

AppResponse Xpert Software Install Guide

Product Release 8.6.8

Riverbed Technology

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1 8.6.8 Software Install Overview

This manual provides complete instructions for installing and updating software on AppResponse Xpert appliances and Directors to release 8.6.8. The following tables outline the install paths based on the hardware model and software release currently installed.

Table 1-1 Updating/Upgrading to Release 8.6.8: Install Paths from Previous Releases

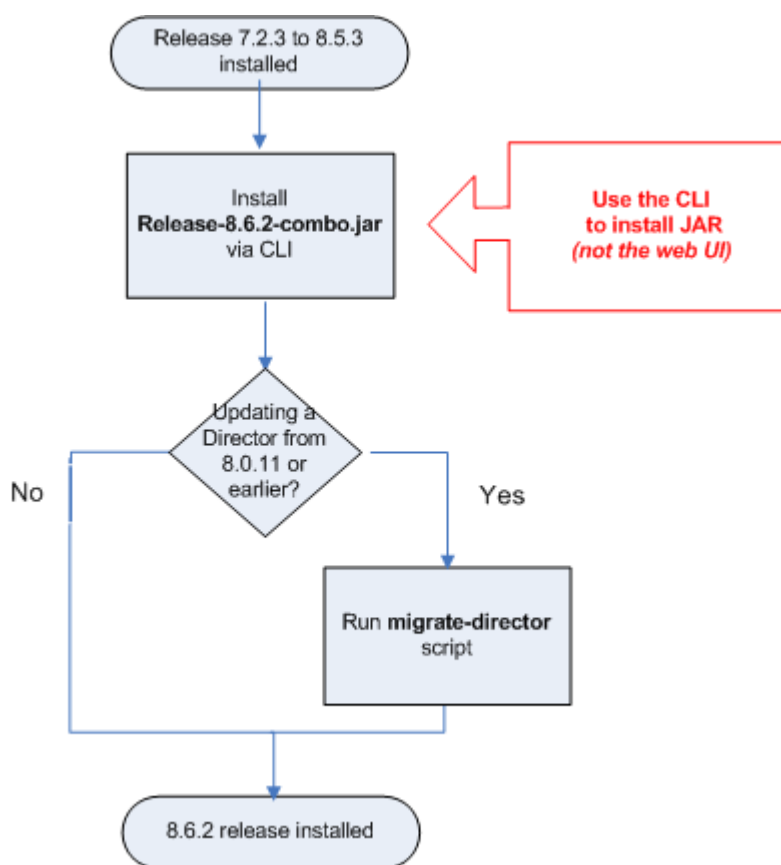
Target Release	Current Release	Install Path
8.6.8	7.2.3 to 8.5.3	Three steps: <ul style="list-style-type: none"> • Install 8.6.2 on 8.5.3 (or Earlier) Appliance/Director on page 11 • Install System-Level Upgrade on 8.6.2 Appliance on page 19 (<i>3170 and higher appliances only</i>) • Install 8.6.8 on 8.6.2 Appliance/Director on page 29
	8.5.5	Three steps: <ul style="list-style-type: none"> • Install 8.6.2 on 8.5.5 Appliance/Director on page 15 • Install System-Level Upgrade on 8.6.2 Appliance on page 19 (<i>3170 and higher appliances only</i>) • Install 8.6.8 on 8.6.2 Appliance/Director on page 29
	8.6.2	Two steps: <ul style="list-style-type: none"> • Install System-Level Upgrade on 8.6.2 Appliance on page 19 (<i>3170 and higher appliances only</i>) • Install 8.6.8 on 8.6.2 Appliance/Director on page 29
	8.6.6	One step: <ul style="list-style-type: none"> • Install 8.6.8 on 8.6.6 Appliance/Director on page 33

2 Install 8.6.2 on 8.5.3 (or Earlier) Appliance/Director

This section describes how to install the 8.6.2 release on an 8.5.3 (or earlier) appliance or Director.

- [Before You Install](#)
- [Install 8.6.2 Software Using the CLI](#)
- [Migrate Director Data to 8.6.2](#)

Figure 2-1 Install 8.6.2 Software on an 8.5.3 (and Earlier) Appliance/Director



Before You Install

Before you install 8.6.2, you must ensure that the appliance or Director has 7.2.3 or higher installed. To do this, log in to the web UI and go to the System > Update page.

If the current release is 8.5.5, go to [Install 8.6.2 on 8.5.5 Appliance/Director](#) on page 15.

Install 8.6.2 Software Using the CLI

Note—Riverbed does not recommend using the 8.5.5 (or earlier) web UI to install software.

Procedure 2-1 Install the 8.6.2 Software on an 8.5.3 (or Earlier) Appliance or Director

- 1 Install the 8.6.2 release using the CLI. (For more information about this interface, see [Software Updates Using the CLI](#) on page 45.)

- 1.1 Open a browser window, go to <https://support.riverbed.com>, and navigate to the AppResponse Xpert 8.6.2 page.

- 1.2 Download the following JAR:

`Release-8.6.2-combo.jar`

- 1.3 Copy the JAR file to an FTP or Web server Directory that is visible to the appliance via a URL path.

- 1.4 Log in to the CLI with admin privileges and type the following command:

`Update`

- 1.5 Type `download` and `n` and type in the URL path for your internal server.

If authentication is used, the URL would look like this:

`ftp://username:password@host/path`

`http://username:password@host/path`

- 1.6 Type `install` and select the version 8.6.2.

- 2 If you are updating a Director-100 from 8.0.11 (or earlier), you must migrate some traffic data to the current release. as described in [Migrate Director Data to 8.6.2](#) on page 13.

End of Procedure 2-1

**Migrate Director
Data to 8.6.2**

The 8.5.5 release introduced a change in how AppResponse Xpert collects and stores Director Business Group data—that is, Business Group data that is aggregated to the Director. This applies to any Business Group in AppResponse Xpert 8.0.11 (or earlier) that

- has the "Collect on Director" option enabled (Director Console > Business Group Manager > Distribution tab > Collect on Director checkbox),
and
- has traffic data stored on the Director that was collected and aggregated in AppResponse Xpert Director 8.0.11 and earlier.

To view this data in AppResponse Xpert 8.6, you must migrate the Director Business Group data on the Director as outlined in the following steps:

- 1) After you install release 8.6.2, log in to the Director and open a CLI window.
- 2) To view information about the data to be migrated, enter the following command:

```
migrate-Director-data
```

- 3) When you are ready to start migrating data, enter the following command:

```
migrate-Director-data -m
```

Note—Migrating all data on the Director might take several hours, depending on the amount of data that needs to be migrated. Riverbed recommends that you run this command before you leave for the day, so that the migration occurs during “off-peak” hours.

If the script terminates prematurely, the Director retains all data that has been migrated up to that point. To migrate the remaining data, run the script again.

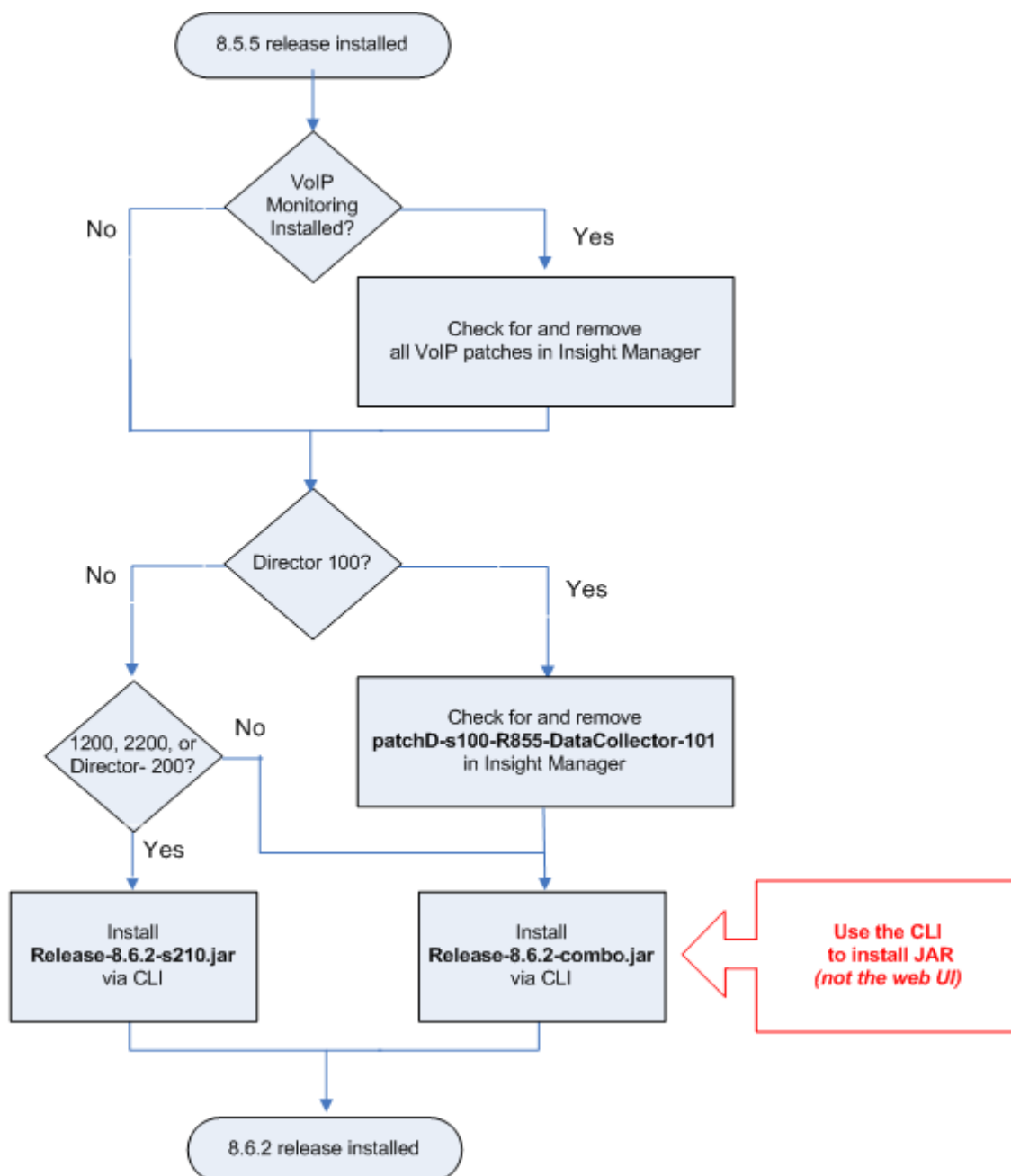
No additional steps are needed to view other types of previously-aggregated data (Total Traffic, ISPs, or Applications) in AppResponse Xpert 8.5.

3 Install 8.6.2 on 8.5.5 Appliance/Director

This section describes how to install the 8.6.2 release on an 8.5.5 appliance or Director.

- [Before You Install](#)
- [Install 8.6.2 Software Using the CLI](#)

Figure 3-1 Install 8.6.2 Software on an 8.5.5 Appliance/Director



Before You Install

This workflow requires that the appliance or Director has 8.5.5 installed. To do this, log in to the web UI and go to the System > Update page. If the Current Version is less than 8.5.5, go to [Install 8.6.2 on 8.5.3 \(or Earlier\) Appliance/Director](#) on page 11.

Install 8.6.2 Software Using the CLI

Note—Riverbed does not recommend using the 8.5.5 (or earlier) web UI to install software.

Procedure 3-1 Install the 8.6.2 Software on an 8.5.5 Appliance or Director

- 1 Before you install 8.6.2 on an 8.5.5 appliance with a VoIP Monitoring Module license, you must check for the following patch and remove it if it is installed:

```
patchA-R855-appl-voip100
```

To remove this patch, go to the Java Console > Insights > Insights Manager. Then select this patch (if it is present in the table) and click Delete.

- 2 Before you install 8.6.2 on a Director 100, you must check for the following patch and remove it if it is installed:

```
patchD-s100-R855-DataCollector-101
```

To remove this patch, go to the Java Console > Insights > Insights Manager. Then select this patch (if it is present in the table) and click Delete.

- 3 Install the 8.6.2 release using the CLI. (For more information about this interface, see [Software Updates Using the CLI](#) on page 45.)

- 3.1 Open a browser window, go to support.riverbed.com and navigate to SOFTWARE & DOCUMENTATION > OPNET > Application Performance Management > AppResponse Xpert Appliance > 8.6.2.

- 3.2 Download the JAR based on the appliance model:

- For 1200, 2200, and Director-200 appliances:

```
Release-8.6.2-s210.jar
```

- For all other appliance and Director models:

```
Release-8.6.2-combo.jar
```

- 3.3 Copy the JAR file to an FTP or Web server Directory that is visible to the appliance via a URL path.

- 3.4 Log in to the CLI with admin privileges and type the following command:

```
Update
```

- 3.5 Type `download` and `n` and type in the URL path for your internal server.

If authentication is used, the URL would look like this:

`ftp://username:password@host/path`

`http://username:password@host/path`

3.6 Type `install` and select the version 8.6.2.

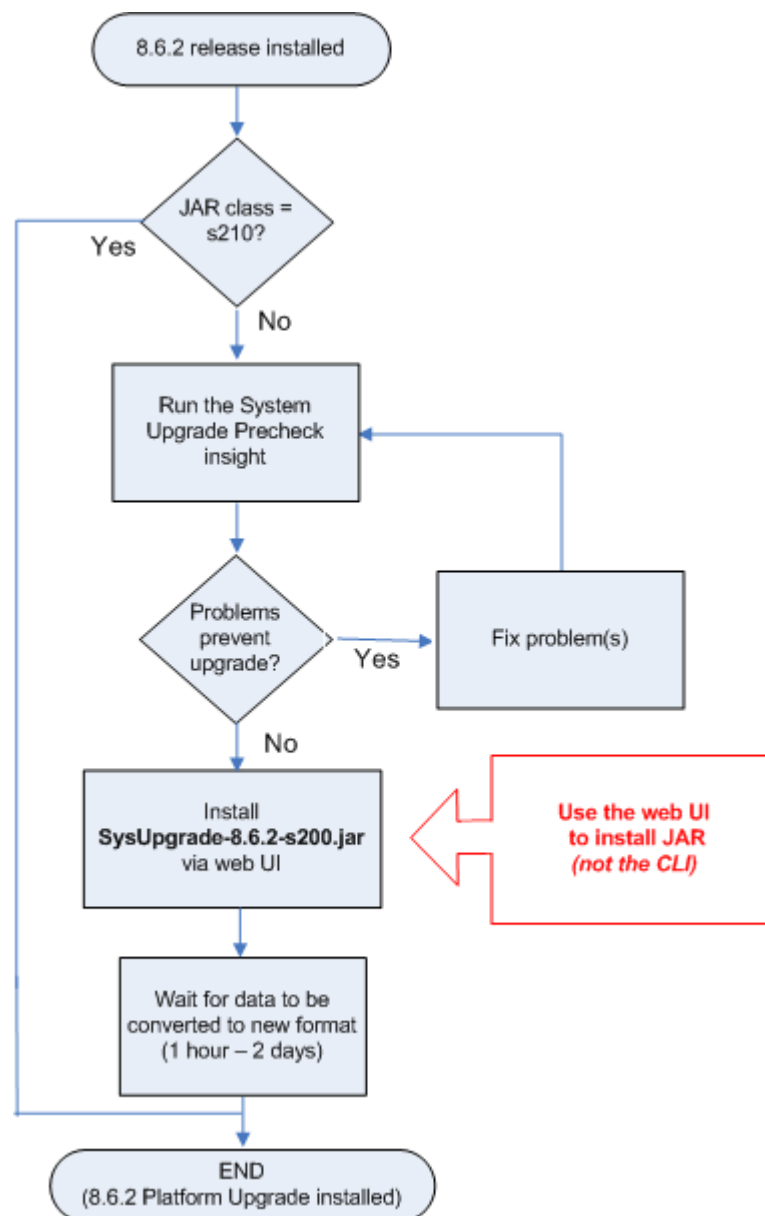
End of Procedure 3-1

4 Install System-Level Upgrade on 8.6.2 Appliance

The `SysUpgrade-8.6.2-s200.jar` file includes a System-Level Upgrade that results in better performance by ensuring that all processes on the appliance run in 64-bit mode.

- [Important Notes and Warnings](#) on page 20
- [Before You Install](#) on page 22
- [Install the 8.6.2 System-Level Upgrade](#) on page 22

Figure 4-1 Install 8.6.2 System-Level Upgrade on an 8.6.2 Appliance



Important Notes and Warnings

Note the following:

- You cannot install the System-Level Upgrade on any appliance or director that has the s100 or s210 JAR class installed. To check the installed JAR class:
 - Open a Java console window and connect to the appliance or director.
 - Choose View > Appliance Info and check the Installed JAR field.
 - If the JAR class is s100, the System-Level Upgrade is not supported on the appliance or director.
 - If the JAR class is s210, the System-Level Upgrade is already installed.
 - If the JAR class is s200, you can install the System-Level Upgrade.
- Before you can install the `SysUpgrade-8.6.2-s200.jar`, you must download, install, and run a special System Upgrade Precheck Insight.

This Insight analyzes your appliance and describes the steps you need to do to prepare your appliance for the System-Level Upgrade. For example, this Insight might tell you to

 - Uninstall Insights that will be incompatible with the System-Level Upgrade (you can install compatible versions after the Upgrade)
 - Replace one or more disk drives
 - Reboot the appliance
 - Wait until one or more verification process are complete

You cannot install the System-Level Upgrade until you run the Precheck Insight and verify that there are no problems that will prevent a successful Upgrade.
- The appliance runs a disk verify every Saturday at 12am. If you are running this over the weekend while verify is actively running, the Precheck will not allow you to proceed unless you see [stop verification of the above units](#). This means it has run successfully in the past and that you can stop the verification to continue with the Upgrade.

- **Riverbed recommends that you install the System-Level Upgrade during a two-day time window when you do not need the appliance for mission-critical work.**
 - The System-Level Upgrade converts legacy traffic on the appliance to the new SQL format.
 - This conversion takes from **1 hour to 2 days** to complete, depending on the amount of traffic on the appliance and historical data kept in the Insight. The Precheck estimates the total time before you start the Upgrade; use this estimate to determine when to run the System-Level Upgrade.
 - The appliance collects no data during the System-Level Upgrade.

WARNING: The System-Level Upgrade can take **1 hour to 2 days** to complete and will cause the appliance to reboot twice. You cannot cancel this Upgrade after you click Install in the Update page.

- **DO NOT** power down, reboot (manually), or configure the appliance while the Upgrade is in progress.
- **DO NOT** try to pause or cancel the Upgrade after it starts.

These actions might cause the appliance to become **unusable** and result in the **loss of all data** on the appliance.

- Some custom Insights might not run after you install the SysUpgrade JAR.
 - Most Riverbed-supported Insights have SysUpgrade-compatible versions on the Update Center.
 - Most simple custom Insights—those that do not rely on binary executables or external scripts—should also run on the Upgraded appliance.
 - Advanced custom scripts might not run, especially if they rely on binary executables or external scripts that include OS-specific or database-specific code. You might need to edit or re-create these Insights to make them compatible with the Upgraded appliance.
- The terms “Upgrade” and “Update” have very distinct and specific meanings in the context of installing 8.6 JARS:
 - *Upgrade*
To install a JAR that contains new operating-system and database software in addition to AppResponse Xpert software
 - *Update*
To install a JAR that contains AppResponse Xpert software only (“Update the appliance to release 8.6”)

Before You Install

Note the following:

- You can install the System-Level Upgrade on 3170 or higher appliance models only.
- The appliance has 8.6.2 currently installed.

You must [Update](#) the appliance to 8.6.2 before you try to install the SysUpgrade JAR.

- You do not need to install the System-Level Upgrade unless the appliance has JAR class “s200” installed.

To determine whether the s200 JAR is installed, do the following:

- Open a Java Console window and connect to the appliance.
- In the View > Appliance Info field, note the JAR Class field.
- If the JAR Class is **s100**, **STOP**. *You cannot install the System-Level Upgrade on the appliance.*
- If the JAR Class is **s210**, **STOP**. *The System-Level Upgrade is already installed on the appliance. You do not need to perform the following procedure.*
- If the JAR class is **s200**, proceed to [Install the 8.6.2 System-Level Upgrade](#).

Install the 8.6.2 System-Level Upgrade

Before you begin this procedure, read carefully all [Important Notes and Warnings](#) on page 20.

Procedure 4-1 Install the System-Level Upgrade on an 8.6.2 Appliance (Model 3170 or Higher)

- 1 If you have not already done so, [Update](#) the appliance to release 8.6.2:
 - 1.1 Install the 8.6.2 software release.
 - 1.2 *Wait at least thirty minutes* after the 8.6.2 software is installed and the appliance is rebooted. This gives the appliance time to collect traffic.
 - 1.3 Set the Project Time to Recent Hour. Open the Total Traffic table (View > Tables > Total Traffic) and verify that the appliance is collecting traffic.
 - 1.4 Run the Appliance Health Check Insight.
 - 1.5 If the Performance Check table has one or more failed checks, click in the red cell and follow the recommendations in the Insight Help.
 - 1.6 If the recommended solutions do not fix the problem, contact Technical Support before you proceed (see [Contact Riverbed Support](#) on page 53).

- 2 Back up all traffic data (optional) and configuration data (*strongly recommended*) on the appliance.

This step is strongly recommended in case you experience any problems installing the System-Level Upgrade JAR on the appliance.

- 3 Verify whether you need to install the System-Level Upgrade:

- 3.1 Open a Java Console window and connect to the appliance.

- 3.2 In the View > Appliance Info field, note the JAR Class field.

- If the JAR Class is **s100**, **STOP**. *You cannot install the System-Level Upgrade on the appliance.*
- If the JAR Class is **s210**, **STOP**. *The System-Level Upgrade is already installed. You do not need to perform this procedure.*
- If the JAR Class is **s200**, complete the rest of this procedure.

- 4 If you want to install the SysUpgrade JAR on appliances in a Director domain, you can use the Director to copy the JAR to the connected appliances. To do this, you must do the following:

- 4.1 Update the Director to 8.6.2 or higher if it has an earlier release installed.

- 4.2 Open a new browser window, go to support.riverbed.com, and navigate to the AppResponse Xpert 8.6.2 page.

- 4.3 Download the following file: **SysUpgrade-8.6.2-s200.jar**

- 4.4 Copy the SysUpgrade JAR to the Director.

- 5 Download and install the System Upgrade Precheck Insight:

- 5.1 In the Java console, choose Insights > Update Center.

- 5.2 Click Manage Servers and add the following server to the list:

`support.opnet.com/ace_live/Insights/support/tools/sysUpgrade`

- 5.3 Make sure that both Visible and Check for Updates are selected, and click Install.

- 5.4 In the Update Center, select the System Upgrade Precheck Insight and click OK.

```
Java console >
  Insights >
    Update Center >
      support.opnet.com/Insights/support/tools >
        System Upgrade Precheck
```

- 5.5 Close the Update Center window.

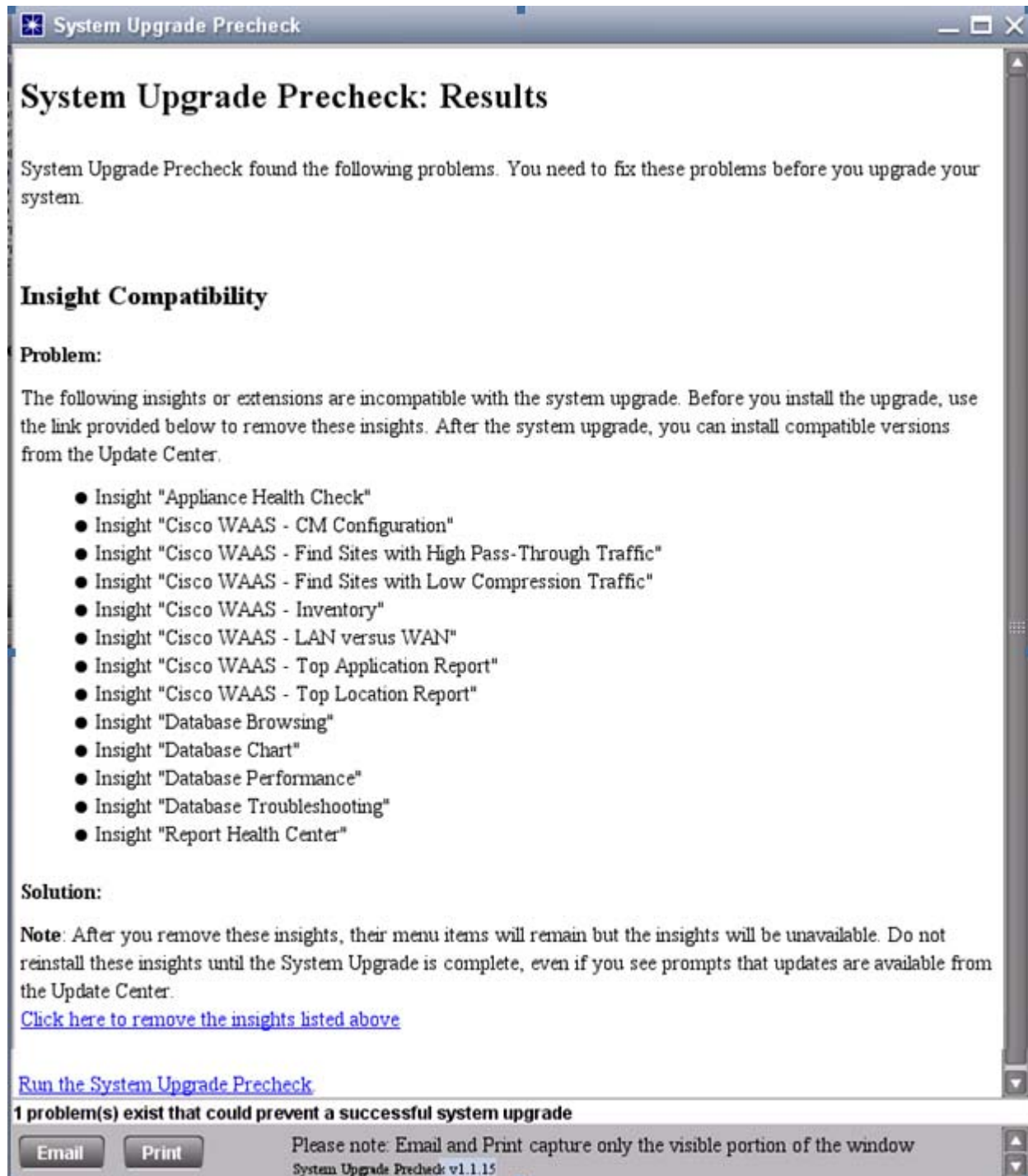
- 6 Run the Insights > Diagnostics > System Upgrade Precheck Insight.

➡ The System Upgrade Precheck runs an extensive series of tests on the appliance to find any problems that might prevent a successful install of the System-Level Upgrade. The Precheck might report problems such as

- Installed Insights and extensions that will not run after the appliance is Upgraded
- Disk issues (missing, faulty, or slow disks)
- Physical memory issues

➡ The Precheck displays a list of found problems (if any) and the steps required to fix each problem.

Figure 4-2 System Upgrade Precheck Results (Example)



7 Do the required steps for each known problem, such as

- Reboot the appliance (recommended if the appliance has not been rebooted in the past week).
- Delete Insights that will not run on the Upgraded system. (The insight lists these insights and includes a link to remove them from the appliance.)

Note—You will need to install newer versions of these Insights after you install the System-Level Upgrade. To save the list of incompatible Insights before deleting them,

- Select everything in the Precheck window,
- Copy to the clipboard, and then
- Paste the contents into an email or a text file.
- Re-connect to the Director (if the appliance is in a Director domain but is currently disconnected)
- Contact Riverbed Support as described in [Contact Riverbed Support](#) on page 53 (if the Precheck found disk, memory, or other problems that you cannot fix yourself)

8 Run the Precheck again and fix problems until the Insight says that there are no problems that would prevent a System-Level Upgrade install.

Note—You might need to repeat this process several times: run the Precheck, fix problems, run the Precheck again, etc.

9 In the Results page of the System Upgrade Precheck, read all warnings and configuration options carefully.

Note—The SysUpgrade JAR includes an SQL software Update. The SysUpgrade process must convert the traffic database to the new SQL format. The Precheck Insight > Results page provides critical information about how long this conversion will take.

- The conversion might be faster if you do not need to keep recent traffic data. You can choose to discard 1-minute/-5-minute data. (This option is available in Offline mode only.) After the Upgrade, the data you can view for the specified time window(s) will be limited as follows:

If the time window has no 1-minute data, the smallest samples were calculated at 5-minute intervals: 12:00-05, 12:05-10, 12:10-15, and so on. The Project Time must include at least one of these intervals for the console to display data. If the time window truncates a 5-minute interval, that data is not shown:

- [8:00-8:05] => shows data from 8:00 to 8:05
- [8:00-8:08] => shows data from 8:00 to 8:05 (no 1-minute data for last 3 minutes)
- [8:00-8:03] => shows no data (no 5-minute interval in time window)
- [8:03-8:08] => shows no data (no 5-minute interval in time window)

If the time window has no 1-minute or 5-minute data, the smallest samples were calculated at 1-hour intervals: 12:00-1:00, 1:00-2:00, 2:00-3:00, and so on. The Project Time must include at least one of these intervals for the console to display data. If the time window truncates a 1-hour interval, that data is not shown:

- [8:00-9:00] => shows data from 8:00 to 9:00
- [8:00-9:15] => shows data from 8:00 to 9:00 (no 1-minute or 5-minute data for last 15 minutes)
- [8:00-8:45] => shows no data (no 1-hour interval in time window)
- [8:15-9:15] => shows no data (no 1-hour interval in time window)

- 10 In the Results page of the System Upgrade Precheck, write down the Estimated Time on a piece of paper or Post-It note.
- 11 Copy the System Upgrade JAR over to the appliance. **Note**—You cannot install this JAR from the CLI.

If the appliance is not part of a Director domain or you did not perform [step 4](#), do the following:

- 11.1 Go to support.riverbed.com and navigate to SOFTWARE & DOCUMENTATION > OPNET > Application Performance Management > AppResponse Xpert Appliance > 8.6.2.
- 11.2 Download the following file to your local host:
`SysUpgrade-8.6.2-s200.jar`
- 11.3 Go to the web UI > System > Update page.
- 11.4 In the New Version pull-down menu, choose Specify Local File and select the JAR you just downloaded.
- 11.5 Click Copy and wait until the file is copied over.

If the appliance is part of a Director domain and you performed [step 4](#), do the following:

- 11.1 Go to the web UI > System > Update page.
- 11.2 In the New Version pull-down menu, select
`SysUpgrade-8.6.2-s200.jar` (on Director).
- 11.3 Click Copy and wait until the file is copied over.

- 12 Select the SysUpgrade JAR in the New Version pull-down menu and select the Install checkbox.

WARNING: The System-Level Upgrade can take 1 hour to 2 days to complete and will cause the appliance to reboot twice. You cannot cancel this Upgrade after you click Install in the Update page.

- **DO NOT** power down, reboot (manually), or configure the appliance while the Upgrade is in progress.
- **DO NOT** try to pause or cancel the Upgrade after it starts.

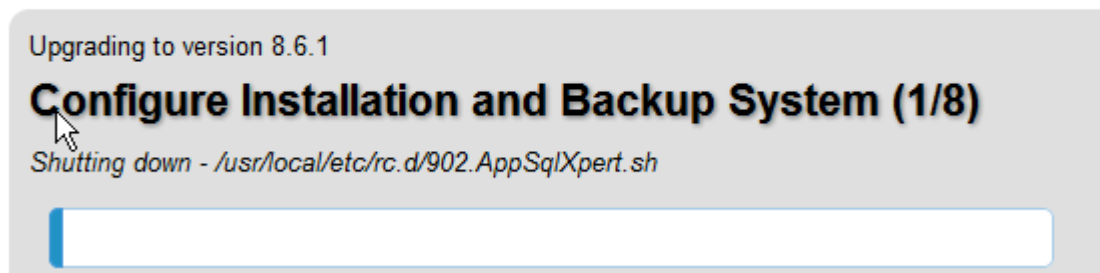
These actions might cause the appliance to become **unusable** and result in the **loss of all data** on the appliance.

- 13 Click Install and write the start time on the same piece of paper where you wrote the estimated conversion time in [step 10](#).

The System-Level Upgrade web page appears and the Upgrade starts running. This page includes a series of warnings and a progress bar. **Follow all notes and warnings on this page carefully.**

Figure 4-3 System-Level Upgrade: Progress Bar

AppResponse Xpert Upgrade



- 14 Wait for the System-Level Upgrade process to complete. You can estimate the Time to Complete (TTC) based on the estimated time and install start time you wrote down in [step 10](#) and [step](#) respectively. The System-Level Upgrade goes through a series of 8 steps.

Note—This page might fail to Update. To verify the current status, copy the URL for this page into a new browser window and click Enter.

Note—In addition to converting the appliance database, the System-Level Upgrade causes the appliance to reboot twice.

To verify that the System-Level Upgrade process is complete, point the browser to the appliance web UI on port 8080 (<http://appliance-name-or-ip:8080>).

If you cannot view the web UI, the System-Level Upgrade is still in progress. Point your browser to the System-Level Upgrade progress page on port 80 (<http://appliance-name-or-ip:80>).

If you cannot access either page, the appliance is probably rebooting. If you still cannot access either page 30 minutes after the expected Time to Complete, contact Riverbed Support (see [Contact Riverbed Support](#) on page 53).

- 15** When the Upgrade page indicates that the entire process is complete, do the following:

15.1 Wait 10 minutes.

15.2 Open a Java Console window and connect to the appliance.

15.3 In the View > Appliance Info field, note the JAR Class field.

If the JAR Class is **s210**, the system is fully rebooted and the new OS, database, and AppResponse Xpert software is installed.

- 16** When the appliance is fully rebooted, open the console and run the System Upgrade Precheck again.

➡ The Precheck lists the Insights and extensions that you needed to remove in [step 7](#).

- 17** Go to Insights > Update Center, and install updated versions of the Insights listed in the Precheck (or in the email or hardcopy you generated in [step 7](#)).

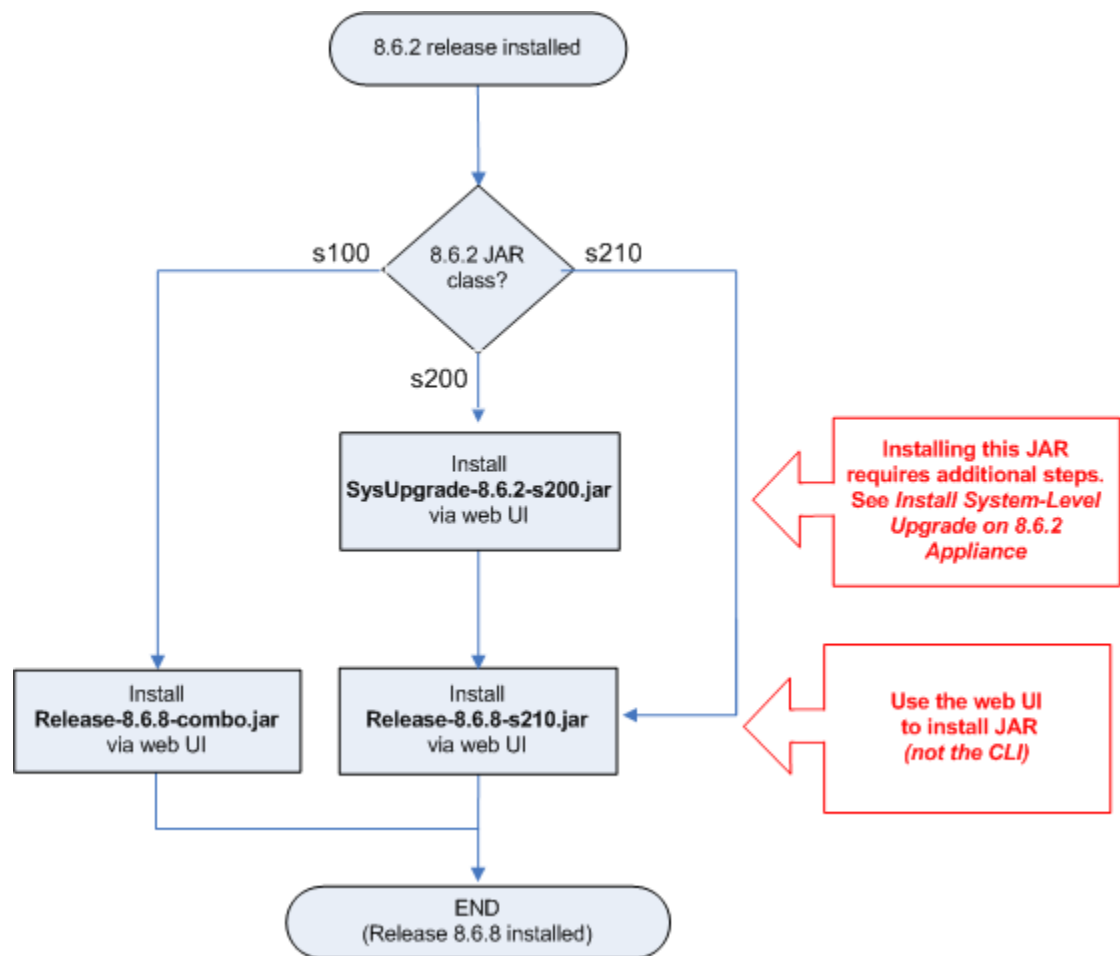
End of Procedure 4-1

5 Install 8.6.8 on 8.6.2 Appliance/Director

This section describes how to install the 8.6.8 release on an 8.6.2 appliance or Director.

- [Before You Install](#)
- [Updating Multiple Appliances Using the Director](#)
- [Install 8.6.8 Software Using the Web UI](#)

Figure 5-1 Install 8.6.8 Software on an 8.6.2 Appliance/Director



Before You Install

Before you install 8.6.8, you must ensure that the appliance or Director has 8.6.2 installed. To do this, log in to the web UI and go to the System > Update page.

If the Current Version is 8.5.5, go to [Install 8.6.2 on 8.5.5 Appliance/Director](#) on page 15.

If the Current Version is 8.5.3 or earlier, go to [Install 8.6.2 on 8.5.3 \(or Earlier\) Appliance/Director](#) on page 11.

Updating Multiple Appliances Using the Director

If you a director and a domain with multiple appliances that you want to update, you can use the director web UI to update multiple appliances at the same time. The basic workflow is to

- Copy the JARs you want to install to the director.
- Copy the appropriate JAR from the director to each appliance.
- From the director web UI, install the JAR on each appliance.

Note—This workflow requires that both the director and the appliance to update already have 8.6.2 or higher installed.

Install 8.6.8 Software Using the Web UI

Procedure 5-1 Install the 8.6.8 Software on an 8.6.2 Appliance / Director

- 1 Open a Java Console window and connect to the appliance.
- 2 In the View > Appliance Info field, note the JAR Class field.
- 3 Open a new browser window, go to support.riverbed.com, and navigate to SOFTWARE & DOCUMENTATION > OPNET > Application Performance Management > AppResponse Xpert Appliance > 8.6.8.
- 4 Download the 8.6.8 JAR based on the 8.6.2 JAR Class currently on the appliance:

If the 8.6.2 JAR Class is s100:

4.1 Download and install the following file: `Release-8.6.8-combo.jar`

- Open a new browser window and log in to the AppResponse Xpert web UI.
- In the web UI > System > Update page > New Version menu, choose Local File and select the downloaded JAR.

- Select the "Copy to Director/Appliance" checkbox and click Copy.
- When the Status indicator shows that the copy process has finished, select the Install checkbox and then click Install.

If the 8.6.2 JAR Class is s200:

You must install the 8.6.2 System-Level Upgrade before you can install the 8.6.8 software. This Upgrade results in better performance by ensuring that all processes on the appliance run in 64-bit mode. The following steps outline the workflow:

4.1 Download the following file: `SysUpgrade-8.6.2-s200.jar`

4.2 Install the System-Level Upgrade as described in [Install System-Level Upgrade on 8.6.2 Appliance](#) on page 19.

4.3 Download and install the following file: `Release-8.6.8-s210.jar`

- Open a new browser window and log in to the AppResponse Xpert web UI.
- In the web UI > System > Update page > New Version menu, choose Local File and select the downloaded JAR.
- Select the "Copy to Director/Appliance" checkbox and click Copy.
- When the Status indicator shows that the copy process has finished, select the Install checkbox and then click Install.

If the 8.6.2 JAR Class is s210:

4.1 Download and install the following file: `Release-8.6.8-s210.jar`

- Open a new browser window and log in to the AppResponse Xpert web UI.
- In the web UI > System > Update page > New Version menu, choose Local File and select the downloaded JAR.
- Select the "Copy to Director/Appliance" checkbox and click Copy.
- When the Status indicator shows that the copy process has finished, select the Install checkbox and then click Install.

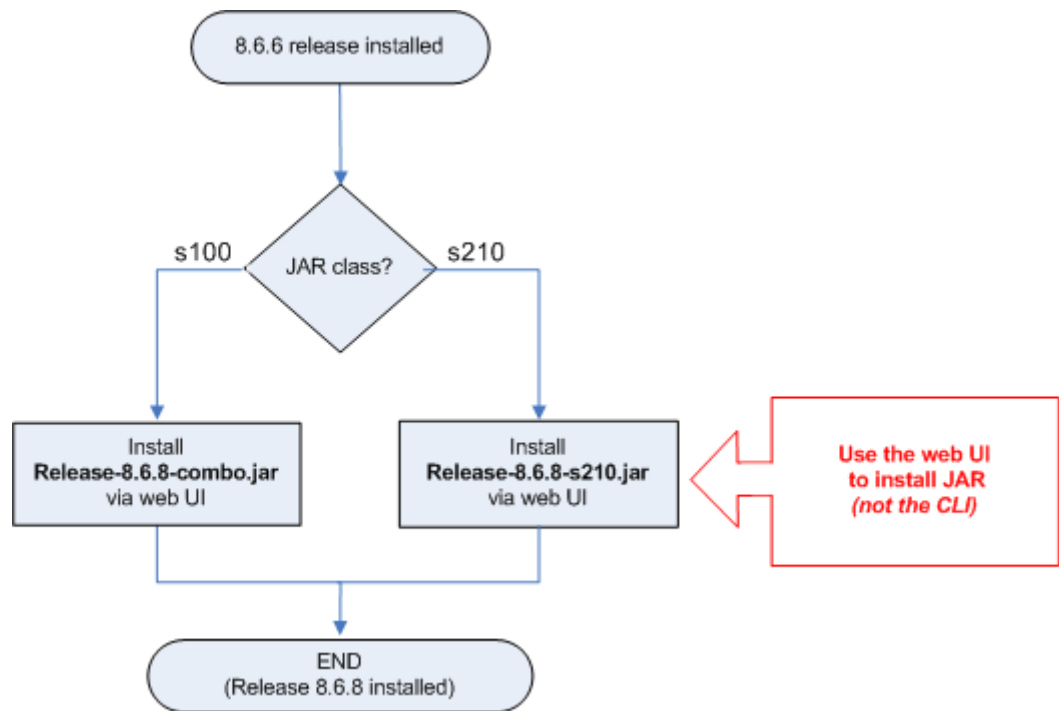
End of Procedure 5-1

6 Install 8.6.8 on 8.6.6 Appliance/Director

This section describes how to install the 8.6.8 release on an 8.6.6 appliance.

- [Before You Install](#)
- [Updating Multiple Appliances Using the Director](#)
- [Install 8.6.8 Software Using the Web UI](#)

Figure 6-1 Install 8.6.8 Software on an 8.6.6 Appliance/Director



Before You Install

You need to do this workflow only if you have an ARX-6000 appliance or a Director with a 6000 appliance in its domain. Otherwise, refer to one of the following workflows:

- If the current version is 8.6.2, go to [Install 8.6.8 on 8.6.2 Appliance/Director](#) on page 29.
- If the current version is 8.5.5, go to [Install 8.6.2 on 8.5.5 Appliance/Director](#) on page 15.
- If the current version is 8.5.3 or earlier, go to [Install 8.6.2 on 8.5.3 \(or Earlier\) Appliance/Director](#) on page 11.

Updating Multiple Appliances Using the Director

If you have a director and a domain with multiple appliances that you want to update, you can use the director web UI to update multiple appliances at the same time. The basic workflow is to

- Copy the JARs you want to install to the director.
- Copy the appropriate JAR from the director to each appliance.
- From the director web UI, install the JAR on each appliance.

Note—This workflow requires that both the director and the appliance to update already have 8.6.2 or higher installed.

Install 8.6.8 Software Using the Web UI

Procedure 6-1 Install the 8.6.8 Software on an 8.6.6 Appliance or Director

- 1 Open a Java Console window and connect to the appliance.
- 2 In the View > Appliance Info field, note the JAR Class field.
- 3 Open a new browser window, go to support.riverbed.com, and navigate to SOFTWARE & DOCUMENTATION > OPNET > Application Performance Management > AppResponse Xpert Appliance > 8.6.8.
- 4 Download the 8.6.8 JAR based on the 8.6.2 JAR Class currently on the appliance:

If the 8.6.2 JAR Class is s100:

4.1 Download and install the following file: `Release-8.6.8-combo.jar`

- Open a new browser window and log in to the AppResponse Xpert web UI.

- In the web UI > System > Update page > New Version menu, choose Local File and select the downloaded JAR.
- Select the "Copy to Director/Appliance" checkbox and click Copy.
- When the Status indicator shows that the copy process has finished, select the Install checkbox and then click Install.

If the 8.6.2 JAR Class is s210:

4.1 Download and install the following file: **Release-8.6.8-s210.jar**

- Open a new browser window and log in to the AppResponse Xpert web UI.
- In the web UI > System > Update page > New Version menu, choose Local File and select the downloaded JAR.
- Select the "Copy to Director/Appliance" checkbox and click Copy.
- When the Status indicator shows that the copy process has finished, select the Install checkbox and then click Install.

End of Procedure 6-1

App A Updating the Director and Connected Appliances from the Web UI

You can Update the software on the Director and all connected appliances from one page in the AppResponse Xpert Director web UI. The System > Update page now lists all member appliances, with separate options for each appliance. This makes it much easier to coordinate Updates across all appliances in a domain.

Important Notes

Note the following:

- You cannot use this functionality to Update any connected appliances running a release earlier than 8.0.x.
- Carefully review the current Release notes for any notes and warnings relating to Director issues, as well as any warnings in this section.
- Copying files from the Director can take several minutes or more, depending on the size and number of Update file(s), the number of appliances being updated, and the available bandwidth between the Director and a specific appliance.
- After a Director or appliance is updated, it reboots and might be “off-line” for several minutes.
- Because copying files to many appliances can consume a lot of bandwidth, and because an Update operation causes each appliance to reboot, you might want to Update your appliances during “off-peak” hours (very late at night, for example, or very early in the morning).

WARNING: Before Using Director Web UI to Update Appliances, Remove Old JARS from Director

WARNING—Before you start using the Director web UI to Update appliances in a domain, it is good practice to remove any old JARs that have been copied to the Director. For more information, see [step 1](#) of [Updating a Director and One or More Appliances](#) on page 39.

WARNING: When Using Director Web UI to Update Appliances, Do Not Download JARS using CLI

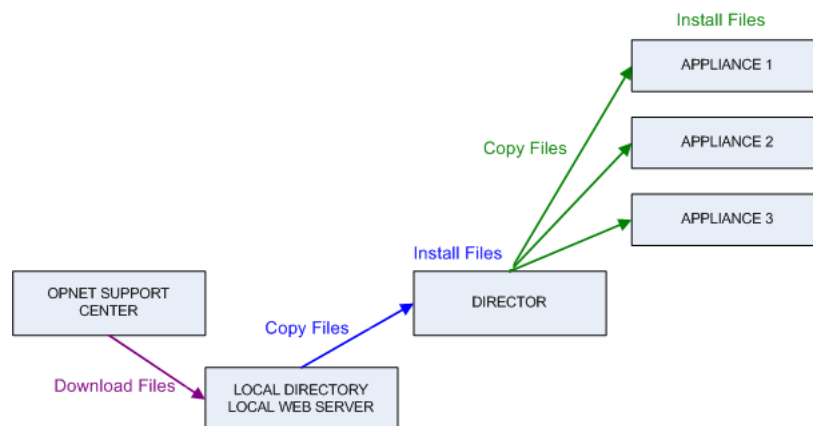
WARNING—If you want to use the Director web UI to Update appliances in a domain, copy JARs to the Director using the web UI only.

General Workflow Description

A global Update consists of the following steps:

- 1) Remove all old JARs from the Director.
- 2) Go to support.riverbed.com and download the files you want to install to a local Directory or web server.
- 3) Copy the release onto the Director. If you are updating appliances to different releases, copy the required file for each release to the Director.
- 4) Install the JAR on the Director (if you are updating the Director).
- 5) For each appliance you want to Update, pull the necessary JAR from the Director to that appliance.
- 6) Install the JAR(s) on each appliance.

Figure A-1 Global Update Workflow



Updating a Director and One or More Appliances

To perform a global Update, do the following.

Procedure A-1 Updating a Director and One or More Appliances

Remove Old JARs from Director

- 1 Log in to the Director using the CLI and remove all JARs from previous releases:

Note—Before you start using the Director web UI to Update appliances in a domain, it is good practice to delete any old JARs that have been copied to the Director. This frees up disk space on the Director that might be needed to store new JARs.

WARNING: Do not delete the release that is currently installed on the appliance. Delete OLD JARs only.

In this context, an “old JAR” corresponds to any release *up to but not including* the currently installed release. Suppose you want to install 8.6.2 on an 8.5.5 Director. The currently installed release is 8.5.5. Therefore, you should delete all JARs for all releases *up to but not including* 8.5.5.

To remove old JARs from the Director, do the following steps:

- 1.1 Log in to the Director as a user with Administrator privileges, using an SSH-enabled program such as putty.
- 1.2 Enter the following command: **release-Update**
 - ➡The CLI displays the AppResponse Xpert Software Update menu.
- 1.3 Enter the following command: **releases**
 - ➡The CLI displays all releases that are currently stored on the Director.
- 1.4 For all listed releases, *except for the release currently installed on the Director*, run the following commands.


```
delete <release_number>
unpublish <release_number>
```

 - ➡All JAR files for <release_number> are removed from the Director.
- 1.5 For the release currently installed on the Director, run the following command:


```
unpublish <release_number>
```

You must perform this step for the currently installed release if it was installed on the Director using the CLI rather than the web UI.

Download JARs from Support Center

- 2 Go to support.riverbed.com and navigate to the Product Updates page for AppResponse Xpert.

- 3 Download the required ZIP archive(s) or software JAR(s) to a Directory or web server that is accessible to your local host. You should download every ZIP or JAR that you want to copy/install on the Director, or on any appliance within that Director's domain. Riverbed recommends that you do this *before* you start the Update procedure.

Note—Some releases might consist of a ZIP archive with multiple JAR files for different device (appliance/Director) models, instead of one JAR file that can be installed on all models. When you copy the archive to a device, the following occurs:

- The device extracts all JARs from the archive and stores them locally.
- The web UI filters the extracted JARs and displays only the JAR that can be installed on each device.
- All JARs remain on the device even after it is updated. For this reason, it is good practice to delete each release when you no longer need the relevant JARs on that device (as described in [step 10](#)).

Review Update Web UI on Director

- 4 Log in to the web UI of the Director and navigate to the System > Update page.

This page includes two tables: one for the Director, and one for all appliances that are currently included in the domain. Each table has the following fields:

- Director/Appliance Name
- Required JAR Class

The JAR class required for a specific appliance or Director.

- Current Version

The software release currently installed on the Director or appliance.

- New Version

The JAR to install on the Director or appliance. This menu shows releases for JARS that have already been copied to the Director or a specific appliance. For each JAR on the Director or appliance, the menu item shows the release number, the Upgrade path (Update or Release), the JAR class, and the current location:

- `<rel_#> <Update_or_release> <jar_class>` (on Director)
- `<rel_#> <Update_or_release> <jar_class>` (on appliance)

Note—The JAR you select in this menu must match the [Required JAR Class](#) for that appliance or Director.

- Copy to Director/Appliance

When you click Copy in the Appliances table, the Director copies the required JAR from the Director to each appliance that has this checkbox selected.

- Install

When you click the Install button, the select JAR is installed on the Director or each appliance that has this checkbox selected.

- Status

Shows the status while the Copy or Install operation is in progress.

Copy Release Files to Director

- 5 Copy all release files—individual JAR files and/or ZIP archives—that you want to copy to the Director.

For each release you want to install, on the Director or any appliance, do the following:

- 5.1 Select one of the following in the [New Version](#) pull-down menu for the Director:

- Specify Local File...

Select this option if you downloaded the release to a local Directory.

- Specify URL....

Select this option if you downloaded your JAR(s) to a local web server.

- 5.2 Select the Copy to Director checkbox and click Copy.

Visit support.opnet.com to save updates to a local directory or web server and then copy to the Appliance.

Advanced Director Install Options						
Director Name	Required Jar Class	Current Version	New Version	Copy To Director	Install	Status
omega513	combo	8.5.5	8.5.5 (from www.focus6.com)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Copy

➡The JAR is copied to the Director from the local Directory/web server.

Update Director using Web UI

- 6 If the Director has one or more patches already installed, click the '+' button next to Advanced Director Install Options.

Advanced Director Install Options	
If the director has newer packages than those in the version you are installing:	
<input checked="" type="radio"/> Cancel install <input type="radio"/> Keep newer packages <input type="radio"/> Overwrite all, including newer packages	

Note— recommends that you select “Overwrite all, including newer packages” and re-install any patches you need after you Update the Director.

- 7 If you are updating the Director to the current release, do the following:

- 7.1 Select the JAR, check the Install checkbox, and click Install.

Visit support.opnet.com to save updates to a local directory or web server and then copy to the Appliance.

Advanced Director Install Options						
Director Name	Required Jar Class	Current Version	New Version	Copy To Director	Install	Status
cougar0	combo	8.5.5	8.5.5 Release-combo (on director)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Install

➡The JAR is installed on the Director.

Update Connected Appliances

- 8 If an appliance has one or more patches already installed, click the ‘+’ button next to Advanced Appliance Install Options.

-
Advanced Appliance Install Options

If an appliance has newer packages than those in the version you are

- ☐ Skip install on that appliance
- ☐ Keep newer packages
- ☒ Overwrite all, including newer packages

NotRiverbed recommends that you select “Overwrite all, including newer packages” and re-install any applicable patches after you Update the appliance.

- 9 Copy and install the JAR(s) on each appliance.

- 9.1 Copying a JAR to many appliances at once can consume a lot of network bandwidth. Note the size of the JAR file you want to install; then multiply this by the number of appliances on which you want to install that JAR. This is the amount of data you will need to send across your network. If this number is very high, Riverbed recommends that you divide the copy operation into phases of 5 appliances each: copy to 5 appliances and wait for the copies to complete, then copy the next 5, and so on. In the Appliances table, set the [New Version](#) pull-down menu for each appliance to the desired JAR.

Note—The JAR you select in this menu must match the [Required JAR Class](#) of the appliance. In addition, the [New Version](#) cannot be higher than the version currently installed on the Director.

- 9.2 Select the Copy to Appliance checkbox for each appliance to which you need to copy the JAR from the Director.

The [New Version](#) pull-down menu indicates whether the selected JAR is on the Director but has not yet been copied (on Director), or the JAR has already been copied to the appliance (on appliance).

Appliances						
Appliance Name	Required Jar Class	Current Version	New Version	Copy To Appliance	Install	Status
omega410	combo	8.5.5	8.5.5 Release-combo (on director)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
omega509	s210	8.5.5	8.5.5 Release-s210 (on appliance)	<input type="checkbox"/>	<input type="checkbox"/>	
omega514	combo	8.5.5	8.5.5 Release-combo (on director)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Copy						

- 9.3 Click Copy and wait until the Status field shows that all JARs have been copied to their respective appliances.

- 9.4 Select the Install checkbox for each appliance that you want to Update.

9.5 Click Install. The Status field will show when each appliance has been updated.

Appliances						
Appliance Name ↕	Required Jar Class ↕	Current Version ↕	New Version	Copy To Appliance <input type="checkbox"/>	Install <input type="checkbox"/>	Status
omega410	combo	8.5.5	8.5.5 Release-combo (on appliance) ▾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
omega509	s210	8.5.5	8.5.5 Release-s210 (on appliance) ▾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
omega514	combo	8.5.5	8.5.5 Release-combo (on appliance) ▾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Install						

Remove JARs

10 Although not required in most cases, it is good practice to delete old JARs that you do not need to install on the Director or on any appliance:

WARNING: Do not delete the release that is currently installed on the appliance. Delete OLD JARs only.

In this context, an “old JAR” corresponds to any release up to but not including the currently installed release. Suppose you just installed 8.6.2 on a Director. The currently installed release is 8.6.2. Therefore, you can delete all JARS for all releases *up to but not including* 8.6.2 that are no longer needed for updating any appliances in the domain.

10.1 In the Director web UI > System > Updates page, click the “Delete Releases” link in the top-right corner of the Director table.

10.2 The List of Uploaded Updates table lists all JARs that are currently stored on the appliance.

10.3 To delete each JAR, click the red ‘X’ in the left cell of the table.

10.4 When all old JARs are deleted, click the Update link to return to the Update page.

App B Software Updates Using the CLI

Alternatively from the web UI, you can download and install software Updates using the CLI using the `release-Update` command. Before updating, be sure to back up the system configuration to simplify error recovery in case an Update fails.

Note—You cannot downgrade any appliance or Director to a previous release.

To download and install a new software release access the CLI, type `release-Update` and press Enter. The CLI displays the Update menu which provides the following options:

- `check`

Check for availability of new software releases. By default, the AppResponse Xpert Appliance checks the Riverbed support site for new releases. The software releases listed in this catalog file are available in the same Directory. If the appliance cannot access the Riverbed support site directly, download the catalog file and the software releases to a local web server and provide the URL to the local catalog file when you run the check command. Alternatively, use an HTTP proxy to access the Riverbed support site (see proxy command below).
- `download`

Download a software release from the Riverbed support site or from a local web server. If the check command was run previously, download provides a list of available software releases. If the check command has not been run, the complete URL to a software release must be provided. The download command supports URLs with an embedded username and password. This can be useful for transferring files from FTP servers requiring authentication.

`ftp://username:password@host/path`

`http://username:password@host/path`

Download transfers the software release to the AppResponse Xpert Appliance but does not install it.
- `install`

Install a software release that has been downloaded to the AppResponse Xpert Appliance. The install command provides a list of releases that are currently on the appliance.
- `delete`

Delete a software release that has been downloaded to the AppResponse Xpert Appliance. The delete command provides a list of releases that are currently on the appliance.

NOTE—Before you start using the CLI to Update an appliance, it is good practice to delete any old JARs releases that are still stored on the appliance. This frees up disk space that might be needed to store new JARs.

In this context, an “old JAR” corresponds to any release *up to but not including* the currently installed release. Suppose you want to install 8.6.2 on an 8.5.5 Director. The currently installed release is 8.5.5; therefore, you should delete all JARS for all releases *up to but not including* 8.5.5.

To remove old JARs from the Director, do the following steps:

- a) Log in to the Director as a user with Administrator privileges, using an SSH-enabled program such as putty.

- b) Enter the following command: **release-Update**

The CLI displays the AppResponse Xpert Software Update menu.

- c) Enter the following command: **releases**

The CLI displays all releases that are currently stored on the Director.

- d) For all listed releases, *except for the release currently installed on the Director*, run the following commands.

```
delete <release_number>
```

```
unpublish <release_number>
```

All JAR files for <release_number> are removed from the Director.

- e) For the release currently installed on the Director, run the following command:

```
unpublish <release_number>
```

You must perform this step for the currently installed release if it was installed on the Director using the CLI rather than the web UI.

- **log**

Examine a software installation log. A new log file is created each time a software release is installed. The log command provides a list of available software logs.

- **proxy**

Configure an HTTP proxy server used by the check and download commands

- **quit**

Return to the main CLI menu.

CLI Commands Related to Software Updates

The following software-Update commands are available on the CLI. Note that these commands *do not* take arguments.

- release-list
Displays the software releases currently available on the appliance (from previous downloads).
- release-current
Displays the current software release running on the AppResponse Xpert Appliance.

App C Software Updates from the Web UI

You can download and install software Updates for Appliances and Directors using the web UI. To get to the Update page open System tab > Update. You can also retrieve software Updates through the CLI. See [Software Updates Using the CLI](#) on page 45.

Figure C-1 System Tab - Appliance Update

AppResponse Xpert Update

Visit support.opnet.com to save updates to a local directory or web server and then copy to the Appliance. [delete releases](#) [options](#)

Advanced Appliance Install Options

Appliance Name	Required Jar Class	Current Version	New Version	Copy To Appliance	Install	Status
cooper313	combo	8.5.5	8.5.5 Release-combo (on appliance)	<input type="checkbox"/>	<input type="checkbox"/>	

Please select options

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There are three ways to download and install software Updates:

- Download ([Updating an Appliance that has Internet Access](#))
- URL ([Updating from a Custom URL](#) on page 50)
- Upload ([Updating from a Local Host](#) on page 50)

Updating an Appliance that has Internet Access

This procedure describes how to Update an appliance that has internet access. If your appliance is on an isolated network, follow the directions in [Updating from a Local Host](#) on page 50.

To Update an appliance from a Director or support.riverbed.com, do the following:

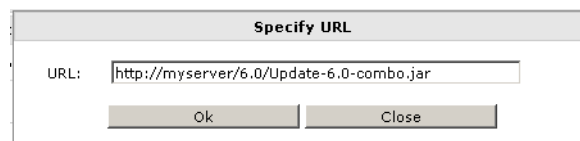
- 1) Log in to the web UI and navigate to the System > Update page.
If the appliance connects to the internet through a proxy server, you can use the “options” link (right of page) to specify a proxy URL.
- 2) In the New Version pull-down menu, select the Update you want.
- 3) Select the Copy and Install checkboxes.
- 4) Click Install.

Updating from a Custom URL

You can Update an appliance from a custom URL—either from a local URL to which you have downloaded and copied the software, or from a URL given to you by OPNET support.

- 1) If you are copying the file from a local URL, download the file and copy it to the local web server
- 2) Select Specify URL in the New Version pull-down menu, enter the URL, and click OK.
- 3) Check the Copy and Install check boxes and click Install.

Figure C-2 System Tab—URL Dialog



Note—You can copy the Update to a desktop or notebook computer and follow the directions shown in [Updating from a Local Host](#) on page 50.

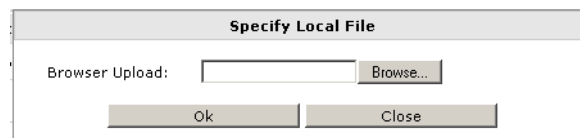
Updating from a Local Host

Because of security concerns, some network configurations won't allow a direct download to the appliance. This method can be used to download the software Update to the appliance from another location (such as your desktop computer).

The following steps describe this workflow:

- 1) From the Riverbed support site, using a valid support account, download the software to your desktop computer.
- 2) In the New Version pull-down menu, select Specify Local File.
- 3) Browse for the Update file that you downloaded to your desktop computer and then click OK.
- 4) Check the Copy and Install check boxes and then click Update.

Figure C-3 System Tab - Specify Local File Dialog



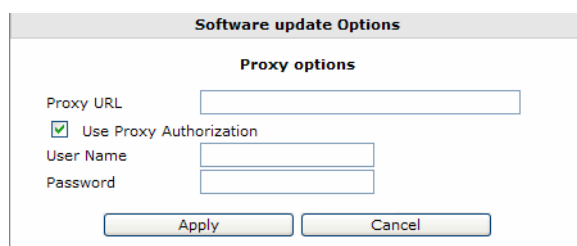
Once the operation begins, you can use the Status box to see the status. During the download and verify stages, you may stop the process by clicking the Stop icon. However, if you do this, you lose what you have already downloaded/verified and must start at the beginning.

WARNING—You must not stop the process during the *staging* and *installing* stages.

Software Update Options

In some cases, the AppResponse Xpert Appliance may have access to the Internet via a proxy. Click Options to specify the proxy URL, and any user credentials, if needed. Proxy settings apply to downloads only. If you upload an Update, your browser must be able to make a direct connection with the appliance.

Figure C-4 System tab - Software Update Options Dialog

The image shows a dialog box titled "Software update Options". Inside the dialog, there is a section titled "Proxy options". Under this section, there are four fields: "Proxy URL" with a text input box, "Use Proxy Authorization" with a checked checkbox, "User Name" with a text input box, and "Password" with a text input box. At the bottom of the dialog, there are two buttons: "Apply" and "Cancel".

Updating Software on a Director

See App A [Updating the Director and Connected Appliances from the Web UI](#) on page 37 of Director *User Guide*.

Deleting Old Releases

Since a domain can include appliances running versions of the AppResponse Xpert Operating System older than the Director, it is customary for Directors to maintain a set of Upgrades that allow any members of the domain to Upgrade to the same release as the Director. Bear in mind that intermediate releases may be needed to Upgrade to the current release on the Director.

When you install a new release, the old release stays on the system but is not installed. Once the you have verified that the new release is running smoothly, select the delete release link to remove the old release.

Figure C-5 System Tab - Update - Delete

[logout](#)

[System](#)
[Diagnostic](#)
[Backup](#)
[Action](#)
[Reports](#)
[Launch](#)
[Help](#)

[setup](#)
[snmp](#)
[radius](#)
[traceroute](#)
[mail](#)
[ports](#)
[update](#)
[history](#)
[advanced](#)

List of Downloaded Updates

At this page you can manage downloaded updates.

List of Downloaded Updates

	Version	File	Size
✗	7.0	Update-7.0-combo.jar	85 MB
	7.0.1	Update-7.0.1-combo.jar	92 MB
✗	6.1.2	Unpacked release: rel6.1.2	233 MB
✗	7.0	Unpacked release: rel7.0	241 MB
	7.0.1	Unpacked release: rel7.0.1	82 MB

App D Contact Riverbed Support

Procedure D-1 To contact Riverbed Support:

- 1 Log in to the Support Site at https://login.riverbed.com/login_support.htm.
- 2 Click on the Submit a Case button
- 3 Fill in the following fields:

Subject	Failure seen in the System Upgrade Precheck Insight
Case Type	Problem
Priority	P3 unless the appliance is down and then P1 or P2.
Products	AppResponse Xpert Appliance
Product Identifier	Serial Number of your appliance (e.g. ARX5000-12345)
Description	Paste the output of any error message you received.

- 4 Click Submit Request.
- 5 Go to the ARX appliance web interface -> "Diagnostic" tab -> "bundle"
- 6 Verify the "logs" radio button is selected, no cores.
- 7 Select the date range covering the last three days.
- 8 Click "Create Bundle"
- 9 After 5-10 minutes, click "Refresh"
- 10 Once the file is created, right-click on it, and save to your desktop.
- 11 Go to <https://enterprise1.opnet.com/support/arx/bundle/upload/> and specify the bundle and case number.

Someone from Riverbed Support will contact you with next steps for addressing this alert.

End of Procedure D-1

E Supported JAR Files by Hardware Model

The following tables list the JAR files that can and cannot be installed on each hardware model.

There are three JAR file classes:

- combo - Created for 32-bit legacy models. Also appears as "s100" in the user interface.
- s200 - Created for 64-bit models; *some* processes run in 64-bit mode.
- s210 - Created for 64-bit models; *all* processes run in 64-bit mode.

The SysUpgrade-8.6.x-s200 ("System-Level Upgrade" or "System Upgrade") JAR converts an appliance from s200 to s210.

To determine the JAR class installed on your appliance, check the Java Console > View > Appliance Info > JAR Class field.

AL Legacy Appliances									
ARX Software Versions	8.5.5 combo	8.5.5 s210	8.6.2 combo	8.6.2 s210	System-Level Upgrade	8.6.6 s210	8.6.8 combo	8.6.8 s210	Comment
AL-2100	YES	NO	YES	NO	NO	n/a	YES	NO	8.6.8 is the last supported release for 2100 appliances
AL-3100	YES	NO	YES	NO	NO	n/a	YES	NO	8.6.8 is the last supported release for 3100 appliances
AL-3150	YES	NO	YES	NO	NO	n/a	YES	NO	8.6.8 is the last supported release for 3150 appliances
AL-3170	YES	NO	YES	YES	YES	n/a	YES	YES	Can install the System-Level Upgrade (SysUpgrade-8.6.2-s200.jar)
AL-4100	YES	NO	YES	YES	YES	n/a	YES	YES	Can install the System-Level Upgrade (SysUpgrade-8.6.2-s200.jar)

ARX Appliances									
ARX Software Versions	8.5.5 combo	8.5.5 s210	8.6.2 combo	8.6.2 s210	System-Level Upgrade	8.6.6 s210	8.6.8 combo	8.6.8 s210	Comment
ARX-1200/2200	n/a	YES	n/a	YES	n/a	n/a	n/a	YES	Shipped with 8.5.5 (pre-2013) and 8.6.2 (Q1 2013) s210 natively
ARX-3200	YES	n/a	YES	YES	YES	n/a	YES	YES	Can install the System-Level Upgrade (SysUpgrade-8.6.2-s200.jar)
ARX-3300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	YES	Shipped with 8.6.8 s210 (Q3 2013)
ARX-3700	YES	n/a	n/a	YES	YES	n/a	YES	YES	Can install the System-Level Upgrade (SysUpgrade-8.6.2-s200.jar)
ARX-3800	n/a	n/a	n/a	n/a	n/a	n/a	n/a	YES	Shipped with 8.6.8 s210 (Q3 2013)
ARX-4200	YES	n/a	YES	YES	YES	n/a	YES	YES	Can install the System-Level Upgrade (SysUpgrade-8.6.2-s200.jar)
ARX-4300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	YES	Shipped with 8.6.8 s210 (Q3 2013)
ARX-5000	YES	n/a	YES	YES	YES	n/a	YES	YES	Later batch of 5000 shipped with s210 natively
ARX-5100	n/a	n/a	n/a	n/a	n/a	n/a	n/a	YES	Shipped with 8.6.8 s210 (Q3 2013)
ARX-6000	n/a	n/a	n/a	n/a	n/a	YES	n/a	YES	Shipped with 8.6.6 s210 (Q2 2013)

[illegible]