



# Layer1 encryption option

Factsheet

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## Layer1 encryption for the Swisscom Opticallink Service guarantees encrypted data transport between two locations.

### The end-to-end encryption solution for the Swisscom Opticallink Service.

This option for the existing Opticallink service allows end-to-end encryption of data transmission between two locations. The Layer1 encryption option thus complements the Opticallink Service, which offers a data transport service in areas such as LAN service, data centre and switched data service.

Layer1 encryption starts at the interface of the transmitting Customer Premises Equipment (CPE) and ends at the interface of the receiving CPE, ensuring the data remains protected during transmission.



#### High security standard

Data encryption is based on the AES-256 standard, which uses a pre-shared key to protect against man-in-the-middle attacks and ensures secure data exchange.



#### Method

The method used is FIPS-compliant and fulfils NIST FIPS 140-2 Security Level 2.



#### Classification-independent

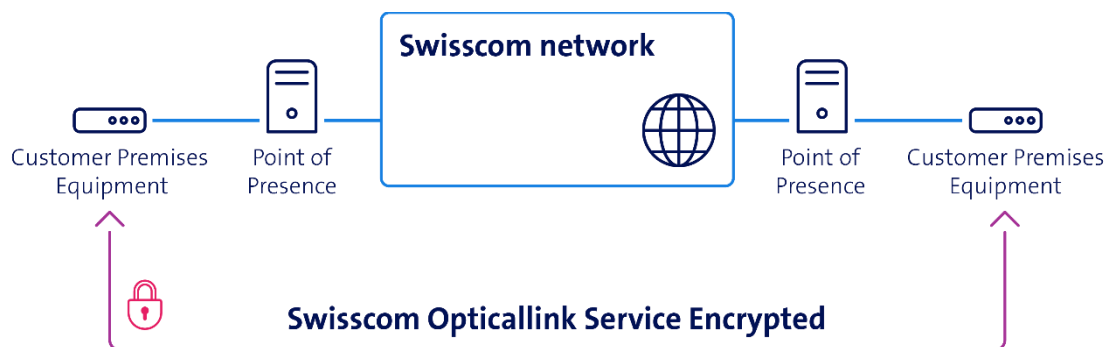
All transported data is encrypted, regardless of its security classification.



#### Low additional latency times

Encryption and decryption result in low additional delays of <math><5\mu\text{s}</math> (with 100GbE) or <math><50\mu\text{s}</math> (with 100GbE), or <math><50\mu\text{s}</math> (with 10GbE, FC800, FC1600, FC3200).

### How Layer1 physical encryption works





## Facts & Figures

### Basic services



#### Your services with the Layer1 encryption option

- Encrypted data transport on the physical layer
- Encryption and end-to-end transfer with AES-256
- New keys are generated and replaced every 10 minutes
- Keys are exchanged using the Elliptic Curve Diffie Hellman (ECDH) method. The private keys remain securely on the Customer Premises Equipment (CPE).
- Supported services:: SOS 10GbE, 100GbE, FC800, FC1600, FC3200, implemented with the Wavelite A200 devices

### Requirements



#### Using the Layer1 encryption option

- Feasibility study for the option

You can find more information and the contact details of our experts at <https://swisscom.ch/opticallink>