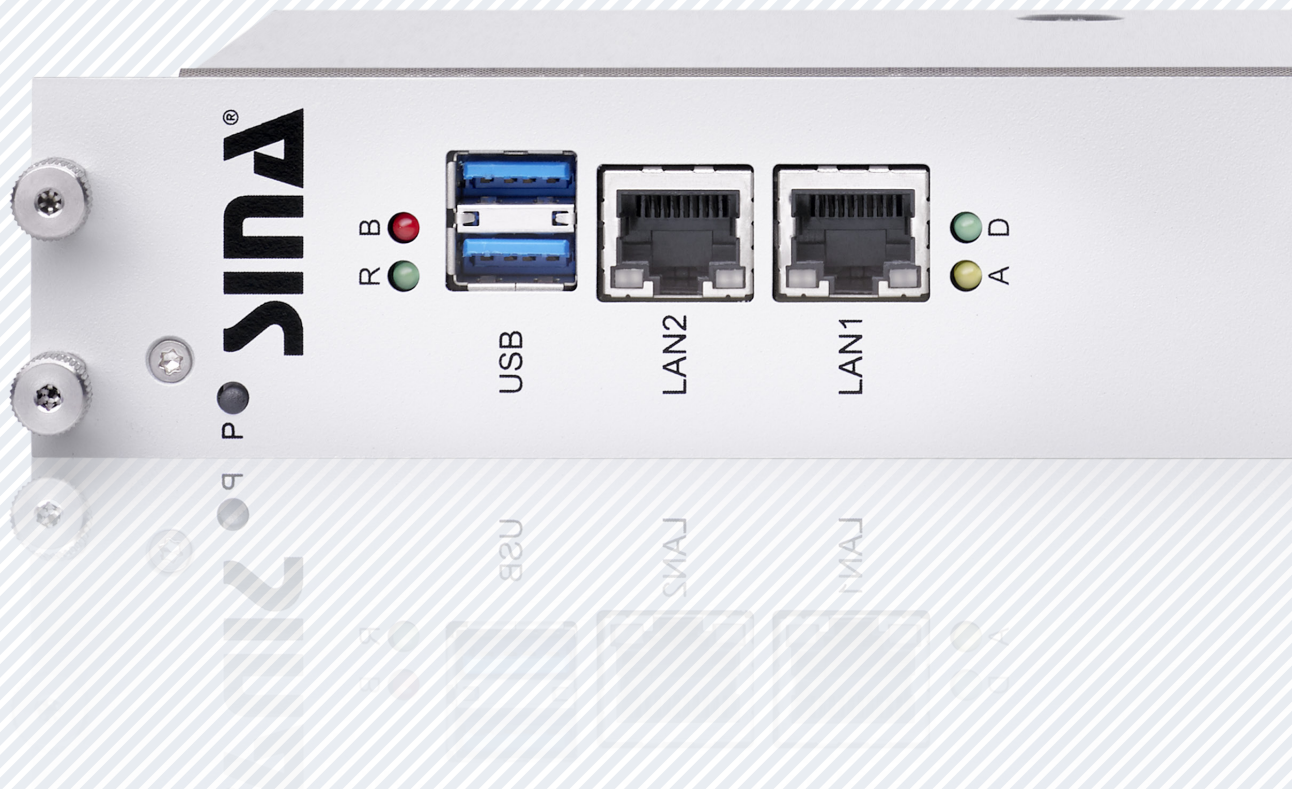# Secure Multiplexing

VPN gateway for approval-compliant L1 linking between data-processing centres

The SINA L3 Box S A enables secure remote access to the ADVA management solution of the FSP 3000 even on potentially unsecure networks.

The SINA L3 Box S A provides secure access to the management interface of the 100 Gbit/s solution FSP 3000 by ADVA Optical Networks. This simplifies management in accordance with the requirements of the German Federal Office for Information Security (BSI) and, in particular, the cryptographic management of platform-based 100 Gbit/s WDM connections. It enables a holistic approach to VS-NfD-compliant data processing centre linking based on L1 connections. An advantage of L1 connections is the protocol transparency while transmitting data packets of all network layers. In contrast to L2 connections, which usually require the Ethernet protocol, other protocols, such as Fibre Channel or InfiniBand, can also be transmitted at L1 level.

IT security concept

The SINA L3 Box S A is based on a holistic IT security concept. This comprises in particular:

- a hardened and evaluated SINA OS system platform,
- Smartcard technology,
- IPsec-based Virtual Private Networks (VPN) and
- software configured according to approval.

Secure system-start and operation

The SINA L3 Box S A software is loaded from the flash memory during system start. All the initial configuration data and security associations are stored in a protected area of the SINA ID token. The security associations to the SINA Management and the SINA L3 Box S units responsible for communication are set up as IPSec VPN tunnels. Additional configuration data can be optimally loaded from the SINA Management. Furthermore, the SINA L3 Box S units can be operated safely with several thousand security associations. This simplifies the configuration, installation and replacement of hardware.

FSP3000R7

AES Verschlüsselung

100Gbit/s* 100Gbit/s*

NCU

*per wavelength
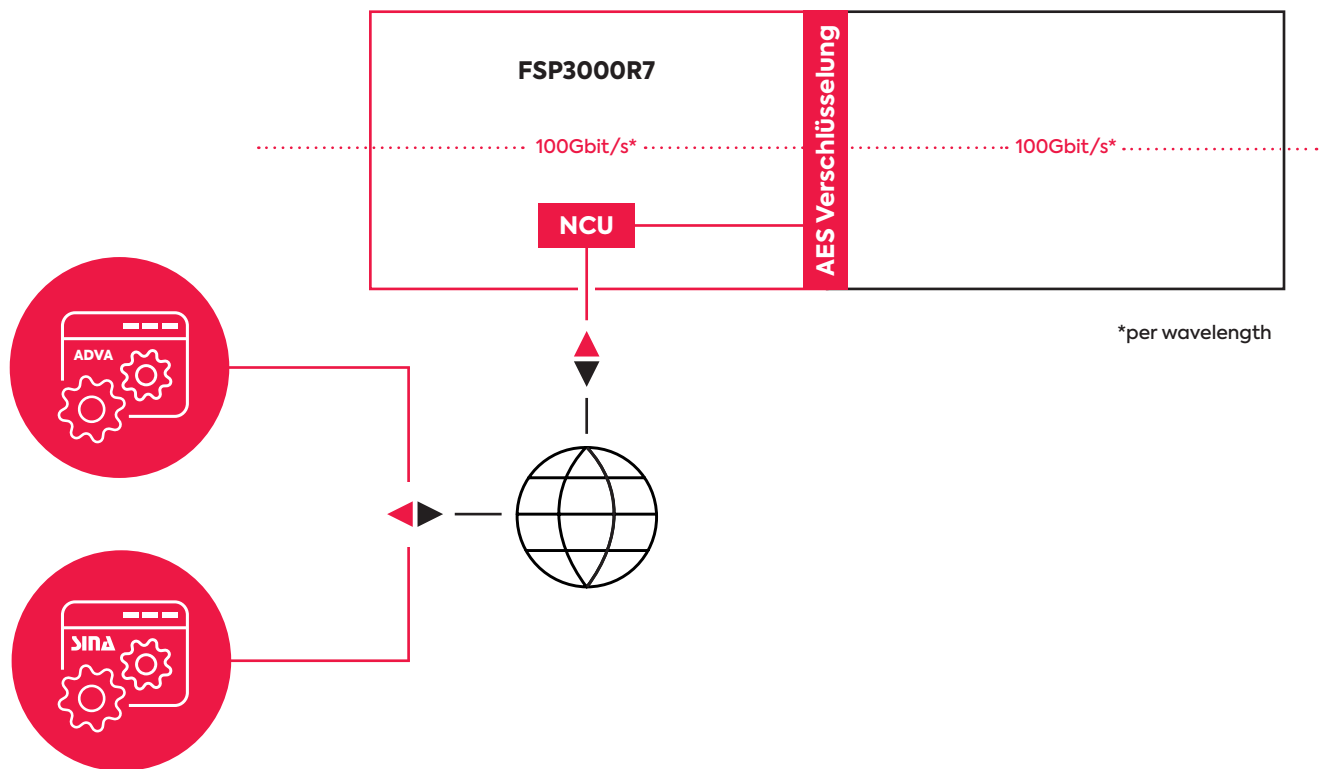
Benefits

- VS–NfD NATO (NATO RESTRICTED), RESTRICTED, RESTREINT UE

- Retrofitting into existing ADVA equipment

- Easy to manage

- Supports IPv6

IPv6

The SINA L3 Box S A supports IPv6 and hence can be used in both IPv4 and IPv6 networks. Therefore, the model is future-proof in scope.

System monitoring

SINA L3 Box S units log all monitoring-related data during operation. This can be imported into network management systems where it can be processed and/or displayed as required. The SINA L3 Box S A additionally supports the SNMPv2c and SNMPv3 management protocol.

SINA management

SINA Management is used centrally for system administration, remote configuration and software updates for all SINA L3 Box S units in the network. The configuration updates comprise network configurations and security associations. An integrated public key infrastructure (PKI) with the relevant user management supports the significant administrative processes related to the SINA ID Token of SINA L3 Box S units. This includes in particular their customisation, generation or updating of keys and cryptographic parameters as well as the management of the relevant PINs and PUKs.

Sources

Authority customers in Germany can acquire SINA components from the framework contract 5070 "Encryptors of the SINA Family" of the Procurement Office of the German Federal Ministry of the Interior. secunet would also be pleased to serve all other national and international customers.

Construction statuses relevant for authorisation

🇩🇪 🏴 🇪🇺 **SINA L3 Box S A**

Performance data	
Approval level	VS–NUR FÜR DEN DIENST-GEBRAUCH (RESTRICTED), NATO RESTRICTED, RESTREINT UE
Software version	from 3.7.6
Authentication token	SINA ID token

Technical data

SINA L3 Box S A 50M–2

General features	
Dimensions (W × H × D)	220 mm × 40 mm × 195 mm
Weight	approx. 860 g
Power consumption	7 W ... 15 W
Power supply	DC 24 V (12 V ... 30 VDC non-isolated) / 292 mA
LAN ports	2× 10/100/1.000 Mbit/s
Encryption capacity	up to 50 Mbit/s*

Miscellaneous	
Impact resistance	EN60068-2-27
Vibration	EN60068-2-6
EMV	EN55022/55024/61000-6-2/61000-6-4
MTBF	approx. 200.000 h (22.8 years)**

Temperature	
Operation	0°C ... +65°C
Transport	–40°C ... +85°C

* Bidirectional L2 power measurement with Spirent CHS N4U (10G) pursuant to RFC2544 (software version 3.x – AES–256 SHA–256, no feature configuration, two SINA L3 Box S units in direct connection). Detailed measurement results only available upon request.
** applies for temperatures up to 25 °C, battery excluded.

More information:
secunet.com/sina

secunet