

Juniper EX4200 and EX4500 Update Guide for IBM Smart Analytics System 7700 and IBM Smart Analytics System 7710

Document version: v1.1

Introduction

Follow this guide to update the Juniper EX4200 and the Juniper EX4500 switches on your system from version 12.3R1.7 to 12.3R3.4. This update fixes the problem with “Fan/Blower Removed” and “Power Supply Removed” events occurring in version 12.3R1.7. This guide assumes that you have corporate connection access to each of these switches. Follow the prerequisite steps, procedure, and post-requisite steps to update the switches.

Prerequisites

1. Plan for an outage of approximately two hours.
2. Have the JunOS firmware update package readily available.
To download the firmware, you must have a Juniper Networks user account.

EX4500 Install Package (12.3R3.4):

MD5 Checksum: 65df0e8e9e82c729d5ffc12eaaa1b3b0

<http://www.juniper.net/support/downloads/?p=ex4500#sw>

EX4200 Install Package (12.3R3.4):

MD5 Checksum: 26b75e12f5694d64c70ae760adb8da8e

<http://www.juniper.net/support/downloads/?p=ex4200#sw>

3. Have the user guide for your system readily available. To download the guide, follow the next steps, according to your system model.

IBM Smart Analytics System 7700

You must have an IBM user ID and follow this link:

https://www14.software.ibm.com/webapp/iwm/web/reg/pick.do?source=idwbcu&lang=en_US

Select “IBM Smart Analytics System 7700: User Guide” and continue.
Select the file “IBM_Smart_Analytics_System_7700_User_04.pdf” and download.

IBM Smart Analytics System 7710

You must have an IBM user ID and follow this link:

https://www14.software.ibm.com/webapp/iwm/web/reg/pick.do?source=idwbcu&lang=en_US

Select “IBM Smart Analytics System 7710: User Guide” and continue.
Select the file “IBM_Smart_Analytics_System_7710_User_03.pdf” and download.

Procedure

1. Stop all the resources on the system in the specified order, according to your system model:

IBM Smart Analytics System 7700

Stop the system resources in the following order:

- a) Warehouse applications module resources
- b) InfoSphere Optim Performance Manager resources
- c) Core warehouse resources, which include the core warehouse instance, the core warehouse database, and GPFS resources. If high availability is configured for the core warehouse, the DB2 database partition resources are stopped during this step.

For detailed steps, see steps 1-4 in the “Stopping the IBM Smart Analytics System” section of Chapter 5 of *IBM Smart Analytics System 7700 User Guide*.

IBM Smart Analytics System 7710

Stop the system resources in the following order:

- a) InfoSphere Optim Performance Manager resources
- b) Core warehouse resources, which include the core warehouse instance, the core warehouse database, and GPFS resources. If high availability is configured for the core warehouse, the DB2 database partition resources are stopped during this step.

For detailed steps, see steps 1-3 in the “Stopping the IBM Smart Analytics System” section of Chapter 4 of *IBM Smart Analytics System 7710 User Guide*.

2. Unmount all NFS file systems in AIX.
3. Follow **Section A1** to update the Juniper EX4200 switch. If you have multiple Juniper EX4200 members in Virtual Chassis follow **Section A2**. Make sure you have all the

information required to access the Juniper EX4200 switch: IP address, root access, and password.

For each additional member in a Virtual Chassis, this step takes an additional 10 minutes. For example, two members in a Virtual Chassis requires 50 minutes, and three members in a Virtual Chassis requires 60 minutes.

While the EX4200 switch is updating and rebooting, you can start steps 4 and 5.

4. Follow **Section B** to update the first Juniper EX4500 switch. Make sure you have all the information required to access the first Juniper EX4500 switch: IP address, root access, and password.
5. Follow **Section B** to update the second Juniper EX4500 switch. Make sure you have all the information required to access the second Juniper EX4500 switch: IP address, root access, and password.
6. After updating the switches, start all the resources on the system in the specified order, according to your system model:

IBM Smart Analytics System 7700

1. Start GPFS and mount the GPFS file systems.
 - a) Log in to the administration node as the root user.
 - b) Issue the following command to start GPFS:
`/usr/lpp/mmfs/bin/mmstartup -a`
 - c) Issue the following command to mount the GPFS-shared directories on all nodes:
`/usr/lpp/mmfs/bin/mmmount all -a`
2. Mount all NFS file systems in AIX.
3. Start the resources on the system in the following order:
 - a) Core warehouse resources, which include the core warehouse instance and the core warehouse database. If high availability is configured for the core warehouse, the DB2 partition resources are started during this step.
 - b) InfoSphere Optim Performance Manager resources.
 - c) Warehouse applications module resources.

For detailed steps, see steps 4-7 in the "Starting the IBM Smart Analytics System" section of Chapter 5 of *IBM Smart Analytics System 7700 User Guide*.

IBM Smart Analytics System 7710

1. Start GPFS and mount the GPFS file systems.

- a) Log in to the administration node as the root user.
- b) Issue the following command to start GPFS:
`/usr/lpp/mmfs/bin/mmstartup -a`
- c) Issue the following command to mount the GPFS-shared directories on all nodes:
`/usr/lpp/mmfs/bin/mmmount all -a`

2. Mount all NFS file systems in AIX.

3. Start all the resources on the system in the following order:

- a) Core warehouse resources, which include the core warehouse instance and the core warehouse database. If high availability is configured for the core warehouse, the DB2 partition resources are started during this step.
- b) InfoSphere Optim Performance Manager resources.

For detailed steps, see steps 4-6 in the “Starting the IBM Smart Analytics System” section of Chapter 4 of *IBM Smart Analytics System 7710 User Guide*.

Section A1: Update Juniper EX4200

You must know the IP address of the switch you are updating and have root access to the switch.

To apply the update to the switch:

1. Transfer the EX4200 update package (`jinstall-ex-4200-12.3R3.4-domestic-signed.tgz`) to the `/var/tmp` directory on the Juniper EX4200 switch via SCP or SFTP on port 22. You can use a program like FileZilla to complete the transfer. See Appendix C for sample FileZilla instructions.
The file transfer takes approximately 5 minutes.
2. Log on to the switch via SSH as root. You can use a program like PuTTY for access.
3. Confirm that the update package was transferred correctly by confirming the checksum value of the package:
 - a) Generate the checksum by running the following command:

```
cli file checksum md5 /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```
 - b) Confirm that the command output matches the following output:

```
MD5 (/var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz) =  
26b75e12f5694d64c70ae760adb8da8e
```

If the output does not match, the file did not transfer correctly. If the file did not transfer correctly, try repeating step 1. If the checksum test repeatedly fails, try downloading the file from Juniper again.

Important: Do not continue until you confirm that the update package transferred correctly. If you continue with an incorrect update package, you will break your system.
4. Install the update package by running the following command:

```
cli request system software add /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```

This step takes approximately 2 minutes.

The command produces output similar to the following example:

```
Checking pending install on fpc0
```

```
Validating on fpc0
```

```
Done with validate on all virtual chassis members
```

```
fpc0:
```

```
WARNING: A reboot is required to install the software
```

```
WARNING: Use the 'request system reboot' command immediately
```

5. **If you need to abort the installation:** Run the following command and do not follow any further steps in this procedure:

```
cli request system software delete /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```

This is your last chance to stop the installation of the update.

6. Reboot the switch with the following command to finalize the installation of the update:
cli request system reboot

You will lose your connection to the switch during this step.

The switch takes approximately 15 minutes to reboot.

The command produced output similar to the following example output:

```
*** System shutdown message from root@swg-en1 ***
```

```
System going down in 1 minute
```

```
Shutdown at Sat Jan 26 09:31:01 2013.
```

```
[pid 26661]
```

7. After the switch reboots, log on to the switch via SSH as root. You can use a program like PuTTY for access.

8. Verify that the new version of software is installed by running the following command:
cli show version

The command produces output similar to the following example output:

```
fpc0:
```

```
-----  
Hostname: swg-en1  
Model: IBM 427348E J48E  
JUNOS Base OS boot [12.3R3.4]  
JUNOS Base OS Software Suite [12.3R3.4]  
JUNOS Kernel Software Suite [12.3R3.4]  
JUNOS Crypto Software Suite [12.3R3.4]  
JUNOS Online Documentation [12.3R3.4]  
JUNOS Enterprise Software Suite [12.3R3.4]  
JUNOS Packet Forwarding Engine Enterprise Software Suite  
[12.3R3.4]  
JUNOS Routing Software Suite [12.3R3.4]  
JUNOS Web Management [12.3R3.4]  
JUNOS FIPS mode utilities [12.3R3.4]
```

9. Copy the version to the alternate slice to ensure that if the system automatically boots from the backup partition, it uses the same Junos OS version by running the following command:

```
cli request system snapshot slice alternate
```

This step takes approximately 10 minutes.

This command produces output similar to the following example output:

```
fpc0:
```

```
-----  
Formatting alternate root (/dev/da0s2a)...  
Copying '/dev/da0s1a' to '/dev/da0s2a' .. (this may take a few  
minutes)  
The following filesystems were archived: /
```

Section A2: Update Juniper EX4200 in Virtual Chassis

You must know the IP address of one of the switches in virtual chassis you are updating and have root access to the switch.

To apply the update to the switches in virtual chassis:

1. Transfer the EX4200 update package (`jinstall-ex-4200-12.3R3.4-domestic-signed.tgz`) to the `/var/tmp` directory on **one** of the Juniper EX4200 switches via SCP or SFTP on port 22. You can use a program like FileZilla to complete the transfer. See Appendix C for sample FileZilla instructions.
The file transfer takes approximately 5 minutes.
2. Log on to the switch via SSH as root. You can use a program like PuTTY for access.
3. Confirm that the update package was transferred correctly by confirming the checksum value of the package:
 - a) Generate the checksum by running the following command:

```
cli file checksum md5 /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```
 - b) Confirm that the command output matches the following output:

```
MD5 (/var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz) =  
26b75e12f5694d64c70ae760adb8da8e
```

If the output does not match, the file did not transfer correctly. If the file did not transfer correctly, try repeating step 1. If the checksum test repeatedly fails, try downloading the file from Juniper again.

Important: Do not continue until you confirm that the update package transferred correctly. If you continue with an incorrect update package, you will break your system.
4. Install the update package by running the following command:

```
cli request system software add /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```

This command updates all members of the Virtual Chassis.

This step takes approximately 3-5 minutes per member.

The command produces output similar to the following example:

```
Checking pending install on fpc1
```

```
Checking pending install on fpc0
```

```
Pushing bundle to fpc1
```

```
Validating on fpc1
```

```
Validating on fpc0
Done with validate on all virtual chassis members
```

```
fpc1:
WARNING: A reboot is required to install the software
WARNING: Use the 'request system reboot' command immediately
```

```
fpc0:
WARNING: A reboot is required to install the software
WARNING: Use the 'request system reboot' command immediately
```

5. **If you need to abort the installation:** Run the following command and do not follow any further steps in this procedure:

```
cli request system software delete /var/tmp/jinstall-ex-4200-12.3R3.4-domestic-signed.tgz
```

This is your last chance to stop the installation of the update.

6. Reboot the switches with the following command to finalize the installation of the update:

```
cli request system reboot
```

You will lose your connection to the switches and internal network during this step.

This will reboot all switches in virtual chassis.

The switches take approximately 15 minutes to reboot.

The command produced output similar to the following example output:

```
Rebooting fpc1
```

```
*** FINAL System shutdown message from root@swg-en0 ***
```

```
System going down IMMEDIATELY
```

```
Shutdown NOW!
```

7. After the switches reboot, log on to the switch via SSH as root. You can use a program like PuTTY for access.

8. Verify that the new version of software is installed on all switches by running the following command:

```
cli show version
```

The command produces output similar to the following example output:

fpc0:

```
-----  
Hostname: swg-en1  
Model: IBM 427348E J48E  
JUNOS Base OS boot [12.3R3.4]  
JUNOS Base OS Software Suite [12.3R3.4]  
JUNOS Kernel Software Suite [12.3R3.4]  
JUNOS Crypto Software Suite [12.3R3.4]  
JUNOS Online Documentation [12.3R3.4]  
JUNOS Enterprise Software Suite [12.3R3.4]  
JUNOS Packet Forwarding Engine Enterprise Software Suite  
[12.3R3.4]  
JUNOS Routing Software Suite [12.3R3.4]  
JUNOS Web Management [12.3R3.4]  
JUNOS FIPS mode utilities [12.3R3.4]
```

fpc1:

```
-----  
Hostname: swg-en1  
Model: IBM 427348E J48E  
JUNOS Base OS boot [12.3R3.4]  
JUNOS Base OS Software Suite [12.3R3.4]  
JUNOS Kernel Software Suite [12.3R3.4]  
JUNOS Crypto Software Suite [12.3R3.4]  
JUNOS Online Documentation [12.3R3.4]  
JUNOS Enterprise Software Suite [12.3R3.4]  
JUNOS Packet Forwarding Engine Enterprise Software Suite  
[12.3R3.4]  
JUNOS Routing Software Suite [12.3R3.4]  
JUNOS Web Management [12.3R3.4]  
JUNOS FIPS mode utilities [12.3R3.4]
```

9. Copy the version to the alternate slice to ensure that if the system automatically boots from the backup partition, it uses the same Junos OS version by running the following command:

```
cli request system snapshot slice alternate all-members
```

This will apply to all members in virtual chassis.

This step takes approximately 8 minutes per member.

This command produces output similar to the following example output:

fpc0:

```
-----  
Formatting alternate root (/dev/da0s1a)...  
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few  
minutes)  
The following filesystems were archived: /
```

fpcl:

```
-----  
Formatting alternate root (/dev/da0s2a)...  
Copying '/dev/da0s1a' to '/dev/da0s2a' .. (this may take a few  
minutes)  
The following filesystems were archived: /
```

Section B: Update Juniper EX4500

You must know the IP address of the switch you are updating and have root access to the switch.

To apply the update to the switch:

1. Transfer the EX4500 update package (`jinstall-ex-4500-12.3R3.4-domestic-signed.tgz`) to the `/var/tmp` directory on the Juniper EX4500 switch via SCP or SFTP on port 22. You can use a program like FileZilla to complete the transfer. See Appendix C for sample FileZilla instructions.
The file transfer takes approximately 5 minutes.
2. Log on to the switch via SSH as root. You can use a program like PuTTY for access.
3. Confirm that the update package was transferred correctly by confirming the checksum value of the package:
 - a) Generate the checksum by running the following command:

```
cli file checksum md5 /var/tmp/jinstall-ex-4500-12.3R3.4-domestic-signed.tgz
```
 - b) Confirm that the command output matches the following output:

```
MD5 (/var/tmp/jinstall-ex-4500-12.3R3.4-domestic-signed.tgz) =  
65df0e8e9e82c729d5ffc12eaaa1b3b0
```

If the output does not match, the file did not transfer correctly. If the file did not transfer correctly, try repeating step 1. If the checksum test repeatedly fails, try downloading the file from Juniper again.

Important: Do not continue until you confirm that the update package transferred correctly. If you continue with an incorrect update package, you will break your system.
4. Install the update package by running the following command:

```
cli request system software add /var/tmp/jinstall-ex-4500-12.3R3.4-domestic-signed.tgz
```

This step takes approximately 2 minutes.

The command produces output similar to the following example:

```
Checking pending install on fpc0
```

```
Validating on fpc0
```

```
Done with validate on all virtual chassis members
```

```
fpc0:
```

```
WARNING: A reboot is required to install the software
```

```
WARNING: Use the 'request system reboot' command immediately
```

5. **If you need to abort the installation:** Run the following command and do not follow any further steps in this procedure:

```
cli request system software delete /var/tmp/jinstall-ex-4500-12.3R3.4-domestic-signed.tgz
```

This is your last chance to stop the installation of the update.

6. Reboot the switch with the following command to finalize the installation of the update:
cli request system reboot

You will lose your connection to the switch during this step.

The switch takes approximately 15 minutes to reboot.

The command produced output similar to the following example output:

```
*** System shutdown message from root@swg-en2 ***
```

```
System going down in 1 minute
```

```
Shutdown at Wed Aug 28 18:46:15 2013.
```

```
[pid 69624]
```

7. After the switch reboots, log on to the switch via SSH as root. You can use a program like PuTTY for access.
8. Verify that the new version of software is installed by running the following command:
cli show version

The command produces output similar to the following example output:

```
fpc0:
```

```
-----  
Hostname: swg-en2  
Model: ex4500-40f  
JUNOS Base OS boot [12.3R3.4]  
JUNOS Base OS Software Suite [12.3R3.4]  
JUNOS Kernel Software Suite [12.3R3.4]  
JUNOS Crypto Software Suite [12.3R3.4]  
JUNOS Online Documentation [12.3R3.4]  
JUNOS Enterprise Software Suite [12.3R3.4]  
JUNOS Packet Forwarding Engine Enterprise Software Suite  
[12.3R3.4]  
JUNOS Routing Software Suite [12.3R3.4]  
JUNOS Web Management [12.3R3.4]
```

JUNOS FIPS mode utilities [12.3R3.4]

9. Copy the version to the alternate slice to ensure that if the system automatically boots from the backup partition, it uses the same Junos OS version by running the following command:

```
cli request system snapshot slice alternate
```

This step takes approximately 10 minutes.

This command produces output similar to the following example output:

```
fpc0:
```

```
-----  
Formatting alternate root (/dev/da0s2a)...  
Copying '/dev/da0s1a' to '/dev/da0s2a' .. (this may take a few  
minutes)  
The following filesystems were archived: /
```

Appendix C: Transferring the Juniper Update Package

The instructions below are an example of transferring a Juniper update package (`jinstall-ex-4200-12.3R3.4-domestic-signed.tgz`) to a Juniper switch using FileZilla and SFTP connection. The values entered in FileZilla in these instructions are shown in the diagram on the following page.

Note: FileZilla will automatically transfer the file on port 22 when you specify an SFTP connection.

1. Fill in the following fields:
 - a) **Host:** `sftp://corpIP`
where *corpIP* represents the corporate IP address of the Juniper switch
 - b) **Username:** `root`
 - c) **Password:** `password`
where *password* represents the password for the root user
2. Click **Quickconnect**. When you are connected to the Juniper switch, the file system will be displayed in the **Remote site** pane.
3. In the **Local site** pane, navigate to where the Juniper update package is located on your local system. In this example, the Juniper update package is located in the `C:\Users\IBM_ADMIN\Downloads\` directory.
4. In the **Remote site** pane, enter `/var/tmp` as the target directory on the Juniper switch.
5. Drag the package (`jinstall-ex-4200-12.3R3.4-domestic-signed.tgz`) from the **Local site** pane to the **Remote site** pane.

