V300 Series

Highlights

- Compact cost-effective edge switches centrally managed by ExtremeXOS software
- Edge component of Extreme's Extended Edge Switching solution
- Seamlessly runs advanced services residing on ExtremeXOS aggregation switch
- Plug and play edge installation – just connect and start-up
- Multiple models providing 8 x 1GbE access ports (PoE and non-PoE) and 2 x 10Gb SFP+
- Environmentally hardened options that operate from -40°C to +70°C
- System model that draws power from upstream switch – eliminating need for separate PSU
- Resilient operations through support of Extended Edge Ring topology

Simplified edge switch operation powered by ExtremeXOS aggregation switch

The V300 Series are compact, cost-effective edge switches managed by Extreme Networks ExtremeXOS (EXOS) software, a highly resilient OS providing continuous uptime, advanced services and operational efficiency.

As the edge component of Extreme's Extended Edge Switching solution, the V300 Series provides access switch capabilities, while being controlled by a remote EXOS aggregation switch. This allows the V300 Series to seamlessly extend feature-rich services of the EXOS aggregation switch to the network edge.

Available in a variety of models, the V300 Series includes versions for indoor use as well as hardened models for outdoor or environmentally challenging locations.

Centralized Management and Control

The V300 Series control and data plane technology based on the IEEE 802.1BR specification allows for centralized management and intelligent service delivery from a central EXOS aggregation switch. This enables the EXOS aggregation switch to act as a single point of configuration and control for V300 Series devices which can reduce complexity and operational cost (see Figure 1).

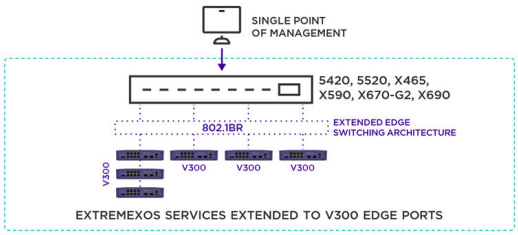

Figure 1: The V300 is the edge component of Extreme's Extended Edge Switching solution

Plug and Play Installation

V300 Series units can quickly be installed in a plug and play manner. When the unit is physically connected to the ExtremeXOS aggregation switch, the V300 automatically identifies itself and downloads its configuration. There is no need to connect a local console for setup of the V300 device or its ports.

Diverse Models for Different Use Cases

The V300 Series is available in 5 model variants to address a range of use cases and deployment scenarios. Models include:

- V300-8T-2X: 8 x 10/100/1000-BaseT with 2 x 1/10Gb SFP+ uplinks
- V300-8P-2X: 8 x 10/100/1000BaseT with 30W PoE and 2 x 1/10Gb SFP+ uplinks
- V300HT-8T-2X: 8 x 10/100/1000-BaseT with 2 x 1/10Gb SFP+uplinks (environmentally hardened unit designed to operate at -40°C to +70°C)
- V300-8P-2T-W: 8 x 10/100/1000BaseT 30W PoE access with 2 x 1Gb Type 4 30/60/90W uplinks

1G and/or 10G uplink ports on the faceplate of each V300 unit can be provisioned either as uplink, cascade or ring ports, giving administrators the option to create redundant links or downstream cascade/ring ports to other V300 units.

Environmentally Hardened Units

The V300 Series also includes V300HT models that can operate over extended temperature ranges from -40°C to 70°C. The V300HT models also meet enhanced environmental, safety, and regulatory compliance requirements for environmentally hardened switches typically used in smart cities, industry, and transportation.

Power over Ethernet Support

V300 Series switches support both IEEE 802.3at PoE+ and IEEE 802.3af PoE to enable connection of standards compliant PoE devices today. The V300-8P-2X model provides up to 180W of PoE power across its 8 access ports.

PoE Power from Upstream EXOS Aggregation Switch

In addition to standard PoE models, the V300 Series includes a PoE pass-through model—the V300-8P-2T-W. This model draws all its required power from an upstream EXOS aggregation switch over either of its two Ethernet IEEE 802.3bt Type 4 (30W/60W/90W) links.

This eliminates the need for a separate power supply unit, while still enabling the delivery of downstream PoE power. By drawing power over both of its 90W uplinks, the 300-8P-2T-W can deliver up to 105W of downstream PoE power.

Connection to ExtremeXOS Aggregation Switch

V300 Series switches are designed to operate in conjunction with supported ExtremeXOS Series switches at the aggregation layer or core of the network. These include the 5420, 5520, X465, X590, X670-G2, and X690 Series switches. V300 switches can be single or dual connected to one or more ExtremeXOS systems for redundancy and uplink bandwidth – and in the case of the V300-8P-2T-W for additional power draw.

Ring Support for Edge Resiliency

Cascaded V300 devices can also be configured in a ring design for additional resiliency. In a ring, the first and last V300 devices in a cascade can be connected to the EXOS aggregation switch. If any V300 device in the ring should fail, traffic can be re-routed in the other direction across the ring back to the EXOS aggregation switch.

External Ports

Switch Hardware	Ports
V300-8P-2T-W	8 x 10/100/1000BASE-T (RJ-45) POE-Plus Half, Full, Auto Duplex 2 x 10/100/1000BASE-T 802.3bt Type 4 (30W/60W/90W) PoE ports
V300-8T-2X	8 x 10/100/1000BASE-T (RJ-45) Half, Full, Auto Duplex 2 x 10GBASE-X SFP+
V300-8P-2X	8 x 10/100/1000BASE-T (RJ-45) POE-Plus Half, Full, Auto Duplex 2 x 10GBASE-X SFP+
V300HT-8T-2X	8 x 10/100/1000BASE-T (RJ-45) Half, Full, Auto Duplex 2 x 10GBASE-X SFP+

Performance and Scale

Switch Model	Maximum 10/100/1000 Base-T Ports	Maximum Active 1Gb SFP ports	Maximum10Gb SFP+ Ports	Aggregated Switch Bandwidth	Frame Forwarding Rate*
V300-8P-2T-W	8	2*	0	4Gbps	2.98Mpps
V300-8T-2X	8	2	2	40Gbps	29.8Mpps
V300-8P-2X	8	2	2	40Gbps	29.8Mpps
V300HT-8T-2X	8	2	2	40 Gbps	29.8Mpps

* 1Gb uplinks on V300-8P-2T-W are copper only (not SFP).

Phyiscal

Switches

Model	Weight	Height	Width	Depth
V300-8P-2T-W	2.9lb. (1.32 kg)	1RU / 1.75 in (4.45 cm)	8.43 in (21.41 cm)	7.63 in (19.38 cm)
V300-8T-2X	3.13 lb (1.41 kg)	1RU / 1.71 in (4.38 cm)	8.27 in (21.20 cm)	7.68 in (19.70 cm)
V300-8P-2X	3.25 lb (1.48 kg)			
V300HT-8T-2X	3.13 lb (1.41 kg)			

Power Supplies

Model	Weight	Height	Width	Depth
XN-ACPWR- 280W	2.33 lb (1.06 kg)	1.69 in (4.29 cm)	3.94 in (10.0 cm)	7.88 in (20.02 cm)
XN-ACPWR-40W	0.62 lb (0.28 kg)	1.24 in (3.15 cm)	1.96 in (5.0 cm)	4.92 in (12.5 cm)
XN-ACPWR- 320W-HT	2.79 lb (1.25 kg)	1.69 in (4.29 cm)	4.33 in (11.0 cm)	8.67 in (22.02 cm)
XN-ACPWR- 40W-HT	0.62 lb (0.28 kg)	1.24 in (3.15 cm)	1.96 in (5.0 cm)	4.92 in (12.5 cm)
XN-ACPWR-60W- HT-DIN	0.41 lb (0.19 kg)	3.54 in (9.0 cm)	2.06 in (5.25 cm)	2.14 in (5.45 cm)
16807	2.16 lb (0.97 kg)	4.92 in (12.5 cm)	2.48 in (6.3 cm)	4.46 in (11.35 cm)

Operating Conditions

Model	Operating Conditions
V300-8P-2T-W V300-8T-2X V300-8P-2X	0°C to 50°C (32°F to 122°F) @ 1000 meters 10% to 95% relative humidity, non-condensing 0 to 3,000 meters altitude Shock (half sine): 30 m/s2 (3G), 11 ms, 6 shocks Random Vibration: 3Hz to 500Hz at 1.5 G rms
V300HT-8T-2X	-40°C to 70°C (-40°F to 158°F) @ 1000 meters 5% to 95% relative humidity, non-condensing 0 to 3,000 meters altitude IEC60068-2-27 (shock) IEC 60068-2-6 (vibration) IEC60068-2-32 (freefall)

Power Supplies

Model	Weight	Height	Width	Depth
XN-ACPWR-280W	2.33 lb (1.06 kg)	1.69 in (4.29 cm)	3.94 in (10.0 cm)	7.88 in (20.02 cm)
XN-ACPWR-40W	0.62 lb (0.28 kg)	1.24 in (3.15 cm)	1.96 in (5.0 cm)	4.92 in (12.5 cm)
XN-ACPWR-320W-HT	2.79 lb (1.25 kg)	1.69 in (4.29 cm)	4.33 in (11.0 cm)	8.67 in (22.02 cm)
XN-ACPWR-40W-HT	0.62 lb (0.28 kg)	1.24 in (3.15 cm)	1.96 in (5.0 cm)	4.92 in (12.5 cm)
XN-ACPWR-60W-HT-DIN	0.41 lb (0.19 kg)	3.54 in (9.0 cm)	2.06 in (5.25 cm)	2.14 in (5.45 cm)
16807	2.16 lb (0.97 kg)	4.92 in (12.5 cm)	2.48 in (6.3 cm)	4.46 in (11.35 cm)

PoE Power Budget

Switch Model	Power Supply	Max PoE Budget
V300-8P-2X	280W	180W
V300-8P-2T-W	N/A	105W*

* Maximum applied PoE Power when drawing power over 2 x 90W PoE input links on V300-8P-2T-W. See the PoE Power Budget Values for V300-8P-2T-W table that follows for specific PoE uplink configurations and their respective PoE budget numbers.

PoE Power Budget Values for V300-8P-2T-W

Switch Model	PoE Input Link(s)*	Max PoE Budget
V300-8P-2T-W	2 x 90W	105W
	1 x 90W	50W
	2 x 60W	75W
	1 x 60W	30W
	2 x 30W	30W
	1 x 30W	0W

* From an upstream X465 (or equivalent) PoE switch

Minimum/Maximum Power Consumption and Heat Dissipation

Switch Model	Minimum Power Consumption (W)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (W)[1,2]	Maximum Heat Dissipation (BTU/hr)[1,2,3]
V300-8P-2T-W	7.2	24.6	129.1	82.1
V300-8T-2X	3.3	11.6	7.0	23.8
V300-8P-2X	7.6	25.9	214.6	118.2
V300HT-8T-2X	4.9	16.6	7.4	25.2

[1] All ports 100% traffic with maximum PSUs

[2] Includes maximum PoE load (W) through the switch

[3] Does not include PoE load heat dissipated through external electronic load

Environmental

Environmental Compliance

- EU RoHS – 2011/65/EU
- EU WEEE – 2012/19/EU
- China RoHS – SJ/T 11363-2006
- Taiwan RoHS CNS 15663(2013.7)

Packaging and Storing Specifications

- Temp: -40°C to 70°C (-40°F to 158°F)
- Humidity: 10% to 95% relative humidity, non-condensing
- Packaged Shock (half sine): 180 m/s2 (18 G), 6 ms, 600 shocks
- Packaged Vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G
- Packaged Random Vibration: 5 to 20 Hz at 1.0 ASD w/–3 dB/ oct. from 20 to 200 Hz
- Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)
- IEC 60068-2-2 class s3 (transportation conditions)
- IEC 60255-21-1
- IEC 60255-21-2

Regulatory and Safety

North American ITE

- UL 60950-1 2nd edition Listed Device (U.S.)
- CSA 22.2 No. 60950-1 2nd edition 2014(Canada)
- UL/CuL 62368-1
- Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
- CDRH Letter of Approval (US FDA Approval)

European ITE

- EN 60950 2nd Ed
- EN 62368-1
- EN 60825 Class 1 (Lasers Safety)
- 2014/35/ EU Low Voltage Directive

International ITE

- CB Report & Certificate per IEC 60950-1 + National Differences
- IEC 62368-1
- AS/NZS 60950-1 (Australia /New Zealand)

EMI/EMC Standards

North American EMC Certifications

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)

European EMC Certifications

- EN 55032: Class A
- EN 55024
- EN 55011
- EN 61000-3-2: 2014 (Harmonics)
- EN 61000-3-3: 2013 (Flicker)
- EN 300 386 (EMC Telecommunications)
- 2014/30/EU EMC Directive

International EMC Certifications

- CISPR 32: Class A (International Emissions)
- AS/NZS CISPR32
- CISPR 24: Class A (International Immunity)
- IEC 61000-4-2/EN 61000-4-2: Electrostatic Discharge, 6kV Contact, 8 kV Air, Criteria B
- IEC 61000-4-3/EN 61000-4-3 Radiated Immunity 10V/m, Criteria A
- IEC 61000-4-4/EN 61000-4-4 Transient Burst, 2 kV, Criteria B
- IEC 61000-4-5/EN 61000-4-5 Surge, 1 kV L-L, 2 kV L-G, Level 3, Criteria B
- IEC 61000-4-6/EN 61000-4-6 Conducted Immunity, 0.15-80 MHz, 7Vrms, 80%AM (1kHz) Criteria A
- IEC/EN 61000-4-11 Power Dips & Interruptions, >30%, 25 periods, Criteria C

Country Specific Certifications

- VCCI Class A (Japan Emissions)
- ACMA RCM (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)
- BSMI (Taiwan)
- Anatel (Brazil)
- NRCS LoA (South Africa)

Additional Standards for the V300HT Models

NOTE: Regulatory and safety certificates pending final testing by responsible agencies. To be competed for applicable products no later than April 2020.

Industrial Environment

- Corrosion and Humidity - ISO 12944-6
- Salt Fog / Marine - IEC 60068-52-2
- IEC 60068-2-1 (temperature type test – cold)
- IEC 60068-2-2 (temperature type test - hot)
- IEC 60068-2-3 (damp heat steady state)
- IEC 60068-2-30 (damp heat cyclic)
- IEC 60870-2-2 (operational temp)
- IEC 60721-3-1: Class 1K5 (storage temperature)

Industrial EMC

- TS 61000-6-5 EMC Immunity for Power Station and sub station
- EN 61000-6-2 Immunity for Industrial Environments
- EN 61000-6-1 Immunity for Light Industrial Environments
- EN 61000-6-4 Emissions for Industrial Environments
- EN 50121-1 EMC for Railway applications
- EN 50121-4 Immunity for Railway applications
- EN 50121-3-2 Immunity for Railway applications
- EN 61326-1 EMC for Laboratory applications

Ordering Information

V300 Systems

Part Number	Product Name	Description
V300-8P-2X	V300-8P-2X	V300-8P-2X with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x SFP+ uplinks, fanless, includes 280W PSU
V300-8T-2X	V300-8T-2X w/40W PSU	V300-8T-2X with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x SFP+ uplinks, includes 40W PSU
V300-8P-2T-W	V300-8P-2T-W	V300-8P-2T-W with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x 1GBASE-T 802.3bt Type 4 uplinks. PoE powered
V300HT-8T-2X	V300HT-8T-2X	V300HT-8T-2X high-temperature model with 8 x 10/100/1000GBASE-T half/full duplex ports,2 x SFP+ uplinks, fanless, power supply not included (must be ordered separately)

Power Supplies

Part Number	Product Name	Description
XN-ACPWR-320W-HT	320W Hi-Temp AC PSU for V300-8P-2X	V300HT-8P-2X 320W AC Power Supply High Temperature -25°C to +70°C
XN-ACPWR-40W-HT	40W Hi-Temp AC PSU for V300-8T-2X	V300HT-8T-2X 40W AC Power Supply High Temperature -30°C to +70°C
XN-ACPWR-60W-HT-DIN	60W Hi-Temp AC PSU for V300-8T-2X	V300HT-8T-2X 60W AC Power Supply High Temperature -30°C to +70°C
16807	240W Hi-Temp AC to DC Power	High temperature AC to DC Power Supply 240W Output DIN Rail Mounting -25°C to 70°C

Accessories

Part Number	Product Name	Description
XN-2P-RMTKIT2CS-001	Optional Rack-Mount Kit	Optional two post rack mount kit for two V300 compact switches - side by side in a 19" rack
XN-2P-RMTKIT-1CS-001	Optional Rack Mount Kit	Optional two post rack mount kit for single V300 compact switch in a 19" rack
XN-DIN-MT-001	DIN Rail Bracket for V300HT	Optional DIN rail mounting bracket for V300HT models
XN-PRTC-CVR-V300	V300 Protective Cover	RJ-45 protective cover for V300 - IP42 rated
XN-PRTC-CVR-V300- 16PK	V300 Protective Cover	RJ-45 protective cover for V300 - IP42 rated, 16 pack
XN-MTKIT-CS-01	V300 Replacement Mounting Bracket Kit	Optional field replacement mounting kit for V300 - horizontal or vertical surface

Warranty

All V300 Series switches are covered under Extreme's Universal LLW policy. For warranty details, visit: http://www.extremenetworks.com/support/policies.

Power Cords

In support of Extreme Networks Green initiatives, power cords are not included with the V300 but can be ordered separately. They should be specified at time of ordering.

Optics/Transceivers

For a list of the optics/transceivers supported on the V300 Series hardware, refer to our Extreme Optics Compatibility Tool at https://optics.extremenetworks.com.

Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Contact your Extreme Networks account executive for more information about Extreme Networks service and support.

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