LevelOne GTL-2892 L3 10GE Fiber Switch

Product Overview

LevelOne GTL-2892 switch is new-generation smart access ones developed for carrier's IP MAN and enterprise networks, large campuses and enterprise networks. With the new-generation high-performance hardware, GTL-2892 provides users with the longest non-stop communication potential. This also results from it integration with multiple network services and reliable techniques such as IPv6, MPLS VPN, network security, non-stop upgrade, non-stop forwarding, graceful restart-up and redundancy protection.

Product Characteristics

➢ Advanced Hardware Architecture, and Industry-Leading Process Capacity

- A 1U box switch bears 16 gigabit SFP ports, 8 gigabit TX/SFP combo ports and 4 10GE ports. It adopts the high-performance ASIC switch chip, which can meet the requirements of all kinds of complicated application sites.
- GTL-2892 supports 64K MAC.

➢ Innovated VSS

- GTL-2892 supports VSS (Virtual Switch System) which can virtualize multiple devices into one. The performance and the management of the virtualized device is superior to any independent physical device.

- Doubled Performance: The virtualization system can make best use of every link among the physical devices, which prevents the block from the STP of the traditional networking model. It reserves the original link investment to the greatest extent.
- High Reliability: Based on the advanced distribution processing technique and high-efficient cross-physical device link aggregation function, the logical control surface, the service controal surface and the service data surface can work independently (without mutual interference) and provide non-stop routing forwarding, which avoid service interruption causing by the single point faults. Thus, the reliability of the virtual system is greatly enhanced.

➢ Easy Management

- The whole virtual system realizes single IP management and the physical device is transparent to the user. Subsequently, the management of the device and the network topology is simplified and the maintenance cost is reduced effectively.

➢ Carrier-class High Reliability

- Based on HPS (Hitless Protection System), the key components of GTL-2892 can realize seamless switching in default. For instance, the power supply can expand to dual power supply backup.
- GTL-2892 supports STP/RSTP/MSTP protocol, VRRP protocol, Ethernet ring protection, dual uplink primary and secondary link protection, and LACP link aggregation
- GTL-2892 supports ISSU (In-Service Software Upgrade) which guarantees the non-stop forwarding of the user data in system upgrade.
- GTL-2892 supports ultra-high BFD dual-directional link detection mechanism. Through the linkage of layer-2 and layer-3 protocols, the fault detection and service recovery can be realized in seconds.
- GTL-2892 supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731. Through real-time monitoring the networking running state, the fault can be fastly detected and located.

- GTL-2892 supports the high-reliability design of the software and hardware. Its fault recovery time is 50ms, and its high reliability is up to 99.999%.

➢ Diversified Service Characteristics

- GTL-2892 supports complete layer-2 routing protocols, which meets the access requirement of IPTV, multi-end high-definition video monitoring and high-definition video conference;
- GTL-2892 supports layer-3 routing function;

➢ Versatile IPv6 Solutions

- GTL-2892 supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.
- GTL-2892 supports Ping, Traceroute, Telnet, SSH, ACL and so like on the basis of IPv6, meeting IPv6 networks' equipment management requirements and service control requirements.

➢ Perfect Security Mechanisms

- Equipment-level security: The advanced hardware architecture design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP-related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with varied management permissions;
- Perfect security authentication mechanisms: IEEE 802.1x, Radius and Tacacs+;
- Enhanced service security mechanism: GTL-2892 supports the plaintext or MD5 authentication related to the routing protocol; uRPF; hardware packet depth detection and filtration; the depth detection of the control packet and data packet.

➢ Innovated Environment Protection Design

- Intelligent power supply management system: GTL_2892 adopts the advanced power supply system architecture design and supports functions including high-efficient power supply switching, power supply monitoring and soft start.

- Intelligent fan management system: GTL-2892 adopts the intelligent fan design, which supports automatic speed adjustment and effectively reduces the noise and prolongs the fan's life.
- GTL-2892 supports efficient Ethernet function and complies with the international standard IEEE 802.3az.

Product Specifications

Item	GTL-2892
Backplane	256Gbps
Forwarding	168Mpps
MAC	32K/64K
Ports	16 gigabit SFP ports, 8 gigabit TX/SFP combo ports, 4 10GE optical ports
Dimensions (W×H×D) mm	440×280×44 (19-inch rack-mountable)
Power supply	AC: 100V-240V, 50Hz±10% DC
Environment	Operating temperature and humidity: 0℃-50℃, 10%-90% non-condensing Storage temperature and humidity: -20℃-70℃, 5%-95% non-condensing
MAC exchange	Static configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list
VLAN	4K IEEE 802.1Q VLAN

	GVRP 1:1 VLAN mapping and N:1 VLAN mapping QinQ and flexible QinQ Private VLAN
STP	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU protection, root protection, and loopback protection
Multicast	IGMP v1/v2/v3 IGMP Snooping IGMP Fast Leave Multicast group strategy and quantity limitation Multicast flow copying over VLANs PIM-SM, PIM-DM
IPv4	Static routing, RIP v1/v2, OSPF, BGP Strategy routing Load balance by equivalent routing BFD for OSPF, BGP
IPv6	Native IPv6, IPv6 Dual stack, ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbor discovery Path MTU discovery MLD V1/V2 MLD Snooping IPv6 static routing, RIPng, OSPFv3, BGP4+ Manual tunnel, ISATAP tunnel, 6 to 4 tunnel
MCE	MCE
MPLS VPN	LDP protocol MCE MPLS VPN supported P/PE MPLS TE MPLS OAM

QoS	Flow classification based on L2/L3/L4 protocols CAR flow limit 802.1P/DSCP priority re-labeling SP, WRR and “SP+WRR” Congestion avoidance mechanisms like Tail-Drop and WRED Flow monitoring and flow shaping
Security	L2/L3/L4 ACL flow identification and filtration DDoS attack prevention, TCP’s SYN Flood attack prevention, UDP Flood attack prevention,ARP Flooding, etc Broadcast/multicast/unknown unicast storm-control Port isolation Port security, and “IP+MAC+port” binding,IP Source Guard DHCP snooping and DHCP option 82 IEEE 802.1x:Multi authentication,VLAN Assignment,Guest VLAN,Voice VLAN Radius Tacacs+ authentication uRPF Level-based command line protection
Reliability	Power supply 1+1 backup Static/LACP link aggregation; link aggregation of across-service cards EAPS VRRP GR for OSPF and BGP BFD for OSPF and BGP ISSU uninterrupted system upgrade
Management	Console, Telnet, SSH2.0 Browser-based WEB management Port Mirroring SNMP v1/v2/v3 TFTP file upload and download

	RMON sFLOW
Environment protection	IEEE802.3az environment protection Ethernet
Approval and Compliance	CE,FCC