Product Information Note

Honeywell

Experion DNP3 Interface

Built upon proven DNP3 standards, the Experion DNP3 software interface enables easy Experion integration with devices such as remote terminal units (RTU) while improving the reliability and efficiency of data collection and storage. The DNP3 protocol is a de-facto standard in industry verticals such as oil & gas, electric utility and water & waste water.

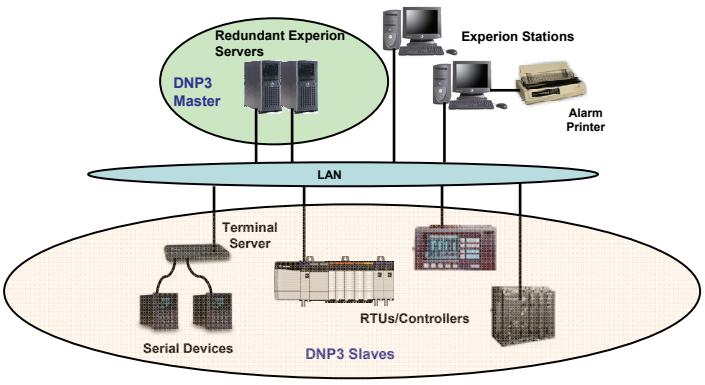
The Distributed Network Protocol (DNP3) is a protocol used for facilitating communication between SCADA systems and devices such as an RTU. The development of DNP3 standards helps achieve easy and reliable interoperability between nodes in a SCADA system. The DNP3 website link is http://www.dnp.org/

Experion DNP3 Architecture

The DNP3 interface communicates to RTUs and other DNP3 supported devices using the DNP3 protocol. The interface uses Report by exception (RBE) polls or read requests to get data from the controllers and a write request to write values to the controller. It uses the time-synch command to initiate time synchronization with the controllers.

Experion entities called points are used to read from and write values to the DNP3 controller. A user-friendly Experion configuration tool makes configuration of DNP3 points simple and fast. The feature-rich and powerful Experion Station is used to view DNP3 point information, sequence of events and history information.

A typical Experion DNP3 architecture is shown below.



The Experion DNP3 interface delivers the following benefits:

- Open, standards-based protocol enables easy integration of different RTUs with Experion and provides flexibility and functionality that exceeds conventional communication protocols
- Compliance to Experion infrastructure such as alarms and events, trends, historization and Distributed System Architecture delivers ease of engineering and maintenance
- Integrated Experion tools and software applications simplifies configuration, control and monitoring of DNP3 points
- Powerful protocol features make the communication interface efficient and robust

Key Features

- **Data Acquisition** – data transfer of binary, analog and counter object types
- **Select Before Operate** – supports a two-pass control procedure known as “Select before Operate” ensuring safety of equipment and personnel. This provides a high level of assurance that no inadvertent control operation can occur as a result of interference on the communication channel.
- **History Backfill –** utilizes the time-stamped events reported by an RTU after recovery from a communications failure to backfill data into Experion history.
- **Polled Report By Exception** – when supported by the RTU, this feature saves bandwidth usage because devices report only point changes instead of reporting status of all the points.

- **Unsolicited Response** – remote devices can report field events without being polled which is useful when a high-priority condition occurs for a device that is normally polled at a very low rate.
- **Time Synchronization** – ensures alarms and events synchronize accurately across systems. Transmission delay while setting the clock is compensated for by automatic transmission delay acquisition.
- **SOE and Time-stamped Events** – provides the ability to trace back exact date and time of binary input change events, enabling detailed fault analysis. Provides event resolution of 1 millisecond.
- **System Topologies** – availability of different system topologies using RS-232, RS-422, RS-485, terminal servers, TCP/IP or UDP/IP provides the configuration flexibility to meet user needs.

System Requirements and Configuration Notes

Communication with devices connected on RS-232, RS-422, RS-485, single and dual Ethernet are supported. Both non-redundant and redundant server configurations are supported.

Model Number Information

Description	Model Number
Experion DNP3 Software Interface	EP-IDNP3P
History-backfill Function	EP-IDNPHB Please contact Honeywell before ordering this option to find out if your DNP3 controllers are compatible with this functionality.
Order one per server or server pair as required.	

For More Information

To learn more about Experion, visit www.honeywell.com/ps or contact your Honeywell account manager.

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PN-09-14-ENG
June 2009

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