FEND

Physically Block Cyberattacks

Cross-Domain Network Segmentation

Send files from one domain to another using Fend's physically-enforced one-way FTP functions. Whether files contain machine telemetry, important documents, or critical databases, you can transmit data in a one-way fashion. Keep hackers away from the original copy of the data and out of sensitive networks using Fend's data diodes for secure file transfer.

Example 1: Send flat files from an industrial data logger.

Industrial Control System with FTP Capability

Fend Data Diode

FTP Server

Example 2: Send files from a protected IT network to another location.

FTP Client

Fend Data Diode

FTP Server

Fend supports FTP and FTPS transfers and can pull data from multiple sources. Other use cases include:

- Extraction from data loggers
- Rapid transmission of measurement and verification (M&V) data as part of energy savings performance contracts
- Historian data backups
- Automated database replication

Learn more about how data diodes work and get product specifications at www.fend.tech/products

Case Study - Water Treatment Plant

A major water utility serving some two million customers trusts Fend to transfer data from water treatment plant assets on the operational network to the IT network. Before Fend, the customer used to live with an "air gap" transmitting data by hand with physical media. Now they get the data faster and with less effort.

For More Information
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Safely Open The Door To The Cloud

Monitor new and legacy equipment from anywhere. Compare asset performance with AI-driven tools. Use the power of predictive analytics to detect equipment failures before they happen. Fend's data diodes and cloud-based data collection service allow you to safely bring industrial control systems online using a physically enforced one-way data flow and protect them from cyberattack.

Example 1: Listen to industrial network traffic and send relevant data to Fend's Amazon Web Service (AWS)- based data service where cloud-based machine learning can help prioritize maintenance tasks and equipment upgrades.

Building Automation System Using BACnet   Fend Data Diode   Fend Data Collection Platform   Analytics Provider
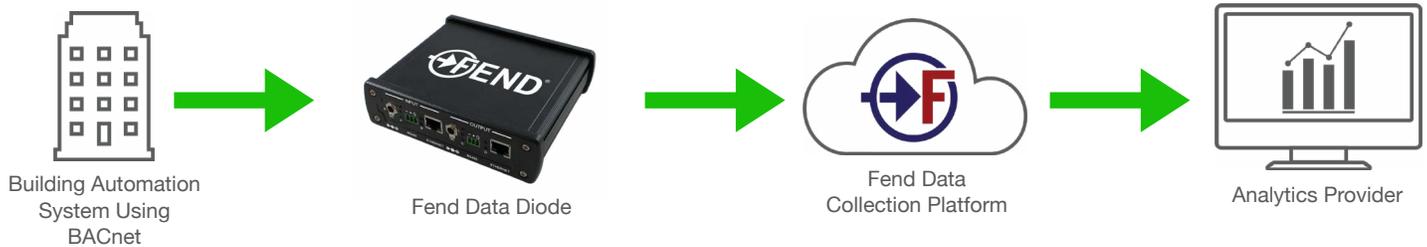
Example 2: Transmit a stream of data points over a cellular connection to AWS GovCloud and point the data to a third-party analytics provider for remote equipment monitoring.

Industrial Asset Using Modbus   Fend Cellular Diode   Fend Data Collection Platform   Analytics Provider

Example 3: Visualize time-series data / custom displays on Fend's portal or other cloud platform.

Energy Asset   Fend Data Diode   Data Visualization

Case Study - Manufacturing Equipment Optimization

A Fortune 100 manufacturer manages billions of dollars of complex machinery across hundreds of factories and trusts Fend to bring these assets safely into the cloud for performance monitoring. The customer gets the operational intelligence they need and the security they deserve.

Fend support Modbus, BACnet, and other communication protocols.

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Physically Block
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Safely Monitor Your Equipment From Anywhere

Securely monitor new and legacy equipment so you always know what's happening with your assets. Integrate real-time operational data into your centralized control center without putting your critical equipment at risk. Use predictive analytics to detect equipment failures before they happen. Fend's data diodes bring industrial control systems online using a physically enforced one-way data flow and protect them from cyberattack.

Example 1: Send equipment data and status information over your company network for remote equipment monitoring.

Industrial Asset
Using Modbus
→
Fend Data Diode
→
Servers at
Headquarters

Example 2: Connect remote equipment to your network, even when it's off the beaten path. Fend's data diodes can send sensor data over an LTE connection to your company's servers.

Field Deployed
Sensor Platform
→
Fend Cellular Diode
→
Data Visualization

Example 3: Listen to industrial control system network traffic and send relevant data to on- or off-premise servers for storage or analysis. Help prioritize maintenance tasks and equipment upgrades.

Building Automation
System Using
BACnet
→
Fend Data Diode
→
Remote Equipment
Monitoring

Fend supports Modbus, BACnet, and other communication protocols.

Case Study - Continuous Monitoring of Military Buildings

Fend is working with the US Army Corps of Engineers to monitor building automation equipment as part of the Environmental Security Technology Certification Program. By keeping an eye on buildings across military installations, facility teams can prioritize maintenance and investment.

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