BNCS Alarm System

Atos IT Services

Alarm System - Database Output Module

alm_db_output.dll

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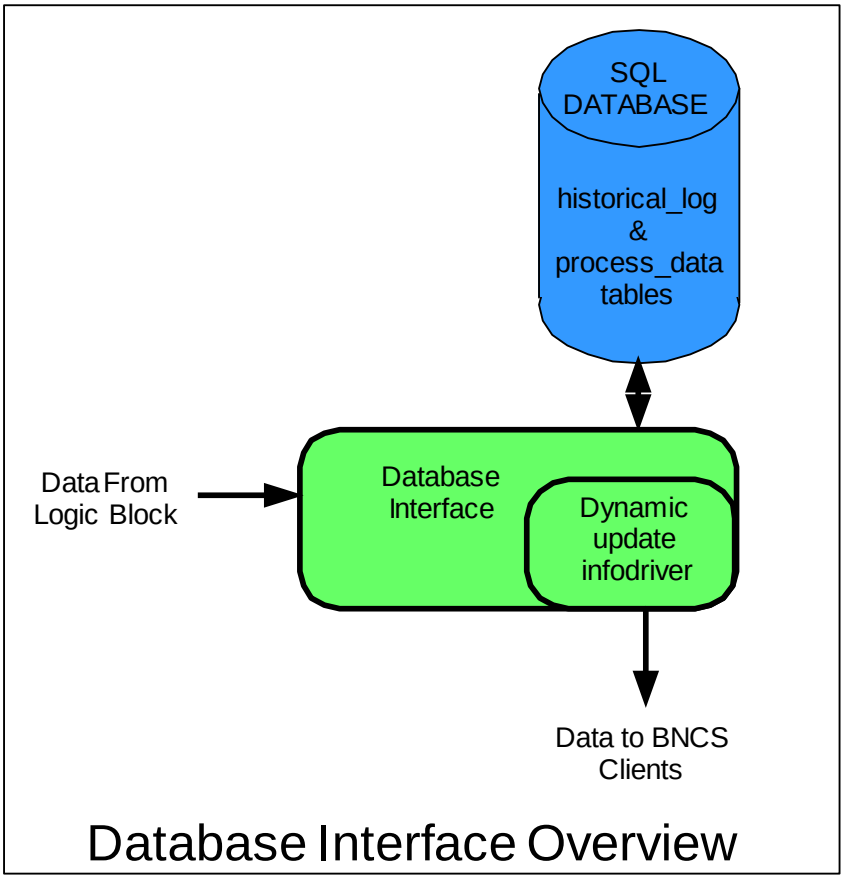
1 Alarm System - Database Output Module

1.1 Overview

This module (alm_db_output.dll) is part of the suite of modules that form the BNCS Alarm System.

It can write the current state of the alarm system to a database, and also add to a log of historical data.

In addition this module can also supply historical log change information to a BNCS network, and allow BNCS panels to add information to the historical log.



Database Interface Overview

1.2 Description

Whenever there is a change to a process the database may be updated.

The process_data table records data for each process, indexed by process-id. Records are amended when the process changes. The records holds the device name, date and time (including milliseconds), state, text, level and group.

The historical_log table has a new entry added to it for every process change. It is time stamped with the date and time, including the millisecond time. It also holds the device name, state, text, level and group.

The millisecond times are not frame accurate, but there so the user can see the order in which messages arrived.

BNCS clients can add to the historical log by writing to any slot on the info driver a string with the following format: -

Device-name, group, level, state, text

The timestamp added will be the time that the message arrived at the driver.

When an entry has been added it will generate a revertive message from slot 1. Revertives will be in the format: -

Date-time, milliseconds, process-ID, Device-name, group, level, state, text

Historical or process log information may be read from the database directly using SQL.

2 Configuration Procedure

Use the BNCS Configuration Editor to configure what to log to the database for the different processes. See the configuration document for full details.

3 Starting Up

The module is started from the host application AlarmControl.exe. It loads its configuration and proceeds to update the database accordingly.

There be more than one instance of the Database Output module in an Alarm System.

3.1 Dependencies

The module requires the QT dll (currently qt-mt323.dll), bncsif.dll and the Visual C runtime dll MSVCP60.dll. The QT dll will require to be either compiled with the correct database support, or have the correct plugins available.

This application acts as a driver using BBC_COPYDATA, so requires a version of CSI (2.0 or 2.5 or 3.5 or 4.x) that supports this.

A supported database will be required, with a valid user account and tables for historical_log and process_data. The tables should be created using the controls provided by the Config Editor.

The configuration document's Appendix has full details about the tables.

3.2 MySQL Password Version

The MySQL database driver which is now in use expects the server to support the current format of passwords (also known as "new" or "long"). Earlier versions of the library support the old format ("old", "short", "16 character" or "pre 4.1"). See the version history

to ascertain which version applies. See the MySQL documentation if it is necessary to set a recent server to accept the old format.

This is controlled by the DLL windows/lib/libmySQL.dll.

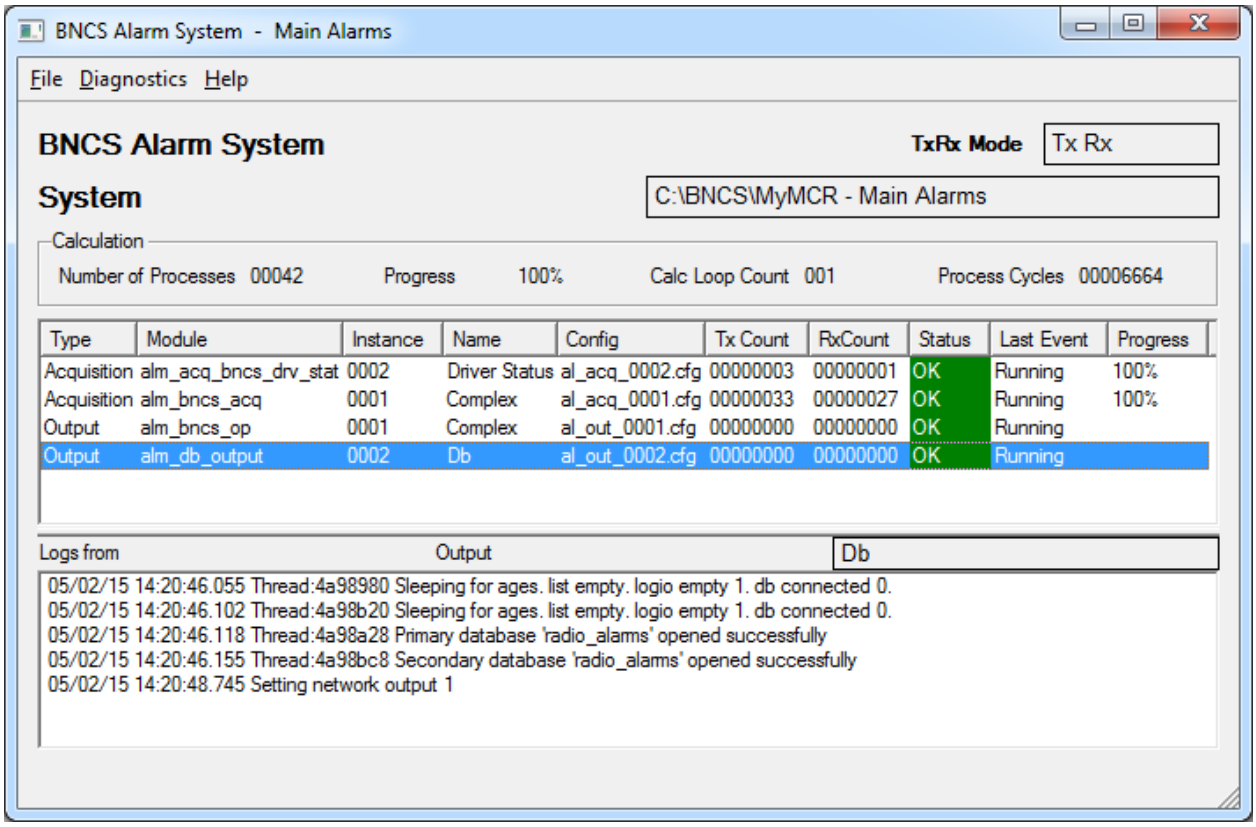
If it is version 5.6.20 then the new format is in use.

It is not clear what the version should be for the old version.

4 Features

4.1 Diagnostics

As for AlarmControl.exe.



The Tx Count column shows the number of records written to the database

The Rx Count column shows the number of messages received by the InfoDriver.

4.2 Start Extra Network Activity.

When the module starts it does not immediately start issuing revertives corresponding to database updates. This is because due to the polling that normally takes place on start-up the traffic would be extremely high. The revertives start being sent after a time delay dependant on the number of processes in the system (default 60ms per process – selectable using the /netdelay qualifier). If it is required to start issuing revertives before this time the Diagnostics|Start Extra Network Activity control should be selected.

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5 Test Procedures

A simple test of database communications it to see the Database Writes counter increments when the application is started, if it does this means that the application can talk to the database. Also there are messages in the logging window showing whether the connection is successful.

Alternatively the Config Editor will also show whether the parameters are correct.

The Rx Count shows the number of InfoDriver revertives received.

If the InfoDriver is not configured, the Status will be Fail. Also if the database connections are not successful.

6 Logging

When Logging is enabled (via AlarmControl's GUI or arguments), selected messages are logged into a file at a path determined by the BNCS settings.

Log files are written in %CC_ROOT%\%CC_SYSTEM%\logs\alarms\<alarm system name>.

7 Documents Referenced

This document should be read in conjunction with other documents in the tree.

In particular:

Alarm – overview

alarm - Configuration-Colledia Control acquisition

alarm – mainapplication

The documentation relating to file formats may also be useful.

8 Version History

8.1 Software Version

Version No	Date	Details	Name
1.00.00	31 October 2014	Original Release	Mark Baldry
1.00.01	06 January 2004	SQL statements, quotes removed, added SQL Server support	Mark Baldry
1.01.00	14th January 2004	Added Latched state Previous states remembered by name	Mark Baldry

1.02	31 March 2004	Now a dll loaded by Alarm Control	Mark Baldry

8.2 Document version

Version No	Date	Details	Name
1.00.00	31 October 2014	Original Release	Mark Baldry
1.00.1	31 March 2004	Now a plugin dll to AlarmControl.exe	Mark Baldry
1.1.0	1 December 2005	Re-wording of document	Mark Baldry
2.0	28 Apr 2009	Updated formatting to bring in line with other existing docs	Pete Lasko
	12/01/2015	Document revised to current conventions and template. Images reworked from current versions of software.	Richard Kerry

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