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## Overview

Cisco 4431 Integrated Services Router, which supports 3 Network Interface Modules (NIM) slots, delivers 500 Mbps to 1 Gbps aggregate throughput. This router also supports two kinds of DDRM, data plane and control/services plane, which make administrator easy to manage the router. ISR4431-VSEC/K9 is the Cisco ISR 4431 Bundle with UC & Sec Lic. PVDM4-64. CUBE-25.

## Quick Specification

Figure 1 shows the appearance of Cisco ISR4431/K9 for reference. ISR4431-VSEC/K9 is similar with it.



Table 1 shows the Quick Specification.

Product Code	ISR4431-VSEC/K9
Aggregate Throughput	500 Mbps to 1 Gbps
Total onboard WAN or LAN 10/100/1000 ports	4
RJ-45-based ports	4
SFP-based ports	4
Enhanced service-module (SM-X) slot	0
NIM (Network Interface Modules) slots	3
Onboard ISC slot	1
DDRM (data plane)	2 GB (default) / 2 GB (maximum)
DDRM (control/services plane)	4 GB (default) / 16 GB (maximum)
Flash Memory	8 GB (default) / 32 GB (maximum)
Power-supply options	Internal: AC, DC, and PoE

Rack height	1 RU
Dimensions (H x W x D)	43.9 x 438.15 x 507.2 mm

## Product Details

Figure 2 shows the front panel of Cisco ISR4431/K9for reference. ISR4431-VSEC/K9 is similar with it..



Note:

(1)	Power supply unit	(3)	Router power On/Off switch
(2)	LEDs	(4)	Optional power supply unit

· LEDs include 12 indicators.

Figure 3 shows the back panel of Cisco ISR4431/K9for reference. ISR4431-VSEC/K9 is similar with it..



Note:

(1)	GE management port	(5)	Console port
(2)	Auxiliary port	(6)	GE Ports
(3)	USB Type A port	(7)	NIM Slots
(4)	USB Type B mini port		

· The NIMs support 2 single-wide or 1 double-wide.

· The GE Ports include 4 RJ45 ports and 4 SFP ports.

**Table 2. Voice Security Bundle Features Table**

Authentication and Encryption Features	<ul style="list-style-type: none"> <li>• Media encryption of voice RTP streams using SRTP</li> <li>• Exchange of RTP Control Protocol (RTCP) information using secure RTCP</li> <li>• SRTP to RTP fallback for calls between secure and insecure endpoints</li> <li>• Secure calls supported in Cisco Unified Survivable Remote Site Telephony (SRST) mode during WAN failover</li> <li>• Compressed RTP (CRTP) supported with media encrypted calls using SRTP</li> </ul>
Authentication and Encryption Algorithm	<ul style="list-style-type: none"> <li>• Supports AES-128 encryption algorithm</li> <li>• Supports the HMAC secure hash authentication algorithm (SHA 1)</li> </ul>
Signaling Authentication and Encryption Features	<ul style="list-style-type: none"> <li>• Gateway to Cisco Unified Communications Manager signaling and encryption uses IPsec for Media Gateway Control Protocol (MGCP), H.323 and SIP gateways</li> <li>• IP phone to Cisco Unified Survivable Remote Site Telephony router signaling and encryption uses TLS (Transport Layer Security)</li> </ul>
Protocol Support	<ul style="list-style-type: none"> <li>• MGCP 0.1 (supports MGCP gateways with Cisco Unified Communications Manager)</li> <li>• H.323 (supported on H.323 gateways and CUBE; Cisco Unified Communications Manager interoperability is optional)</li> <li>• Session Initiation Protocol (SIP)</li> <li>• SCCP (Cisco Unified IP Phone) in SRST mode</li> </ul>
Module Support	<ul style="list-style-type: none"> <li>• Any module that has PVDM2, PVDM3 and/or built-in DSP</li> </ul>
Codec Support	<ul style="list-style-type: none"> <li>• G.711, G.729A, and G.729</li> </ul>

## The Modules, Cards, Licenses & Accessories

Table 3 shows some recommended modules, cards, licenses and several cables.

Items	Models	Descriptions
Console and Auxillary Cables	CAB-AUX-RJ45	Cisco CAB-AUX-RJ45 Auxiliary Cable 8ft with RJ45 and DB25M
	CAB-ETH-S-RJ45	Cisco Router Cable CAB-ETH-S-RJ45
	CAB-CONSOLE-RJ45	Cisco CAB-CONSOLE-RJ45 Console Cable 6ft with RJ45 and DB9F
	CAB-CONSOLE-USB	Cisco CAB-CONSOLE-USB Console Cable 6 ft with USB Type A and mini-B
Licenses	L-SL-44-APP-K9=	Cisco ISR 4431/4451 AppX license L-SL-44-APP-K9= with WAAS/vWAAS 1300/2500 conns RTU
Network Interface Modules	NIM-1MFT-T1/E1	Cisco Fourth-Generation Multiflex Trunk Voice and WAN network interface module
	NIM-2CE1T1-PRI	Cisco Multiflex Trunk Voice and WAN network interface module
	NIM-4E/M	Analog voice network interface card (ear and mouth)
	NIM-2FXS	Cisco Analog voice network interface card NIM-2FXS
	NIM-2FXS/4FXO	Cisco Analog voice network interface card NIM-2FXS/4FXO
	NIM-8MFT-T1/E1	Cisco Fourth-Generation Multiflex Trunk Voice and WAN network interface module
SFPs for On-Board GE Ports	<a href="#">GLC-SX-MMD</a>	Cisco GLC-SX-MMD 1000BASE-SX SFP transceiver module, MMF, 850nm, DOM
	<a href="#">GLC-LH-SMD</a>	Cisco GLC-LH-SMD 1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM
	<a href="#">GLC-ZX-SMD</a>	Cisco GLC-ZX-SMD 1000BASE-ZX SFP transceiver module, SMF, 1550nm, DOM

## Compare to Similar Items

Table 4 shows the comparison chart.

Models	ISR4431-VSEC/K9	<a href="#">ISR4431/K9</a>
Aggregate Throughput	500 Mbps to 1 Gbps	500 Mbps to 1 Gbps
Total onboard WAN or LAN 10/100/1000 ports	4	4
RJ-45-based ports	4	4
SFP-based ports	4	4
Enhanced service-module slots	0	0
NIM slots	3	3
Onboard ISC slot	1	1
Rack height	1	1

## Get More Information

Do you have any question about the Cisco ISR4431-VSEC/K9?

Contact us now via [info@hi-network.com](mailto:info@hi-network.com).

## Specification

ISR4431-VSEC/K9 Specification	
Description	Cisco ISR 4431 Bundle with UC & Sec Lic. PVDM4-64. CUBE-25
Aggregate Throughput	500Mbps to 1Gbps
Total onboard WAN or LAN 10/100/1000 ports	4
RJ-45-based ports	4
SFP-based ports	4
Enhanced service-module slots	0
Doublewide service-module slots	0
NIM slots	3
OIR (all I/O modules)	Yes
Onboard ISC slot	1
Default memory double-data-rate 3 (DDR3) error-correction-code (ECC) DRAM (Combined control/services/data planes)	NA
Maximum memory DDR3 ECC DRAM (Combined	NA

control/services/data planes)	
Default memory DDR3 ECC DRAM (data plane)	2 GB
Maximum memory DDR3 ECC DRAM (data plane)	2 GB
Default memory DDR3 ECC DRAM (control/services plane)	4 GB
Maximum memory DDR3 ECC DRAM (control/services plane)	16 GB
Default flash memory	8 GB
Maximum flash memory	32 GB
External USB 2.0 slots (type A)	2
USB console port -type B mini (up to 115.2 kbps)	1
Serial console port - RJ45 (up to 115.2 kbps)	1
Serial auxiliary port - RJ45 (up to 115.2 kbps)	1
Power-supply options	Internal: AC, DC, and PoE
Redundant power supply	Internal: AC, DC, and PoE
AC input voltage	100 to 240 VAC autoranging
AC input frequency	47 to 63 Hz
AC input current range, AC power supply (maximum)	3 to 1.3A
AC input surge current	60 A peak and less than 5 Arms per half cycle
Typical power (no modules) (watts)	65
Maximum power with AC power supply (watts)	250 (no PoE)
Maximum power with PoE power supply (platform only) (watts)	500 with PoE redundant
Maximum endpoint PoE power available from PoE power supply (watts)	250 W with optional redundancy

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