FEND ®

Physically Block Cyberattacks

Fend Data Diode Use with Wonderware/AVEVA

Wonderware, rebranded as AVEVA, is industrial software utilized in many of the critical industries served by Fend, including energy and utilities, water and wastewater, oil and gas, and more. It's a software suite that acts as a control platform for Supervisory Control and Data Acquisition (SCADA), Human Machine Interface (HMI), Manufacturing Execution System (MES), and the Industrial Internet of Things (IIoT).

In essence, Wonderware is the medium between the OT/ICS equipment on production floors and the humans that manage them, whether that means on-prem or remotely.

What are the Benefits of Using a Data Diode Alongside Wonderware?

Wonderware provides visibility into the operation of OT assets. This visibility is particularly valuable when the data can be shared across locations and organizations. However, when OT assets are connected to the Internet or to enterprise-wide networks they are at risk of cyberattack unless additional hardware is installed to prevent intrusion. With Fend data diodes, operators of OT assets can have the best of both worlds: the improved performance and insight offered by Wonderware and physical protection from cyber threats. By putting Fend diodes at the edge of production networks, or even in front of assets themselves, data can be extracted in real-time and stored/ viewed with Wonderware while keeping those same assets essentially air-gapped, ensuring data comes out while preventing the exposure of additional threat vectors.

Case Study – Using Fend Data Diodes to Forward Data between Wonderware Historians with eRIS Thin Client

A large water/waste-water management company needed to forward data from a Wonderware historian at one of their facilities to a separate Wonderware tier 1 historian on their enterprise network. However, it was imperative for this company to keep their OT systems air-gapped from the enterprise network, which connects to the Internet.

Fend partnered with SUEZ (www.suez.com) to combine the capabilities of their eRIS platform with those of the Fend data diode. Using eRIS, SUEZ and Fend were able to create a digital twin on the customer's enterprise network that receives real-time data from the facility's local Wonderware historian while maintaining an air gap through the data diode. Since Fend data diodes are a fraction of the cost of other data diodes, designed for easy configuration, and require little-to-no maintenance, this solution is highly scalable for other operations with a need historian replication.

How it works

The first step is to install the eRIS software platform as a Windows service on the existing OT Wonderware server. The eRIS service facilitates the transfer of Wonderware data through the Fend data diode by translating it to a unidirectional format. After the data passes through the optical isolation of the Fend data diode, it arrives on the eRIS Hub. The eRIS Hub is a thin client that receives the data from the data diode and translates it back into Wonderware format. The data is then prepared for ingestion into the destination Wonderware server.

Powered By: FEND® eRIS SUEZ
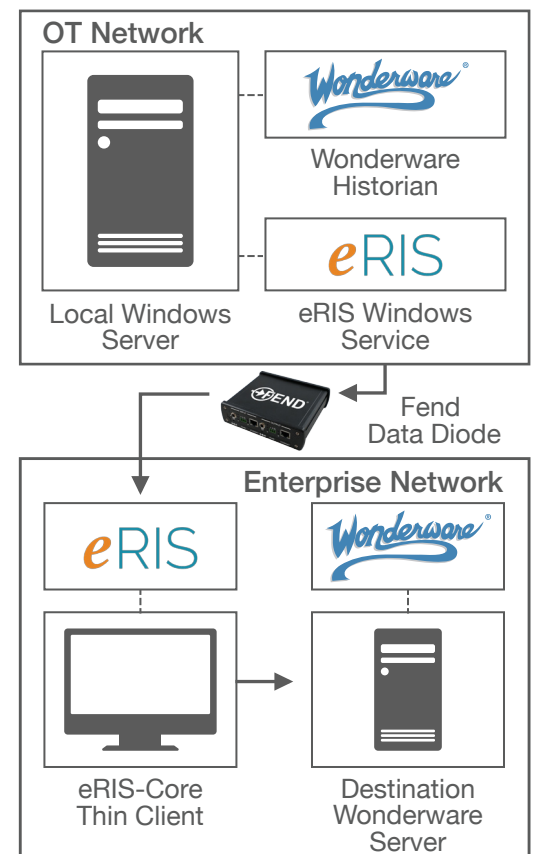
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