensor generating the alert.	TEMP1
${SENSORGUID}	The globally unique ID of the sensor generating the alert.	B000113_TEMP1
${ALERTTYPE}	The type of alert.	HIGHERR
${SENSORTYPE}	The type of sensor generating the alert.	TEMP
${EVENTID}	The unique 16 character identifier shared by all messages generated as a result of a single alert notification event. For example, if an appliance generates an alert notification when the internal temperature sensor threshold is exceeded, and then generates a “return to normal” message when the temperature drops below the high threshold, both of these messages will have the same Event ID number. However, if the temperature rises again and a second threshold exceeded alert is generated, the second alert will have a new Event ID.	3E4512C0FE03440F
${SENSORVAL}	The value reported by the sensor that is generating the alert.	60
${ALERTTIME}	The date and time at which the alert notification was generated.	Apr 2, 2002 13:01:45

Macro	Definition	Example
${ALERTSEV}	The severity value reported by the sensor that is generating the alert (such as ERR, WARN, INFO). If the alert state has returned to normal, the severity value will be followed by "-RTN" (for example WARN-RTN).	ERR, WARN-RTN
${ALERTPOD}	The label of value of the pod that either contains the sensor that reported the alert or to which the sensor is connected.	My Pod
${ALERTPODSERIAL}	The serial number of the pod that either contains the sensor that reported the alert or to which the sensor is connected.	NB007100730114
${ALERTPORT}	The label value for the external sensor port to which the external sensor that reported the alert is connected.	Ext1
${SENSORNAME}	The name of the sensor associated with the alert.	Bldg. 3 Door
${ALERT_PROFILE}	The name of the alert profile that was used to generate the alert.	Default, Profile #1
${ALERT_LEVEL}	The name of the specific alert sequence that caused the alert to be generated. Corresponds with the Label value of the alert sequence.	First Alert Level, Second Alert Level
${CURRENT_ALERT_NUM}	The number of times the alert sequence has been repeated, from 0 up to the Repeats value for the alert sequence.	0, 1, 2
${ISACTIVE?yes?no}	Specifies custom active vs. return to normal text. The strings "yes" and "no" can be replaced with user-specified strings. For example, if you specify "active" and "cleared" for the "yes" and "no" values and the macro is translated, if the alert is still active the word "active" would appear and when it has returned to normal, the word "cleared" would appear	"active" and "cleared"
${USERURL}	The user-specified URL that can be defined within the threshold configuration.	http:// www.mysite.com
${USERDESC}	The user-specified description value which can be defined within the threshold configuration	"Too high"

Macro	Definition	Example
${RESOLVEUSERID}	The user ID that is responsible for manually resolving an alert (when this option applies).	joeuser
${RESOLVECOMMENT}	The text entered into the “User-resolution comment” field whenever an alert needs to be manually returned to normal (an option which can be selected whenever a threshold is configured).	“Turned on the A/C”; “Fixed the leak”
${START_TIME}	The time at which the alert condition was initially detected.	13:01:45
${RESOLVE_TIME}	The time at which the alert condition returned to normal.	13:01:45

Overloaded Appliances: Symptoms & Solutions

Like any computing device, your appliance has limited resources available at any point in time to perform tasks. If your appliance is configured to perform too many tasks simultaneously – or to perform resource-demanding tasks such as image processing and recording more often than is needed – its performance will be adversely affected.

Overloaded Appliances: Symptoms

Some symptoms of an overloaded or "busy" appliance include:

- HTTP timeout errors that occur while submitting configuration updates in the Advanced View
- When alert notifications are received, you find that there has been a significant delay between the time at which the alert condition occurred and the time at which the alert notification was delivered, based on the time of the alert noted in the notification
- Audio clips and/or camera clips that are associated with an alert notification are missing
- Your appliance reboots on its own
- Changes made to Locale or License Key settings are not retained after the appliance reboots
- In the Camera view, a significantly lower frame rate is being served by the appliance than what you expect (this is often due to a heavy alert load, and can also be caused by several users attempting to interactively view camera images from the same appliance simultaneously).
- When attempting to load the alerts in the Advanced View Alerts view, you receive an "Error loading the list of Alerts" error message.
- When attempting to load sensor graphs you get time-outs.
- Configuration panels take exceedingly long times to load, or time-out when attempting to load.
- Upgrade attempts are unsuccessful with errors indicating that the appliance is too busy.
- When viewing alert details, you receive errors when attempting to load-up graphs and/or camera clips with a message indicating that the graph or clip had to be removed in order to make room for more recent alert captures. Additionally, expected camera or graph attachments for an alert are not present but have instead been completely deleted.
- In the Basic View, you notice a long delay whenever switching focus between tabs or when switching sensors in the Sensors View pane.

Overloaded Appliances: Solutions

If your appliance has become overloaded, here are some configuration adjustments you can make that will help alleviate the load on the appliance:

- If you are using Device Crawlers or Advanced Device Crawlers, reduce the interval that Device Crawlers are being scanned. This setting can be adjusted by selecting the Global SNMP Settings task in the Device Crawlers configuration task.
- If you are using Device Crawlers or Advanced Device Crawlers, disable MIB2 scanning on devices. Some devices (routers, for example) can include many communications interfaces, and

scanning all MIB2 interfaces on these devices can cause significant delays on Device Crawlers performance. To avoid these impacts, disable MIB2 scanning on these devices.

- Lower the Interactive Frame Rate Limit on some or all cameras connected to the appliance (start the cameras task, select a camera, and then click Settings). This value specifies what percentage of the total images made available per second by the camera that will be made available to users that are using the appliance interactively (such as viewing images from the Cameras View in the Advanced View). This can be used to limit the performance impact that can be caused by multiple clients with high frame rate settings accessing your appliances interactively
- If Camera Motion thresholds are enabled for alerting, check the following to ensure that thresholds and settings are appropriate such that camera motion is not being detected continuously:
  - Check the Sensitivity and Area of Motion settings to ensure those are set appropriately for your environment and the type of motion that you're interested in detecting
  - If there are areas of the image that are “noise” (such as windows with traffic passing by in background, or monitors with screen savers running) or that you don't care to detect motion in, use the Camera Pods task’s Motion configuration to create a Motion Detection Mask for those areas.
  - If Camera Motion thresholds (or any other thresholds that include camera images) are being triggered frequently, adjust the thresholds to make them less sensitive. You can also use Alert State for Time alert types instead of Alert State alert types to try to minimize duplicate event notifications.
  - If there are time periods where you wish to ignore motion events, use the Advanced Scheduling option within the Camera Motion threshold to disable the sensor for specific time periods on specific days of the week.
- Adjust the Capture settings for your Camera Pods to reduce the capture size of pictures being collected.
- If you have several “busy” Camera Pods connected to one appliance and have multiple appliances available, try distributing the cameras to the other appliances to even out the image capture load.
- If possible, spread out the initialization of alert notifications over the span of a few minutes, instead of sending a bunch all at the same time. This can be accomplished by using multiple alert levels in the Alert Profile.
- Overall Alert Load: If your appliance is detecting more than a couple of alert events every few minutes, you may need to re-evaluate your alert threshold settings in order to ensure that alerts are meaningful. Additionally, if you have several alert actions configured and they are running on short intervals, you might consider breaking those out into longer intervals or creating multiple profiles that can be customized for different sensor types. This would allow for sensors which will collect picture captures to have notifications sent on different intervals (and with different alert actions) than other sensors which might not require picture captures.
- If you are running in wireless mode, or in SSL mode, these modes will consume more processing power than in a non-wireless or non-SSL mode. As a result, image captures or interactive viewing of Camera images will have an even greater affect on the performance. In this case, it is even more

important that you verify that the appliance is configured to generate alert states and send alert notifications as efficiently as possible.

- When viewing alerts in the Advanced View, setting the refresh interval to None or to a large refresh interval may allow a heavily-alerting appliance to load its complete list of resolved and unresolved alerts more efficiently.
- Try to avoid leaving the Advanced View and/or Basic View up and running with the Cameras view selected when it is not being used. Streaming of interactive camera pictures from appliances consumes appliance resources.
- Upgrade your appliances only at times when the alert load on an appliance (particularly appliances with camera motion thresholds enabled) is low.
- When configuring capture settings for the camera, selecting a shorter capture time or less total picture capture size will result in less of a chance for multiple overlapping alert picture captures and also in the ability to store a greater number of alert captures before they have to be deleted to make room for more recent alert captures.
- If your appliance is being managed by a NetBotz Central server and has surveillance enabled, configuring the surveillance to record lower frame rates and/or resolutions will reduce load on the appliance. Additionally, on the 500 models, the request to include audio with surveillance footage increases the load on the appliance.

Camera Usage Considerations

Depending on image resolution and frame rate settings, Camera Pod 120s can consume significant network bandwidth. Of course, the impact that network bandwidth consumption will have depends greatly on how much bandwidth is available for use. Because of this, there is no way to definitively state what the “right” or “best” Camera Pod settings are when trying to ensure that the data generated by your Camera Pods does not negatively affect the performance of your network.

To help you determine the best settings for your needs, we’ve provided the following approximate image size measurements for the various image resolutions supported by the Camera Pod 120. Note that actual image size is largely dependent on the amount of detail that is being captured in a given image. Images with lots of activity and detail will typically be larger that images with low light, few details, or little activity.

Resolution	Maximum Rate Frame at Normal Quality	Approximate Picture Size
160x120	30 frames per second	1.2KB – 5KB
320x240	30 frames per second	8KB – 13KB
640x480	30 frames per second	30KB – 51KB
800x600	10 frames per second	50KB -73KB
1024x768	10 frames per second	70KB – 114KB
1280x1024	10 frames per second	100KB – 175KB

If you configure the Camera Pod 120 to capture images in High Quality, the Maximum Frame Rate for some resolutions changes: At 640x480 and lower resolution the maximum frame rate drops from 30 frames per second to 20 frames per second. In 800x600 the maximum frame rate is unchanged (stays at 10 frames per second). In 1024x768 and 1280x1024 the maximum frame rate drops from 10 frames per second to 8 frames per second. Also, keep in mind that Maximum Frame Rate is the maximum number of images per second that the camera imager is capable of producing. The actual frame rate that will be visible in the Basic View or Advanced View Camera View is largely dependent on the amount of available bandwidth.

Verifying Signed M-JPEG AVI Files

NetBotz has included a simple command line utility that enables you to verify that digitally signed M-JPEG files have not been tampered with since they were generated by your NetBotz appliance. This command line utility, AVIVRFY.BAT, is automatically installed along with the Advanced View and can be accessed from the Advanced View installation directory.

To use this utility, open a command line session and change directories to the Advanced View installation directory. Then, type at the command line

avivrfy *avifilename*.avi

where *avifilename*.avi is the filename of the AVI file that you want to verify, and then press **Enter**.

- If the AVI file is not stored in the same directory as the AVIVRFY.BAT program, be sure to specify the fully qualified path to the file as part of *avifilename*.
- AVIVRFY.BAT can be used to verify multiple signed AVIs simultaneously. To verify multiple AVIs, simply append additional avifilename parameters to the command. For example, using the command
  avivrfy sample.avi sample1.avi sample2.avi
  would verify three AVI files, named sampl.avi, sample1.avi, and sample2.avi simultaneously.

Output Examples

Here is an example of the output that AVIVRFY.BAT generates when used on a valid signed AVI file:

```
sample.avi is valid
Appliance Serial: 00:02:D3:02:C1:DB
Camera Serial: CAMERA_00:02:D3:02:C1:DB
Number of signatures: 1
 Signature #1
  Signature Timestamp: Thu Nov 18 09:05:45 CST 2004 (1100790345503)
  Number of distinct images: 9
  Image timestamps:
   Thu Nov 18 09:04:33 CST 2004 (1100790273097)
   Thu Nov 18 09:04:34 CST 2004 (1100790274094)
   Thu Nov 18 09:04:36 CST 2004 (1100790276094)
   Thu Nov 18 09:04:37 CST 2004 (1100790277104)
   Thu Nov 18 09:04:38 CST 2004 (1100790278104)
   Thu Nov 18 09:04:39 CST 2004 (1100790279104)
   Thu Nov 18 09:04:40 CST 2004 (1100790280114)
   Thu Nov 18 09:04:41 CST 2004 (1100790281114)
   Thu Nov 18 09:04:42 CST 2004 (1100790282114)
  Image SHA-1 Hash: 490220249CFF986B581CEFC2EEA421AE303AB83A
```

Here is an example of the output that AVIVRFY.BAT generates when used on a signed AVI file that has been tampered with:

```
sample.avi is not valid - Invalid length - 203398!=206012
```

WWW.NETBOTZ.COM

PN: 01978D05