

OSIRIS 1024-F



Positron Access Solutions' next generation OSIRIS 1024 Carrier Ethernet Switch Platform improves and simplifies the installation, operation and provisioning of Ethernet services. Thanks to its highly integrated architecture, the OSIRIS 1024 family offers the convenience and simplicity of NID devices with a powerful non-blocking Ethernet switch core to meet the challenge of delivering Metro Ethernet Forum (MEF) Carrier Ethernet (CE) services effortlessly.

Feature	Description	
Performance		
Switching Capacity and Forwarding Rate	Capacity in Millions of Packets per Second (Mpps) (64-byte packets)	Switching Capacity in Gigabits per Second (Gbps)
	95.23	128
Layer 2 Switching		
Spanning Tree Protocol	Standard Spanning Tree (STP) 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s	
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad <ul style="list-style-type: none"> • Up to 14 groups • Up to 8 ports per group 	
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) <ul style="list-style-type: none"> • Port-based VLAN • IEEE 802.1Q tag-based VLAN • IEEE 802.1ad (Q-in-Q) double tag VLAN • MAC-based VLAN • Management VLAN • Private VLAN Edge (PVE) 	
Voice VLAN	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS	
Generic VLAN Registration (GVRP)	Protocols for automatically propagating and configuring VLANs in a bridged domain	
DHCP Server	Supports DHCP server to assign addresses to IPv4 client devices	
DHCP Snooping	DHCP snooping provides security by filtering un-trusted DHCP messages and by building and maintaining a DHCP snooping binding table	
DHCP Relay	By supporting DHCP option 82, it is possible to forward DHCP requests to another specific DHCP server via DHCP relay. The DHCP servers may be on another network	
IGMP v1/v2/v3 snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups	
IGMP Proxy	Support IGMP Proxy	
IGMP Query	IGMP query is used to support layer-2 multicast domain in the absence of a multicast router	
MLD v1/v2 Snooping	Deliver IPv6 multicast packets only to the required receivers	

Layer 3 Support	
IPv4 Static Routing	Static routing of IPv4 unicast traffic
IPv6 Static Routing	Static routing of IPv6 unicast traffic
Security	
Secure Shell (SSH) Protocol	SSH secures Telnet traffic in or out of the switch, SSH v1, v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch
IEEE 802.1X	IEEE 802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions Supports IGMP-RADIUS based 802.1X Dynamic VLAN assignment
Network Access Server (NAS)	The NAS server can be employed to connect users to a variety of resources including Internet access, conference calls, printing documents on shared printers, or by simply logging on to the Internet
Layer 2 isolation Private VLAN Edge (PVE)	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN, supports multiple uplinks
Port Security	Locks MAC Addresses to ports and limits the number of learned MAC addresses
IP Source Guard	Prevents datagram with spoofed addresses from being in the network
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. OSIRIS 1024-F switch acting as a RADIUS client
ARP Inspection	ARP inspection is a security feature that validates ARP packets in a network. ARP inspection determines the validity of packets by validating against a trusted database
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on another port
ACLs + QCL (QoS Control List)	Supports up to 256 entries Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP)/ IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag
Quality of Service	
Hardware Priority Queue	Support 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service (802.1p/ CoS)
Classification	Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS)/ DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS
Rate Limiting	Ingress policer; egress shaping and rate control; per VLAN, per port and flow based
IPv6 Applications	Web/ SSL, Telnet/ SSH, ping, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, Syslog, DNS Client, protocol based VLANs

Management	
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPS). Supports configuration, system dashboard, maintenance and monitoring
Dual Image	Dual image provides independent primary and secondary OS files for backup while upgrading
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Remote Monitoring (RMON)	Embedded RMON software agent supports RMON groups 1,2,3,9 (history, statistics, alarms and events) for enhanced traffic management, monitoring and analysis
IPv4 and IPv6 Dual Stack	Coexistence of both protocol stacks to support a seamless migration
Firmware Upgrade	Web browser upgrade (HTTP/ HTTPS) and TFTP Upgrade through console port as well
Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports can be mirrored to single destination port. A single session is supported
Network Time Protocol (NTP)	NTP for clock synchronization over packet switched networks
Other Management	HTTP/HTTPS; SSH; RADIUS; DHCP Client/ DHCPv6 Client; SNMP; cable diagnostics; ping; syslog; Telnet client (SSH secure support)
uPnP	Support the Universal Plug and Play (uPnP) Forum standard to enable device-to-device interoperability
s-Flow	The industry standard technology for monitoring high speed switched networks. It is enabling performance optimization, accounting/billing for usage, defense against security threats
Green Ethernet	
Energy Detect	Compliant IEEE 802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or Idle of client. Active mode is resumed without loss of any packets when the switch detects the link up
Cable Length Detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables
General	
Jumbo Frames	Frame sizes up to 9 KB supported on Gigabit interfaces
MAC Table	Up to 32 K MAC addresses
Discovery	
Link Layer Discovery Protocol (LLDP) (IEEE 802.1AB) with LLDP-MED Extensions	Used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802.1AB local area network, principally wired Ethernet
Carrier Ethernet Protocol and Features	
IEEE 802.3ah Ethernet OAM	Simple link fault management (LFM) for Ethernet links is defined in IEEE 802.3ah
IEEE 802.1ag Ethernet CFM	IEEE 802.1ag Ethernet CFM function that provides connectivity fault management

Sync-E (by request) and IEEE 1588v2	Both IEEE 1588v2 and ITU-T Sync-E Ethernet synchronization protocols, and can emulate link OAM and service OAM protocols
ITU-T Y.1731	ITU-T service OAM standard Y.1731 divides a network into maintenance domains in the form of hierarchy levels
ITU-T G.8032v2	G.8032v2 provides the standards-based method of delivering high-performance Carrier Ethernet services over a multi-node ring protection switching. This is important as carriers want to move away from SONET/SDH to a native Ethernet based infrastructure

Interface					
Model Name	Total System Ports	100 M/ GigE SFP	UTP 100M/GigE	1GigE/10GigE SFP+	RJ-45 Port Out-of-band Management
OSIRIS 1024-F	28	20	4 SFP Combo	4	1 GigE
Environmental					
Dimensions	17.4" (442 mm) Width x 1.73" (44 mm) Height x 8.3" (211 mm) Depth				
Weight	6.83 lbs (3.1 kg)				
Redundant Power	Dual -48 VDC power input				
Power Consumption	30 watts nominal, 75 watts maximum				
Fan Module	Removable fan module and replaceable filter				
Certification	CE Mark, FCC Part 15 Class A				
Operating Temperature	-40°C to 65°C				
Storage Temperature	-40°C to 70°C				
Operating Humidity	10% to 90% relative, noncondensing				

Part Number	Speed	Wavelength	Media Type	Reach
SFP-850-500M-1G	1 Gb/s	850nm	Multimode	550 m
SFP-1310-10K-1G	1 Gb/s	1310nm	Single Mode	10 km
SFP-1310-1490-10K-1G	1 Gb/s	1310 - 1490nm	Single Mode	10 km
SFP-1490-1310-10K-1G	1 Gb/s	1490 - 1310nm	Single Mode	10 km
SFP-1310-1490-20K-1G	1 Gb/s	1310 - 1490nm	Single Mode	20 km
SFP-1490-1310-20K-1G	1 Gb/s	1490 - 1310nm	Single Mode	20 km
SFP-1310-1490-40K-1G	1 Gb/s	1310 - 1490nm	Single Mode	40 km
SFP-1490-1310-40K-1G	1 Gb/s	1490 - 1310nm	Single Mode	40 km
SFP-1490-1590-80K-1G	1 Gb/s	1490 - 1590nm	Single Mode	80 km
SFP-1590-1490-80K-1G	1 Gb/s	1590 - 1490nm	Single Mode	80 km
SFP-850-300M-10G	10 Gb/s	850nm	Multimode	300 m
SFP-1310-10K-10G	10 Gb/s	1310nm	Single Mode	10 km
SFP-1550-40K-10G	10 Gb/s	1550nm	Single Mode	40 km