



SecuriCDS® DD1000A

Unidirectional protection for Ethernet layer 2

SecuriCDS DD1000A is a pure hardware based data diode with optical separation to assure the unidirectional data flow. DD1000A offers high performance in a small stand alone package mountable in a single 1U 19" rack system. DD1000A takes data protection to a higher level.

Unidirectional data flow

The SecuriCDS DD1000A takes data protection to a higher level, offering a powerful solution for efficient, risk-free and assured single direction data transfer between security domains.

Advenica's DD1000A provides confidentiality for classified networks and systems, and integrity for Industrial Control Systems. Typical use cases include:

- Media streaming or CCTV monitoring.
- Data transfer from ICS/SCADA networks to IT networks.
- File transfer for data storage replication or software updates
- Secure log collection to administrative or audit network
- Sensor data transfer from lower classified network to higher classified network

Ethernet layer 2

The SecuriCDS DD1000A works on Ethernet Layer 2. All network data on the upstream network will be automatically transferred to the downstream network regardless of overlaying network protocol. The data diode postulates unidirectional network protocols, e.g. UDP, to function correctly in a system. If any other protocol is needed, the interfacing systems must act as a proxy service and convert these protocols into a unidirectional dataflow.

With help of external proxy services, bidirectional communication protocols can be handled. Proxy services are used for translating the protocols into unidirectional dataflows.



High assurance

The SecuriCDS DD1000A meets the highest demands on both security and assurance. With the optical diode hardware, separation between the two interfaces is guaranteed. Special attention have been given to eliminate the risk of covert channels in the reverse direction, resulting in functions like; optional dual PSUs, one for each side of the data diode and RFI/EMI-reducing internal enclosures to minimize compromising emissions.

Approvals

SecuriCDS DD1000A is approved in Sweden for data transfer between networks of different security levels up to and including the level of HEMLIG/TOP SECRET.

Pending approvals in other countries.

Advantages

- Optical high assurance separation
- Enables digitalisation without compromising security
- Fulfilment of internal and regulatory requirements
- National approvals
- No configuration needed

Technical brief

- Operates on Ethernet layer 2
- Support unidirectional protocols, e.g. UDP
- Optional separate power supplies for Upstream and Downstream interfaces
- Network data ports: 2x Gigabit Ethernet 8P8C (RJ45)
- Data throughput: Full Gigabit Ethernet wire speed
- No built-in error correction (Must be handled by interfacing systems if needed)
- Tamper evident casing
- Hardware device

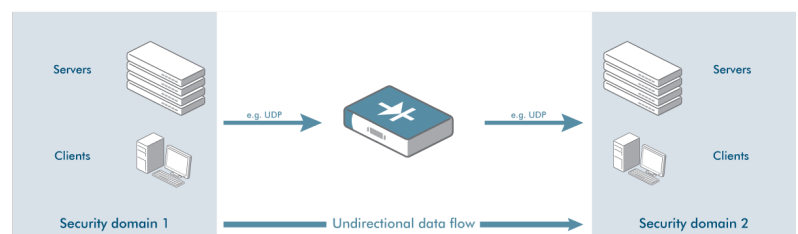
Full Gigabit Ethernet wire speed

The SecuriCDS DD1000A offers full Gigabit data throughput in a small package. DD1000A can be used as a tabletop device or mounted as a half-width 19" rack system device. Two SecuriCDS DD1000A devices can be mounted next to each other in a 19" rack still with a height of 1U.

Hardware only

Separation of networks often relies on the configuration of a security device, e.g. firewall rules. Human mistakes will affect the security and the assurance of an implementation is very hard to guarantee.

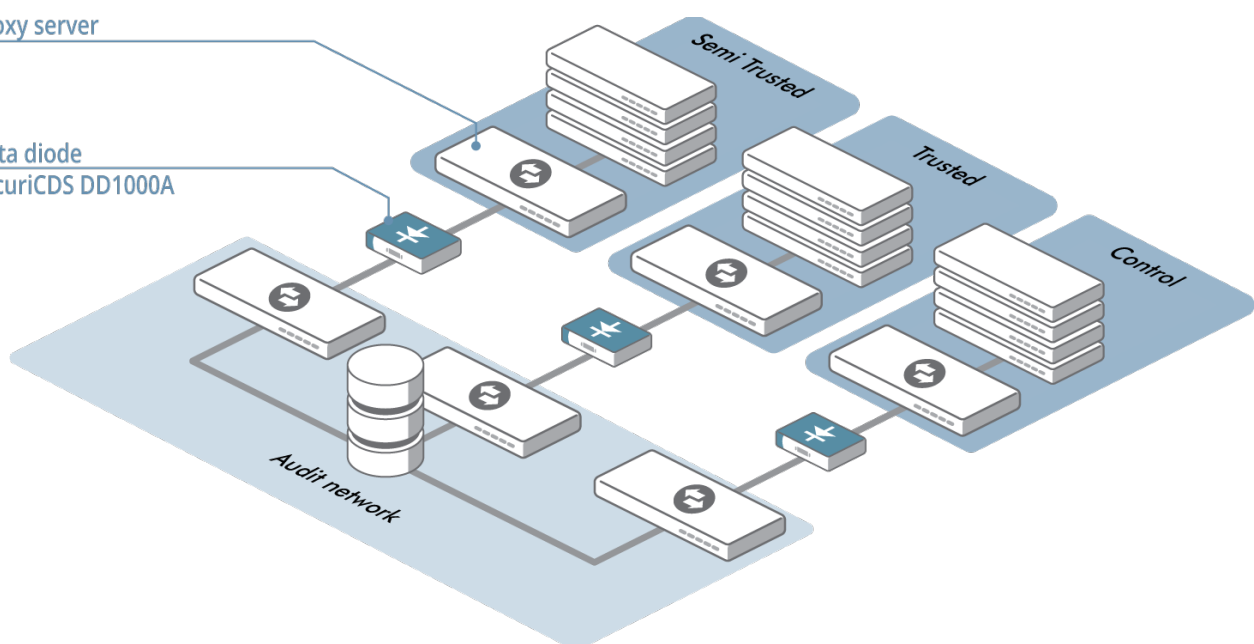
The SecuriCDS DD1000A is designed in hardware only and have no software installed. It uses optical separation internally to guarantee the unidirectional security function. There is no configuration to be made and therefore the device cannot be misconfigured, the unidirectional security function is always assured.



Network overview, SecuriCDS DD1000A

Proxy server

Data diode SecuriCDS DD1000A



Use case example SecuriCDS DD1000A, Secure log collection to Audit network