

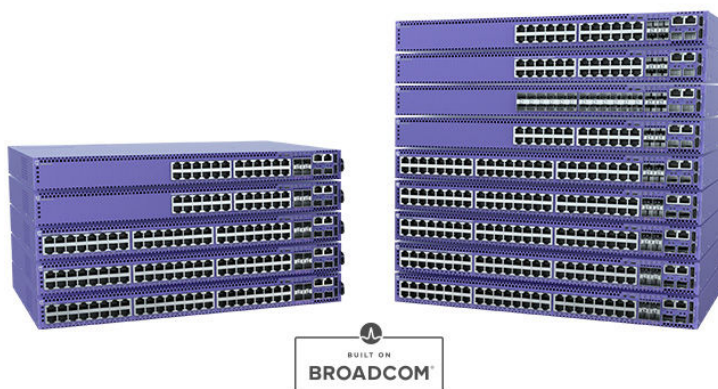
# 5420 Series

## Highlights

- Intuitive and centralized cloud-managed switching with ExtremeCloud™ IQ and ExtremeCloud IQ – Site Engine
- Fabric-enabled operations with Extreme Fabric Connect for simplified and secure network provisioning and automation
- Choice of operating system (OS) with universal dual-persona hardware

## Key Hardware Features

- Fixed 24 and 48-port models with gigabit and multi-gigabit support
- 30W, 60W, and 90W PoE (Power over Ethernet) support for powering connected devices
- 4 x 1/10Gb SFP+ or 4 x 1/10/25Gb built-in uplink ports
- 80Gb per unit stacking of up to eight switches
- Secure link encryption with MACsec across both access and uplink ports
- Non-blocking wire speed design



## Universal Edge Switch Platform

The 5420 Series is a family of high-performance, feature-rich, stackable edge switches designed for the next-generation digital enterprise. Available in 24 and 48-port models, the 5420 features both gigabit and multi-gigabit (1/2.5G) versions with up to 90W PoE enabling it to be deployed across a range of edge and wiring-closet environments. As a universal hardware platform, the 5420 also offers a user-selectable choice of Extreme's flagship switch operating systems for a uniquely flexible platform.

The 5420 Series consists of 5420M and 5420F families to address a variety of end-user needs and price points. 5420M models offer field-replaceable power supplies and fans as well as four 1/10/25Gb built-in uplink ports, while 5420F models offer fixed power supply (with support for a second field-replaceable power supply), fixed fans, and four 1/10Gb built-in uplink ports. All models provide 30/60/90W PoE capabilities making them an ideal wired back end for wireless APs or in support of Next Gen powered Ethernet devices, such as digital signage, pan-tilt-zoom cameras, smart lighting, or point-of-sale terminals.

## Universal Hardware Platform

The 5420 comes with a dual-persona capability, allowing you to choose your OS. Either the Switch Engine (EXOS)<sup>1</sup> or Fabric Engine (VOSS)<sup>2</sup> OS can be selected at switch start-up or changed at a later stage. When selected, the switch assumes the features and capabilities of that OS.

5420 OS selection can also be automated with ExtremeCloud IQ so that the desired OS can be automatically loaded at switch start-up, facilitating remote OS enablement.

<sup>1</sup> Switch Engine is the new name for ExtremeXOS (EXOS) on all universal switch platforms, starting with Version 31.6.

<sup>2</sup> Fabric Engine is the new name for the VSP Operating System Software (VOSS) on all universal switch platforms, starting with Version 8.6.

## Ethernet Fabric Services

The 5420 supports a variety of Ethernet Fabric services, including Extreme's Fabric Connect when running Fabric Engine and Extreme's IP Fabric when running Switch Engine. It also supports Fabric Attach for automated connection to either Layer 2 or Layer 3 Fabric services.

Extreme's Fabric Connect and IP Fabric enable the creation of virtualized networks that automate network operations, simplify network provisioning, and enhance security, all while reducing the strain on network and IT personnel.

## Power over Ethernet (PoE)

All 5420 models support 30W, 60W, and 90W PoE that conforms with IEEE 802.3bt. This enables the 5420 to address the needs of powered edge devices, while eliminating the need for additional electrical cabling and circuits. In addition, 5420 PoE models support perpetual and fast PoE for even more efficient and reliable powered edge device operation

## MACsec Link Encryption

IEEE 802.1AE MACsec\* is supported on 5420 access and built-in uplink ports, enabling the encryption and decryption of packets between connected switches or devices. As a link-only encryption, 5420 switches can still apply services to the packet, such as policy or QoS, without compromising the security of packets across the link. With 128-bit and 256-bit Advanced Encryption Standard (AES) support, the 5420 provides the most secure link encryption.

\*Supported on specific hardware revisions; please refer to the 5420 Hardware Installation Guide for details.

## High-Performance Stacking

The 5420 Series supports high-speed stacking when running Switch Engine via its two built-in SFP-DD stacking ports. Up to eight switches can be stacked using qualified SFP+/SFP-DD direct attach cables and optical transceivers. Stacking is not supported when running Fabric Engine.

## Audio Video Bridging

The 5420 Series supports IEEE 802.1 Audio Video Bridging (AVB) when running Switch Engine OS. This allows 5420 models to deliver reliable, real-time audio/video transmission over Ethernet, meeting the quality of service required for today's high-definition, time-sensitive multimedia streams.

## Cloud-Based Network Management

The 5420 can be managed by ExtremeCloud IQ and ExtremeCloud IQ—Site Engine for centralized switch management, giving you a consolidated view of users, devices, and applications across wired and wireless networks for efficient inventory and network topology management. ExtremeCloud IQ enables zero touch provisioning, allowing you to quickly bring new 5420 switches online as well as select the OS persona.

Alternatively, 5420 on-box management can be done manually via a web-based GUI or generic command-line interface (CLI).

## External Interfaces

| Switch Model  | Interfaces                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420F-24T-4XE | 24 x 10/100/1000BASE-T ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated)<br>1 x Serial console port (RJ-45)<br>1 x 10/100/1000BASE-T out-of-band management port<br>2 x USB A ports for management or external USB flash<br>1 x USB Micro-B console port               |
| 5420F-24P-4XE | 24 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated)<br>1 x Serial console port (RJ-45)<br>1 x 10/100/1000BASE-T out-of-band management port<br>2 x USB A ports for management or external USB flash<br>1 x USB Micro-B console port |
| 5420F-24S-4XE | 24 x 100/1000BASE-X (SFP) ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated)<br>1 x Serial console port (RJ-45)<br>1 x 10/100/1000BASE-T out-of-band management port<br>2 x USB A ports for management or external USB flash<br>1 x USB Micro-B console port                                         |
| 5420F-48T-4XE | 48 x 10/100/1000BASE-T ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated)<br>1 x Serial console port (RJ-45)<br>1 x 10/100/1000BASE-T out-of-band management port<br>2 x USB A ports for management or external USB flash<br>1 x USB Micro-B console port               |

| Switch Model      | Interfaces                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420F-48P-4XE     | 48 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                                                                          |
| 5420F-48P-4XL     | 48 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> <li>• LRM-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                                                   |
| 5420F-8W-16P-4XE  | 8 x 10/100/1000BASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 16 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full/Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port   |
| 5420F-16W-32P-4XE | 16 x 10/100/1000BASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 32 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port |

| Switch Model       | Interfaces                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420F-16MW-32P-4XE | 16 x 100M/1G/2.5GBASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 32 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10Gb SFP+ uplink ports(unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port |
| 5420M-24T-4YE      | 24 x 10/100/1000BASE-T ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10/25Gb SFP28 uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                                         |
| 5420M-24W-4YE      | 24 x 10/100/1000BASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10/25Gb SFP28 uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                           |
| 5420M-48T-4YE      | 48 x 10/100/1000BASE-T ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10/25Gb SFP28 uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                                         |

| Switch Model       | Interfaces                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420M-48W-4YE      | 48 x 10/100/1000BASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10/25Gb SFP28 uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port                                                                                                                |
| 5420M-16MW-32P-4YE | 16 x 100M/1G/2.5GBASE-T 802.3bt (90W) ports <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 32 x 10/100/1000BASE-T 802.3at (30W) ports <ul style="list-style-type: none"> <li>• Full / Half-Duplex(autosensing)</li> <li>• MACsec-capable</li> </ul> 4 x 1/10/25Gb SFP28 uplink ports (unpopulated) <ul style="list-style-type: none"> <li>• MACsec-capable</li> </ul> 2 x Stacking/SFP-DD ports* (unpopulated) 1 x Serial console port (RJ-45) 1 x 10/100/1000BASE-T out-of-band management port 2 x USB A ports for management or external USB flash 1 x USB Micro-B console port |

\* Notes on use of the 2 x Stacking/SFP-DD ports

1. With Switch Engine, the 2 x SFP-DD ports can be used either for stacking or as Ethernet uplink ports (when not stacking).
2. With Fabric Engine, the 2 x SFP-DD ports can be used as Ethernet uplinks when in non-Fabric mode.
3. SFP-DD ports support either 10Gb or 20Gb data rates with the use of appropriate transceivers/cables.
4. When used as uplinks, 5420M models support up to 2 x 10Gb channels on each SFP-DD port
5. When used as uplinks, 5420F models support a single 10Gb channel on each SFP-DD port.

## Performance and Scale

### 5420F Performance and Scale

| Switch Model     | Max Active<br>10/100/1000Mb<br>Ports | Max Active<br>100Mb/1Gb/<br>2.5Gb Ports | Max Active<br>100Mb/1Gb<br>SFP Ports | Max Active<br>1Gb/10GbSFP+<br>Ports | Max Active<br>1Gb/10Gb/<br>25Gb<br>SFP28<br>Ports | Max Active<br>20Gb<br>Stacking<br>Ports*** | Aggregated<br>Switch<br>Bandwidth | Frame<br>Forwarding<br>Rate |
|------------------|--------------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------|-----------------------------------|-----------------------------|
| 5420F-24T-4XE    | 24                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 208Gbps                           | 154.8Mpps                   |
| 5420F-24P-4XE    | 24                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 208Gbps                           | 154.8Mpps                   |
| 5420F-24S-4XE    | 0                                    | 0                                       | 24                                   | 6*                                  | 0                                                 | 2                                          | 208Gbps                           | 154.8Mpps                   |
| 5420F-48T-4XE    | 48                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 256Gbps                           | 190.5Mpps                   |
| 5420F-48P-4XE    | 48                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 256Gbps                           | 190.5Mpps                   |
| 5420F-48P-4XL    | 48                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 256Gbps                           | 190.5Mpps                   |
| 5420F-8W-16P-4XE | 24                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 208Gbps                           | 154.8Mpps                   |

| Switch Model       | Max Active<br>10/100/1000Mb<br>Ports | Max Active<br>100Mb/1Gb/<br>2.5Gb Ports | Max Active<br>100Mb/1Gb<br>SFP Ports | Max Active<br>1Gb/10GbSFP+<br>Ports | Max Active<br>1Gb/10Gb/<br>25Gb<br>SFP28<br>Ports | Max Active<br>20Gb<br>Stacking<br>Ports*** | Aggregated<br>Switch<br>Bandwidth | Frame<br>Forwarding<br>Rate |
|--------------------|--------------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------|-----------------------------------|-----------------------------|
| 5420F-16W-32P-4XE  | 48                                   | 0                                       | 0                                    | 6*                                  | 0                                                 | 2                                          | 256Gbps                           | 190.5Mpps                   |
| 5420F-16MW-32P-4XE | 32                                   | 16                                      | 0                                    | 6*                                  | 0                                                 | 2                                          | 304Gbps                           | 226.2Mpps                   |

## 5420M Performance and Scale

| Switch Model       | Max Active<br>10/100/1000Mb<br>Ports | Max Active<br>100Mb/1Gb/<br>2.5Gb Ports | Max Active<br>100Mb/1Gb<br>SFP Ports | Max Active<br>1Gb/10GbSFP+<br>Ports | Max Active<br>1Gb/10Gb/<br>25Gb<br>SFP28<br>Ports | Max Active<br>20Gb<br>Stacking<br>Ports*** | Aggregated<br>Switch<br>Bandwidth | Frame<br>Forwarding<br>Rate |
|--------------------|--------------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------|-----------------------------------|-----------------------------|
| 5420M-24T-4YE      | 24                                   | 0                                       | 0                                    | 8**                                 | 4                                                 | 2                                          | 328Gbps                           | 244.0Mpps                   |
| 5420M-24W-4YE      | 24                                   | 0                                       | 0                                    | 8**                                 | 4                                                 | 2                                          | 328Gbps                           | 244.0Mpps                   |
| 5420M-48T-4YE      | 48                                   | 0                                       | 0                                    | 8**                                 | 4                                                 | 2                                          | 376Gbps                           | 279.7Mpps                   |
| 5420M-48W-4YE      | 48                                   | 0                                       | 0                                    | 8**                                 | 4                                                 | 2                                          | 376Gbps                           | 279.7Mpps                   |
| 5420M-16MW-32P-4YE | 32                                   | 16                                      | 0                                    | 8**                                 | 4                                                 | 2                                          | 424Gbps                           | 315.5Mpps                   |

\* Includes 2 x 1/10G ports available using the SFP-DD ports when these ports are not used for stacking with Switch Engine, or when in non-Fabric mode with Fabric Engine

\*\* Includes 4 x 1/10Gb ports available through channelization of the 2 x SFP-DD ports when these ports are not used for stacking with Switch Engine, or when in non-Fabric mode with Fabric Engine. It also includes the 4 x SFP28 uplink ports when run at 1/10Gb

\*\*\* Switch Engine only: 20Gb stacking requires SFP-DD transceivers/cables; 10Gb stacking supported using SFP+ transceivers/cables

## Software Scaling

### 5420F Series with Switch Engine

- MAC Table: 32,000
- IPv4 ARP Table: 16,000
- IPv4 Route Table: 12,000
- IP Multicast Entries (S,G,V): 6,000
- IPv6 Route Table: 6,000
- IPv6 Neighbor Table 6,000
- ACL (Ingress/Egress): 8,000/1,024
- VLANs: 4,094
- IP Interfaces (aka Routed VLANs): 1,533

#### One Policy Scaling

- Policy Profiles: 63
- Unique Permit/deny rules per switch: 4,024

### 5420M Series with Switch Engine

- MAC Table: 64,000

- IPv4 ARP Table: 24,000
- IPv4 Route Table: 12,000
- IP Multicast Entries (S,G,V): 12,000
- IPv6 Route Table: 6,000
- IPv6 Neighbor Table 12,000
- ACL (Ingress/Egress): 18,000/1,024
- VLANs: 4,094
- IP Interfaces (aka Routed VLANs): 1,533

#### One Policy Scaling

- Policy Profiles: 63
- Unique Permit/deny rules per switch: 8,120

### 5420F Series with Fabric Engine

- MAC Table: 16,000 (32,000 non-Fabric)
- IPv4 ARP Table: 8,000
- IPv4 Route Table: 11,750
- IP Multicast Entries (S,G,V): 4,000
- IPv6 Route Table: 5,750

- IPv6 Neighbor Table 8,000
- ACL (Ingress/Egress): 1,024/336
- VLANs: 4,059
- IP Interfaces (aka Routed VLANs): 248

#### Fabric Connect Scaling

- Fabric Adjacencies per switch: 50
- Fabric nodes per area (BEB + BCB): 800
- BEB Nodes per VSN (I-SID): 500
- L2 VSNs: 512
- L3 VSNs: 64

#### 5420M Series with Fabric Engine

- MAC Table: 32,000 (64,000 non-Fabric)
- IPv4 ARP Table: 24,000

- IPv4 Route Table: 11,750
- IP Multicast Entries (S,G,V): 4,000
- IPv6 Route Table: 5,750
- IPv6 Neighbor Table 16,000
- ACL (Ingress/Egress): 1,024/336
- VLANs: 4,059
- IP Interfaces (aka Routed VLANs): 248

#### Fabric Connect Scaling

- Fabric Adjacencies per switch: 50
- Fabric nodes per area (BEB + BCB): 800
- BEB Nodes per VSN (I-SID): 500
- L2 VSNs: 512
- L3 VSNs: 64

## Weights and Dimensions

| Switch Model       | Weight*             | Physical Dimensions                                                                    |
|--------------------|---------------------|----------------------------------------------------------------------------------------|
| 5420 Systems       |                     |                                                                                        |
| 5420F-24T-4XE      | 4.10 kg (9.03 lb.)  | Height: 43.2 mm (1.7 in.)<br>Width: 442.0 mm (17.4 in.)<br>Depth: 287.02 mm (11.3 in.) |
| 5420F-24P-4XE      | 4.64kg (10.23 lb.)  |                                                                                        |
| 5420F-24S-4XE      | 4.12 kg (9.08 lb.)  |                                                                                        |
| 5420F-8W-16P-4XE   | 4.64kg (10.23 lb.)  |                                                                                        |
| 5420F-48T-4XE      | 4.64kg (10.23 lb.)  |                                                                                        |
| 5420F-48P-4XE      | 5.28kg (11.64 lb.)  | Height: 43.2 mm (1.7 in.)<br>Width: 442.0 mm (17.4 in.)<br>Depth: 330.20 mm (13.0 in.) |
| 5420F-48P-4XL      | 5.28kg (11.64 lb.)  |                                                                                        |
| 5420F-16W-32P-4XE  | 5.36kg (11.82 lb.)  |                                                                                        |
| 5420F-16MW-32P-4XE | 5.30kg (11.68 lb.)  |                                                                                        |
| 5420M-24T-4YE      | 4.18 kg (9.22 lb.)  |                                                                                        |
| 5420M-24W-4YE      | 4.40 kg (9.70 lb.)  |                                                                                        |
| 5420M-48T-4YE      | 4.39kg (9.68 lb.)   |                                                                                        |
| 5420M-48W-4YE      | 4.73 kg (10.43 lb.) |                                                                                        |
| 5420M-16MW-32P-4YE | 5.30kg (11.68 lb.)  |                                                                                        |

\* Measured weight includes fan (XN-FAN-000) and PSU cover(s), but does not include optional power supply unit(s).

## Optional Power Supply Unit Specifications

|                               | XN-ACPWR-150W                                   | XN-ACPWR-600W                                   | XN-ACPWR-920W                                   | XN-ACPWR-1200W*                                 | XN-ACPWR-2000W**               |
|-------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------------------|
| Voltage Input Range (Nominal) | 100-127/200-240 VAC                             | 100-127/200-240 VAC                             | 100-127/200-240 VAC                             | 100-127/200-240 VAC                             | 100-127/200-240 VAC            |
| Line Frequency Range          | 47Hz to 63Hz                                    | 47Hz to 63Hz                                    | 47Hz to 63Hz                                    | 47Hz to 63Hz                                    | 47Hz to 63Hz                   |
| Power Supply Input Socket     | IEC/EN60320 C14                                 | IEC/EN60320 C14                                 | IEC/EN60320 C14                                 | IEC/EN60320 C16                                 | IEC/EN60320 C16                |
| Power Cord Input Plug         | IEC/EN60320 C13                                 | IEC/EN60320 C13                                 | IEC/EN60320 C13                                 | IEC/EN60320 C15                                 | IEC/EN60320 C15                |
| Operating Temperature         | 0°C to 50°C (32°F to 122°F)<br>Normal Operation | 0°C to 50°C (32°F to 122°F)<br>Normal Operation | 0°C to 50°C (32°F to 122°F)<br>Normal Operation | 0°C to 50°C (32°F to 122°F)<br>Normal Operation | 0°C to 45°C (32°F to 113°F)*** |

\* 200-240VAC is required to achieve full 1200W output. If run at 100-120 VAC, output is limited to 860W

\*\* 200-240 VAC is required to achieve full 2000W output. If run at 100-120 VAC, output is limited to 1100W

\*\*\* At sea-level, 0°C to 40°C (32°F to 104°F) at 1500 m; 0°C to 35°C (32°F to 95°F) at 3000 m

## 5420F Internal Fixed and Secondary Power Supply Options

| Model              | Internal Fixed Power Supply Unit (PSU)* | Secondary Power Supply Unit (PSU)** |
|--------------------|-----------------------------------------|-------------------------------------|
| 5420F-24T-4XE      | 120WAC PSU                              | XN-ACPWR-150W                       |
| 5420F-24P-4XE      | 660WAC PSU                              | XN-ACPWR-600W                       |
| 5420F-24S-4XE      | 150WAC PSU                              | XN-ACPWR-150W                       |
| 5420F-48T-4XE      | 120WAC PSU                              | XN-ACPWR-150W                       |
| 5420F-48P-4XE      | 860WAC PSU                              | XN-ACPWR-920W                       |
| 5420F-48P-4XL      | 860WAC PSU                              | XN-ACPWR-920W                       |
| 5420F-8W-16P-4XE   | 660WAC PSU                              | XN-ACPWR-600W                       |
| 5420F-16W-32P-4XE  | 1200WAC PSU                             | XN-ACPWR-1200W                      |
| 5420F-16MW-32P-4XE | 1200WAC PSU                             | XN-ACPWR-1200W                      |

\* Internal Fixed PSU is non-orderable and comes pre-installed with each 5420F model.

\*\* Secondary PSU provides power redundancy in 5420F non-PoE models and enables maximum PoE Power Budget in 5420F PoE models (see table below). Model/PSU combinations other than those listed above are blocked physically or in software.

## 5420F PoE Power Budget

| Model         | PoE Budget with Single Internal Fixed PSU | PoE Budget with Recommended Secondary PSU |
|---------------|-------------------------------------------|-------------------------------------------|
| 5420F-24P-4XE | 380W                                      | 720W                                      |
| 5420F-48P-4XE | 740W                                      | 1480W                                     |

| Model              | PoE Budget with Single Internal Fixed PSU | PoE Budget with Recommended Secondary PSU |
|--------------------|-------------------------------------------|-------------------------------------------|
| 5420F-48P-4XL      | 740W                                      | 1480W                                     |
| 5420F-8W-16P-4XE   | 480W                                      | 960W                                      |
| 5420F-16W-32P-4XE  | 872W*/960W**                              | 1437W*/1874W**                            |
| 5420F-16MW-32P-4XE | 860W*/960W**                              | 1425W*/1862W**                            |

\* @100-120 VAC

\*\* @ 200-240 VAC

## 5420M Primary and Secondary Power Supply Options

| Model              | Primary Power Supply Unit (PSU)* | Secondary Power Supply Unit (PSU)* |
|--------------------|----------------------------------|------------------------------------|
| 5420M-24T-4YE      | XN-ACPWR-150W                    | XN-ACPWR-150W                      |
| 5420M-24W-4YE      | XN-ACPWR-920W                    | XN-ACPWR-920W                      |
| 5420M-48T-4YE      | XN-ACPWR-150W                    | XN-ACPWR-150W                      |
| 5420M-48W-4YE      | XN-ACPWR-920W or XN-ACPWR-2000W  | XN-ACPWR-920W or XN-ACPWR-2000W    |
| 5420M-16MW-32P-4YE | XN-ACPWR-920W or XN-ACPWR-2000W  | XN-ACPWR-920W or XN-ACPWR-2000W    |

\* Primary PSU is required; Secondary PSU provides power redundancy and enables maximum PoE Budget in 5420M PoE models (see table below). Model/PSU combinations other than those listed above are blocked physically or in software.

## 5420M PoE Power Budget

| Model              | 1 x 920W | 2 x 920W | 1 x 2000W @ 100-120 VAC | 1 x 2000W @ 200-240 VAC | 1x 920W & 1 x 2000W @ 100-120 VAC | 1x 920W & 1 x 2000W @ 200-240 VAC | 2 x 2000W @ 100-120 VAC | 2 x 2000W @ 200-240 VAC |
|--------------------|----------|----------|-------------------------|-------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| 5420M-24W-4YE      | 720W     | 1440W    | —                       | —                       | —                                 | —                                 | —                       | —                       |
| 5420M-48W-4YE      | 804W     | 1558W    | 884W                    | 1440W                   | 1212W                             | 2076W                             | 1704W                   | 2880W                   |
| 5420M-16MW-32P-4YE | 787W     | 1541W    | 867W                    | 1440W                   | 1195W                             | 2059W                             | 1687W                   | 2400W                   |

## Minimum/Maximum Power Consumption and Heat Dissipation

### 5420F Switches

| Switch Model       | Minimum Power Consumption (W) | Minimum Heat Dissipation (BTU/hr) | Maximum Power Consumption (W)* | Maximum Heat Dissipation (BTU/hr)** |
|--------------------|-------------------------------|-----------------------------------|--------------------------------|-------------------------------------|
| 5420F Switches     |                               |                                   |                                |                                     |
| 5420F-24T-4XE      | 24                            | 81                                | 62                             | 211                                 |
| 5420F-24P-4XE      | 37                            | 127                               | 833                            | 387                                 |
| 5420F-24S-4XE      | 35                            | 119                               | 114                            | 388                                 |
| 5420F-48T-4XE      | 31                            | 106                               | 75                             | 255                                 |
| 5420F-48P-4XE      | 48                            | 164                               | 1674                           | 663                                 |
| 5420F-48P-4XL      | 49                            | 168                               | 1657                           | 604                                 |
| 5420F-8W-16P-4XE   | 37                            | 127                               | 1092                           | 452                                 |
| 5420F-16W-32P-4XE  | 46                            | 156                               | 2150                           | 785                                 |
| 5420F-16MW-32P-4XE | 50                            | 172                               | 2152                           | 790                                 |

\* Includes maximum PoE load (W) through the switch

\*\*Does not include PoE load heat dissipated through external electronic load

### 5420M Switches

| Switch Model       | Minimum Power Consumption (W) | Minimum Heat Dissipation (BTU/hr) | Maximum Power Consumption (W)* | Maximum Heat Dissipation (BTU/hr)** |
|--------------------|-------------------------------|-----------------------------------|--------------------------------|-------------------------------------|
| 5420M-24T-4YE      | 28                            | 95                                | 57                             | 194                                 |
| 5420M-24W-4YE      | 43                            | 148                               | 1601                           | 551                                 |
| 5420M-48T-4YE      | 34                            | 117                               | 68                             | 232                                 |
| 5420M-48W-4YE      | 72                            | 245                               | 3090                           | 716                                 |
| 5420M-16MW-32P-4YE | 69                            | 234                               | 2564                           | 560                                 |

\* Includes maximum PoE load (W) through the switch

\*\*Does not include PoE load heat dissipated through external electronic load

## Acoustic Noise

| Switch Model  | Bystander Sound Pressure – dB(A)* |        | Declared Sound Power – Bels* |        |
|---------------|-----------------------------------|--------|------------------------------|--------|
|               | 1 PSU                             | 2 PSUs | 1 PSU                        | 2 PSUs |
| 5420F-24T-4XE | 35.50                             | 36.20  | 4.83                         | 4.93   |
| 5420F-24P-4XE | 39.60                             | 39.90  | 5.16                         | 5.24   |
| 5420F-24S-4XE | 39.70                             | 39.60  | 5.21                         | 5.22   |

| Switch Model         | Bystander Sound Pressure – dB(A)* |        | Declared Sound Power – Belts* |        |
|----------------------|-----------------------------------|--------|-------------------------------|--------|
|                      | 1 PSU                             | 2 PSUs | 1 PSU                         | 2 PSUs |
| 5420F-48T-4XE        | 35.30                             | 34.90  | 4.78                          | 4.77   |
| 5420F-48P-4XE        | 41.30                             | 42.00  | 5.42                          | 5.48   |
| 5420F-48P-4XL        | 44.00                             | 42.60  | 5.67                          | 5.57   |
| 5420F-8W-16P-4XE     | 42.30                             | 43.20  | 5.52                          | 5.63   |
| 5420F-16W-32P-4XE    | 44.30                             | 54.10  | 5.72                          | 6.62   |
| 5420F-16MW-32P-4XE   | 45.30                             | 54.40  | 5.77                          | 6.64   |
| 5420M-24T-4YE        | 33.50                             | 33.00  | 4.59                          | 4.65   |
| 5420M-24W-4YE        | 33.00                             | 42.80  | 5.02                          | 5.51   |
| 5420M-48T-4YE        | 33.40                             | 33.00  | 4.56                          | 4.59   |
| 5420M-48W-4YE**      | 52.70                             | 59.80  | 6.42                          | 6.97   |
| 5420M-16MW-32P-4YE** | 51.70                             | 50.50  | 6.30                          | 6.25   |

\* Noise measurements are based on operational tests conducted at 25°C (77°F) in compliance with ISO 7779

\*\* 5420M-48W-4YE and 5420M-16MW-32P-4YE results using 2000 W PSUs (XN-ACPWR-2000W)

## Environmental

### Environmental Specifications

EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage

EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation

EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational

EN/ETSI 300 753 (1997-10) - Acoustic Noise

ASTM D3580 Random Vibration Unpackaged 1.5 G

### Environmental Compliance

EU RoHS - 2011/65/EU

EU WEEE - 2012/19/EU

EU REACH – Regulation (EC) No 1907/2006 Reporting

China RoHS - SJ/T 11363-2006

Taiwan RoHS - CNS 15663(2013.7)

### Environmental Operating Conditions

Temp: 0°C to 50°C (32°F to 122°F)

Humidity: 10% to 95% relative humidity, non-condensing

Altitude: 0 to 3,000 meters (9,850 feet)

Shock (half sine) 30m/s<sup>2</sup> (3G), 11ms, 60 shocks

Random vibration: 3 to 500 Hz at 1.5 G rms

### Packaging and Storage 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/s<sup>2</sup> (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)

## Regulatory and Safety

### North American ITE

UL 60950-1

UL/CuL 62368-1 Listed

CSA 22.2 No. 60950-1 2nd edition 2014 (Canada)

Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)

CDRH Letter of Approval (US FDA Approval)

### European ITE

EN 60950-1 2nd Edition

EN 62368-1

EN 60825-1 Class 1 (Lasers Safety)

2014/35/ EU Low Voltage Directive

### International ITE

CB Report & Certificate per IEC 60950-1

CB Report & Certificate IEC 62368-1

AS/NZS 60950-1 (Australia /New Zealand)

## EMI/EMC Standards

### North American EMC for ITE

FCC CFR 47 Part 15 Class A (USA)

ICES-003 Class A (Canada)

### European EMC Standards

EN 55032 Class A

EN 55024

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, 8kV Contact, 15 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, 2 kV L-L, 2 kV L-G, Level 3, Criteria B

IEC 61000-4-6 Conducted Immunity, 0.15-80 MHz, 10V/rms, 80%AM (1kHz), Criteria A

IEC/EN 61000-4-11 Power Dips & Interruptions, >30%, 25 periods, Criteria C

### Country Specific

VCCI Class A (Japan Emissions)

ACMA RCM (Australia Emissions)

CCC Mark (China)

KCC Mark, EMC Approval (Korea)

BSMI (Taiwan)

Anatel (Brazil)

NoM (Mexico)

EAC (Russia, Belarus, Kazakhstan)

NRCS (South Africa)

## IEEE 802.3 Media Access Standards

IEEE 802.3ab 1000BASE-T

IEEE 802.3bz 2.5G/5GBASE-T

IEEE 802.3bt Type4 PoE

IEEE 802.3ae 10GBASE-X

IEEE 802.3aq 10GBASE-LRM

IEEE 802.3by 25GBASE-X

IEEE 802.3az Energy Efficient Ethernet

## Ordering Notes

Customers ordering a 5420F Series switch receive the hardware switch along with Base software license, integrated power supply, fan modules and rack-mount kit. 5420M Series switch customers receive the same components, except for power supplies which are not included with the unit.

At least one Power Supply Unit (PSU) is required for 5420M operation. Additional power supplies (either for 5420F or 5420M switches), transceiver/optics, power cords, as well as Premier and/or MACsec licenses must be ordered separately.

## Base Software and Optional Premier License

The Base software included with each 5420 unit supports most available software features. Certain features, however, require a Premier License to operate.

### For Switch Engine, a Premier License is required for:

5 or more OSPF interfaces

PIMDM/PIM SSM

Anycast RP (Rendezvous Point)

MultiSource Discovery Protocol (MSDP)

IS-IS/BGP4/MBGP\*

GRE Tunneling

Ethernet VPN (EVPN)

### For Fabric Engine, a Premier License is required for:

5 or more OSPF active interfaces

3 or more BGP Peers

Layer 3 Virtual Service Networks (L3 VSNs)

## Ordering Information

| Part Number        | Product Name                                                           | Description                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420F-24T-4XE      | 5420F 24-port Switch                                                   | 5420 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                                                     |
| 5420F-24P-4XE      | 5420F 24-port 30W PoE Switch                                           | 5420 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex 802.3at 30W PoE ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                                     |
| 5420F-24S-4XE      | 5420F 24-port SFP Switch                                               | 5420 Universal Switch with 24 x 100M/1Gb SFP ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                                                                             |
| 5420F-48T-4XE      | 5420F 48-port Switch                                                   | 5420 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                                                     |
| 5420F-48P-4XE      | 5420F 48-port 30W PoE Switch                                           | 5420 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex 802.3at 30W PoE ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                                     |
| 5420F-48P-4XL      | 5420F 48-port 30W PoE Switch with LRM                                  | 5420 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex 802.3at 30W PoE ports, includes 4 x 1/10Gb SFP+ LRM and uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                                                             |
| 5420F-8W-16P-4XE   | 5420F 24-port Switch with 8 ports 90W and 16 ports 30W PoE             | 5420 Universal Switch with 8 x 10/100/1000BASE-T Full / Half-Duplex 802.3bt 90W PoE ports and 16 x 10/100/1000BASE-T Full / Half-Duplex 802.3at 30W PoE ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.  |
| 5420F-16W-32P-4XE  | 5420F 48-port Switch with 16 ports 90W and 32 ports 30W PoE            | 5420 Universal Switch with 16 x 10/100/1000BASE-T Full / Half-Duplex 802.3bt 90W PoE ports and 32 x 10/100/1000BASE-T Full / Half-Duplex 802.3at 30W PoE ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license. |
| 5420F-16MW-32P-4XE | 5420F 48-port Switch with 16 ports 90W multi-rate and 32 ports 30W PoE | 5420 Universal Switch with 16 x 100Mb/1Gb/2.5Gb 802.3bt 90W PoE ports plus 32 x 10/100/1000BASE-T Full / Half-Duplex 30W PoE ports, includes 4 x 1/10Gb SFP+ uplink ports, 2 x Stacking/SFP-DD ports, 1 internal fixed PSU, one unpopulated PSU slot, fixed fan module, Base software license.                             |
| 5420M-24T-4YE      | 5420M 24-port Switch                                                   | 5420 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex ports, includes 4 x 1/10/25Gb SFP28 uplink ports, 2 x Stacking/SFP-DD ports, two unpopulated PSU slots, modular fan module, Base software license.                                                                                                    |
| 5420M-24W-4YE      | 5420M 24-port 90W PoE Switch                                           | 5420 Universal Switch with 24 x 10/100/1000BASE-T 802.3bt 90W PoE Full / Half-Duplex ports, includes 4 x 1/10/25Gb SFP28 uplink ports, 2 x Stacking/SFP-DD ports, two unpopulated PSU slots, modular fan module, Base software license.                                                                                    |
| 5420M-48T-4YE      | 5420M 48-port Switch                                                   | 5420 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex ports, includes 4 x 1/10/25Gb SFP28 uplink ports, 2 x Stacking/SFP-DD ports, two unpopulated PSU slots, modular fan module, Base software license.                                                                                                    |

| Part Number        | Product Name                                                       | Description                                                                                                                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5420M-48W-4YE      | 5420M 48-port 90W PoE Switch                                       | 5420 Universal Switch with 48 x 10/100/1000BASE-T 802.3bt 90W PoE Full / Half-Duplex ports, includes 4 x 1/10/25GbSFP28 uplink ports, 2 x Stacking/SFP-DD ports, two unpopulated PSU slots, modular fan module, Base software license.                                         |
| 5420M-16MW-32P-4YE | 5420M 48-port Switch with 16 ports 90W multi-rate and 32 ports PoE | 5420 Universal Switch with 16 x 100Mb/1Gb/2.5Gb 802.3bt 90W PoE ports plus 32 x 10/100/1000BASE-T Full / Half-Duplex 30W PoE ports, includes 4 x 1/10/25Gb SFP28 uplink ports, 2 x Stacking/SFP-DD ports, two unpopulated PSU slots,modular fan module, Base software license. |

## Accessories

| Part Number    | Product Name     | Description                           |
|----------------|------------------|---------------------------------------|
| XN-ACPWR-150W  | 150W AC PSU FB   | 150W AC PSU supported on 5420 Series  |
| XN-ACPWR-600W  | 600W AC PSU FB   | 600W AC PSU supported on 5420 Series  |
| XN-ACPWR-920W  | 920W AC PSU FB   | 920W AC PSU supported on 5420 Series  |
| XN-ACPWR-1200W | 1200W AC PSU FB  | 1200W AC PSU supported on 5420 Series |
| XN-ACPWR-2000W | 2000W AC PSU FB  | 2000W AC PSU supported on 5420 Series |
| XN-FAN-000     | Spare Fan Module | Spare Fan Module for 5420 Series      |

## Software Licenses

| Part Number       | Product Name                    | Description                                        |
|-------------------|---------------------------------|----------------------------------------------------|
| 5000-PRMR-LIC-P   | Premier License for 5000 Series | Perpetual Premier License for 5000 Series switches |
| 5000-MACSEC-LIC-P | MACsec License for 5000 Series  | Perpetual MACsec license for 5000 Series switches  |

## Warranty

All 5420 Series models are covered under Extreme's Universal LLW policy. For warranty details, visit our [Policies and Warranties](#) page.

## Optics/Transceivers

For a list of the optics and transceivers supported on the 5420 Series hardware, refer to our [Extreme Optics Compatibility Tool](#).

## Power Cords

Power cords are not included with the 5420 in support of our green initiatives but can be ordered separately.

## Maintenance Services

Extreme's maintenance and support services are provided 100% by in-house engineering experts. We have a rate of over 90% first-person resolution, ensuring efficient operation of your business-essential network.

With 24x7x365 phone support, advanced parts replacement, and on-site support, we augment your staff with expert resources to help you mitigate critical network issues fast. Visit our [ExtremeWorks Maintenance Services](#) for more information.

## Certifications

For information on Industry, Security, and Government certifications for 5420 Series models, contact your Sales Representative.



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