SWT

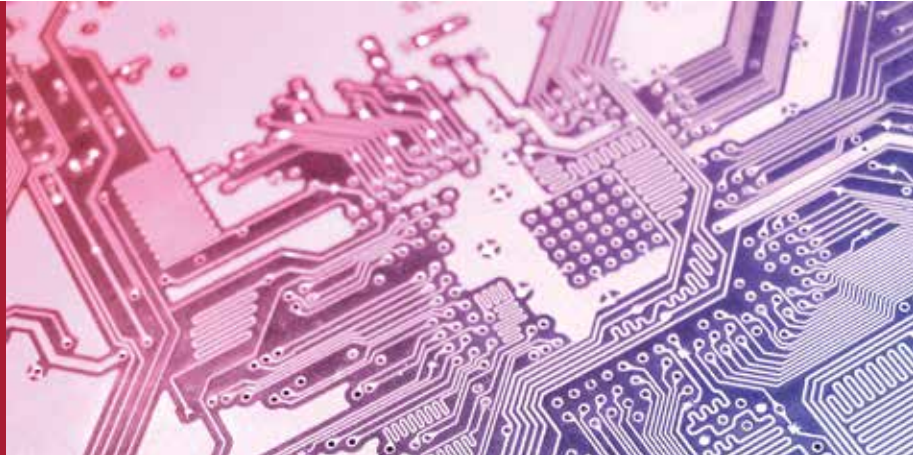## Gigabit/Fast Ethernet Switch

- Flexibility in number and type of ports

- Front or rear port arrangement

- Configurable priority for each port

- QoS features to identify critical services in order to guarantee that critical traffic is processed first

- Advanced RSTP implementation

SWT

SWT Ethernet switches offer different types of optical fiber ports (MT-RJ, ST y LC) for transmitting services from distribution substations

Description

Product overview

SWT is an Ethernet switch intended for big scale LAN's deployments where port density, switching performance and logical complexity are the main challenges to surpass.

SWT devices bring the necessary capacities to implement the automation of electric substations according to the IEC 61850 standard.

The SWT can be managed locally and remotely, through a console or through a built-in web server, http or https, SSH connection and Telnet.

The SWT also supports the SNMPv1, SNMPv2c and SNMPv3 protocols, as well as other protocols and services such as NTP, TACACS+ and RADIUS.

The SWT is provided in a 19" shelf that is 1 standard unit (s.u.) in height, prepared for rack mounting.

Capacity

4 Gigabit Ethernet SFP bays and up to 32 Fast Ethernet ports, front or rear, which are the result of the combination of:
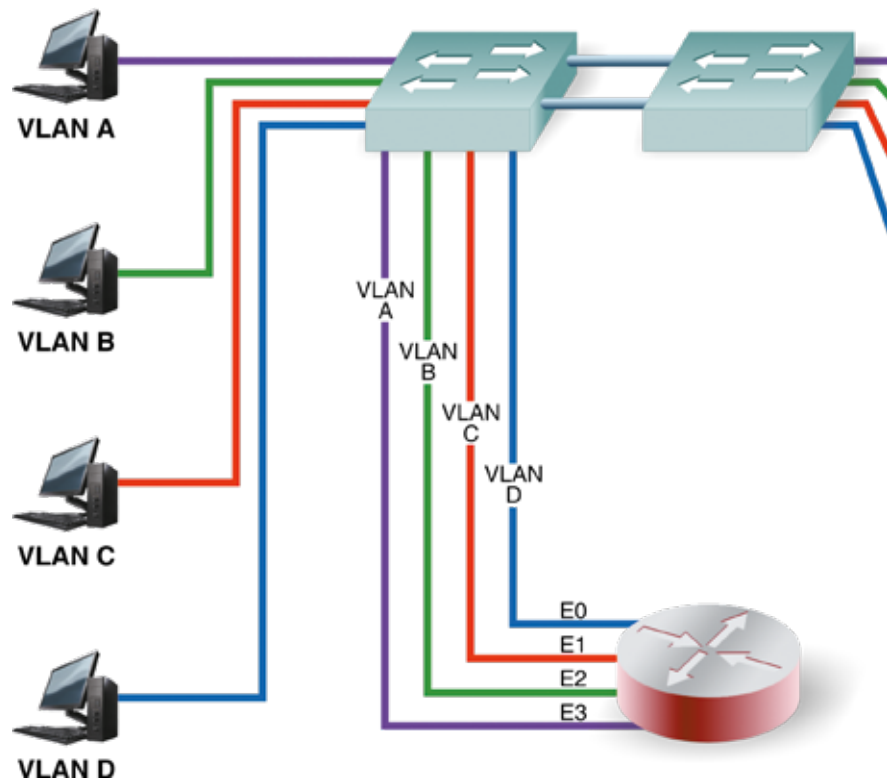
- 8, 16, 24 or 32 ports type 10/100Base-Tx with RJ-45 connector
- 4, 8, 12, 16, 20 or 24 ports type 100Base-Fx multimode (1300 nm) with MT-RJ connector
- 2, 4, 6, 8, 10, 12, 14 or 16 ports type 100Base-Fx multimode (1300 nm) with ST connector
- 4, 8, 12, 16, 20 or 24 ports type 100Base-Fx multimode (1300 nm) with LC connector
- 4, 8, 12, 16, 20 or 24 ports type 100Base-Lx single mode (1300 nm) with LC SM connector

Applications

The SWT most important features are:

Grouping services - Services may be grouped and discriminated, some not being accessible with others, through the configuration of different VLANs.

Critical services - The SWT has Quality of Service (QoS), which identifies critical services, guaranteeing that all traffic receives the appropriate priority.

Architecture - The SWT may adapt to different network architectures, such as: star, double star, ring, double ring and linked rings.

Broadcast traffic limitation and IGMP - In order to avoid the network flooding, the SWT establishes maximum volume limits for different combinations of broadcast, multicast, and flooding messages, in each one of their ports.

Port mirroring - The SWT resends traffic copies of one or more ports to another one, the monitoring port, being able to establish incoming or outgoing traffic copies in each monitored port in an independent manner.

VLAN A

VLAN B

VLAN C

VLAN D
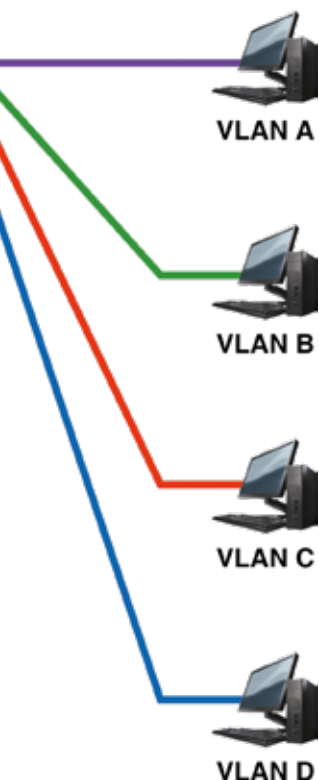
Technical specifications

- 1 service console (DCE mode), 4 Gigabit Ethernet SFP bays and up to 32 Fast Ethernet front or rear ports type 10/100Base-Tx (RJ-45), 100Base-Fx (MT-RJ, ST and LC) and 100Base-Lx (LC SM)

- PoE power-supply option in the first four electrical front ports.
  Maximum PoE power: 12 W

- Full Duplex Wired Speed switching core

- Port speed automatic detection

- STP and RSTP. The SWT guarantees recovery times lower than 4 ms per link via the RSTP standard in case of failure

- Broadcast and Multicast traffic limitation

- MAC access control lists and 802.1x user authentication

- QoS: The SWT can use the priority fields included in the IEEE 802.1p tag, as well as the DSCP identifier included in the IP header

- Multiple VLANs (250 simultaneously)

- Port mirroring

- IGMP snooping

- Interoperability with any manufacturer IED that complies with the IEC-61850 requirements

- Local and remote management through a console (115200 bit/s) or through a built-in web server, http or https, SSH connection and Telnet

- Support of SNMPv1, SNMPv2c and SNMPv3 protocols, as well as other protocols and services such as NTP, TACACS+ and RADIUS

- 19" rack enclosure. Height: 44 mm; Width: 445 mm; Depth: 283 mm

- Power supply: 36-72 V_{DC} (48 V_{DC} nominal) or multirange (80-360 V_{DC}, 80-260 V_{AC}).
  Redundant power-supply option

- Max. consumption at 48 V_{DC} : 40 W

- Temperature range: -25°C to +70°C

- Weight: 3.4 kg

The SWT implements different security features that prevent unauthorized traffic, such as: port disabling, traffic restriction according to MAC addresses, authentication protocols, etc.

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