Layer 3 Multiple 10Gbps+ Managed Ethernet Switch

NMS is integrated to Improve Layer 3 10Gbps Network Switch Management Efficiency

PLANET XGS-6311 series is a **fully managed**, **all-port 10Gbps Ethernet switch** that can be **combined with PLANET UNI-NMS** to make network management easier and more efficient. It is designed for Wi-Fi 6/6E/7 wireless APs, NAS and workstations that require high bandwidth. It features **8 10GBASE-T RJ45 ports and 4 10GBASE-X SFP+ fiber optic ports** that are flexibly designed to extend the connection distance.

The XGS-6311 series provides high-density performance, **Layer 3 IPv4/IPv6 static routing, RIP (Routing Information Protocol) and OSPF (Open Shortest Path First)**, with **10Gbps** interfaces.

With such a favorable data link capability, hardware-based Layer 3 routing performance, Layer 2 switching engine and user-friendly yet advanced IPv6/IPv4 management interfaces, it helps to accelerate the deployment of the next-generation high-bandwidth required network for metro, smart cities and enterprises.

The hardware specifications of these models are shown below:

Models	Copper Port	SFP+ Port	Power Input
XGS-6311-8T4XR	8 100/1G/2.5G/5G/10G	4 1G/2.5G/10G	AC+AC
XGS-6311-12X	--	12 1G/10G	AC

Through the **PLANET UNC-NMS**, administrators can centrally manage a network of up to **102,400 nodes** from a central office, thereby greatly improving network and power management efficiency. With its user authentication management, combined with the **UNI-NMS**, the security of data transmission in modern factory automation systems is enhanced.

High Performance 10Gbps Ethernet Capacity

The eight RJ45 ports and four SFP+ slots built in the XGS-6311-8T4XR support dual-speed, **10GBASE-SR/LR** or **1000BASE-SX/LX**. With 10Gbps interfaces, the XGS-6311-8T4XR boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as

Physical Ports

- **XGS-6311-8T4XR**
  - 8 100/1G/2.5G/5G/**10GBASE-T** RJ45 auto-negotiation copper ports (Ports 1 to 8)
  - **4 10GBASE-X SFP+** slots, compatible with 1G/2.5GBASE-SX/LX/BX SFP (Ports 9 to 12)
  - RJ45 type RS232 console interface for switch basic management and setup
- **XGS-6311-12X**
  - **12 10GBASE-X SFP+** slots, compatible with 1GBASE-SX/LX/BX SFP (Ports 1 to 12)
  - RJ45 type RS232 console interface for switch basic management and setup

IP Routing Features

- IPv4 routing protocol supports **RIPv1/v2** and **OSPFv2**
- IPv6 routing protocol supports **RIPng** and **OSPFv3**
- Routing interface provides per VLAN routing mode
- Supports route redistribution

Layer 2 Features

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard
- Prevents packet loss flow control
  - IEEE 802.3x pause frame flow control in full-duplex mode
  - Back pressure flow control in half-duplex mode
- High performance Store-and-Forward architecture, broadcast storm control, port loopback detection
- 32K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
  - GVRP for dynamic VLAN management
  - Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
  - Private VLAN Edge (PVE) supported
  - GVRP protocol for Management VLAN
  - Protocol-based VLAN
  - MAC-based VLAN

240Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

UNI-NMS Remote Management Solution

The XGS-6311 series supports PLANET's Universal Network Management System (UNI-NMS) helping IT staff by remotely managing all network devices and monitoring PDs' operational statuses. Thus, they're designed for both the enterprises and industries where deployments of PDs can be as remote as possible, without having to go to the actual location once a bug or faulty condition is found. With the UNI-NMS, all kinds of businesses can now be speedily and efficiently managed from one platform.

Powerful NMSViewerPro Solution that Meets Evolving Network Management Challenges

The XGS-6311 series Managed Ethernet Switch, known for such features as QoS, Link aggregation, PoE, VLANs, IGMP, and so on, provides an eye-catching feature called NMS developed by PLANET to easily and remotely manage and monitor network devices in the local environment from mobile app. This feature not only improves operational convenience, but also ensures users to have real-time control over their network infrastructure. It provides users with an unparalleled experience.

  - IP subnet VLAN
- Supports Link Aggregation
  - Maximum 64 trunk groups, up to 8 ports per trunk group
  - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  - Cisco ether-channel (static trunk)
- Supports Spanning Tree Protocol
  - STP, IEEE 802.1D (Classic Spanning Tree Protocol)
  - RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
  - MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol, spanning tree by VLAN)
  - Supports BPDU & root guard
- Port mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)
- Provides port mirror (many-to-1)
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)

Quality of Service

- 8 priority queues on all switch ports
- Support for strict priority and WRR (Weighted Round Robin) CoS policies
- Traffic classification
  - IEEE 802.1p CoS/ToS
  - IPv4/IPv6 DSCP
  - Port-based WRR
- Strict priority and WRR CoS policies

Multicast

- Supports IPv4 IGMP snooping v1, v2 and v3
- Supports IPv6 MLD v1 and v2 snooping
- Querier mode support
- Supports Multicast VLAN Register (MVR)

Security

- IEEE 802.1x port-based network access authentication
- MAC-based network access authentication
- Built-in RADIUS client to cooperate with the RADIUS servers for IPv4 and IPv6
- TACACS+ login users access authentication
- IP-based Access Control List (ACL)
- MAC-based Access Control List
- Supports DHCP snooping
- Supports ARP inspection
- IP Source Guard prevents IP spoofing attacks

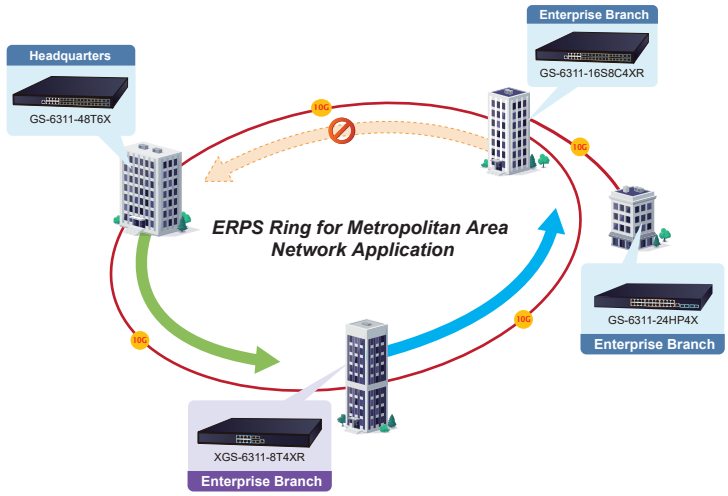
The intuitive interface of the local NMSViewerPro allows administrators to easily perform a variety of tasks, including monitoring traffic, setting configuration, troubleshooting, and more. At the same time, PLANET UNI-NMS application provides real-time alerts and notifications, allowing administrators to respond to any emergency situations anytime, anywhere to ensure the stable operation of the network.

NMSViewerPro meets users' requirements for managing a network more flexibly and efficiently. It helps users to know what the current statuses of the nodes are and to effectively manage the situations.

PLANET NMS and NMSViewerPro app, along with PLANET's free cloud service, allows users to quickly and easily detect, configure, deploy and manage devices remotely. Users can just scan the NMS agent's (NMS-500/NMS-1000V) QR code using the mobile application to easily monitor and control the remote network devices via the private cloud.

Redundant Ring, Fast Recovery for Critical Network Applications

The XGS-6311 series supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS** (Ethernet Ring Protection Switching) technology and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in harsh environments. In a simple Ring network, the recovery time could be less than 15ms to quickly bring the network back to normal operation.



- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding

Management

- Management IP for IPv4 and IPv6
- Switch Management Interface
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH/SSL/TLS secure access
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via TFTP or HTTP Protocol for IPv4 and IPv6
- SNTP (Simple Network Time Protocol) for IPv4 and IPv6
- User privilege levels control
- Syslog server for IPv4 and IPv6
- Supports DDM
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports sFlow
- Supports ULDP
- Supports ULPP (Uplink Protection Protocol)
- Supports ULSM (Uplink State Monitor protocol)
- Supports LLDP/LLDP MED
- Supports DHCP Option82/43/60/61/67
- Supports ping, trace route function for IPv4 and IPv6
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS for deployment management
- PLANET NMSViewerPro for deployment management