

Bristol OpenEnterprise Reference Guide

NW3000 Database Builder

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1 NW3000 Database Builder

The DataBase Builder utility (DBB) is used to import application signal information for Bristol Network 3000 and ControlWave devices into the database.

It enables the user to:

- Automatically insert or modify NW3000 and ControlWave application signals;
- Automatically resolve the NW3000 and ControlWave signal names to signal addresses.

DataBase Builder can run either interactively or in background (or batch) mode. The interactive mode is described in the topic entitled [Build Database from ACCOL Dialog](#). The background mode uses the command line method of startup, described in the [Command Line Switches](#) topic

Note: Open BSI must be running for the NW3000 DataBase Builder to function correctly.

1.1 Command Line Switches

1.1.1 DBB <switches> <node>

where

1.1.2 <node>

Is the NW3000 device name. Only signals for that NW3000 device will be inserted into the database.

1.1.3 <switches>

The following command line options are available:

-i

Initialize the signal Descriptors. Example: **dbb.exe -i IP1** inserts signals for the IP1 NW3000 device, including signal Descriptors.

-r

Rebuild the node. Example: **dbb.exe -r IP1** This example re-inserts signals for IP1 into the database.

-d

Enter Debug mode. Example: **dbb.exe -d** enters debug mode. When in Debug mode, progress is written to a log file called DBB.log in the local directory.

-s

Denotes the Service to connect to. Defaults to local database. Example: **dbb.exe -soeserv1:rtrdb1** causes the DBB to connect to a database running on the server named **oeserv1**.

-n

Used to override the RDI settings when using satellite RDIs only. Defaults to "nw3000", the default nw3000driver entry for RDI3000. When specified, the drivename should exactly match an nw3000driver.drivename value in the target database. Example: **dbb.exe -nrDi3000 CFE1** - Uses rdi3000.exe as the driver when inserting signals for the CFE1 NW3000 device.

-t

Specifies the Timeclass to use when inserting signals from a node into the database. Example: **dbb.exe -t23 NORTH** inserts signals for the NORTH NW3000 device and associates the NORTH NW3000 device with Timeclass 23. If no Schedule exists with an ID of 23, the Schedule is created in the dvi_schedule table. Leave out **-t** to create signals without creating a Schedule or assigning the NW3000 device to a Timeclass. If no Pollperiod is specified (with **-v**) the default Pollperiod 60 of seconds will be used.

-a

Specifies a Plantarea to associate with NW3000 devices when inserting signals. Example: **dbb.exe -aALL** - assigns the whole build to the ALL plantarea.

-m

Opens the DBB in Monitor Mode. Example: **dbb.exe -m**. This is the default when the program is started as an invisible window. In monitor mode, DBB will automatically rebuild a device whenever a version mismatch is detected. This may result in a build from the local ACCOL or ControlWave project or a remote MSD resolve from the device.

-w

Defines the RBE scanrate for NW3000 devices. Example: **dbb.exe -w100** defines an RBE scanrate of 10 seconds (units = 0.1 second).

-x

Defines the RBE scanslice for NW3000 devices. Example: **dbb.exe -x3** defines an RBE scanslice of 3. Ranges from 1 to Scanrate.

-y

Defines the RBE timeout for NW3000 devices. Example: **dbb.exe -y600** defines the time to wait between successive RBE messages here 60 seconds (units = 0.1 seconds).

-z

Defines the RBE Stop Xmit for NW3000 devices. Example: **dbb.exe -z25**. Instructs the rdi3000 to Stop sending ERMs after 25 nn reports are transmitted and wait for a REPORT_ACK. Valid values are 1 to 127. 0 (zero) means never wait for a report ACK.

-v

Defines the Poll period for NW3000 devices. Example: **dbb.exe -v12 TANKS** inserts signals for the TANKS NW3000 device then creates a Schedule with a rate of 12 seconds and assigns this timeclass to the TANKS NW3000 device.

-u

Instructs the DBB to create a unique timeclass for a NW3000 device, with the default poll period. Example: **dbb.exe -u SOUTH** inserts signals for the SOUTH NW3000 device, and creates a unique Schedule for it, assigning the same Timeclass number to the NW3000 device. The timeclass will have a default rate of 60 seconds, unless the **-v** parameter is also used.

-q

Disables RBE collection for a NW3000 device. Example: **dbb.exe -q BUCKET** inserts signals for the BUCKET NW3000 device, and disables RBE collection for the BUCKET NW3000 device.

Note: The DBB Tool will exit automatically when it has finished building the signals if one or both of the following conditions are given in the command line:

<node>

Is specified

-r

Is specified.

1.2 Support for Extra Signal Attributes

Some OpenEnterprise applications may demand that extra attributes be added to the SignalExtension table. Adding extra attributes to the SignalExtension table may cause signal imports to fail. To support this requirement, two optional values for the OpenEnterprise settings file are provided, both of which are written to the following key:-

1.2.1 Key: OpenEnterprise\Tasks\DBB

1.2.1.1 Value1: SqlAppendAttributes

The data of this value should contain a comma separated list identifying the attributes which have been added to the SignalExtension table. E.g, if the SignalExtension table has two new attributes added called 'NewAttribute1' and 'NewAttribute2', then SqlAppendAttributes should contain the value "NewAttribute1,NewAttribute2".

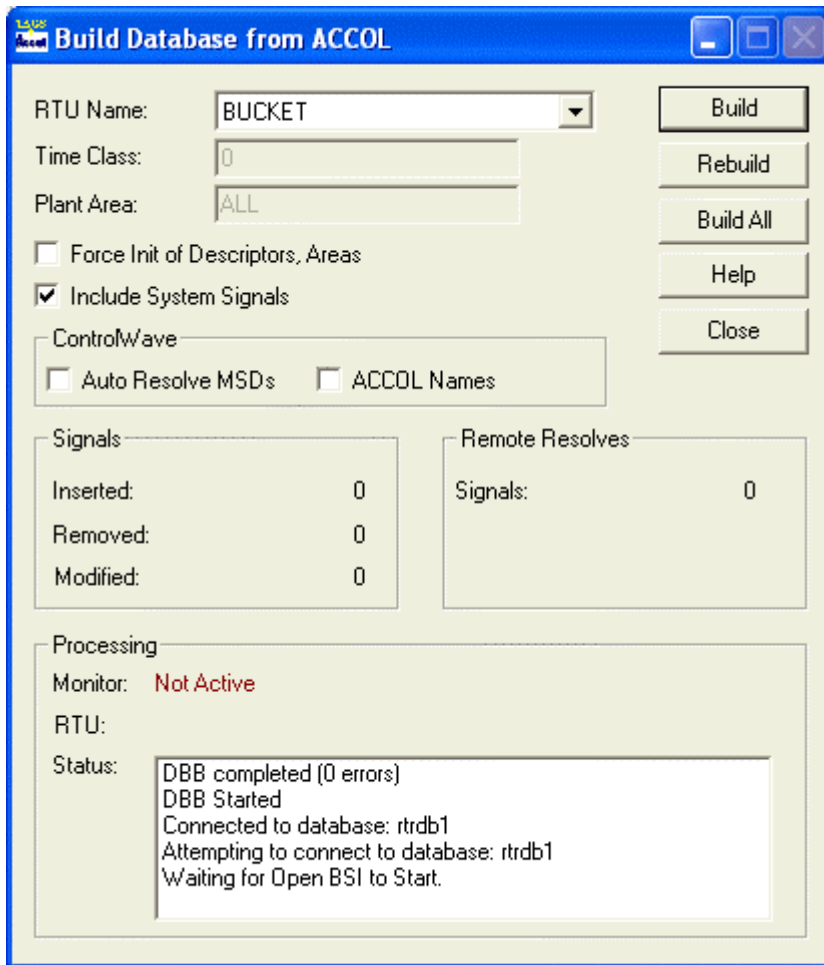
1.2.1.2 Value2: SqlAppendValues

This data of this value should contain a comma separated list identifying the default values which should be used by the Database Builder to apply to each of the new attributes listed in the SqlAppendAttributes value. String and date/time attribute values should be enclosed by single quotes, numerical values should have no quotes. E.g. If this value contained the string "'new1',4.5", then for each signal added by the Database Builder, two new attributes named 'NewAttribute1' and 'NewAttribute2' would be added with the respective values of 'new1' and 4.5.

These values can be created and modified using the Settings Editor.

1.3 Build Database from ACCOL

This dialog box allows the user to build device application loads into the database against a Time Class and a Plant Area.



1.3.1 Build Button

Selecting the Build Button will import signals for the currently selected device.

1.3.2 Rebuild Button

The rebuild facility compares the devices defined in the current OpenBSI network definition file with those that are defined within the database. The DataBase Builder will remove any devices from the database if they are no longer defined in the network definition file. It will then adjust the signal tables within the database (by adding, modifying, or deleting) to match the current application file loads.

1.3.3 Build All Button

Selecting the Build All button will import signals for all devices currently configured and defined within the OpenBSI network definition file.

1.3.4 Help Button

Selecting this button opens this context sensitive help file.

1.3.5 Auto Resolve for Control Wave Devices

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.

1.3.6 Force Init of Descriptors and Areas

1.3.6.1 Initial Build

When selected, the DataBase Builder will update the database signal descriptions with the base name descriptions specified within the device's load file. If a plantarea has been specified, the devices and signals will be assigned to the named plantarea.

1.3.6.2 Subsequent Builds

If the check box is marked on any subsequent builds, all signals belonging to the selected device will have their description and plantarea fields re-initialized to the values of the initial build.

If the checkbox is unmarked on subsequent builds, the DBB will not re-initialize either the description or the plantarea fields of any existing signals belonging to the selected device, but new signals will be inserted with the default values for these attributes.

Note: This checkbox can be disabled for subsequent builds by setting a value entitled *HideInitDescriptors* on the DBB Session key in the OpenEnterprise settings file to have a data value of 1. Use the Settings Editor to modify this file.

Key: `OpenEnterprise\Sessions\\Tasks` key.

1.3.7 Include System Signals

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

1.3.8 Plant Areas

Defines the default plant area for signals from the selected device.

1.3.8.1 Initial Build

When a valid entry is assigned on an initial build, then this value becomes the default plant area of signals belonging to the selected device.

If the device's default Plant Area was not set (i.e. this field was left blank for the initial build), then the default plant area for the device is determined by the `default_plant_area` resource in the Poly.cfg file within the '%InstallationDrive%\Program Files\Bristol\OpenEnterprise\Data\Server(s)' directory.

1.3.8.2 Subsequent Builds

On subsequent builds, if the "Force Init of Descriptors, Areas" box is not checked, any signal plant areas in the database that may have been changed from the default will not be reset, unless their plant area was changed to null. The default plant area will be given to new signals only.

1.3.9 Processing Section

This section displays the following DBB statistics. Click on each heading for further information:

1.3.9.1 Monitor

If Monitor mode is 'Active', the DBB background monitors the devices defined in the Server database for application file version mismatches between the device and the database. If a version mismatch is detected, DBB will automatically build or rebuild the database for the device affected. If a version mismatch occurs due to a download from the Server, then DBB and TPB (NW3000 Poll List Builder) will automatically resolve the mismatch.

However, version mismatches may still persist if files have been downloaded locally at the device. When this occurs DBB will resolve the database MSD store from the device and then TPB will automatically rebuild the database template store. In such a situation, the Server will not have access to the new load file. Consequently any changes made to the signal configuration within the application load file will not be reflected in the database. This will cause a persistent version mismatch. For this reason, it is recommended practice to always download application files to the device from the Server(s).

1.3.9.2 RTU

Displays which device is currently being processed.

1.3.9.3 Status

This is a list box which contains the most recent status messages from the Database Building Process.

1.3.10 Remote Resolves Section

This section displays the following DBB statistic:

1.3.10.1 Signals

The number of signals whose address values had to be retrieved directly from the device. This occurs when a later application load version is detected in the device.

1.3.11 Device Name

A list, which allows the user to select a device from the list of devices defined in the current OpenBSI network definition file.

1.3.12 Signals Section

This section of the dialog box displays the following DBB statistics:

1.3.12.1 Inserted

Displays the number of signals inserted into the database.

1.3.12.2 Removed

Shows the number of signals removed from the database.

1.3.12.3 Modified

The number of signals which have been modified, either due to a manual build, or an automatic MSD resolve operation. An automatic MSD resolve (from the application load file) can be triggered when a load version mismatch is detected.

1.3.13 Timeclass

An integer, which defines the default time class number for collection of device signals. This field is only used when a single device is added to the system, or when performing a build of a single device.

1.3.14 Close Button

Selecting this button will close the NW3000 Database Builder.

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