

Ruckus FastIron Software Upgrade Guide, 08.0.90

Supporting FastIron Software Release 08.0.90

Copyright, Trademark and Proprietary Rights Information

© 2019 ARRIS Enterprises LLC. 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 ARRIS International plc and/or its affiliates ("ARRIS"). ARRIS reserves the right to revise or change this content from time to time without obligation on the part of ARRIS 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, ARRIS 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. ARRIS 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. ARRIS 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 ARRIS 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 ARRIS, ARRIS 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 ARRIS 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, Ruckus, Ruckus Wireless, Ruckus Networks, Ruckus logo, the Big Dog design, BeamFlex, ChannelFly, Edgellon, FastIron, HyperEdge, ICX, IronPoint, OPENG, SmartCell, Unleashed, Xclaim, ZoneFlex are trademarks of ARRIS International plc and/or its affiliates. Wi-Fi Alliance, Wi-Fi, the Wi-Fi logo, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access (WPA), the Wi-Fi Protected Setup logo, and WMM are registered trademarks of Wi-Fi Alliance. Wi-Fi Protected Setup™, Wi-Fi Multimedia™, and WPA2™ are trademarks of Wi-Fi Alliance. All other trademarks are the property of their respective owners.

Contents

Preface.....	5
Document Conventions.....	5
Notes, Cautions, and Warnings.....	5
Command Syntax Conventions.....	6
Document Feedback.....	6
Ruckus Product Documentation Resources.....	6
Online Training Resources.....	7
Contacting Ruckus Customer Services and Support.....	7
What Support Do I Need?.....	7
Open a Case.....	7
Self-Service Resources.....	7
About this Document.....	9
What's new in this document.....	9
Supported hardware.....	9
Software Upgrade and Downgrade.....	11
Software Upgrade Procedure Overview.....	11
Initial steps.....	11
Determining the current flash image version.....	11
Determining the current flash and boot image versions.....	12
Determining the current licenses installed.....	12
The upgrade process.....	13
Software upgrade from a non-UFI to a UFI version.....	13
Loading the flash code using TFTP.....	14
Loading the flash code using SCP.....	17
Loading the flash code using HTTPS.....	18
Loading the flash code using USB.....	18
Software downgrade from a UFI to a non-UFI version.....	18
Downgrade from a UFI to a non-UFI version using TFTP.....	19
Downgrade from a UFI to a non-UFI version using SCP.....	21
Software Recovery.....	22
Recovering Software.....	22
Deprecated or removed features and commands.....	24
Upgrade and downgrade limitations.....	25
Campus Fabric limitations for image downgrade from FastIron release 08.0.90 to previous releases.....	26
General upgrade and downgrade considerations for stacks.....	27
Changes to upgrade and downgrade for stacking from FastIron release 08.0.90.....	27

Preface

- Document Conventions..... 5
- Command Syntax Conventions..... 6
- Document Feedback..... 6
- Ruckus Product Documentation Resources..... 6
- Online Training Resources..... 7
- Contacting Ruckus Customer Services and Support..... 7

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 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.

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@arris.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.ruckuswireless.com>.

Online Training Resources

To access a variety of online Ruckus training modules, including free introductory courses to wireless networking essentials, site surveys, and Ruckus products, visit the Ruckus Training Portal at <https://training.ruckuswireless.com>.

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.ruckuswireless.com> 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>

Preface

Contacting Ruckus Customer Services and Support

- Community Forums—<https://forums.ruckuswireless.com/ruckuswireless/categories>
- 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.

About this Document

- [What's new in this document](#)..... 9
- [Supported hardware](#)..... 9

What's new in this document

TABLE 2 Summary of enhancements in FastIron release 08.0.90

Feature	Description	Location
Unified FastIron Image (UFI) support	A Unified FastIron Image (UFI), consisting of the application image, the boot code image and the signature file, can be downloaded in a single file. Beginning with FastIron 08.0.90, there will be primary and secondary partitions for the boot image. Any new hardware platform starting from ICX 7850 will use only UFIs.	Refer to Software upgrade from a non-UFI to a UFI version on page 13 and Software Downgrade from a UFI to a non-UFI version .
Changes in stacking upgrade and downgrade	FastIron release 08.0.90 and later releases use a different port configuration format for stacking, which has implications for the upgrade and downgrade process.	Refer to Changes to upgrade and downgrade for stacking from FastIron release 08.0.90 on page 27.
Image download using USB	Beginning with FastIron 08.0.90, the system can be upgraded by downloading the manifest file in the USB. The USB image download feature is extended to both stacking and Campus Fabric (SPX) systems.	Refer to Loading the flash code using USB on page 18 and Upgrade and downgrade limitations on page 25.

Supported hardware

This guide supports the following Ruckus products:

- Ruckus ICX 7850 Series
- Ruckus ICX 7750 Series
- Ruckus ICX 7650 Series
- Ruckus ICX 7450 Series
- Ruckus ICX 7250 Series
- Ruckus ICX 7150 Series

For information about what models and modules these devices support, see the hardware installation guide for the specific product family.

Software Upgrade and Downgrade

- [Software Upgrade Procedure Overview](#)..... 11
- [Initial steps](#)..... 11
- [The upgrade process](#).....13
- [Software downgrade from a UFI to a non-UFI version](#)..... 18
- [Software Recovery](#).....22
- [Deprecated or removed features and commands](#).....24
- [Upgrade and downgrade limitations](#)..... 25
- [General upgrade and downgrade considerations for stacks](#).....27

Software Upgrade Procedure Overview

There are several ways you can perform an upgrade: through a manual step-by-step process, through a manifest file, or through a Unified FastIron Image (UFI).

Support is available for upgrades beginning with FastIron 08.0.0.

1. Preliminary checks. For any upgrade, follow the instructions in [Initial steps](#) on page 11 to determine the current software versions, license requirements, and instructions on where to download the software.

If configured, syslogs do not persist across reloads.

2. Upgrade the software. For a step-by-step upgrade, refer to [The upgrade process](#) on page 13.

NOTE

For the FastIron 08.0.90 release, UFI image copy is the recommended software upgrade method for both standalone devices and traditional stacks.

NOTE

In the FastIron 08.0.90 release and later releases, all new hardware platforms, starting with ICX 7850 devices, will support only UFI images for software upgrade.

Initial steps

NOTE

You must upgrade to the boot code that supports the current release. Refer to "Software image files for Release 08.0.xx" in the release notes for detailed information.

Ruckus recommends that you always use the manifest file for any image upgrade or downgrade.

If you are upgrading from FastIron release 08.0.90 from release 08.0.80, Ruckus recommends using SCP.

Determining the current flash image version

To determine the current flash image version of the device, enter the **show flash** command at any level of the CLI.

The following **show flash** output is for releases prior to FastIron 08.0.90.

```
device# show flash
Stack unit 1:
  Compressed Pri Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1602994176
Stack unit 3:
  Compressed Pri Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1604464640
Stack unit 4:
  Compressed Pri Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1588183040
```

Determining the current flash and boot image versions

To determine the current boot and flash image versions installed on a device, enter the **show version** command at any level of the CLI.

```
device# show version
Copyright (c) 1996-2016 Brocade Communications Systems, Inc. All rights reserved.
UNIT 3: compiled on Jan 21 2019 at 23:28:08 labeled as SPR08030
(31768772 bytes) from Primary SPR08030.bin
  SW: Version 08.0.30T213
UNIT 1: compiled on Jan 21 2019 at 23:28:08 labeled as SPR08030
(31768772 bytes) from Primary SPR08030.bin
  SW: Version 08.0.30T213
UNIT 4: compiled on Jan 21 2019 at 23:28:08 labeled as SPR08030
(31768772 bytes) from Primary SPR08030.bin
  SW: Version 08.0.30T213
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215 (spz10106)
HW: Stackable ICX7450-48
Internal USB: Serial #: 9900314061200173
  Vendor: ATP Electronics, Total size = 1919 MB
=====
UNIT 1: SL 1: ICX7450-48F 48-port Management Module
  Serial #:CYS3333K006
  License: ICX7450_L3_SOFT_PACKAGE (LID: eauIIImFFL)
  License Compliance: ICX7450-PREM-LIC-SW is Compliant
.
.
The system : started=warm start  reloaded=by "reload"
My stack unit ID = 3, bootup role = active
```

Determining the current licenses installed

Use the **show version** command to display the licenses installed on the device.

```
device# show version
!
!
UNIT 1: SL 1: ICX7450-48F 48-port Management Module
  Serial #: CYS3333K006
  License: ICX7450_L3_SOFT_PACKAGE (LID: eauIIImFFL)
  License Compliance: ICX7450-PREM-LIC-SW is Compliant
```

What to do next

1. If required, generate a new license from the [Software License](#) page on the Ruckus Support website. If you are upgrading to a different type of image that uses a different license from the one already installed on the device, generate a separate license file. For instructions on how to generate a license, refer to the *Ruckus FastIron Software Licensing Guide*.
2. Download the required software images for the target release from the [Downloads](#) page on the Ruckus Support website. For the list of software image files available for Fast Iron 08.0.xx, refer to the release notes.

The upgrade process

NOTE

Before upgrading the software on a Ruckus ICX device, refer to [Upgrade and downgrade limitations](#) on page 25. For a stacking system, also refer to [Changes to upgrade and downgrade for stacking from FastIron release 08.0.90](#) on page 27.

Software images for all Ruckus ICX devices can be uploaded and downloaded between flash modules on the device and a TFTP, SCP, HTTPS, or USB module on the network.

Ruckus ICX devices have two flash memory modules:

- Primary flash - The default local storage device for image files and configuration files
- Secondary flash - A second flash storage device. You can use secondary flash to store redundant images for additional booting reliability or to preserve one software image while testing another one.

Only one flash device is active at a time. By default, the primary image becomes active when you reboot the device.

The following methods are available to upgrade your Ruckus ICX device.

1. **Trivial File transfer protocol (TFTP)** - Use TFTP to copy an image from a TFTP server onto a flash module.
2. **Secure Copy Protocol (SCP)** - Use SCP to copy images to and from a host (recommended).
3. **Hypertext Transfer Protocol Secure (HTTPS)** - From FastIron release 08.0.80, you can use HTTPS, which requires a server that supports HTTP over TLS.
4. **Universal Serial Bus (USB)** - From FastIron release 08.0.30, you can use a USB device containing the appropriate files connected to the active controller in a stack or to a standalone unit.

Software upgrade from a non-UFI to a UFI version

Upgrading from a non-UFI version to a FastIron 8.0.90 UFI version is a **two-step upgrade** process.

1. Download the FastIron 08.0.90 application image and uboot from any prior FastIron release (for example, 08.0.30), and reboot the system with the 08.0.90 images.
2. Download the 08.0.90 UFI, and, to avoid any cross boot combination of FI and Uboot, in all cases, use the **boot system flash primary** command or the **boot system flash secondary** command to reload or reboot the device.

TABLE 3 File transfer method and commands required

Transfer method	Commands
TFTP	<pre>1) device# copy tftp system-manifest 10.176.132.11 08090_Manifest.txt primary 2) device# copy tftp system-manifest 10.176.132.11 08090_Manifest.txt primary</pre>
SCP	<pre>1a) device# copy scp flash 10.176.132.13 SPR08090.bin primary 1b) device# copy scp flash 10.176.132.13 spz10115.bin bootrom 2) device# copy scp flash 10.176.132.11 SPR08090ufi.bin primary</pre>
HTTPS [FastIron release 08.0.80 and above]	<pre>1a) device# copy https flash 10.176.132.132 SPR08090.bin primary 1b) device# copy https flash 10.176.132.132 spz10115.bin bootrom 2) device# copy https flash 10.176.132.132 SPR08090ufi.bin primary</pre>
USB	<pre>1a) device# copy disk0 flash SPR08090_B22.bin primary 1b) device# copy disk0 flash spz10115.bin bootrom 2) device# copy disk0 flash SPR08090_B22ufi.bin primary</pre>

Loading the flash code using TFTP

NOTE

When upgrading the flash image version, the image is automatically updated across all stack units. When upgrading from one major release to another (for example, from FastIron 08.0.30 to FastIron 08.0.40), make sure that every unit in the traditional stack has the same code version. If you reboot the stack while units are running different code versions, the units cannot communicate.

Copy the flash code from the TFTP server into flash memory using the **copy tftp flash** command . For example, if the user wants to upgrade from 08.0.30 to 08.0.90, follow these steps.

1. Enter the following command to download the 08.0.90 image using the manifest file.

```
ICX7450-48 Router# copy tftp system-manifest 10.176.132.11 08090_Manifest.txt all-images-primary
ICX7450-48 Router# Flash Memory Write (8192 bytes per dot) .....
DOWNLOADING MANIFEST FILE Done.
ICX7450-48 Router# Flash Memory Write (8192 bytes per dot)
Automatic copy to member units: 1 4
...
COPY ICX7450 SIGNATURE TFTP to Flash Done
ICX7450-48 Router#Load to buffer (8192 bytes per dot)
Automatic copy to member units: 1 4
.....
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT (8192 bytes per dot)...
.....
Copy ICX7450 from TFTP to Flash Done.
ICX7450-48 Router#Load to buffer (8192 bytes per dot)
Automatic copy to member units: 1 4
.....
.....
DOWNLOAD OF ICX7450 BOOT SIGNATURE Done.
ICX7450-48 Router#Load to buffer (8192 bytes per dot)
Automatic copy to member units: 1 4
.....
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT (8192 bytes per dot)...
.....
ICX7450 Boot IMAGE COPY IS DONE.
```

Manifest file upgrade done, please reload the system

2. Enter the **show flash** command to verify that the correct image and uboot files have been installed in the correct primary partition flash.

```
ICX7450-48 Router# show flash
Stack unit 1:
  Compressed Pri Code size = 32454468, Version:08.0.90T213 (SPR08090.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30tT213 (SPR08030t.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1602994176
Stack unit 3:
  Compressed Pri Code size = 32454468, Version:08.0.90T213 (SPR08090.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30T213 (SPR08030.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1604464640
Stack unit 4:
  Compressed Pri Code size = 32454468, Version:08.0.90T213 (SPR08090.bin)
  Compressed Sec Code size = 31768772, Version:08.0.30tT213 (SPR08030.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1588183040
```

3. Reboot the device with the 08.0.90 image using the **boot system** command.

NOTE

Use the **boot system flash primary** command to boot the image from the primary flash memory.

```
ICX7450-48 Router# boot system flash primary
```

NOTE

If the user stops the upgrade process after this reboot, the following warning message is displayed on the console.

```
WARNING: FI image is not booted from UFI. Please download UFI image and reboot the system for full functionality.
```

NOTE

The system does not support full functionality such as third-party packages (DHCPv6, HTTP, Python, etc.) without a UFI update. The following syslog warning message is displayed if the user stops the upgrade process without downloading the UFI.

```
SYSLOG WARNING: FI image is not booted from UFI, download UFI and reboot the system for full functionality.
```

4. Enter the **show version** command to display the flash image running on the device.

```
ICX7450-48 Router# show version
Copyright (c) Ruckus Networks, Inc. All rights reserved.
UNIT 3: compiled on Feb 10 2019 at 08:52:46 labeled as SPR08090
(32454468 bytes) from Primary SPR08090.bin (Non-UFI)
SW: Version 08.0.90T213
Compressed Primary Boot Code size = 786944, Version:10.1.15T215 (spz10115)
Compiled on Sun May 17 19:50:23 1936
```

5. Download the 08.0.90 UFI.

NOTE

Use the **copy tftp system-manifest** command to copy the flash code from the TFTP server into the flash memory.

The following example loads a UFI file to primary flash memory.

```
ICX 7450-48# copy tftp system-manifest 10.176.132.11 SPR08090_manifest.txt primary
Flash Memory Write (8192 bytes per dot) .....
DOWNLOADING MANIFEST FILE Done.

Manifest upgrade in progress...
Load to buffer (8192 bytes per dot)
.....
Processing the bundle image...
Flashing application image to Primary partition...
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)
.....
Flashing bootrom image to Primary partition...
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
.....
Post processing bundle image...
Bundle image processed successfully

Copy ICX7450 from TFTP to Flash Done
Manifest image download is complete, please reload the system

NOTE:In case of a SPX system, use manifest file download here to copy the correct images to all CB and PE units.
```


6. Reboot the device to obtain the UFI.

```
ICX7450-48 Router# boot system flash primary
```

7. Enter the **show version** command to confirm that the UFI has been loaded successfully.

```
ICX7450-48 Router# show version
Copyright (c) Ruckus Networks, Inc. All rights reserved.
UNIT 3: compiled on Feb 10 2019 at 08:52:46 labeled as SPR08090
(32454468 bytes) from Primary SPR08090.bin (UFI)
SW: Version 08.0.90T213
Compressed Primary Boot Code size = 786944, Version:10.1.15T215 (spz10115)
Compiled on Sun May 17 19:50:23 1936

HW: Stackable ICX7450-48
Internal USB: Serial #: 9900314061200173
Vendor: ATP Electronics, Total size = 1919 MB
```

Loading the flash code using SCP

1. Place the new flash code on an SCP-enabled host to which the Ruckus ICX device has access.
2. Copy the flash code from the SCP-enabled host into the flash memory.

```
ICX7450-48 Router# copy scp flash 10.176.132.13 SPR08090.bin primary
User name:root
Password:
Connecting to remote host.....

Receiving data (8192 bytes per dot)
.
Automatic copy to member units: 1 4
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
Image copy completed
Primary Image file downloaded successfully.
SCP transfer to device completed
Outbound Connection Closed
```

3. Copy the flash code to bootrom.

```
ICX7450-48 Router# copy scp fl 10.176.132.13 spz10115.bin bootrom
User name:root
Password:
Connecting to remote host.....

Receiving data (8192 bytes per dot)
.
Automatic copy to member units: 1 4
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...

Image copy completed
.....

Done.

SCP transfer to device completed

Connection Closed
```

Software Upgrade and Downgrade

Software downgrade from a UFI to a non-UFI version

4. Reload the device and then immediately upgrade to the UFI image.

```
ICX7450-48 Router# ICX7450-48 Router# boot system flash primary
!
!
ICX7450-48 Router# copy scp flash 10.176.132.13 SPR08090ufi.bin pri
User name:root
Password:
Connecting to remote host.....

Receiving data (8192 bytes per dot)
Image copy completed
```

Loading the flash code using HTTPS

1. Copy the HTTPS UFI image to flash.

```
ICX7450-48 Router# copy https flash 10.176.132.132 SPR08090ufi.bin primary
```

2. Reload the ICX device.

```
ICX7450-48 Router# boot system flash primary
```

Loading the flash code using USB

1. Copy the application image and the boot image to the flash from the USB.

```
ICX7450-48 Router# copy disk0 flash SPR08090.bin primary
ICX7450-48 Router# copy disk0 flash spz10115.bin bootrom
```

2. Reload the device.

```
ICX7450-48 Router# boot system flash primary
```

3. Immediately perform a UFI upgrade.

```
ICX7450-48 Router# copy disk0 flash SPR08090ufi.bin primary
```

4. Enter the **show version** command to verify that the UFI image has loaded successfully.

```
ICX7450-48 Router# show version
Copyright (c) Ruckus Networks, Inc. All rights reserved.
UNIT 3: compiled on Feb 10 2019 at 08:52:46 labeled as SPR08090
(32454468 bytes) from Primary SPR08090.bin (UFI)
SW: Version 08.0.90T213
Compressed Primary Boot Code size = 786944, Version:10.1.15T215 (spz10115)
Compiled on Sun May 17 19:50:23 1936

HW: Stackable ICX7450-48
Internal USB: Serial #: 9900314061200173
Vendor: ATP Electronics, Total size = 1919 MB
```

Software downgrade from a UFI to a non-UFI version

Ruckus recommends downgrading to earlier releases using a manifest download.

NOTE

Ruckus does not recommend using the application image download.

NOTE

Reboot the device using the **boot system** command only. When you try to reboot the device, the following warning message is displayed on the console.

```
Warning! the startup-config is 8.0.90 or later, but you are reloading to a pre-8090 image. There is no pre-8090-startup-backup file. Reloading to pre-8090 image may lose some stack-port/trunk configurations due to 8090 format changes.
```

The following sections provide examples of manifest downloads using TFTP and SCP.

Downgrade from a UFI to a non-UFI version using TFTP

The following example uses TFTP to downgrade from FastIron release 08.0.90 to 08.0.70e.

1. Enter the **show version** command to confirm the active image version.

```
ICX7650-48P Router# show version
Copyright (c) Ruckus Networks, Inc. All rights reserved.
UNIT 1: compiled on Feb  7 2019 at 17:14:15 labeled as TNR08090_B21
(61202340 bytes) from Primary TNR08090_B21.bin (UFI)
  SW: Version 08.0.90_B21T233
  Compressed Primary Boot Code size = 1573376, Version:10.1.15T235 (tnu10115)
  Compiled on Thu Jan 31 07:09:04 2019

HW: Stackable ICX7650-48-HPOE
=====
UNIT 1: SL 1: ICX7650-48P-L3-PREM POE 48-port Management Module
  Serial #:EZD3324N03R
  Software Package: ICX7650_BASE_L3_SOFT_PACKAGE (LID: gbfIIHJpFit)
  Current License: l3-base
  P-ASIC 0: type B567, rev 11 Chip BCM56567_B0
=====
UNIT 1: SL 2: ICX7600-2X40GQ 2-port 80G Module
  Serial #:EZG3320N0AX
=====
UNIT 1: SL 3: ICX7650-2X100G 2-port 200G Module
=====
  2000 MHz ARM processor ARMv8 88 MHz bus
  8192 KB boot flash memory
  2048 MB code flash memory
  3910 MB DRAM
STACKID 1 system uptime is 4 day(s) 3 hour(s) 57 minute(s) 39 second(s)
The system started at 18:24:43 GMT+00 Mon Jan 17 2000

The system : started=warm start  reloaded=by "reload"
```

Software Upgrade and Downgrade

Software downgrade from a UFI to a non-UFI version

2. Copy the FastIron 08.0.70 images to flash using the manifest file.

```
ICX7650-48P Router# copy tftp system-manifest FI08070_Manifest.txt primary
ICX7650-48P Router#Flash Memory Write (8192 bytes per dot)
DOWNLOADING MANIFEST FILE Done.

Manifest upgrade in progress...
ICX7650-48P Router#Flash Memory Write (8192 bytes per dot)

COPY ICX7650 SIGNATURE TFTP to Flash Done
ICX7650-48P Router#Load to buffer (8192 bytes per dot)
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
..... Copy
ICX7650 from TFTP to Flash Done.
ICX7650-48P Router#Flash Memory Write (8192 bytes per dot)
.....
DOWNLOAD OF ICX7650 BOOT SIGNATURE Done.
ICX7650-48P Router#
!!! Downloading this boot image can result in application-boot image mismatch. Please use UFI
image.
Load to buffer (8192 bytes per dot)
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
.....
ICX7650 Boot IMAGE COPY IS DONE

Manifest image download is complete, please reload the system
Copying the downloaded/created manifest file from ramfs to flash...
Copy Done.
```

3. Enter the **show flash** command to confirm the loaded version.

```
ICX7650-48P Router# show flash
Stack unit 1:
  Compressed Pri Code size = 56630696, Version:08.0.70eT233 (TNR08070e.bin)
  Compressed Sec Code size = 61191868, Version:08.0.90T233 (TNR08090_B15.bin)
  Compressed Pri Boot Code size = 1573376, Version:10.1.14T235 (tnu10114)
  Compressed Sec Boot Code size = 1573376, Version:10.1.15T235 (tnu10115b5)
  Code Flash Free Space = 2725548032
```

4. Reload the device.

```
ICX7650-48P Router# boot system flash primary
```

5. Enter the **show version** command to confirm the loaded version.

```
ICX7650-48P Router# show version
Copyright (c) 2017 Ruckus Wireless, Inc. All rights reserved.
UNIT 1: compiled on Jan 22 2019 at 04:42:38 labeled as TNR08070e
(56630696 bytes) from Primary TNR08070e.bin
SW: Version 08.0.70eT233
Compressed Boot-Monitor Image size = 1573376, Version:10.1.14T235 (tnu10114)
Compiled on Thu Nov 15 07:40:46 2018

HW: Stackable ICX7650-48-HPOE
=====
UNIT 1: SL 1: ICX7650-48P-L3-BASE POE 48-port Management Module
Serial #:EZD3324N03R
License: ICX7650_BASE_L3_SOFT_PACKAGE (LID: gbfIIHJpFit)
P-ASIC 0: type B567, rev 11 Chip BCM56567_B0
=====
UNIT 1: SL 2: ICX7600-2X40GQ 2-port 80G Module
Serial #:EZG3320N0AX
=====
UNIT 1: SL 3: ICX7650-2X100G 2-port 200G Module
=====
2000 MHz ARM processor ARMv8 88 MHz bus
8192 KB boot flash memory
2048 MB code flash memory
3911 MB DRAM
STACKID 1 system uptime is 1 minute(s) 59 second(s)
The system started at 22:09:22 GMT+00 Fri Jan 21 2000

The system : started=warm start reloaded=by "reload"
```

Downgrade from a UFI to a non-UFI version using SCP

When TFTP is not available or a secure download is required, you can download FastIron images using SCP.

NOTE

If you downgrade from FastIron release 08.0.90 to a previous release using SCP, boot image download using SCP is not possible. Once the ICX device has booted from the previous image, you must download the boot image again separately.

The following example downgrades from FastIron 08.0.90 images to 08.0.70e images using SCP.

1. Copy the application image to flash using SCP.

```
ICX7650-48F Router# copy scp flash 10.176.132.13 TNR08070e.bin primary
User name:root
Password:
Connecting to remote host.....

Receiving data (8192 bytes per dot)
.....
.....
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
.....
.....
.....
Primary Image file downloaded successfully.

SCP transfer to device completed

Outbound Connection Closed
```

2. Enter the **show flash** command to check for the installed image.

```
ICX7650-48F Router# show flash
Stack unit 1:
  Compressed Pri Code size = 56630696, Version:08.0.70eT233 (TNR08070e.bin)
  Compressed Sec Code size = 56623412, Version:08.0.70eT233 (TNR08070e.bin)
  Compressed Pri Boot Code size = 1573376, Version:10.1.15T235 (tnu10115)
  Compressed Sec Boot Code size = 1573376, Version:10.1.15T235 (tnu10115b5)
  Code Flash Free Space = 2728226816
```

3. Reload the ICX device.

```
ICX7650-48 Router# boot system flash primary
```

4. Copy the boot image to flash using SCP.

```
ICX7650-48F Router# copy scp flash 10.176.132.13 tnu10114.bin bootrom
User name:root
Password:
Connecting to remote host.....
```

```
Receiving data (8192 bytes per dot)
```

```
.....
.....
.....
SYNCING IMAGE TO FLASH. DO NOT SWITCH OVER OR POWER DOWN THE UNIT(8192 bytes per dot)...
.....
.....
Done.
```

```
SCP transfer to device completed
```

```
Outbound Connection Closed
```

5. Reload the ICX device.

```
ICX7650-48 Router# boot system flash primary
```

Software Recovery

If the software upgrade or downgrade fails, the device may reboot continuously as shown in the following CLI output.

```
bootdelay: ===
Booting image from Primary
Bad Magic Number
could not boot from primary, no valid image; trying to boot from secondary
Booting image from Secondary
Bad Magic Number
## Booting image at 01ffffc0 ...
Bad Magic Number
## Booting image at 01ffffc0 ...
Bad Magic Number
could not boot from secondary, no valid image; trying to boot from primary
Booting image from Primary
Bad Magic Number
## Booting image at 01ffffc0 ...
Bad Magic Number
```

Recovering Software

This section explains how to recover devices from image installation failure or deleted or corrupted flash images.

NOTE

Software recovery should be performed under the supervision of a Ruckus support engineer.

1. Connect a console cable from the console port to the terminal server.
2. Connect an Ethernet cable from the management port (the port located under the console port on the device) to the TFTP server.

The device will be in boot mode for recovery.

3. Set the existing variables from the boot prompt.

```
device> printenv  
baudrate=9600  
uboot=ruckus/ICX7450/bootcode/spz10115  
Version:10.1.06T215 (May 15 2015 - 11:28:23)
```

The path is to the boot image on the TFTP server.

4. Set the TFTP server that hosts a valid ICX software image using the **setenv serverip** command.

```
ICX 7450-48> setenv serverip 10.10.10.21
```

5. Set the IP address, gateway IP address, and netmask for the device management port, and save the configuration using the **setenv ipaddr**, **setenv gatewayip**, **setenv netmask**, and **saveenv** commands.

```
ICX 7450-48> setenv ipaddr 10.10.10.22  
ICX 7450-48> setenv gatewayip 10.10.10.1  
ICX 7450-48> setenv netmask 255.255.255.0  
ICX 7450-48> saveenv
```

NOTE

The IP address and the gateway IP address set for the device management port should be for the same subnet as the TFTP server NIC.

6. Enter the **printenv** command to verify the IP addresses that you configured for the device and the TFTP server.

```
ICX 7450-48> printenv  
baudrate=9600  
ipaddr=10.10.10.22  
gatewayip=10.10.10.1  
netmask=255.255.255.0  
serverip=10.10.10.1  
uboot=brocade/ICX7450/bootcode/spz10115  
Version:10.1.06T215 (May 15 2015 - 11:28:23)
```

7. Test the connectivity to the TFTP server from the device using the **ping** command to ensure a working connection.

```
ICX 7450-48> ping 10.10.10.21  
ethPortNo = 0  
Using egiga0 device  
host 10.10.10.21 is alive
```

8. Provide the file name of the image that you want to copy from the TFTP server using the **setenv image_name** command.

```
ICX 7450-48> setenv image_name images/ICX/SPR08090.bin
```

9. Update the flash using the **update_primary** or **update_secondary** command as appropriate.

```
ICX 7450-48> update_primary
```

10. Provide the file name of the boot image to be copied from the tftp server.

```
> setenv uboot
```

11. Update the uboot file.

```
ICX 7450-48> update_uboot
```

12. Load the image from the primary or secondary flash using the **boot_primary** or **boot_secondary** command as appropriate.

```
ICX 7450-48> boot_primary
```

Deprecated or removed features and commands

The following upgrade and downgrade commands and features have been deprecated.

- SNTP is no longer supported. NTPv4 replaces SNTP.
- The Port Speed Down-Shift feature is deprecated in FastIron 08.0.xx.
- The **stack persistent-mac-timer** command is deprecated in FastIron 08.0.20.
- The **link-config gig copper autoneg-control down-shift ethernet** command is deprecated.
- The **show cpu-utilization** command replaces the **show process cpu** command.
- The **stack secure-setup** command is deprecated beginning in release 08.0.90.
- The **default-port** command is deprecated beginning in release 08.0.90.
- The **copy tftp | scp flash tftp server-ip file-name bootrom** command is deprecated beginning in release 08.0.90.
- The **copy tftp | scp flash tftp server-ip file-name fips-bootrom-sig** command is deprecated beginning in release 08.0.90.
- The **copy tftp | scp flash tftp server-ip file-name fips-primary-sig** command is deprecated in ICX 7850 devices.
- The **copy tftp | scp flash tftp server-ip file-name fips-secondary-sig** command is deprecated in ICX 7850 devices.
- The **copy disk0 flash file-name bootrom** command is deprecated beginning in release 08.0.90.
- The **copy disk0 flash file-name fips-bootrom-sig** command is deprecated beginning in release 08.0.90.
- The **copy disk0 flash file-name fips-primary-sig** command is deprecated in ICX 7850 devices.
- The **copy disk0 flash file-name fips-secondary-sig** command is deprecated in ICX 7850 devices.
- The **copy tftp system-manifest server-ip-address manifest-file-name all-images-primary | all-images-secondary** command is deprecated beginning in release 08.0.90.

Upgrade and downgrade limitations

The following table lists known issues related to FastIron 08.0.90 image upgrade and downgrade.

TABLE 4 Known issues related to FastIron 08.0.90 upgrade or downgrade

Issue	Protocol affected	Platforms affected	FastIron releases affected	Issue fixed	Issue details
1. Image upgrade of UFI image using TFTP from FastIron release 08080 onwards does not work on ICX 7650 devices..	TFTP	ICX7650	08.0.80, 08.0.80a, 08.0.80b, 08.0.80c, 08.0.80d	08.0.80e (TFTP will be supported when it is released.)	Due to an increase in UFI image size, image upgrade from the 08080 to 08090 release does not work for ICX 7650 devices. There are two possible workarounds: (a) Use SCP to download the UFI image. (b) Download application and boot images separately using TFTP.
2. The show version command does not show correct image name on standby or stack members after image upgrade.	USB image download	All ICX platforms	08.0.30, 08.0.40, 08.0.50, 08.0.60, 08.0.61, 08.0.70	--	The show version command shows "eusb1" as the image name for standby units when the FastIron image is downloaded from USB. The image is downloaded correctly, and there is no functional impact. The workaround is to download the images using the TFTP or SCP protocol.
3. Image download using USB of boot image does not work on standby/member units.	USB image download	All ICX platforms	08.0.30, 08.0.40, 08.0.50, 08.0.60, 08.0.61, 08.0.70	--	The boot image is not flashed to the standby controller unit when USB is used to upgrade or downgrade a stack. The workaround is to download the images using the TFTP or SCP protocol.
4. Warning messages are displayed on standalone units during copy of UFI images using SCP.	SCP	All ICX platforms	08.0.80, 08.0.80a, 08.0.80b, 08.0.80c, 08.0.80d, 08.0.80e	--	The following warning message is displayed on standalone units while copying UFI images using SCP. The image is downloaded correctly, and there is no functional impact WARNING: Possible failure on one of the member units while downloading the image. Images may not be in sync after reloading. The workaround is to download the images using TFTP.

TABLE 4 Known issues related to FastIron 08.0.90 upgrade or downgrade (continued)

Issue	Protocol affected	Platforms affected	FastIron releases affected	Issue fixed	Issue details
5. USB image upgrade is not supported for stacking in FastIron release 08.0.80.	USB image download	All ICX platforms	All ICX platforms	--	Image upgrade using USB is not supported for stacking in FastIron release 08.0.80 and 08.0.80 patches. The workaround is to upgrade using the TFTP or SCP protocol.

Campus Fabric limitations for image downgrade from FastIron release 08.0.90 to previous releases

Consider the following information when downgrading from FastIron release 08.0.90 in a Campus Fabric (SPX) network.

ICX device support in SPX systems

The following table lists Ruckus ICX devices and the release when they were introduced for use in a Control Bridge (CB) or as a Port Extender (PE) unit.

TABLE 5 SPX support for ICX devices

ICX device	First FastIron release to support SPX on device	SPX role
ICX 7750	08.0.40	CB
ICX 7450	08.0.40	PE
ICX 7250	08.0.50	PE
ICX 7150	08.0.70	PE
ICX 7650	08.0.80	CB

SPX system with ICX 7650 CB units

- Downgrade from FastIron release 08.0.90 to 08.0.70 or prior releases is not supported. If this downgrade is attempted in an SPX system with ICX 7650 CB units, the PE units are not recognized, and the SPX system is dismantled.
- Downgrade from FastIron release 08.0.90 to 08.0.80 should be fine.

SPX system with ICX 7750 CB units

- Downgrade from FastIron release 08.0.90 to 08.0.30 or earlier releases is not supported. If a downgrade is attempted, PE units are not recognized, and the SPX system is dismantled.
- Downgrade from FastIron release 08.0.90 to 08.0.40 does not recognize ICX 7150 or ICX 7250 devices configured as PEs.
- Downgrade from FastIron release 08.0.90 to 08.0.50 does not recognize ICX 7250 devices as PEs.
- Downgrade from FastIron release 08.0.90 to 08.0.70 or later releases should be fine.

General upgrade and downgrade considerations for stacks

Read the following section before upgrading a stack from a pre-08.0.90 release to FastIron 08.0.90 or later and before downgrading from FastIron 08.0.90 or a later release to a pre-08.0.90 release. Certain stack configuration behaviors have changed in FastIron release 08.0.90, and new commands have been introduced to assist with upgrades and downgrades. For additional information on stacking changes, refer to the *Ruckus FastIron Stacking Configuration Guide*.

Changes to upgrade and downgrade for stacking from FastIron release 08.0.90

The stacking port format is different beginning with FastIron 08.0.90. The change in format creates upgrade and downgrade issues.

Upgrading to FastIron release 08.0.90 from earlier releases

Upgrades from earlier releases to FastIron 08.0.90 are seamless. FastIron 08.0.90 recognizes the old format and parses startup-config flash to convert the configuration to the new format. After upgrade, if you enter the **write memory** command to save the configuration, the new format is stored to startup-config flash.

In the following example, an ICX 7450 stack is upgraded to FastIron 08.0.90 from FastIron 08.0.80 startup-config flash. The user has not yet used the **write memory** command. Output for the **show configuration** command shows that the FastIron 08.0.80 startup-config flash remains in the old format. The command output for the **show running-config** command displays the runtime configuration in the new format.

```
ICX7450-48P Router# show configuration
!
Startup-config data location is flash memory
!
Startup configuration:
!
ver 08.0.80T213 <-- old 08.0.80 release startup-config flash
!
stack unit 1
module 1 icx7450-48p-poe-management-module
module 2 icx7400-xgf-4port-40g-module
module 3 icx7400-qsfp-1port-40g-module
module 4 icx7400-qsfp-1port-40g-module
priority 128
default-ports 1/2/1 1/2/3
stack-trunk 1/2/1 to 1/2/2
stack-trunk 1/2/3 to 1/2/4
stack-port 1/2/1 1/2/3
stack unit 2
module 1 icx7450-48p-poe-management-module
module 2 icx7400-xgf-4port-40g-module
module 3 icx7400-qsfp-1port-40g-module
module 4 icx7400-qsfp-1port-40g-module
priority 128
default-ports 2/2/1 2/2/3
stack-trunk 2/2/1 to 2/2/2
stack-port 2/2/1 2/2/3
stack enable
stack mac 609c.9f2a.97e0
```

```
ICX7450-48P Router# show running-config
Current configuration:
!
```

Software Upgrade and Downgrade

General upgrade and downgrade considerations for stacks

```
ver 08.0.90
!
stack unit 1
module 1 icx7450-48p-poe-management-module
module 2 icx7400-xgf-4port-40g-module
module 3 icx7400-qsfp-1port-40g-module
module 4 icx7400-qsfp-1port-40g-module
priority 128
stack-trunk 1/2/1 to 1/2/2
stack-trunk 1/2/3 to 1/2/4
stack unit 2
module 1 icx7450-48p-poe-management-module
module 2 icx7400-xgf-4port-40g-module
module 3 icx7400-qsfp-1port-40g-module
module 4 icx7400-qsfp-1port-40g-module
priority 128
stack-trunk 2/2/1 to 2/2/2
stack-port 2/2/3
stack enable
stack mac 609c.9f2a.97e0
```

Downgrading from FastIron 08.0.90 to earlier releases

A standalone or active controller parses the startup-config flash to read the stacking ports for the entire stack. A release prior to FastIron 08.0.90 does not understand startup-config flash content generated by FastIron 08.0.90 or later releases. As a result, if you try to downgrade from FastIron 08.0.90 or later to a pre-08.0.90 release, the stack may break. FastIron 08.0.90 attempts to overcome the need to downgrade by saving and recovering the original startup-config flash.

In FastIron 08.0.90, when the **write memory** command is used, the system renames the startup-config flash "pre-8090-startup-backup" if it has been generated from a pre-08.0.90 release. You can view the contents of the saved file using the **show pre-8090-startup-backup** command.

NOTE

When a stack downgrades to a pre-08.0.90 release from recovered pre-08.0.90 startup-config flash, it loses all configuration changes made under FastIron 08.0.90.

Every unit, including a stack member, has a startup-config file, and every unit renames the startup-config as the backup file when the **write memory** command is used.

If you no longer need the pre-8090-startup-backup file, you can delete it using the **erase pre-8090-startup-backup** command. This command erases the pre-8090-startup-backup file in every unit in the stacking system. You may no longer need the older backup file if you are certain you will not have to downgrade the system or if you have made many configuration changes with the FastIron 08.0.90 or later release installed, making the backup file obsolete.

When a system running FastIron 08.0.90 detects that it is about to reload to a pre-08.0.90 release, the system tries to recover the backup file. A message is displayed asking for confirmation before recovering the file with a warning that all changes made with the current release will be lost.

```
ICX7450-48P Router# boot system flash secondary
Are you sure? (enter 'y' or 'n'): y
Warning! the startup-config is 8.0.90 or later, but you are reloading to a pre-8090 image.
The system will use the pre-8090-startup-backup file to reload and lose all 8.0.90 changes.
(You can type "show pre-8090-startup-backup" to see its content.)
Do you want to reload? (enter 'y' or 'n'): y
Reload using pre-8090-startup-backup file.
```

NOTE

In contrast, the **reload yes** and **boot system flash secondary yes** commands do not require confirmation. The following example shows the system response when the **boot system flash secondary yes** command is entered.

```
ICX7450-48P Router# boot system flash secondary yes
Reload using pre-8090-startup-backup file.
T=8m11.3: Halt and reboot
```

When a system is upgraded to FastIron 08.0.90 or later and then downgraded to a pre-08.0.90 release, the results of the downgrade differ, depending on the situation. The following cases describe specific situations and the expected results. The scenarios in the following tables apply to a standalone unit or a stack.

TABLE 6 Downgrade scenarios

Situation	Result
The user never uses a write memory command when running FastIron 08.0.90.	The downgrade is seamless.
The user does not change any configuration but uses the write memory command when running FastIron 08.0.90.	The downgrade is fine. The system recovers the backup file before reloading to a pre-08.0.90 release.
The user makes configuration changes while running FastIron 08.0.90 and uses the write memory command.	The downgrade loses all configuration changes made under FastIron 08.0.90. The system recovers the backup file that does not contain the changes.

Switchover or failover does not affect these downgrade scenarios. For example, you may perform a switch-over to change the active controller and then reload. The recovery result is the same as a reload without changing the active controller.

There are a few cases where recovery does not work.

TABLE 7 Scenarios where downgrades cannot be performed

Situation	Result
The user reloads the system by powering down.	The system cannot recover the backup file before reloading.
The standalone or active controller does not have a startup-config flash file generated by any pre-08.0.90 release.	Downgrade is not possible.

NOTE

It is recommended that you copy the running configuration to a file before downgrading. You can do this using the **copy running-config** command to copy the configuration to different locations such as a USB disk file or a tftp server, or you can simply enter the **show running-config** command and then copy the output and paste it into a computer file.

NOTE

If you don't have a pre-08090-startup-backup file (which can be checked with the **show pre-8090-startup-backup** command), or you have many configuration changes to the 08.0.90 release or a later release and you need to downgrade to a pre-08.0.90 release, you must manually edit the 08.0.90 configuration to create a pre-08.0.90 format.



© 2019 ARRIS Enterprises LLC. All rights reserved.
Ruckus Wireless, Inc., a wholly owned subsidiary of ARRIS International plc.
350 West Java Dr., Sunnyvale, CA 94089 USA
www.ruckuswireless.com