



ISCOM2948GF-4C | Intelligent Ethernet Service Aggregation

Product Overview

The ISCOM2948GF-4C joins Raisecom's new generation of reliable Carrier-grade Ethernet Switching devices, fully compliant with the latest CE 2.0 standards to deliver EPL, EVPL, EP-LAN, EVP-LAN, and E-Access services based on three major characteristics - Multi-CoS, Interconnectivity, and full feature Management as defined by MEF utilizing established industry standards. While the platform has the flexibility to support multiple deployment demands it is primarily used as an intelligent aggregation device for network architectures in Metropolitan Area Networks for data convergence, business connections, mobile backhaul and cloud access. Combined with the Raisecom Ethernet Demarcation Devices (EDD), it can be used to build multiple L2 VPN channels for extending an MPLS network. The ISCOM2948GF-4C can function as a PE device for quick and cost effective deployments for environments where provider requirements are for high bandwidth Gigabit rates in a small (1U) footprint requiring a cost effective solution where the typical carrier PE platforms prove to be both cost and size prohibitive.

The devices include 4 10G SFP+ NNI ports and models supporting either 48 SFP or RJ45 100/1000Mbps UNI interface ports, thereby ensuring the transmission quality and efficiency, while also significantly reducing Capex. Moreover, the switch allows service providers and Carriers the ability to accelerate large-scale deployments and provide diversified access solutions thanks to its high bandwidth provisioning (10G) and H-CAR performance. In addition, the devices support standardized linear and ring switch protection mechanisms (ITU G.8031&G.8032), Auto-provisioning, and OAM (IEEE 802.3ah, IEEE 802.1ag and ITU-T Y.1731). Furthermore, ISCOM2948GF-4C series can guarantee Carrier Ethernet service and performance through its support of stringent SLA (ultra-low jitter, delay, packet loss) functionality.

Highlights

- Creation, identification and isolation of CE2.0-compliant service end-to-end or end-to-core
- Zero-touch Auto Provisioning ideal for large-scale deployment & upgrade
- Stable and reliable network assurance with real-time monitoring and per-service visualized SLA parameters
- Low latency and low jitter for delivery of high performance services
- Comprehensive OAM solutions based on 802.3ah, 802.1ag and Y.1731 for OPEX reduction
- Eco-system warranty with low power consumption design
- Redundant hot-swappable power module protection
- L2 MPLS VPN compliant (next phase)

Specifications

NNI: 4 x 10GE SFP+
 UNI: 48 x 100BASE-FX/1000Base-X SFP
 -or- 48 x 10/100/1000 copper
 SNMP interface: 1 x RJ45
 Console interface: 1 x RJ45
 Dimensions: 360(L), 440(W), 44(H) mm
 Operating temperature: -5 to 50°C
 Storage temperature: -25 to 60°C
 Humidity: 10 to 90%, non-condensing
 Lightning proof: 6kV/AC, 2kV/DC
 PSU: 100/240V AC, -36 to -72V DC
 Max power consumption: 95 W

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Access Capacity

- MTU: 12k byte (default 1526 byte)
- Switching buffer size: 16Mbit

Ethernet

- Up to 32k MAC
- Support 4,094 VLANs (C-tag), stacked VLANs (QinQ, S-tag), VLAN mapping and 1:1 inner/outer VLAN translation
- Recommended 32 Ethernet virtual circuits (EVC) per network interface device (NID)²
- Layer 2 loopback on single and multiple flows
- Interface protection, port monitoring
- Layer 2 control protocol (L2CP) handling

IP Services

- ARP
- DHCP client, snooping, option61/82³
- IPv4, IPv6
- Static routing

Traffic Management

- Service classification per port/VLAN/CoS(DSCP)
- Support SP, WRR and SP+WRR scheduling modes, and up to 8 queues per port
- MEF-compliant 3-color policing with color-aware and color-blind mode
- Bandwidth throttling per port/VLAN/CoS(DSCP)
- Support hierarchical bandwidth profile in the ingress direction
- Traffic shaping for both UNI and NNI

Security

- Secure MAC address
- ACL based on VLAN, CoS, MAC, EtherType, IPv4, IPv6, or user-define combinations
- RADIUS, TACACS+
- Storm control (broadcast, multicast, DLF)

Reliability

- Link aggregation group (LAG) – up to 3 groups with 4 ports in each group, and six load balancing modes based on source/destination IP and/or MAC
- Interface backup
- ITU-T G.8031 Ethernet link protection switching (ELPS) and G.8032 Ethernet ring protection switching (ERPS) with the automatic protection switchover time less than 50ms
- Port/VLAN-based Ethernet local loop detection
- Fault propagation

Ethernet OAM

- IEEE 802.3ah EFM-OAM link management
- IEEE 802.1ag connectivity fault management (CFM) with 3.3ms CCM resolution
- ITU-T Y.1731 performance monitoring (PM)
- Hardware-based frame delay (FD) measurement
- Hardware-based SLA KPIs per port or EVC, which include throughput, delay, jitter, packet loss and availability
- E-LMI (MEF 16)
- Dying gasp message in case of power failure

Auto-Provisioning

- Auto-establishment of management tunnels across L2/L3 networks
- Recommended management and monitoring ratio up to 1:128 (extendable)
- IEEE 802.1x port authentication
- Easy generation and distribution of massive configuration files using GUI-based toolkit

System Management

- Remote management via SNMP v1/v2/v3, Telnet and SSH v1/v2
- Local management via console interface
- MEF 36 compliant MIB



- KeepAlive, RMON, LLDP, Syslog
- Port/VLAN/Cos-based statistics
- Alarm management
- SFP digital diagnostic management (DDM)
- FAN, CPU monitoring
- Voltage and temperature monitoring

Standard Compliance

- IEEE802.1Q (VLAN), 802.3ad (LAG), 802.1ad (QinQ), 802.1ag (CFM), 802.1D (STP), 802.1w (RSTP),

- 802.1s (MSTP), 802.1p (QoS/CoS Priority), 802.1x (Security), 802.3x Flow Control, 802.3ah OAM
- G.8031 (ELPS), G.8032 (ERPS), Y.1731
- IETF RFC 2865 (RADIUS), 2819 (RMON)
- MEF 6, 9, 10, 14, 16, 36 (CE1.0-certified, CE2.0-compliant)
- Safety CE certified, UL and RoHS compliant
- EMI Class A

Ordering Information

Model	Description
ISCOM2948GF-4C-AC/D	Optical 10G Aggregation L2 Switch, 48x100/1000BASE-X SFP; 4x10G SFP+; Dual AC Power Supply
ISCOM2948GF-4C-DC/D	Optical 10G Aggregation L2 Switch, 48x100/1000BASE-X SFP; 4x10G SFP+; Dual 48vDC Power Supply
ISCOM2948G-4C-AC/D	Optical 10GE Aggregation L2 switch, 48*100/1000Base-X + 4*10GE SFP+, dual AC swappable power supplies
ISCOM2948G-4C-DC/D	Optical 10GE Aggregation L2 switch, 48*100/1000Base-X + 4*10GE SFP+, dual 48vDC swappable power supplies