Cisco IOS XR Software Flexible Consumption Model 2.0

© 2026 Cisco and/or its affiliates. All rights reserved.

Contents

Cisco IOS XR software overview 3

Key features 3

IOS XR Flexible Consumption Model 2.0 4

Cisco Smart Licensing 4

Software Suites in IOS XR FCM 2.0 5

Security 10

Warranty 10

Cisco environmental sustainability 10

Service and support 11

Cisco Capital 12

For more information 12

Document history 13

© 2026 Cisco and/or its affiliates. All rights reserved.

Cisco IOS XR software overview

At Cisco, we know that our customers demand the best, which is why we're proud to offer our industry-leading Cisco IOS® XR Routing products. Cisco's 64-bit IOS XR Software is designed to provide you with the operational efficiency, optimized utilization, and service agility you need to succeed in today's fast-paced business environment. Discover the benefits of our customer-focused approach, which includes rich features like Pre-boot eXecution Environment (iPXE) boot, seamless auto provisioning, native support for third-party application hosting, seamless machine-to-machine interface, real-time telemetry, and flexible software package delivery using Cisco's Flexible Consumption Models (FCM). With FCM, you have the freedom to tailor your network software to match your evolving requirements, ensuring your success in the most cost-effective and efficient manner.

Product overview: Cisco IOS XR Flexible Consumption Model 2.0

The Cisco IOS XR Flexible Consumption Model 2.0 (FCM 2.0) is Cisco's Next Generation Flexible Consumption Model suitable to be used with Cisco 8000 series. FCM 2.0 introduces a new level of consumption for IOS XR customers, while maintaining a focus on providing flexibility and simplicity.

FCM 2.0 provides customers the capability and flexibility to purchase software capacity as and when needed with a Pay-as-you-grow model. Customers start with the right amount of software licenses needed and are allowed to grow into the capacity of the system as their network services and needs expand. Furthermore, customers are free to choose the level of service with a 3-tier software model. Cisco introduces a new license management experience that facilitates the transfer of licenses throughout the organization using cloud-based license pools. This flexibility to add capacity as and where needed greatly assists customers in their network and capacity planning endeavors.

Key features

Offer Structure

The Cisco IOS XR Flexible Consumption Model (FCM) is comprised of three main parts: Hardware, Software and Software Innovation Access. The hardware is the first part of the model. The two other parts are components of the software and are defined: 1) perpetual software component, also known as Right To Use (RTU) and 2) the ongoing, recurring software component also known as Software Innovation Access (SIA).

RTU perpetual software licenses involve three software tiers: Essentials, Advantage and Premier. The Essentials Software licenses include the IOS XR comprehensive suite of routing and management services. Advantage Software licenses are an extension of the Essentials Software licenses and include all features of Essentials Software licenses with additional advanced routing and management services. Premium Software licenses include all the Essentials and Advantage features plus scaling and high-performance features. Some product families may have additional and optional a-la-carte software perpetual licenses for specialized platform-specific features. The IOS XR Flexible Consumption Model enables the software solution at the overall network level as opposed to just a single router.

A valid and compliant SIA for the entire FCM network entitles the customer to access software feature upgrades. It also allows organizations to share RTU software licenses across the entire Flexible Consumption Model network for a given Smart Account from a common license pool. Customers can port their RTU licenses to permissible next-generation routers. SIA is available in two terms: xxx-SIA-3 (with a selectable range of 36 to 59 months) and xxx-SIA-5 (with a selectable range of 60 to 84 months), where "xxx" is the platform product identifier.

© 2026 Cisco and/or its affiliates. All rights reserved.

IOS XR Flexible Consumption Model 2.0

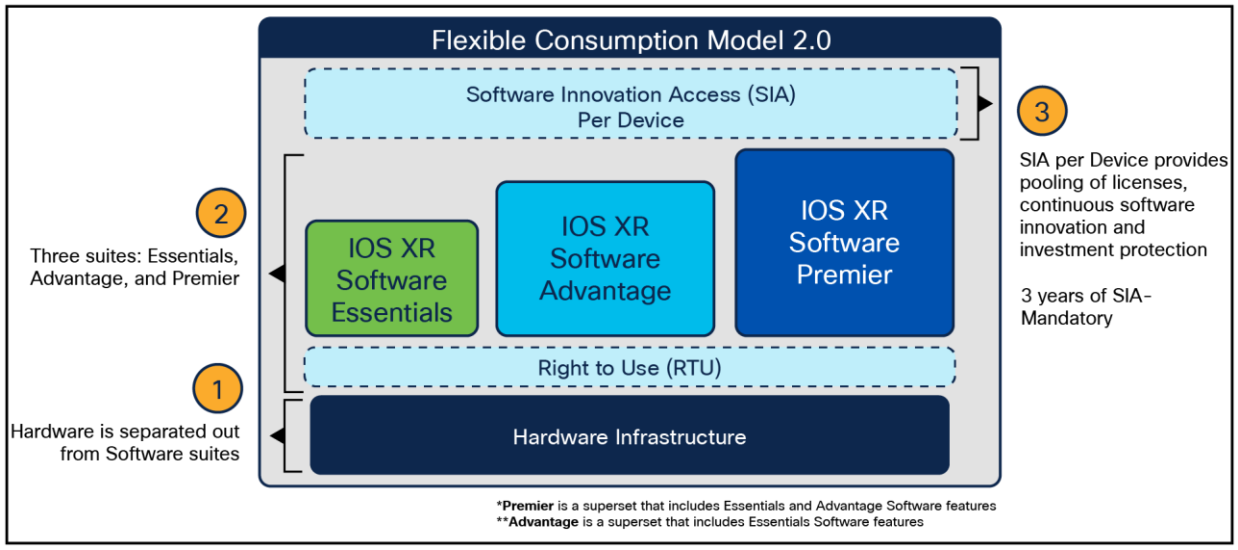


Figure 1.
Simple and Flexible Software Suites

Cisco Smart Licensing

Cisco Smart Licensing is a flexible and secure licensing model that provides you with an easier, faster, and more consistent way to purchase, activate, manage, renew, and upgrade software products across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation**. Smart Licensing establishes a pool of software licenses that can be used across the entire organization –no more PAKs (Product Activation Keys).
- **Unified Management.** Cisco License Central (CLC) provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.
- **License Flexibility**. Your software is not node-locked to your hardware, so you can easily use and transfer licenses as needed.

To use Smart Licensing, you must first set up a Smart Account on Cisco License Central.

For a more detailed overview on Cisco Licensing, visit the Licensing Hub.

The IOS XR Flexible Consumption Model requires Cisco Smart Licensing registration and license usage reporting. A customer network under IOS XR FCM is considered compliant if the FCM-enabled devices in the customer's network are registered to Smart Licensing and are reporting the usage.

© 2026 Cisco and/or its affiliates. All rights reserved.

A successful registration and reporting to Smart Licensing is essential to avail all the benefits of Software Innovation Access in FCM. Some additional benefits of Smart Licensing are:

- **Real-time visibility**. Get a current view and immediate insights about your software licenses, entitlements, and users across the organization.
- **Centralized management**. Enjoy a single location for all your Cisco software assets (including PAK licenses and Enterprise Agreements) and the ability to freely move licenses around your network.
- **Telemetry**. Download reports on purchased, in-use, and available software to improve software utilization, efficiency, and budget planning.
- **Better organization.** Flexibly organize licenses by department, product, geography, or other designation.
- **Speed and ease.** A Smart Account is simple to use and takes only a few minutes to set up.

Software Suites in IOS XR FCM 2.0

The IOS XR Flexible Consumption Model 2.0 consists of three distinct software tiers. The Essentials tier is designed for fundamental transport applications, while the Advantage tier caters to enhanced applications and network resiliency. Lastly, the Premier tier offers scaling capabilities specifically tailored for larger networks. The software tiers are structured in a nested manner, which means that the Premier tier includes all the features of the Advantage software and the Essentials software tiers. Similarly, the Advantage tier encompasses not only all the features found in the Essentials Software tier but also includes additional advanced features.

FCM 2.0 license types

RTU (Right-To-Use) licenses provide customers with the ability to access and utilize specific perpetual software functionalities without the requirement to purchase the complete software package. These RTUs are categorized into three tiers: Essentials, Advantage, and Premier.

SIA (Software Innovation Access) licenses are term based and provide customers with access to specific software benefits. These benefits include license pooling, license portability, and access to IOS XR Software upgrades. SIA licenses enable customers to optimize their software usage, easily manage licenses across their network infrastructure, and ensure seamless upgrades to the latest versions of IOS XR Software. SIA term contracts are designed per system, offering coverage for one system. A system maybe a fixed box device or a line card. In FCM 2.0 SIA is now associated at a platform or box level than at a port level. This change has been made to simplify the customers license management experience. Each hardware system is associated with an SIA type, which can be either A, B, C or D or Small, Medium or Large.

DCO optics license is required when the router port is configured to operate in Digital Coherent Mode. The Cisco Optics that will require the DCO license are QDD-400G-ZR-S, QDD-400G-ZRP-S, ONS-CFP2D-400G-C, and all the new modules released under this technology. This License will not be needed for existing 100/200G optics like CFP2-WDM-DET-1HL, CFP2-WDM-D-1HL, CFP2-WDM-DETS-1HL, CFP2-WDM-DS-1HL, CFP2-WDM-DS100-HL. The DCO Licenses are consumed per 100G for any ZR and ZRP optics, and there is no minimum fill rate. One should order for the quantity of optics to be deployed. The DCO license software upgrade is covered under SIA.

© 2026 Cisco and/or its affiliates. All rights reserved.

The following tables show the product IDs for the Flexible Consumption Model 2.0 Software RTU and SIA.

Table 1. Cisco 8000 Series Flexible Consumption Model v2.0 software licenses

Product ID (PID)	Description
ESS-8KE-100G-RTU	Essentials Right-to-Use 100G for Cisco 8000 Series
ADN-8KE-100G-RTU	Advantage Right-to-Use 100G for Cisco 8000 Series
PRM-8KE-100G-RTU	Premier* Right-to-Use 100G for Cisco 8000 Series
ESS-ADN-8KSW-100G	Essential to Advantage Right-to-Use 100G Cisco 8000 Series
ADN-PRM-8KSW-100G	Advantage to Premium Right-to-Use 100G Cisco 8000 Series

*Premier tier is available on certain platforms

Table 2. Cisco 8010 Series Flexible Consumption Model v2.0 software licenses

Product ID (PID)	Description
ESS-NGA-10G-RTU	Access Network SW&Autom Ess 1.0 Perp RTU (per 10G)
ADN-NGA-10G-RTU	Access Network SW&Autom Adn 1.0 Perp RTU (per 10G)
PRM-NGA-10G-RTU	Access Network SW&Autom Prm 1.0 Perp RTU (per 10G)
ESS-ADN-NGA-10G-RT	Access Essentials to Advantage Upgrade RTU per 10G
ESS-PRM-NGA-10G-RT	Access Essentials to Premier Upgrade RTU per 10G
ADN-PRM-NGA-10G-RT	Access Advantage to Premier Upgrade RTU per 10G

Table 3. Cisco 8000 Software Innovation Access - SIA Product ID (PIDs)

Tier	Product ID (PID)	Description
Type A	8KSW-A-SIA-3	8000 Type A Device SIA for 3 to 5 year term FCM 2.0
	8KSW-A-SIA-5	8000 Type A Device SIA for 5 to 7 year term FCM 2.0
Type B	8KSW-B-SIA-3	8000 Type B Device SIA for 3 to 5 year term FCM 2.0
	8KSW-B-SIA-5	8000 Type B Device SIA for 5 to 7 year term FCM 2.0
Type C	8KSW-C-SIA-3	8000 Type C Device SIA for 3 to 5 year term FCM 2.0
	8KSW-C-SIA-5	8000 Type C Device SIA for 5 to 7 year term FCM 2.0
Type D	8KSW-D-SIA-3	8000 Type D Device SIA for 3 to 5 year term FCM 2.0
	8KSW-D-SIA-5	8000 Type D Device SIA for 5 to 7 year term FCM 2.0

© 2026 Cisco and/or its affiliates. All rights reserved.

Table 4. Cisco 8010 Software Innovation Access - SIA Product ID (PIDs)

Tier	Product ID (PID)	Description
Large	NGA-L-SIA-3	SIA per system for 3 years - Large
	NGA-L-SIA-5	SIA per system for 5 years - Large
Medium	NGA-M-SIA-3	SIA per system for 3 years - Medium
	NGA-M-SIA-5	SIA per system for 5 years - Medium
Small	NGA-S-SIA-3	SIA per system for 3 years - Small
	NGA-S-SIA-5	SIA per system for 5 years - Small

Table 5. Software Parent License

All the above PID reside under the Software Product ID:

Product ID (PID)	Description
8K-SW-FC	Standard SW ATO FCM 2.0 for Cisco 8000 Series
8010-FC-SW	Standard SW ATO FCM 2.0 for Cisco 8010 Series

Table 6. DCO Optics License

Product ID (PID)	Description
DCO-100G-RTU	100G Digital Coherent Optics RTU – for product families: Cisco 8000, ASR 9000, NCS 5500/5700, NCS 560, and NCS 540

The IOS XR Flexible Consumption Model 2.0 consists of three distinct software tiers. The Essentials software tier is required for active ports in the system and is per 100 Gb capacity licenses for the Cisco 8000 Series and per 10 Gb capacity licenses for the Cisco 8010 Series. Customers may also find it necessary to opt for the Advantage software tier when utilizing specific features, such as layer 2 Advanced services, layer 3 VPN services, and Peering. Additionally, the Advantage software tier includes functionalities like traffic engineering and peering. For increased system capability, the Premier Tier offers additional functionalities. It is important to note that all tiers are nested meaning higher tiers include all previous tiers.

In addition to the tiered software licensing, a-la-carte software licenses are available to provide specialized platform-specific features.

© 2026 Cisco and/or its affiliates. All rights reserved.



Figure 2.
Cisco 8000 Series Software Tiers

© 2026 Cisco and/or its affiliates. All rights reserved.

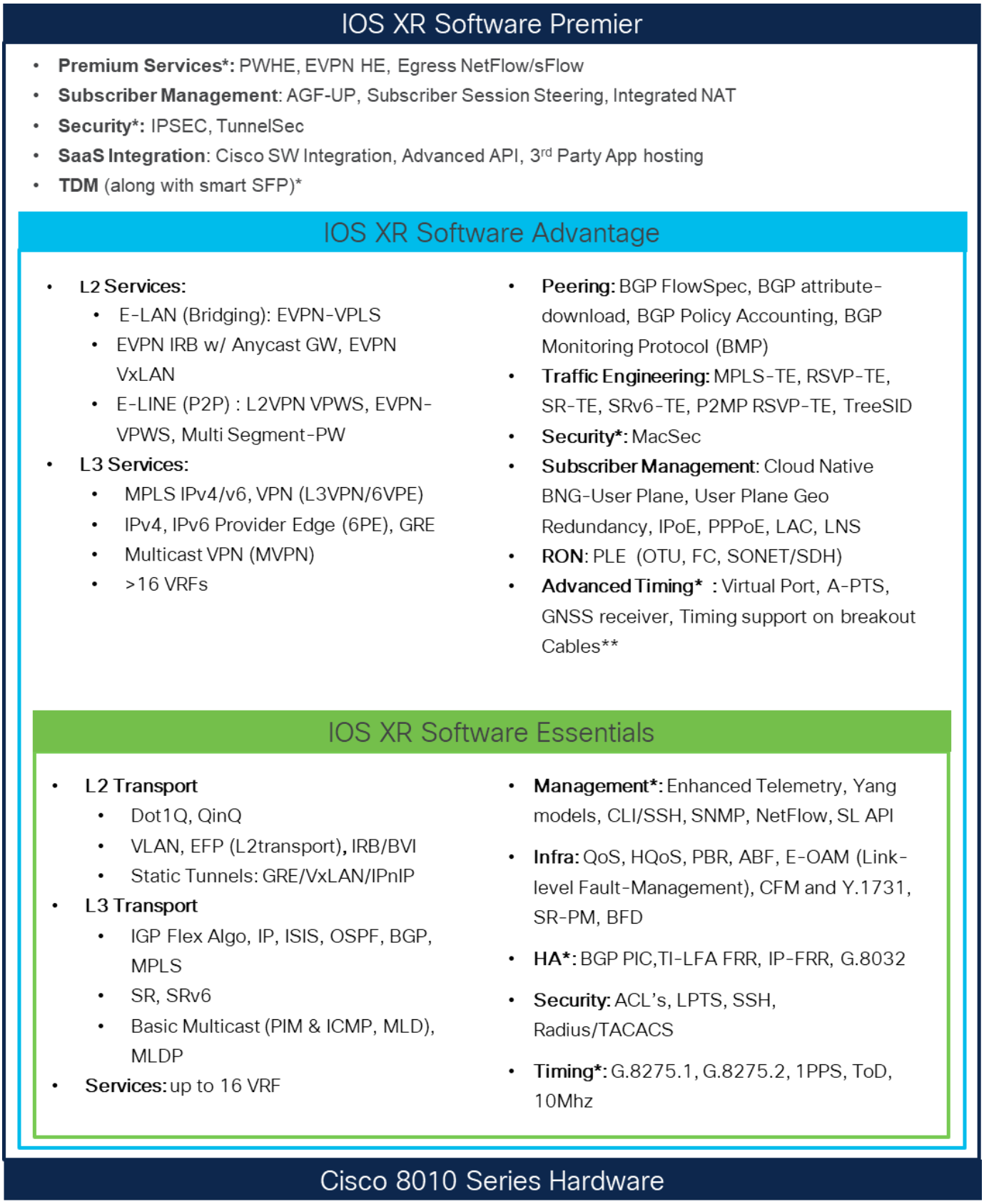


Figure 3.
Cisco 8010 Series Software Tiers

© 2026 Cisco and/or its affiliates. All rights reserved.

Security

Security is a major concern for all Cisco customers. Attacks on networking equipment can have disastrous results. Network operators need assurance that the platform is secure against hardware and software breaches. The Cisco 8000 router supports hardware root of trust based on the Trusted Computing Group (TCG) and IEEE 802.1 AR standards. The Cisco 8608 is FIPS 140-2 Level 2 compliant and supports advanced security features to ensure platform and OS integrity.

- Cisco secures the supply chain of every system at manufacturing time. A technology called "Chip Protection" allows customers to be assured that the hardware they receive from Cisco has no counterfeit components. This is accomplished with the use of unique identifiers that are stored inside the Trusted Anchor Module (TAM) device to identify and track components through the entire lifecycle of Cisco 8000 platforms. The checks cover all major components, including network processors, CPUs, and Field-Programmable Gate Arrays (FPGAs).
- Every image that a customer downloads from the Cisco site is cryptographically signed using Cisco private keys. Each platform has a TAM (based on the TCG standard) that uses built-in cryptographic functions to validate the image signature. Once the signature is validated, the software is considered authentic and is ready for install.
- During normal operation, the JTAG (Joint Test Action Group – a method of chip testing and verification) ports on the chips are monitored. JTAG is one of the most common attack surfaces and therefore must be secured. Cisco uses a technology called "Secure JTAG" to monitor the port. If any illegal activity is detected, it is flagged, and the system CPU is held in reset mode.
- Secure Boot root of trust is anchored in the TAM. It establishes an authentication chain that validates the entire boot process.

Warranty

Cisco HW is backed by Limited Warranty. For details on warranty please visit Cisco Warranty Finder.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

© 2026 Cisco and/or its affiliates. All rights reserved.

Table 7. Links to sustainability topics

Sustainability Topic		Reference
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	WEEE Compliance
	Information on product takeback and reuse program	Cisco Takeback and Reuse Program
	Sustainability inquiries	Contact: csr_inquiries@cisco.com
Material	Product packaging weight and materials	Contact: environment@cisco.com

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

Service and support

Cisco offers a range of services to support the Flexible Consumption Model to help accelerate your success in deploying and optimizing the Cisco 8000 & 8000E Series. These innovative Cisco Services offerings are delivered through a unique combination of people, processes, tools, and partners, and they are focused on helping you increase operating efficiency and improve your data center network.

Cisco Advanced Services uses an architecture-led approach to help you align your data center infrastructure with your business goals and achieve long-term value.

Cisco Software Support offers award-winning technical support coverage and maintenance releases for the Essentials and Advantage Software Suites, helping to keep your systems and your business running smoothly. Software Support is a required purchase with the SIA feature upgrade licenses.

Cisco SP Base provides device-level support and helps reduce downtime with fast, expert technical support and flexible hardware coverage provided by the Cisco Technical Assistance Center (TAC). With this service, you can take advantage of the Cisco Smart Call Home service, which offers proactive diagnostics and real-time alerts on your hardware.

Spanning the entire network lifecycle, Cisco Services offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise.

For information on services for the Flexible Consumption Model systems and software licenses, contact your Cisco sales representative. For an overview of all offers, visit Cisco Services for Service Providers.

© 2026 Cisco and/or its affiliates. All rights reserved.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation, and stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.

For more information

Learn more about the platforms in the Cisco 8000 Series Routers - Data Sheets - Cisco.

© 2026 Cisco and/or its affiliates. All rights reserved.

Document history

New or revised topic	Described In	Date
Major update of Cisco IOS XR Software Flexible Consumption Model 2.0 Data Sheet	Entire data sheet	
Update the license descriptions and add upgrade Licenses and add third-party optics license	Entire data sheet	

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **https://www.cisco.com/go/offices**.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: https://www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA C78-3760354-03 06/26

© 2026 Cisco and/or its affiliates. All rights reserved.