



ONE-WAY COMMUNICATION AS TURN-KEY SOLUTION

Fox DataDiode Appliance

There are critical scenarios where networks are disconnected for security reasons. For example in government infrastructures, secret information is stored in separate disconnected classified networks to prevent data leakage. In industrial environments networks are disconnected to prevent people from sabotaging critical control networks. In other words, air gaps are used to either keep the bad stuff out or the good stuff in, rigorously. The Fox DataDiode Appliance plugs into two networks and provides one-way communication from one network to the other. By providing this unidirectional link, an automated air gap is created.

The ease-of-use of a normal connection and the security of an air gap. Integrating in your networks easily, the Fox DataDiode Appliance keeps secret information secret, and critical control networks safe.

Supported protocols:

Transfer files

File transfer is supported using the following protocols:

- SMB
- FTP
- SFTP
- SCP
- FTPS

Email

Sending email from one network to another is supported by using the standard SMTP.

UDP data streams

UDP streams can flow through the Fox DataDiode Appliance. This enables many protocols that are built upon UDP, such as Syslog and SNMP, to communicate one-way through the Fox DataDiode Appliance.

Time synchronization using NTP

Synchronize the clocks of disconnected networks to reliable time sources.

Fox-IT prevents, solves and mitigates the most serious threats as a result of cyber-attacks, fraud and data breaches with innovative solutions for government, defense, law enforcement, critical infrastructure, banking, and commercial enterprise clients worldwide. Our approach combines human intelligence and technology into innovative solutions that ensure a more secure society. We develop custom and packaged solutions that maintain the security of sensitive government systems, protect industrial control networks, defend online banking systems, and secure highly confidential data and networks.

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The Fox DataDiode guarantee

To transfer information from one network to another, called upstream and downstream, generally the following things happen:

1. Computers in the upstream domain submit information to the upstream Appliance server. This can be by simply copying a file or by sending an email.
2. The upstream Appliance server transmits the information to the downstream Appliance server through the Fox DataDiode using an optimized, forward error-correcting and reliable one-way protocol.
3. The Fox DataDiode does not alter the information, but enforces one-way traffic at the most fundamental level of the protocol stack: the physical layer.
4. The downstream Appliance server reassembles the received data, checks its integrity and makes it available to systems in the downstream domain.

The assurance of the “one-wayness“ of the connection is warranted in the Fox DataDiode hardware. The integration between the upstream and downstream ecosystems is provided by the Fox DataDiode Appliance servers. As an alternative to the Appliance servers, it is also possible to use server running a self-administered Linux or Windows OS installation in conjunction with respectively the Fox DataDiode Linux Core or Fox DataDiode Windows Core.

Architecture

Fox DataDiode Appliance is a complete implementation concept, there are no further prerequisites. The Appliance consists of one hardware Fox DataDiode device and two servers.

Both Appliance servers are provided with the software pre-installed enabling seamless integration into office environments and industrial networks. Support for many common file transfer protocols is built in.

With the protocols supported by the Appliance servers you can build any one-way solution. Fox-IT offers a rich collection of case studies and application examples for varying solutions.

Benefits

Choosing for the Fox DataDiode means no more worries about data leakage, unauthorized manipulation of sensitive data or sabotaged control networks. You may benefit from using Fox DataDiode Appliance in the following ways:

- **CC EAL 7+.** The DataDiode received the highest security clarification possible by Common Criteria.
- **Ease and flexibility.** The Fox DataDiode Appliance plugs into your networks easily and is configured using a user-friendly web interface.
- **Turn-key solution.** The Fox DataDiode Appliance is a complete out of the box working package consisting of the Fox DataDiode and two rack-mountable servers with software pre-installed.

for a more secure society