

## Intelligent Solutions for the most Rigorous IT Security Requirements





# SINA® – Information Security from the Architects of Modern Encryption Systems

SINA (Secure Inter-Network Architecture) enables the protected processing, storage, transfer and also a full audit trail of classified information and other sensitive data. The portfolio comprises various SINA clients, gateways, ethernet encryptors, SINA Workflow as well as the SINA Management. All SINA products have successfully been used by national and international customers for a number of years.

The idea for the project originally arose from the demand for secure communication within local networks in the context of the German federal government's move from Bonn to Berlin. Furthermore, there was a general need for encryption technology at the Internet Protocol (IP) level for protecting secret material that would be suitable for use in secure communication across wide area networks (WAN).

The German Federal Office for Information Security (BSI) outlined the broad concept for SINA towards the end of the 1990s. In December 1999, the BSI awarded secunet Security Networks AG with the development of the SINA product series.

The essential idea behind this security architecture is the comprehensive protection of data classified at various levels, both locally and during transfer via open networks. SINA arose from the aspiration to create solutions that were consistent with the exceptional security requirements of national and international ministries, public authorities, the armed forces and private companies entrusted with classified materials. As a IT security partner of the Federal Republic of Germany, secunet takes these specifications fully into account in designing and manufacturing its product range. Our secure network architecture has made considerable advances over the past decade and has continued to set new standards in the high security market.

All SINA products undergo stringent German Federal Office for Information Security (BSI) evaluation processes. In order to obtain appropriate product approvals, all components are subjected to intensive, comprehensive assessment on both the national and international levels. This guarantees that SINA products meet extremely high quality standards.



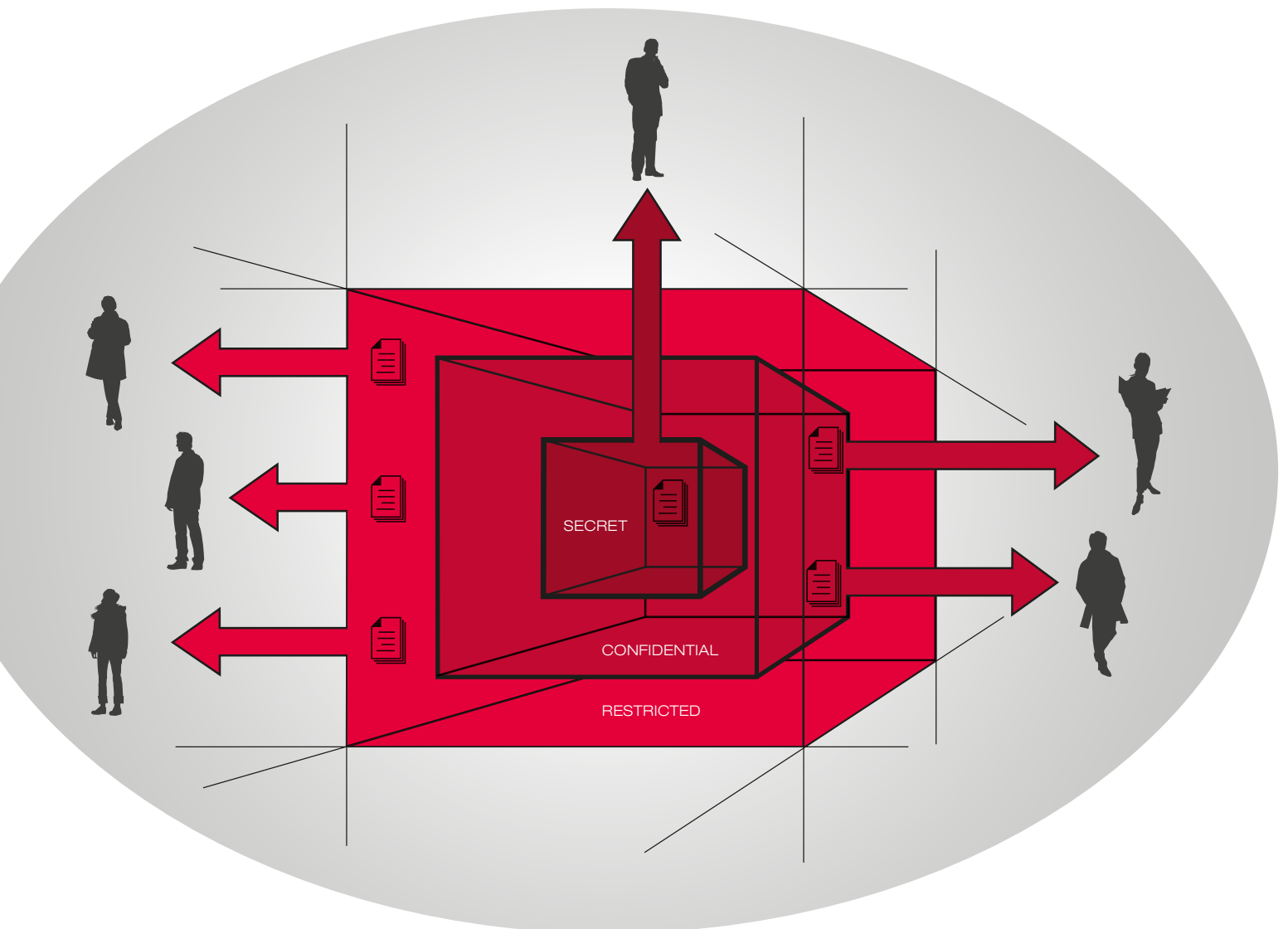
Federal Office  
for Information Security

## Multi-level Security

With a diverse range of products in each device line, the large SINA product family serves the relevant IT security requirements of authorities and companies. SINA's variety of products makes it simply unique.

SINA products have one key advantage: they process and store confidential data with different security classifications in only one product. Several virtual sessions

(multi-level separation) can be completely isolated in this intelligent IT architecture. All the communication with central servers or terminal areas is always carried out via VPN (IPsec). This means that SINA guarantees processing and communication confidentiality in all of the national and relevant international restricted classification levels, plus a number of application scenarios.



# National and International Approvals

SINA is the only IPsec-based cryptographic system that has been approved for use up to the highest national level for classified information of STRENG GEHEIM by the ultimate authority in Germany for IT security, the German Federal Office for Information

Security (BSI). Also at international level SINA fulfills the high approval requirements such as SECRET UE. Since December 2014 SINA components are the only German IPsec solutions for NATO SECRET. Summary of all current approvals:

## Approval for Classified Information

Components	Germany 	NATO 	EU 
<b>SINA L3 Box</b>	GEHEIM / STRENG GEHEIM	NATO SECRET	SECRET UE
	VS-VERTRAULICH	NATO CONFIDENTIAL	CONFIDENTIEL UE
	VS-NfD	NATO RESTRICTED	RESTREINT UE
<b>SINA One Way</b>	GEHEIM	NATO SECRET	-
<b>SINA L2 Box</b>	VS-NfD	NATO RESTRICTED	RESTREINT UE
<b>SINA Workstation</b>	GEHEIM	NATO SECRET	under evaluation
	VS-VERTRAULICH	NATO CONFIDENTIAL*	CONFIDENTIEL UE*
	VS-NfD	NATO RESTRICTED	RESTREINT UE
<b>SINA Tablet</b>	VS-NfD	-	-
<b>SINA Terminal</b>	GEHEIM / STRENG GEHEIM	NATO SECRET	under evaluation
	VS-VERTRAULICH	NATO CONFIDENTIAL	CONFIDENTIEL UE*
	VS-NfD	NATO RESTRICTED	RESTREINT UE

For an approval accordent operation please pay attention to the valid security advice of the documentation.

\* For German national use only approved by BSI.

# Modular System Architecture

## Holistic IT security

With its holistic, modular approach, SINA is the intelligent solution for a number of requirements related to classified material and other sensitive data for authorities and companies. The security philosophy implemented in SINA encompasses secure system platforms integrated into restricted-approval-compliant hardware, multi-level integrated, meshed IT security modules and strictly isolated applications that also have a variety of classifications.

## Confidentiality: always and everywhere

The SINA technology adapts to individual protection requirements. Regardless of where you are, you will always be able to work securely and effectively. In the office, at home or on the go. With SINA, you are guaranteed the highest level of data security for almost all important communication channels – from VoIP, video conferences and satellite link ups to WLAN and MTS.

## What Makes SINA so Powerful?

SINA is an holistic, well-designed system technology whose security components mesh completely.

Work environment

IT security functions

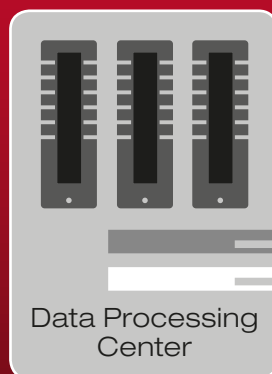
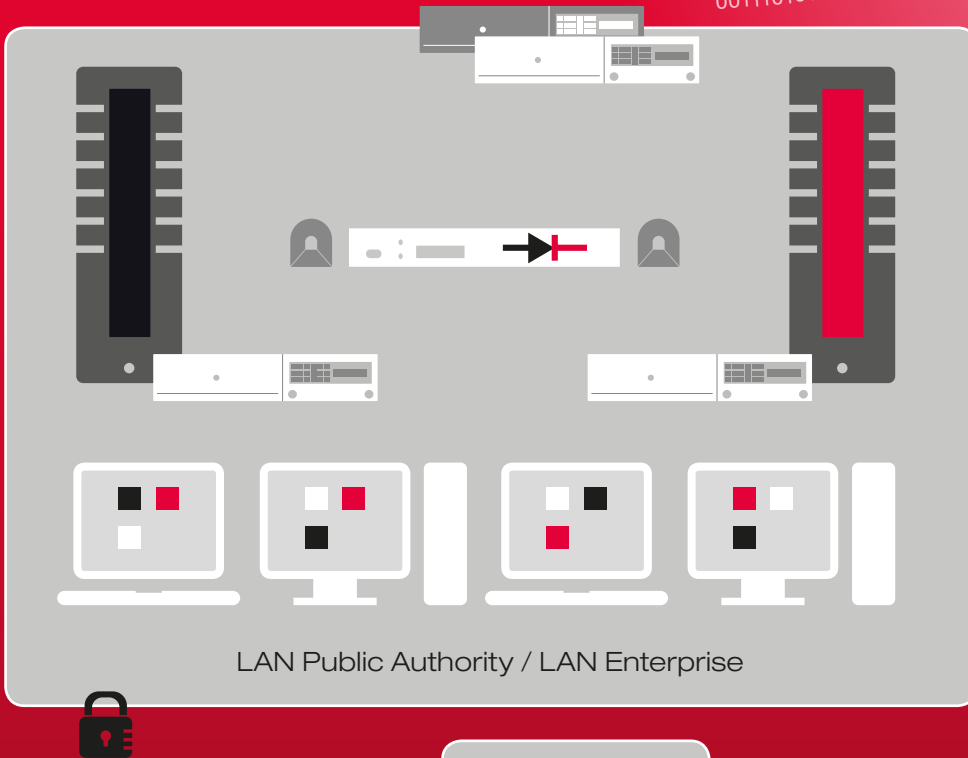
Secure system platforms

Hardware platform



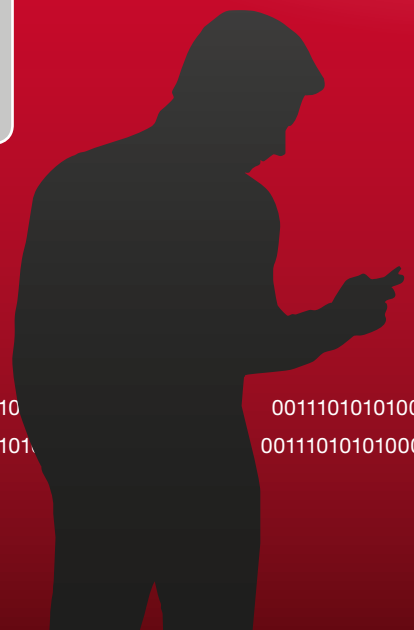
# Scenarios for Use

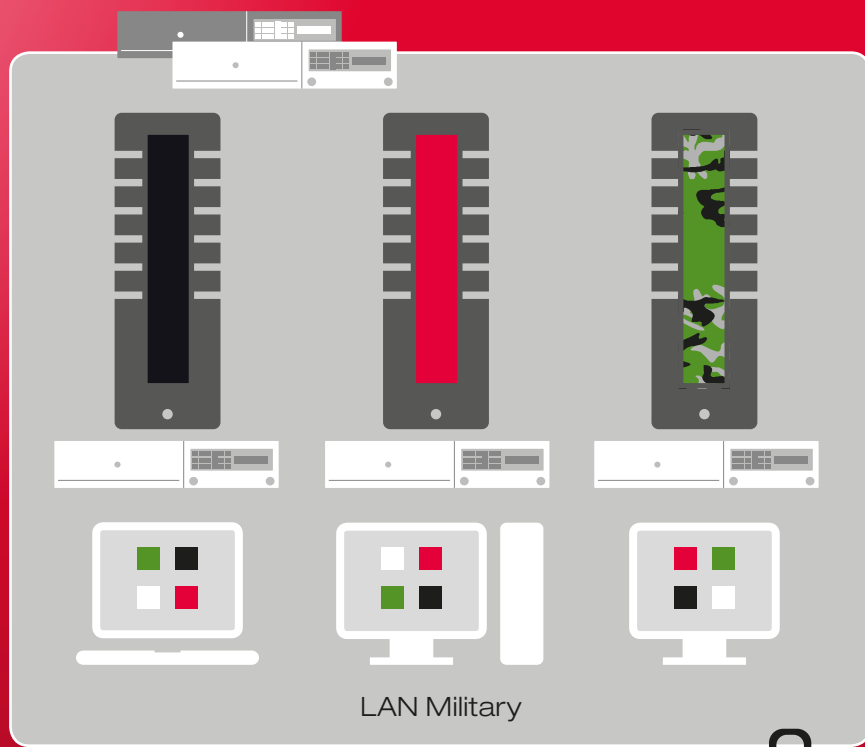
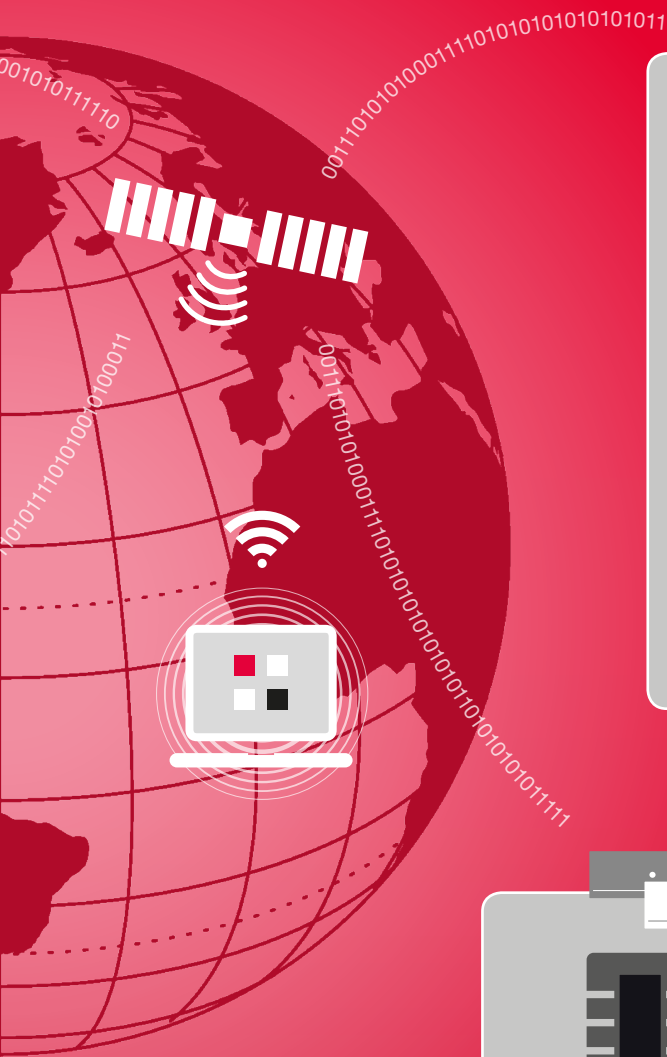
-  SINA Workstation Desktop
-  SINA Terminal
-  SINA Workstation Notebook
-  SINA Tablet
-  SINA Smartphone
-  SINA L3 Boxes
-  SINA One Way
-  SINA L2 Boxes
-  Server areas



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# SINA Gateways

## SINA L3 Box

As a VPN gateway, the SINA L3 Box is the key component of central IT infrastructure in highly-secure VS networks.

The data exchanged between SINA L3 Boxes or also with SINA clients is securely transferred in cryptographic VPN tunnels.

SINA L3 Boxes connect public authority or corporate networks via the Internet. In addition, access to (terminal) servers by SINA clients is provided via pre-switched SINA L3 Boxes, which serve as cryptographic network access points.

- Established in complex security networks
- High availability
- Interchangeable network interfaces
- SINA Management in online operation
- Remote updates



SINA L3 Box S 3G

Approval up to and including:

**STRENG GEHEIM** (Germany)  
**NATO SECRET** (NATO)  
**SECRET UE** (EU)

## SINA One Way

SINA One Way is a black/red gateway. The gateway consists of a data diode and one “black” and one “red” server. Data is transferred from an open source network or one with a low “black” classification to a “red” network with a higher classification in one direction only via this gateway. In this way, the system enables the transfer of open

data researched on the internet to a SECRET network. The special security functionality of SINA One Way ensures that information never flows from a “red” target network in the reverse direction.

- High-security unidirectional data transfers
- Automatic error correction eliminates the need for a reverse channel
- Higher data throughput
- Common Criteria EAL 7+ certification



SINA One Way

Approval up to and including:

**GEHEIM** (Germany)  
**NATO SECRET** (NATO)

# SINA Ethernet Encryptor

## SINA L2 Box

The product line of the SINA L2 Box provides differently powerful encryptors for secure information exchange in networks on OSI Layer 2. LAN connections via public line- and wireless based transmission routes involve the risk that data can be read or manipulated. The data is reliably encrypted

with SINA L2 Boxes without impairing the function and performance of LAN applications. SINA L2 Boxes work with performance speeds of up to 10 GBit/s.

- High data throughput with optimised bandwidth efficiency
- Flexible application in almost all transmission networks
- Easy integration in network infrastructures
- Maintenance-free operation



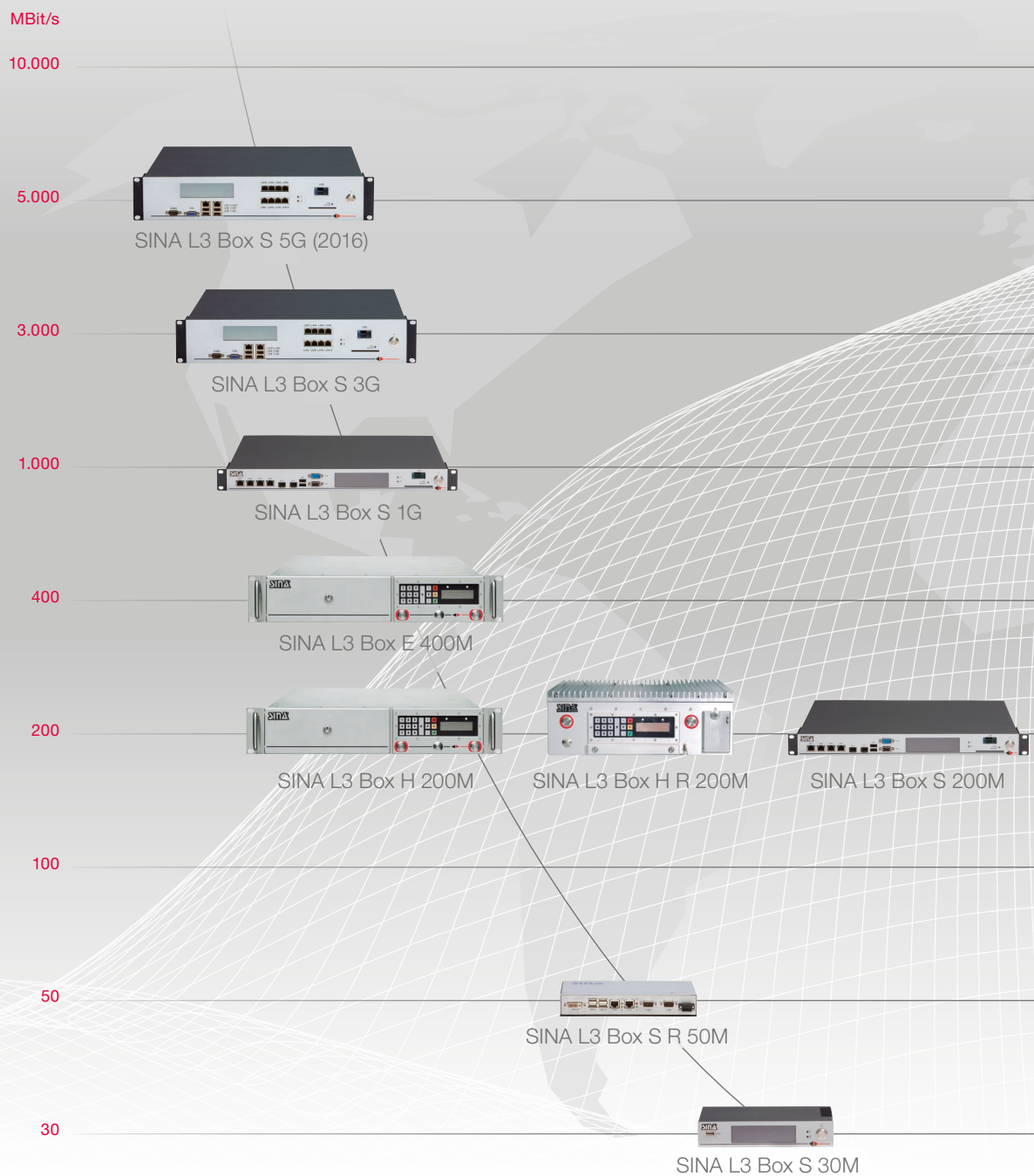
SINA L2 Box S 10G

Approval up to and including:

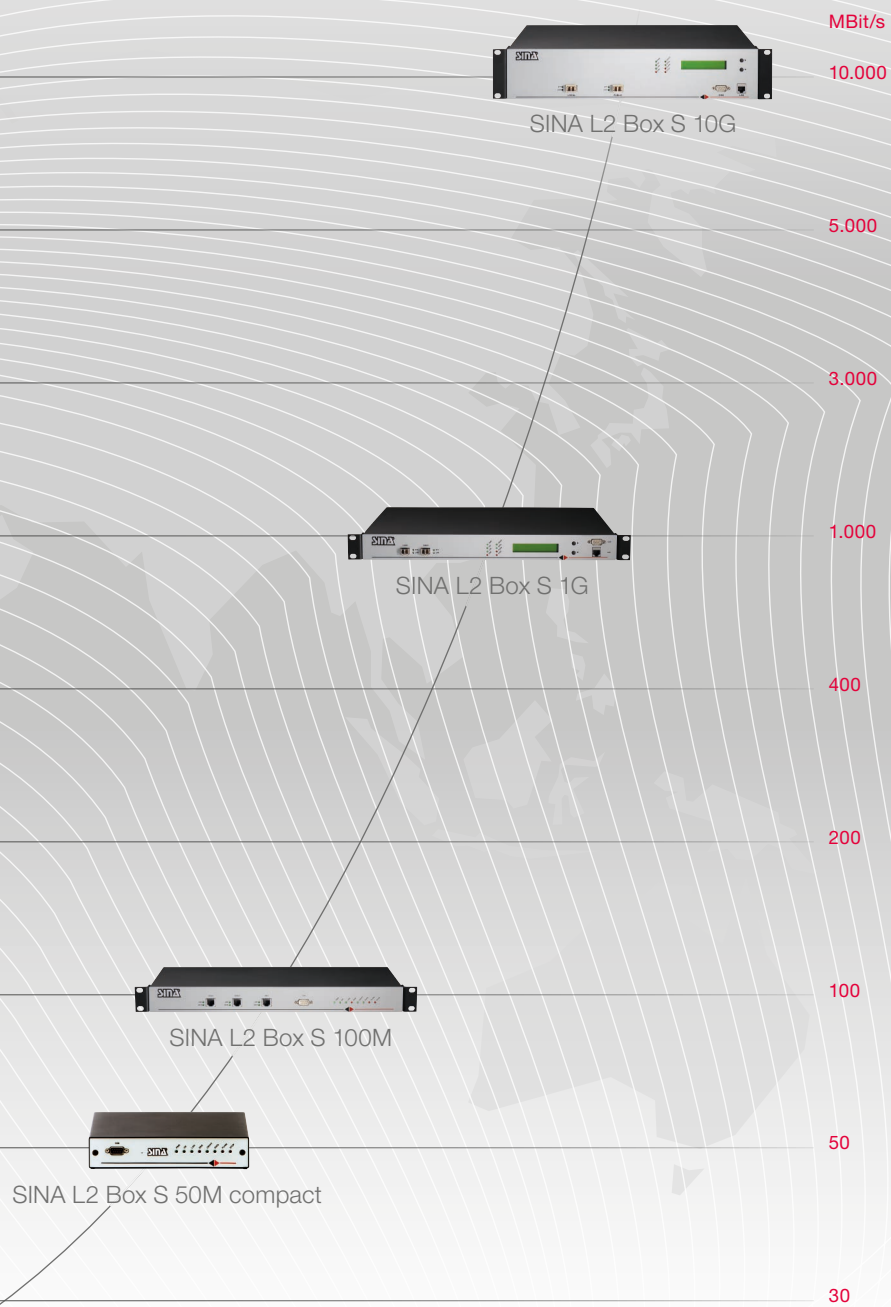
**VS-NfD** (Germany)  
**NATO RESTRICTED** (NATO)  
**RESTREINT UE** (EU)

# Data Throughput

With its variety of performance values and approval classifications, the multi-faceted SINA L3 and L2 Box component product range serves the individual requirements for encryption, functionality and performance of all authorities and companies.



Compliance with BSI conformity in the sense of all existing approvals always sets the standard for this high performance.



# SINA Clients

## SINA Workstation

The SINA Workstation is a crypto-client that can be used either mobile or stationary. Users move securely and conveniently in their familiar work environment (e.g. Microsoft Windows) at all times – online and offline, at the office or on the go. The parallel operation of several guest systems enables users to work in different security domains (e.g. in restricted networks and the internet at the same time).

With this integrated security concept, the SINA Workstation offers much more than a conventional cryptographic device: smart-cards, VPN, hard drive encryption, interface control and a secure operating system. Guest operating systems such as Microsoft Windows or Linux and all sensitive data are isolated in their own cryptographic file systems and always stored safely.



SINA Workstation S

- Parallel operation of differently classified, virtualised Microsoft Windows or Linux guest systems
- Mobile, highly secure processing, transmission and storage of sensitive data
- Consolidation of workstation with several PCs and different restricted networks in one single client
- Encryption of hard drives and networks

Approval up to and including:

**GEHEIM** (Germany)  
**NATO SECRET** (NATO)  
**RESTREINT UE** (EU)



SINA Workstation E R RV11



SINA Workstation E Client IV



SINA Workstation H Client III

## SINA Terminal

The SINA Terminal is a crypto-client without a hard drive. It communicates with servers via a remote desktop protocol. With its streamlined dimensions, the client serves as an input and output terminal only. It is used for displaying graphical data and outputting audio signals. The encrypted data are transmitted to terminal servers, which are responsible for the actual data processing and storage.

- Established in complex IT high security networks
- Simultaneous processing of classified data in up to six thin client sessions with one client
- Consolidation of workstation with several PCs and different restricted networks in one single thin client



SINA Terminal H and E

Approval up to and including:

**STRENG GEHEIM** (Germany)  
**NATO SECRET** (NATO)  
**CONFIDENTIEL UE** (EU)

## SINA Tablet

The SINA Tablet supplements the range of mobile SINA clients. This security level possessing all the advantages of multi-level and multi-session functionality is an innovation for tablet PCs. secunet has implemented the requirements for modern user friendliness here: the user interface has been optimised for use on devices with touchscreens. Users from authorities and companies who require security on the go are ultra mobile with this handy, convenient device.

- Mobile security – based on the proven SINA Workstation
- Multi-session with MS Windows and Linux guest systems
- Easy integration into MS Windows environments

Approval up to and including:

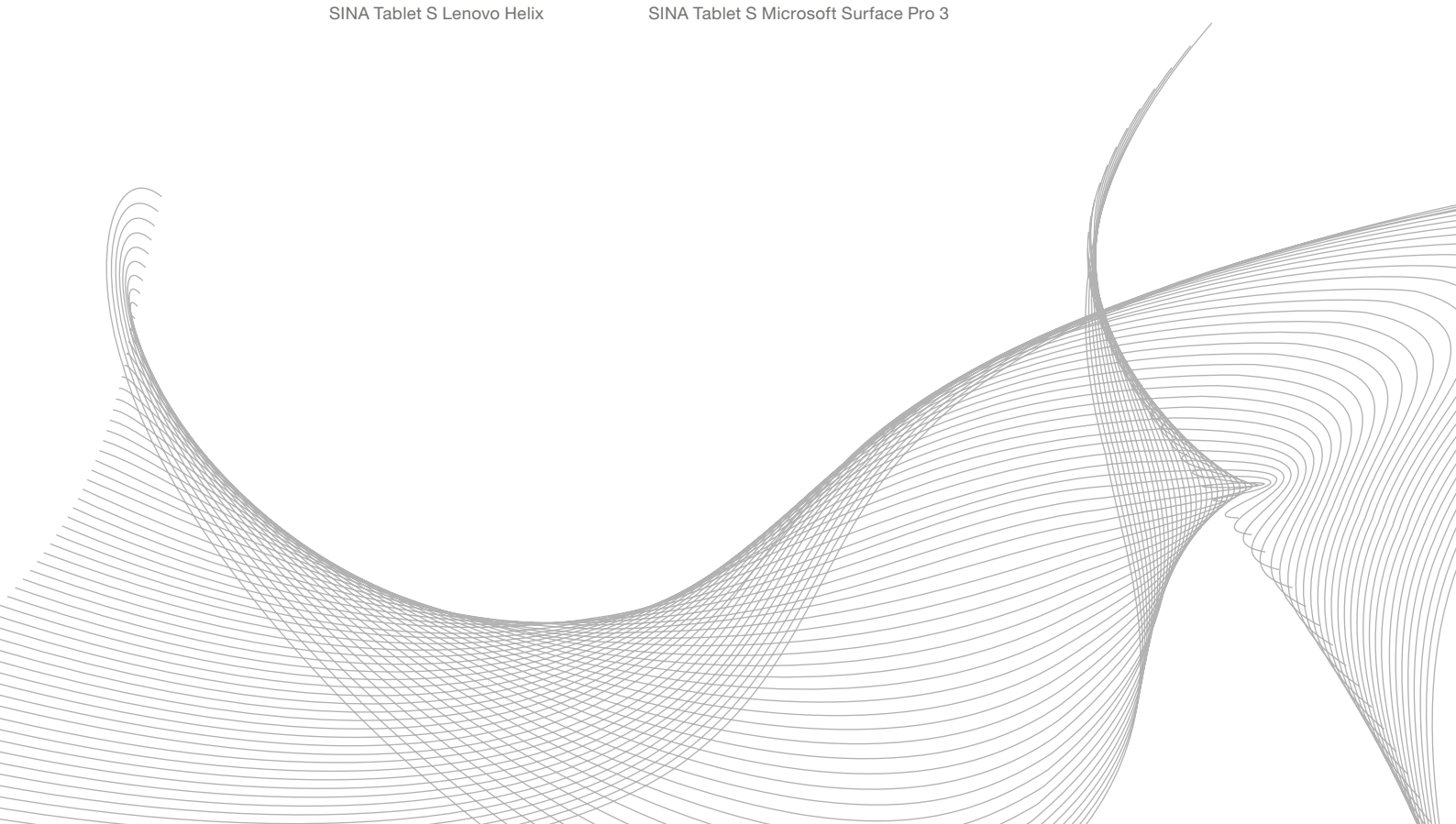
**VS-NfD** (Germany)



SINA Tablet S Lenovo Helix



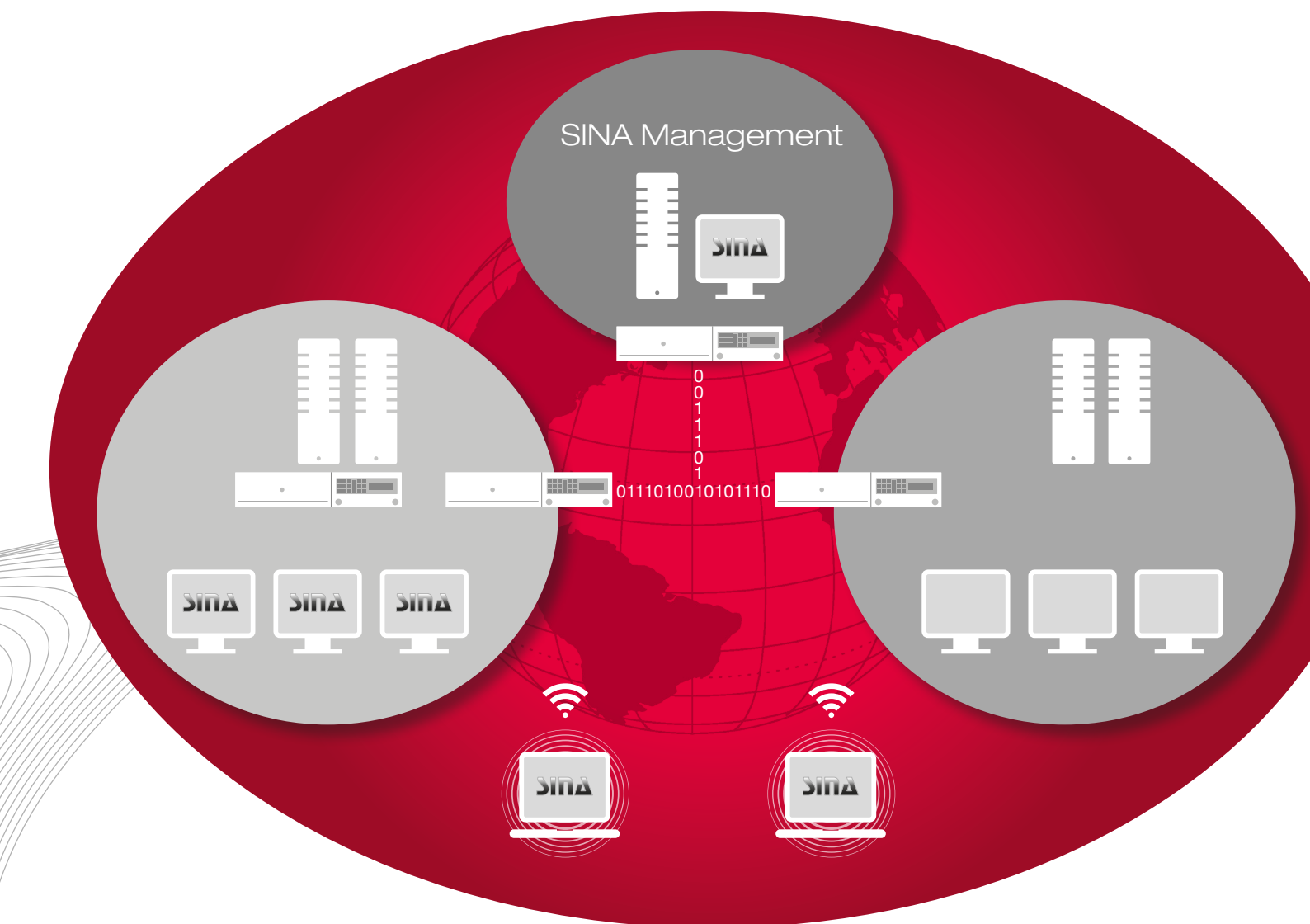
SINA Tablet S Microsoft Surface Pro 3



# SINA Management

SINA components are configured and controlled in the SINA Management. There the keys and certificates required for the authorisation-compliant operation of SINA components are generated and – like the configuration data – centrally managed and securely saved. The managed SINA components and networks as well as their security relations are visualised clearly.

The modular concept of the SINA Management enables flexible and requirement driven scaling system configurations. This ranges from offline installations on individual PCs through to hierarchically graduated and redundant online configurations with multiple servers.



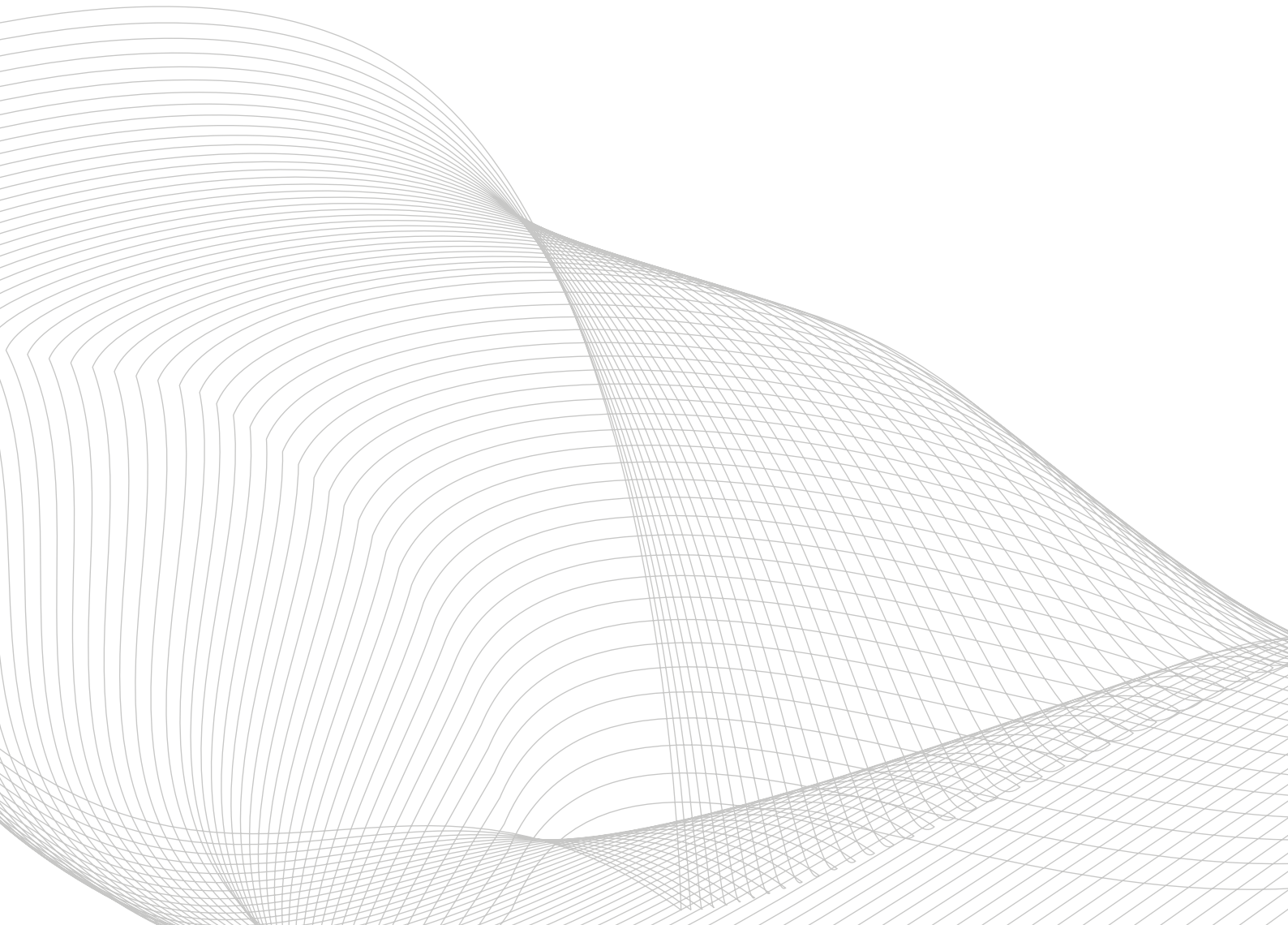
## SINA Workflow

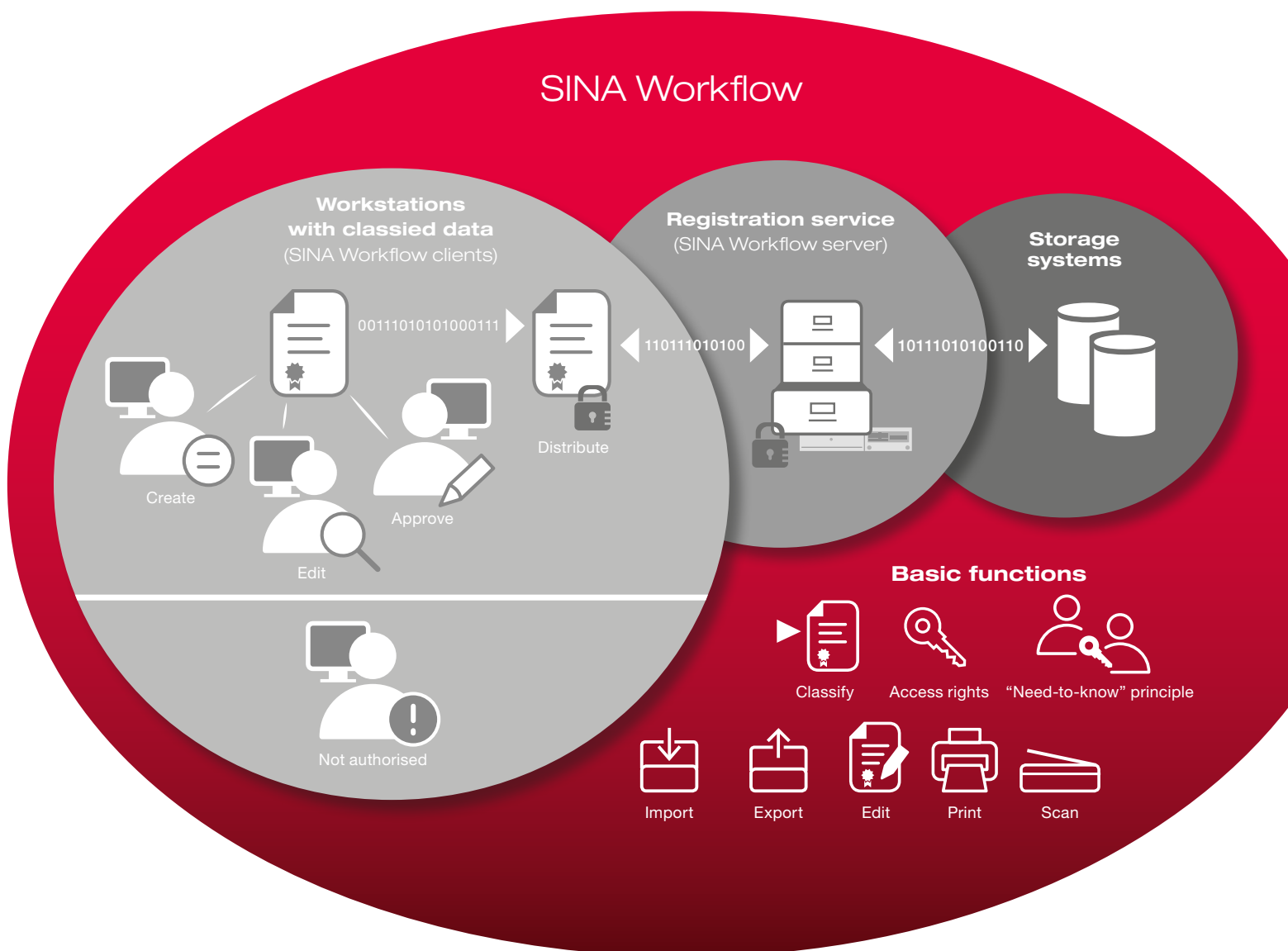
Previous confidential registries only addressed the classic, paper-based world of restricted documents. While it was possible to create restricted documents by electronic means, it was only possible to collect them in the form of printouts because there were no approved electronic restricted registries. And there was also a lack of consistently reliable and verifiable implementation of the “need to know” principle in processing restricted information.

Until now, the market has not provided a solution that allows a compliant workflow with electronic documents in accordance with the Encryption Instructions for Classified Material (VSA). This means that almost

all approval and co-signatory processes (workflows) are implemented by means of organisational measures. With SINA Workflow, restricted documents can be processed in compliance with the regulations using the same media.

The key aspects of verifiable “need to know” and secure distributions of content are implemented through cryptographic functions. This product also ensures the implementation of and compliance with guidelines on confidential information or further regulations from the authorities on how to administer restricted documents through a trustworthy verification concept.





SINA Workflow is a network consisting of secure SINA Workstations and a scalable SINA Workflow server with an integrated electronic restricted registry.

The system solution commences as soon as the data is created and accompanies the process until finalisation and beyond, when the document must be destroyed. This modular system solution also supports the import and export of restricted data and is prepared to exchange restricted data across all domains.

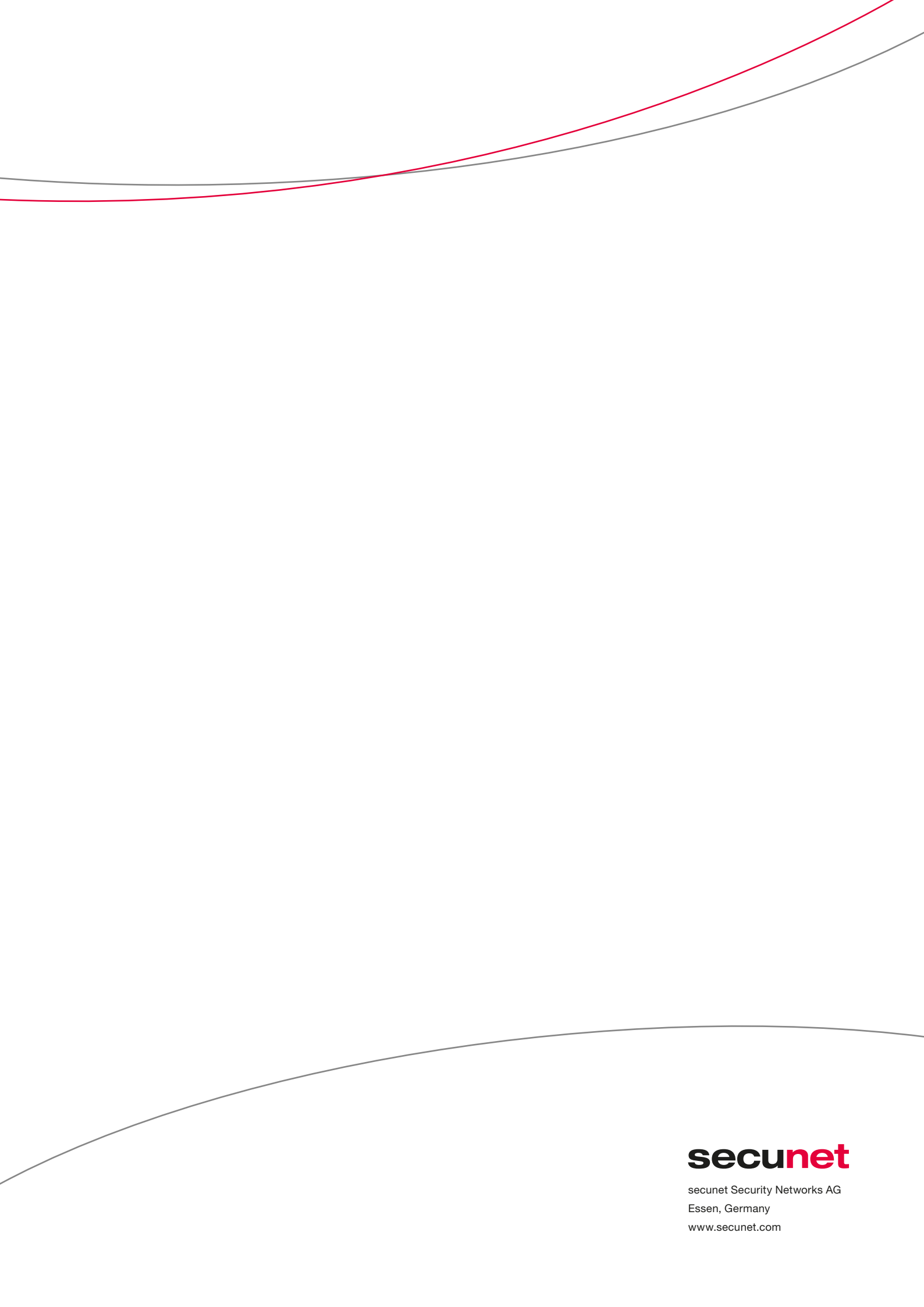
# References



**Bundeswehr**







**secunet**

secunet Security Networks AG

Essen, Germany

[www.secunet.com](http://www.secunet.com)