

## Protecting Critical Infrastructures with Unidirectional Data Traffic



### The Advantages of SINA One Way at a Glance:

- ▶ Guaranteed unidirectional connection for protection against cyber attacks
- ▶ High level of security while maintaining connectivity – the most important requirements in CRITIS networks
- ▶ Extensive protocol support: DNP3, Modbus, OPC among other protocols
- ▶ Approved by the German Federal Office for Information Security (BSI) for data transmission up to and including German GEHEIM
- ▶ Approved for NATO SECRET and CC EAL7+ certified

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Digitally networked control and guidance systems, also known as industrial control systems (ICS), ensure the unobstructed operation of supply and industrial plants. With the increasing automation and networking of processes in Industry 4.0, the risk of attacks on critical infrastructures rises as well.

## Cyber Attacks on Industrial Control Systems – How to Protect Infrastructures

The connection of ICS to the company network as well as a connection to the internet are essential for the operation of modern industrial plants, but this exposes every component integrated into the network to attacks.

In particular, the sudden failure of industrial plants can severely disrupt the provision of basic services to the

population, such as energy and water. There are also hidden cyber attacks which often remain undetected for months or even years.

SINA One Way provides comprehensive protection in networks against threats that specifically target critical infrastructures.

## Securing Networks with Data Diode and Proxy Servers

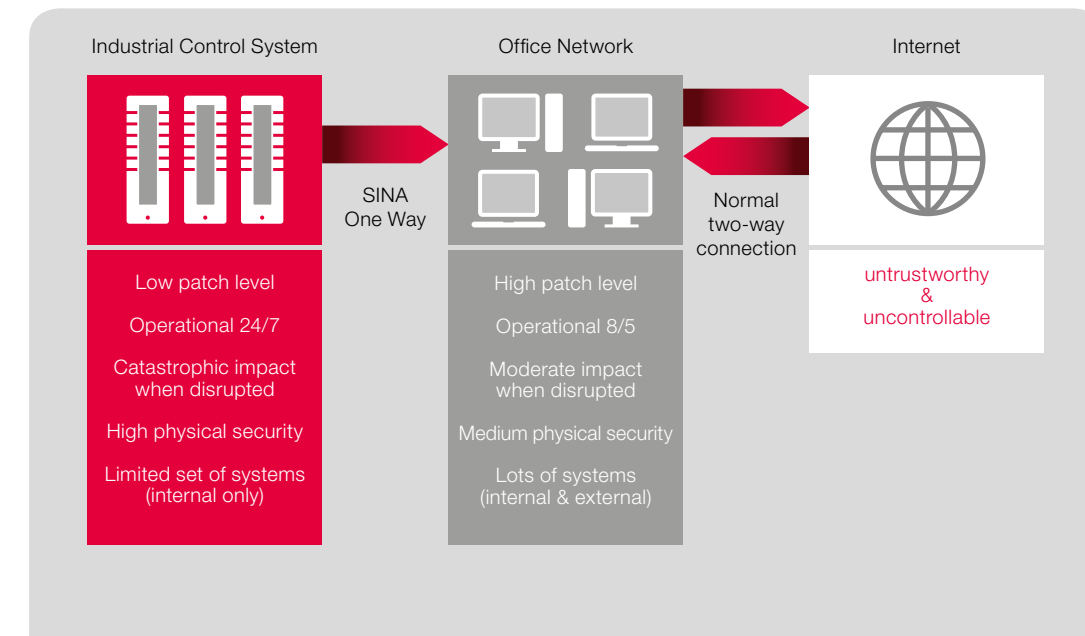
An effective and proven way to protect against cyber attacks is to isolate management systems from open networks.

Almost all protocols require the bidirectional transmission of data. In order to prevent unauthorised data import, SINA One Way ensures that the data is transmitted in one direction only.

The data diode physically isolates networks with different classifications from each other, while proxy servers temporarily turn bidirectional protocols into unidirectional ones.

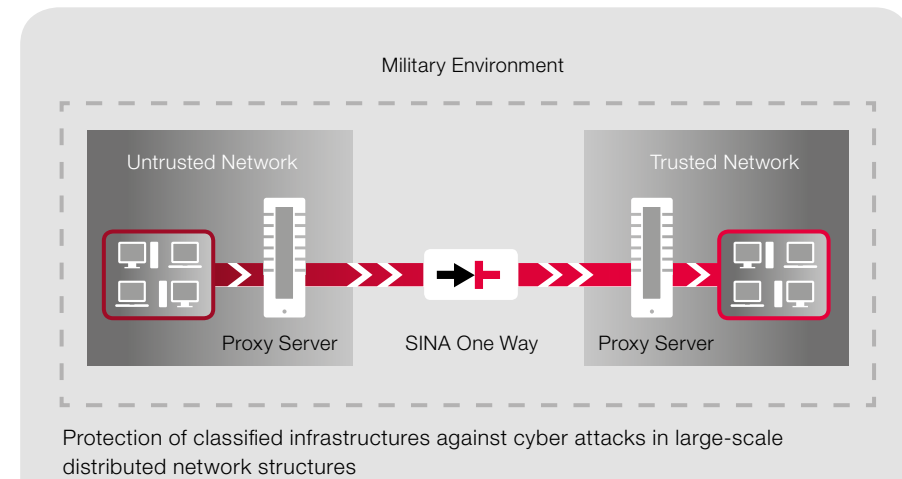
SINA One Way can be easily integrated into network infrastructures and has been approved by the German Federal Office for Information Security (BSI) for communication and data transmission up to German GEHEIM classification. In addition, the SINA One Way is approved for NATO SECRET and CC EAL7+ certified.

### Integrating ICS into Corporate Networks



# Other SINA One Way Application Scenarios

## 1. Data Transmission into a Secure Network in a Military Environment



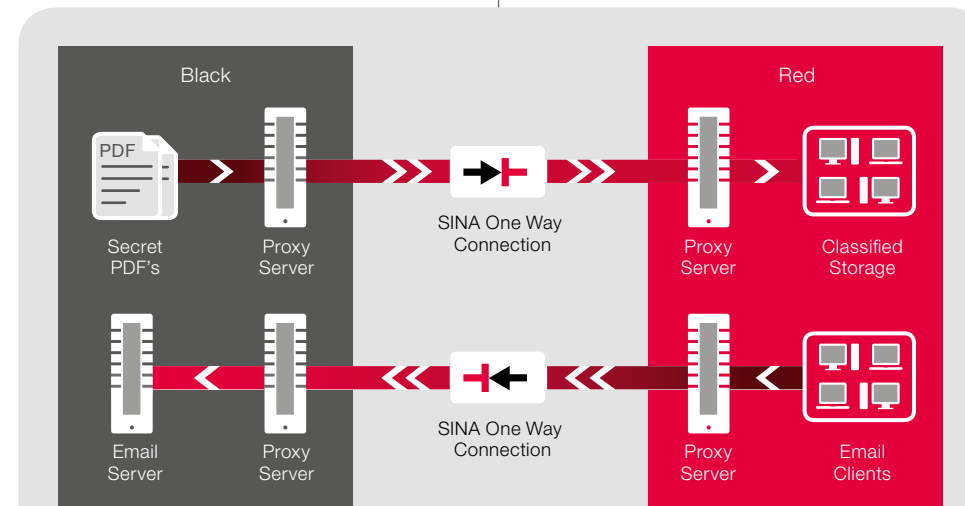
### Requirements

- ▶ Protection for highly confidential and sensitive military information
- ▶ A more secure solution than an EAL 4 firewall, for instance
- ▶ Protection against cyber attacks

### Components used

- 1 x SINA One Way H
- 1 x Appliance Software

## 2. Ensuring the Secrecy of Communication Flows in the Government Sector



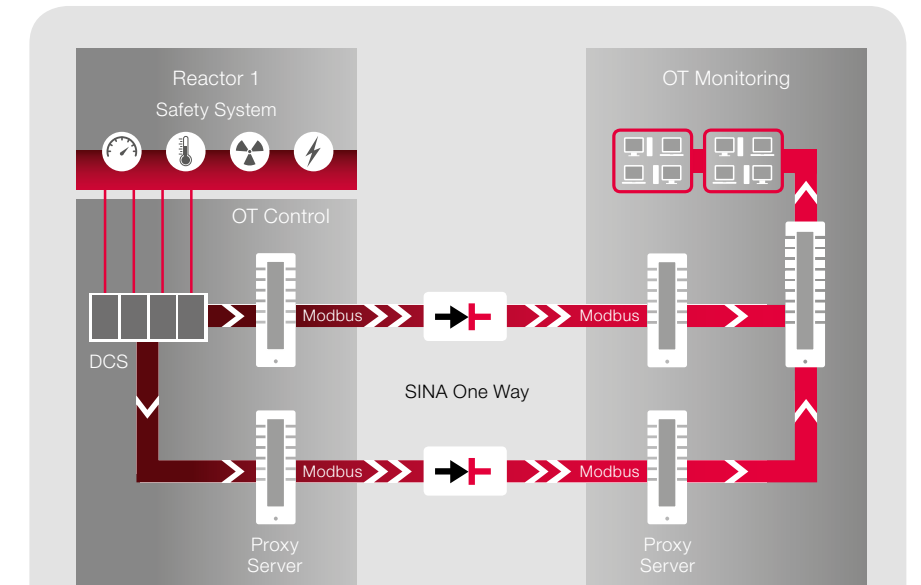
### Requirements

- ▶ Secure transmission of PDFs in a red network and email confirmation back into the black network
- ▶ Highest security levels
- ▶ Secure communication using protocol breaches

### Components used

- 2 x SINA One Way H
- 2 x Appliance Software

## 3. Protecting Power Plants – SINA One Way Replaces Insecure Firewalls



SINA One Way provides physical protection for OT components, Modbus replication and a fail-safe solution by means of redundancy.

### Requirements

- ▶ Protection of highly-sensitive plants against cyber attacks in accordance with national and international security requirements
- ▶ Isolation of OT operations and monitoring network
- ▶ Maximum security against cyber attacks
- ▶ Maintenance of communication with the central office

### Components used

- 2 x SINA One Way H
- Windows Core Software
- Modbus Replicator