

Reference Guide

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OpenEnterprise NW3000 Setup Reference Guide (V2.83)

Remote Automation Solutions

Website: www.EmersonProcess.com/Remote



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1 NW3000 Setup Tool

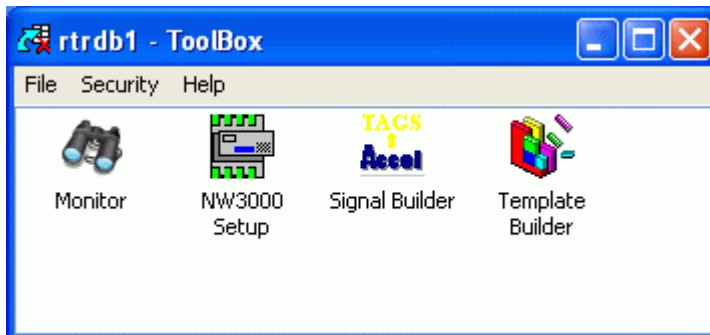
The NW3000 Setup Tool enables the user to both populate a Server database and configure the data collection for Bristol devices. This Wizard based tool guides the user quickly and easily through the necessary steps of configuration for the following:-

- OpenBSI start-up
- Message Buffer usage
- Device health checking
- Remote Alarm Support
- RBE data collection
- Logical Alarm Background Polling
- Importing of Signal and MSD data
- Scheduled data collection (polling)

1.1 Starting the NW3000 Setup Tool

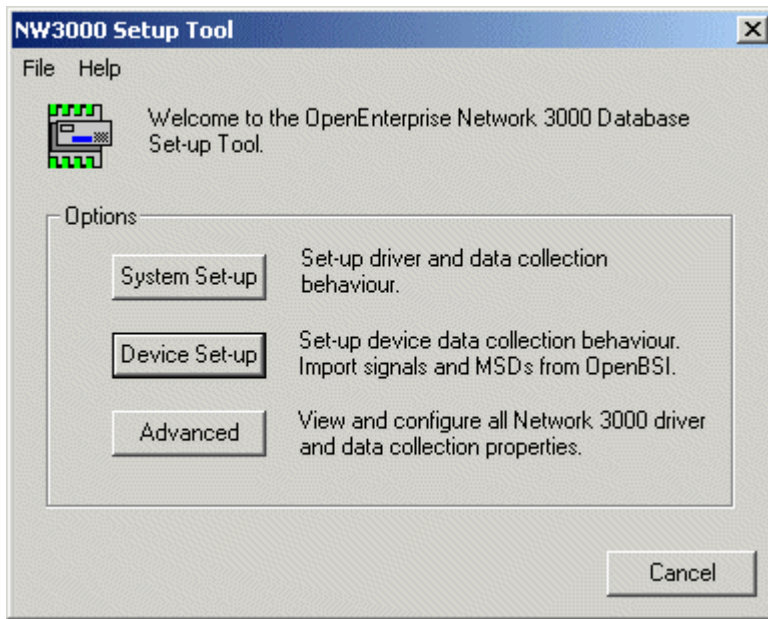
The NW3000 Setup Tool can be located in the Toolbox.

Toolbox is launched from the Windows Start menu. Double click on the NW3000 Setup icon to then launch the NW3000 Setup Tool.



2 Main Dialog

The NW3000 Setup Tool's main page allows the user to configure system and device specific properties. It also provides for the automatic import of device signals into the Server database.



2.1 File Menu

The File menu has only one option - Exit. Select this to exit the NW3000Setup program.



2.2 Help Menu

The Help Menu provides access to this Help file, and to the 'About' box. This provides information about the product version, together with relevant contact information.

2.3 System Set-up Button

The 'System Set-up' button starts the System Set-up wizard. This will guide you through the process of setting up system wide start-up and data collection behaviour.

2.4 Device Set-up Button

The 'Device Set-up' button starts the Device Set-up wizard. This will guide you through the process of importing device signals into the Server database as well as the configuration of data collection.

2.5 Advanced Button

This button will display a set of property pages, which will enable the user to view and modify settings for Bristol devices. It should not be used until the devices have been first set-up and the signals built into the database.

Advanced Property Pages

2.6 Cancel Button

If selected, the NW3000 Setup tool will close.

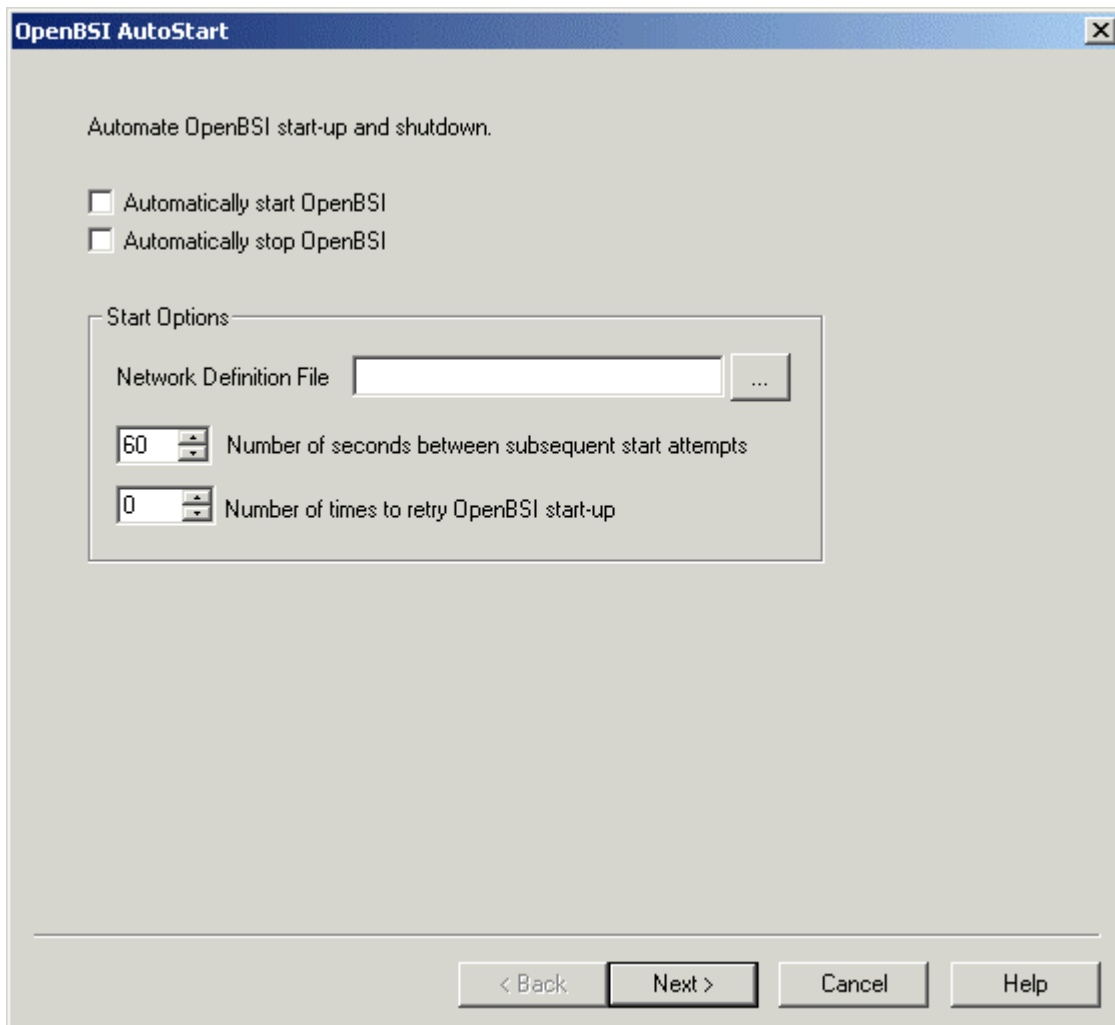
3 System Setup Wizard

This wizard enables the user to set up key settings for the NW3000 Driver regarding:

1. OpenBSI AutoStart
2. Message Buffers
3. Device Health Checking
4. Remote Alarm Support
5. RBE Support
6. Polling
7. Signal Import Options

3.1 OpenBSI AutoStart

This is the first dialog of the 'System Set-up' wizard. It enables the user to configure the automatic starting and stopping of OpenBSI by ObjectServer / OpenEnterprise.



3.1.1 Automatically Start OpenBSI

Automatically start OpenBSI

If checked, then OpenBSI will be started automatically when the NW3000 driver starts. If this box is checked, then you must create and set the following values on the **OpenEnterprise\Tasks\VDI3000** key in the Settings Editor.

Name	Description
EnableBSAUTO	Set to 1 to use BSAUTO to start OpenBSI. Used in conjunction with BSAUTOFormatString . When set to 0, the BSISStartSys API call will be used to start OpenBSI. Default value is 0.
BSAUTOFormatString	The format string used as the BSAUTO command line. Default value is "BSAUTO -std SYSTEM SYSTEM %s" where %s represents the NDF filename specified within the nw3000driver.obsistartndf attribute.

3.1.2 Automatically Stop OpenBSI

Automatically stop OpenBSI

If checked, then OpenBSI will be stopped automatically when the NW3000 driver stops.

3.1.3 Network Definition File

Network Definition File ...

This is the Network Definition File used by OpenBSI to define the network of Bristol devices. It has an extension of .NDF, is usually named 'Current.ndf' and by default resides within the 'C:\Accol' directory. Use the browse button to locate the correct file. Once selected, the file's full pathname will be placed into the Network Definition File text field.

3.1.4 Number of seconds between subsequent start attempts

Number of seconds between subsequent start attempts

This is the number of seconds the NW3000 driver will wait between failed attempts to start OpenBSI. The default value is sixty seconds. This can be changed by typing another value directly into the field or using the buttons provided.

3.1.5 Number of times to retry OpenBSI start-up

Number of times to retry OpenBSI start-up

The number of times the NW3000 driver will retry starting OpenBSI, should startup fail. Defaults to zero (0). This can be changed by typing an new value into the field or using the buttons provided.

3.1.6 Cancel Button

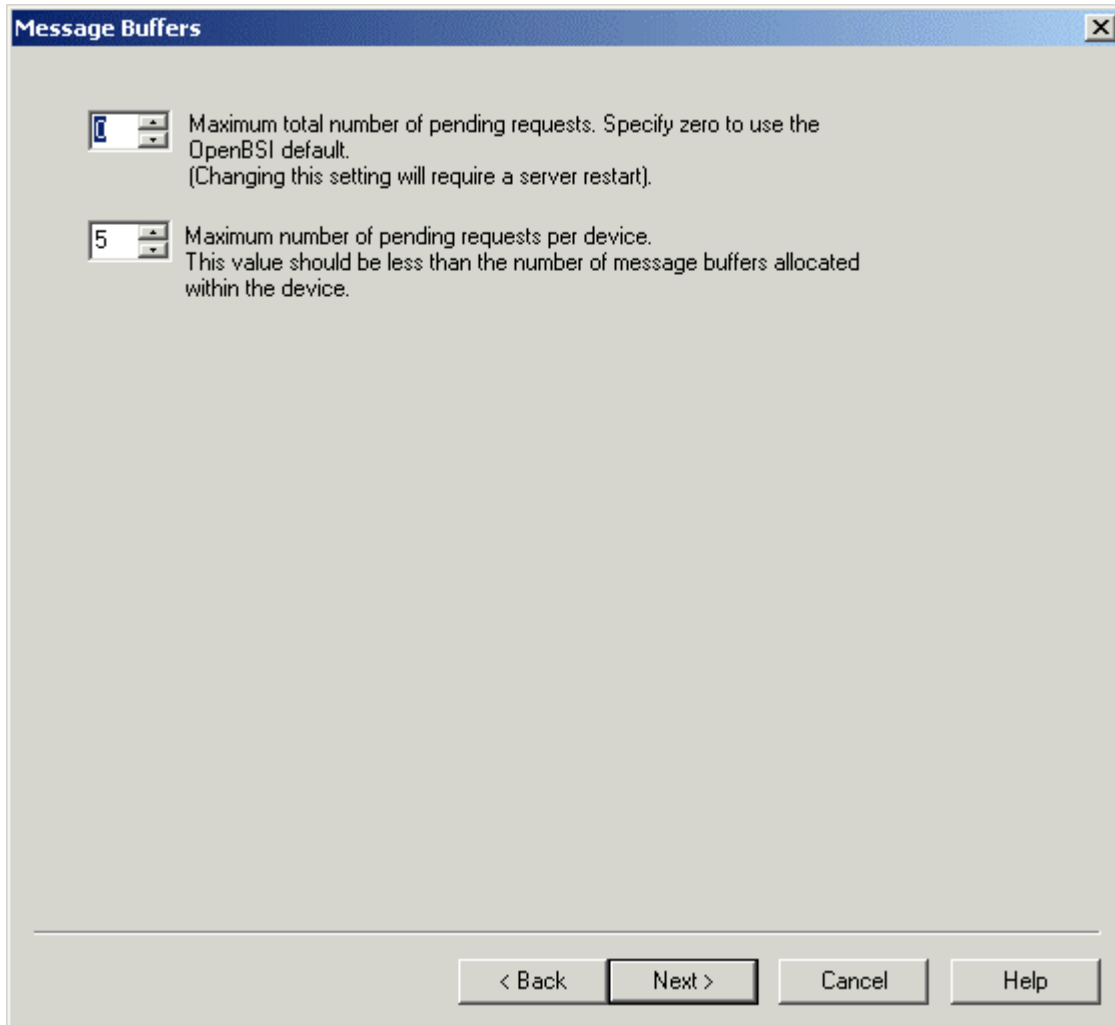
If selected, the dialog will close. No changes made on this dialog or the previous dialogs in the wizard will be saved.

3.1.7 Help Button

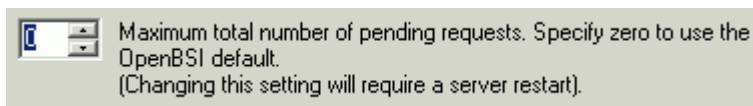
Selection of this button will display the help topic for this dialog.

3.2 Message Buffers

The Message Buffers dialog enables the user to configure the maximum number of pending requests for the system as a whole and per device.



3.2.1 Maximum total number of pending requests



The default value is zero (0), in which case the NW3000 Driver will accept the pending message request buffers settings configured within OpenBSI. It should not be set to more than that set by OpenBSI.

If the default value is not chosen, the selected maximum number of pending requests should be less than the total number available within OpenBSI. The value chosen should not be so high that it could adversely affect other OpenBSI clients or cause excessive network loading.

3.2.2 Maximum number of pending requests per device

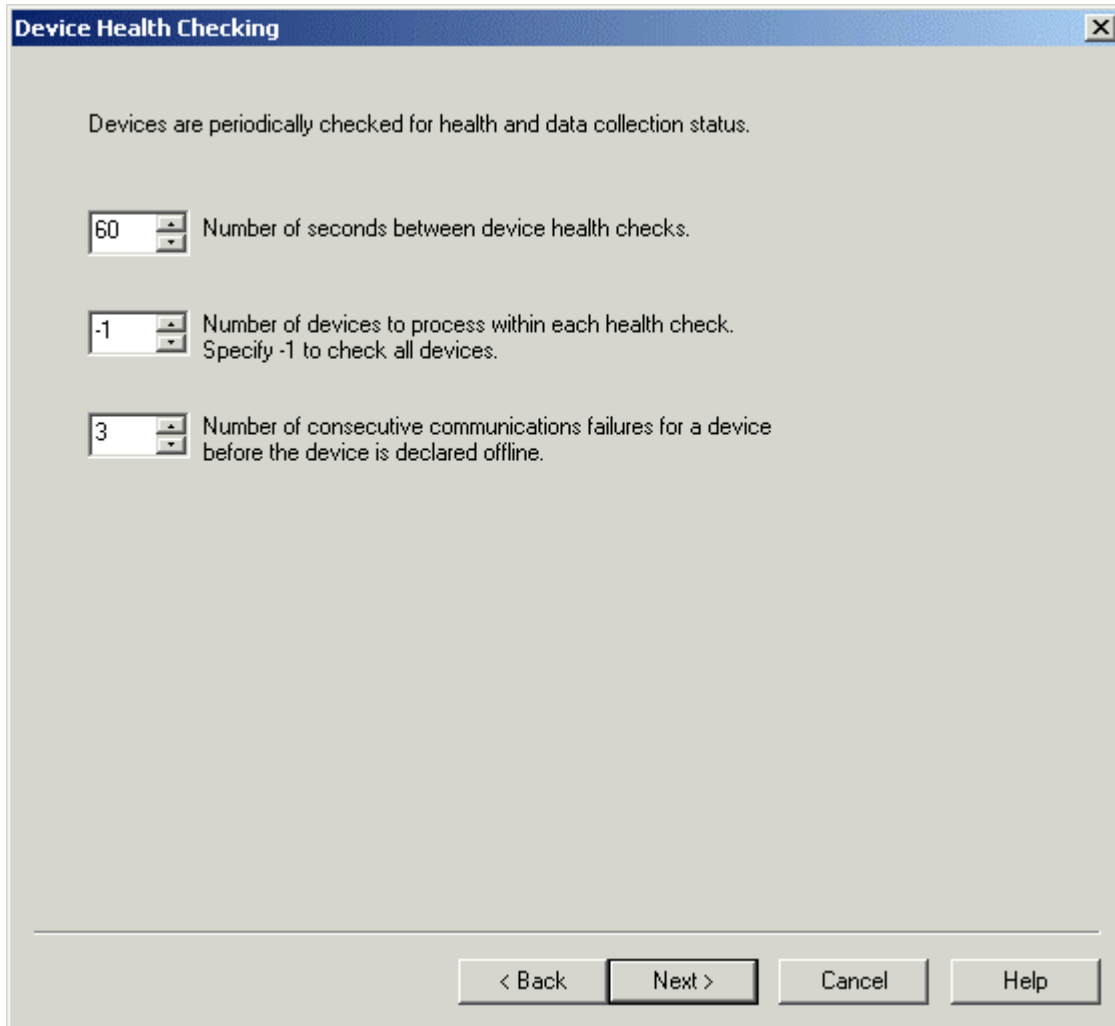
Maximum number of pending requests per device.
This value should be less than the number of message buffers allocated within the device.

Specifies the maximum number of pending requests that a device can have at any one time. The default value is 5. When changing the value the following points should be taken into account:-

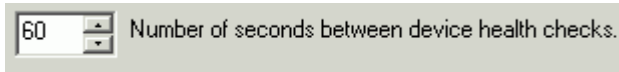
1. The value should be significantly less than the number of message buffers allocated within the device.
2. The nature of the network communications between the Server and the devices. A single serial link would, for instance, indicate a lower buffer value than a 100BaseT IP network link.
3. The number of devices and network levels used. More devices and network levels would indicate a lower pending request buffer number per device.

3.3 Device Health Checking

The Device Health Checking dialog enables the user to configure how devices are checked for health and data collection status.

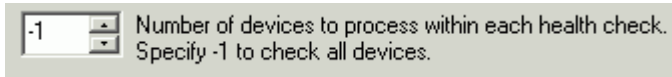


3.3.1 Number of seconds between device health checks



Default is 60 seconds. This figure controls the frequency of device health checks. It may need to be made larger if there are a lot of devices and more than one level in the network that links the devices, or the number of devices to check per time may need to be made smaller.

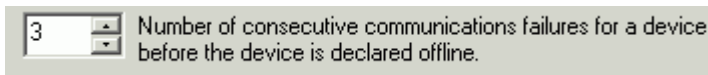
3.3.2 Number of devices per health check



This is the number of devices to check within the time period allowed. On large telemetry systems it may be beneficial to set this number to check a smaller number of devices during the health check period.

For instance, if there were 120 devices, and a health check period of 60 seconds, the Server could be configured to check 30 devices per health check, rather than doing them all within one health check period. In such an example all devices would receive a health check every four minutes.

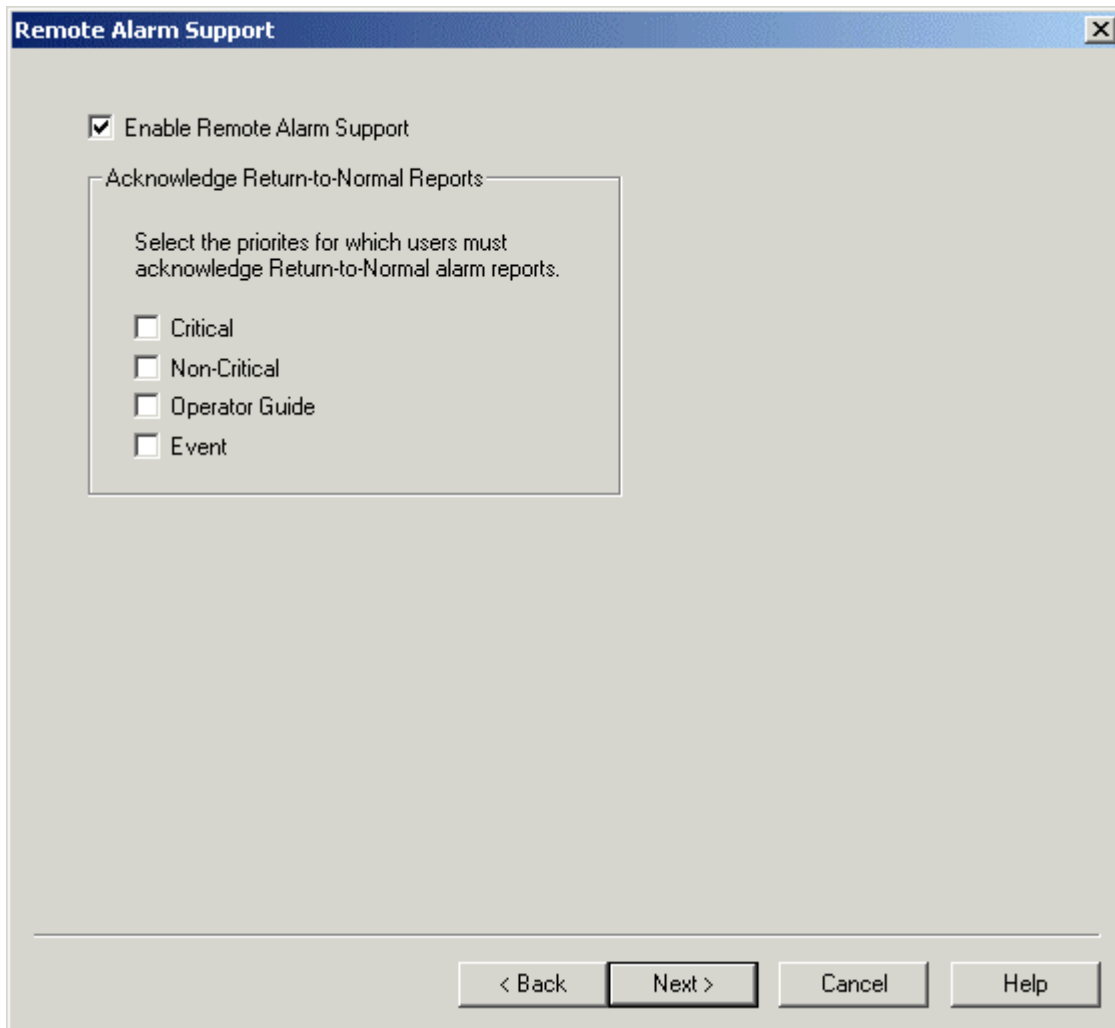
3.3.3 Number of consecutive failures allowed



The number of consecutive communications failures to a particular device before it is declared offline. The time taken for this to happen will depend on the communications loading and frequency between the Server and the device.

3.4 Remote Alarm Support

The Remote Alarm Support dialog enables the user to switch on Remote Alarm Support, and to select priorities for which users must acknowledge 'Return-to-Normal' reports. By default, Return-to-Normal alarm reports do not require user acknowledgement.



3.4.1 Enable Remote Alarm Support

Enable Remote Alarm Support

If checked, the NW3000 Driver will register with OpenBSI for the receipt of remote alarm reports.

3.4.2 Acknowledge Return to Normal Reports

Acknowledge Return-to-Normal Reports

Uncleared alarms require acknowledgement, but by default return-to-normal alarms do not require user acknowledgement. Network3000 device alarms can also be set to require acknowledgement when the signal value returns to normal.

This section enables the user to select the alarm priorities for which the acknowledgement of a return to normal condition is required.

3.4.3 Critical

Critical

If checked, critical priority return-to-normal alarm reports will require user acknowledgement.

3.4.4 Non-Critical

Non-Critical

If checked, non-critical priority return-to-normal alarm reports will require user acknowledgement.

3.4.5 Operator Guide

Operator Guide

If checked, operator-guide priority return-to-normal alarm reports will require user acknowledgement.

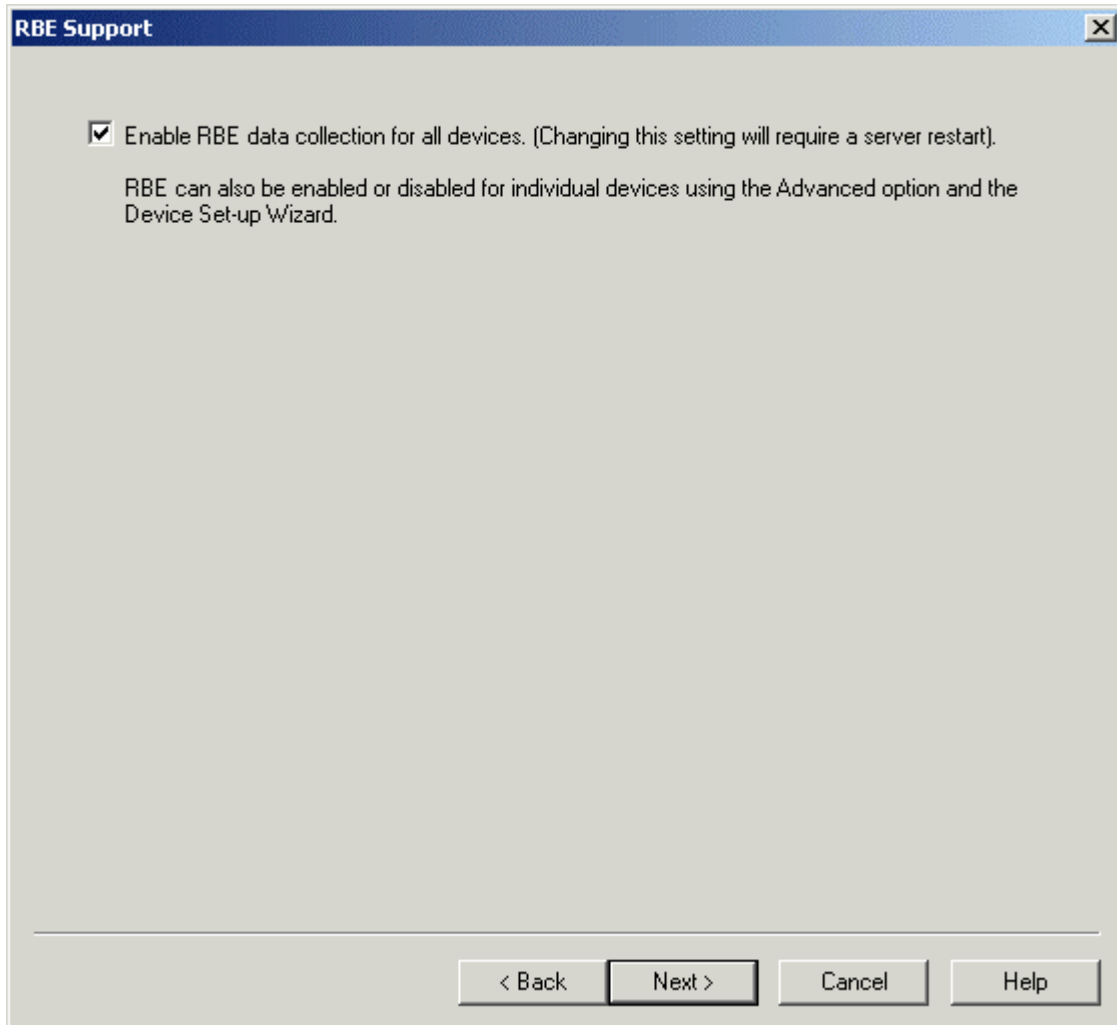
3.4.6 Event

Event

If checked, event priority return-to-normal alarm reports will require user acknowledgement.

3.5 RBE Support

The RBE Support dialog enables the user to configure Report By Exception (RBE) data collection for all devices.



3.5.1 RBE Data Collection

Enable RBE data collection for all devices. (Changing this setting will require a server restart).

When checked, RBE data collection will be automatically enabled for all devices that contain one or more RBE signals.

3.6 Polling

The Polling dialog enables the user to configure polled data collection.

Polling

Active Polling

Analog signals Polling Frequency seconds

Digital signals Include RBE signals

String signals

Background Polling

Default Polling Frequency seconds

Logical Alarm Background Polling

One shot poll. Collect only at system start-up and other key device events.

Maximum Interval

hours minutes seconds

Offset

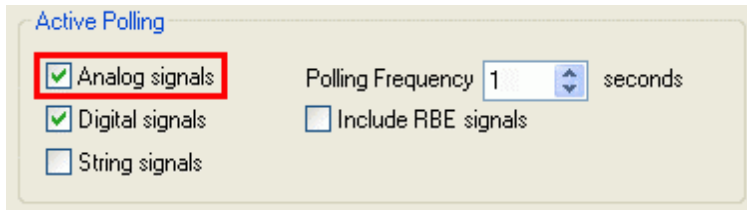
hours minutes seconds

Analog Alarms

Collect additional in-alarm and acknowledge states.
This option is only supported for non-RBE analog alarm signals.

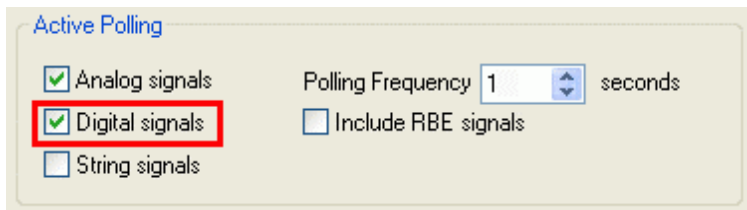
< Back Next > Cancel Help

3.6.1 Active Polling for NW3000 Analogs



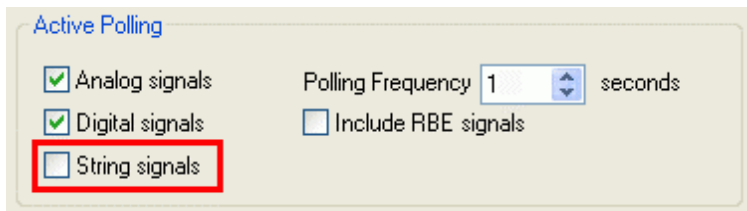
When this box is checked, Active Polling for NW3000 realanalog signals is enabled. By default analog signals will be enabled for Active Polling, so this box is checked.

3.6.2 Active Polling for NW3000 Digitals



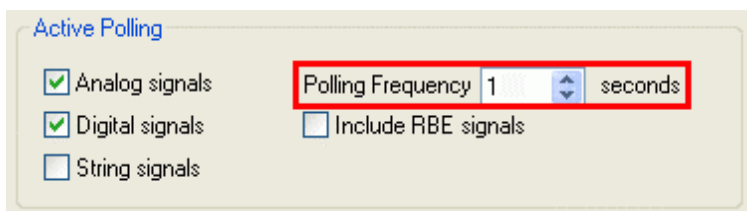
When this box is checked, Active Polling for NW3000 Digital signals is enabled. By default digital signals will be enabled for Active Polling, so this box is checked.

3.6.3 Active Polling for NW3000 Strings



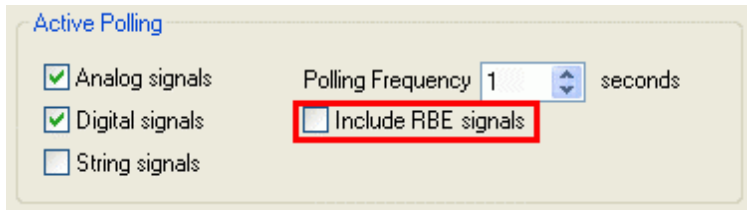
When this box is checked, Active Polling for NW3000 String signals is enabled. By default string signals will not be enabled for Active Polling, so this box is unchecked.

3.6.4 Active Polling Frequency



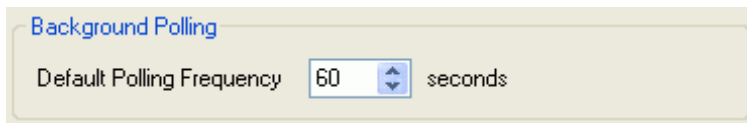
The frequency that will be set for Active Polling templates. The default frequency for Active Polling is 1 second.

3.6.5 Include RBE Signals in Active Polling



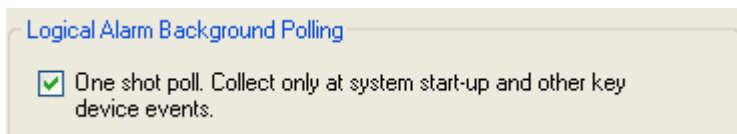
When this box is checked, RBE signals will also be included in any Active Poll Lists that are created. By default RBE signals are not included in Active Polling, so this box is unchecked.

3.6.6 Background Polling Frequency



The frequency at which normal background polling will take place. The default value for background polling is set at 60 seconds. This value is applied when importing new devices, but the value can be overridden for individual devices from the 'Polling Support Page' when using the 'Device Setup Wizard'.

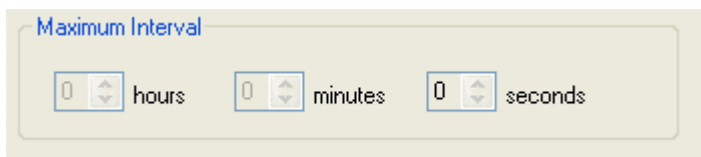
3.6.7 One Shot Poll



If checked, Logical Alarms will only be polled when the Server starts up and at other key device events.

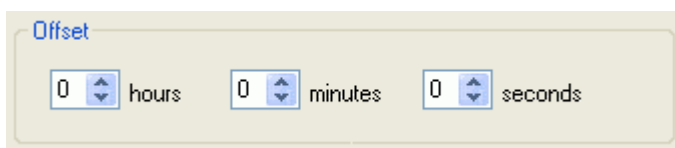
When checked, the Maximum Interval time fields will be disabled.

3.6.8 Maximum Interval



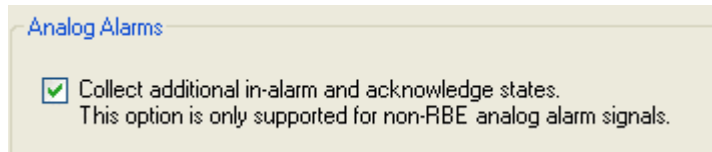
Specifies the time between successive polls for Logical Alarms. This is only available if the 'One Shot Poll' option is not selected.

3.6.9 Offset



Specifies an offset period on start up of the Server for polling of Logical Alarms.

3.6.10 Analog Alarms

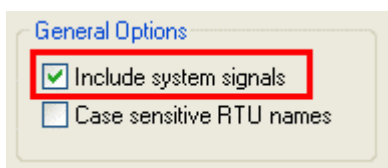
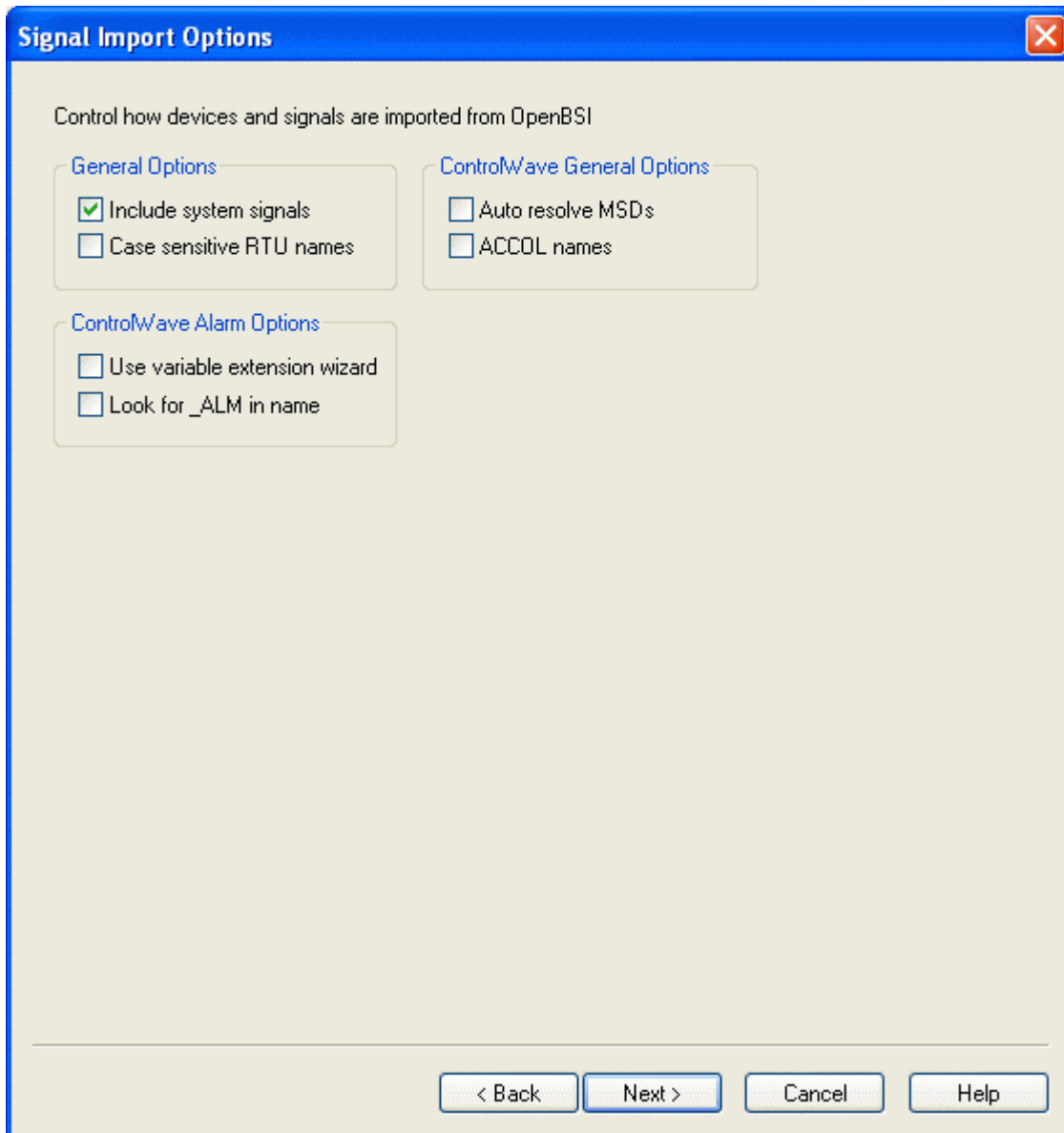


If checked, the following additional alarm states will be collected for analog signals that are not designated as RBE.

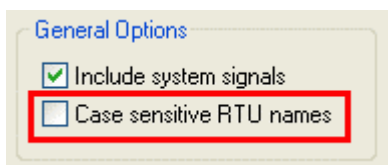
InHiHiAlarm	HighHighAcknowledged
	HiAcknowledged
InHiAlarm	LoAcknowledged
InLoAlarm	LoLoAcknowledged
InLoLoAlarm	

3.7 Signal Import Options

This dialog enables the user to fine tune their database build. The options apply to the NW3000 Database Builder, and affect how it builds Bristol signals into the database.



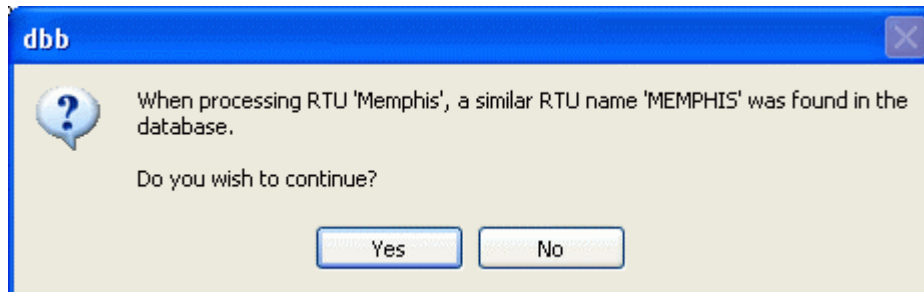
If checked, this option will ensure that device system signals are included in the database build.



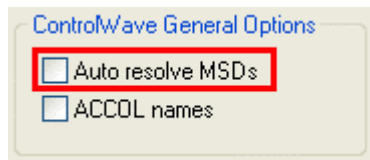
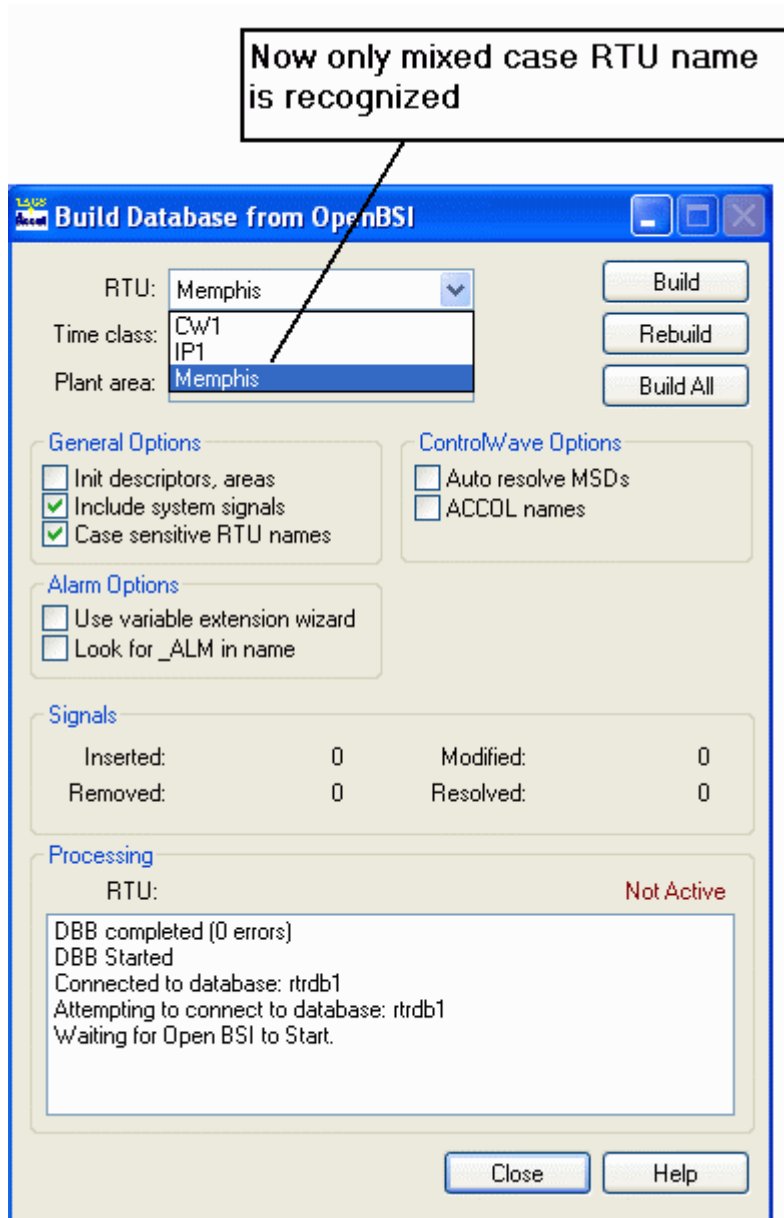
Enables RTU names with mixed upper and lower case characters to be defined (e.g. Memphis, Area1) when adding devices and signals into the OpenEnterpriseObjectServer database. By default, all RTU names are converted to uppercase in the database (e.g. MEMPHIS, AREA1).

If a build occurs for an RTU with mixed case characters without this option checked, the RTU name will be inserted into the database in upper case characters, and all its signals will be preceded and identified by the uppercase RTU name followed by a colon (e.g. MEMPHIS:PUMP1.RUNNING.001).

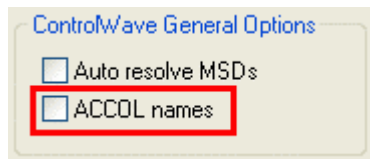
If a subsequent build for the same RTU occurs, but with this option checked, the NW3000 Database Builder will ask for confirmation before inserting the device and its signals into the database.



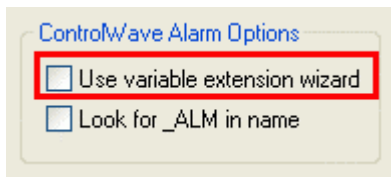
This time, the mixed case name will be used. The previous entries for the same device and its signals with the capitalized name will NOT be deleted from the database. However, the NW3000 Database Builder will only now recognize the capitalized name for the RTU.



Checking this box will ensure that the DataBase Builder resolves the Control Wave device signal addresses, also known as MSD (Master Signal Directory) numbers. This must be checked in order for the Poll List Builder to create poll lists for Control Wave device's.

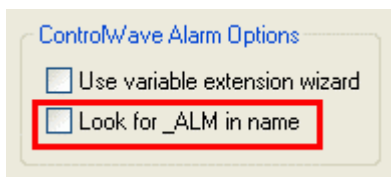


When selected, ControlWave signal names will be converted to ACCOL signal name format (i.e. <BASE>.<EXTENSION>.<ATTRIBUTE>).



When checked, the NW3000 Database Builder will use the 'Variable Extension Wizard' settings from the ControlWave load to determine alarm signals for ControlWave RTUs.

The default setting is for this and the 'Look for _ALM in name' option to be unchecked. This causes the NW3000 Database Builder to mark all signals as alarms.



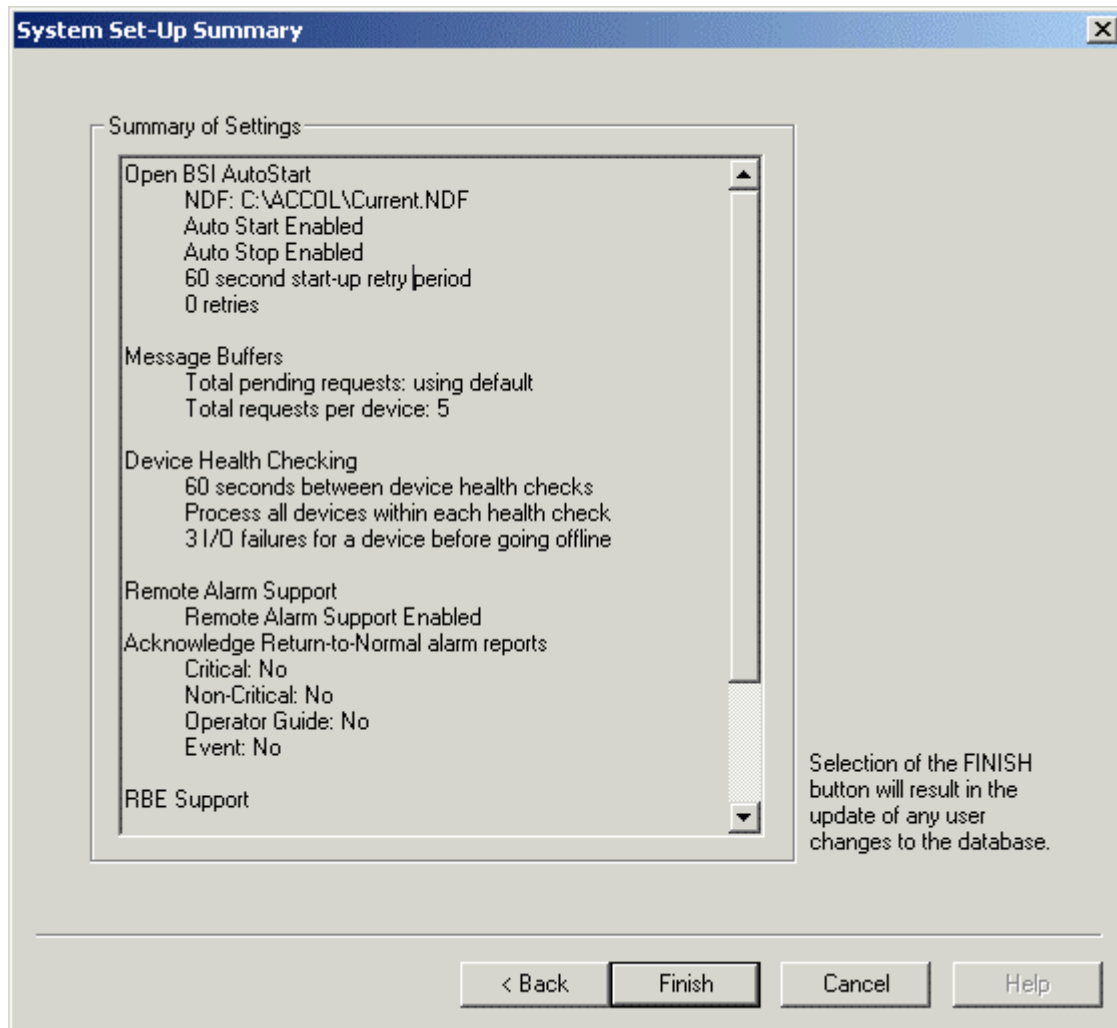
When checked, the NW3000 Database Builder will look for signals with names that contain '_ALM' to determine alarm signals for ControlWave RTUs.

The default setting is for this and the 'Use variable extension wizard' option to be unchecked. This causes the NW3000 Database Builder to mark all signals as alarms.

3.8 System Set-up Summary

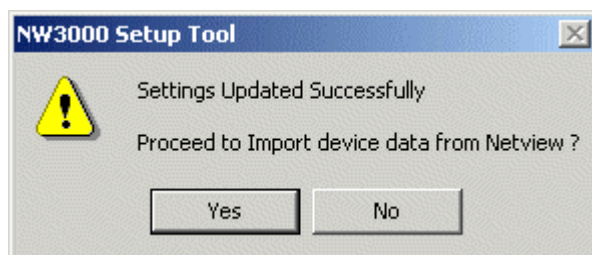
This is the final dialog displayed for the 'System Set-up' wizard. It enables the user to view the configuration parameters defined. Should anything require changing, the user is able to navigate back to the appropriate dialog to make the necessary changes prior to finalizing the system configuration.

Selecting the **[Finish]** button will update the server database with the requested configuration.



3.8.1 System Setup Finish Button

When this button is selected the server database will be updated with the user-defined configuration. A successful update of the user configuration will be confirmed by the following message.



Selection of the [Yes] button will display the Devices wizard.

4 Device Setup Wizard

This wizard enables the user to set up key Device settings for the NW3000 Driver, such as:

1. Import From Netview
2. RBE Support

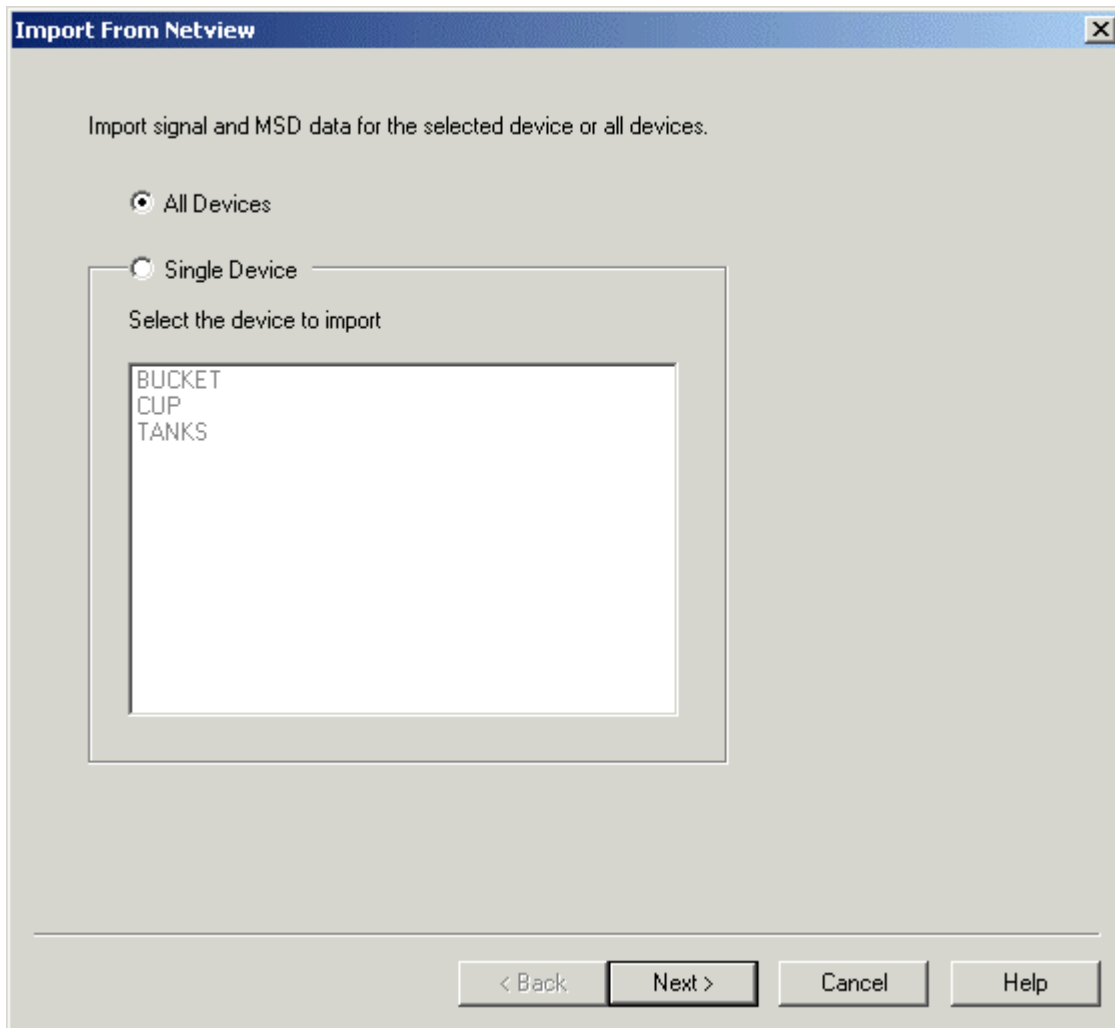
3. Polling Support

At the end of the wizard, the Summary page displays the settings that have been chosen for final checking. When the [Finish] button on this dialog is selected, the NW3000 Database Builder is started, followed by the NW3000 Poll List Builder and the signals are imported into the database, and background templates (poll lists) are created.

4.1 Import From Netview

The Import From Netview dialog enables the user to both import signal data into the server database as well as configure the system data collection from the device network.

The user can choose to import all devices or a selected device.



4.1.1 All Devices



If checked, signal data from the application load files will be imported into the server database for all devices listed.

If this is the first use of the wizard, all signals will be added along with their MSD data. On subsequent runs of the wizard, only new signals will be added, whilst the MSD's will be updated to resolve any load version mismatches.

Note: An MSD number specifies a signal's memory location and is used for efficient template and RBE data collection.

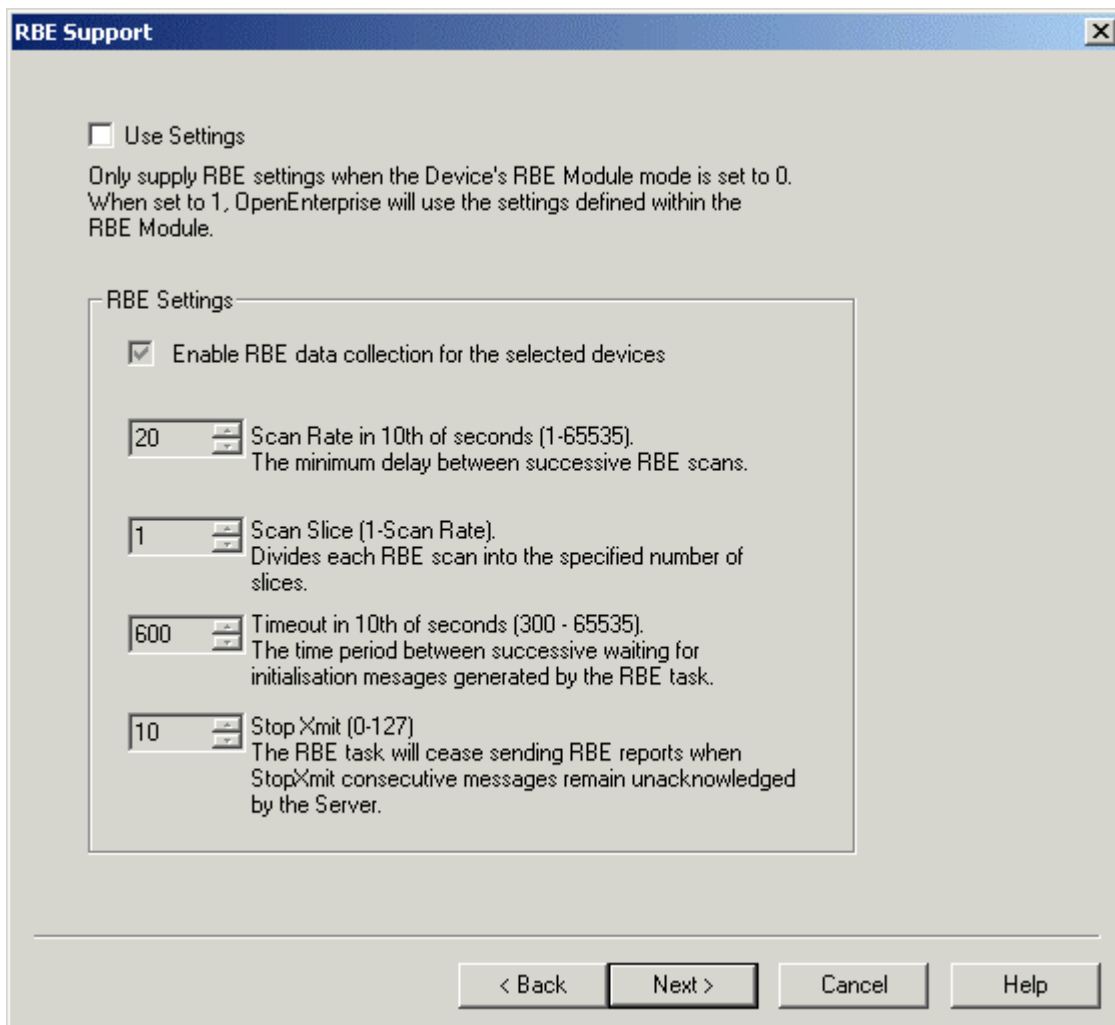
4.1.2 Single Device



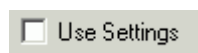
When checked, the device list becomes enabled, and the user is able to select a single device from those listed. Note: The RTUs listed are those defined within the OpenBSI network definition file.

4.2 RBE Support

The RBE Support dialog enables the user to configure RBE communication parameters for the selected device(s).



4.2.1 Use Settings



When checked, the 'RBE Settings' section of this dialog will become enabled. The user is then able to specify RBE settings for the selected device(s). These will then override any RBE settings configured at the device, or the default settings created for the device.

If the RBE Module mode at the device is set to 1, then the RBE parameters assigned locally to the module define the the RBE collection for the device.

If the RBE Module mode at the device is set to 0, then the values configured via this dialog are used to define the RBE collection. The user should check that the defaults supplied by Server are suitable for the application.

4.2.2 Enable RBE Data Collection for Device

Enable RBE data collection for the selected devices

When checked, RBE data collection will be enabled for the selected device(s).

4.2.3 Scan Rate

20 Scan Rate in 10th of seconds (1-65535).
The minimum delay between successive RBE scans.

The scan rate is the rate at which the RBE signals are checked to determine whether any exceptions have occurred. The value is in tenths of a second and may range from 1.0 (0.1) seconds to 65535.0 (6553.5) seconds.

Note: If the scan rate is small (too fast) it may cause scanning to occur continuously. This may interfere with other application load tasks. If thgis occurs then consider increasing the scan rate value along with using scan slice.

4.2.4 Scan Slice

1 Scan Slice (1-Scan Rate).
Divides each RBE scan into the specified number of slices.

This value is used to divide the RBE scanning and reporting process into a number of equal time periods or slices. This RBE parameter is normally used when RBE activity at the device is interfering with any other application tasks.

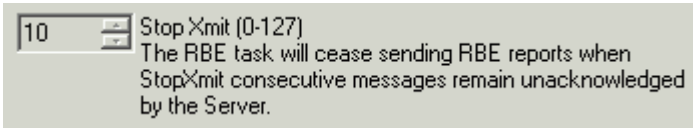
The value can range from 1 to the value of the 'ScanRate' field. If this value is set to 1 or 0, then slicing is inactive. It is normally set to 1 unless RBE is causing performance related problems.

4.2.5 Timeout

600 Timeout in 10th of seconds (300 - 65535).
The time period between successive waiting for initialisation mesages generated by the RBE task.

The timeout period, in tenths of a second, between the device informing the server that an RBE initialise is required or the RBE Task is going active. Specified as a count of 0.1 seconds. The valid range for this field is any integer between 300 (30.0 seconds) and 65535 (6553.5 seconds).

4.2.6 StopXmit



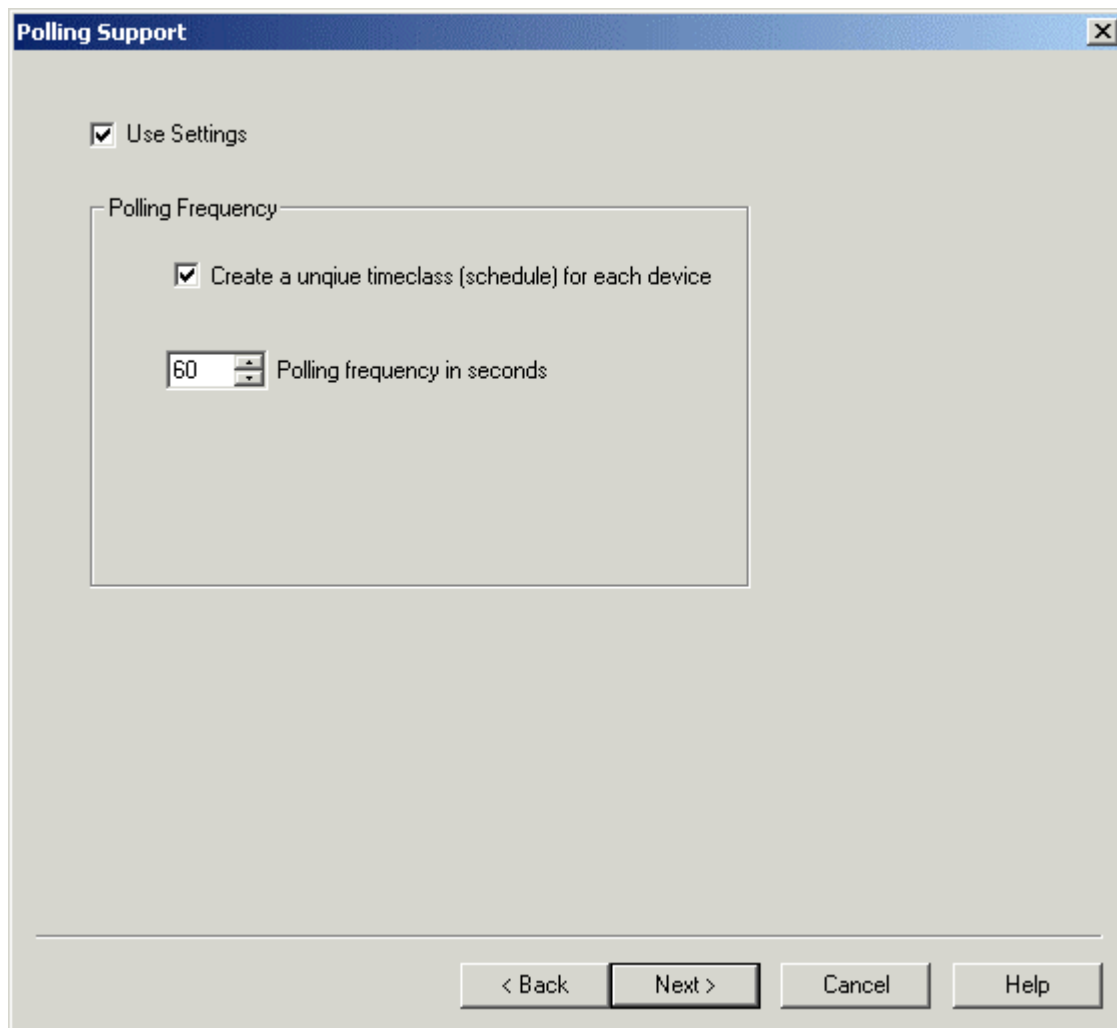
This parameter is used by the RBE task within the device as a limit to temporarily stop sending Exception Report Messages (ERM's).

It refers to the difference between the current Report Sequence Number (RSN) and the RSN in the last Report Acknowledged (REPORT_ACK) message from the RBE Manager.

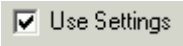
When this difference exceeds the 'StopXmit' value, the RBE task suspends the scan process and waits for a valid REPORT_ACK where the RSN difference drops lower than the value specified in this field. The valid range for this field is an integer between 0 (no suspension of ERM's), and 127.

4.3 Polling Support

The Polling Support dialog enables the user to configure scheduled data collection for the selected device(s).



4.3.1 Use Settings Here for Polling Support



When checked, the 'Polling Frequency' section will become enabled and scheduled data collection can be configured for each device.

Having a unique schedule for each device will make it easier to adjust and fine tune data collection.

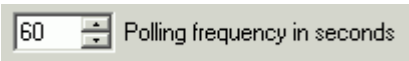
When the wizard has completed, templates (poll lists) are created for each device.

4.3.2 Create a Unique Timeclass for each Device



When checked a unique timeclass for each of the selected devices will be created. This will enable the device to be polled at scheduled intervals.

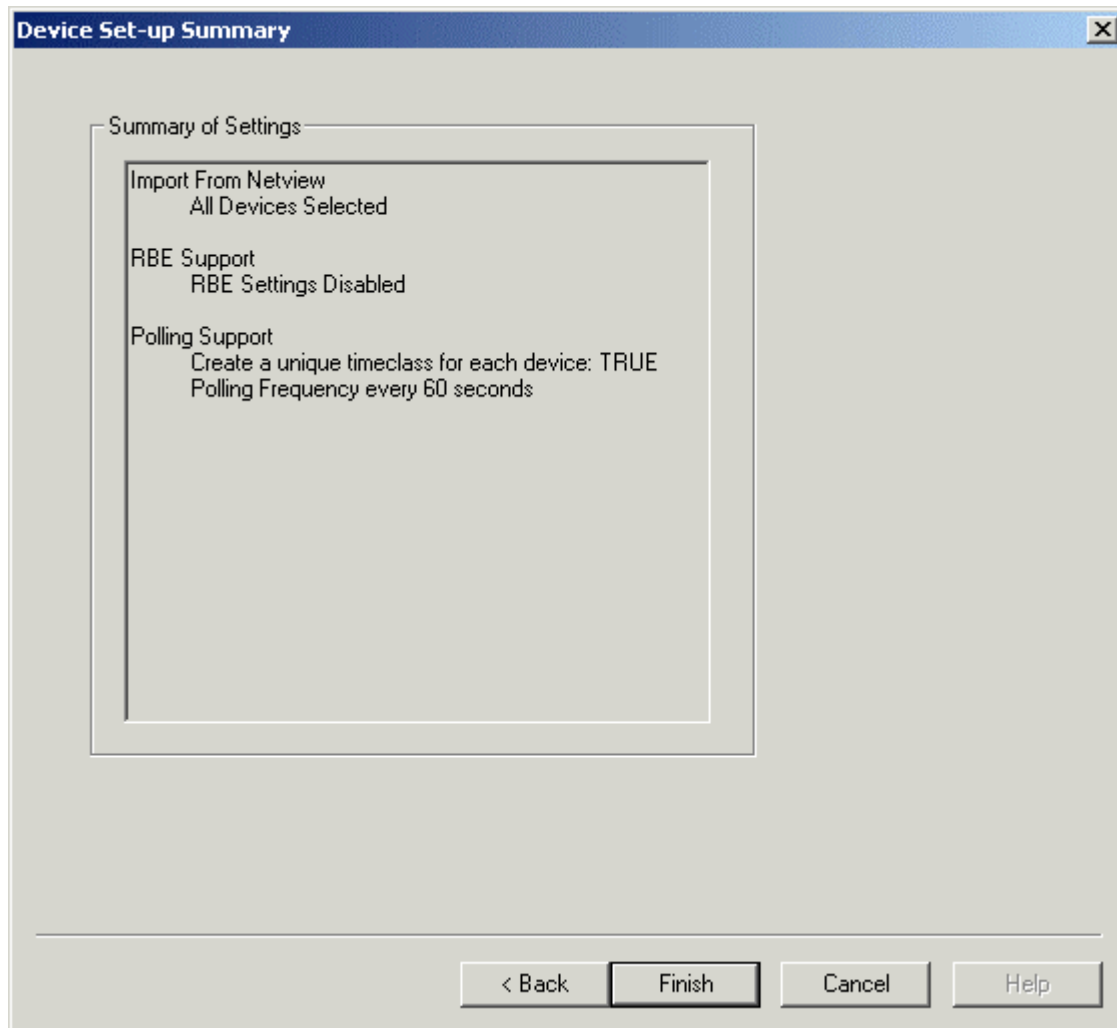
4.3.3 Polling Frequency



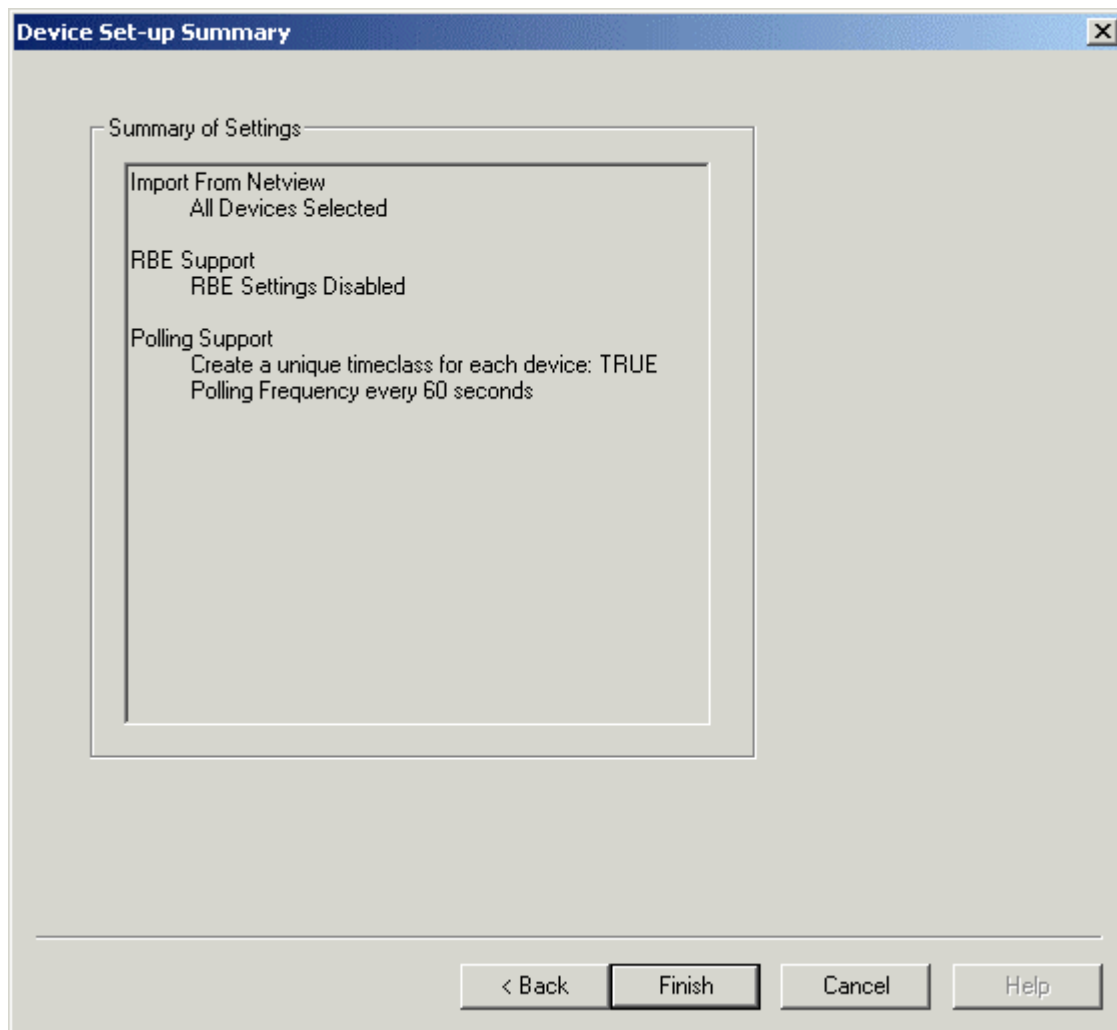
The background polling frequency in seconds for each device.

4.4 Device Setup Summary

This is the final dialog of the 'Device Set-up' wizard. It enables the user to view a summary of the configuration prior to accepting it. Should any changes be required, the user may navigate back to the relevant dialog to make the necessary changes prior to clicking the 'Finish' button.



This is the final dialog of the 'Device Set-up' wizard. It enables the user to view a summary of the configuration prior to accepting it. Should any changes be required, the user may navigate back to the relevant dialog to make the necessary changes prior to clicking the 'Finish' button.



4.4.1 Device Setup Finish Button

The DataBase Builder will be started, followed by the Poll List Builder. Any new application signals not yet in the database will be added, new timeclasses will be created and new poll lists will be created for data collection.

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Reference Guide

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