OPC DX Link Option for KEPServerEX

Overview:

OPC technology has been extremely successful at bridging the vertical communication gap between the plant floor and the control room. Using standards such as OPC Data Access (DA), hundreds of software applications have been written to gather data from a wide range of control systems using this simple Client/Server architecture. OPC DA did not, however, address the needs of integration and interoperability directly between devices.

Historically there have been a number of high-level and low-level bus protocols, each one written to address the differing needs and uses of the devices they were intended to serve. Protocols such as PROFIBUS, DeviceNet, ControlNet, and many more, have been utilized in the past.

Recently there has been a growing movement towards the use of Ethernet as an industrial communication backbone. Initially each of these respective bus specifications was redeveloped for use over Ethernet. The resulting PROFINet, Ethernet/IP, High-Speed Ethernet Fieldbus (HSE), and BACNET/IP provided a means for customers to move smoothly from their proprietary wiring schemes to Ethernet. However it didn't address the key issue of true Device-to-Device interoperability or more importantly Bus-to-Bus interoperability. While these new Ethernet based protocols could coexist on the same wire, there was still no way to get data from a PROFINet device directly into an Ethernet/IP device.

Example using DX to route data between OPC Items in KEPServerEX

Example of using DX to pull data from an OPC DA server and exchange data (bi-directional) with an OPC DX server

OPC DX:

OPC Data Exchange (DX) was designed to address the needs of Device-to-Device and Bus-to-Bus interoperability by applying the same technologies currently used by desktop applications at the device level. By adding OPC DA Client support to an existing OPC DA server we end up with a DX server that not only provides access to its data, but has the ability to gather data from other OPC DA enabled devices. Once the DX Server gathers its data, it can share any portion of its dataset among devices thus bridging the horizontal data flow between devices and achieving Server-to-Server communications. If the same ideology is applied to a control bus such as BACNET/IP, all of the I/O points on the bus could be available as fully browsable OPC items. An OPC DX server acting as gateway to Ethernet/IP or other legacy
protocols could access the BACNET/IP data even though it had no knowledge of BACNET protocol. OPC DX is the Machine-2-Machine interface for OPC.

**Features:**

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**Key Technologies:**

- OPC Data Access
- OPC DX
- OPC XML
- COM/DCOM
- Web Services
- Industrial Ethernet Consortiun (PROFInet, Ethernet/IP, HSE, BACNET)
- Legacy Serial/Ethernet

**Key Features:**

- Server-to-Server communications
- Standardized Configuration / Connection Management
- Online and Offline configuration
- Embedded Runtime
- Designed for reliable operation
- Open, flexible standard
- Modular plug-in for KEPServerEX

**Required Software and Hardware**

**Supported Operating Systems**

- Windows NT
- Windows 2000
- Windows XP

**PC Hardware**

**Minimum**

- 400 Mhz Pentium CPU
- 128 Megs of RAM
- 100 Megs of Free Hard Drive Space

**Recommended**

- 600 Mhz Pentium CPU
- 512 Megs of RAM
- 100 Megs of Free Hard Drive Space