Product Brief

The NETGEAR M4500 series is a powerful 10G, 25G, and 100G solution designed for the edge, the server room, and the core. M4500 delivers nonstop Multi-Chassis Link Aggregation MLAG, spine and leaf, edge to core connectivity for AV and IT networks. In AV environments, the AV User Interface, Engage Controller and AV profiles are certified by 200+ AV manufacturers.

Key features

- Cost effective 100G aggregation and 10G access layer for AV deployments and redundant spine & leaf topologies
- Zero Touch AV-over-IP with pre-configured L2 Multicast on all models (10G AV encoders and decoders) and SDVoE-ready
- Advanced Layer 3 feature set including IP Multinetting/CIDR, Static, PBR, VRRPv2, OSPFv3, PIM-SM, VxLAN, BGP4, VRF-Lite
- Optimized for "Spine and Leaf" redundant AV installations, with or without MLAG between spine switches
- Up to 320 TX / 320 RX (10 Gigabit) Nodes all line rate with each other in a redundant spine and leaf architecture
- 2 power supply units (APS750W) and 6 redudant fan trays (AFT402) pre-installed for 1+1 power and 4+2 fan redundancy
- Ultra-low latency (spine 0.13μs @100G; leaf 0.119μs @10G) and scalable table size (32K MAC, 8K ARP, 4K VLANs, 32K routes)

AV Software features

- Designed for the most demanding AV over IP installations of up to thousands of endpoints
- AV-centric User Interface allows for simple, profile-based, per-port configuration in a snap
- Works out of the box with automatic, multi-switch configuration for most AV-over-IP installs
- All the simplicity of the M4250 AV Line packed in more Enterprise-class hardware with redundant PSUs and larger fabrics
- Less time to install and configure using the NETGEAR Engage™ Controller
- NETGEAR IGMP Plus™ means AV-over-IP multicasting will work out of the box and not flood your network

- With Auto-Trunk and Auto-LAG, simply connect M4500 switches together and you are done!

Other Software features

- Advanced classifier-based, time-based hardware implementation for L2 (MAC), L3 (IP) and L4 (UDP/TCP) security and prioritization
- Selectable Port-Channel / LAG (802.3ad - 802.1AX) L2/L3/L4 hashing for fault tolerance and load sharing with any Ethernet channeling
- Up to 64 Link Aggregation Groups (LAG, Port-Channel, LACP) with 32 ports per LAG and Multi-chassis Link Aggregation (MLAG)
- Comprehensive IPv4/IPv6 static and dynamic routing including IP Multinetting/CIDR, PBR, VRRPv2, OSPFv3, PIM-SM6, BGP4, VRF-Lite
- PTPv2 Transparent Clock (1-step E2E)
- Advanced IPv4/IPv6 security including malicious code detection, DHCP Snooping, IP Source Guard, and Control Plane Policing (CoPP)
- Priority-Based Flow Control (PFC), DCBX Bridging, Enhanced Transmission Selection (ETS) and VXLAN Gateway for server installations

Availability

- Two (2) redundant, modular power supplies are pre-installed contributing to business continuity management
- Six (6) hot-swappable fan trays are pre-installed for 4+2 fan redundancy
- Spine and leaf architecture with every leaf switch (10G/25G access) connecting to every spine switch (distributed 100G core)
- Up to 48 paths ECMP routing for load balancing and redundancy

- Link Dependency feature enables or disables ports based on the link state of different ports

Management

- Industry standard SNMP, RMON, MIB, LLDP, AAA, sFlow and RSPAN remote mirroring implementation
- Service port for out-of-band 1 Gigabit Ethernet management (OOB)
- Standard RS232 straight-through RJ45 for local management console (USB 2.0 to RS232 converter with PL203 chipset is advised)
- Non-Disruptive Configuration for applying a new configuration file without disrupting the operation of unchanged features
- Industry standard command line interface (CLI) only

NETGEAR Warranty

- M4500 series is backed by a NETGEAR ProSAFE® Limited Lifetime Hardware Warranty*
- Lifetime Next Business Day Hardware Replacement
- ProSUPPORT 24x7 Advanced Technical Support via phone for 90 days (Remote diagnostics performed by our technical experts for prompt resolution of technical issues. ProSUPPORT coverage can be extended by purchasing one, three, or five year contracts)
- ProSUPPORT Lifetime 24x7 Advanced Technical Support via chat.

LIMITED LIFETIME Hardware Warranty

LIFETIME WARRANTY Next Business Day

LIFETIME Tech Support

Hardware-at-a-Glance

Model name	Form-Factor	Switching Fabric	FRONT		REAR		MANAGEMENT	Model number
			25GBASE-X SFP28 ports	100GBASE-X QSFP28 ports	PSU	Fans	Out-of-band Console	
M4500-32C	**Full width** 1-unit 1U rack mount	6.4 Tbps		**32 ports** 1x100G; 1x50G; 1x40G; 4x25G; 4x10G **1x100G default mode**	**Modular 2 bays** 2 PSU included (1+1 redundancy): 2 x APS750W	**Modular 6 slots** 6 Fans included (4+2 redundancy): 6 x ATF402 Front-to-back 64.0dB	Ethernet: Out-of-band 1G port (Front) Console: RJ45 RS232 (Front) Storage: USB (Front)	CSM4532
M4500-48XF8C	**Full width** 1-unit 1U rack mount	4 Tbps	**48 ports** 1x25G; 1x10G; 1x1G* **1x10G default mode**	**8 ports** 1x100G; 1x100G; 1x50G; 1x40G; 4x25G; 4x10G **1x100G default mode**	**Modular 2 bays** 2 PSU included (1+1 redundancy): 2 x APS750W	**Modular 6 slots** 6 Fans included (4+2 redundancy): 6 x ATF402 Front-to-back 68.0dB	Ethernet: Out-of-band 1G port (Front) Console: RJ45 RS232 (Front) Storage: USB (Front)	XSM4556

* SFP28 port speed is configurable by multiples of 4 ports (Port-1 for 1-2-3-4; Port-5 for 5-6-7-8; etc.)

Front View

M4500-32C

M4500-48XF8C

Rear View

M4500-32C

M4500-48XF8C

Software-at-a-Glance

LAYER 3 PACKAGE												
Model name	Management	AV Dedicated UI	IPv4/IPv6 ACL and QoS, DiffServ	IPv4/IPv6 Multicast Filtering	IPv4 / IPv6 Policing and Convergence	VLANs	Trunking Port Channel	IPv4/IPv6 Authentication Security	IPv4/IPv6 Static Routing	IPv4/IPv6 Dynamic Routing	Datacenter Features	Model number
M4500 series	NETGEAR Engage Controller Out-of-band; CLI; Telnet; SSH SNMP, MIBs RSPAN Radius Users, TACACS+	AV Web-based GUI Designed for AV installers AV-related controls Audio over IP profiles Video over IP profiles Mixed Audio and Video profiles	Ingress/egress 1 Kbps shaping rate limit	IGMP Plus for automatic IGMP IGMPv3 MLDv2 Snooping, Proxy SSM IGMPv1,v2 Querier (compatible v3) Control Packet Flooding	Policy-based routing (PBR) LLDP-MED IEEE 1588 PTPv2 1-Step End-to-End Transparent Clock (TC)	Static, Dynamic Double VLAN mod (QinQ)	Auto-Trunk and Auto-LAG between M4250, M4300, M4350, and M4500 Switches Static LAG, or Dynamic LACP Seven (7) L2/L3/L4 hashing algorithms Multi Chassis Link Aggregation Group (MLAG)	Successive Tiering (DOT1X; MAB) DHCP Snooping Dynamic ARP Inspection IP Source Guard	Port, Subnet, VLAN routing DHCP Relay Multicast static routes	IP Multinetting/CIDR PBR VRRPv2, OSPFv3 PIM-SM/SSM BGP4, VRF-Lite	PFC DCBX CoS Queuing and ETS VXLAN Gateway	All models

Performance-at-a-Glance

	TABLE SIZE												
Model name	MAC ARP/NDP	Routing / Switching Capacity	Throughput	Application Route Scaling	Packet Buffer	Latency	IP Multicast Forwarding Entries	CPU	Multicast IGMP Group membership	VLANs	Link Aggregation Port Channel	sFlow	Model number
M4500-32C	32K MAC 8K ARP 2.5K NDP	6.4 Tbps Line-rate	2 Bpps	Static routes: 128 IPv4 routes: 32K IPv6 routes: 24K IP IGMP/MLD: 2,048 PIM-SM: 1536 PIM-SMv6: 512	256 Mb	64-byte frames <0.13µs 100G QSFP28 <0.417µs 50G QSFP28 <0.15µs 40G QSFP+ <0.125µs 4x25G breakout <0.766µs 4x10G breakout	2,048 IPv4 2.048 IPv6	x86 Intel Atom® Processor C3558 8GB DDR3/ECC RAM 128GB SSD storage	4K IPv4 / IPv6	4K VLANs	64 groups (LAG) 802.3ad with LACP 32 members/LAG 63 groups (MLAG) Multichassis LAG 32 members/MLAG	sFlow v5 8 sessions 416 samplers 416 pollers 8 receivers	**CSM4532**
M4500-48XF8C	32K MAC 8K ARP 2.5K NDP	4 Tbps Line-rate	2 Bpps	Static routes: 128 IPv4 routes: 32K IPv6 routes: 24K IP IGMP/MLD: 2,048 PIM-SM: 1536 PIM-SMv6: 512	256 Mb	64-byte frames <0.117µs 25G SFP28 <0.119µs 10G SFP+ <0.129µs 100G QSFP28 <0.129µs 50G QSFP28 <0.144µs 40G QSFP+							**XSM4556**