



DEVELOPED FOR: Armasuisse

Unidirectional Network Link



ELECTRONIC DESIGN AND DEVELOPMENT SERVICES

Design, development and production of a unidirectional network link to protect sensitive servers and data against malicious attacks or corruption, while publishing information to public networks.

Data security you can rely on

Ethernet Diode

Sensitive networks often require that data can be transferred either into or out of an isolated network. The “Ethernet Diode” provides a true physical unidirectional connection between two separate networks. A hardware-based core enforces data flow at the physical layer in one direction only, there is absolutely no data back-flow!



Ethernet Diode Module (EDM)

The Ethernet Diode consists of two independent server nodes combined with an Ethernet Diode Module (EDM) which is the heart of the system ensuring the unidirectional behaviour provided by hardware at component level.

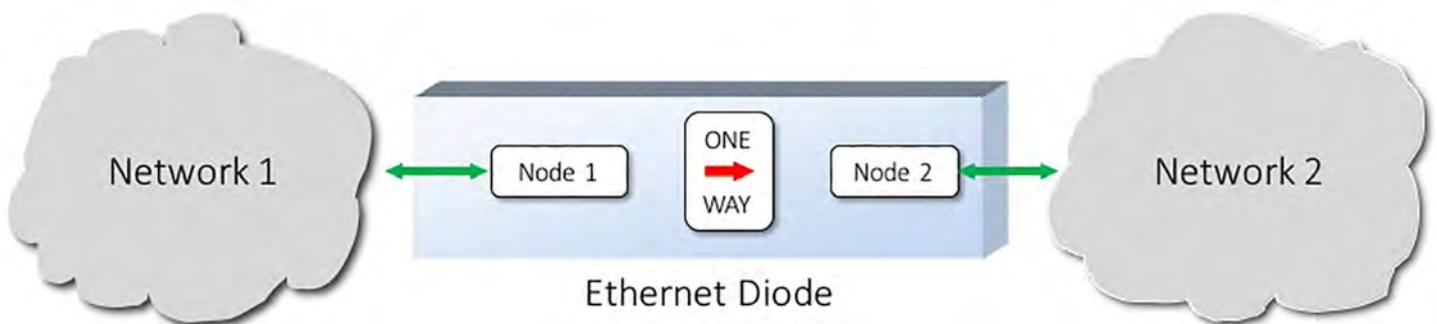
Careful hardware design prevents back-flow of any data. Even malicious software cannot circumvent the unidirectional link, under any circumstances!



Mode of operation

Each Node is independently fully accessible from its own network. The Ethernet Diode application, which runs on both nodes, handles the entire replication process and ensures reliable transfer and data integrity. All data including hierarchy structure in the dedicated directory on Node 1 is transferred (in a best effort approach) to a respective directory on Node 2.

For ease of use, service and special configurations the EDM can be mounted into a 3.5” drive-bay which provides 2 x USB connections and power via a SATA connector, or connected externally via Ethernet or High-Speed USB. The unidirectional network link only permits the transfer of file data and hierarchy structure. Communication protocols (interactive or bi-directional, Telnet, SSH, RCP) are not supported.



Our contribution

- hardware design and development
- software design and development
- manufacture, burn-in and test
- installation, set-up and maintenance
- annual service contract
- ongoing design optimisation (to integrate advancements in components & software)

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