SWCE-3228-R

10 Gigabit Carrier Ethernet Access & Aggregation Switch

4X 10 GE

PORTS

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24X GE PORTS

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INDUSTRY GRADE DESIGN

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CARRIER ETHERNET CE 2.0

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LOWER COST
Optimized design

Description

SWCE-3228 is a 10 Gigabit Carrier Ethernet switch that delivers 4x 10GE uplinks, and 24x GE accesses with CE2.0 Carrier Ethernet services:

- 4x 10GE / 2.5GE / 1GE SFP+
- 24x Gigabit Ethernet RJ45 ports 10/100/1000
- CE2.0 Carrier Ethernet high performance architecture
- Layer 3 routing and OSPF protocol
- Feature rich software

SWCE-3228 helps operators and industry networks to extend to higher 10GE and 2.5GE bandwidth within an affordable approach that best preserves long term investments and reduces OPEX costs. It provides CE2.0 Carrier Ethernet Services with Layer 3 routing capabilities to aggregate traffics from up to 24 Gigabit interfaces to 4x 10GE uplink ports.

It embeds hardware accelerated functionalities for network security and resiliency including ERPS, 802.1X and ACL but also extensive Operation And Maintenance features to provide mission critical networks with best performance under most stringent conditions.

Applications

SWCE-3228 is an ideal Carrier Ethernet switch to the following networking requirements :

- Carrier Ethernet network access and aggregation: thanks to its CE2.0 architecture and high port density
- Utility, Smart City and Transport infrastructures : thanks to its industry grade design, best performances and very high reliability to enable high bandwidth, scalability, reliability and support legacy services through PseudoWire Emulation
- Video-protection : thanks to its high port density, 10GE uplink ports and extensive IGMP features
- Security sensitive networks : thanks to its extensive security features - ACL, firewall, 802.1X, Radius and TACACS authentications,

# Scalable Ethernet communications for industry infrastructures

SWCE-3228 supports higher speed backbone communications for large infrastructures such as Smart Cities, Public Transportation (railway, road) and Transport / Distribution Utility (electricity, oil and gas, water). Its uplink SFP's can be set to 1, 2.5 and 10 Gigabit speed to enable higher bandwidth at minimum cost.

Increasing speed is not enough to Mission Critical Networks. Communication network must provide continuous control and monitoring of performance, services availability, latency, traffic load with reactivity and accuracy but no application traffic disruption. A Carrier Class equipment with compliance to MEF CE2.0 is a guaranty for such long lasting performance and precise network monitoring.
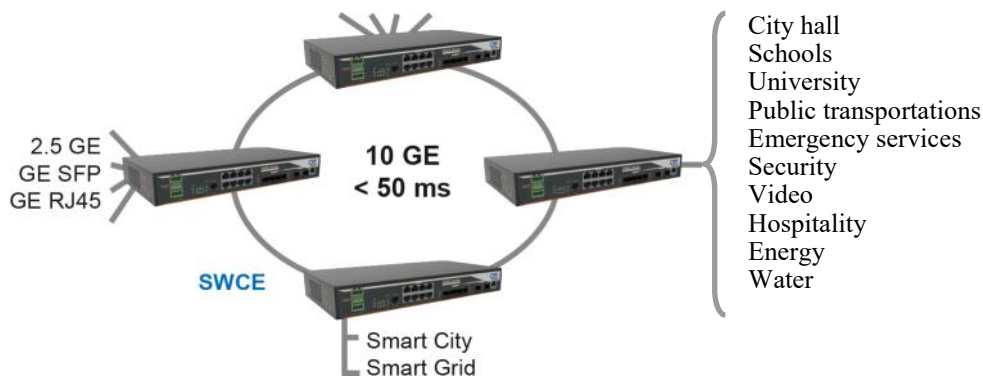
CE2.0 Carrier Ethernet Services

SWCE-3228 provides managed services at the UNI / NNI Ethernet network provider to deliver **EVC / E-LINE / E-LAN / E-TREE** services according to the **MEF CE 2.0 standard**. SWCE is based on a **Service Aware architecture** with hardware processing of real time functions such as switching, service mapping, CoS, G8032, OAM. This carrier grade architecture guaranties best performance whatever the traffic load and SLA requirements. SWCE distinguishes from other existing products from its **industrial compact design** and integration, its CE 2.0 carrier class, its very low power consumption, its dual redundant 48 Vdc power convertersand its **cost effectiveness**.
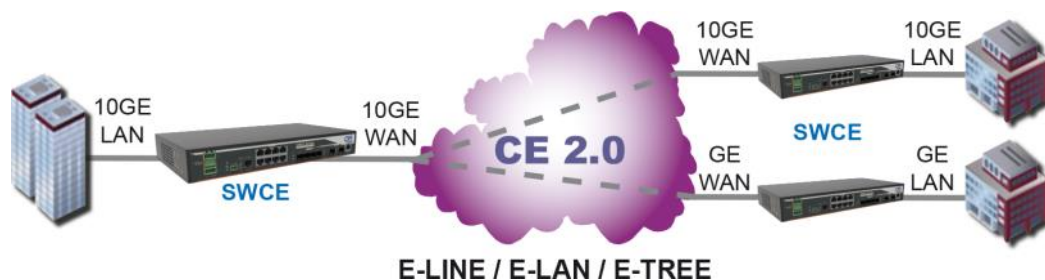
Specifications

Port control

♦ Port Speed/Duplex Mode/Flow Ctrl 802.3x
♦ Port Frame Size (Jumbo frames)
♦ Port State (administrative status)
♦ Port Status (link monitoring)
♦ Port Statistics (MIB counters)
♦ Port VeriPHY (remote cable diagnostics)
♦ On-the-fly SFP detection
♦ DDMI
♦ UDLD
♦ Port Console RJ45

QOS

♦ Traffic Classes (8 active priorities)
♦ Port Default Priority
♦ User Priority
♦ Input priority mapping
♦ QoS Control List (QCL Mode)
♦ Storm Control for UC, BC and Unknown
♦ Random Early Discard (RED)
♦ Port policers
♦ Service policing incl. BW profile
♦ Queue policers
♦ Global/VCAP (ACL) policers
♦ Port egress shaper
♦ Queue egress shapers
♦ DiffServ (RFC2474) remarking
♦ Tag remarking
♦ Scheduler mode

Security

♦ Port-Based 802.1X
♦ Single 802.1X
♦ Multiple 802.1X
♦ MAC-Based Authentication
♦ VLAN Assignment
♦ QoS Assignment
♦ Guest VLAN
♦ RADIUS Authentication and Authorization
♦ RADIUS Accounting
♦ MAC Address Limit
♦ IP MAC binding
♦ IP/MAC binding dynamic to static
♦ TACACS+ Authentication and Authorization
♦ TACACS+ Command Authorization
♦ TACACS+ Accounting
♦ Web & CLI Authentication
♦ Authorization (15 user levels)
♦ ACLs for filtering/policing/port copy
♦ IP source guard

L2 switching

♦ Auto MAC addr. Learning/Ageing
♦ MAC Addresses Static
♦ Virtual LAN
♦ VLAN translation
♦ Private VLAN Static
♦ Port Isolation Static
♦ MAC based VLAN
♦ Protocol based VLAN
♦ IP subnet based VLAN
♦ VLAN Trunking
♦ GARP VLAN registration GVRP
♦ IEEE-802.1ad Provider Bridge (Native or Translated VLAN)
♦ EVC Classification of L3 Flows (SIP, SIP, IP Prot, SPort, DPort) - CE
♦ E-LINE (EPL, EVPL)
♦ E-LAN (EP-LAN, EVP-LAN)
♦ Rapid Spanning tree RSTP, STP
♦ Loop Guard
♦ Link Aggregation Static
♦ Link Aggregation LACP
♦ BPDU Guard & Restricted Role
♦ Error Disable Recovery
♦ IGMPv2/v3 snooping
♦ MLDv1 snooping
♦ IGMP filtering profile
♦ IPMC throttling, filtering, leave proxy
♦ MVR
♦ MVR profile
♦ Voice VLAN
♦ DHCP snooping
♦ ARP inspection
♦ Port Mirroring
♦ Flow mirroring
♦ Rmirror
♦ 801.2Q VLAN

L3 Routing

♦ IP v4, v6
♦ Static, RIP, OSPF

Protection

♦ 1+1 Port protection
♦ 1:1 Port protection
♦ 1:N Port protection
♦ Port protection with Services
♦ G.8032 Ring protection
♦ G.8032 Ring protection v. 2

Specifications

Administration

- JSON-RPC
- JSON-RPC Notifications
- Double VLAN tag management
- DHCP Client
- DHCPv6 Client
- DHCP Server
- DNS client, proxy
- HTTP Server
- CLI - Console Port
- CLI - Telnet
- Industrial Standard CLI
- Industrial Standard Configuration
- Industrial Standard CLI debug commands
- Management access filtering
- HTTPS
- SSHv2
- IPv6 Management
- IPv6 Ready Logo PHASE2
- RFC4884 (ICMPv6)
- System Syslog
- Software Upload via web
- SNMP v1 / v2c / v3 Agent
- RMON (Group 1, 2, 3 & 9)
- RMON alarm and event (CLI, web)
- SNMP multiple trap destinations
- IEEE 802.1AB-2005 Link Layer Discovery LLDP
- TIA 1057 LLDP-MED
- Cisco Discovery filtering - CDP
- Configuration Download/Upload - Industrial Standard
- Daylight Saving
- VLAN management

Power supply

- Input voltage : 18 to 56 Vdc or110 - 230 Vac
- Max power consumption : 60 W
- Typical power consumption : 30 W

Environmental

- Format : 1U / 19 ''
- Dimension : 442x185x44 (WxDxH)
- Weight : 2.5 kg
- Operating temperature range : -30 to +60 °C
- Storage : -40 to +70 °C
- Hygrometry : 0 to 90%, non condensing
- IP protection : IP-40
- Safety : EN-60950-1
- EMC : EN-55022 and CE
- MTBF : 280,000 Hours
- Led status ports

Product

Model	10GE SFP+	2.5GE SFP	1GE RJ45	Power Supply
SWCE-3228-R-D	4	0	24	48 Vdc
SWCE-3228-R-2D	4	0	24	2x 48 Vdc
SWCE-3228-R-A	4	0	24	110-230 Vac

Options	Description
SFP-10G-LR-SM10	10 Gigabit Ethernet SFP+, budget for 10 km
SFP-10G-LR-SM40	10 Gigabit Ethernet SFP+, budget for 40 km
SFP-STM16-SM20	2.5 Gigabit Ethernet SFP, budget for 20 km
Other SFP modules, power converters and accessories available, please ask CXR	

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