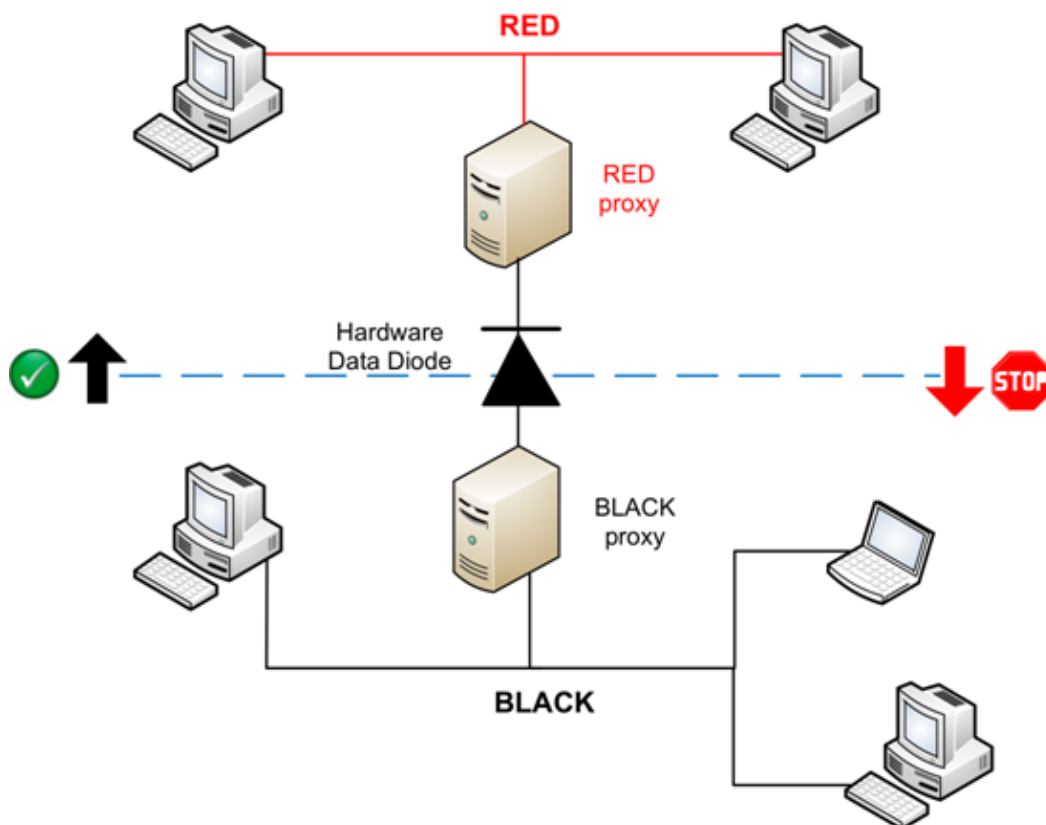


Nexor Data Diode

In high-security environments it is often forbidden to make a physical connection between different networks. However, there is still a need to share a subset of information between these networks. The most common form of data transfer is to manually export the data from one network onto a USB stick or CD and then import it onto the other network, but this is not real-time and with ever growing volumes of data and the need to share information quickly, this method is no longer a practical solution to the problem. Manual transfer also creates security risks by having to manage the secure disposal of the media.

The Nexor Data Diode is an EAL7+* evaluated solution to the information sharing problem by only allowing data transfers in one direction, guaranteeing that no data will leak back from the secure to the less secure network.



Approach

A Nexor Data Diode solution consists of two servers and the hardware diode. One of the servers is placed in the lower security (BLACK) network. The other server is placed in the higher security (RED) network. Fibre optic connections are made between each server and the data diode. The use of light emitting diodes and receivers within the hardware data diode provides a 100% guarantee of a one way communication.

Each server has a graphical user interface that allows authorised users to configure what is to be transferred from the BLACK side to the RED side.

Transfers can contain files, emails or streamed data as well as mirroring file systems. This flexibility can greatly increase the productivity of people working on the RED network.

Features

- EAL7+ certified*
- NIAPC Green Scheme
- Unique hardware based one-way communication with no need for physical transport media
- Error detection/correction
- Easy-to-use graphical user interface
- Information sharing:
 - Transfer of files
 - Transfer of emails
 - Website/FTP mirroring (browsing common websites/FTP servers)
 - Streaming of UDP data, for example full motion video streams
 - Streaming of TCP data for example log and audit streams
- High availability solution
- TEMPEST (NATO SDIP-27 A) versions available on request

* EAL7+ certificate issued by TNO in The Netherlands

connect transform protect

NEXOR®

www.nexor.com

Configuration

- Graphical User Interface for users, administration and auditing
- Automated/scheduled jobs for Web mirroring
- Configure & audit
- Stored locally on each server for optimal security

Supported Protocols

- CIFS
- SMTP
- FTP / FTPS
- TCP
- UDP
- Syslog/SNMP
- NTP
- others upon request
- Between servers a proprietary protocol is used with strong error detection and correction algorithms to prevent data corruption

Use

The Nexor Data Diode is used in environments that require high assurance solutions. The Nexor Data Diode was primarily developed for use by government organisations, particularly those where security is paramount, for example for use by military deployed forces. Many commercial organisations such as the banking industry will also need to maintain separate networks and yet share information between them. The Nexor Data Diode can provide that assured connection.

The Nexor Data Diode supports a number of protocols as standard and is also able to add custom made connectors for other protocols to ensure one-way dataflow under all circumstances.

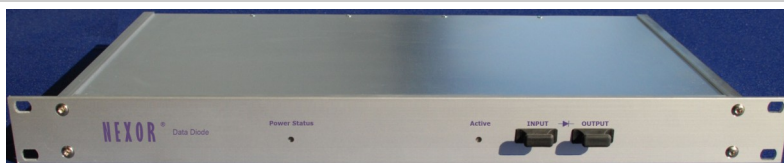
Security

The physical connection between the RED and BLACK network is one-way in hardware, so software malfunction will not compromise the **confidentiality** of the RED network.

Integrity of the data is provided using error detection and correction across the diode and all transfers are logged. Further integrity of the data can be provided on request using comprehensive content checking in conjunction with the diode to verify that the content being transferred is allowed to leave the BLACK domain and enter the RED. This includes checking the structure of data, checks for malicious code and validation of the content against a configured security policy.

A high **availability** solution can be delivered which will ensure that data continues to transfer between the networks even in the event of failure of a component.

Specifications



Data Diode Hardware

- Certifications:
 - Common Criteria EAL7+ evaluated
 - NIAPC—NATO Evaluation Green Scheme
- Interfaces: Gigabit optical (LC) interfaces
- Dimensions: 19" 1U rack
- Power usage: double 75-230V 12W (other voltages upon request)
- Temperature range:
 - Operating: 5°C - 50°C (non-condensing)
 - Storage: -10°C - 60°C (non condensing)

Servers

- Intel compatible hardware
- Interfaces:
 - Gigabit optical (LC) interfaces to data diode hardware
 - Gigabit (RJ45) towards RED and BLACK networks (other interfaces available on request)
- Operating Systems
 - FreeBSD
 - Windows
- Dimensions: 19" 1U rack
- Power usage: double PSU 230V 200W (other voltages upon request)