



Fox DataDiode

secure one-way communication

Fox DataDiode

In many cases a network will be connected to an external source, like another network, to transfer electronic data. In High-Security environments, it is often forbidden to make a physical connection between different networks. The present form of data transfer (using USB sticks, CDs, humans) is never real-time and, more important, creates security risks. However, it is used in order to prevent data leakage from the High Security Level (Red) network to the Low Security Level (Black) network (also called 'Air Gap'). The reception of email or browsing the internet on the Red network is also impossible.

The Data Diode connects two networks with different security levels providing a one-way data path. It prevents information from being transferred (including covertly) from the High Security Level network to the Low Security Level network.



Easy-to-use

A common DataDiode setup consists of two proxies. One of the proxies is placed in the Black network (which can be directly connected to the Internet). The other proxy is placed in the Red network. A one-way physical connection is made between the two proxies to prevent data leakage and guarantee the security of the red network. Each proxy has an easy-to-use web interface that allows authorized users to configure what is to be transferred from where (Black side) to where (Red side). A transfer can contain files, streaming video, or incoming email. This greatly increases the possibilities of people working on the red network.

Secure one-way connection

As the physical connection between the Red and Black network is one-way (hardware), any software malfunction (possible bug or tampering) will never compromise the security of the red network. In addition, all transfers are logged. Error detection and correction will further enhance data integrity and security.

Endless possibilities

The Data Diode was primarily developed for use by governmental organizations, especially those that have to assure a certain security level. The Data Diode is used in environments that require state secret security solutions. Commercial organizations with critical infrastructures, that want to perform one-way transfers between two physically separated networks can make excellent use of the Data Diode. It is possible to add (custom made) 'connectors' for other (proprietary) protocols, guaranteeing one-way data flow under all circumstances. The Data Diode increases the possibilities in classified networks and critical infrastructures without compromising security.

Classified networks

- Receive software and anti-virus updates
- Access your email without leaving your desktop
- Intercept digital information in real-time
- Link a defense network to the internet
- Mirror websites and databases 24/7

Critical infrastructures

- Enable system monitoring outside the SCADA environment
- Protect against cyber attacks
- Provide access without compromising security

The Fox DataDiode, a perfect 100% secure solution, transfers data -online, in real-time and continuously- between two networks of varying security levels without compromising the security of the receiving network.

Fox DataDiode

- Unique hardware based solution
- Designed for Top Secret environment
- 100% one-way communication
- Real-time, 24/7 connection
- Easy-to-use web interface
- Proven solution against data leakage and online attacks
- Approved and certified by:
 - NATO (Secret)
 - Common Criteria EAL 7+ (Netherlands Scheme)
 - Common Criteria EAL 4+ (Norwegian Scheme)
 - NL-NCSA (Secret)
 - BSI (Secret)

Technical details

- Gigabit optical interfaces
- 100 Mbit/s sustained throughput
- 19" 1U rack solution
- Intel compatible proxies
- 1000Base-T proxy interfaces to the Black and Red network
- NATO SDIP-27 Level A
- Protocols supported
 - SMTP
 - FTP
 - UDP
 - NTP
 - CIFS
- Strong error detection and correction
- Network Management
 - SNMP

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