

Ethernet Layer 2 Multipoint Encryption – Swiss Encryption for Multipoint Ethernet Networks !



- Layer-2 Ethernet data encryption using AES
- 100% encryption performance and consistently low latency
- Easy to integrate as an inline device for existing point-to-point, point-to-multipoint and multipoint-to-multipoint Ethernet networks
- Supports unicast, multicast and broadcast as well as quality of service
- Central configuration, administration and monitoring
- Developed and manufactured in Switzerland

Companies using high-speed networks to connect their individual sites, as is common practice, expose themselves to threats of possibly existential proportions, because links of this kind can be tapped easily. If the confidentiality, integrity and authenticity of information are not fully guaranteed, appropriate precautions must be taken.

InfoGuard provides a modular encryption platform up to 1Gbps for secure information exchange over multipoint Ethernet networks. Using Layer-2 hardware encryption, the device operates transparently and without any network performance loss.

Ethernet Layer 2 Link Encryption – High-performance encryption made in Switzerland!

In day-to-day business, data transfer over public networks has become 'de rigueur'. In more and more networks, bandwidths of up to 10 Gbps are the order of the day when linking various sites e.g. server farms and computer centers as well as for backup and disaster recovery infrastructures. Unfortunately, the prevailing opinion according to which Fibre-optic lines, compared with regular copper cables, are especially secure, does not hold true in practice. On the contrary: Just bending the Fibre is all it takes to listen secretly to information exchange. The only reasonable and secure measure for protecting yourself against attacks of any kind is the encryption of that information without, however, jeopardizing performance in any way. InfoGuard products have been developed – in accordance with international security standards – exactly for this demanding task using an approach that is truly exemplary and innovative.

Great Flexibility

Thanks to the flexible and modular architecture, the InfoGuard product family can protect different types of applications and network protocols (Ethernet, SONET/SDH, Fibre Channel) in MAN, WAN und SAN environments at data rates of up to 10 Gbps. In addition to point-to-point, point-to-multipoint and multipoint-to-multipoint topologies, these products also support various types of traffic such as unicast, multicast and broadcast as well as quality of service.

Easy Handling

Simplicity and ease of use to the benefit of security are guaranteed. The devices can be managed locally via the internal user interface or via a graphic PC user interface or remotely via a secure SSH port.

Powerful Data Encryption

All security solutions have been developed strictly in accordance with the Common Criteria and FIPS 140-2 level 3 requirements. Data encryption is done using the public Advanced Encryption Standard (AES) with a key length of 128 or 256 bits.

High Availability

InfoGuard products have been explicitly designed for longevity and require almost no maintenance. In order to guarantee uninterrupted service at all times, the devices are equipped with a redundant power supply. In order that users can depend on the high availability of the devices, InfoGuard provides individually tailorable maintenance services.

A Swiss Product

A Swiss company, we can guarantee the highest quality of our products and absolute independence when implementing our security features. All security-relevant modules are developed and manufactured by our certified security specialists in Switzerland.



wegweisend



sicher



zuverlässig

Maximum Performance

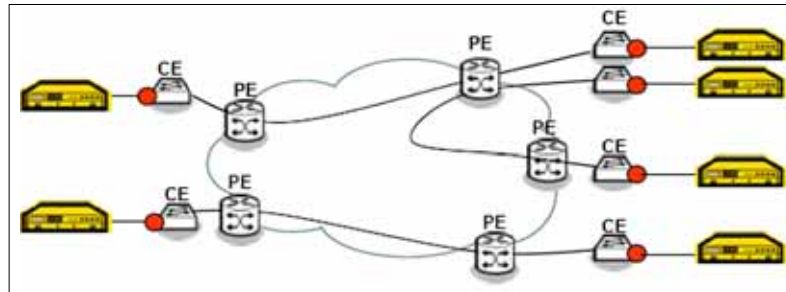
InfoGuard encryption devices are fully transparent within the network. Their outstanding performance, i.e. 100% encryption throughput, and their minimal latency of $<5\mu\text{s}$ make it possible to use the devices even in time-critical applications and in heavy-load links.

We support all scenarios after MEF

E-Line

Ethernet Private Line (EPL)

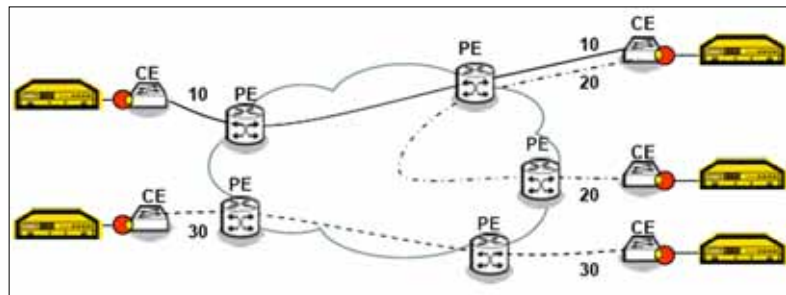
Ethernet Private Line is a point-to-point architecture with one physical service access point (SAP). An encryption unit is connected at each SAP. In other words, this scenario calls for one pair of devices for each connection.



EPL

Ethernet Virtual Private Line (EVPL)

Ethernet Virtual Private Line is a point-to-point topology. Unlike EPL, it accommodates the termination of multiple Ethernet Virtual Channels (EVCs) at each physical SAP utilising VLAN IDs. This approach reduces the number of physical SAPs and encryption units while increasing overall flexibility.

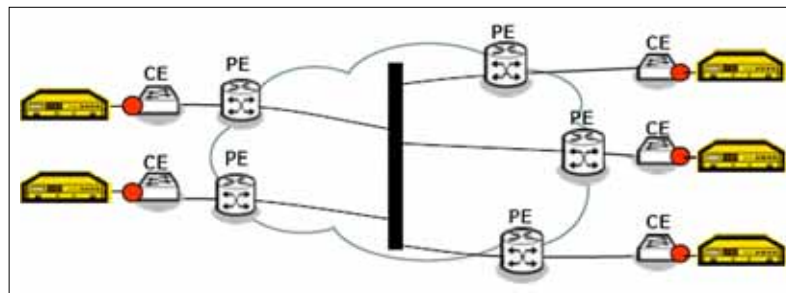


EVPL

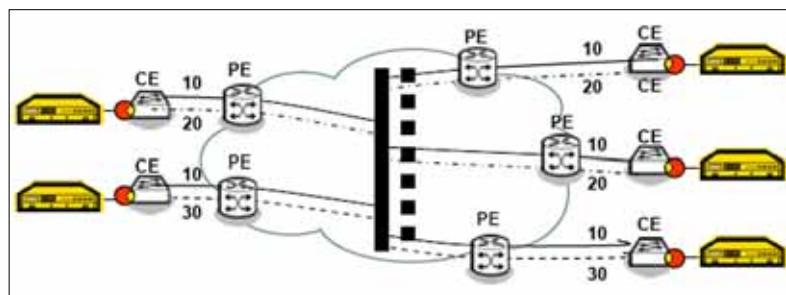
E-LAN

Ethernet Private LAN (EPLAN)

Ethernet Private LAN is often referred to as a fully meshed architecture and allows a direct connection to each connected service access point. This topology is unique in its simplicity and performance because all branches can communicate directly with the corresponding destination host. A further advantage of this architecture is that it is suitable for multicast and broadcast applications.



EPLAN



EVPLAN

- Service Access Point (SAP)
- Multiplexed SAP

Ethernet Virtual Private LAN (EVPLAN)

Unlike EPLAN, Ethernet Virtual Private LAN allows organisations to monitor the branches that can communicate directly with each other. This task is performed with VLAN IDs. EVPLAN is particularly well-suited for architectures with centralised structures, where the network traffic is to be routed

through headquarters or backup headquarters. Companies that consolidate their computing centres and services or companies who want large-scale monitoring of network traffic often prefer this topology.

InfoGuard EGM/EGM1 – Ethernet Multipoint Encryption

Einsatzgebiete	
Network topologies	Point-to-point (P2P), Point-to-multipoint (P2MP), Multipoint-to-multipoint (MP2MP)
MEF Topologies	Ethernet Private Line (EPL), Ethernet Virtual Private Line (EVPL), Ethernet Private LAN (EPLAN), Ethernet Virtual Private LAN (EVPLAN)
Networks	Ethernet over MPLS (EoMPLS), Ethernet over SDH/SONET (EoSDH), Metro Ethernet, VPWS, VPLS, Darkfibre und WDM
Traffic types	Unicast, Multicast, Broadcast plus Voice, Video and Data
Security	
Algorithms	AES
Key length	256 Bit (Optional 128 Bit)
Communication-Key	Separate Session-Key/Peer
Access protection	Tamper-proof design Password protection, identity-based operator authentication Block/unblock function and Emergency clear
Management	
Key Entry	Manual key input via user interface Copy / backup of key and installation data via SecurityCard Automatic key generation with true random generator
Management	<ul style="list-style-type: none"> Secure Remote Management (SSH v2 CLI) Inter unit management via SecurityCard – SDC-1100 Local management via keypad and display or via web-based user interface Standard network management (SNMPv1/Standard MIB-II) Audit and Event Logging

Hardware		
	InfoGuard EGM	InfoGuard EGM1
Line rate	20Mbps / 100Mbps	200Mbps / 1 Gbps
Peer Units/Device	up to 99	up to 99
Quality of Service	Supports 802.1q VLAN (Q-in-Q) and 802.1p (1-4 classes)	
Communication Interface	Interface IEEE802.3 Standard 100BASE-TX RJ45 100BASE-SX MTRJ	Interface IEEE802.3 Standard 1000BASE-SX, -LX, -ZX, -T SFP-Modul with LC Connector
Latency	< 150µs	< 30µs
Management Interface	Ethernet 10BASE-T/100BASE-TX RJ45 (Management) Serial RS-232 RJ45 (Diagnostics)	
Test facilities	Build-in test equipment (BITE), Diagnostics (BITE)	
Quality system	ISO 9001:2000	
Conformity	CE (European Conformity)	
Compliance	Designed according to Common Criteria Security Standard Fulfills FIPS 140-2 level 3 requirements	
EMC	EN 55022 Cl B and EN 55024 according to 89/336/EEC guidelines	
Safety	EN 60950-1 and EN 60825-1 (Class 1) according to 73/23/EEC guidelines	
Power supply	Dual power supply unit, hot-pluggable (AC/AC) AC input 230 VAC nominal 100 V – 240 V/50 ... 60 Hz (+/-10%) Max. power consumption 50 W	Max. power consumption 100 W
Operation temp.	0° C ... +50° C	
Storage temp.	-25° C ... +70° C	
Humidity	5% ... 95%	
Cooling	2 ventilators	6 ventilators, redundancy, hot-pluggable
Dimensions	19" Rack-Mounting – 1 Unit high, 444 x 44 x 260 mm (B/H/T)	19" Rack-Mounting – 2 Units high, 444 x 88 x 350 mm (B/H/T)
Weight	3.4 kg	8.6 kg
Reliability	MTBF 50'000 hrs	
Zuverlässigkeit	MTBF: > 50'000 Stunden	

InfoGuard – Your Partner for Persuasive Security Solutions with the Swiss Seal of Quality!
 We have many years of experience in conceiving and developing security solutions for demanding applications. All security-relevant features are developed, manufactured and implemented by our certified security specialists in Switzerland.

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