

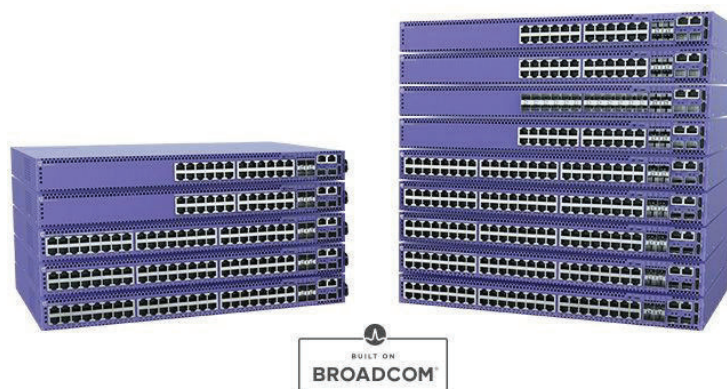
# 5420シリーズ

## ハイライト

- ExtremeCloud™ IQおよびExtremeCloud IQ - Site Engineによる、直感的で一元管理されたクラウド・スイッチング
- Extreme Fabric Connectによるファブリック対応運用で、シンプルでセキュアなネットワークプロビジョニングと自動化を実現
- ユニバーサルデュアルペルソナハードウェアによるオペレーティングシステム（OS）の選択

## 主なハードウェアの特徴

- ギガビットおよびマルチギガビット対応の24ポートおよび48ポート固定モデル
- 30W、60W、90WのPoE（Power over Ethernet）に対応し、接続機器への給電が可能
- 4 x 1/10Gb SFP+または4 x 1/10/25Gb 内蔵アップリンクポート
- 最大8台までスタッキング可能
- セキュアなリンク暗号化のため、アクセスポートとアップリンクポートにMACsecを搭載
- ノンブロッキング・ワイヤースピード設計



## ユニバーサルエッジスイッチプラットフォーム

5420シリーズは、次世代のデジタルエンタープライズ向けに設計された、高性能で機能豊富なスタックブルエッジスイッチシリーズです。24ポートと48ポートのモデルがあり、ギガビットとマルチギガビット（1/2.5G）の両方のバージョンを備えています。

最大90WのPoEに対応し、さまざまなエッジおよび配線クロゼット環境に導入できます。ユニバーサルハードウェアプラットフォームである5420は、ExtremeのフラッグシップスイッチOSをユーザが選択可能で、他に類を見ない柔軟なプラットフォームを提供します。

5420シリーズは、5420Mと5420Fの2つのシリーズで構成され、エンドユーザーの多様なニーズと価格帯に対応します。5420Mモデルは、現場で交換可能な電源とファン、1/10/25Gb内蔵アップリンク 4ポートを提供し、5420Fモデルは、固定電源（現場で交換可能な2基目の電源に対応）、固定ファン、1/10Gb内蔵アップリンク 4ポートを提供します。すべてのモデルが30/60/90W PoE機能を提供し、無線APの理想的な有線バックエンド、またはデジタルサイネージ、パンチルトズームカメラ、スマート照明、POS端末などの次世代パワードイーサネットデバイスをサポートします。

## ユニバーサルハードウェアプラットフォーム

5420 にはデュアル・ペルソナ機能が搭載されており、OS を選択することができます。Switch Engine (EXOS) <sup>1</sup> またはFabric Engine (VOSS) <sup>2</sup> OS は、スイッチ起動時に選択することも、後で変更することもできます。選択時に、スイッチはそのOSの機能と性能を引き継ぎます。

5420のOS選択は、ExtremeCloud IQで自動化することも可能で、スイッチ起動時に希望のOSを自動的にロードし、リモートからOSの有効化を容易にします。

<sup>1</sup> Switch Engineは、バージョン31.6以降、すべてのユニバーサル・スイッチ・プラットフォームにおけるExtremeXOS (EXOS) の新しい名称です。

<sup>2</sup> Fabric Engineは、バージョン8.6以降、すべてのユニバーサル・スイッチ・プラットフォームにおけるVSPオペレーティング・システム・ソフトウェア (VOSS) の新しい名称です。

## イーサネットファブリックサービス

5420は、Fabric Engine実行時にはExtreme NetworksのFabric Connectを、Switch Engine実行時にはExtreme Networks のIP Fabricを含む、さまざまなイーサネットファブリックサービスをサポートします。また、レイヤ2またはレイヤ3のファブリックサービスに自動接続するためのFabric Attachもサポートしています。

Extreme NetworksのFabric ConnectとIP Fabricは、ネットワーク運用の自動化、ネットワークプロビジョニングの簡素化、セキュリティの強化を実現する仮想化ネットワークの構築を可能にするともに、ネットワーク担当者やIT担当者の負担を軽減します。

## パワーオーバーイーサネット (PoE)

5420の全モデルは、IEEE 802.3btに準拠した30W、60W、90WのPoEに対応します。これにより、5420はパワードエッジデバイスのニーズに対応し、電気配線や回路を追加する必要がなくなります。さらに、5420 PoEモデルは、より効率的で信頼性の高いパワードエッジデバイスの動作のための無停止型PoEと高速PoEをサポートしています。

## MACsecリンク暗号化

IEEE 802.1AE MACsec\*は、5420のアクセスポートと内蔵アップリンクポートでサポートされ、接続されたスイッチやデバイス間のパケットの暗号化と復号化を可能にします。リンクのみの暗号化であるため、5420スイッチは、リンク上のパケットのセキュリティを損なうことなく、ポリシーや QoS などのサービスをパケットに適用できます。128 ビットと 256 ビットの AES (Advanced Encryption Standard) をサポートする 5420 は、最も安全なリンク暗号化を提供します。

\* 詳細は、『5420ハードウェア・インストール・ガイド』を参照してください。

## 高性能スタッキング

5420シリーズは、内蔵の2つのSFP-DDスタッキングポートでSwitch Engineを実行すると、高速スタッキングをサポートします。メーカー認定のSFP+/SFP-DD ディレクトアタッチ・ケーブルと光トランシーバを使用して、最大8台のスイッチをスタックできます。Fabric Engine実行時にはスタッキングはサポートされません。

## オーディオ・ビデオ・ブリッジング

5420シリーズは、Switch Engine OSを実行している場合、IEEE 802.1 オーディオ・ビデオ・ブリッジング (AVB)をサポートします。これにより、5420モデルは、イーサネット上で信頼性の高いリアルタイムのオーディオ/ビデオ伝送を実現し、今日の高精細でタイムセンシティブなマルチメディアストリームに必要なサービス品質を満たします。

## クラウドベースのネットワーク管理

5420は、ExtremeCloud IQとExtremeCloud IQ - Site Engineでスイッチの集中管理を行うことができ、有線/無線ネットワーク全体のユーザ、デバイス、アプリケーションを統合して表示できるため、効率的なインベントリ管理とネットワーク・トポロジ管理が可能です。ExtremeCloud IQは、ゼロタッチ・プロビジョニングを可能にし、OSペルソナの選択だけでなく、新しい5420スイッチを迅速にオンラインにすることができます。

また、5420のオンボックス管理は、ウェブベースのGUIまたは汎用コマンドラインインターフェイス (CLI) を使用して手動で行うこともできます。

## 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) 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-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) 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-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) 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-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) 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-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 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 10/100/1000Mb Ports	Max Active 100Mb/1Gb/2.5Gb Ports	Max Active 100Mb/1Gb SFP Ports	Max Active 1Gb/10Gb SFP+ Ports	Max Active 1Gb/10Gb/25Gb SFP28 Ports	Max Active 20Gb Stacking Ports***	Aggregated Switch Bandwidth	Frame Forwarding 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 10/100/1000Mb Ports	Max Active 100Mb/1Gb/2.5Gb Ports	Max Active 100Mb/1Gb SFP Ports	Max Active 1Gb/10Gb SFP+ Ports	Max Active 1Gb/10Gb/25Gb SFP28 Ports	Max Active 20Gb Stacking Ports***	Aggregated Switch Bandwidth	Frame Forwarding 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 10/100/1000Mb Ports	Max Active 100Mb/1Gb/2.5Gb Ports	Max Active 100Mb/1Gb SFP Ports	Max Active 1Gb/10Gb SFP+ Ports	Max Active 1Gb/10Gb/25Gb SFP28 Ports	Max Active 20Gb Stacking Ports***	Aggregated Switch Bandwidth	Frame Forwarding 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
- QoS Egress Queues/Port: 8
- 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
- QoS Egress Queues/Port: 8
- 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
- QoS Egress Queues/Port: 8
- VLANs: 4,059
- IP Interfaces (aka Routed VLANs): 248

#### Fabric Connect Scaling

- Fabric Adjacencies per switch: 50
- 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
- QoS Egress Queues/Port: 8
- VLANs: 4,059
- IP Interfaces (aka Routed VLANs): 248

#### Fabric Connect Scaling

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

## Weights and Dimensions

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

	<b>XN-ACPWR-150W</b> <b>XN-ACPWR-150W-FB</b>	<b>XN-ACPWR-600W</b> <b>XN-ACPWR-600W-FB</b>	<b>XN-ACPWR-920W</b>	<b>XN-ACPWR-1200W*</b> <b>XN-ACPWR-1200W-FB</b>	<b>XN-ACPWR-2000W**</b> <b>XN-ACPWR-2000-FB-A</b>
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/EN 60320 C14 (for -FB)	IEC/EN60320 C16 IEC/EN 60320 C14 (for -FB-A)
Power Cord Input Plug	IEC/EN60320 C13	IEC/EN60320 C13	IEC/EN60320 C13	IEC/EN60320 C15 IEC/EN 60320 C13 (for -FB)	IEC/EN60320 C15 IEC/EN 60320 C13 (for -FB-A)
Operating Temperature	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) 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

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

\* 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
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 or XN-ACPWR-150W-FB	XN-ACPWR-150W or XN-ACPWR-150W-FB
5420M-24W-4YE	XN-ACPWR-920W or XN-ACPWR-1200W-FB	XN-ACPWR-920W or XN-ACPWR-1200W-FB
5420M-48T-4YE	XN-ACPWR-150W or XN-ACPWR-150W-FB	XN-ACPWR-150W or XN-ACPWR-150W-FB
5420M-48W-4YE	XN-ACPWR-920W, XN-ACPWR-2000W, or XN-ACPWR-1200W-FB	XN-ACPWR-920W, XN-ACPWR-2000W, or XN-ACPWR-1200W-FB, XN-ACPWR-2000W-FB-A
5420M-16MW-32P-4YE	XN-ACPWR-920W, XN-ACPWR-2000W, or XN-ACPWR-1200W-FB	XN-ACPWR-920W, XN-ACPWR-2000W, or XN-ACPWR-1200W-FB, XN-ACPWR-2000W-FB-A

\* 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	Power Supply	PoE Budget with Single Primary PSU	PoE Budget with Optional Secondary PSU
5420M-24W-4YE	XN-ACPWR-920W XN-ACPWR-1200W XN-ACPWR-1200W-FB	720W	1440W
5420M-48W-4YE	XN-ACPWR-920W XN-ACPWR-1200W XN-ACPWR-1200W-FB	804W	1558W
	XN-ACPWR-2000W XN-ACPWR-2000W-FB-A	884W*/1440W**	1704W*/2880W**
5420M-16MW-32P-4YE	XN-ACPWR-920W XN-ACPWR-1200W XN-ACPWR-1200W-FB	787W	1541W
	XN-ACPWR-2000W XN-ACPWR-2000W-FB-A	884W*/1440W**	1687W*/2400W**

\* @ 100-120 VAC

\*\* @ 200-240 VAC

## 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-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
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: 5% 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: 5% 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.

Part Number	Product Name	Description
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 x10/100/1000BASE-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 x10/100/1000BASE-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 4x 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 1/10/25GbSFP28 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.
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, Front to Back Airflow
XN-ACPWR-150W-FB	150W AC PSU FB	150W AC PSU, Front to Back Airflow
XN-ACPWR-600W	600W AC PSU FB	600W AC PSU, Front to Back Airflow
XN-ACPWR-600W-FB	600W AC PSU FB	600W AC PSU, Front to Back Airflow
XN-ACPWR-920W	920W AC PSU FB	920W AC PSU, Front to Back Airflow
XN-ACPWR-1200W	1200W AC PSU FB	1200W AC PSU, Front to Back Airflow

<b>Part Number</b>	<b>Product Name</b>	<b>Description</b>
XN-ACPWR-1200W-FB	1200W AC PSU FB	1200W AC PSU, Front to Back Airflow
XN-ACPWR-2000W	2000W AC PSU FB	2000W AC PSU, Front to Back Airflow
XN-ACPWR-2000W-FB-A	2000W AC PSU FB	2000W AC PSU, Front to Back Airflow
XN-FAN-000	Spare Fan Module FB	Spare Fan Module for 5420 Series, Front to Back Airflow

### Software Licenses

<b>Part Number</b>	<b>Product Name</b>	<b>Description</b>
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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