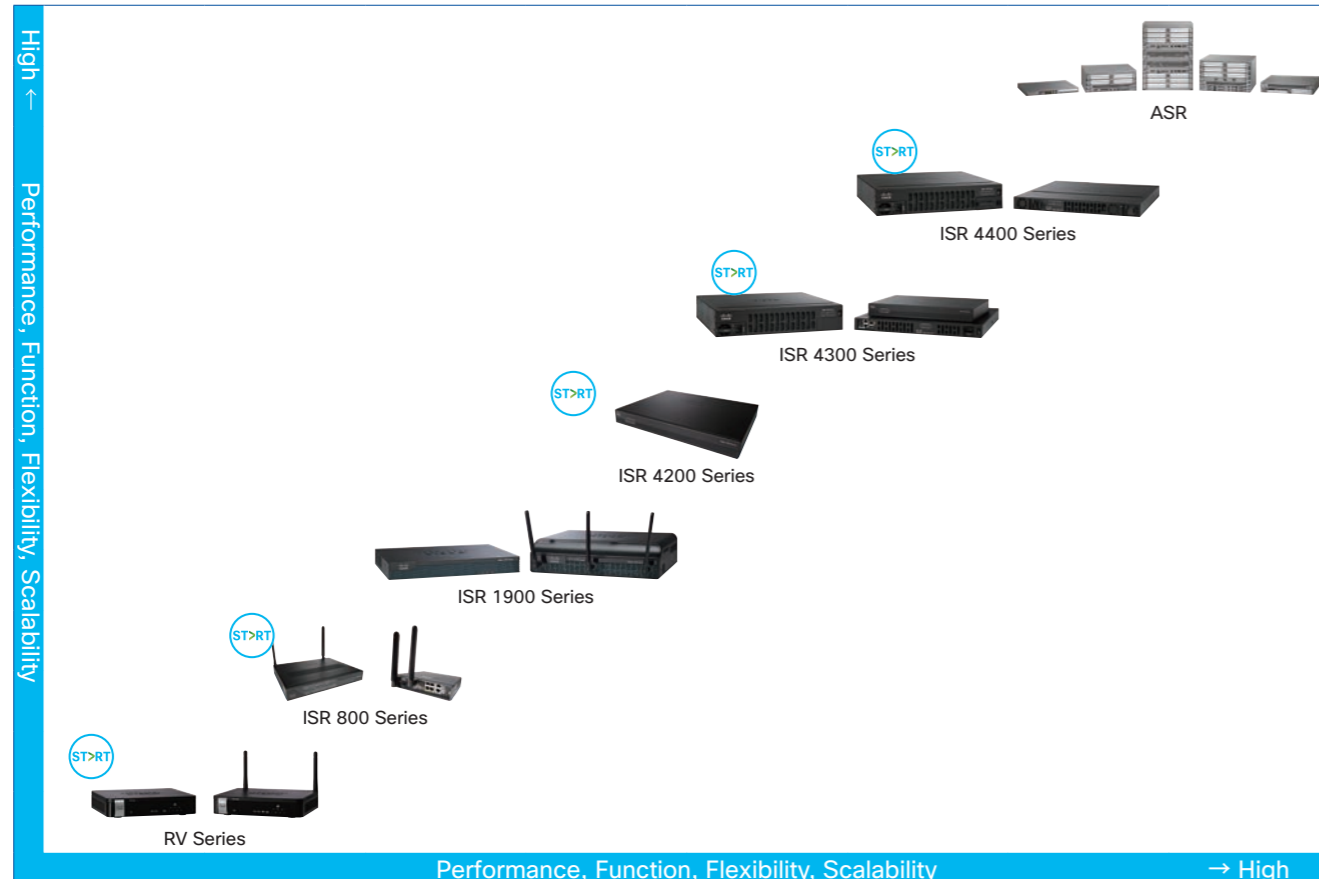
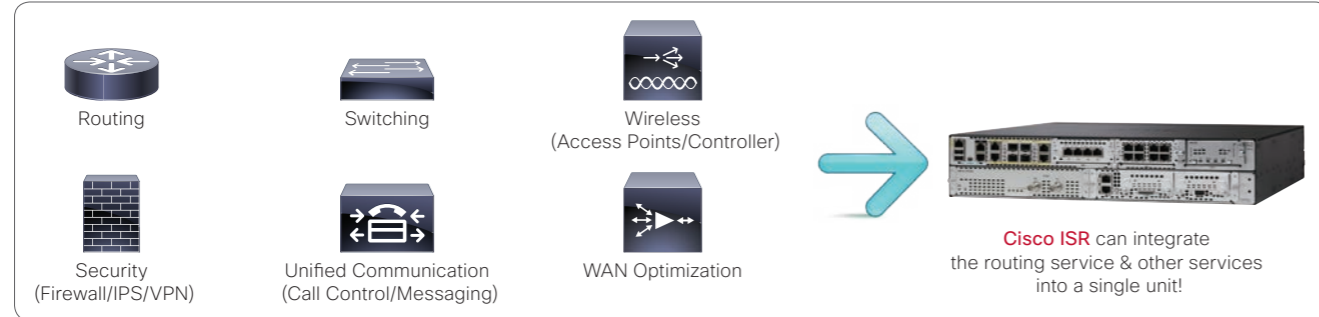




Positioning Map of Cisco Routers

Previously, even the small-scale bases were required to install a wide range of devices including switches, wireless access points and WAN optimization appliances. The **Cisco Integrated Services Routers (ISR)** are "super routers" that are capable of integrating the network services provided by these multiple devices into a single platform. These routers are not only capable of integrating

multiple services but also have the flexibility to add new services as required via license activation and/or addition of expansion modules. Adoption of these routers results in simpler network configuration, helping to reduce the device costs as well as operation and maintenance costs.



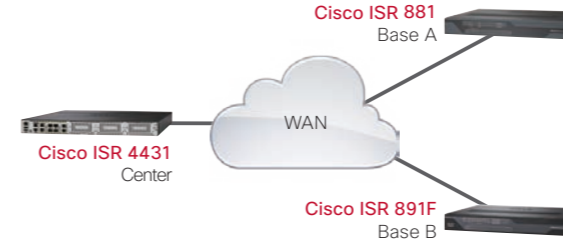
Cisco RV Series	Fixed-configuration routers. Suitable for the small-sized network.		P42
Cisco ISR 800 Series	Fixed-configuration integrated services routers. Suitable for deployment in small-sized bases, home offices and Machine-to-Machine (M2M) environments.		P43
Cisco ISR 4000 Series	Modular integrated services routers. Suitable for deployment in bases that require a provision of application-aware services.		P44

Selection of Cisco ISR

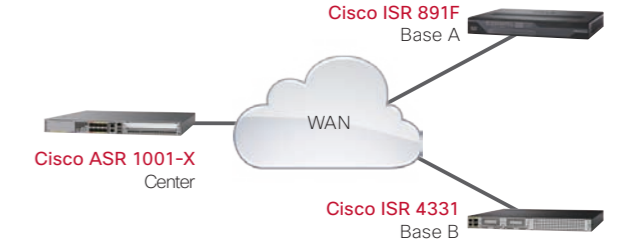
Routers with higher performance and expandability should be selected for traffic-intensive data centers than the bases. **Cisco ISR** not only allows selection of bundle models according to the services required at the data centers or

bases, but also respond flexibly to changes in the business needs by means of license activation of **Cisco IOS** technologies and addition of expansion modules.

Sample inter-base network configuration: small-scale network



Sample inter-base network configuration: Medium-scale network



Benefits of Migrating to Cisco ISR 4000 Series

The Cisco ISR 4000 Series build on 20 years of branch-office routers, adding services and horsepower for the needs of modern branch offices and allowing businesses to:

- Quickly open new remote offices or easily add additional services
- Operate an entire branch office with a single box
- Give IT departments more time for innovation by automating repetitive tasks and orchestrating security and application services

The **Cisco ISR 4000 Series** address the problems that modern branch offices face, without giving up any of the existing services of previous-generation Cisco ISRs. It also brings virtualization to networking so that IT can adopt services faster and repurpose resources as needs change. And it delivers additional computing power for local application survivability, data backup, and local analytics processing.

The new architecture of the Cisco ISR 4000 Series delivers up to 2 Gbps in a converged platform, typically 4 to 10 times faster than the previous-generation ISRs. The WAN and application optimization services of the Cisco ISR 4000 Series include **Cisco Application Visibility and Control (AVC)**, allowing IT to assess capacity planning; and **Cisco Performance Routing Version 3 (PfR v3)**, which automatically sends traffic across the best connection for current network conditions. Not only does this architecture allow a branch office to run the network with a single box, it also allows use of that box to converge network, computing, and storage resources in the same platform. The virtualization technology available both embedded within the Cisco ISR 4000 Series and through additional data center-class server modules (**Cisco UCS E Series Servers**) offers new levels of converged capability.



Series Comparison

Branch Network Needs	Features	Cisco ISR 1800/2800/3800 Series	Cisco ISR 1900/2900/3900 Series	Cisco ISR 4000 Series	Benefits
	Maximum throughput	Up to 50 Mbps	Up to 350 Mbps	Up to 2 Gbps	4 to 10 times performance increase for the same price as the ISR G2
	Separate data, control, and services planes	-	-	●	Minimal performance impact as network services are added and throughput increases
	Integrated service container	-	-	●	No need for additional branch appliances; add network services using pluggable virtual machines
	Integrated compute with Cisco UCS E-Series Servers	-	●	●	Local compute resources for applications, data backup, and analytics
	Cisco IOS XE Operating System	-	-	●	Higher availability for network services with multicore processing
	Cisco Application Visibility and Control (AVC)	-	●	●	Visibility into 1000+ applications for capacity planning and prioritization
	Intelligent path selection (PfR v3)	-	●	●	Improve application experience and lower costs with path selection using real-time analytics
	WAN optimization (WAAS and Akamai)	-	●	●	Improve application performance and offload WAN with Layer 4-7 optimization and intelligent caching
	Sourcefire Intrusion Detection System (IDS)	-	●	●	Industry-leading advanced threat defense
	Cloud Web Security with Advanced Malware Protection (AMP)	-	●	●	Scale secure direct Internet access with consistent policy enforcement
	Multicore hardware VPN acceleration	-	-	●	High-performance encryption for secure WAN
	Pay-as-you-grow performance and services	-	-	●	Ability to buy what you need today and upgrade anytime without complete equipment upgrades
	Cisco ONE Software Suites	-	●	●	Predictable OpEx spend, license portability, and investment protection
	Intelligent WAN app with Cisco APIC Enterprise Module	-	●	●	Automated provisioning for faster deployment

Cisco RV Series

Cisco RV Series are affordable, highly secure network access devices, designed and built for small businesses. Cisco offers a broad range of small business routers to meet any requirement from basic Internet connectivity to high-capacity, business-critical networking.

■ Cisco RV Series

New SKU	Existing SKU	WAN Ports				LAN Ports		IPsec Throughput	IPsec VPN Tunnels		Web Filtering	Wireless				AC Power
		FE	GE	xDSL	3G/4G	FE	GE		Site-to-Site	Remote Access		11n	11ac	2.4 GHz	5 GHz	
CVR100W-x-K9-xx	n/a	1	-	-	-	4	-	5 Mbps	1	3	-	●	-	●	-	External
RV042	n/a	2	-	-	-	4	-	59 Mbps	50	50	-	-	-	-	-	External
RV042G-K9-xx	n/a	-	2	-	-	4	-	75 Mbps	50	50	-	-	-	-	-	External
RV110W-x-xx-K9	n/a	1	-	-	-	4	-	5 Mbps	1	5	-	●	-	●	-	External
RV130-K9-xx	RV180-K9-xx	-	1	-	1 ¹	-	4	50 Mbps	10	10	-	-	-	-	-	External
RV130-WB-K9-xx	RV180-K9-xx	-	1	-	1 ¹	-	4	50 Mbps	10	10	●	-	-	-	-	External
RV130W-x-K9-xx	RV120W-x-xx RV180W-x-K9-xx	-	1	-	1 ¹	-	4	50 Mbps	10	10	-	●	-	●	-	External
RV130W-x-WB-K9-xx	RV120W-x-xx RV180W-x-K9-xx	-	1	-	1 ¹	-	4	50 Mbps	10	10	●	●	-	●	-	External
RV132W-x-K9-xx	n/a	1	-	1	1 ¹	3	-	3 Mbps	5	5	-	●	-	●	-	External
RV134W-x-K9-xx	n/a	-	1	1	1 ¹	-	4	20 Mbps	5	5	-	●	●	●	●	External
RV215W-x-K9-xx	n/a	1	-	-	1 ¹	4	-	5 Mbps	1	5	-	●	-	●	-	External
RV315W-x-K9-xx	n/a	-	2	-	1 ¹	8	-	100 Mbps	50	50	-	●	-	●	-	External
RV320-K9-xx	n/a	-	2	-	1 ¹	-	4	100 Mbps	25	25	●	-	-	-	-	External
RV320-WB-K9-xx	n/a	-	2	-	1 ¹	-	4	100 Mbps	25	25	-	-	-	-	-	External
RV325-K9-xx	n/a	-	2	-	1 ¹	-	14	100 Mbps	25	25	-	-	-	-	-	External
RV325-WB-K9-xx	n/a	-	2	-	1 ¹	-	14	100 Mbps	25	25	●	-	-	-	-	External

¹ 3G/4G modem is required.

New Models with Web Filtering

Your business and your employees are exposed to phishing, key loggers, spyware, drive-by malware, and other online threats. With the new **RV130/130W/320/325 with web filtering**, you can keep your employees and users safe from unwanted content and malicious websites. This is accomplished without compromising the users' online experience and can even help boost employee productivity and network performance by limiting Internet surfing to appropriate site categories and eliminating unwanted network traffic. Users are also automatically protected from malicious/compromised websites, regardless of site categorization.

- **Dynamic Web Filtering**
Router checks URLs with Cisco cloud
Router caches websites to speed up response time over time
- **Classification System**
300 Million web URL's categorized and assigned reputation score
Sophisticated website reputation scoring (think of credit score)
80+ content categories
Real-time updates
- **No License Renewal are Necessary**

Cisco ISR 800 Series

Fixed-configuration Integrated Services Routers suitable for deployment in small-sized bases, home offices and Machine-to-Machine (M2M) environments. In addition to the routing service, a wide variety of services including switching, wireless security, unified communication, and WAN optimization can be integrated using a single router unit.

■ Highlights

- Cisco IOS Universal Image (IP Base/Advanced Security/Advanced IP Services)
- Built-in managed switch (All models)
- Built-in IEEE 802.11n-compatible wireless access point (C819GW-LTE-LA-xK9/C881W-x-K9)
- 4G LTE wireless WAN (Some models)

■ Cisco ISR 800 Series (1 of 2)

SKU	Description	Dimensions (Height x Width x Depth)	Maximum Weight
C819H-K9	Cisco ISR 819H M2M Hardened Model	4.39 x 19.56 x 20.57 cm	1.45 kg
C819G-LTE-LA-K9	Cisco ISR 819G 4G LTE 2.5 M2M Model	4.24 x 19.56 x 18.29 cm	1.04 kg
C819GW-LTE-LA-xK9 ¹	Cisco ISR 819G 4G LTE 2.5 Wireless M2M Model	4.24 x 19.56 x 22.86 cm	1.04 kg
C819HG-4G-G-K9	Cisco ISR 819HG 4G LTE M2M Hardened Model	4.39 x 19.56 x 20.57 cm	1.45 kg
C867VAE	Cisco ISR 867VAE IP Base Model	3.85 x 20.90 x 19.80 cm	2.49 kg
C867VAE-K9	Cisco ISR 867VAE Advanced Security Model	3.85 x 20.90 x 19.80 cm	2.49 kg
C881W-x-K9 ¹	Cisco ISR 881W Wireless Model	4.82 x 32.51 x 26.42 cm	2.49 kg
C881V-K9	Cisco ISR 881V Router	4.82 x 32.51 x 24.89 cm	2.49 kg
C891F-K9	Cisco ISR 891F Router	4.62 x 32.28 x 24.84 cm	2.49 kg
C891-24X/K9	Cisco ISR 891-24X	4.62 x 43.82 x 30.48 cm	2.49 kg
C892FSP-K9	Cisco ISR 892FSP	4.62 x 32.28 x 24.84 cm	2.49 kg
C897VA-K9	Cisco ISR 897VA	4.62 x 32.28 x 24.84 cm	2.49 kg
C897VAG-LTE-LA-K9	Cisco ISR 897VAG 4G LTE 2.5 Model	4.82 x 32.51 x 26.42 cm	2.58 kg
C898EAG-LTE-LA-K9	Cisco ISR 898EAG 4G LTE 2.5 Model	4.82 x 32.51 x 26.42 cm	2.58 kg
C899G-LTE-LA-K9	Cisco ISR 899G 4G LTE 2.5 Model	4.82 x 32.51 x 26.42 cm	2.58 kg

■ Cisco ISR 800 Series (2 of 2)

SKU	Cisco IOS	WAN Ports						LAN Ports		Wireless		Security		Voice	WAASX	Rack mount
		FE	GE	GE/SFP	ISDN	xDSL	Voice	FE	GE	AP	4G LTE	FW	VPN			
C819H-K9	Advanced IP Services	-	1	-	-	-	-	4	-	-	-	●	●	-	●	- ⁵
C819G-LTE-LA-K9	Advanced IP Services	-	1	-	-	-	-	4	-	-	●	●	●	-	●	- ⁵
C819GW-LTE-LA-xK9	Advanced IP Services	-	1	-	-	-	-	4	-	-	●	●	●	-	●	- ⁵
C819HG-4G-G-K9	Advanced IP Services	-	1	-	-	-	-	4	-	-	●	●	●	-	●	- ⁵
C867VAE	IP Base	-	1	-	-	1	-	3	2	-	-	-	-	-	-	-
C867VAE-K9	Advanced Security	-	1	-	-	1	-	3	2	-	-	-	-	-	-	-
C881W-x-K9	Advanced Security	1	-	-	-	-	-	4	-	●	-	●	●	-	-	-
C881V-K9	Advanced IP Services	1	-	-	-	-	7 ²	4	-	-	-	●	●	● ³	-	-
C891F-K9	Advanced IP Services	1	-	1	1	-	-	8	-	-	-	●	●	-	● ⁴	- ⁶
C891-24X/K9	Advanced IP Services	-	-	2	-	-	-	24	-	-	-	●	●	-	-	- ⁷
C892FSP-K9	Advanced IP Services	-	1	1	-	-	-	8	-	-	-	●	●	-	● ⁴	- ⁶
C897VA-K9	Advanced IP Services	-	-	1	1	1	-	8	-	-	-	●	●	-	● ⁴	- ⁶
C897VAG-LTE-LA-K9	Advanced IP Services	-	-	1	-	1	-	8	-	●	●	●	●	-	● ⁴	- ⁶
C898EAG-LTE-LA-K9	Advanced IP Services	-	-	1	-	1	-	8	-	●	●	●	●	-	● ⁴	- ⁶
C899G-LTE-LA-K9	Advanced IP Services	-	1	1	-	-	-	8	-	●	●	●	●	-	● ⁴	- ⁶

¹ The "x" corresponds to the supported domain. ² BRI x 2, FXS x 4, FXO x 1. ³ Call control and messaging are not supported. ⁴ Feature License is required. ⁵ DIN Rail Mount and Floor/Wall Mount are supported (Optional). ⁶ ACS-890-RM-19 is required. ⁷ ACS-2901-RM-19 is required.

Machine-to-Machine (M2M)

Machine-to-Machine (M2M) is a technology that aggregates the intercommunications between machines without human intervention. This technology is already used in a wide range of devices such as vending machines, surveillance systems and sensor-equipped measuring instruments; and its adoption is expected to continue at an accelerated pace. The most important elements for network devices offering the M2M technology are compactness, mobility and durability.

In the case of vending machines, for example, the network device needs to be compact to allow installation inside the machines. Mobility is also important as it is cheaper to use the mobile 4G network than installing a wired broadband line for each vending machine. Depending on the installation location, the network device must also have the durability to withstand the high temperatures in summer.

Cisco 819H/G/HG has been developed to address these issues. Both models feature a palm-sized compact chassis and are compatible with 4G LTE 2.0 wireless LAN. Furthermore, Cisco 819H/HG can operate in temperatures between -23 and +60 deg C and in up to 95% humidity and have superior vibration and impact resis-



Cisco ISR 4000 Series

Modular Integrated Services Routers suitable for deployment in bases that require a provision of application-aware services. In addition to the routing service, these routers can integrate a wide variety of services including security, switching, wireless, unified communication, WAN optimization and service virtualization. Since the control, data, and service resources are isolated at the hardware level, it is possible to deliver application-aware services with high availability even when at high loads.

- **Highlights**
 - Cisco IOS XE Universal Image (IP Base/SEC/UC/AX)
 - Built on a multicore CPU architecture
 - Separates control- and data-plane operations (The default control-plane memory is 4 GB, upgradable to 16 GB, and the default data-plane memory is 2 GB, **Cisco 4431/4451**)
 - Various network services are integrated via Expansion Modules (NIM/SM-X slots)
 - Supports the **Cisco UCS E Series Server**



■ Cisco ISR 4000 Series Bundles Comparison

Bundles	Characters Included in SKU	Bundled Licenses/Modules			
		IOS SEC	IOS UC	IOS APP	PVDM4
Security Bundles	SEC	●	-	-	-
Voice Bundles	V	-	●	-	● ^{*1}
Voice Security Bundles	VSEC	●	●	-	● ^{*1}
Application Experience Bundles	AX	●	-	●	-
Application Experience Voice Bundles	AXV	●	●	●	● ^{*1}

■ Cisco ISR 4000 Series

SKU	Cisco IOS	Throughput		Ports			Expansion Slots			Default Power Supply	Power Redundancy	Rack mount
		Default	Upgradable	GE	SFP	GE/SFP	NIM	SM-X	PVDM			
ISR4221/K9	IP Base	35 Mbps	75 Mbps	1	-	1	2	-	-	External AC	-	1 RU
ISR4221-SEC/K9	IP Base + SEC	35 Mbps	75 Mbps	1	-	1	2	-	-	External AC	-	1 RU
ISR4221-AX/K9	IP Base + SEC + APP	35 Mbps	75 Mbps	1	-	1	2	-	-	External AC	-	1 RU
ISR4321/K9	IP Base	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4321-SEC/K9	IP Base + SEC	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4321-V/K9	IP Base + UC	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4321-VSEC/K9	IP Base + SEC + UC	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4321-AX/K9	IP Base + SEC + APP	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4321-AXV/K9	IP Base + SEC + UC + APP	50 Mbps	100 Mbps	1	-	1	2	-	1	External AC	-	1 RU
ISR4331/K9	IP Base	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4331-SEC/K9	IP Base + SEC	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4331-V/K9	IP Base + UC	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4331-VSEC/K9	IP Base + SEC + UC	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4331-AX/K9	IP Base + SEC + APP	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4331-AXV/K9	IP Base + SEC + UC + APP	100 Mbps	300 Mbps	1	1	1	2	1	1	Internal AC	-	1 RU
ISR4351/K9	IP Base	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4351-SEC/K9	IP Base + SEC	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4351-V/K9	IP Base + UC	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4351-VSEC/K9	IP Base + SEC + UC	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4351-AX/K9	IP Base + SEC + APP	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4351-AXV/K9	IP Base + SEC + UC + APP	200 Mbps	400 Mbps	-	-	3	3	2	1	Internal AC	-	2 RU
ISR4431/K9	IP Base	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4431-SEC/K9	IP Base + SEC	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4431-V/K9	IP Base + UC	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4431-VSEC/K9	IP Base + SEC + UC	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4431-AX/K9	IP Base + SEC + APP	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4431-AXV/K9	IP Base + SEC + UC + APP	500 Mbps	1 Gbps	-	-	4	3	-	1	Internal AC	●	1 RU
ISR4451-X/K9	IP Base	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU
ISR4451-X-SEC/K9	IP Base + SEC	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU
ISR4451-X-V/K9	IP Base + UC	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU
ISR4451-X-VSEC/K9	IP Base + SEC + UC	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU
ISR4451-X-AX/K9	IP Base + SEC + APP	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU
ISR4451-X-AXV/K9	IP Base + SEC + UC + APP	1 Gbps	2 Gbps	-	-	4	3	2	1	Internal AC	●	2 RU

Modules & Accessories

■ Cisco IOS Technology Package Licenses

SKU	Description	Compatible Models						
		800	4221	4321	4331	4351	4431	4451
SL-4220-SEC-K9	Cisco IOS SEC License for Cisco ISR 4221	-	●	-	-	-	-	-
SL-4320-SEC-K9	Cisco IOS SEC License for Cisco ISR 4321	-	-	●	-	-	-	-
SL-4330-SEC-K9	Cisco IOS SEC License for Cisco ISR 4331	-	-	-	●	-	-	-
SL-4350-SEC-K9	Cisco IOS SEC License for Cisco ISR 4351	-	-	-	-	●	-	-
SL-44-SEC-K9	Cisco IOS SEC License for Cisco ISR 4400 Series	-	-	-	-	-	●	●
SL-4320-UC-K9	Cisco IOS UC License for Cisco ISR 4321	-	-	●	-	-	-	-
SL-4330-UC-K9	Cisco IOS UC License for Cisco ISR 4331	-	-	-	●	-	-	-
SL-4350-UC-K9	Cisco IOS UC License for Cisco ISR 4351	-	-	-	-	●	-	-
SL-44-UC-K9	Cisco IOS UC License for Cisco ISR 4400 Series	-	-	-	-	-	●	●
L-SL-4220-APP-K9	Cisco IOS APP License for Cisco ISR 4221	-	●	●	-	-	-	-
L-SL-4320-APP-K9	Cisco IOS APP License for Cisco ISR 4321	-	-	●	-	-	-	-
L-SL-4330-APP-K9	Cisco IOS APP License for Cisco ISR 4331	-	-	-	●	-	-	-
L-SL-4350-APP-K9	Cisco IOS APP License for Cisco ISR 4351	-	-	-	-	●	-	-
L-SL-44-APP-K9	Cisco IOS APP License for Cisco ISR 4400 Series	-	-	-	-	-	●	●

■ Cisco IOS Feature Licenses

SKU	Description	Compatible Models						
		800	4221	4321	4331	4351	4431	4451
FL-4220-HSEC-K9	Cisco IOS HSEC License for Cisco ISR 4221 ^{*1}	-	●	-	-	-	-	-
FL-4320-HSEC-K9	Cisco IOS HSEC License for Cisco ISR 4321 ^{*1}	-	-	●	-	-	-	-
FL-4330-HSEC-K9	Cisco IOS HSEC License for Cisco ISR 4331 ^{*1}	-	-	-	●	-	-	-
FL-4350-HSEC-K9	Cisco IOS HSEC License for Cisco ISR 4351 ^{*1}	-	-	-	-	●	-	-
FL-44-HSEC-K9	Cisco IOS HSEC License for Cisco ISR 4400 Series ^{*1}	-	-	-	-	-	●	●
SW-CCME-UL-ESS	Cisco Unified CME Phone License - Essential	-	-	●	●	●	●	●
SW-CCME-UL-BASIC	Cisco Unified CME Phone License - Basic	-	-	●	●	●	●	●
SW-CCME-UL-ENH	Cisco Unified CME Phone License - Enhanced	-	-	●	●	●	●	●
L-FL-CME-SRST-5	Cisco Unified CME or SRST 5 License ^{*2 *3}	●	-	●	●	●	●	●
L-FL-CME-SRST-25	Cisco Unified CME or SRST 25 License ^{*2}	-	-	●	●	●	●	●
L-FL-CME-SRST-100	Cisco Unified CME or SRST 100 License ^{*2}	-	-	-	●	●	●	●
FL-CUBEE-5-RED	Cisco Unified BEe 5 Redundant Configuration License ^{*2}	-	-	●	●	●	●	●
FL-CUBEE-25-RED	Cisco Unified BEe 25 Redundant Configuration License ^{*2}	-	-	●	●	●	●	●
FL-CUBEE-100-RED	Cisco Unified BEe 100 Redundant Configuration License ^{*2}	-	-	●	●	●	●	●
L-FL-C800-APP	Cisco IOS APP License for Cisco ISR 800 Series ^{*5}	●	-	-	-	-	-	-
SL-200-AKC	Cisco IWAN with Akamai Connect 200 Connections License ^{*4}	-	●	●	●	-	-	-
SL-750-AKC	Cisco IWAN with Akamai Connect 200 Connections License ^{*4}	-	-	-	●	●	●	-
SL-1300-AKC	Cisco IWAN with Akamai Connect 1,300 Connections License ^{*4}	-	-	-	●	●	●	●
SL-2500-AKC	Cisco IWAN with Akamai Connect 2,500 Connections License ^{*4}	-	-	-	●	●	-	●
SL-6K-AKC	Cisco IWAN with Akamai Connect 6,000 Connections License ^{*4}	-	-	-	●	●	-	●
FL-4220-PERF-K9	Cisco IOS Performance-on-Demand License for Cisco ISR 4221	-	●	-	-	-	-	-
FL-4320-PERF-K9	Cisco IOS Performance-on-Demand License for Cisco ISR 4321	-	-	●	-	-	-	-
FL-4330-PERF-K9	Cisco IOS Performance-on-Demand License for Cisco ISR 4331	-	-	-	●	-	-	-
FL-4350-PERF-K9	Cisco IOS Performance-on-Demand License for Cisco ISR 4351	-	-	-	-	●	-	-
FL-44-PERF-K9	Cisco IOS Performance-on-Demand License for Cisco ISR 4400 Series	-	-	-	-	-	●	●

^{*1} Cisco IOS SEC License is required. ^{*2} Cisco IOS UC License is required. ^{*3} Cisco ISR 800 Series only supports Cisco 881-V. ^{*4} Cisco IOS APP License is required. ^{*5} Cisco ISR 800 Series only supports Cisco 891F/892F/897VA/899G.

Cisco Intelligent WAN (IWAN) with Akamai Connect

Cisco Intelligent WAN (IWAN) with Akamai Connect is a suite of integrated WAN optimization, application acceleration, and intelligent caching features in Cisco ISRs running Application Experience services. The solution extends the well-known Akamai Intelligent Platform with HTTP caching across the last mile into the branch office, turbo charging the application optimization features of the Cisco IWAN. Akamai Connect caching integrates with Cisco IWAN features such as Application Visibility and Control (AVC), Cisco Performance Routing (PfR), and Cisco Wide Area Application Services (WAAS). It is available across the Cisco ISR portfolio and Cisco WAAS Appliances, allowing you to deploy full-service branch-office operations. Users can access bandwidth-intensive applications instantly, over any network, regardless of where the application is hosted — data center, private cloud, public cloud, or the Internet.

■ Mobile Assisted Selling Application Benchmark Results in Seconds (s)

	Without Akamai Connect	With Akamai Connect 1st Hit	With Akamai Connect 2nd Hit
ERP App	57 s	18 s	2 s
Repair App	70 s	28 s	< 1 s
Catalog App	28 s	13 s	< 1 s

■ Training/Digital Signage Application Benchmark Results in Pixels (p) and Seconds (s)

	Without Akamai Connect	With Akamai Connect
Default Quality	144 p	720 p (HD Automatic)
Time to Load (720 p HD)	14 s	Instant

■ Cisco Layer 2/3 EtherSwitch Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-ES2-4	EtherSwitch Module (L2, 4-port GE)	NIM	●	●	●	●	●	●
NIM-ES2-8	EtherSwitch Module (L2, 8-port GE)	NIM	●	●	●	●	●	●
NIM-ES2-8-P	EtherSwitch Module (L2, 8-port GE/PoE+)	NIM	-	●	●	●	●	●
SM-X-ES3-16-P	SM-X EtherSwitch Module (L2/L3, 16-port GE/PoE+)	SM-X	-	-	●	●	-	●
SM-X-ES3-24-P	SM-X EtherSwitch Module (L2/L3, 24-port GE/PoE+)	SM-X	-	-	●	●	-	●
SM-X-ES3D-48-P	SM-X EtherSwitch Module (L2/L3, 48-port GE/PoE+)	SM-X	-	-	-	●	-	●

■ Cisco Gigabit Ethernet WAN Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-1GE-CU-SFP	GE/SFP Module (1-port)	NIM	●	●	●	●	●	●
NIM-2GE-CU-SFP	GE/SFP Module (2-port)	NIM	-	●	●	●	●	●
SM-X-6X1G	GE/SFP Service Module (6-port)	SM-X	-	-	●	●	-	●
SM-X-4X1G-1X10G	GE/SFP (4-port) or SFP+ (1-port) Service Module	SM-X	-	-	●	●	-	●

■ Cisco Serial WAN Interface Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-1T	Serial WAN Module (1-port)	NIM	●	●	●	●	●	●
NIM-2T	Serial WAN Module (2-port)	NIM	●	●	●	●	●	●
NIM-4T	Serial WAN Module (4-port)	NIM	-	●	●	●	●	●
SM-X-1T3/E3	T3/E3 Module (1 port)	SM-X	-	-	●	●	-	●

■ Cisco Async WAN Interface Modules for Cisco ISR 4000 Series NEW

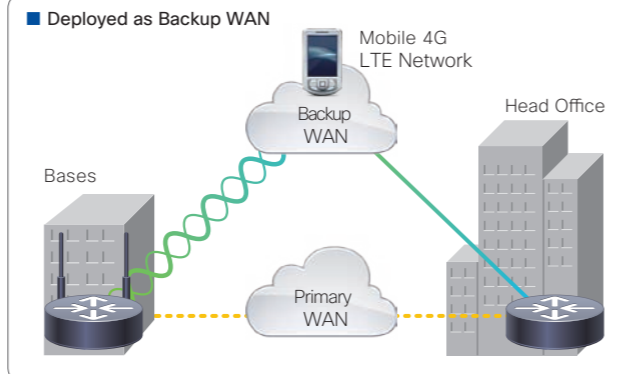
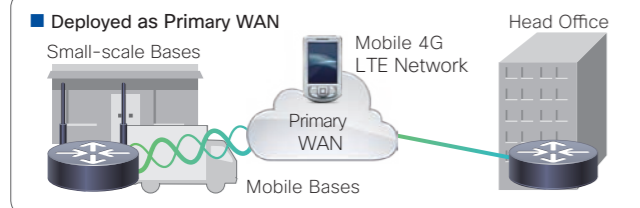
SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-16A	Asynchronous Module (16-port)	NIM	●	●	●	●	●	●
NIM-24A	Asynchronous Module (24-port)	NIM	●	●	●	●	●	●

■ Cisco Multimode VDSL2 and ADSL2/2+ Network Interface Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-VAB-A	Multi Mode VDSL2/ADSL2/2+ (Annex A)	NIM	●	●	●	●	●	●
NIM-VA-B	Multi Mode VDSL2/ADSL2/2+ (Annex B)	NIM	●	●	●	●	●	●
NIM-VAB-M	Multi Mode VDSL2/ADSL2/2+ (Annex M)	NIM	●	●	●	●	●	●

4G LTE Wireless WAN Solutions

Mobile 4G LTE networks can be deployed rapidly as primary or backup WAN by incorporating the **4G LTE Wireless WAN Module** on **Cisco ISR 4000 Series**. Bandwidth can be utilized even more efficiently by using the module in combination with **Cisco Wide Area Application Services (WAAS)**.



■ Cisco 4G LTE 2.0 Network Interface Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-4G-LTE-GA	4G LTE Module for Global	NIM	●	●	●	●	●	●
NIM-4G-LTE-NA	4G LTE Module for North America	NIM	●	●	●	●	●	●
NIM-4G-LTE-ST	4G LTE Module for Sprint	NIM	●	●	●	●	●	●
NIM-4G-LTE-VZ	4G LTE Module for Verizon	NIM	●	●	●	●	●	●
NIM-4G-LTE-LA	NEW 4G LTE Module for Asia Pacific, Australia and Latam	NIM	●	●	●	●	●	●
NIM-LTEA-EA	NEW LTE Advanced Module for Europe and North America	NIM	●	●	●	●	●	●
NIM-LTEA-LA	NEW LTE Advanced Module for Asia Pacific, Australia and Latam	NIM	●	●	●	●	●	●

■ Cisco T1/E1 Voice and WAN Network Interface Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-1MFT-T1/E1	Voice/WAN Module (1-port T1/E1)	NIM	●	●	●	●	●	●
NIM-2MFT-T1/E1	Voice/WAN Module (2-port T1/E1)	NIM	●	●	●	●	●	●
NIM-4MFT-T1/E1	Voice/WAN Module (4-port T1/E1)	NIM	-	●	●	●	●	●
NIM-8MFT-T1/E1	Voice/WAN Module (8-port T1/E1)	NIM	-	●	●	●	●	●
NIM-1CE1T1-PRI	Voice/WAN Module (1-port T1/E1/G.703)	NIM	-	●	●	●	●	●
NIM-2CE1T1-PRI	Voice/WAN Module (2-port T1/E1/G.703)	NIM	-	●	●	●	●	●
NIM-8CE1T1-PRI	Voice/WAN Module (8-port T1/E1/G.703)	NIM	-	●	●	●	●	●

■ Cisco Analog Voice Network Interface Modules for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
NIM-2FXS	Voice Module (2-port FXS)	NIM	-	●	●	●	●	●
NIM-4FXS	Voice Module (4-port FXS)	NIM	-	●	●	●	●	●
NIM-2FXO	Voice Module (2-port FXO)	NIM	-	●	●	●	●	●
NIM-4FXO	Voice Module (4-port FXO)	NIM	-	●	●	●	●	●
NIM-2FXS/4FXO	Voice Module (2-port FXS and 4-port FXO)	NIM	-	●	●	●	●	●
NIM-4E/M	Voice Module (4-port E/M)	NIM	-	●	●	●	●	●
NIM-2BRI-NT/TE	Voice Module (2-port BRI)	NIM	-	●	●	●	●	●
NIM-4BRI-NT/TE	Voice Module (4-port BRI)	NIM	-	●	●	●	●	●

■ Cisco Packet Voice Digital Signal Processor Modules (PVDMs) for Cisco ISR 4000 Series

SKU	Description	Slot	Compatible Models					
			4221	4321	4331	4351	4431	4451
PVDM4-32	High-density Voice DSP Module (16-channel)	PVDM4 ^{*1}	-	●	●	●	●	●
PVDM4-64	High-density Voice DSP Module (32-channel)	PVDM4 ^{*1}	-	●	●	●	●	●
PVDM4-128	High-density Voice DSP Module (64-channel)	PVDM4 ^{*1}	-	●	●	●	●	●
PVDM4-256	High-density Voice DSP Module (128-channel)	PVDM4 ^{*1}	-	●	●	●	●	●
SM-X-PVDM-500	High-density Voice DSP Module (768-channel)	SM-X	-	-	●	●	-	●
SM-X-PVDM-1000	High-density Voice DSP Module (1,024-channel)	SM-X	-	-	●	●	-	●
SM-X-PVDM-2000	High-density Voice DSP Module (2,048-channel)	SM-X	-	-	-	● ^{*2}	-	●
SM-X-PVDM-3000	High-density Voice DSP Module (3,080-channel)	SM-X	-	-	-	● ^{*2}	-	●

■ Cisco UCS E Series Servers for Cisco ISR 4000 Series

SKU	CPU Cores	Memory		Internal Drive Slots	RAID	Slot	Compatible Models						
		Default	Maximum				4221	4321	4331	4351	4431	4451	
UCS-EN140N-M2/K9	4	8 GB	8 GB	1	-	NIM	-	●	●	●	●	●	●
UCS-EN120S-M2/K9	2	4 GB	16 GB	2	0/1	SM-X	-	-	●	●	-	●	●
UCS-E140S-M2/K9	4	8 GB	16 GB	2	0/1	SM-X	-	-	●	●	-	●	●
UCS-E160S-M3/K9	6	8 GB	32 GB	2	0/1	SM-X	-	-	●	●	-	●	●
UCS-E160D-M2/K9	6	8 GB	96 GB	3	0/1/5	SM-X	-	-	-	●	-	●	●
UCS-E180D-M2/K9	8	8 GB	96 GB	3	0/1/5	SM-X	-	-	-	●	-	●	●

*1 Also supported by a PVDM4 slot on Voice NIMs. *2 Supports up to 1,024 channels.