

OpenBSI Utilities

The Open Bristol® System Interface (OpenBSI) Utilities are a group of applications that collect and manage data from ControlWave® remote terminal units (RTUs), process logic controllers (PLCs), controllers, and flow computers. The OpenBSI Utilities generate files based on the collected data, as well as monitor and control OpenBSI communications.

Features

- Unique set of network communication services and utilities.
- Compatible with ControlWave RTUs, PLCs, controllers and flow computers.
- Supports serial BSAP and Ethernet IP, wire line, dial line, and wireless networks.
- Serial message to IP Redirector.
- Backup communication line capability to ensure remote access.
- Real-time, online access to signal, data array, and signal list values.
- Allows signal searches based on selective criteria.
- Updates multiple signal values simultaneously through configurable recipes.
- Collects historical data on request, or at scheduled intervals.
- CSV and ODBC compliant for use with other popular Windows applications.
- Standard set of configuration web pages.
- ActiveX controls allow user-created web pages.
- OPC server provides optimum HMI compatibility.
- Allows on-line tuning of communication parameters.
- Six security levels.

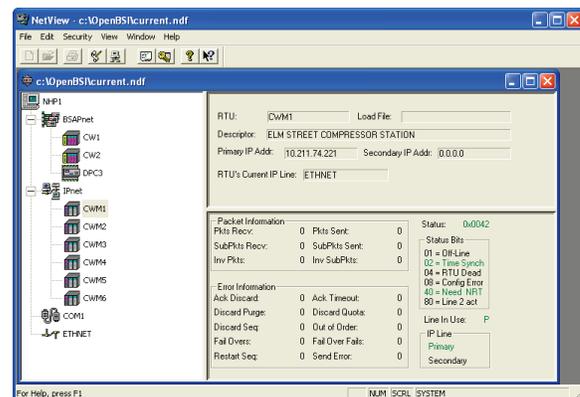
Third-party SCADA applications can access the data files generated by OpenBSI Utilities in order to display and report information about a running process from field instrumentation. You can then use this information to monitor and interact with the process.

Since OpenBSI is the communication server, it controls all message traffic to the serial and Ethernet ports on the PC. This allows multiple client applications such as OpenBSI Utilities, HMI, and database clients to communicate with the network concurrently.

TechView allows local communication with an attached RTU, PLC, controller or flow computer. TechView is typically used by field technicians to program, set up, download and perform diagnostic operations, on site, at the location of the unit.

NetView allows the same facilities as TechView and more, from the host PC, on any node in the network. NetView is the basic configuration and application launch interface for all network operations. NetView uses a tree structure for graphical display of the network organization in the Windows® Explorer style. By selecting a node in the tree, the operator can launch relevant OpenBSI applications to program or download an application to a specific node, view real-time data, view communication statistics and view configuration or customer designed web pages.

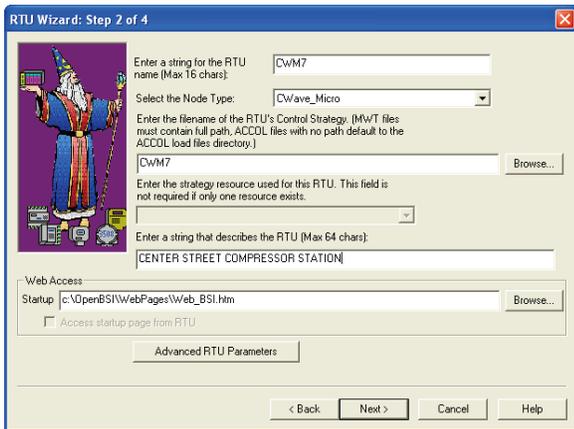
Network nodes can be added on-line by simply dragging the node icon into the tree. This invokes the node configuration wizard.



NetView

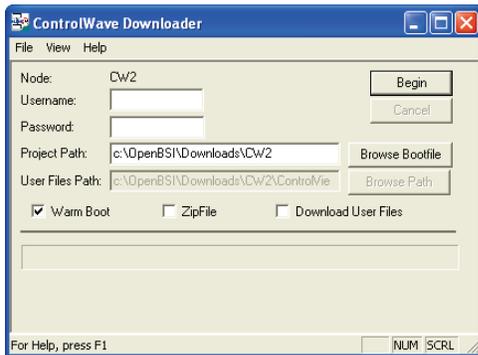
OpenBSI Configuration Wizard

OpenBSI Configuration Wizard and setup allows you to define details about how OpenBSI should work through a set of dialog boxes. These details include communication parameters, baud rates, addresses, security levels, and system directory and file locations. Multiple system communication configurations can be stored, and the operator has the ability to choose which one will be active for the current session.



Configuration Wizard

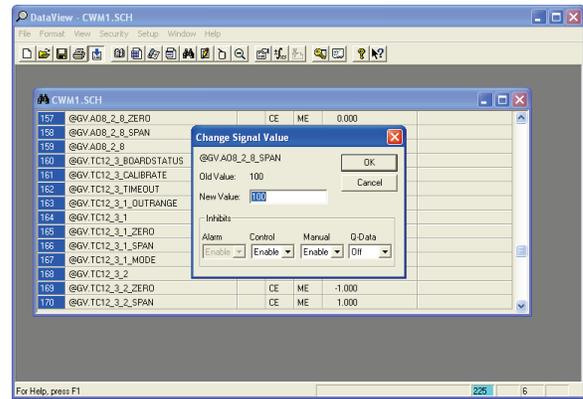
Downloader transfers a ControlWave project (*.MWT/ZWT) or linked ACCOL load file (*.ACL) from the PC to a running remote process controller, flow computer or PLC. Operators select a remote node and enter a password to verify authority to download. Once a file begins downloading, the operator may commence downloading to a different controller. Optionally, a batch file may be created that will download to all remote nodes listed in the file.



Downloader

DataView collects and displays several types of process data from ControlWave and Network 3000 nodes, including real-time signal values, data array values, signal lists, audit trail information and communication statistics. Operators have the ability to alter signal values in the controller, and view the status of signal inhibit/enable attributes, alarm status and alarm setpoints. Multiple DataView windows may be open simultaneously.

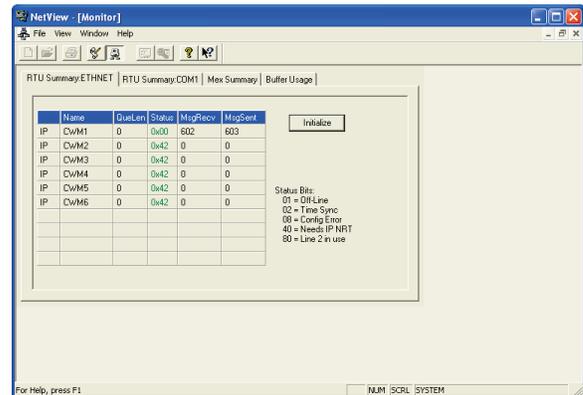
In addition, DataView allows the operator to search for signals based on various criteria and save the search criteria in PC files, for use in subsequent searches. This criteria allows you to filter the search based on; Base name, Extension, Attribute, alarm status, and analog and discrete signal type.



Data View

DataView includes a Recipe feature allowing values for selected signals to be stored in PC files, recalled later by the user, and then transmitted to the associated signals in the remote controller. This allows multiple signals to be updated with new values at the same time.

OpenBSI Monitor allows on-line monitoring of the 'health' of OpenBSI communication activity. It is useful during system tuning, and for debugging communication problems.



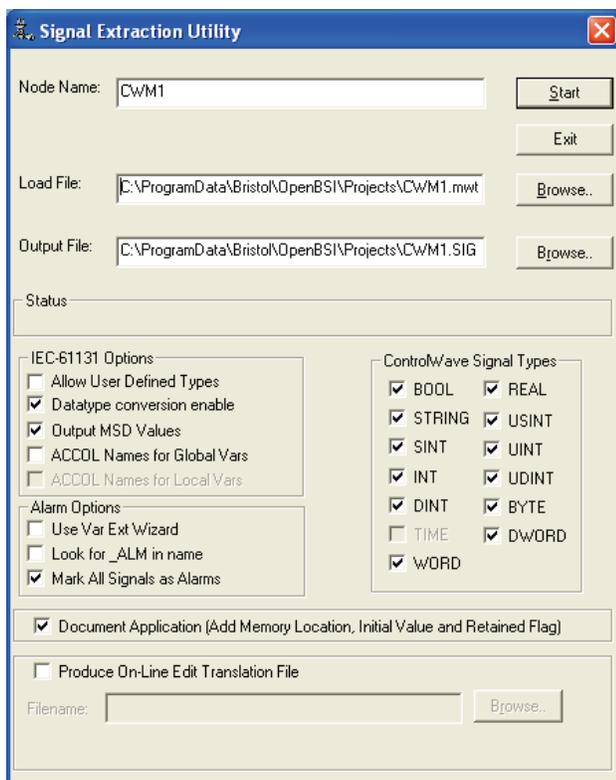
The OpenBSI Monitor retrieves and displays detailed information about the communications with individual remote process controllers, as well as details about communication structures such as message exchanges and buffers.

SigWrite allows signal values to be automatically sent to a controller, at a pre-defined interval. This provides a way for external applications to send data to the controller. The signal values to be sent are specified in ASCII text files, either as a group of individual signals, or as a list of signals.

Alarm Router is a utility allowing node initiated time-stamped alarm messages to be displayed in a text window at the operator PC. It also provides the capability to export time-stamped alarms to other HMI packages that support external alarms.

Data Array Save / Restore is a Utility that allows data in selected data arrays to be collected from the nodes (RTUs), and stored in disk file(s) at the PC running OpenBSI. The file for a particular array can then be retrieved at a later time to restore the original array values from the file into the array at the RTU. This capability can be useful in situations where an RTU is to be taken out of service or downloaded, and you would like to save the state of selected arrays, and then restore them later when the node is put back on-line. The format of the disk file is secure. It cannot be viewed or modified by the user.

Signal Extractor is a utility which reads an ACCOL Object (*.ACO) or ControlWave Designer (*.MWT) file, and generates an ASCII text file containing information about all relevant global/csv, alarm, and report by exception (RBE) signals defined in the file. This ASCII text file may be used to construct the OPC Server database, for use with any OPC compliant client application such as an HMI software package. This means that the OPC Server and hence, the HMI database, is defined only once when programming the node.



Harvester is a powerful add-on to the OpenBSI Utilities suite that provides a mechanism to collect historical data at scheduled intervals. The collected historical data is then automatically converted to a historical database in the PC. It may be used in either hard-wire, telephone line, or radio applications. Data array, archive, audit trail, and real time values in signal lists may be collected from the ControlWave and Network 3000 nodes, at a user defined scan interval.

User-configurable parameters allow the data collection schedule to be tailored for specific applications. In addition, any of the data may be collected on a demand basis.

WebBSI is a powerful and flexible software product bringing web technology to all ControlWave and Network 3000 products. WebBSI includes a set of ActiveX Controls for reading and writing real-time and historical data, trending, recipe editing and transmitter calibration. Through these controls, you can use the standard Microsoft® Internet Explorer web browser to access ControlWave and Network 3000 products through a set of supplied .html web pages

WebBSI contains a standard set of pre-configured web pages for access to on-line data. However, using standard off-the-shelf products such as Microsoft FrontPage, VB and other .html editors, you can easily create custom technician and HMI displays specific to your company and application.

ObjectServer provides a communication interface through OpenBSI to all ControlWave controllers and RTUs. It also provides a standard interface to any third party OPC compliant software package. Virtually all leading HMI software packages are compliant with the OPC data access specification. This allows you to select the HMI you prefer without worrying about custom communication drivers.

OpenBSI Packages

OpenBSI Utilities packages are available to offer the optimum functionality to technicians, engineers and operators.

BSI Config - Designed for technician setup and configuration of all Bristol RTU, PLC, Flow Computer, controller and 3808 transmitter products. It provides local connection to the device to be configured and supports:

- TechView for local connection to ControlWave and Network 3000 products
- Set-up and configuration of 33XX, ControlWave, 3530 TeleProducts and 3808 MVT transmitters
- Firmware flash-download of all flash-based products
- Hardware diagnostics
- Supports BSAP and IP networks

OpenBSI Network Edition - Designed for engineers and operators. Includes all of the capabilities of BSI Config, but allows global, network-wide access to all products. Additional utilities include:

NetView for global, network-wide access to:

- Real-time & historical data, programming and operator HMI
- Network tuning wizard
- BSAP to IP redirector
- Backup communication lines
- Alarm Router
- Support for Harvester, OPC Server and Object Server

ControlWave Designer provides all the necessary components to program, download and debug ControlWave programs. It can communicate locally through the built-in communication interface or globally through NetView.

ACCOL WorkBench provides all the necessary components to program, download and debug Network 3000 ACCOL programs. It can communicate locally through the included LocalView, or globally through NetView. Hardware diagnostics are included for the field technicians.

ObjectServer is an option supported by OpenBSI Essentials to interface to third party, OPC compliant, HMI software.

Ethernet I/O Tools is a standalone program dedicated to the set up and configuration of ControlWave Remote Ethernet I/O modules.

Harvester is an optional program to collect historical data from the network. It also includes a Data Converter program to convert the collected data to .CSV and ODBC compatible formats.

Minimum System Requirements

OpenBSI requires a suitable PC workstation, and collects data from ControlWave and/or Network 3000 controllers.

OpenBSI requires a network of ControlWave and/or Network 3000-series controllers (RTUs). OpenBSI functions with any ControlWave RTUs as well as any Network 3000 RTU with released firmware created after 1994.

To run OpenBSI, your PC workstation must meet the following minimum system requirements:

- 1 GHz processor
- at least 200 MB free disk space for use by OpenBSI
- 512 MB RAM (more recommended)
- CD-ROM drive
- VGA Monitor (minimum 256 colors 800x600). Optimal screen resolution for OpenBSI web pages is 1024 x 768.
- Mouse
- Communication cable(s) to connect the PC to the RTU network
- Microsoft® Windows® 2008 Server, XP Professional, or 7.0. OpenBSI supports both 32-bit and 64-bit operating systems. We recommend you install the latest available service pack for your operating system.
Note: Emerson only tests OpenBSI on the following platforms: Windows™ XP Professional, Windows 7.0 and Windows™ 2008 Server including both dual core, and dual-core dual-processor computers.
- Microsoft Internet Explorer Version 5 or newer (Required for ControlWave web pages).

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