

OpenHouse™ *Engineering Data Warehouse*

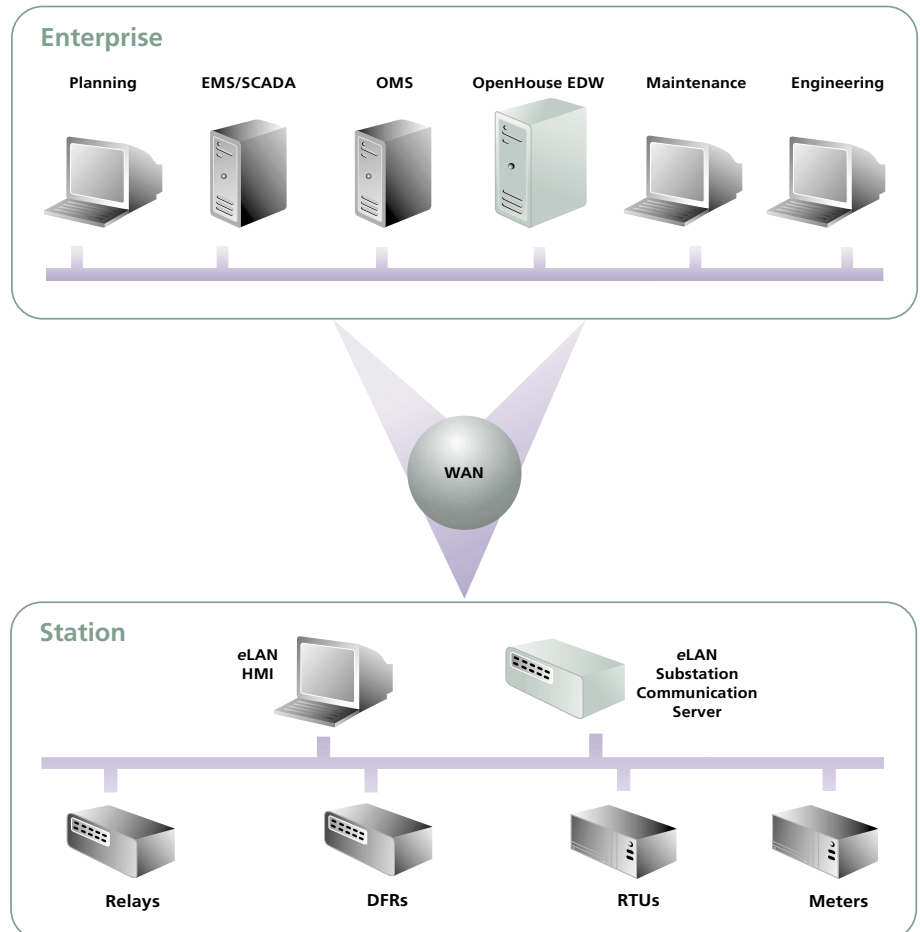
Bow Networks' **OpenHouse™** is an enterprise asset management application, specifically designed to address the historical data needs of the operations, engineering, maintenance and planning departments of an electric utility. OpenHouse represents the next logical step in addressing the complete needs of a utility seeking to archive and present field information to many users with varying requirements. This enterprise-wide information resource streamlines what is now an intricate mixture of interfaces and legacy applications that are difficult to enhance and expensive to maintain. Long term storage, analysis, and presentation of substation and feeder information is the primary goal of the OpenHouse solution. Combined with Bow's eLAN™ automation solutions and professional services, the system provides an easy to deploy, robust platform for data archiving and decision support.

Based on the proven **PI System™**, from OSIsoft®, and SQL Server relational database from Microsoft, OpenHouse provides a cost effective solution to address current needs as well as a scalable architecture to meet future requirements. In bringing together Bow's product and service expertise in substation integration and automation with OSIsoft's performance management capabilities we are focused on improving returns and addressing requirements in the areas of:

- Asset management
- Condition based maintenance
- SCADA historian
- Virtual SCADA system

Benefits

- Simple, integrated view of major assets
- Event-driven, real time information
- Real time notification of changing conditions
- Rich graphical presentation through thin-client
- Collect data from multiple sources and databases
- Integration with Enterprise systems from SAP and Microsoft



Data Collection

OpenHouse works seamlessly with Bow Networks' **eLAN Substation Communications Servers** and **Front-End Processors** equipped with the eLAN OPC server module. Any data points within an eLAN server may be easily mapped to OpenHouse allowing quick configuration and deployment. In addition, any of the native PI interfaces, such as DNP3 and ICCP, are also supported, preserving the investment in existing systems.

Data Storage

At the heart of OpenHouse is the PI Enterprise Server. Unlike a relational database, its time-series database scales effortlessly and can store vast amounts of accurate, consistent operations data online for years at resolutions down to microseconds – without degradation. This unique database and data infrastructure allows you to access data from one week or ten years ago within seconds.

Data Presentation

- *OpenHouse Web Portal*

The OpenHouse Web Portal provides access to all stored and calculated data using only a web browser. Based on Microsoft's Sharepoint services, it uses RTWebParts, which are components that provide a range of data displays:

- Tabular: displays data values, events and datasets and summaries at a specified point in time from any time series data source in tabular form
- Trend graph: displays an interactive trend graph, updated in real time
- Gauge: displays an analog gauge indicating current real-time value of a data point
- Tree structure
- Domain specific, such as substation 1-line using ProcessBook created displays
- Baseline services provide support for configuring and querying data from sources beyond PI, such as relational databases and web services

A number of web portal pages are provided as standard with OpenHouse. These may be easily customized to meet the customer's requirements, and new custom pages may also be created.

- *ProcessBook*

PI Process Book is a feature rich client application that may be used for creating complex custom displays for the power user. Real-time and historical data can be displayed in PI ProcessBook's graphic objects, many of which are available from an existing library of images.

Data Analysis and Reporting

PI DataLink provides a live link between the PI System database and popular PC-based spreadsheet packages Microsoft Excel and Lotus. DataLink is installed as a spreadsheet add-in, allowing users to quickly access real time or historical data from the PI System. Using DataLink makes entering manual data and performing complex data calculations a snap.

About Bow Networks

Bow Networks was founded in 1986 to provide real-time computing expertise to utilities and electric industry vendors. For more than twenty years, the Company has established its reputation as a leader in applying sophisticated network-based solutions and user applications, expert knowledge of protocol translation, security, enterprise networks, LAN/WAN technology, and communications media.