

RUCKUS FastIron Features and Standards Support Matrix, 09.0.10

Supporting FastIron Software Release 09.0.10

Copyright, Trademark and Proprietary Rights Information

© 2022 CommScope, Inc. All rights reserved.

No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from CommScope, Inc. and/or its affiliates ("CommScope"). CommScope reserves the right to revise or change this content from time to time without obligation on the part of CommScope to provide notification of such revision or change.

Export Restrictions

These products and associated technical data (in print or electronic form) may be subject to export control laws of the United States of America. It is your responsibility to determine the applicable regulations and to comply with them. The following notice is applicable for all products or technology subject to export control:

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

Disclaimer

THIS CONTENT AND ASSOCIATED PRODUCTS OR SERVICES ("MATERIALS"), ARE PROVIDED "AS IS" AND WITHOUT WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED. TO THE FULLEST EXTENT PERMISSIBLE PURSUANT TO APPLICABLE LAW, COMMSCOPE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, FREEDOM FROM COMPUTER VIRUS, AND WARRANTIES ARISING FROM COURSE OF DEALING OR COURSE OF PERFORMANCE. CommScope does not represent or warrant that the functions described or contained in the Materials will be uninterrupted or error-free, that defects will be corrected, or are free of viruses or other harmful components. CommScope does not make any warranties or representations regarding the use of the Materials in terms of their completeness, correctness, accuracy, adequacy, usefulness, timeliness, reliability or otherwise. As a condition of your use of the Materials, you warrant to CommScope that you will not make use thereof for any purpose that is unlawful or prohibited by their associated terms of use.

Limitation of Liability

IN NO EVENT SHALL COMMSCOPE, COMMSCOPE AFFILIATES, OR THEIR OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS, LICENSORS AND THIRD PARTY PARTNERS, BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER, EVEN IF COMMSCOPE HAS BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN AN ACTION UNDER CONTRACT, TORT, OR ANY OTHER THEORY ARISING FROM YOUR ACCESS TO, OR USE OF, THE MATERIALS. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, some of the above limitations may not apply to you.

Trademarks

ARRIS, the ARRIS logo, COMMSCOPE, RUCKUS, RUCKUS WIRELESS, the Ruckus logo, the Big Dog design, BEAMFLEX, CHANNELFLY, FASTIRON, ICX, SMARTCELL and UNLEASHED are trademarks of CommScope, Inc. and/or its affiliates. Wi-Fi Alliance, Wi-Fi, the Wi-Fi logo, Wi-Fi Certified, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access, the Wi-Fi Protected Setup logo, Wi-Fi Protected Setup, Wi-Fi Multimedia and WPA2 and WMM are trademarks or registered trademarks of Wi-Fi Alliance. All other trademarks are the property of their respective owners.

Contents

Preface	7
Contacting RUCKUS Customer Services and Support.....	7
What Support Do I Need?.....	7
Open a Case.....	7
Self-Service Resources.....	8
Document Feedback.....	8
RUCKUS Product Documentation Resources.....	8
Online Training Resources.....	8
Document Conventions.....	9
Notes, Cautions, and Safety Warnings.....	9
Command Syntax Conventions.....	9
About This Document	11
Management	13
Configuration Fundamentals.....	13
Configuration File Management.....	15
CDP - Cisco Discovery Protocol.....	15
FDP - Foundry Discovery Protocol.....	15
Licensing.....	16
LLDP - Link Layer Discovery Protocol.....	16
NTP - Network Time Protocol.....	16
PoE/PoE+ - Power over Ethernet.....	17
SNMP - Simple Network Management Protocol.....	17
Software Upgrade.....	18
Monitoring	19
Hardware Monitoring.....	19
OAM - Operations, Administration, and Maintenance.....	19
Port Mirroring.....	20
RMON - Remote Networking Monitoring.....	20
Syslog.....	20
sFlow.....	21
IP Multicast	23
IPv4 Multicast Routing.....	23
IPv6 Multicast Routing.....	23
IPv4 Multicast VLAN Traffic Reduction.....	24
Multicast VLAN Registration.....	24
IPv6 Multicast VLAN Traffic Reduction.....	24
MLD - Multicast Listener Discovery.....	25
MSDP - Multicast Source Discovery Protocol.....	25
PIM - Protocol-Independent Multicast.....	25
PIM6 - IPv6 Protocol-Independent Multicast.....	25
Layer 2 Switching	27
LAG - Link Aggregation Group.....	27
MCT - Multi-Chassis Trunking.....	27
MRP - Metro Ring Protocol.....	28

Q-in-Q - 802.1q tunneling.....	28
RFN - Remote Fault Notification.....	28
RPF - Reverse Path Forwarding.....	28
UDLD - Uni-Directional Link Detection.....	28
UUFB.....	29
VLAN - Virtual LAN.....	29
VXLAN - Virtual Extensible LAN	29
VRP - VLAN Registration Protocol (includes MVRP).....	29
VSRRP - Virtual Switch Redundancy Protocol.....	30
Protected Ports.....	30
xSTP - Spanning Tree Protocols.....	30
Flexlink.....	31
Layer 3 Routing/Network Layer.....	33
ARP - Address Resolution Protocol.....	33
BFD - Bidirectional Forwarding Detection.....	34
BGP4 - IPV4 Border Gateway Protocol	34
BGP4+ - IPV6 Border Gateway Protocol.....	35
DHCP - Dynamic Host Configuration Protocol.....	35
DNS - Domain Name System.....	36
GRE - Generic Routing Encapsulation.....	36
ICMP - Internet Control Message Protocol.....	36
IP Addressing.....	36
IPv6 Addressing.....	37
Multi-VRF.....	37
OSPF - IPV4 Open Shortest Path First.....	38
OSPFv3 - IPV6 Open Shortest Path First.....	38
RIP - IPV4 Routing Information Protocol.....	39
RIPng - IPV6 Routing Information Protocol.....	39
VRRPv2 - Virtual Router Redundancy Protocol Version 2.....	39
VRRPv3 - Virtual Router Redundancy Protocol Version 3.....	40
Security.....	41
Authentication, Authorization, and Accounting.....	41
ACLs - Access Control Lists.....	42
DoS (Denial of Service) protection.....	42
Flexible Authentication (802.1x Authentication and MAC Authentication).....	43
HTTP/HTTPS.....	44
IP Source Guard and IPv6 Source Guard.....	44
IPsec - IP security.....	45
MACsec - Media Access Control Security.....	45
PBR - Policy-Based Routing.....	45
Port MAC Security.....	45
RADIUS.....	46
RA Guard - Router Advertisement Guard.....	46
SSH - Secure Shell.....	46
TACACS & TACACS+.....	47
User Accounts and Passwords.....	47
SDN.....	49
OpenFlow.....	49

Stacking..... 51
Stack Failover/Switchover..... 51
Stacking..... 51

Traffic Management..... 53
Quality of Service (QoS)..... 53
Rate Limiting and Shaping..... 53

Standards compliance..... 55
RFC Compliance..... 55
IEEE Compliance..... 63

Preface

• Contacting RUCKUS Customer Services and Support.....	7
• Document Feedback.....	8
• RUCKUS Product Documentation Resources.....	8
• Online Training Resources.....	8
• Document Conventions.....	9
• Command Syntax Conventions.....	9

Contacting RUCKUS Customer Services and Support

The Customer Services and Support (CSS) organization is available to provide assistance to customers with active warranties on their RUCKUS products, and customers and partners with active support contracts.

For product support information and details on contacting the Support Team, go directly to the RUCKUS Support Portal using <https://support.ruckuswireless.com>, or go to <https://www.commscope.com/ruckus> and select **Support**.

What Support Do I Need?

Technical issues are usually described in terms of priority (or severity). To determine if you need to call and open a case or access the self-service resources, use the following criteria:

- Priority 1 (P1)—Critical. Network or service is down and business is impacted. No known workaround. Go to the **Open a Case** section.
- Priority 2 (P2)—High. Network or service is impacted, but not down. Business impact may be high. Workaround may be available. Go to the **Open a Case** section.
- Priority 3 (P3)—Medium. Network or service is moderately impacted, but most business remains functional. Go to the **Self-Service Resources** section.
- Priority 4 (P4)—Low. Requests for information, product documentation, or product enhancements. Go to the **Self-Service Resources** section.

Open a Case

When your entire network is down (P1), or severely impacted (P2), call the appropriate telephone number listed below to get help:

- Continental United States: 1-855-782-5871
- Canada: 1-855-782-5871
- Europe, Middle East, Africa, Central and South America, and Asia Pacific, toll-free numbers are available at <https://support.ruckuswireless.com/contact-us> and Live Chat is also available.
- Worldwide toll number for our support organization. Phone charges will apply: +1-650-265-0903

We suggest that you keep a physical note of the appropriate support number in case you have an entire network outage.

Self-Service Resources

The RUCKUS Support Portal at <https://support.ruckuswireless.com> offers a number of tools to help you to research and resolve problems with your RUCKUS products, including:

- Technical Documentation—<https://support.ruckuswireless.com/documents>
- Community Forums—<https://forums.ruckuswireless.com/>
- Knowledge Base Articles—<https://support.ruckuswireless.com/answers>
- Software Downloads and Release Notes—https://support.ruckuswireless.com/#products_grid
- Security Bulletins—<https://support.ruckuswireless.com/security>

Using these resources will help you to resolve some issues, and will provide TAC with additional data from your troubleshooting analysis if you still require assistance through a support case or RMA. If you still require help, open and manage your case at https://support.ruckuswireless.com/case_management.

Document Feedback

RUCKUS is interested in improving its documentation and welcomes your comments and suggestions.

You can email your comments to RUCKUS at #Ruckus-Docs@commscope.com.

When contacting us, include the following information:

- Document title and release number
- Document part number (on the cover page)
- Page number (if appropriate)

For example:

- RUCKUS SmartZone Upgrade Guide, Release 5.0
- Part number: 800-71850-001 Rev A
- Page 7

RUCKUS Product Documentation Resources

Visit the RUCKUS website to locate related documentation for your product and additional RUCKUS resources.

Release Notes and other user documentation are available at <https://support.ruckuswireless.com/documents>. You can locate the documentation by product or perform a text search. Access to Release Notes requires an active support contract and a RUCKUS Support Portal user account. Other technical documentation content is available without logging in to the RUCKUS Support Portal.

White papers, data sheets, and other product documentation are available at <https://www.commscope.com/ruckus>.

Online Training Resources

To access a variety of online RUCKUS training modules, including free introductory courses to wireless networking essentials, site surveys, and products, visit the RUCKUS Training Portal at <https://commscopeuniversity.myabsorb.com/>. The registration is a two-step process described in this [video](#). You create a CommScope account and then register for, and request access for, CommScope University.

Document Conventions

The following table lists the text conventions that are used throughout this guide.

TABLE 1 Text Conventions

Convention	Description	Example
monospace	Identifies command syntax examples	<code>device(config)# interface ethernet 1/1/6</code>
bold	User interface (UI) components such as screen or page names, keyboard keys, software buttons, and field names	On the Start menu, click All Programs .
<i>italics</i>	Publication titles	Refer to the <i>RUCKUS Small Cell Release Notes</i> for more information.

Notes, Cautions, and Safety Warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE

A NOTE provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION

An ATTENTION statement indicates some information that you must read before continuing with the current action or task.



CAUTION

A CAUTION statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



DANGER

A DANGER statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Command Syntax Conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
<i>italic text</i>	Identifies a variable.
[]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{x y z}	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member[member...]</i> .
\	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

About This Document

The *RUCKUS FastIron Features and Standards Support Matrix* provides a high-level, consolidated view of all features supported on RUCKUS ICX switches. Use the tables in this reference manual to determine if a feature is supported on your product.

NOTE

When a feature is listed as being introduced in a particular version, the feature continues to be supported on all subsequent versions unless specified otherwise.

Footnotes are used to show exceptions and other notes about features supported on each of the RUCKUS ICX switches.

NOTE

FastIron releases 09.0.00, 09.0.00a, and 09.0.10 are no longer available for download due to the discovery of a critical defect.

Refer to *TSB 2022-001 – FastIron 09.0.00 and 09.0.10 - Risk of Filesystem Corruption* on the [Technical Support Bulletins](#) page for more details.

RUCKUS recommends upgrading to FastIron release 09.0.10a or later for all ICX switches currently running any of the afore-mentioned releases.

All the software features supported in FastIron release 09.0.00, 09.0.00a, and 09.0.10 remain available and supported in FastIron release 09.0.10a and later releases unless specifically noted.

For completeness, the feature descriptions for all changes introduced in the unavailable releases; that is, FastIron 09.0.00, 09.0.00a, and 09.0.10, are included in this section.

Management

- Configuration Fundamentals..... 13
- Configuration File Management..... 15
- CDP - Cisco Discovery Protocol..... 15
- FDP - Foundry Discovery Protocol..... 15
- Licensing..... 16
- LLDP - Link Layer Discovery Protocol..... 16
- NTP - Network Time Protocol..... 16
- PoE/PoE+ - Power over Ethernet..... 17
- SNMP - Simple Network Management Protocol..... 17
- Software Upgrade..... 18

Configuration Fundamentals

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Terminal logging	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
Reset button to factory default settings	08.0.70	No	No	08.0.95	08.0.70	08.0.90
10G LRM adapter	08.0.61	08.0.61	No	No	NA	No
System name, contact, and location	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Cancelling an outbound Telnet session	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Byte-based broadcast, multicast, and unknown-unicast limits	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Packet-based broadcast, multicast, and unknown-unicast limits	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
CLI banners	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Port name	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
10 Mbps port speed	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
100 Mbps port speed	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
1000 Mbps port speed	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
40 Gbps port speed	No	No	08.0.20	08.0.95	08.0.70	08.0.90
100 Gbps port speed	No	No	No	08.0.95	08.0.70	08.0.90
Auto-negotiation	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Auto-negotiation maximum port speed advertisement	08.0.60 ¹	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Full-duplex mode	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Auto MDI/MDIX detection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Port status (enable or disable)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for 100BaseTX	No	08.0.30	08.0.20	No	No	08.0.90
Support for 100BaseFX	09.0.10a	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Gbps fiber negotiate mode	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VoIP auto-configuration and CDP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

¹ Only for copper ports. Fiber ports are not supported.

Management
Configuration Fundamentals

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Broadcast, multicast, and unknown-unicast suppression port dampening	08.0.60	08.0.30h	08.0.30h	08.0.95	08.0.70	08.0.90
Port flap dampening	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Shutdown prevention for loop-detect	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Elapsed timestamp for port statistics reset	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Traffic counters for outbound traffic	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Egress queue counters	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Flash and boot code verification	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Flash image verification	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Changing flash timeout value	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Software reboot	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Show boot preference	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Loading and saving configuration files	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
System reload scheduling	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Management port	08.0.60 ²	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Telnet	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
TFTP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
TFTP blocksize	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
Multi-port static MAC address	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Static MAC entries with option to set traffic priority	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC address learning	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC address filtering on source and destination MAC addresses	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC address move notification	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Ability to disable MAC learning	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Layer 2 jumbo frames	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Ethernet loopback	08.0.60	08.0.30 ³	08.0.30 ³	08.0.95	08.0.70	08.0.90
Macros (batch and execute)	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
CLI history	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
Fanless mode	08.0.60 ⁴	No	No	No	No	No
Status button support	08.0.70	No	No	08.0.95	08.0.70	08.0.90
LEDs On/Off command	08.0.92	08.0.92	08.0.92	08.0.95	08.0.92	08.0.92
IEEE 802.3bz	No	No	No	08.0.95	08.0.70 ⁵	No
Default username and password	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
<p>NOTE Applicable to new ICX switches that are initially deployed using the 08.0.90 release.</p>						
Forwarding profiles	No	No	No	08.0.95	No	08.0.90
Automation with Ansible	08.0.91	08.0.91	08.0.91	08.0.95	08.0.91	08.0.91

² The ICX 7150-C08P does not support an out-of-the-box management port.

³ No support for flow-unaware mode.

⁴ Supported only on the ICX 7150-24P and the ICX 7150-48P.

⁵ Supported on the ICX 7650-48ZP only

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Ruckus SmartZone management of ICX 7xxx switches (monitoring, customized thresholds, remote ping, traceroute)	8.0.80	8.0.80	8.0.80	08.0.95	8.0.80	08.0.90
NOTE For a full list of ICX-Management features including SmartZone and FastIron release compatibility, refer to the <i>RUCKUS FastIron Management Configuration Guide</i> .						
Ruckus SmartZone management of ICX 7xxx switches (ICX configuration from SmartZone)	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
FQDN Support for Switch Registrar	08.0.92	08.0.92	08.0.92	08.0.95	08.0.92	08.0.92
ICX Source IP for SmartZone Communication	08.0.92	08.0.92	08.0.92	08.0.95	08.0.92	08.0.92
ICX Management in Ruckus Cloud	08.0.92b ⁶	No	No	08.0.95	08.0.92b ⁶	08.0.92b ⁶
IPv6 Support for SmartZone (static configuration only)	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
RESTCONF	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
New web user interface (UI)	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
Breakout support	no	no	no	09.0.10a	no	08.0.90

Configuration File Management

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Configuration Archive and Replace	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

CDP - Cisco Discovery Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Cisco Discovery Protocol (CDP) for IPv4 and IPV6 traffic	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

FDP - Foundry Discovery Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Foundry Discovery Protocol (FDP) for IPv4 and IPV6 traffic	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

⁶ ICX switches running 08.0.90d and above can be discovered by Ruckus Cloud. Ruckus Cloud automatically upgrades these switches to the required version during onboarding.

Licensing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
License generation, License query, Deleting a license	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MACsec licensing	No	No	08.0.30	08.0.95	08.0.70	08.0.90
PoD license management	08.0.60	08.0.30	No	No	No	No
Self-authenticated upgrade (SAU) licensing	08.0.60	08.0.80	08.0.80	08.0.95	08.0.70	08.0.90

LLDP - Link Layer Discovery Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
LLDP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP-MED	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for tagged LLDP packets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 management address advertisement	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 management address advertisement	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP operating mode setting per port	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP processing on 802.1x blocked port	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Setting the maximum number of LLDP neighbors	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP transmission intervals	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Hold-time multiplier for transmit TTL	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Configuring the minimum time between port reinitializations	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Fast start repeat count for LLDP-MED	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Location ID for LLDP-MED	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP-MED network policy	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP 802.3 Power-via-MDI	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP statistics and configuration details	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LLDP port ID subtype configuration for E-911	08.0.60	8.0.50	8.0.50	08.0.95	08.0.70	08.0.90
LLDP on by default	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90

NTP - Network Time Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Network Time Protocol Version 4 (NTP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
System clock	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
NTP over Management VRF	No	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
Global time zone support	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Ability to set summer-time start and end dates for non-US time zones	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90

PoE/PoE+ - Power over Ethernet

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Auto PoE firmware upgrade	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	No
PoE enabled by default	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	No
Power over HDBaseT (PoH)	08.0.61 ⁷	No	08.0.20	08.0.95	08.0.70	No
uPoE	08.0.61 ⁷	No	08.0.20	08.0.95	08.0.70	No
PoE+ (802.3at)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE (802.3af)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE (802.3bt)	No	No	No	08.0.95	No	No
Detection of PoE power requirements advertised through CDP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
Maximum power level for a PoE power-consuming device for LLDP-MED or CDP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
Power class for PoE power-consuming device	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
Power limit per port	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
Maximum power budget per PoE interface module	08.0.60	08.0.30	No	08.0.95	08.0.70	No
In-line power priority for a PoE port	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE firmware upgrade via CLI	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE firmware download over SCP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE de-couple datalink support on LAGs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	No
PoE overdrive	08.0.61 ⁷	No	No	08.0.95	08.0.70	No

SNMP - Simple Network Management Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
SNMP v1, v2, and v3	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Community strings	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
User-based security model for SNMPv3	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SNMP traps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SNMPv3 traps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SNMP MAC notification trap support	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Defining the UDP port for SNMPv3 traps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SNMPv3 over IPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
AES encryption for SNMPv3	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SNMP trap receiver and trap source address	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Mapping SYSLOG messages to SNMP notifications	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
Suppress SNMP Auth Failure timer	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

⁷ Supported on the ICX 7150 Z Series only

Software Upgrade

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
System backup to USB	08.0.70	No	No	08.0.95	No	08.0.90
Boot from USB	08.0.70	08.0.90	08.0.90	08.0.95	08.0.70	08.0.90
Software upgrade via CLI	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Software upgrade via SNMP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Stack image autcopy	08.0.61	08.0.50	08.0.40	08.0.95	08.0.70	08.0.90
Manifest file download support for a stack	08.0.60	08.0.50	08.0.40	08.0.95	08.0.70	08.0.90
In-Service Software Upgrade (ISSU) for stacking	08.0.61	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Unified Forwarding Image (UFI) support	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90

Monitoring

- Hardware Monitoring..... 19
- OAM - Operations, Administration, and Maintenance..... 19
- Port Mirroring..... 20
- RMON - Remote Networking Monitoring..... 20
- Syslog..... 20
- sFlow..... 21

Hardware Monitoring

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Virtual cable testing (VCT)	08.0.61	08.0.40	08.0.40	08.0.95	08.0.70	No
Digital optical monitoring	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

OAM - Operations, Administration, and Maintenance

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Diagnostic error codes	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 and IPv6 ping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 traceroute	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RAS Histogram	08.0.61	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Energy Efficient Ethernet (EEE)	08.0.91	08.0.30	08.0.30	09.0.10a	08.0.92	No
External USB storage	08.0.60 ⁸	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
USB console	08.0.60	No	No	08.0.95	08.0.70	08.0.90
Copy UFI image and manifest from flash to USB	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
Serial console in RJ45 format	08.0.60 ⁸	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Serial console in Mini-USB format	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Link Fault Signaling (LFS) for 10 Gbps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Ethernet in the First Mile for OAM (IEEE 802.3ah standard)	08.0.60	08.0.30	08.0.30	No	08.0.70	No
Ignore shutdown temperature (battle short mode)	08.0.60	No	08.0.30	08.0.95	08.0.70	08.0.90
CPU packet statistics	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90

⁸ Not supported for the ICX 7150-C08P

Port Mirroring

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Port mirroring and monitoring (mirroring of both inbound and outbound traffic on individual ports)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL-based mirroring	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC ACL-based mirroring	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VLAN-based mirroring	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ERSPAN	No	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RSPAN	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90

RMON - Remote Networking Monitoring

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Remote monitoring (RMON 2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying the maximum number of entries allowed in the RMON Control Table	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Syslog

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Syslog messages (RFC 3164)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Enhanced Syslog headers specific to RFC 5424	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
Real-time display of Syslog messages	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Real-time display for Telnet or SSH sessions	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Show log on all terminals	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Syslog time stamps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Multiple Syslog server logging	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Disabling logging of a message level	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Changing the number of entries the local buffer can hold	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Changing the log facility	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Displaying Interface names in Syslog messages	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Displaying TCP and UDP port numbers in Syslog messages	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Retaining Syslog messages after a soft reboot	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Clearing Syslog messages from the local buffer	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Disabling Syslog messages and traps for CLI access	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Broadcast, unknown unicast, and multicast (BUM) suppression Syslog and SNMP notification	08.0.60	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
PKI authentication for Syslog	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
Syslog messages for xSTP	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
If threshold of logging lines exceeds, then switch send an alarm to the administrator.	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

sFlow

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
sFlow version 2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
sFlow version 5 (default)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
sFlow support for IPv6 packets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
sFlow source IP address	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90

IP Multicast

- IPv4 Multicast Routing..... 23
- IPv6 Multicast Routing..... 23
- IPv4 Multicast VLAN Traffic Reduction..... 24
- Multicast VLAN Registration..... 24
- IPv6 Multicast VLAN Traffic Reduction..... 24
- MLD - Multicast Listener Discovery..... 25
- MSDP - Multicast Source Discovery Protocol..... 25
- PIM - Protocol-Independent Multicast..... 25
- PIM6 - IPv6 Protocol-Independent Multicast..... 25

IPv4 Multicast Routing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Passive multicast route insertion (PMRI)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IP Multicast Boundaries	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Concurrent support for multicast routing and snooping	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Modifying the Prune Wait Timer	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF support	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Hardware replication resource sharing	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 ACLs for rendezvous points (RPs)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 Multicast Non-stop routing (NSR) support for PIM-SM, SSM, and Anycast RP	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 static mroute	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 Multicast forwarding	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Disable replication sharing	08.0.61	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
IGMP Proxy	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
PIM neighbor filter	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IGMP report filter policy	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

IPv6 Multicast Routing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 multicast boundaries	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Embedded RIPv6	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF support	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Hardware replication resource sharing	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Concurrent support for multicast routing and snooping	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Static mroute	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 multicast forwarding	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Passive multicast route insertion (PMRI)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

IP Multicast

IPv4 Multicast VLAN Traffic Reduction

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Modifying the Prune Wait Timer	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 ACLs for rendezvous points (RPs)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Disable replication sharing	08.0.61	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
PIM neighbor filter	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
MLD report filter policy	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

IPv4 Multicast VLAN Traffic Reduction

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IGMP (v1, v2, and v3)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IGMP v1/v2/v3 snooping (global and VLAN level)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IGMP fast leave for v2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IGMP membership tracking for v3	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
PIM-SM v2 snooping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Static IGMP groups with support for proxy	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IGMP static groups	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Disabling the flooding of unregistered IPv4 multicast frames in an IGMP-snooping-enabled VLAN	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Layer 2 mode querier configurable source IP address for multicast snooping	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Software Defined Video over Ethernet (SDVoE)	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

Multicast VLAN Registration

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Multicast VLAN Registration	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
IGMP v2/v3	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
MCT	No	No	No	No	No	No
Stacking	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
ISSU	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

IPv6 Multicast VLAN Traffic Reduction

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 multicast traffic reduction v1/v2 snooping per VLAN (global and VLAN level)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 multicast traffic reduction fast leave for v1	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 multicast traffic reduction tracking for v2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MLD static groups	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Disabling the flooding of unregistered IPv6 multicast frames in an MLD-snooping-enabled VLAN	No	No	No	08.0.95	08.0.70	08.0.90
Layer 2 mode querier configurable source IP address for multicast snooping	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
PIM6-SM snooping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

MLD - Multicast Listener Discovery

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
MLD (v1 and v2)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
MLD membership tracking and fast leave for v2	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

MSDP - Multicast Source Discovery Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Multicast Source Discovery Protocol (MSDP)	No	No	08.0.20	08.0.95	08.0.70	08.0.90
MSDP Mesh Groups	No	No	08.0.20	08.0.95	08.0.70	08.0.90
MSDP Anycast RP	No	No	08.0.20	08.0.95	08.0.70	08.0.90

PIM - Protocol-Independent Multicast

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
PIM-SSM	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF support	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
PIM Dense	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
PIM Sparse	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
PIM Anycast RP	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 Multicast Non-stop routing (NSR) support for PIM-SM, SSM, and Anycast RP	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 PIM convergence on MAC movement	08.0.61	08.0.40	08.0.30	08.0.95	08.0.70	08.0.90
IPv4 register message filtering and rate limiting for PIM	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
IPv4 PIM Join and Prune policy	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
PIM Passive	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
PIM Border	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

PIM6 - IPv6 Protocol-Independent Multicast

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 PIM-SSM	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

IP Multicast

PIM6 - IPv6 Protocol-Independent Multicast

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 PIM Sparse	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 PIM Anycast RP	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF support	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 PIM convergence on MAC movement	08.0.61	08.0.40	08.0.30	08.0.95	08.0.70	08.0.90
IPv6 register message filtering and rate limiting for PIM	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
IPv6 PIM Join and Prune policy	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
PIMv6 Border	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

Layer 2 Switching

- LAG - Link Aggregation Group..... 27
- MCT - Multi-Chassis Trunking..... 27
- MRP - Metro Ring Protocol..... 28
- Q-in-Q - 802.1q tunneling..... 28
- RFN - Remote Fault Notification..... 28
- RPF - Reverse Path Forwarding..... 28
- UDLD - Uni-Directional Link Detection..... 28
- UUFb..... 29
- VLAN - Virtual LAN..... 29
- VXLAN - Virtual Extensible LAN 29
- VRP - VLAN Registration Protocol (includes MVRP)..... 29
- VSRP - Virtual Switch Redundancy Protocol..... 30
- Protected Ports..... 30
- xSTP - Spanning Tree Protocols..... 30
- Flexlink..... 31

LAG - Link Aggregation Group

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
LAG virtual interface	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
Dynamic insertion and removal of ports	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Dynamic lag name update	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Static LAG	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LAG threshold for static LAG	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.3ad Link Aggregation Control Protocol (dynamic LAG)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Keepalive LAG	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
LAG symmetric load balancing	No	08.0.30b	08.0.30b	08.0.95	08.0.70	08.0.90
LAG hardware failover	No	No	No	No	08.0.70	08.0.90
Resilient hashing	No	No	No	No	08.0.70	No
Support for LAG between different default port speeds	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90

MCT - Multi-Chassis Trunking

NOTE

MCT is not supported in stacking mode. The exception is that, from FastIron release 09.0.10a, ICX 7850 standalones and stacks can be configured as MCT cluster peers.

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
MCT	No	No	No	No	08.0.90	08.0.90
Cluster client automatic configuration	No	No	No	No	08.0.90	08.0.90
xSTP BPDU forwarding	No	No	No	No	08.0.90	08.0.90

Layer 2 Switching

MRP - Metro Ring Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv4/IPv6 Multicast traffic reduction features with MCT	No	No	No	No	08.0.90	08.0.90
Layer 3 multicast routing over MCT (IPv4 only)	No	No	No	No	08.0.90	08.0.90
Layer 3 unicast routing over MCT (IPv4 only)	No	No	No	No	08.0.90	08.0.90
VRF over MCT	No	No	No	No	08.0.90	08.0.90
MCT-Stacking	No	No	No	No	No	09.0.10a

MRP - Metro Ring Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Metro Ring Protocol 1 (MRP 1)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Metro Ring Protocol 2 (MRP 2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Extended MRP ring IDs from 1 through 1023	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Q-in-Q - 802.1q tunneling

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
802.1ad (Q-in-Q) tagging	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Q-in-Q BPDU tunneling	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
Selective Q-in-Q	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90

RFN - Remote Fault Notification

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Remote Fault Notification (RFN) for 1 Gbps fiber	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

RPF - Reverse Path Forwarding

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
uRPF	No	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90

UDLD - Uni-Directional Link Detection

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Unidirectional Link Detection (UDLD) (Link keepalive)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
UDLD on tagged ports	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

UUFb

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
UUFb	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

VLAN - Virtual LAN

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
VLAN	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Port-based VLANs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VLAN groups	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Private VLANs (PVLANS)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
PVLANS with dual mode support	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
PVLAN with LAG	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
Super Aggregated VLANs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Topology groups	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VLAN membership for out-of-band (OOB) management interface	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Wrapper for adding/removing selective VLANS	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
Simultaneous tagged and untagged VLAN on a port	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90
VLAN mapping	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90

VXLAN - Virtual Extensible LAN

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
VXLAN support	No	No	No	09.0.10a	08.0.95	08.0.95
MACsec over VXLAN	No	No	No	09.0.10a	No	09.0.10a
VXLAN with Routing in and out of tunnels (RIOT)	No	No	No	09.0.10d	No	09.0.10d
VXLAN Remote Site Monitoring and Redundancy	No	No	No	09.0.10d	No	09.0.10d

VRP - VLAN Registration Protocol (includes MVRP)

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
MVRP - Multiple VLAN Registration Protocol	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
MVRP with Per-VLAN STP and Per-VLAN RSTP	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95

VSRP - Virtual Switch Redundancy Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Virtual Switch Redundancy Protocol (VSRP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VSRP-Aware security features	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VSRP and MRP signaling	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VSRP Fast Start	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VSRP timer scaling	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Protected Ports

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Protected Ports	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90

xSTP - Spanning Tree Protocols

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
802.1s Multiple Spanning Tree	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1s Multiple Spanning Tree enhancement (MSTP+)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1W Rapid Spanning Tree Protocol (RSTP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1D Spanning Tree	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Fast Port Span, Fast Uplink Span, and Single-instance Span	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
PVST/PVST+ compatibility	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
PVRST+ compatibility	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
PVST+ Protect	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
Spanning Tree Protocol (STP) protection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Root Guard	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Root Guard for MSTP	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
BPDU Guard	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Error disable recovery	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Port loop detection ⁹	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Spanning Tree path cost method changes	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
MSTP path-cost configuration	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90

⁹ In an 802.1br (SPX) configuration, strict mode loop detection is not supported on explicitly tagged PE ports, but it is supported on untagged and dual-mode PE ports.

Flexlink

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Flexlink	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

Layer 3 Routing/Network Layer

- ARP - Address Resolution Protocol..... 33
- BFD - Bidirectional Forwarding Detection..... 34
- BGP4 - IPV4 Border Gateway Protocol 34
- BGP4+ - IPv6 Border Gateway Protocol..... 35
- DHCP - Dynamic Host Configuration Protocol..... 35
- DNS - Domain Name System..... 36
- GRE - Generic Routing Encapsulation..... 36
- ICMP - Internet Control Message Protocol..... 36
- IP Addressing..... 36
- IPv6 Addressing..... 37
- Multi-VRF..... 37
- OSPF - IPv4 Open Shortest Path First..... 38
- OSPFv3 - IPv6 Open Shortest Path First..... 38
- RIP - IPv4 Routing Information Protocol..... 39
- RIPng - IPv6 Routing Information Protocol..... 39
- VRRPv2 - Virtual Router Redundancy Protocol Version 2..... 39
- VRRPv3 - Virtual Router Redundancy Protocol Version 3..... 40

NOTE

Layer 3 Routing features are not supported on the ICX 7150-C08P.

ARP - Address Resolution Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Static ARP entries	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Configurable ARP priority	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ARP Packet Validation	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Reverse Address Resolution Protocol (RARP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Proxy ARP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Local proxy ARP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Learning Gratuitous ARP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Dynamic ARP inspection	08.0.60	08.0.30 ¹⁰	08.0.20 ¹⁰	08.0.95	08.0.70	08.0.90
Allow source ip 0.0.0.0	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

¹⁰ Not supported in an 802.1br (SPX) configuration.

BFD - Bidirectional Forwarding Detection

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
BFD	No	No	No	No	No	08.0.92
Static IP Routes for BFD	No	No	No	No	No	08.0.92

BGP4 - IPV4 Border Gateway Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
BGP4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Graceful Restart	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Graceful Restart helper mode	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Redistributing IBGP routes	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Client-to-Client Route Reflection	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Route Flap Dampening	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Originating the Default Route	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Multipath Load Sharing	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Using the IP Default Route as a Valid Next Hop for a BGP4 Route	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Next-Hop Recursion	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Next-Hop Update Timer	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Generalized TTL Security Mechanism Support	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Enhanced per-neighbor debug statements and per-neighbor BGP4 debug filters	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Peer Notification during a Management Module Switchover	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Encryption code for passwords, authentication keys, and community strings	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 MD5 Authentication	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Route redistribution to other protocols	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Peer Group	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Route Reflectors	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Neighbor Local-AS	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Local-AS for VRF	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Processing Optimization for Administratively Down Peers	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 Outbound Policy Processing Optimization	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Requiring the First AS to be the Neighbor's AS	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Four-byte AS Numbers (AS4)	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4 AS4 Confederation Error Checking	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Static BGP4 Networks	No	No	08.0.20	08.0.95	08.0.70	08.0.90

BGP4+ - IPv6 Border Gateway Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
BGP4+	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Configuring BGP4+ Neighbors Using Global or Link-Local IPv6 Addresses	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Importing Routes into BGP4+	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Advertising the Default BGP4+ Route	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Using the IP default route as a valid next-hop for a BGP4+ route	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Enabling next-hop recursion	No	No	08.0.20	08.0.95	08.0.70	08.0.90
BGP4+ Graceful Restart	No	No	08.0.20	08.0.95	08.0.70	08.0.90

DHCP - Dynamic Host Configuration Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
BootP/DHCP relay	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying which IP address will be included in a DHCP/BootP reply packet	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCP address acquisition	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
DHCP Server	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCP client on non-default virtual Ethernet port	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95
DHCP Auto-Configuration	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCP assist	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IP helper	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCPv6 relay agent	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCPv6 prefix delegation notification	08.0.60	08.0.40	08.0.30	08.0.95	08.0.70	08.0.90
DHCP snooping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCPv6 snooping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCP relay agent information (DHCP Option 82) RFC 3046	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DHCPv6 link-layer option	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
DHCPv6 server	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
ASCII support for DHCP option 82	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
DHCP Static MAC address to IP address mapping	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
DHCP Option 43	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
DHCP Option 60	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
DHCP Generic Options	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
DHCP Snooping - enable Option 82 at the global level	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90
DHCP snooping, ARP Inspection and IPSG scale improvements	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90
Discovery of SmartZone based on DHCP Option 43	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90
VLAN range command for DHCP snooping, DAI, and IPSG	08.0.80	08.0.80	08.0.80	08.0.95	08.0.80	08.0.90
Lenient DHCPv6 relay support	08.0.92a	08.0.92a	08.0.92a	08.0.95	08.0.92a	08.0.92a
DHCP snooping with packet validation	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
DHCP - IP to Physical Port Mapping	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Dynamic Bootstrap Protocol (BOOTP) Support	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d

DNS - Domain Name System

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Domain Name Server (DNS) resolver	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

GRE - Generic Routing Encapsulation

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv4 point-to-point GRE IP tunnels	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
GRE tunnel counters (CLI and SNMP)	No	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90

ICMP - Internet Control Message Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv4/IPv6 ICMP	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ICMP redirect messages	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ICMP Router Discovery Protocol (IRDP)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

IP Addressing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Bandwidth for IP interfaces	08.0.61	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Equal Cost Multi-Path (ECMP) load sharing	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Single source address for the following packet types: Telnet, TFTP, Syslog, NTP, TACACS, TACACS+, RADIUS, SSH, SNMP	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Virtual Interfaces	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
31-bit subnet mask on point-to-point networks	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IP follow	08.0.61	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Jumbo frames: Up to 10,000 bytes	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IP MTU (individual port setting)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Path MTU discovery	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Static route for IPv4	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Unicast reverse path forwarding (uRPF)	No	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
User-configurable MAC address per IP interface	08.0.61	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
Change IP address using replace keyword	08.0.61	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90

IPv6 Addressing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Global IPv6 address	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Link-local IPv6 address	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv4 and IPv6 host stacks	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 neighbor discovery	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 neighbor discovery Inspection	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 neighbor discovery proxy	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
IPv6 router advertisement (RA) and solicitation	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 router advertisement (RA) preference support	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 over IPv4 tunnels	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ECMP load sharing	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 Layer 3 forwarding	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 redistribution	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 MTU	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Static route for IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Static neighbor entries	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Hop limit for IPv6 packets	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Clear IPv6 global information	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Route-only support	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 prefix delegation	08.0.61	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
IPv6 default gateway support	08.0.61	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
127-bit subnet mask support on point-to point links for IPv6	08.0.92a	08.0.92a	08.0.92a	08.0.95	08.0.92a	08.0.92a

Multi-VRF

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Multi-VRF IPv4 forwarding	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF IPv6 forwarding	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF for IPv4 and IPv6 unicast- static routing	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF for IPv4 Unicast-RIP	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF for IPv4 and IPv6 Unicast - OSPF	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF for IPv4 Unicast-BGP4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF for BGP4+	No	No	08.0.30	08.0.95	08.0.70	08.0.90
Multi-VRF VRRP and VRRP-E for IPv4 and IPv6	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF MSDP for IPv4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
Multi-VRF Multicast over GRE for IPv4	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
DAI support for Multi-VRF	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
IPSG support for Multi-VRF	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
DHCP snooping support for Multi-VRF	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
sFlow on Multi-VRF	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90

Layer 3 Routing/Network Layer
OSPF - IPv4 Open Shortest Path First

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Management VRF support	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
VRF membership in out-of-band (OOB) management interface	No	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Inter-VRF route leaking using static routes	No	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95

OSPF - IPv4 Open Shortest Path First

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
OSPF v2	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Graceful restart ¹¹	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Graceful restart helper-mode	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Block outbound LSA flooding	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
OSPF route redistribution filters	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Filter OSPF routes into IP Route table	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
OSPF group LSA pacing	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
OSPF traps	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Encryption code for passwords, authentication keys and community strings	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRF-lite for CE routers	No	08.0.50	08.0.20	08.0.95	08.0.70	08.0.90
OSPF NSR ¹¹	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
OSPF distribution lists	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Passive mode for OSPF	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MD5 authentication for OSPF	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Keychain for OSPF	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
OSPF cryptographic authentication using HMAC-SHA algorithms	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90

OSPFv3 - IPv6 Open Shortest Path First

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
OSPFv3	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Route redistribution into OSPFv3	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 route filtering	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Shortest Path First (SPF) Timers	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 LSA Pacing	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Modify exit overflow intervals	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Modify External LSA Database Limit	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 Event Logging	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

¹¹ In a stack configuration only.

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPsec for OSPFv3	No	No	08.0.70	08.0.95	No	08.0.90
Encryption code for passwords, authentication keys and community strings	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 Graceful Restart Helper	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 NSR ¹²	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
OSPFv3 authentication trailer	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
OSPFv3 trap	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

RIP - IPv4 Routing Information Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RIP V1 and V2 ¹³	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Redistribution from other protocols into RIP	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RIP default route learning	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RIP route filters	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

RIPng - IPv6 Routing Information Protocol

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RIPng	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RIPng Timers	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
Route redistribution into RIPng	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

VRRPv2 - Virtual Router Redundancy Protocol Version 2

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Virtual Router Redundancy Protocol (VRRP)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRRP timer scaling	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRRP Extended (VRRP-E)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRRP-E slow start timer	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRRP-E timer scale	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
VRRP-E Extension for Shortest Path Forwarding	08.0.61	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
VRRP and VRRP-E statistics enhancement	08.0.61	08.0.30 ¹⁴	08.0.20	08.0.95	08.0.70	08.0.90
VRRP-E hitless upgrade	08.0.61	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90

¹² Supported only in a stacking configuration.

¹³ RIP is included with the PREM license.

¹⁴ VRRP only.

VRRPv3 - Virtual Router Redundancy Protocol Version 3

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 VRRP-E	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 VRRP v3	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
VRRPv3 Enhancement: v2-checksum support	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
VRRPv3 Enhancement: IPv6 Link-Local Auto-generation	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Security

- Authentication, Authorization, and Accounting..... 41
- ACLs - Access Control Lists.....42
- DoS (Denial of Service) protection..... 42
- Flexible Authentication (802.1x Authentication and MAC Authentication)..... 43
- HTTP/HTTPS.....44
- IP Source Guard and IPv6 Source Guard.....44
- IPsec - IP security..... 45
- MACsec - Media Access Control Security..... 45
- PBR - Policy-Based Routing..... 45
- Port MAC Security..... 45
- RADIUS..... 46
- RA Guard - Router Advertisement Guard..... 46
- SSH - Secure Shell..... 46
- TACACS & TACACS+.....47
- User Accounts and Passwords..... 47

For considerations related to security in an 802.1BR (SPX) configuration, refer to the *RUCKUS FastIron Campus Fabric Configuration Guide*

Authentication, Authorization, and Accounting

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Authentication, Authorization, and Accounting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying the authentication-failure action	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Configurable password for MAC authentication	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
AAA support for console commands	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Restricting remote access to management functions	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Disabling TFTP access	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Using ACLs to restrict remote access	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
AAA authentication-method lists	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Packet filtering on TCP flags	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
TCP keychain authentication ¹⁵	No	No	09.0.10a	09.0.10a	09.0.10a	09.0.10a
MAC accounting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Web authentication white list (walled garden)	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

¹⁵ TCP keychain authentication configuration is not supported on ICX7150 and ICX7250. BGP and MSDP is not supported on ICX7150 and ICX7250 and therefore, TCP AO keychain is also not supported.

ACLs - Access Control Lists

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv4/IPv6 ACLs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 access list (management ACLs)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 ACL comment text	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv6 ACL logging of denied packets for ingress traffic	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPv4/IPv6 ACL logging for Permit traffic	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
ACL accounting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Standard named and numbered ACLs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Extended named and numbered ACLs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
User input preservation for ACL TCP/UDP port numbers	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL comment text	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL logging of denied packets for ingress traffic	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL logging with traffic rate limiting (to prevent CPU overload)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Strict control of ACL filtering of fragmented packets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL support for switched traffic in the router image	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL filtering based on VLAN membership or VE port membership	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACLs to filter ARP packets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Filtering on IP precedence and ToS value	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC address filtering (filtering on source and destination MAC addresses)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC ACLs	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95
Source Guard ACLs	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95	08.0.95
QoS options for IP ACLs ¹⁶	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Priority mapping using ACLs (Inbound traffic)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Priority mapping using ACLs (Outbound traffic)	No ¹⁷	No ¹⁷	No ¹⁷	No	08.0.70	08.0.90
Hardware usage statistics	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
No TTL decrement	08.0.61	No	08.0.30	08.0.95	08.0.70	08.0.90
Sequence numbering in ACLs	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Accounting for outbound ACLs	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
ACLs on CPU ports	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

DoS (Denial of Service) protection

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Smurf attack (ICMP attack) protection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

¹⁶ DSCP QoS mapping is not supported for outgoing traffic.

¹⁷ Internal priority marking is not supported for outgoing traffic.

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
TCP SYN attack protection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
TCP MSS	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90

Flexible Authentication (802.1x Authentication and MAC Authentication)

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
802.1x Authentication	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
EAP pass-through support	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1x accounting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1x with dynamic ACL assignment	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1x with dynamic VLAN assignment	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RADIUS timeout action	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1x and MAC authentication on the same port	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1x and sFlow: 802.1x user name export support for encrypted and non-encrypted EAP types	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Flexible Authentication (FlexAuth)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for Flexible authentication together with Dynamic ARP inspection (IPv4 and IPv6) with dynamic ACLs	08.0.60	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
Support for Flexible authentication together with DHCPv4 and DHCPv6 snooping with dynamic ACLs	08.0.60	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
Flexible authentication enhancements: <ul style="list-style-type: none"> Critical Voice VLAN Reauthentication with dead RADIUS server Multiple IPv6 addresses with dynamic ACLs Additional RADIUS attributes (including idle timeout, accounting terminate cause) Colon-separated MAC address format for MAC authentication 	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
Support for 802.1x authentication together with IP Source guard protection	08.0.60	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
Support for MAC Authentication together with IP Source guard protection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for MAC Authentication together with Dynamic VLAN assignment	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for MAC Authentication together with Dynamic ACLs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for MAC Authentication together with 802.1x	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Support for 802.1x together with Denial of Service (DoS) attack protection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Periodic reauthentication for MAC Authentication	08.0.60	08.0.40a	08.0.40a	08.0.95	08.0.70	08.0.90
Periodic reauthentication for 802.1x	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Automatic removal of Dynamic VLAN for MAC authenticated ports	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Authenticating multiple MAC addresses on an interface	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying the format of the MAC addresses sent to the RADIUS server	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Security
HTTP/HTTPS

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
SNMP Traps for MAC authentication	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
MAC address filter override of 802.1x	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Aging time for blocked MAC Addresses	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Interim RADIUS accounting updates for 802.1x authentication and MAC authentication	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Accounting for 802.1x and MAC authentication	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Outbound dynamic IPv4 ACLs and IPv6 ACLs	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Support for Ruckus CloudPath policy server	08.0.60	08.0.60	08.0.60	08.0.95	08.0.70	08.0.90
Aruba ClearPass support	08.0.50	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Ruckus Cloudpath support	08.0.60	08.0.60	08.0.60	08.0.95	08.0.70	08.0.90
Cisco ISE support	08.0.60	08.0.60	08.0.60	08.0.95	08.0.70	08.0.90

HTTP/HTTPS

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Enabling and disabling Web authentication	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Configuring the Web authentication mode	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Web authentication options	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Web authentication userID and password customization	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
External Captive Portal with Aruba ClearPass	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
External Captive Portal with Cloudpath	08.0.60	08.0.60	08.0.60	08.0.95	08.0.70	08.0.90
External Captive Portal with Cisco ISE	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
Configurable URL for External Web Authentication	08.0.60	08.0.50	08.0.50 ¹⁸	08.0.95	08.0.70	08.0.90
Dynamic ACLs in WebAuth	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RADIUS returned VLAN support for WEBAUTH clients (network segmentation)	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d
Customize webauth login page	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d	09.0.10d
SSL security	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SSL security for the Web Management Interface	08.0.60 ¹⁹	08.0.30	08.0.20	No	08.0.70	08.0.90

IP Source Guard and IPv6 Source Guard

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IP source guard	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IPSG at VLAN level	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
IPv6 Source Guard	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

¹⁸ Also supported in 08.0.30j.

¹⁹ Web management is not supported on the ICX7150-C08P.

IPsec - IP security

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPsec service module support	No	No	08.0.50	No	No	No
IPv6 support for IPsec	No	No	08.0.70	No	No	No
NAT Traversal for IPsec	No	No	08.0.70	No	No	No
Backup IPsec module for HA	No	No	08.0.70	No	No	No
BGP over IPsec	No	No	08.0.70	No	No	No
Support for 100 IPsec tunnels	No	No	08.0.70	No	No	No
PKI Support for IKE	No	No	08.0.70	No	No	No

MACsec - Media Access Control Security

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Media Access Control Security (MACsec)	No	No	08.0.30	08.0.95	08.0.70	08.0.90 ²⁰

PBR - Policy-Based Routing

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Policy-based routing (PBR) for IPv4	08.0.61	08.0.40a	08.0.20	08.0.95	08.0.70	08.0.90
PBR on VRF-enabled interface	No	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
IPv6 PBR support	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90

Port MAC Security

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
MAC port security	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Setting the maximum number of secure MAC addresses on an interface	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Setting the port security age timer	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying secure MAC addresses	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Autosaving secure MAC addresses to the startup-config file	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Specifying the action taken when a security violation occurs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Port security statistics	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Clearing port security statistics	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
No port shutdown for "restrict" option	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90

²⁰ Supported on 10G ports of the ICX 7850-48FS.

RADIUS

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RADIUS	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RADIUS Change of Authorization (CoA)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
CoA extended options: Vendor-specific Foundry-COA-Command attribute for RADIUS server ²¹	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
RADIUS over TLS	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
LLDP and CDP parameters for IP phones using RADIUS attributes	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RADIUS dead server detection	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
Classification of RADIUS servers	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
PKI authentication for RADIUS	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
RADSEC support for flexible authentication	09.0.10b	09.0.10b	09.0.10b	09.0.10b	09.0.10b	09.0.10b

RA Guard - Router Advertisement Guard

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IPv6 RA Guard	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

SSH - Secure Shell

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
SCP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SSH	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Secure Shell (SSH) version 2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
AES encryption for SSHv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Optional parameters for SSHv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Using secure copy (SCP) with SSHv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Filtering SSHv2 access using ACLs	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Terminating an active SSHv2 connection	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SSH client	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Boot image download over SCP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
SCP client support	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
supportSave for SCP	08.0.61	08.0.61	08.0.61	08.0.95	08.0.70	08.0.90
SSH rekey	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
DH-Group-14 key exchange method	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
DH-Group-14 SHA 256 key exchange method in non-FIPS mode.	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

²¹ Also supported in 08.0.30j.

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
ICX SSH Support for SHA-2 with 384 bits	09.0.10b	09.0.10b	09.0.10b	09.0.10b	09.0.10b	09.0.10b
SSH enabled (and Telnet disabled) on switches that do not have a statrtup-config file (i.e. factory default configuration).	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
Default username and password	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
<p>NOTE Applies only to new ICX switches that are initially deployed using the 08.0.90.</p>						

TACACS & TACACS+

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
TACACS & TACACS+	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Two-factor authentication with TACACS+ server	08.0.60	08.0.50 ²²	08.0.50 ²²	08.0.95	08.0.70	08.0.90

User Accounts and Passwords

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Local user accounts	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Local user passwords	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Automatic re-enabling of locked-out user accounts	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
Local user accounts with encrypted passwords	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
AMAT archive requirement	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
Access authority to logging by privilege	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a

²² Also supported in 08.0.30j.

SDN

- OpenFlow..... 49

OpenFlow

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
OpenFlow 1.0	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow 1.3	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow enabled on per-port basis (Hybrid switch mode)	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow Layer 3 Hybrid Port Mode	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow Layer 2 Hybrid Port Mode	08.0.61	08.0.50	08.0.50	No	08.0.70	08.0.95
OpenFlow Layer 2/3 Hybrid Port Mode	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow Layer 2 and Layer 3 match fields simultaneously	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
Layer 2 OpenFlow match rules	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
Layer 3 OpenFlow match rules	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
Support for passive mode on the device	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow actions	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow Flood action	08.0.61	08.0.40a	08.0.40a	No	08.0.70	08.0.95
Multiple controller support	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
Group table support	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
Meter table support	08.0.61	08.0.40	08.0.30	No	08.0.70	08.0.95
OpenFlow for ICX 7xxx stack	08.0.61	08.0.40	08.0.40	No	08.0.70	08.0.95

Stacking

- Stack Failover/Switchover..... 51
- Stacking..... 51

Stack Failover/Switchover

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Hitless failover	08.0.61 ²³	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Hitless switchover	08.0.61 ²³	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Stacking

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Building stacking: Secure-setup ²⁴ , Automatic configuration, Manual configuration	08.0.61 ²⁵	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Building stacking: Interactive-setup, Zero-touch provisioning	08.0.90 ²⁵	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
Persistent MAC address	08.0.61 ²⁵	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Stacking software upgrade	08.0.61 ²⁵	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Trunking of stacked ports	08.0.61 ²⁵	08.0.30	08.0.30 ²⁶	08.0.95	08.0.70 ²⁷	08.0.90
Auto Image Copy for stack units	08.0.61 ²⁵	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
User-configurable buffer profiles	08.0.61 ²⁵	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Elimination of required default-ports configuration	08.0.90 ²⁵	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
Two-unit linear topology stacking trunks	08.0.90 ²⁵	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
Long-distance stacking on 10G ports	08.0.61 ²⁵	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
Long-distance stacking on 40G ports	No	No	No	08.0.95	08.0.70	08.0.90
100G stacking	No	No	No	08.0.95c	08.0.70	08.0.90

²³ The ICX 7150-C08P does not support stacking.

²⁴ Secure-setup is replaced by Stack interactive-setup on all platforms beginning with release 08.0.90.

²⁵ The ICX 7150-C08P does not support stacking.

²⁶ Supported on 10G ports only.

²⁷ Supported on 40G links only.

Traffic Management

- Quality of Service (QoS)..... 53
- Rate Limiting and Shaping..... 53

Quality of Service (QoS)

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Scheduling and queuing: Strict Priority (SP), Weighted Round Robin (WRR), Combined SP and WRR, 8 priority queues	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
802.1p classification and marking	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DiffServ support	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DSCP-based QoS (IPv4 and IPv6)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
DSCP and PCP global remarking	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
QoS mappings (DSCP to CoS and vice versa)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
User-configurable scheduler profiles	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Ingress buffer management	08.0.60	08.0.30	08.0.20	No	08.0.70	No
Per-port PFC	No	08.0.40	08.0.40	No	No	No
Per-priority PFC	No	No	No	No	No	09.0.10a
Port Flow Control: Responds to flow control packets, but does not generate them	No	08.0.30	08.0.20	No	No	No
Symmetrical flow control: Can transmit and receive 802.3x PAUSE frames	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Auto-negotiation and advertisement of flow control	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
QoS priority	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Dynamic buffer allocation for QoS priorities (egress)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Egress queue counters	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Separate QoS queuing for unicast and multicast	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Rate Limiting and Shaping

Feature	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
Inbound rate limiting (port-based rate limiting on inbound ports)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Outbound port and queue-based rate shaping	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL-based rate limiting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Byte-based broadcast, multicast, and unknown-unicast limits	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
Packet-based broadcast, multicast, and unknown-unicast limits	08.0.60	No	No	No	08.0.70	08.0.90
Traffic policies	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL-based fixed rate limiting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL-based adaptive rate limiting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
ACL statistics	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
CPU rate limiting	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Standards compliance

- RFC Compliance..... 55
- IEEE Compliance..... 63

RFC Compliance

The following table lists the RFCs that are supported on the RUCKUS ICX platforms. Footnotes indicate exceptions.

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 768	User Datagram Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 783	Trivial File Transfer Protocol (TFTP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 791	Internet Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 792	Internet Control Message Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 793	Transmission Control Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 826	Ethernet Address Resolution Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 854	Telnet Protocol Specification	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 855	Telnet Option Specifications	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 894	IP over Ethernet Frames	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 896	Congestion Control in IP/TCP Internetworks	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 903	A Reverse Address Resolution Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 906	Bootstrap Loading using TFTP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 919	Broadcast Internet Datagrams	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 920	Domain Requirements	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 922	Broadcast Internet Datagrams in the Presence of Subnets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 925	Multi-LAN Address Resolution	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 950	Internet Standard Subnetting Procedure	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 951	Bootstrap Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1027	Using ARP to Implement Transparent Subnet Gateways	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1042	IP Datagrams over IEEE 802 Networks (for Ethernet)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1057 (ANSI-TIA)	LLDP-MED	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1058	Route Information Protocol (RIP) Version 1	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1112	Host Extensions for IP Multicasting	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1122 & RFC 1123	Requirements for Internet Hosts - Communication Layers	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1155	Structure and Identification of Management Information (SMI)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1156	Management Information Base for Network Management of TCP/IP-based Internets	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1157	Simple Network Management Protocol (SNMP) Version 1	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1191	Path MTU Discovery	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Standards compliance

RFC Compliance

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 1212	Concise MIB Definitions	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1213	Management Information Base for Network Management of TCP/IP-based Internets: MIB-II	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1215	SNMP Generic Traps	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1269	Definitions of Managed Objects for the Border Gateway Protocol (Version 3)	08.0.61	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1256	ICMP Router Discovery Messages	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1305	Network Time Protocol (Version 3) ²⁸	No	No	No	No	No	No
RFC 1321	The MD5 Message-Digest Algorithm	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1340	Assigned Numbers	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1350	The TFTP Protocol (Revision 2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1354	IP Forwarding Table MIB	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1398	Definitions of Managed Objects for the Ethernet-like Interface Types	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1403	BGP OSPF Interaction	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1492	An Access Control Protocol, Sometimes Called TACACS	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1493	Definition of Managed Objects for Bridges ²⁹	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1516	Definitions of Managed Objects for IEEE 802.3 Repeater Devices	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1519	Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1541	Dynamic Host Configuration Protocol (DHCP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1542	Clarifications and Extensions for the Bootstrap Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1573	SNMP MIB II	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1583	Open Shortest Path First (OSPF)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1591	Domain Name Structure and Delegation (Client)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1587	The OSPF Not-So-Stubby Areas (NSSAs) Option	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1643	Definitions of Managed Objects for the Ethernet-like Interface Types	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1657	Definitions of Managed Objects for the Fourth Version of the Border Gateway Protocol (BGP4) using SMIv2	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1723	RIP Version 2 Carrying Additional Information	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1724	RIP Version 2 MIB Extension	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1745	BGP4/IDRP for IP-OSPF Interaction	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1757	Remote Network Monitoring (RMON) Management Information Base ³⁰	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1765	OSPF Database Overflow	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1771	Border Gateway Protocol 4 (BGP4)	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1772	Application of BGP in the Internet (BGP4)	No	No	08.0.20	08.0.95	08.0.70	08.0.90

²⁸ All platforms are compliant with RFC 5905 NTPv4, which obsoletes RFC 1305 and RFC 4330.

²⁹ Excludes filtering of objects.

³⁰ Groups 1, 2, 3, and 9.

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 1812	Requirements for IP Version 4 Routers	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1850	OSPF Version 2 MIB	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1886	DNS Extensions to Support IPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1887	An Architecture for IPv6 Unicast Address Allocation	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1901	Introduction to Community-based SNMPv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1905	Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1906	Transport Mappings for Version 2 of the Simple Network Management Protocol (SNMPv2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1918	Address Allocation for Private Internets (Private Address Space)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1965	Autonomous System Confederations for BGP4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1966	BGP Route Reflection	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1981	Path MTU Discovery for IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 1997	BGP Communities Attribute	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2011	SNMPv2 Management Information Base for the Internet Protocol using SMIv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2012	SNMPv2 Management Information Base for the Transmission Control Protocol using SMIv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2013	SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2021	Remote Network Monitoring Management Information Base Version 2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2068	Hypertext Transfer Protocol (HTTP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2080	RIPng for IPv6	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2096	IP Forwarding Table MIB (Obsoleted by RFC 4292)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2131	Dynamic Host Configuration Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2132	DHCP Options and BOOTP Vendor Extensions	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2138	Remote Authentication Dial In User Server (RADIUS) (Obsoleted by RFC 2865)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2139	RADIUS Accounting (Obsoleted by RFC 2866)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2154	OSPF with Digital Signatures	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2178	Open Shortest Path First (OSPF) Version 2 (Obsoleted by RFC 2328)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2233	The Interfaces Group MIB using SMIv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2236	Internet Group Management Protocol (IGMP) Version 2	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2239	Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs) using SMIv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2283	Multiprotocol Extensions for BGP-4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2328	OSPF Version 2 ³¹	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

³¹ AS External LSA reduction is supported.

Standards compliance

RFC Compliance

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 2330	Framework for IP Performance Metrics (Port Interface Rates)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2338	Virtual Router Redundancy Protocol (VRRP)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2362	Protocol Independent Multicast-Sparse Mode (PIM-SM): Protocol Specification	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2370	The OSPF Opaque LSA Option	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2373	IPv6 Addressing Architecture	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2374	IPv6 Aggregatable Global Unicast Address Format (Obsoleted by RFC 3587)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2375	IPv6 Multicast Address Assignments	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2385	Protection of BGP Sessions via the TCP MD5 Signature Option ³²	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2404	HMAC-SHA 1-96	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2439	BGP Route Flap Dampening	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2453	RIP Version 2	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2460	Internet Protocol, Version 6 (IPv6) Specification	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2461	Neighbor Discovery for IP Version 6 (IPv6)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2462	IPv6 Stateless Address Auto-configuration (Obsoleted by RFC 4862)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2463	ICMPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2464	Transmission of IPv6 Packets over Ethernet Networks	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2473	Generic Packet Tunneling in IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2475	An Architecture for Differentiated Services	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2526	Reserved IPv6 Subnet Anycast Addresses	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2545	BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2560	X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP (PKI)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2570	Introduction to Version 3 of the Internet-standard Network Management Framework	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2571	An Architecture for Describing SNMP Management Frameworks	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2572	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2573	SNMP Applications	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2574	User-based Security (USM) for Version 3 of the Simple Network Management Protocol (SNMPv3)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2575	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

³² For BGP 4.

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 2576	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2578	Structure of Management Information Version 2 (SMIPv2)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2579	Textual Conventions for SMIPv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2580	Conformance Statements for SMIPv2	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2597	Assured Forwarding PHB Group	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2665	Definitions of Managed Objects for the Ethernet-like Interface Types	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2674	Bridge MIB Extensions	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2698	A Two Rate, Three Color Marker	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2710	Multicast Listener Discovery (MLD) for IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2740	OSPF for IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2784	Generic Routing Encapsulation	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2787	Definitions of Managed Objects for the Virtual Router Redundancy Protocol	08.0.61	08.0.30f	08.0.30f	08.0.95	08.0.70	08.0.90
RFC 2796	BGP Route Reflection	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2818	HTTP over TLS	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2819	Remote Network Monitoring Management Information Base	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2842	Capabilities Advertisement with BGP-4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2865	Remote Authentication Dial In User Service (RADIUS) [June 2000]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2866	RADIUS Accounting [June 2000]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2868	RADIUS Attributes for Tunnel Protocol Support [June 2000]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2869	RADIUS Extensions [June 2000]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2918	Route Refresh Capability for BGP-4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2932	IPv4 Multicast Routing MIB	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2933	Internet Group Management Protocol MIB	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 2934	Protocol Independent Multicast MIB for IPv4	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3101	The OSPF Not-So-Stubby Area (NSSA) Option	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3137	OSPF Stub Router Advertisement	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3162	RADIUS and IPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3164	The BSD Syslog Protocol (This RFC is obsoleted by RFC 5424)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3176	InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3246	An Expedited Forwarding PHB (Per-Hop Behavior) [2]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3315	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3376	Internet Group Management Protocol, Version 3	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3392	Capabilities Advertisement with BGP-4	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3410	Introduction and Applicability Statements for Internet Standard Management Framework	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

Standards compliance

RFC Compliance

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 3411	An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3412	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3413	Simple Network Management Protocol (SNMP) Applications	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3414	User-based Security Model (USM) for Version 3 of the Simple Network Management Protocol (SNMPv3)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3415	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3416	Version 2 of the Protocol Operations for SNMP	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3417	Transport Mappings for the Simple Network Management Protocol (SNMPv3)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3418	Management Information Base (MIB) for SNMP [December 2002]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3442	The Classless Static Route Option for DHCPv4 Version 4	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3446	Anycast Rendezvous Point (RP) Mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3484	Default Address Selection for IPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3513	IPv6 Addressing Architecture	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3579	RADIUS (Remote Authentication Dial In User Service) Support For Extensible Authentication Protocol (EAP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3587	An IPv6 Aggregatable Global Unicast Address Format	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3596	DNS Extensions to Support IPv6	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3618	Multicast Source Discovery Protocol (MSDP)	08.0.61	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3623	Graceful OSPF Restart	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3704	Ingress Filtering for Multihomed Networks (Reverse Path Forwarding)	08.0.61	No	No	No	08.0.70	08.0.90
RFC 3748	Extensible Authentication Protocol (EAP)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3768	Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3810	Multicast Listener Discovery Version 2 (MLDv2) for IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3879	Deprecating Site Local Addresses (IPv6)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3942	Reclassifying Dynamic Host Configuration Protocol v4 Options ³³	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3973	Protocol Independent Multicast - Dense Mode (PIM-DM)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 3986	Uniform Resource Identifier (URI): Generic Syntax (with IPv6)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4007	IPv6 Scoped Address Architecture	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4022	Management Information Base for the Transmission Control Protocol (TCP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

³³ Partial Support. Options 66, 67, 82, and 150 are supported.

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 4087	IP Tunnel MIB	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
RFC 4113	Management Information Base for the User Datagram Protocol (UDP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4133	Entity MIB (Version 3)	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
RFC 4193	Unique Local IPv6 Unicast Addresses	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4188	Definitions of Managed Objects for Bridges [September 2005]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4213	Basic Transition Mechanisms for IPv6 Hosts and Routers	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4222	Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4250	The Secure Shell (SSH) Protocol Assigned Numbers	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4251	The Secure Shell (SSH) Protocol Architecture	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4252	The Secure Shell (SSH) Authentication Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4253	The Secure Shell (SSH) Transport Layer Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4254	The Secure Shell (SSH) Connection Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4271	A Border Gateway Protocol 4 (BGP-4) [January 2006]	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4291	IP Version 6 Addressing Architecture [February 2006]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4292	IP Forwarding Table MIB [April 2006]	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4293	Management Information Base for the Internet Protocol (IP) [April 2006]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4330	Simple Network Time Protocol (SNTP) Version 4 ³⁴	No	No	No	No	No	No
RFC 4419	Diffie-Hellman Group Exchange for the Secure Shell (SSH) Transport Layer Protocol [March 2006]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4432	RSA Key Exchange for the Secure Shell (SSH) Transport Layer Protocol [March 2006]	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4443	Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) [March 2006]	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4459	MTU and Fragmentation Issues with In-the-Network Tunneling	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4541	IGMP and MLD Snooping Switches Considerations	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4552	Authentication/Confidentiality for OSPVv3	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4560	Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (only Ping and Traceroute MIBs are supported)	08.0.80a	08.0.80a	08.0.80a	08.0.95	08.0.80a	08.0.90
RFC 4601	Protocol Independent Multicast - Sparse Mode (PIM-SM) [August 2006]	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4604	Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4607	Source-Specific Multicast for IP	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4610	Anycast-RP using PIM	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90

³⁴ All platforms are compliant with RFC 5905 NTPv4, which obsoletes RFC 1305 and RFC 4330.

Standards compliance

RFC Compliance

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 4632	Classless Inter-domain Routing (CIDR): The Internet Address Assignment and Aggregation Plan	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4724	Graceful Restart Mechanism for BGP	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4750	OSPFv2 SNMP MIB support	008.0.90	008.0.90	008.0.90	008.0.90	008.0.90	008.0.90
RFC 4760	Multiprotocol Extensions for BGP-4 ³⁵	No	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4807	IPsec Security Policy Database Configuration MIB	No	No	08.0.70	No	No	No
RFC 4836	MAU-MIB module support	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 4861	Neighbor Discovery for IP Version 6 (IPv6)	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4862	IPv6 Stateless Address Auto-configuration	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 4893	BGP Support for Four-octet AS Number Space	No	No	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5059	Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)	08.0.61	08.0.40	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5095	Deprecation of Type 0 Routing Headers in IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5136	Defining Network Capacity (Port Interface Rates)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5176	Dynamic Authorization Extensions to Remote Authentication Dial In User Service (RADIUS)	08.0.60	08.0.50	08.0.50	08.0.95	08.0.70	08.0.90
RFC 5280	Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile (PKI Certification)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5340	OSPF for IPv6 [July 2008]	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5424	Layered architecture for SYSLOG	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 5494	IANA Allocation Guidelines for the Address Resolution Protocol (ARP) ³⁶	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5590	Transport Subsystem for the Simple Network Management Protocol (SNMP) ³⁷	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5643	OSPFv3 SNMP MIB	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a	09.0.10a
RFC 5676	Managed Objects for mapping SYSLOG messages to SNMP notifications	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 5709	OSPFv2 HMAC-SHA Cryptographic Authentication	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5798	Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6	08.0.61	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5880	Bi-Directional Forwarding Detection (BFD) Supports asynchronous mode only.	No	No	No	No	No	08.0.92
RFC 5881	BFD for IPv4 and IPv6 (Single Hop)	No	No	No	No	No	08.0.92
RFC 5883	BFD for Multihop Paths	No	No	No	No	No	08.0.92
RFC 5905	Network Time Protocol Version 4 ³⁸	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 5926	Cryptographic Algorithms for the TCP Authentication Option (TCP-AO)	No	No	09.0.10a	09.0.10a	09.0.10a	09.0.10a
RFC 6085	Address Mapping of IPv6 Multicast Packets on Ethernet	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 6506	Supporting Authentication Trailer for OSPFv3	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90

³⁵ Partial support.

³⁶ Partial support

³⁷ All platforms follow the USM model. Transport security model with TLS is not supported for SNMP.

³⁸ All platforms are compliant with RFC 5905 NTPv4, which obsoletes RFC 1305 and RFC 4330.

RFC Number	RFC Name	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
RFC 6613	RADIUS over TCP	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 6614	Transport Layer Security (TLS) Encryption for RADIUS	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 6668	SHA-2 Data Integrity Verification for the Secure Shell (SSH) Transport Layer Protocol	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
RFC 6939	Client Link-Layer Address Option in DHCPv6	08.0.60	08.0.40	08.0.40	08.0.95	08.0.70	08.0.90
RFC 7130	BFD on Link Aggregation Group (LAG) Interfaces	No	No	No	No	No	08.0.92
RFC 7166	Supporting Authentication Trailer for OSPFv3	08.0.70	08.0.70	08.0.70	08.0.95	08.0.70	08.0.90
RFC 7348	Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks	No	No	No	No	08.0.95	08.0.95

IEEE Compliance

The following table lists the IEEE standards that are supported on the RUCKUS ICX platforms. Footnotes indicate exceptions.

IEEE Number	IEEE Standard Description	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IEEE 802.1AB	Station and Media Access Control Connectivity Discovery (Link Layer Discovery Protocol, LLDP)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.1AE	Media Access Control (MAC) Security	No	No	08.0.30	08.0.95	08.0.80	08.0.90
IEEE 802.1BR	Bridge Port Extension	No	No	08.0.40	No	No	08.0.90
IEEE 802.1ak	Multiple Registration Protocol Multiple MAC Registration Protocol (MMRP) is not supported. Multiple VLAN Registration Protocol (MVRP) is supported in environments without spanning tree and environments with single spanning tree ONLY. MVRP is not supported in environments with Per-VLAN spanning tree or multiple spanning tree.	08.0.90	08.0.90	08.0.90	08.0.95	08.0.90	08.0.90
IEEE 802.1D-1998	Spanning Tree Protocol (STP)	08.0.60	08.0.30	08.0.20	8.0.95	08.0.70	08.0.90
IEEE 802.1Q-2011	Local and metropolitan area networks-- Media Access Control (MAC) Bridges and Virtual Bridged LANs	08.0.60	08.0.30	08.0.30	08.0.95	08.0.70	08.0.90
IEEE 802.1Qbb	Priority-based Flow Control	No	08.0.40	08.0.40	08.0.95	No	08.0.95
IEEE 802.1S-2002	Multiple Spanning Tree (MST)	08.0.60	08.0.30	08.0.20	8.0.95	08.0.70	08.0.90
IEEE 802.1W-2001	Rapid Reconfiguration of Spanning Tree	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.1X	Port-based Network Access Control (PNAC) ³⁹	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.1 AX-2008	Link Aggregation	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3	Carrier Sense Multiple Access/Collision Detection (CSMA/CD)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90

³⁹ Partial support.

Standards compliance

IEEE Compliance

IEEE Number	IEEE Standard Description	ICX 7150	ICX 7250	ICX 7450	ICX 7550	ICX 7650	ICX 7850
IEEE 802.3ab	1000BASE-T	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3ae	1BASE5	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3af	Power over Ethernet (15.4 W)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3at	Power over Ethernet enhancements (25.5 W); PoE+	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3az	Energy Efficient Ethernet	08.0.91	08.0.30	08.0.30	08.0.95	No	No
IEEE 802.3bz	2.5GBASE-T	08.0.61 ⁴⁰	No	08.0.61	08.0.95	08.0.70 ⁴⁰	No
	5GBASE-T	08.0.91	No	No	8.0.95	08.0.70	No
IEEE 802.3i	10BASE-T	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3q	Guidelines for the Development of Managed Objects	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbit/s (12.5 MB/s) with auto-negotiation	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3x	Full duplex and flow control	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3z	1000BASE-X Gbit/s Ethernet over Fiber-Optic at 1 Gbps (125 MB/s)	08.0.60	08.0.30	08.0.20	08.0.95	08.0.70	08.0.90
IEEE 802.3ba	40 Gbit/s and 100 Gbps Ethernet	No	No	08.0.20 ⁴²	08.0.95	No	08.0.90
IEEE 802.3bt	Ethernet Amendment 2: Physical Layer and Management Parameters for PoE over 4 pairs	No	No	No	08.0.95	No	No
IEEE 1588v2	Precision Timing Protocol (PTP) Transparent Clock	08.0.95 ⁴³	No	No	09.0.10a ⁴⁴	09.0.10a ⁴⁵	08.0.95 ⁴⁶

⁴⁰ ICX 7150 Z-Series only

⁴² Supported on 40G ports only.

⁴³ Supported on the ICX7150-24, ICX7150-48PF and ICX7150-C12P for FastIron release 08.0.95. Support added for the ICX7150-24P and ICX7150-C10ZP in FastIron release 08.0.95c. Support added for the ICX7150-48ZP in FastIron release 09.0.10a.

⁴⁴ Supported on the ICX-7550-24ZP and ICX7550-24F only.

⁴⁵ Supported on the ICX7650-48F and ICX7650-48ZP only.

⁴⁶ Supported on the ICX7850-48F, ICX7850-48FS and ICX7850-32Q only. Not supported on ICX7850-48C.



© 2022 CommScope, Inc. All rights reserved.
350 West Java Dr., Sunnyvale, CA 94089 USA
<https://www.commscope.com>