



Aurora Mirrored System Manager

SYSTEM MANAGEMENT TOOL

Installation and Configuration Guide



SOFTWARE VERSION 3.2.7

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Preface

This user manual describes the Aurora Mirrored System Manager and provides instructions for installing, operating, and servicing the product in a variety of applications.

About this manual

This manual is organized around the tasks required to install, configure, and operate the Aurora Mirrored System Manager. The following describes the chapters included in this manual:

[Chapter 1, *Introduction*](#) — Provides an introduction to the Aurora Mirrored System Manager product.

[Chapter 2, *Installing the Aurora Mirrored System Manager*](#) — Provides procedures for installing the Aurora Mirrored System Manager.

[Chapter 3, *User Interface Overview*](#) — Provides an explanation of the user interface structure and its components.

[Chapter 4, *Switch Workflow*](#) — Describes the steps needed to switch the workflow from main to backup on X storage system to Y storage system or from Y to X.

[Chapter 5, *Split and Switch Workflow*](#) — Describes the steps needed to split the workflow between X storage system and Y storage system and then switch workflow from main to backup on X storage system to Y storage system in stages.

[Chapter 6, *Split Workflow*](#) — Describes the steps needed to split the workflow between X storage system and Y storage system.

[Chapter 7, *Restore Workflow*](#) — Describes the steps needed to restore the workflow to replication mode X storage system as main and Y storage system as backup.

[Chapter 8, *Folder Structure*](#) — Describes the folder structure used to allow the Aurora Mirrored System Manager and supporting applications to control the replication of data between two K2 Storage Systems.

[Appendix A, *K2 InSync*](#) — Provides information for setting up K2 InSync to support Aurora Mirrored System Manager.

[Appendix B, *AllSync*](#) — Provides information for setting up AllSync to support Aurora Mirrored System Manager.

Getting more information

In addition to this manual, information is available in the following locations.

Release Notes

The Aurora Mirrored System Manager Release Notes contain the latest information, including software upgrade instructions, software specifications and requirements, feature changes from the previous releases, and any known problems.

Referenced Documents

The following documents contain information referenced in this document:

- Aurora manuals — Each of the Aurora products has its own documentation set.

Refer to product manuals as follows:

- Aurora Edit
- Aurora Browse
- Aurora Ingest
- Aurora Playout
- K2 InSync User Guide
- K2 Media Client User Manual
- K2 Media Client System Guide
- Other Documents:
 - AllSync Documentation

NetCentral documentation

The NetCentral product has its own documentation set, described as follows:

- **NetCentral User Guide** — This is a printed manual. It provides instructions for installing, using, and administering the NetCentral monitoring system.
- **NetCentral Help** — From the NetCentral interface access on-line help as follows:
 - For general help with NetCentral manager, select **Help | NetCentral Help Topics**. This content is identical to that in the NetCentral User Guide.
 - For help specific to monitoring Aurora Mirrored System Manager devices, select **Help | Device Providers** and then select the monitored device.

Thomson Grass Valley Web Site

This public Web site contains all the latest manuals and documentation, and additional support information. Use the following URL.

<http://www.thomsongrassvalley.com>.

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World Wide Web: <http://www.thomsongrassvalley.com/support/>

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Hong Kong, Taiwan, Korea, Macau	+852 2531 3058	Indian Subcontinent	+91 11 515 282 502 +91 11 515 282 504
Australia, New Zealand	+61 1300 721 495	Germany, Austria, Eastern Europe	+49 6150 104 444
Central, South America	+55 11 5509 3440	Near East, Africa	+33 1 48 25 20 20
China	+861 066 0159 450	Netherlands	+31 (0) 35 62 38 421
Belgium	+32 (0) 2 334 90 30	Northern Europe	+45 45 96 88 70
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Introduction

The Aurora Mirrored System Manager is used to control the replication of data between two K2 Storage Systems. It also provides the ability to manage the workflow of reconfiguring devices to access storage and software resources from either X or Y K2 storage system.

NOTE: *Throughout this manual the two K2 Storage Systems are referred to as X and Y K2 Storage Systems.*

The Aurora Mirrored System Manager is designed to provide a checklist that prompts the K2 Storage System administrator with the steps needed to:

- Switch the configuration of the X K2 Storage System as main to Y, leaving X as backup or, alternately, switch Y from main and back to X.
- Split X and Y with both X and Y acting as main.
- Restore X as main or Y as main
- Split and switch to Y or X

Synchronization is one-way only. The operator of the Aurora Mirrored System Manager must be aware of system/media status and must direct the synchronization to take place in the proper direction.

Aurora Mirrored System Manager Features

The following features are provided by the Aurora Mirrored System Manager user interface:

- At installation, sets up a pair of separate K2 Systems that have been created by the K2 System Configuration application. This pair encompasses all the devices that can be switched between two storage systems or access services from one or the other storage system.
- Specifies the DSMs and Aurora Browse devices that host the browse server MDIs
- Is the control and monitoring point for DSM database replication.
- Provides a console window that displays the current status of various components plus:
 - Displays which K2 Storage System is in primary or backup mode
 - Allows modifying the state of software components running on the device
 - Provides a list of common workflows to guide the administrator through a sequence of steps to accomplish a workflow.

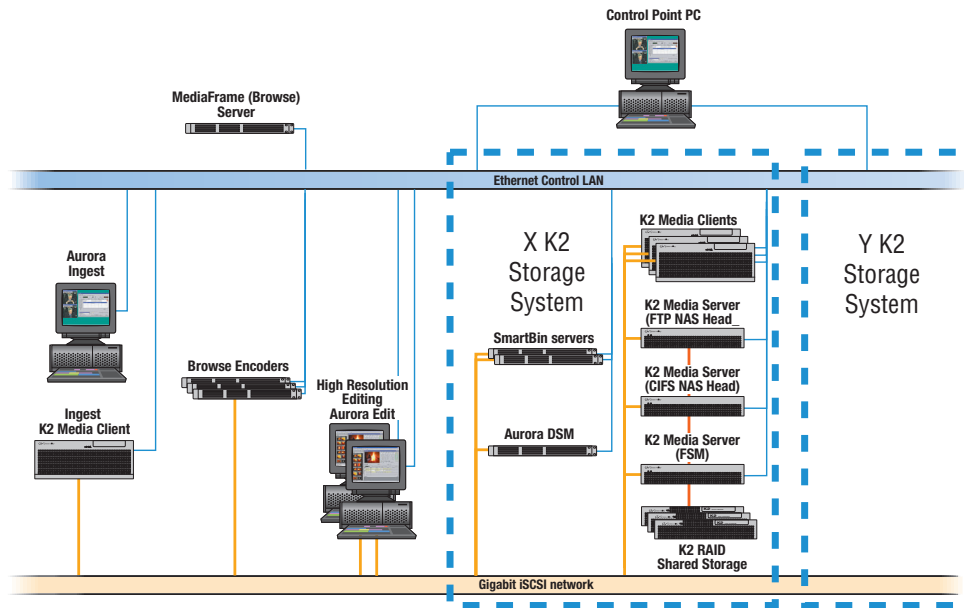
NOTE: Workflows are common tasks or scenarios, such as, “switch from X to Y” or “split X and Y”.

NOTE: This does not work like a wizard but provides prompts to ensure the administrator completes the entire process.

Introducing the Aurora Mirrored System Manager

This section provides an overview of a typical Aurora Mirrored System Manager X and Y storage system.

The Aurora Mirrored System Manager has one Control Point PC connected and controlling two K2 storage systems. The illustration below shows the details of the X K2 storage system and the Y K2 storage system and associated devices. Both K2 storage systems should be identical.



Synchronization is one-way only. The operator of the Aurora Mirrored System Manager must be aware of system/media status and must direct the synchronization to take place in the proper direction.

Devices and components are as follows:

Dedicated devices — A dedicated device is only on X or only on Y. An X dedicated device is exclusively a part of X. A Y dedicated device is exclusively a part of Y. Dedicated devices do not switch between X and Y. For each X dedicated device, there is an identical Y dedicated device, and vice versa. Dedicated devices include:

- Aurora DSM
- SmartBin Servers
- K2 Media Clients
- K2 Media Servers
- K2 RAID Storage

Switchable devices — These are devices that can access either X or Y. Aurora Mirrored System Manager controls this access and does the necessary operations to make the switch. Switchable devices include:

- Aurora Edit clients
- Aurora Ingest clients
- MediaFrame (Browse) Server
- Aurora Browse Encoders
- Machines that support MediaFrame MDI software components, such as News MDI, K2 MDI, and FTP MDI.

Associated devices — These devices are not part of the K2 Storage System but are connected and use or control the system. Associated devices include:

- Control Point PC
- Aurora Browse Clients

Software components — The following software components provide functionality that supports the X/Y workflow.

- AllSync—Third-party software that keeps the Work In Progress (WIP) Backup files synchronized with WIP Main files. All files and directories on the Main system must be configured on the Backup system. AllSync is installed on the two K2 Media Servers that act as CIFS mount NAS heads, one for the X system and one for the Y system. These servers provide access between X and Y. AllSync runs on the server that is the current main (active) server.
- K2 InSync — Software running on the Control Point PC. It provides mirroring to ensure that the X and Y storage pools of K2 media are maintained as a mirrored pair. Access between X and Y for K2 InSync is provided by K2 Media Servers that act as FTP NAS heads.
- SmartBins—Software that maps folders from a bin in the Aurora Edit tree view to a bin in the K2 Storage System view. In a shared-mode (winking) system, this automatic synchronization never moves actual media files—the bin structure represents two different views into the shared media file system.

Features

The Aurora Mirrored System Manager features allow:

- System will survive component failures
- System can be upgraded without significant downtime
- Duplicate Sequences and Compositions
 - The Database records that describe the movies created via the Aurora Editors.
- This allows the following:
 - Recovery method
 - Failure analysis
 - Failure repair.

Synchronization is one-way only. The operator of the Aurora Mirrored System Manager must be aware of system/media status and must direct the synchronization to take place in the proper direction.

Each K2 Storage System is connected to the Ethernet Control LAN and to a separate Gigabit iSCSI network. Each of these connections has the following components connected:

- Aurora Ingest Workstations
- Ingest media Clients
- Aurora DSM
- Aurora Editor Hi Resolution editors
- K2 Media Storage Servers with K2 RAID Storage
- Advanced Encoders

Outside the individual K2 Storage Systems and connected to the Ethernet LAN include the following:

- Control Point PC
- Aurora Browse Server connecting numerous Aurora Browse User PCs
- Aurora Browse NAS

Media on the Mirrored K2 Storage System

The K2 Storage Systems store the media used to create the final production video material. To ensure these valuable assets are not lost due to human error or equipment failure, they are constantly being backed up and stored in multiple locations. This section includes:

- [“Media Workflow”](#)
- [“Media Structure and Views”](#)

Media Workflow

This section describes the flow of media through one side (either X or Y) of the mirrored K2 Storage System. This includes an overview of the steps from the original ingest of the media into the K2 Storage System, through the various editing processes, until finally published.

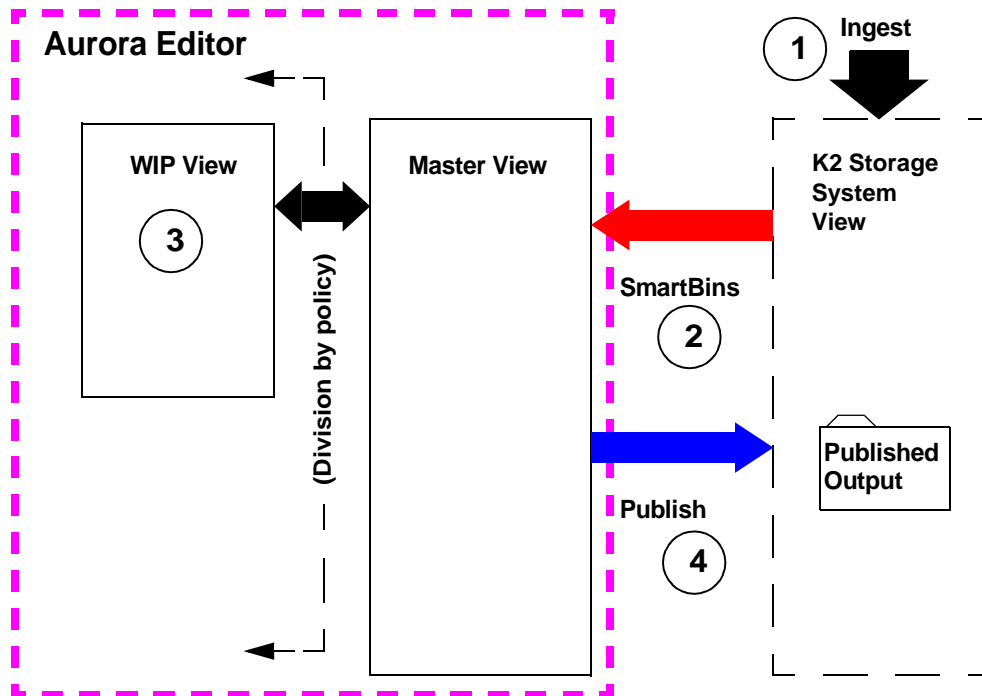
The following illustration shows a single K2 Storage System and the following processes:

NOTE: An mirrored X and Y storage system would have two identical versions of this K2 Storage system.

1. Media data is ingested directly into the K2 Storage System as K2 clips. Each clip is a collection of high-resolution media files associated by the K2 media database and represented in the K2 AppCenter application as a single clip. These clips are considered Masters.
2. The K2 clips are made available to the Aurora Editor by SmartBins. The SmartBins create a representation of a K2 clip that is meaningful to the Aurora database on the DSM. This allows Aurora Edit to see the media in its Master View.
3. Work In Progress (WIP) folders are created to allow the Editors to create decision

lists linked to original K2 assets and combine other media assets. WIP media must be kept separate from Masters. This is enforced by policy only and is required to support Aurora Mirrored System Manager.

4. When all the final program edits are completed the asset is published back to the K2 Storage system as a completely new edited Master. The new output is rendered into a published folder. The published folder can be made visible to the K2 view, transferred to other systems, or it can be mirrored to the other (X/Y) side.



In the Aurora view, the files for a single media asset can include the following separate files:

- Video file
- Numerous audio files
- Animations
- Graphics
- And more...

To hide the complexity of all these files, in the Aurora bin view each movie file is displayed as a single master clip. At the file system level, the common files for a single master clip are collected within a VMF folder bearing the master clip's name. The Aurora Editors combine and manage these files within a project until that project is finally completed and ready for publishing and playout.

The Media Manager must understand the various views of these files and how they appear on the K2 Storage System to be able to manipulate them. The following sections show how a single media asset appears to each of the various components and users.

The following sections describe the components shown in the previous illustration.

Ingest Media

The Aurora Ingest system supports the mirrored K2 Storage System and the Aurora Mirrored System Manager. You can configure your system to record clips into two (X/Y) K2 Storage Systems in parallel.

SmartBins

On a K2 Storage system, SmartBins map folders from a bin in the Aurora Edit tree view to a bin in the K2 Storage System view. This automatic synchronization never moves actual media files—the bin structure represents two different views into the shared media file system.

When you first create a bin in Aurora Edit, you can map that bin to a K2 Storage System bin; after a Aurora Edit bin is created, it cannot be mapped. Once an association is created, the Aurora Edit and K2 Storage System bins are kept synchronized.

Master View

The Aurora Hi Res master view provides the following:

- Virtual VMF file folder storage
- Aurora ingest scheduled records
- Published rendered edits to Aurora output

WIP View

The work in progress (WIP) view provides storage for the following:

- Aurora Editor sessions using:
 - VMF file folder resident
 - DSM Sequences + Compositions resident
- Media assets that “churn”
- Media assets that can be shared by other editors
- Projects not considered finished and not a master
- Some local tape ingest from an Aurora Editor

Editing Using Aurora Edit

The division of media between Master view and WIP view is a policy choice which you must follow in order to support the Aurora Mirrored System Manager. Applications and supporting systems expect media to be organized in this way. Failure to follow this policy causes system errors and can lead to loss of data.

The essential difference between the Master View and WIP View is in which devices may write to each view. Media written by K2 will appear in the Master View through the agency of SmartBins. Aurora Edit must not write directly (by, say, recording from a local tape) into the Master View bins. Media written by Aurora Edit must go into the WIP View.

Edit using the Aurora Editor in a working folder within the WIP view. In this way, the Aurora Editor automatically references ingested media within the Master View and creates its working assets within the WIP View. When an edited piece is completed, it is normally published back to the K2 Storage System.

When the K2 Storage Systems are operating in mirrored mode the Aurora Editors only mount one K2 Storage System at a time.

When the Aurora Mirrored System Manager is used to implement a forced switch between main and backup K2 Storage Systems the Aurora Editors are reconfigured to:

- Use backup iSCSI path
- Mount backup K2 Storage System
- Point to backup DSM
- Rebooted

NOTE: *The Aurora Mirrored System Manager causes no changes to Aurora application function.*

Publishing and Projects

Once the projects are complete they are sent to become movies in the published output folder on the K2 Storage System.

Media Structure and Views

The following sections list the various views of the K2 Storage System media as it appears to the various users and their control mechanisms.

AppCenter View

To view clips in the AppCenter you must configure a bin as your view and then select the clip from the bin.

Windows Explorer View

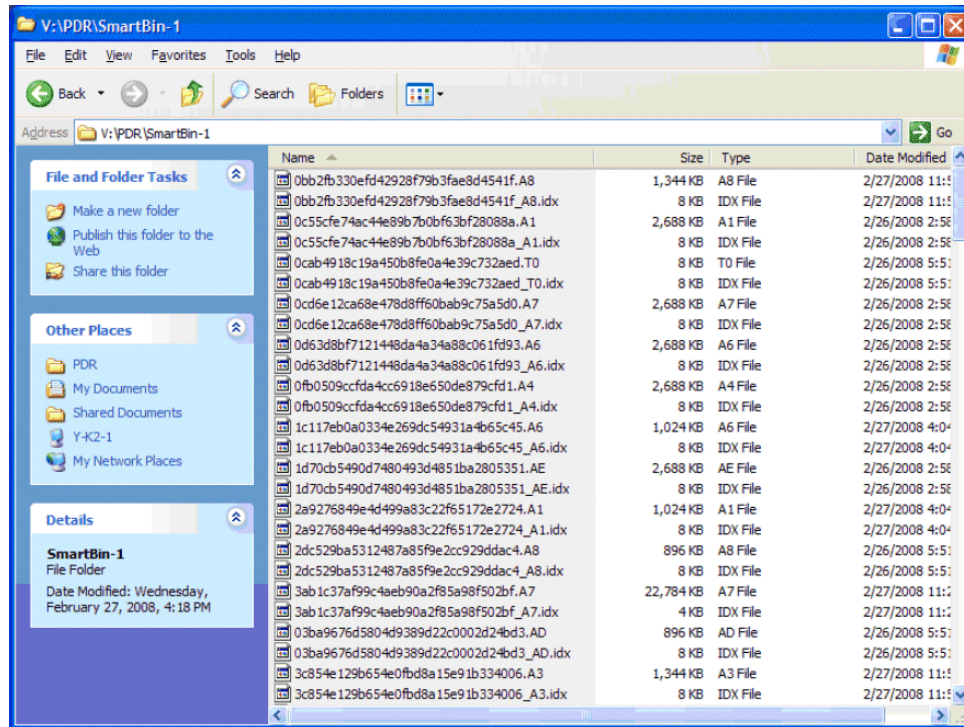


CAUTION: *The Windows Explorer View is discussed here only to provide technical background for expert users. In general operation, you must not attempt to use Windows Explorer to manage media on the K2 Storage System. Doing so will cause the K2 and Aurora systems to lose track of movies and master clips, possibly resulting in the loss of raw and edited material.*

Using Windows Explorer the Media Manager can view the essence files that make up the media displayed in the Aurora Browse View and AppCenter view.

To view the actual files as they appear in the K2 Storage System view using Explorer, enter the path V:\PDR\ followed by the name of the folder as in the following example:

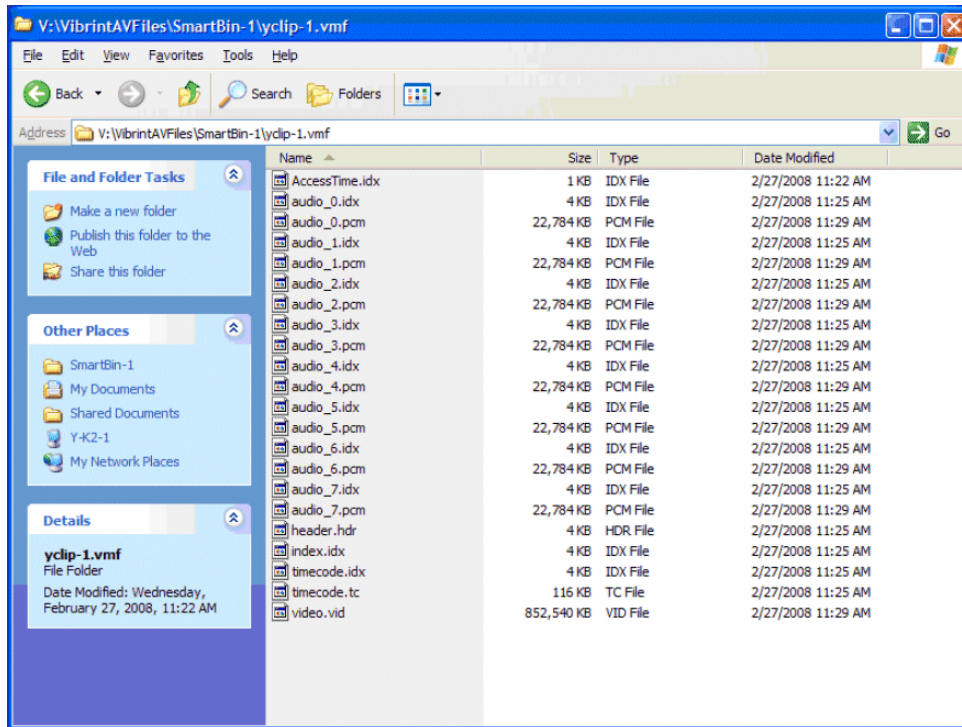
V:\PDR\SmartBin-1



Notice that the files have long file names that are not intended to be human-readable. These file names are read by the K2 media database. The database associates a collection of video, audio, timecode, and other file types that make up a single clip. The database provides the record of the files that make up a clip to AppCenter and then AppCenter displays the clip as a single entity.

To view files as they appear in the Aurora view enter the following:

V:\VibrantAVFiles\SmartBin-1\yclip-1.vmf



Notice that the file **yclip-1.vmf** is actually a long list of files that include the following examples:

- Video file—shown with .vid extension
- Timecode file—shown with .tc extension
- Numerous Audio files—shown with .pcm and .idx extensions

When a SmartBin propagates a K2 clip to the Aurora view, it makes files that are meaningful to the Aurora database on the DSM. However, the files are actually pointers that reference the original K2 media essence files. The pointer files are not the actual media files themselves.

Aurora Browse View

From Aurora Browse you can view, browse, and search media assets in both the K2 view (K2 MDI) and the Aurora (News MDI) view. You can transfer assets between devices.

Aurora Browse creates a low-resolution proxy version of high-resolution media. You can play the proxy versions from a common PC desktop without the bandwidth and special hardware required to play high-resolution media.

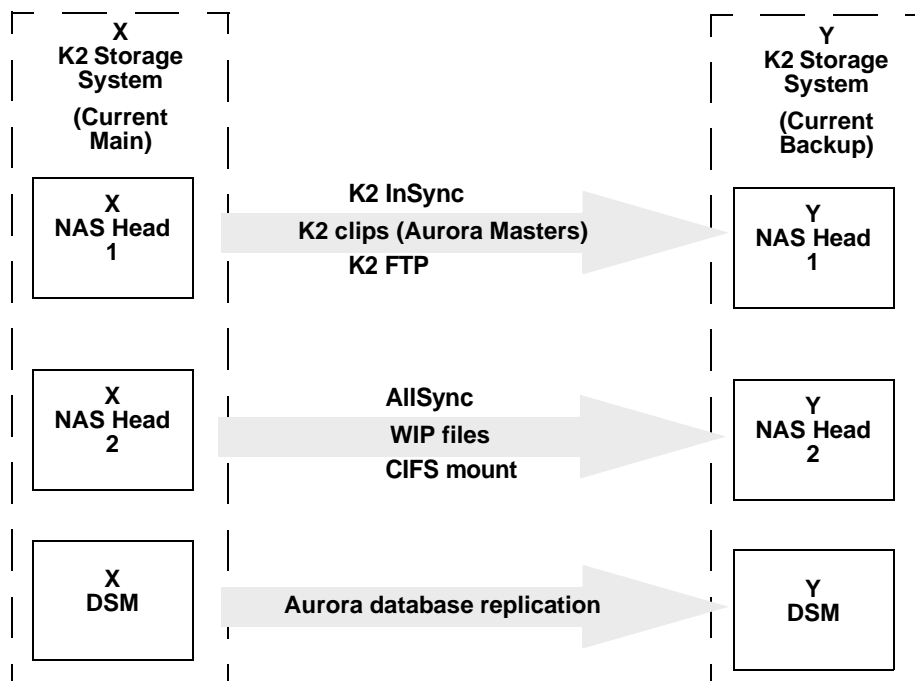
X/Y synchronization mechanisms

The following mechanisms are used to keep the X system and the Y system synchronized. Synchronization is one-way only. The operator of the Aurora Mirrored System Manager must be aware of system/media status and must direct the synchronization to take place in the proper direction.

- Dual-ingest to K2 storage via Aurora Ingest
- K2 InSync synchronizes K2 clips and Aurora masters via K2 FTP.
- AllSync synchronizes Work In Progress (WIP) folders via CIFS mount.
- Database replication synchronizes the Aurora database.

These mechanisms can be used in different combinations, as in the following examples.

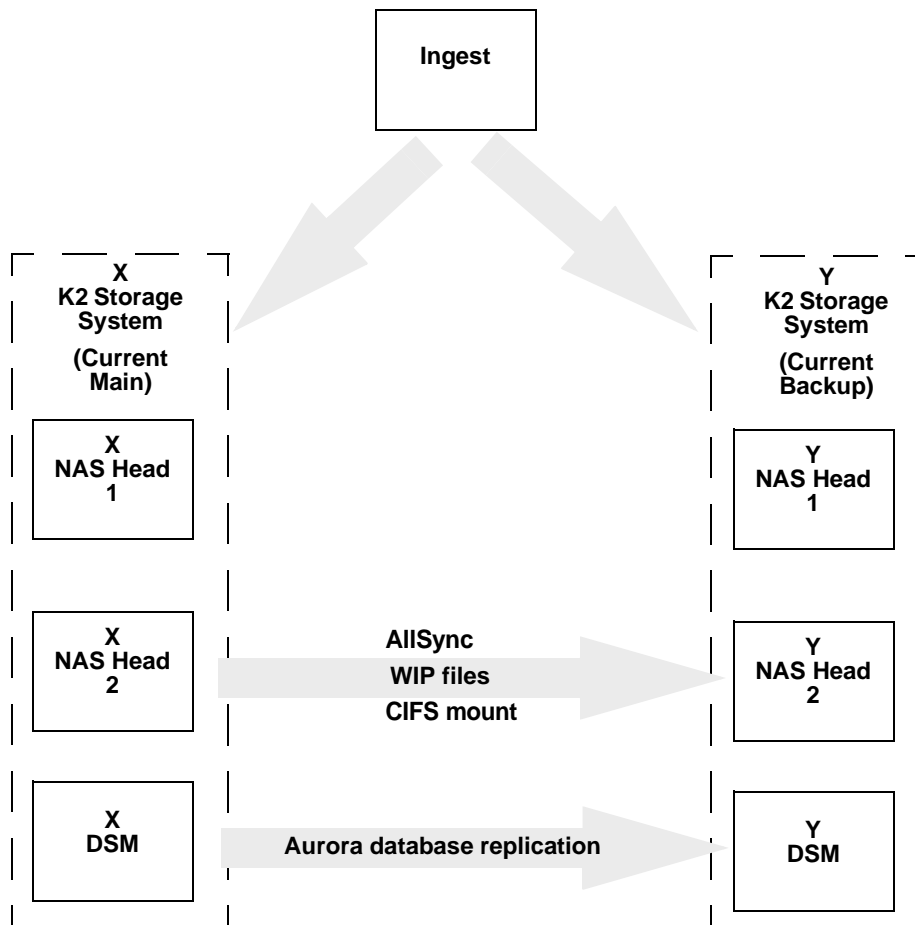
Synchronization without dual ingest



When X is the main active storage pool and Y is the backup, the following occurs:

- K2 InSync copies changes to K2 clips on the X system over to the Y system. PseudoSmartBins on the Y system keep Aurora Masters synchronized.
- AllSync copies WIP files changed on the X system over to the Y system.
- DSM database replication copies WIP changes on the X system over to the Y system. These changes reference the WIP files that are copied over by AllSync.

Synchronization with dual ingest



When X is the main active storage pool and Y is the backup, the following occurs:

- Aurora Ingest in dual ingest mode places K2 clips on both X and Y systems. SmartBins on X and PsuedoSmartBin on Y create Aurora Masters.
- AllSync copies WIP files changed on the X system over to the Y system.
- DSM database replication copies WIP changes on the X system over to the Y system. These changes reference the WIP files that are copied over by AllSync.

PseudoSmartBins

PseudoSmartBins (PSB) is the term used to describe a standard Aurora SmartBins (SB) server operating in a special pseudo mode to support the Aurora Mirrored System Manager. SmartBins, when running in this pseudo mode with a main News database and a backup K2 server (running as the target for K2 InSync), mirrors to the backup K2 Storage System any winking and deleting that is done on the main K2 Storage System.

In a mirrored K2 Storage System, whether each SmartBins server works in normal or pseudo mode is controlled by the Aurora Mirrored System Manager. Static control decisions (regarding machines and roles) are made when you configure the Aurora Mirrored System Manager as described later in this chapter.

On the main K2 Storage System in mirrored mode, no SmartBins service is in pseudo mode. On the backup K2 Storage System in mirrored mode, only one SmartBins service is in pseudo mode; other SmartBins services on the backup K2 Storage System are stopped.

There is no special set-up required of SmartBins to use the pseudo feature. On the main and the backup SmartBins servers, install and configure each SmartBins service normally for its respective K2 Storage System. The configuration settings that determine whether a SmartBins service is running in normal or pseudo mode are completely controlled by Aurora Mirrored System Manager.

Installing the Aurora Mirrored System Manager

This chapter describes how to install, link, and prepare the devices and config files used by Aurora Mirrored System Manager to control the various devices in the two K2 Storage Systems referred to as X and Y K2 Storage Systems.

This procedure involves:

- “Onsite planning”
- “Aurora Browse System Validation”
- “Browse Server MDI Pre-Configuration”
- “DSM Configuration to Use Aurora Mirrored System Manager”
- “PseudoSmartBins Cleanup Before Using Aurora Mirrored System Manager”
- “Aurora Mirrored System Manager Software Configuration”

Onsite planning

The Aurora Mirrored System Manager application must be installed on a Control Point PC. The installation package is called the “Aurora Mirrored System Install”.

Licensing

You must obtain a license from Grass Valley for the Aurora Mirrored System Manager application before installation. Refer to release notes for licensing procedures.

Pre-Configuration

If performing an initial software installation perform the steps described in the following sections:

- “Setup NAS mounts”
- “Confirm the Existing System Configuration”

If this is not an initial configuration you can just launch the Aurora Mirrored System Manager to view/change the status.

Setup NAS mounts

You must create NAS mounts to the file systems of the two K2 Storage Systems to allow the Aurora Mirrored System Manager to access InSync configuration files and configure InSync.

See the InSync setup instructions document, *K2 InSync User Guide*, and [Appendix A, K2 InSync](#).

On the K2 Media Server NAS head that provides K2 FTP access for InSync, port 10000 is used for the K2 FTP. Port 20 is used for News FTP.

To save time and insure the Aurora Mirrored System Manager is configured correctly, run through the following checklist to confirm all of the devices and application controlled by Aurora Mirrored System Manager are functioning.

Confirm the Existing System Configuration

This section describes the minimum system configuration your K2 Storage Systems must meet to be able to use the Aurora Mirrored System Manager application. This section is divided into stages of steps you should take before you install the application.

Stage One

Before you install the Aurora Mirrored System Manager application executable file, you must confirm the K2 Storage System have normally configured and working installations of the following:

- ☐ FSMs, K2 Servers, and K2 Clients
- ☐ Aurora Edit NewsShare system, comprised of DSMs, Aurora Edit workstations and SmartBins servers.

- ☐ The Aurora Browse system, comprised of MediaFrame servers, MDIs, encoders, and Aurora Browse workstations.

Stage Two

Confirm the following Control Point PC is configured and functioning correctly with the following:

- ☐ Control Point PC software. See the Release note for required version number.
- ☐ There should be only one Control Point PC used to modify both X and Y K2 Storage Systems.

NOTE: *The single Control Point PC is where you install the Aurora Mirrored System Manager application.*

Stage Three

Before you install the Aurora Mirrored System Manager application executable file, the Aurora Browse Switcher Application software must be installed on managed devices. When you install this *setup.exe* file, *ConfigService.dll* is installed on the managed device. It is this dll that communicates with the Aurora Mirrored System Manager application on the Control Point PC to execute operations (stop, start, switch X/Y) on the managed devices. This software must be installed on the following devices:

- ☐ K2 MDI host.
- ☐ MediaFrame Server.
- ☐ News MDI host.
- ☐ Generic FTP MDI Host1.
- ☐ Generic FTP MDI Host2.

NOTE: *These devices are controlled using the Aurora Mirrored System Manager. Later in this section you need to manually modify the MDI config files used to switch the device connections between the X and Y K2 Storage Systems.*

Stage Four

Before you install the Aurora Mirrored System Manager application executable file, you must confirm the following software is installed and functioning properly:

- ☐ K2 Insync—See [Appendix A](#), *K2 InSync*.
- ☐ AllSync—See [Appendix B](#), *AllSync*.

Stage Five

Before you install the Aurora Mirrored System Manager application executable file, you must perform the steps described in the following sections:

- ☐ [“Aurora Browse System Validation”](#)

- ☐ “Browse Server MDI Pre-Configuration”
- ☐ “DSM Configuration to Use Aurora Mirrored System Manager”

Stage Six

Install the Aurora Mirrored System Manager application executable file, using the steps described in the following sections:

- ☐ Locate the Aurora Mirrored System Manager **Setup.exe** file.
- ☐ Double-click the **Setup.exe** file and accept the default installation location.

Aurora Browse System Validation

Before you start the installation and configuration of the Aurora Mirrored System Manager, confirm the Aurora Browse System is configured and working correctly. To confirm the proper operation of the entire K2 Storage System perform the following steps:

1. Start Aurora Browse as a user.
2. Click the **Explore** tab and expand the physical assets located on MDI devices.
3. Expand the **K2MDI** folders list.
4. Find a physical asset that you can follow through the entire K2 system.
5. Confirm the file exists in the Asset List on the K2 storage system.
6. Collapse the **K2MDI** folder and open the **NewsMDI** folder and confirm the same file is available on the NewsMDI device.
7. In the Asset Navigator, click the **Search** tab and the Word or Phrase search window appears.
8. In the Word or Phrase field, enter the name of the asset to search for.
9. Confirm the file was found and appears in the Asset List display.
10. To confirm the file is valid and can be viewed, double-click the file name and it should appear in the Asset Details view display.

This process confirmed the K2 Storage System is configured and working correctly. If any part of the system did not function correctly, fix the problem before continuing with the Aurora Mirrored System Manager installation.

Aurora Mirrored System Manager Software Installation

You must obtain a license from Grass Valley for the Aurora Mirrored System Manager application before installation. Refer to release notes for licensing procedures.

This section describes installing the Aurora Mirrored System Manager software.

Start the Setup

Perform the following steps to install the Aurora Mirrored System Manager software:

1. Insert the K2 System Software CD-ROM and the setup splash screen appears.
2. Select the Aurora Mirrored System Manager **Setup.exe** file to start the installation process.
3. Double-click the **Setup.exe** file and accept the default installation location.

Confirm the Installation

Find the Aurora Mirrored System Manager icon that should appear on the Control Point PC desk top or at **Start | All Programs | Grass Valley**.



CAUTION: Do not start Aurora Mirrored System Manager yet. You must perform the steps in the following sections before you can successfully start and configure the application.

Perform the steps in the following sections before you start and configure the Aurora Mirrored System Manager:

- [“Browse Server MDI Pre-Configuration”](#)
- [“DSM Configuration to Use Aurora Mirrored System Manager”](#)

After you perform these configurations you can continue to the [“Aurora Mirrored System Manager Software Configuration”](#) section.

Browse Server MDI Pre-Configuration

This section describes duplication and modification of the MDI config files managed by Aurora Mirrored System Manager. The MDI config files on both X and Y managed devices must be modified before you use the Aurora Mirrored System Manager.

NOTE: the following process assumes the Main K2 Storage System is functioning correctly and you have performed the [“Aurora Browse System Validation”](#) steps.

You will use the MediaFrame Configuration tool to duplicate and modify the MDI config files for the following devices:

- MediaFrame (Browse) Server
- K2 MDI host
- News MDI host
- Generic FTP MDI Host1
- Generic FTP MDI Host2

Each of these devices has a configuration file that must be modified during the installation process. Each of these processes is very similar but, the following process describes each one individually.

Using MediaFrame Configuration Software

As part of the Aurora Mirrored System Manager installation you must manually copy and duplicate MDI config files. You do this using the MediaFrame configuration tool. If the appropriate Browse system component is installed on the managed device, the required MediaFrame configuration software is present.

Modify the MDI config Files

This section describes the Managed Device Interface (MDI) config files that are managed by Aurora Mirrored System Manager to remotely switch between the X and Y K2 Storage Systems. A config file stores settings that tell a MDI software component where and how to connect to other devices. Some of these other devices are specific to X or Y, therefore the config file needs special treatment as part of the Aurora Mirrored System Manager installation process.

The default names of the MDI config files are as follows:

- `K2_MDI_Service.exe.config`—for the MediaFrame (Browse) Server
- `News_MDI_Service.exe.config`— for the News MDI host
- `FTP_MDI.exe.config`—Generic FTP MDI Host1 and Host2

Since these are mirrored systems each of these devices must have a configuration file with information for the devices on the X K2 Storage Systems and a configuration file with information for the devices on the Y K2 Storage Systems. This requires a copy of each file; one for the default configuration, and a backup file for the other configuration. For the purposes of the following procedures, the current, default configuration is the Y side, so the procedures start with the configuration file that contains information pointing to the Y side.

For each MDI, a four-step process is required to create the backup config file, while retaining the default config file, as follows:

1. Copy the default config file (that contains information pointing to the Y K2 Storage System) and add *main* to the filename of the copy. For example, copy `K2_MDI_Service.exe.config` and then rename the copy `K2_MDI_Service.main.exe.config`.
2. Reconfigure the default config file so that it contains information to point to the other (X) K2 Storage System. For example, configure `K2_MDI_Service.exe.config`.
3. Rename the default config file to backup. For example, rename `K2_MDI_Service.exe.config` to `K2_MDI_Service.backup.exe.config`.
4. Rename the file saved as main back to the default name. For example, rename `K2_MDI_Service.main.exe.config` to `K2_MDI_Service.exe.config`.

The processes used for each K2, News, and FTP MDI are similar, but each is described in detail in the following sections.

K2 MDI and News MDI Backup Config File Creation

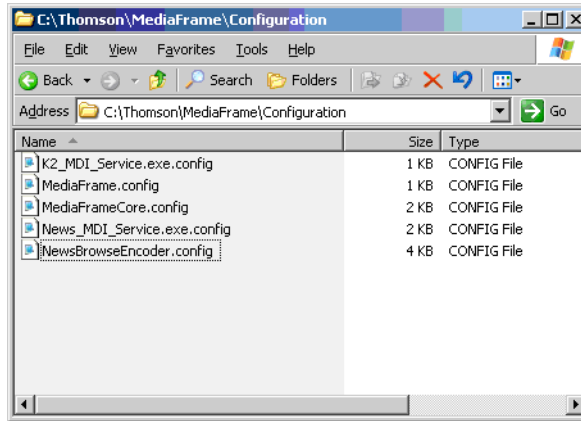
Perform the following steps to create backup files for the K2 MDI and News MDI:

1. Open an Explorer window at the following path to display the existing

configuration file:

C:\Thomson\MediaFrame\Configuration

The following Explorer window is displayed.



Notice the following default files appear in the Explorer window:

- K2_MDI_Service.exe.config
- News_MDI_Service.exe.config

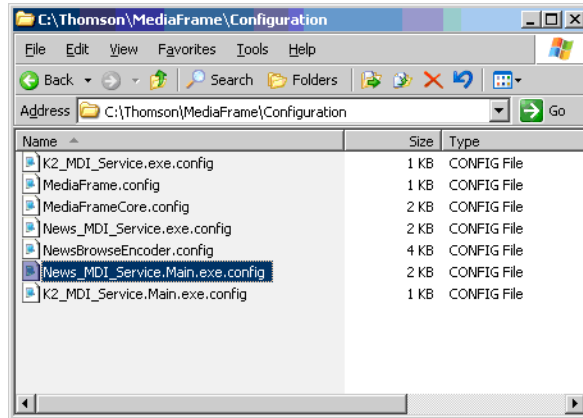
2. Select the file **K2_MDI_Service.exe.config** and use Ctl-C, and Ctl-V to copy the file into the same folder.
3. Rename the copy file, **Copy of K2_MDI_Service.exe.config** to **K2_MDI_Service.main.exe.config**

This creates a temporary copy of the K2 MDI configuration file.

Continue with this procedure to create a temporary copy of the News MDI configuration file.

4. While in the same **C:\Thomson\MediaFrame\Configuration** Explorer screen, select the file, **News_MDI_Service.exe.config** and use Ctl-C, and Ctl-V to copy the file into the same folder.
5. Rename the copy file, **Copy of News_MDI_Service.exe.config** to **News_MDI_Service.main.exe.config**.

This creates a temporary copy of the News MDI configuration file.



Now you should have the following files:

- **K2_MDI_Service.exe.config**
- **K2_MDI_Service.main.exe.config**
- **News_MDI_Service.exe.config**
- **News_MDI_Service.main.exe.config**

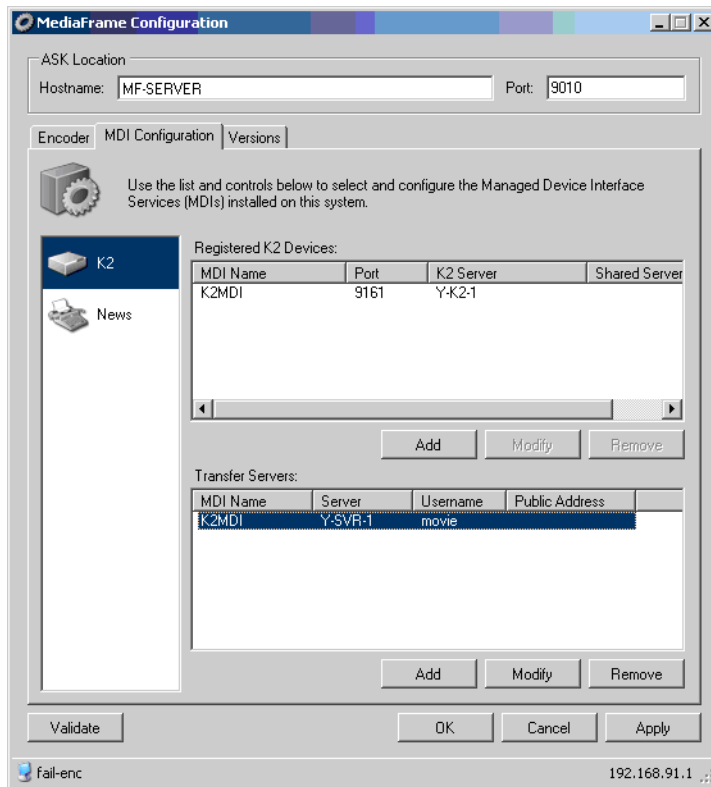
These files include the original files and temporary copies of the original files with *main* added to the filename.

The following steps modify the default K2 MDI and News MDI configuration files that currently contain configuration information for the “Y” K2 Storage System. After modification, these configuration files will contain configuration information for the “X” K2 Storage System.

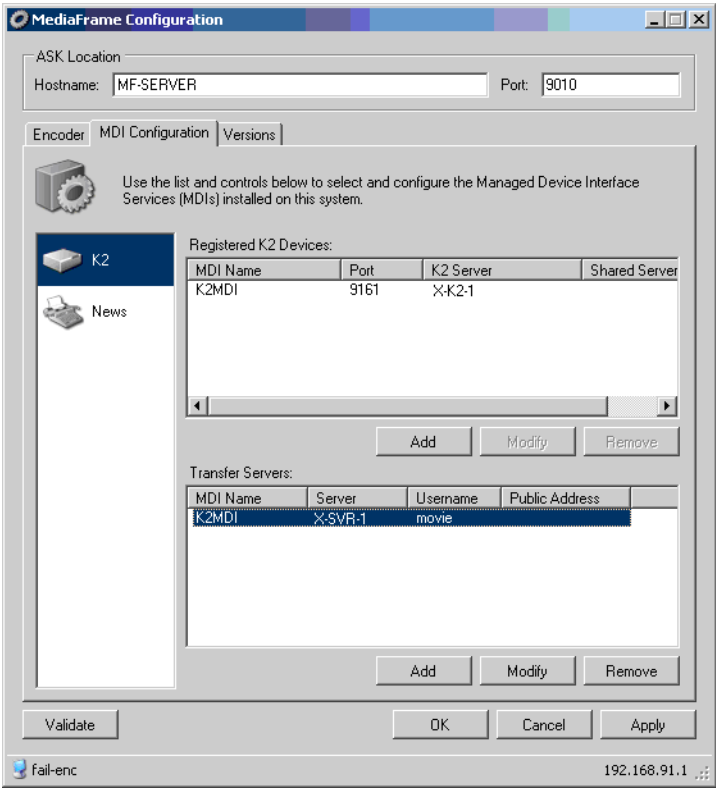
1. Start MediaFrame Configuration using the following path:

*C:\Program Files\Grass
Valley\MediaFrameConfig\MediaFrameConfig\MediaFrameConfig.exe*

The following dialog appears.

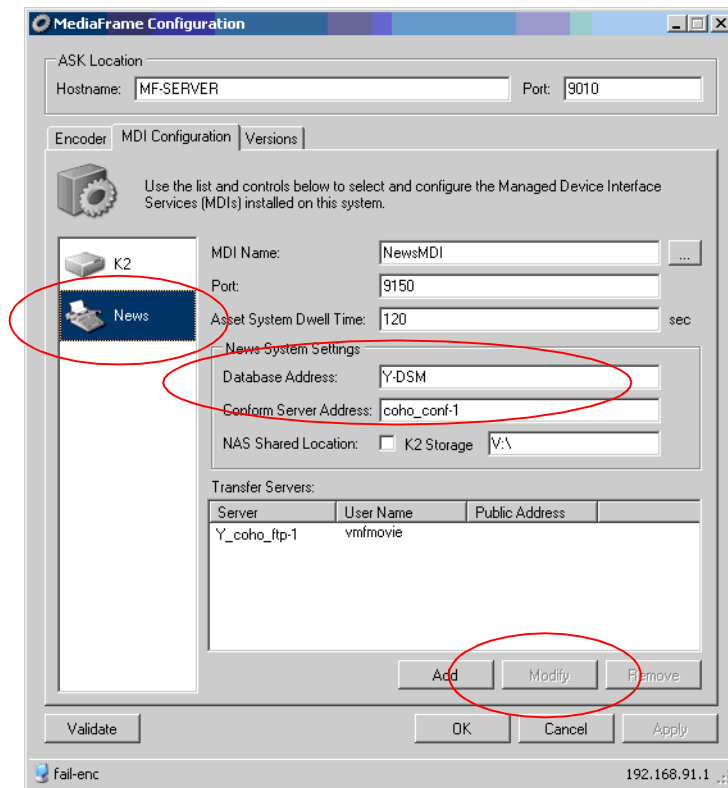


2. Click the **MDI Configuration** tab.
3. If not already selected, click **K2** in the left-hand pane.
4. In the **Registered K2 Devices** list, select the row that points the MDI to the Y K2 Server (in this example, Y-K2-1), and then click **Remove**.
5. Under the **Registered K2 Devices** list, click **Add** and configure as follows:
 - Configure the same MDI name for the K2 MDI.
 - Configure the X K2 Server. In this example, that is X-K2-1.
6. From the Transfer Servers list select MDI Name **K2DMI** and then click **Remove**.
7. Click **Add** and configure as follows:
 - Configure the same MDI name for the K2 MDI.
 - Configure the X Transfer Server. In this example, that is X-SVR-1.

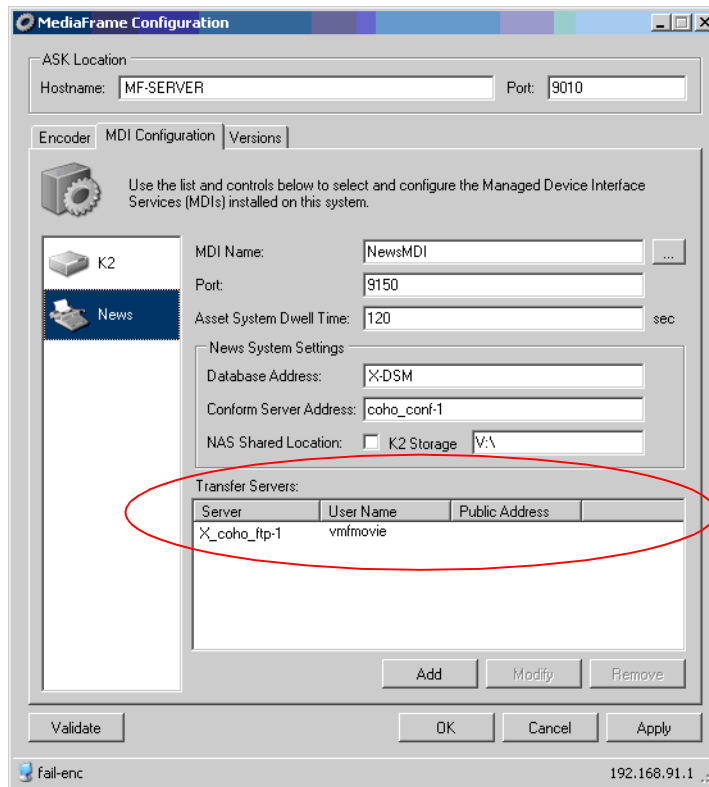


Notice that the displayed names for the K2 Server and the Transfer Server now point to X K2 Storage System devices.

Perform the following steps to modify the News MDI config file.



1. Click **News** in the left-hand pane.
2. In the group News Systems Setting and the Database Address field, modify the address to point to the DSM on the X K2 Storage System.
3. From the Transfer Servers list, select the Y FTP Transfer Server and click **Remove**.
4. Click **Add** and configure as follows:
 - In the Transfer Server Name field enter the name of the X News transfer server.
 - Add the Administrator username, password, and Public address, if needed.



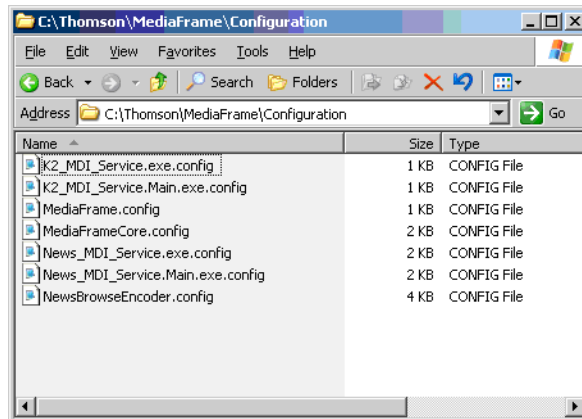
Notice that the displayed name for the Transfer Server now points to the X K2 Storage System device.

Perform the following steps to rename and create the final files.

1. Open an Explorer window at the following path to display the existing configuration file:

C:\Thomson\MediaFrame\Configuration

The following Explorer window is displayed.



Now you should have the following files:

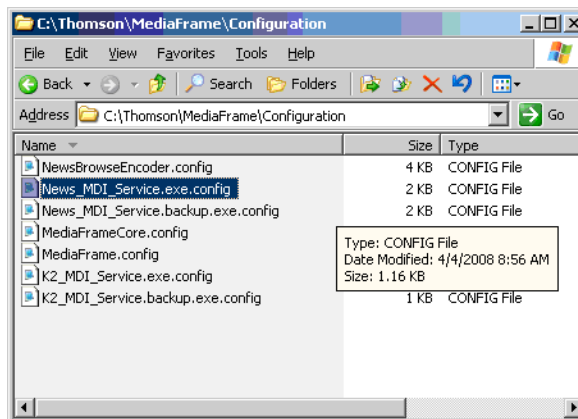
- **K2_MDI_Service.exe.config**—currently contains “X” K2 configuration information. This is the file that you modified with the preceding procedure.
- **K2_MDI_Service.main.exe.config**—temporary file with *main* added that still contains the original “Y” K2 configuration information.
- **News_MDI_Service.exe.config**—currently contains “X” News server configuration information. This is the file that you modified with the preceding procedure.
- **News_MDI_Service.main.exe.config**—temporary file with *main* added that still contains the original “Y” News server configuration information

These files need to be reworked again to create the final config files using the following steps:

2. Rename the file, **K2_MDI_Service.exe.config** to **K2_MDI_Service.backup.exe.config**
3. Rename the file, **K2_MDI_Service.main.exe.config** to **K2_MDI_Service.exe.config**
4. Rename the file, **News_MDI_Service.exe.config** to **News_MDI_Service.backup.exe.config**
5. Rename the file, **News_MDI_Service.main.exe.config** to **News_MDI_Service.exe.config**

Now you should have the following final files shown in the following illustration:

- **K2_MDI_Service.exe.config**—contains “Y” K2 MDI configuration information
- **K2_MDI_Service.backup.exe.config**—contains “X” K2 MDI configuration information
- **News_MDI_Service.exe.config**—contains “Y” News MDI configuration information
- **News_MDI_Service.backup.exe.config**—contains “X” News MDI configuration information



That completes the process needed to create the backup config files for both the K2 MDI and News MDI. Continue with the following process to create the backup files for both of the Generic FTP MDIs.

Modify the Generic FTP MDI config files

Use the following process to duplicate and modify the Generic FTP MDI config files for Generic FTP Host1 and Generic FTP Host2:

1. Log into the device running the Generic FTP application as Administrator.
2. Open an Explorer window at the following path to display the existing configuration file:

C:\Thomson\MediaFrame\Configuration

Notice the following default file appears in the Explorer window:

- FTP_MDI_Service.exe.config

3. Select the file **FTP_MDI_Service.exe.config** and use Ctl-C, and Ctl-V to copy the file into the same folder.
4. Rename the copy file, **Copy of FTP_MDI_Service.exe.config** to **FTP_MDI_Service.main.exe.config**

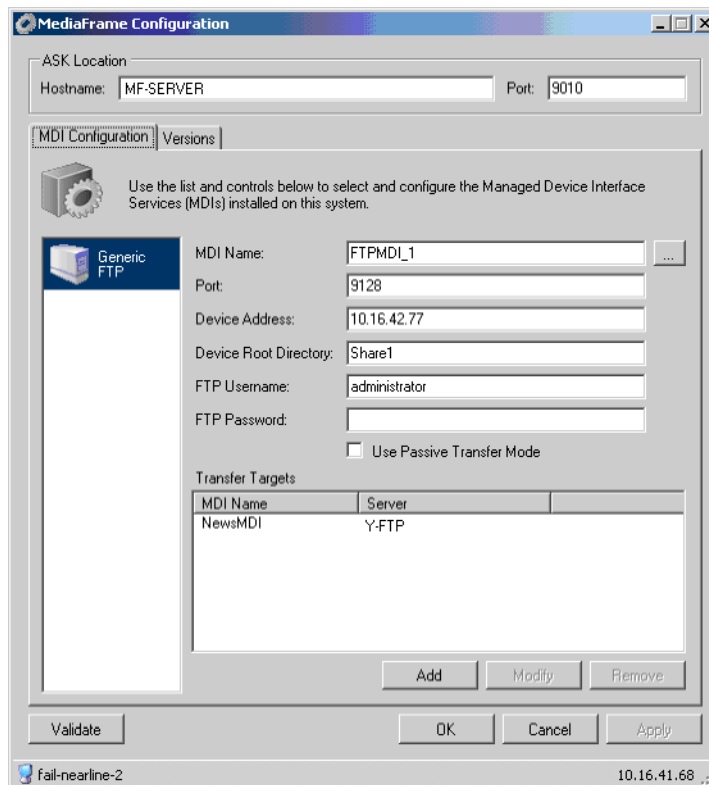
This process creates a temporary copy of the FTP MDI configuration file.

5. Start MediaFrame Configuration using the following path:

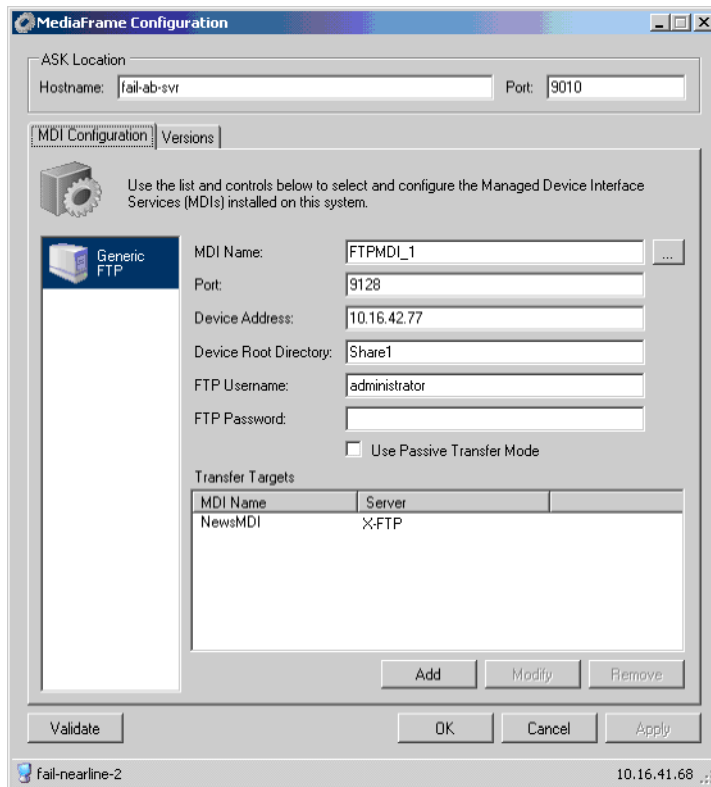
C:\Program Files\Grass

Valley\MediaFrameConfig\MediaFrameConfig\MediaFrameConfig.exe

The following dialog appears.



6. From the Transfer Targets list, select **NewsMDI**.
7. Click **Remove**.
8. Click **Add** and configure as follows:
 - Configure the same MDI name for the News MDI.
 - Configure the X FTP Server. In this example, that is X-FTP.
9. Return to the MediaFrame Configuration dialog.

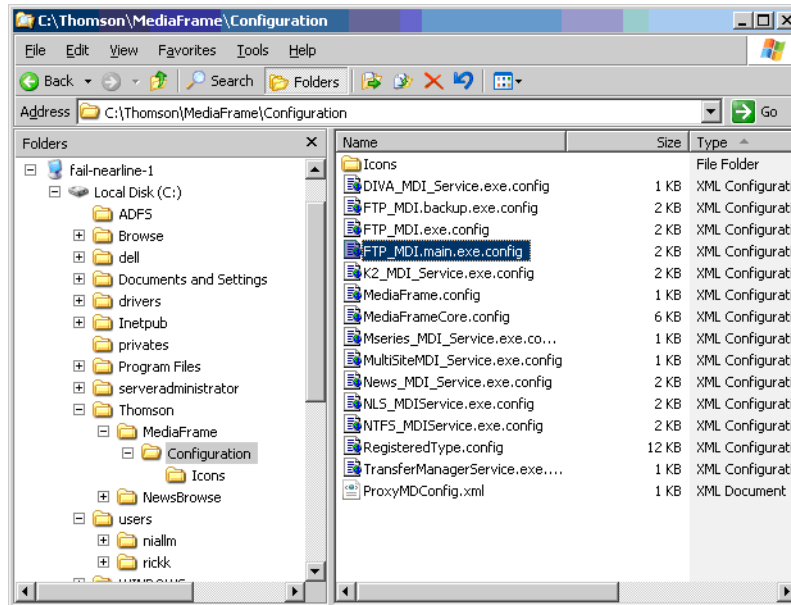


The configuration file now links the FTP MDI to the X transfer server.
 Perform the following steps to copy and rename the FTP MDI configuration file.

1. Reopen the Explorer window to the following path to display the existing configuration file:

C:\Thomson\MediaFrame\Configuration

The following Explorer window is displayed.



2. Rename the file, **FTP_MDI.exe.config** to **FTP_MDI.backup.exe.config**.
 3. Select the temporary file you created earlier in the procedure, **FTP_MDI.main.exe.config**, and rename it to **FTP_MDI.exe.config**.
- Now you should have the following final files:
- **FTP_MDI.exe.config**—contains “Y” Generic FTP Host1 configuration information
 - **FTP_MDI.backup.exe.config**—contains “X” Generic FTP Host1 configuration information
4. Return to the beginning of “[Modify the Generic FTP MDI config files](#)” and repeat the same process for the default and backup FTP MDI configuration files for host 2.

DSM Configuration to Use Aurora Mirrored System Manager

This section describes two special configuration procedures for the Aurora DSMs that are required to support the database replication component of the Aurora Mirrored System Manager. This process must be performed on the Aurora DSM for each of the X and Y K2 Storage Systems.

The following steps assume both X and Y K2 Storage System Aurora DSMs are functioning normally

NOTE: These process are specific to the Aurora Mirrored System Manager installation and must be performed before you initially start the application.

NOTE: Aurora Mirrored System Manager requires DSMs with SQL Server 2005 or higher, not 2000.

Configure Microsoft SQL Server Auto Login

Perform the following steps to configure SQL Server Login to work with the Aurora Mirrored System Manager:

1. Log in to the DSM as Administrator.
2. Open Microsoft SQL Server Management Studio, using **Start | Programs | Microsoft SQL Server 2005 | SQL Server Management Studio**, and the Connect to Server dialog appears.
3. Select **Windows Authentication to log in**.
4. In the Object Explorer pane right-click **Start** to open the SQL Server Agent.
5. In the start-confirmation box, click **Yes**.
6. Right-click **Properties**.
7. In the dialog, ensure that the following boxes are checked:
 - “Auto restart SQL Server if it stops unexpectedly”
 - “Auto restart SQL Server Agent if it stops unexpectedly”
8. Close the Properties dialog and the SQL Server Management Studio.

Configure SQL Server Agent

Perform the following steps to configure the DSM SQL Server Agent to work with the Aurora Mirrored System Manager:

1. Start the Services Management Console using, **Start | Settings | Control Panel | Administrative Tools | Services**.
2. Scroll to **SQL Server Agent (MSSQLSERVER)**. Double-click on that line to open the agent properties.
3. Click the **General** tab, set the Startup type to **Automatic**, and click **Apply**.
4. Click the Log On tab, and select the **This Account** radio button.
5. Enter the *user-name* and *password* of the Administrator account and click **OK**.
6. On the message box that reads, “The account Administrator has been granted the Log On As A Service right.” click **OK**.
7. On the message box that reads, “The new logon name will not take effect until you stop and restart the service.” click **OK**.
8. Close the Properties dialog.
9. Right-click **Restart** to restart the service.

NOTE: Other user accounts can be used to run the service, but they must be Administrators. If workgroup (non-domain) security is used, the same administrative account and password must be used on both DSMs of the replicating pair.

PseudoSmartBins Cleanup Before Using Aurora Mirrored System Manager

Refer to “[PseudoSmartBins](#)” on page 23 for overview information.

Before reestablishing mirrored operation, so called orphan files must be purged from the target K2 Storage System.

That means, if the target has been running in split mode, its file system may have accumulated .vmf files (Aurora master clips) that do not exist on the source K2 Storage System. These files must be deleted on the backup volume, but only on the backup volume. **It is very important that you not delete these orphan files from the main volume.** For example, during split operation on the target, a Clip_1 movie and corresponding Clip_1 master clip are created in a SmartBin. This Clip_1 has no relationship to assets on the source K2 Storage System. This file must be deleted from the target so that it does not interfere with replication. Assets that remain synchronized from the previous instance of mirroring do not need to be purged.

When mirroring has been established, verify that the service is working by confirming the creation of media files on the backup K2 Storage System that correspond to the media files in the SmartBins of the main K2 Storage System.

Limitations

PseudoSmartBins automatically mirrors SmartBins configuration changes (such as creating or disabling) to the backup K2 Storage System. However, because of AllSync’s action within the work-in-progress (WIP) bins, it is an error to create a SmartBin in the WIP subtree. This causes mirroring collisions between AllSync and PseudoSmartBins.



CAUTION: *You can cause collisions if you move clips into or out of a SmartBins from Aurora Edit.*

The teaming feature of SmartBins allows multiple SmartBins servers to operate on the same SAN and automatically share the job load amongst themselves. While SmartBins servers can team when running in normal mode, they *cannot* team in pseudo mode. Only one SmartBins server on the backup K2 Storage System can be running and it must be in pseudo mode. This is automatically managed by Mirrored System Manager.

Aurora Mirrored System Manager Software Configuration

This section describes configuring and linking the Aurora Mirrored System Manager software to the various devices it controls.

Retrieve K2 System Configuration Application config files



CAUTION: *The Aurora Mirrored System Manager only supports configuration from one Control Point PC. Separate Control Point PC should not be configured on both X and Y Storage Systems to run the Aurora Mirrored System Manager.*

You must configure the K2 Storage Systems from a Control Point PC using the K2 System Configuration application for the Aurora Mirrored System Manager to function properly.

NOTE: *If both K2 Storage Systems were setup from this Control Point PC, skip this step.*

If one or both of the K2 Storage Systems were NOT setup from this PC perform the following steps:

1. Log into the Control Point PC with Administrator privileges.
2. Launch the K2 System Configuration application.
3. From the tool bar, click the option **Retrieve Configuration**.
4. In the dialog, enter the name of the K2 Server that is the designated main FSM for the K2 System and click “Retrieve”.

The user interface of the K2 System Configuration application should update to show a tree view of the K2 Storage System.

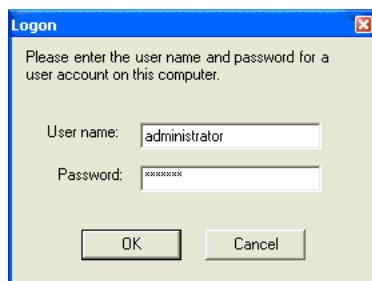
5. Repeat steps 1 through 3 to retrieve the configuration from the K2 FSM Server for your mirror K2 System.
6. Click **Exit** to close the K2 System Configuration application.

Prepare the Aurora Mirrored System Manager Configuration

Perform the following steps before you start the Aurora Mirrored System Manager configuration:

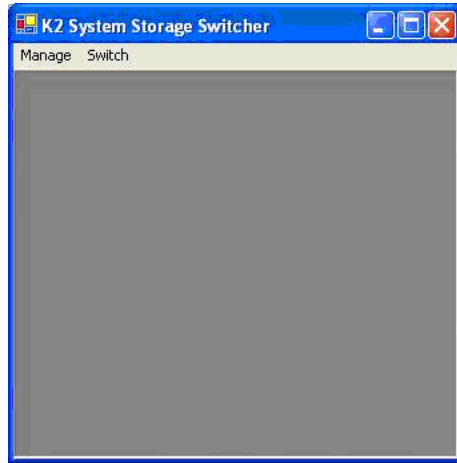
1. Launch the Aurora Mirrored System Manager application from the **Start | Programs | Grass Valley** menu.

The following logon screen appears:

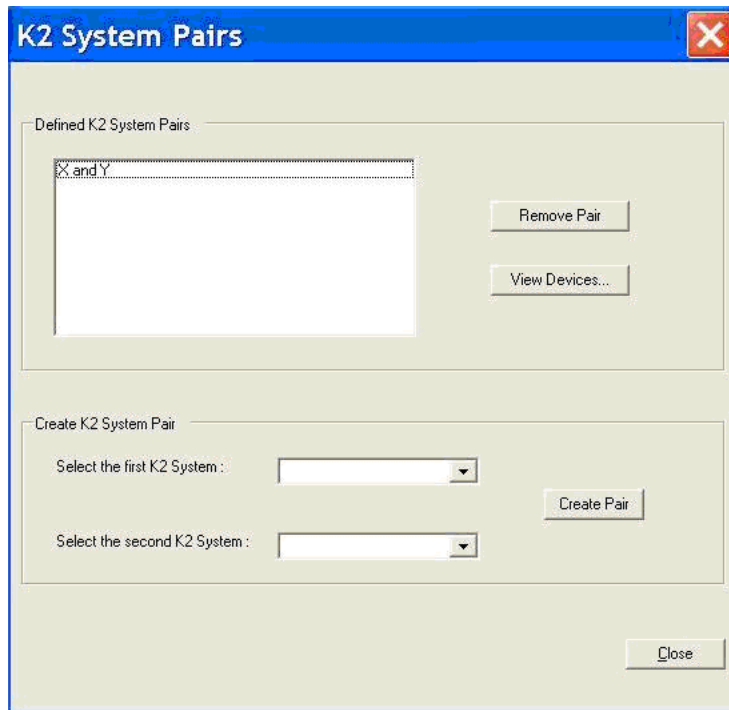


2. Logon using an administrator account on the Control Point PC and click **OK**.

The following initial Aurora Mirrored System Manager screen appears:



3. From the main toolbar, click on the **Manage | K2 System Pairs** menu and the following dialog screen appears:



From the K2 System Pairs dialog create a K2 System Pair using the following steps:

NOTE: If you have performed this process before the pair appear in the Defined K2 System Pairs list.

4. From the Create K2 System Pair area use the Select the first K2 System drop-down list to select the main K2 system.

5. Select the backup K2 system from the Select the second K2 System drop-down list
6. When both K2 systems are selected click **Create Pair**.
7. The newly created pair appear in the Defined K2 System Pairs list.
8. Select the pair and click **View Devices**.

The following dialog appears:

<pairname>

Configured devices

These are the configured devices in the defined K2 System pair. Type in additional hostnames OR select a device to be reconfigured during a switchover

Hostname : X-SBIN-1

Add ->

<- Remove

Describe software components running on device :

- ☐ Aurora Editor
- ☐ Advanced Encoder
- ☐ Conform Server
- ☒ SmartBin Server
- ☐ News MDI Server
- ☐ DSM
- ☐ Browse Server
- ☐ Archive MDI Host
- ☐ Nearline MDI Host

Pseudo SmartBin host

☒ Make selected SmartBin server the pseudo SmartBin host

Current pseudo SmartBin host X X-SBIN-1

Current pseudo SmartBin host Y Y-SBIN-1

Devices to be reconfigured

These devices have installed software that needs to be stopped/reconfigured/started during switchover

- X-AEDIT-1
- X-SBIN-1
- Y-SBIN-1
- X-DSM
- Y-DSM
- FAIL-ENC
- FAIL-AB-SVR
- FAIL-SGL
- FAIL-NEARLINE-1
- FAIL-NEARLINE-2

Initially, the Hostname drop-down list will display all of the iSCSI clients from both K2 Storage Systems that you have previously configured in the K2 Configuration application. Perform the following steps to configure the clients software components:

NOTE: You must select each client from the list and check the appropriate boxes to describe the software components installed on the device. This configuration allows the Aurora Mirrored System Manager to take appropriate action based on the software installed when you initiate a switch.

1. From the Hostname drop-down list select one of the iSCSI clients.
2. In the area, Describe software components running on device, click all of appropriate checkboxes for the specific device.

3. When completed click **Add ->** and the device name moves to the Devices to be reconfigured list.

If this is an iSCSI client, Aurora Mirrored System Manager verifies that the device can be switched to the other K2 Storage System by verifying that it can access the bridge K2 Server. If that fails, you must correct the iSCSI network connectivity to the peer K2 Storage System and try the installation again.

4. When configuring hosts running SmartBins server, the PseudoSmartBins host area appears at the bottom-left. Click the Make selected SmartBins server the PseudoSmartBins host checkbox.

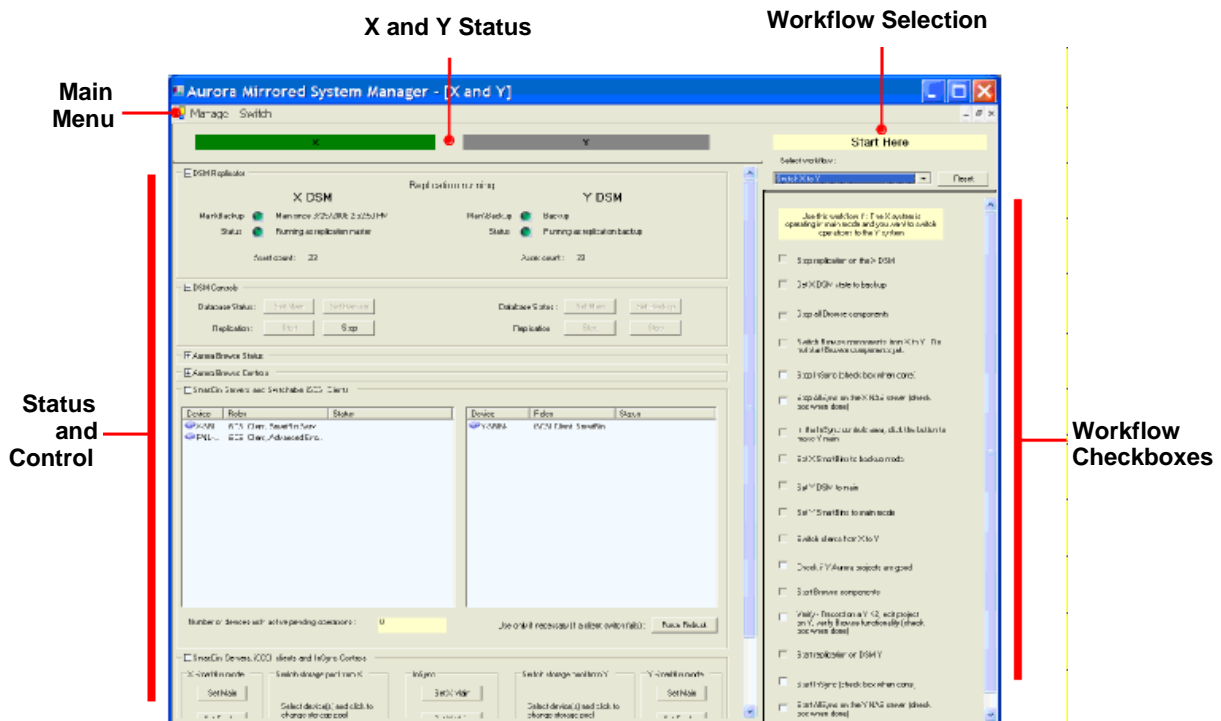
NOTE: *If you have more than one SmartBins server on each K2 storage system, select only one SmartBins server to be the PseudoSmartBins host.*

The following devices do not automatically appear in the to the K2 Configuration application software components list and must be manually added:

- Two DSMs
 - Aurora Browse Server
 - Archive MDI host
 - Nearline MDI hosts
5. For each of these devices, manually add their name in the Hostname data entry space and select their software components from the checkbox list.
 6. When completed click **Add ->** and the device name moves to the Devices to be reconfigured list.
 7. When all of the hosts components in the drop-down list have been configured and the manually added devices configured, close the dialog.

User Interface Overview

This section describes the user interface of the Aurora Mirrored System Manager shown in the following illustration.



The user interface is divided into the five major areas show in the previous illustration and described in the following sections:

Main Menu

The main menu allows you to manage the Aurora Mirrored System Manager and switch between storage pools. The menu items include:

- **Manage | K2 System Pairs**—Used to configure the X and Y storage pools
- **Switch | X and Y**—Used to switch between the X and Y storage pools

X and Y Status

The X and Y status strips, shown in the following illustration, are labeled X and Y and display which K2 Storage System is main (shown as green) or backup (shown as gray) mode based on the DSM mode.

NOTE: When in split mode (both systems being used simultaneously), both strips appear green.



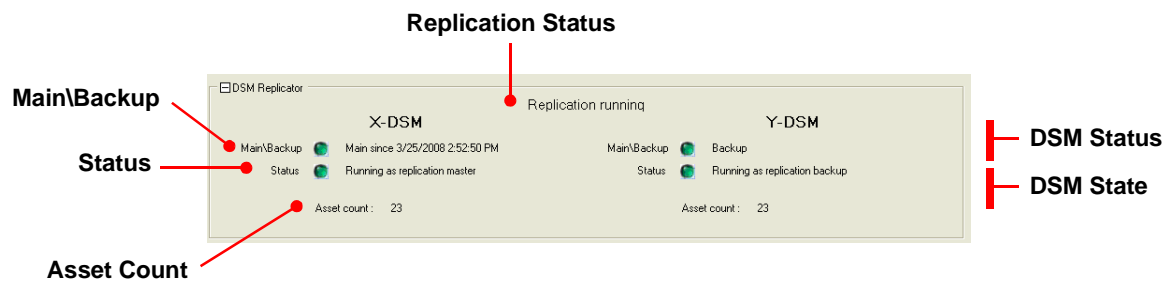
Status and Control

The six groups of the status and control section display DSM, Browse, and iSCSI Clients. Each can be expanded or collapsed (using the plus or minus button). All status indicators are grouped in a box and all buttons that modify state relating to that group are in the group box immediately under it. Status is typically indicated by colored “LEDs”.

You must be logged into the Control Point PC as Administrator before launching the Aurora Mirrored System Manager application. The logon credentials determine the capabilities the application exposes. Non administrator accounts are only able to view the status of various components and can not execute any operations that change the state of the devices. Administrators can view and execute operations.

DSM Replicator

The DSM Replicator group, shown in the following illustration, display the status of the DSMs connected to your storage pools.



The callouts shown in the previous illustration are described in the following:

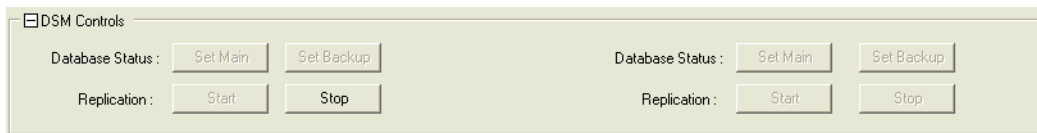
- Overall replication status—Indicates if database replication is keeping both DSM databases in sync. State text can be any of the following -
 - “Replication running”—Replication is active
 - “Replication failed”—Replication failed and the databases are not synchronized
 - “Replication stopped”—Replication was stopped. Can be the case when the systems are running in split mode.
- Main\Backup LEDs—Indicate whether the DSM database is in main or backup mode.
- DSM replication status—Indicates the state of replication on that DSM.
- Asset Count—Indicates the number of assets in the database. When replication is running between two DSMs, the asset counts should update under both DSMs to reflect updates to their respective databases. After replication has been started, initial synchronization can take several minutes. Do not expect the asset count numbers to track during this startup interval.

NOTE: After the several-minute replication startup interval, the asset count values may vary slightly between the main and backup DSMs as current changes in the main database are not instantaneously replicated to the backup. Most importantly, the backup's asset count should closely, though not necessarily identically, track the main's. Replication is suspect if an asset count value for the backup significantly differs from that for the main, or if the value for the backup remains constant independent of changes in the main.

- DSM replication status text—Descriptive text about the state of replication. Can be any of the following:
 - “Replication is running”—Replication processes are active on this DSM
 - “No replication is in progress”—Replication is not active on this DSM
 - “Running as replication master”—Indicates that the database is being replicated FROM this DSM
 - “Running as replication backup”—Indicates that the database is being replicated TO this DSM FROM the main DSM
- DSM state text—Next to the main\backup indicators are text state indicators. The text can be any of the following:
 - “Not Responding”—Aurora Mirrored System Manager cannot communicate with the DSM
 - “Online since mm/dd/yyyy hh:mm”—The DSM has been running in main mode since the date\time indicated
 - “Backup”—The DSM is running in backup mode AND its database is in sync with the main DSM (replication is active)
 - “Standby since mm/dd/yyyy hh:mm”—The DSM is in backup mode and replication is not running between the two DSMs.

DSM Controls

The DSM Controls group, shown in the following illustration, allows you to configure the DSMs connected to your storage pools.



The following sections describe the DSM Control buttons:

DB Status controls—Use **Set Main** and **Set Backup**, located under the DSM status indicators, to control the database mode.

- **Set Main**—This sets the DSM to main mode. The main LED must turn green if successful and red on failure.
- **Set Backup**—This sets this DSM to backup mode. The main\backup indicator LED must turn gray if successful and red on failure and the text label indicates the new

mode.

When the X and Y systems are running in main or backup mode, only one of the DSMs can be set to main mode, the other should be set to backup mode. When X and Y systems are running independently (split), then both DSMs should be set to main mode and database clients on each “side” of the split transact with their corresponding DSM.

Replication controls— Use the **Start** and **Stop** to control replication of the databases on the DSM.

- **Start**—Initiates replication FROM this DSM. The application ensures that replication can only be started FROM the main DSM. This is because database clients only transact with the main DSM. The replication status indicators show if replication was started successfully.



CAUTION: *Replication should not be started when in split mode – both systems operate independently. Replication overwrites all asset data in the backup database.*

When Start is clicked, the database contents from the main DSM overwrite the contents of the database on the backup DSM. It does not merge the contents of the database.

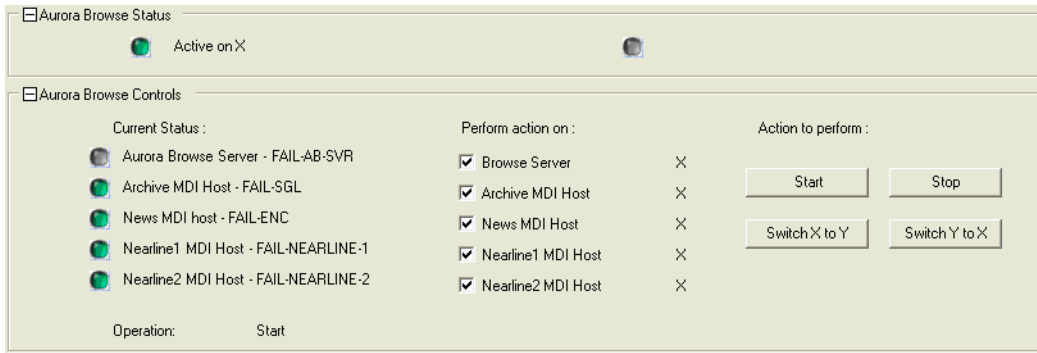
- **Stop**—Stops the replication processes. Used, typically, when you want to operate X and Y systems independently. When replication is running, Stop is enabled only on the main DSM. The replication status indicators show if replication was stopped successfully.

Stopping replication automatically stops any replication processes on the backup DSM. Once stopped, databases are not synchronized until replication is restarted.

Aurora Browse Status and Controls

The Aurora Browse system can only use services and resources from the X system or the Y system. It cannot simultaneously access both X and Y system content. The browse system consists of software components installed across multiple devices and each uses configuration information that refers to resources on one of the X systems or Y systems. These configuration resources include the DSM, transfer targets, and others.

The Aurora Browse Status and Aurora Browse Controls user interface groups appear in the following illustration.



The controls and indicators shown in the previous illustration are described in the following:

Aurora Browse Status

Aurora Browse Status indicators correspond to the X and Y storage systems.

- Green LED followed by “Active on” indicates:
 - Which X or Y system that Browse is currently accessing
 - Various devices hosting browse service components are all running and “pointed” to the X or the Y storage systems
- Gray LED indicates:
 - One or more Browse services hosted on various devices are not running
 - Or, are not using the correct configuration for the system that is currently active

NOTE: You can view the control status indicators in the “Aurora Browse Controls” group box to see which devices might not be running correctly.

Aurora Browse Controls

The controls and indicators are described in the following:

- Current status—Browse services run on multiple hosts – each is displayed here. The LED indicators, next to the device names, display the status of the services running on that device and the following colors indicate:
 - Green—The services are running
 - Yellow—Typically temporary, showing a state of transition is taking place. For example, when a “stop” operation is being performed.
 - Gray—Services are not running
 - Red—Start or stop failed.
- Action to perform—You can “Start”, “Stop”, or “Switch” operations on one or more devices indicated by the check boxes selected next to the device names. For example, to stop the Browse server only, check only the Browse server and click **Stop**.
 - System being accessed - Following each device is an “X” or “Y” indicating the

system being accessed currently by the respective host.

- State change buttons include:
 - Start—Stops services on the devices selected by checkboxes. To switch the entire browse system from one side to another, check all boxes. The LED by the selected devices turns gray if services are stopped successfully or red if an error occurs.
 - Switch X to Y—Switches all devices selected with the check boxes to use their Y configuration.
 - Switch Y to X—Switches all devices selected with the check boxes to use their X configuration.

NOTE: Execute these Switch processes only after executing a stop operation. To switch the entire browse system from one K2 Storage System to another, check all boxes. If the switch is successful, the text label will change to “X” or “Y”. Changes take effect only after clicking **Start**.

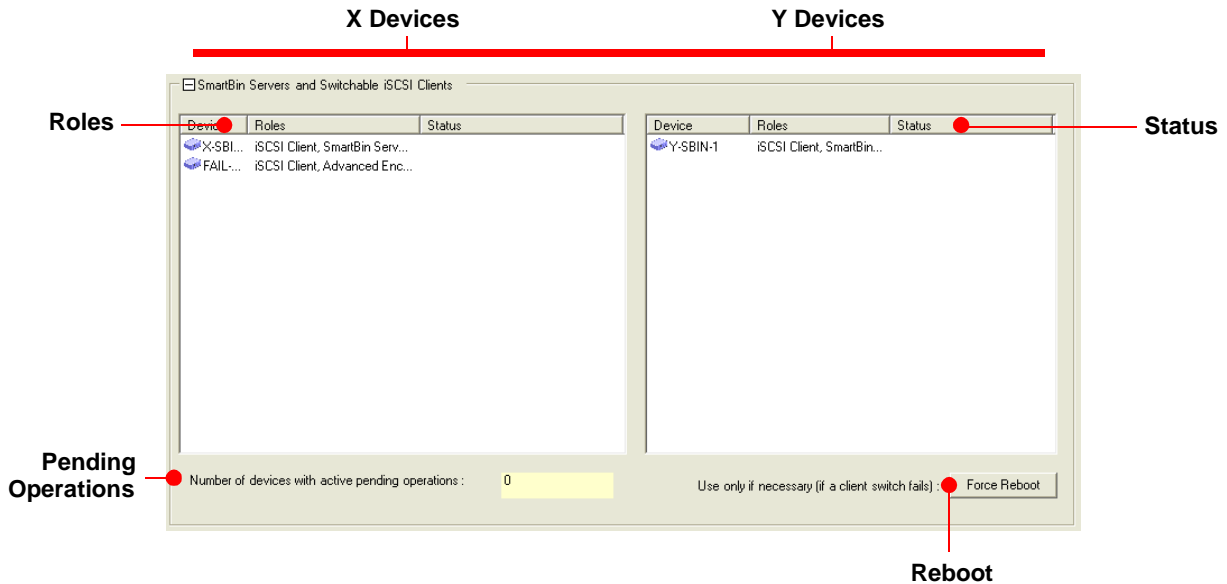
- Stop—Stops services on all devices selected by checkboxes.

For further verification after the Browse system is started check the following:

- Logs in the News MDI should indicate successful registration with the MediaFrame ASK software component.
- RulesWizard on the MediaFrame (Browse) server should indicate the Asset System with the News MDI initialized on startup.
- The new asset proxies created using the Encoders point to the selected K2 Storage System should have a playable proxy. That means the Encoders can access the High resolution asset on the new side and are able to create successful proxies. If no proxies are created after switch over, check the Encoder logs for any reported issues.

SmartBins Servers and Switchable iSCSI Clients

The SmartBins Servers and Switchable iSCSI Clients section of the Aurora Mirrored System Manager user interface is shown in the following illustration.



The callouts shown in the previous illustration are described in the following:

- **X Devices**—The list view on the left displays all iSCSI clients currently accessing the X storage pool. The list includes all “switchable” devices (those that can be moved between the X and Y storage pools using this application) and the SmartBins servers for the X system.

NOTE: The SmartBins servers cannot be switched to access Y storage. Their mode of operation works in lockstep with the DSM state. When DSM X is main, the SmartBins should be set to main mode. When an iSCSI client is successfully switched from X to Y, the application will remove the device from the X list and add it to the Y list.

- **Y Devices**—The list view on the right displays all iSCSI clients that are currently accessing the Y storage pool. This list functions the same as the previous description.
- **Roles column**—Indicates the software applications or services running on each device.
- **Status column**—Displays status text when a state change operation is executed on the device like switching the storage. The status update itself as the process of switching executes various operations like rebooting or reconfiguration.
- **Pending Operations**—Displays the number of devices that are currently being switched by the application. Once a device has completed all reconfiguration to change its storage access, the count is decremented until it reaches 0.

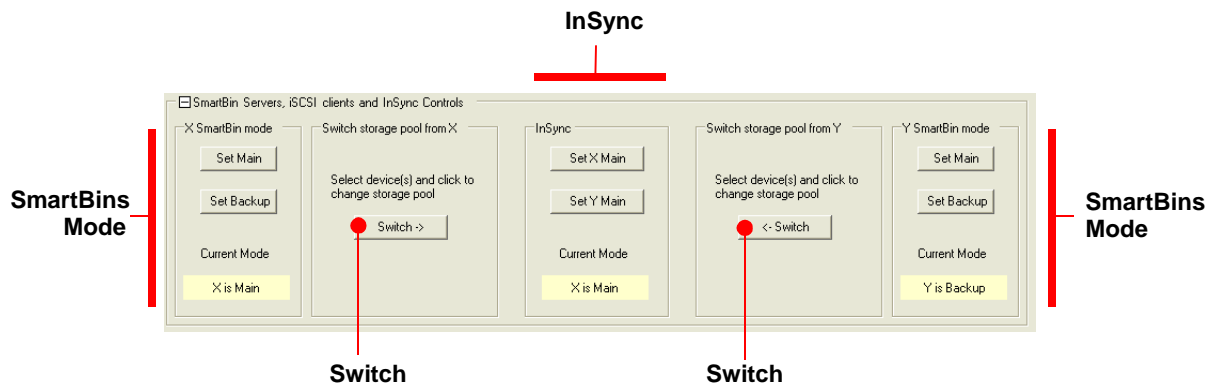


CAUTION: Do not terminate the Aurora Mirrored System Manager application while a switch operation is pending. The application will prevent the user from closing the main window but cannot prevent forceful termination. Terminating the application will result in an inconsistent configuration state.

- **Force Reboot**—Used to cause a remote reboot operation on a selected device. You can use this Reboot if a device is not responsive.

InSync, SmartBins and iSCSI Client Controls

The InSync, SmartBins and iSCSI Client Controls section of the Aurora Mirrored System Manager user interface is shown in the following illustration.



The callouts shown in the previous illustration are described in the following:

1. InSync—Used to manage the InSync application to tell it which direction to move K2 browse assets. Click **Set X Main** to direct InSync to move assets from X to Y and back when you click **Set Y Main**.

NOTE: Before executing this operation, you must first manually stop the InSync application. Once executed, you must manually restart the InSync application for the change to take effect. For example, if you set X as main the InSync application shows that the master K2 (source) Client is one of the K2 Media Clients on the X system.

2. SmartBin mode—Use the **Set Main** and **Set Backup** buttons to reconfigure the SmartBins servers to work in main or backup mode.

The SmartBins mode should normally match the DSM mode. For example, if the X DSM database status is main, the X SmartBins mode should also be main.

When you click **Set Main** or **Set Backup**, the status entry in the list view should transition from “Stop pending” to “Reconfiguration pending” to “Start pending”, and finally, when the operation is successful, the status entry clears. If an error occurs, the status text indicates the error and the device icon changes to a red check.

NOTE: The SmartBins servers do not switch storage pools; you do not have to select them in the list view when using the SmartBins mode controls, and they do not move from left to right or vice-versa.

3. Switch—The **Switch->** button on the left moves devices from X to Y storage pool. the **<-Switch** button on the right moves devices from Y to X storage pool. You must first select one or more devices in the appropriate list before clicking one of these buttons and only selected devices are reconfigured. Reconfiguration occurs in parallel if there are multiple devices selected and the status column updates with text that describes the state transition or operation in progress.

Once a switch operation is complete, the device is moved from one list to the other. A failure results in the icon changing to a red check for the device.

To verify that the storage access as switched, confirm the device can access the V: drive.



CAUTION: *The process takes approximately 9-10 minutes to complete and cannot be interrupted once initiated and it involves rebooting the device. All work on the device must stop BEFORE this operation is initiated and must not resume until the operation is complete.*

Executing workflows

The Aurora Mirrored System Manager provides a checklist sequence of operations to perform to accomplish some common workflows. Examples of workflows include:

- “Switch X to Y”
- “Split and switch to X”
- “Split X and Y”
- etc.

You can select a workflow to execute from the drop down list described in the section [“Workflow Selection”](#). When a workflow is selected the Aurora Mirrored System Manager displays a list of checkboxes indicating the sequence of steps that need to be performed to complete the operation.

Following is a description of the workflow selection and configuration process:

1. You select a workflow from the Select workflow drop-down list. See the section, [“Workflow Selection”](#)
2. A list of checkboxes appear. See the section, [“Workflow Checkboxes”](#)
3. You must perform the steps indicated by the text next to the checkboxes. This typically means that you must perform some operation on the user interface controls shown on the left side of the screen. For example, click a particular button. If a checkbox is grayed, it means that the operation is performed using the controls on the Aurora Mirrored System Manager user interface. If the checkbox is not grayed, an external operation must be performed on some other application (For example, stop AllSync) or some verifying step that must be performed.
4. Once completed, you check the box against the operation and proceed.
5. Once you perform the operation, the application executes and once complete, Aurora Mirrored System Manager checks the box against the operation performed. If successful, the text next to the checkbox changes to black, if the operation fails, the text changes to red.

NOTE: *Aurora Mirrored System Manager will not prevent an out of sequence execution of steps. It will check the appropriate box when the user performs the step.*

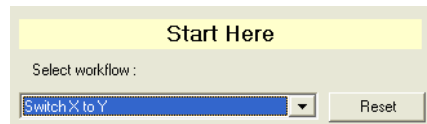
In summary, the workflow works like an interactive guide, not a wizard that enforces order and helps the user keep track of steps executed.

If the application is closed in the middle of a sequence, the last executed step is not saved, however, the workflow name is saved. When the application is re-launched, a message box appears telling you which workflow was not completed. You can then infer from the status indicators where you left off and continue.

NOTE: *Using the workflow sequence is entirely optional.*

Workflow Selection

The Select workflow section of the Aurora Mirrored System Manager user interface is shown in the following illustration.



From the Select workflow drop-down list you can select the following:

NOTE: *The following sections describe use cases for the common workflows that Aurora Mirrored System Manager currently supports:*

- **Switch X to Y**—Use this workflow when the system is using the X system as main and the Y system is functioning in backup mode. This workflow can then be used to transition all operations to use the Y system as main.

This will include making the Y-DSM and SmartBins main, moving over clients and reconfiguring the Aurora Browse system to be directed to the Y system and having InSync operate with the Y system as main – pushing K2 assets from Y to X system.

At the same time, all components operating in main mode on the X system side will be made backup and DSM replication will be initiated from the Y-DSM to the X-DSM.

- **Switch Y to X**— Use this workflow when the current system state is using the Y system as main and the X system is functioning in backup mode. This workflow can then be used to transition all operations to use the X system as main.

This will include making the X-DSM and SmartBins main, moving over clients and reconfiguring the Aurora Browse system to be directed to the X system and having InSync operate with the X system as main – pushing K2 assets from X to Y.

At the same time, all components operating in main mode on the Y side will be made backup and DSM replication will be initiated from the X-DSM to the Y-DSM.

- **Split X and Y (X current main)**—Use this workflow when X is the current main and Y is working in backup mode. This workflow will split the X and Y system so that they will operate independently. There will be no database replication between DSMs, no InSync and AllSync and the Browse system will remain active on the X system.
- **Split X and Y (Y current main)**—Use this workflow when the Y system is the current main and X is working in backup mode. This workflow will split the X and Y system so that they will operate independently. There will be no database

replication between DSMs, no InSync and AllSync and the Browse system will remain active on the Y system.

- **Restore with X as main**—Use this workflow when the systems are currently running in split mode where the X and Y systems are independent. This workflow can then be used to restore redundant operations where the X system becomes main. This will include setting the Y system DSM and SmartBins servers and to backup mode, moving clients to X, and then restarting replication from X to Y and configuring InSync to move K2 assets to Y from X.
- **Restore with Y as main**—Use this workflow when the systems are currently running in split mode where the X and Y systems are independent. This workflow can then be used to restore mirrored operations where the Y system becomes main. This will include setting the X system DSM and SmartBins servers and to backup mode, moving clients to Y, and then restarting replication from Y to X and configuring InSync to move K2 assets to X from Y.
- **Split and switch to Y**—Use this workflow when you want to perform a switch to the Y system in phases. This operational mode will switch from X as main and Y as backup to Y as main and X as backup. This process will be done in stages.
Split X and Y into two independent systems, with 1 editor moved to Y. Validate material and work-flow on Y using the one editor. Complete the switch of editors and browse from X to Y. Then, start the replication process from Y to X.
- **Split and switch to X**—Use this workflow when you want to switch to the X system in phases. This operational mode will switch from Y as main and X as backup to, X as main and Y as backup. This process will be done in stages.
Split X and Y into two independent systems, with 1 editor moved to X. Validate material and work-flow on X using the one editor. Complete the switch of editors and browse from Y to X system. Then, start the replication process from X to Y system.

The Reset button is used to clear all of the checkboxes.

NOTE: *The Reset button does NOT reset the changes you have made in the user interface.*

Workflow Checkboxes

The Workflow Checkboxes display a list of steps that you must perform to complete a workflow.

Use this workflow if : The X system is operating in primary mode and you want to switch operations to the Y system

- ☐ Stop replication on current primary
- ☐ Set X DSM state to backup
- ☐ Stop all browse components
- ☐ Perform the switch operation to Y for browse. Do not start browse system yet.
- ☐ Stop Insync and AllSync (check box when done)
- ☐ Set X SmartBins to backup mode
- ☐ Set Y DSM to primary

NOTE: This does not work like a wizard. You must execute the operation in the Status and Control or some other manual activity.

Gray checkboxes require you to perform a step in the Status and Control area. When you complete the step is indicated by a check and the text remains black. Unsuccessful completion is indicated by a check but the text changes to red.

Checkboxes that are NOT gray require a manual activity that you must perform. Once you complete the process you must check the box before proceeding to the next step.

NOTE: The application does not prevent an out of sequence execution of steps.

Switch Workflow

Use this workflow when the system is using the X storage system as the main storage pool and the Y storage system is functioning in backup mode. This workflow can be used to transition all operations to use the Y system.

This will include making the Y-DSM and SmartBins main, moving over clients and reconfiguring the Aurora Browse system to be directed to the Y system and having InSync operate with the Y system as main and moving the K2 assets from the Y to X system.

At the same time, all components operating in main mode on the X side are changed to backup and DSM replication is changed from the Y-DSM to the X-DSM.

NOTE: The following description explains a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.

Switch Workflow Management Steps

The following section describe the processes needed to switch the X storage system to the Y storage system.

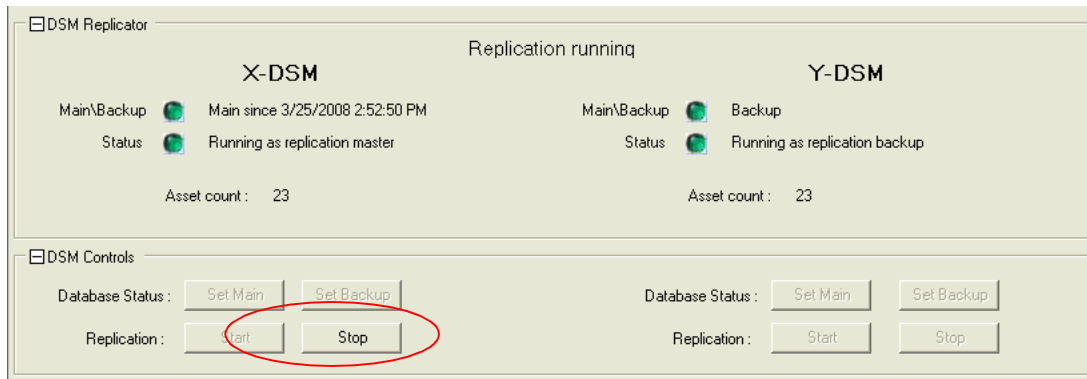
To Start

From the Select workflow drop-down list select **Switch X to Y** and the custom list of steps needed to make the change appear in the workflow checkboxes list.

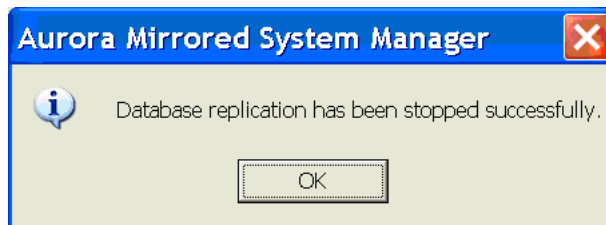
Stop replication on the X DSM

To stop replication on the X-DSM perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to the Replicate label, click **Stop**.



A DSM Replicator status alert message appears and asks you to Please wait. When the change is completed the following alert message appears:

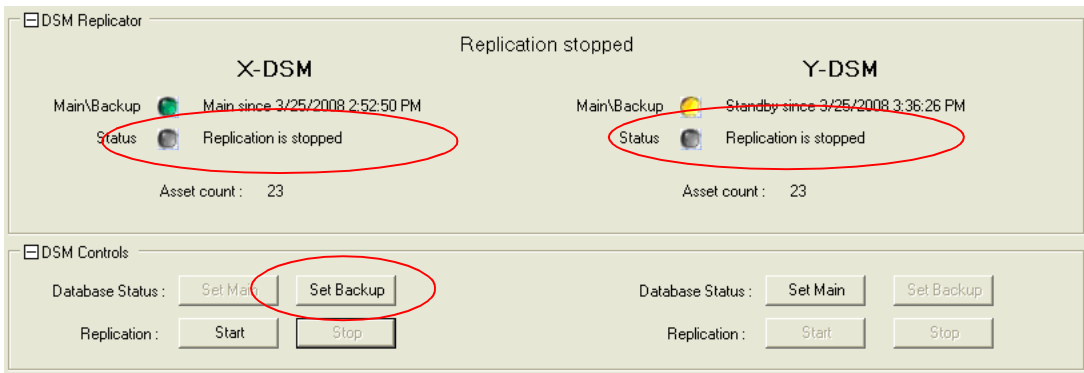


2. Click **OK**.
3. Confirm replication has stopped by checking the following status changes in the DSM Replicator status group:
 - DSM replication status text should change from “Replication running” to “Replication stopped” on both the X-DSM and Y-DSM sides.
 - The Status LEDs should change from green to gray.

Set X DSM state to backup

To change the DSM state to backup on the X-DSM perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to DB Status, click **Set Backup**.



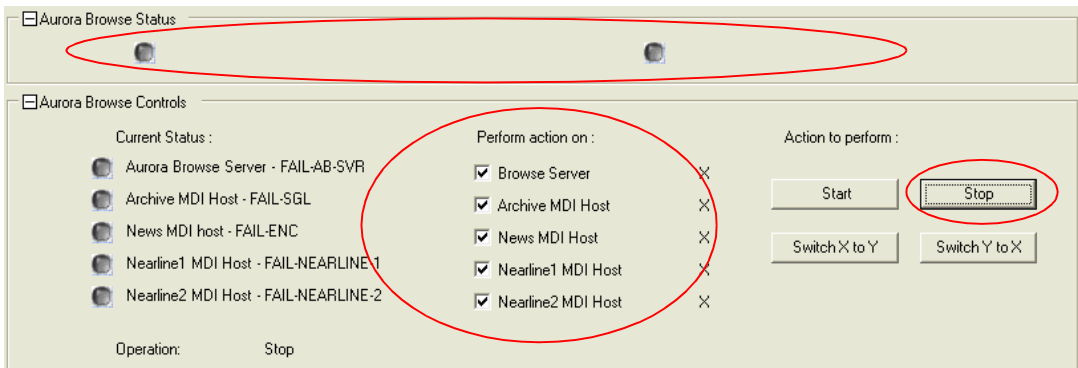
2. Confirm the DSMs have switched roles by checking the following status changes in the DSM Replication status group:

- X-DSM side, should change to “Replication is stopped” with a gray LED
- Y-DSM side, should change to “Replication is stopped” with a green LED

Stop all browse components

To stop all browse components perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click all of the checkboxes listed.
2. From the Action to perform area, click **Stop**.



3. Confirm all browse components have been stopped by checking the following status changes in the Aurora Browse Status area:

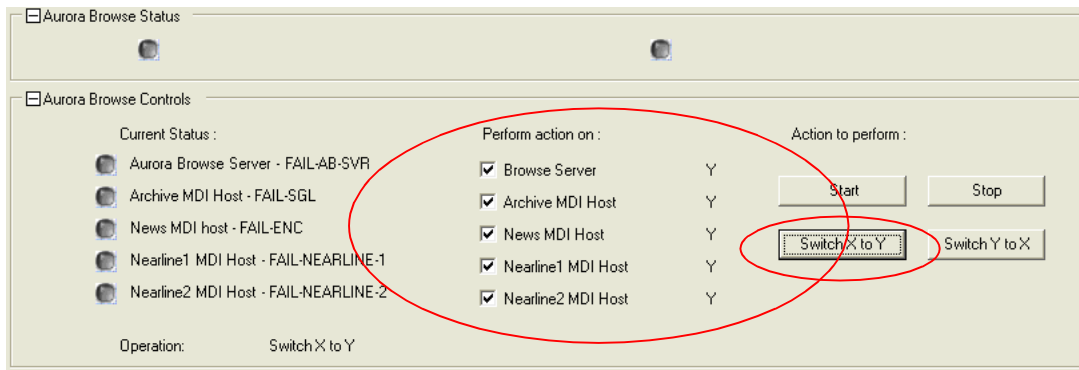
- X-DSM side, the LED should change to gray
- Y-DSM side, the LED should change to gray
- All LEDs next to the devices listed under “Current Status” should change to gray

Switch Browse components from X to Y. Do not start Browse components yet.

To switch Browse components from X to Y system, perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click all of the checkboxes listed.
2. From the Action to perform area, click **Switch X to Y**.

NOTE: Do not start Browse components yet. You will start Browse components in a later step.



3. Confirm all browse components have been switched by checking the following status changes in the Perform action area:
 - A “Y” should appear following all of the checked Browse components

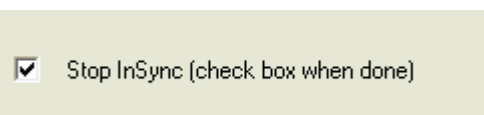
Stop InSync (check box when done)

To stop InSync perform the following steps:

1. Stop InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must stop the K2 InSync application on the Control Point PC.

2. When completed, click the **Stop InSync (check box when done)** checkbox.



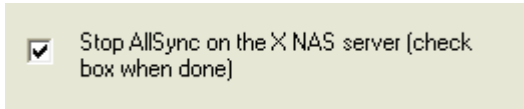
Stop AllSync on the X NAS server (check box when done)

To stop AllSync perform the following steps:

1. Stop AllSync using the instructions in the *AllSync Documentation*.

NOTE: You must stop the AllSync application on the NAS attached to the X storage pool.

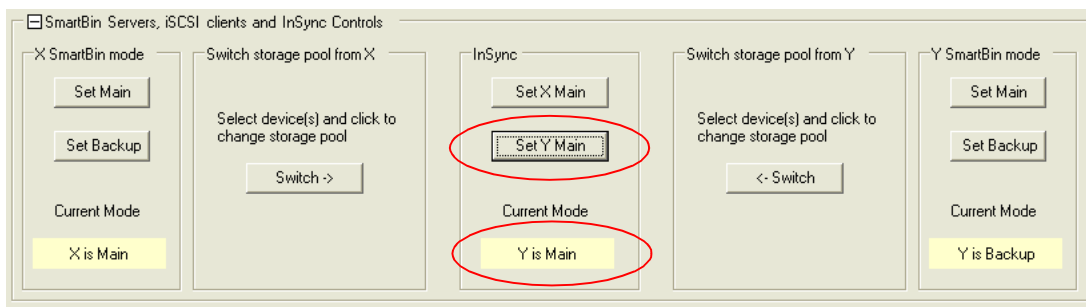
2. When completed, click the **Stop AllSync on the X NAS server (check box when done)** checkbox.



In the InSync controls area, click the button to make Y main

To make the Y system main in the InSync controls area, perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the InSync controls, click **Set Y Main**.

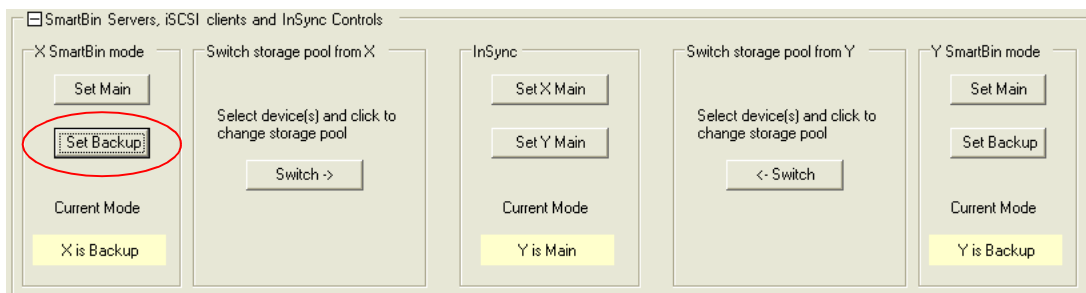


2. Confirm Y system has been configured as the main storage pool by confirming “Y is Main” appears under Current Mode.

Set X SmartBins to backup mode

To set the X-SmartBins server to backup mode perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the X SmartBins mode controls, click **Set Backup**.



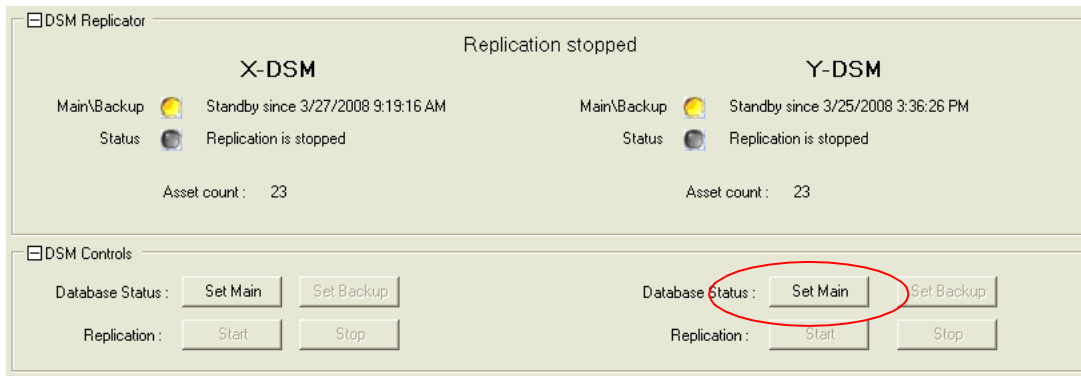
2. Confirm X system has been configured as the backup storage pool by confirming

“X is Backup” appears under Current Mode.

Set Y DSM to Main

To set the Y-DSM as the main DSM perform the following steps:

1. From the DSM Controls group on the Y-DSM side and click **Set Main** next to Database Status.

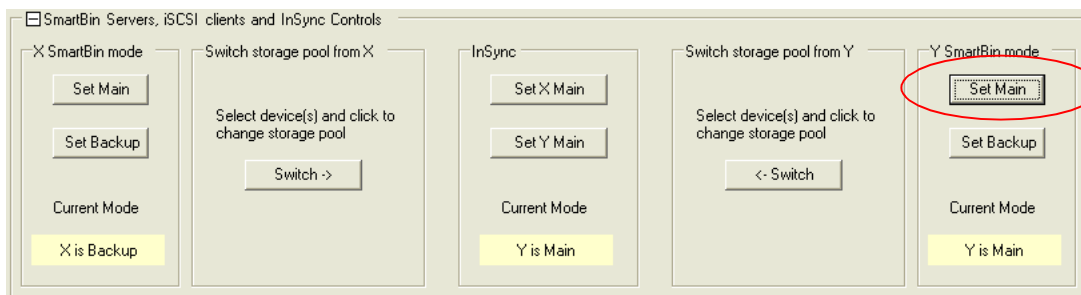


2. Confirm replication has stopped by checking the following status changes in the DSM Replicator status group:
 - DSM replication status text should change from “Replication running” to “Replication stopped” on both the X-DSM and Y-DSM sides.
 - The Status LEDs should change from green to gray.

Set Y Smartbins to main mode

To set the Y-SmartBins server to main mode perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the Y SmartBins mode controls, click **Set Main**.

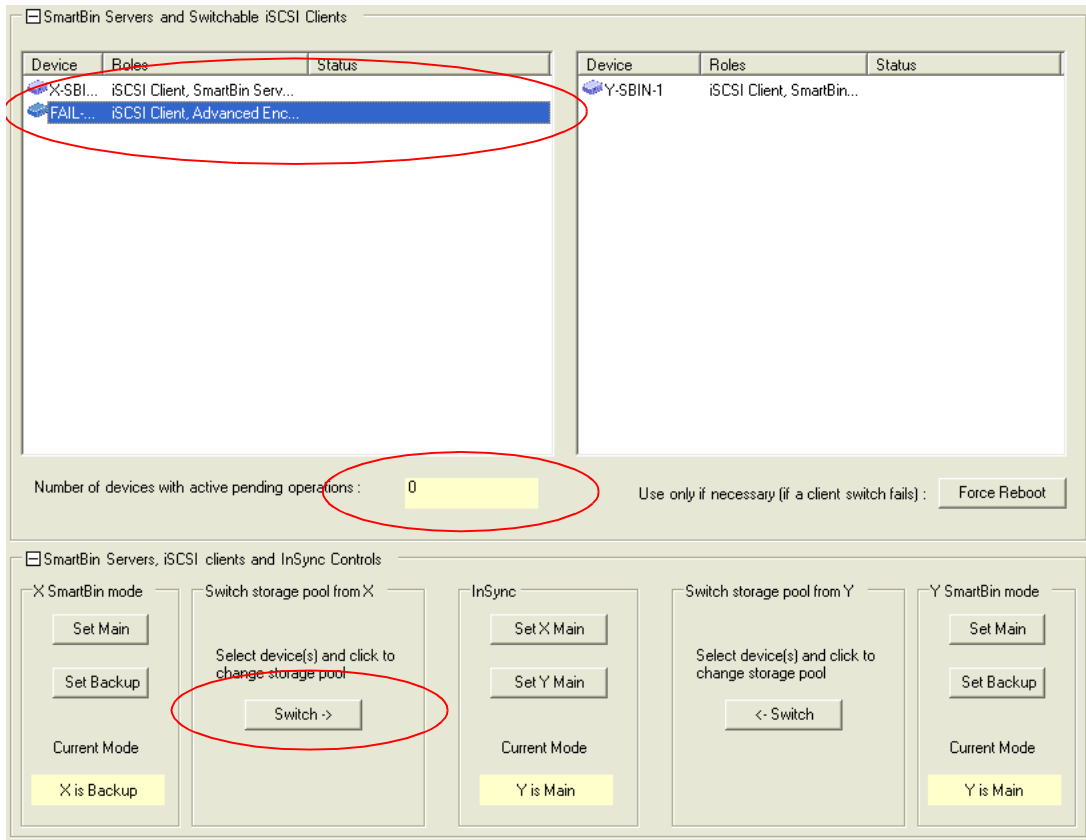


2. Confirm Y SmartBins Server has been configured as the main storage pool by confirming “Y is Main” appears under Current Mode.

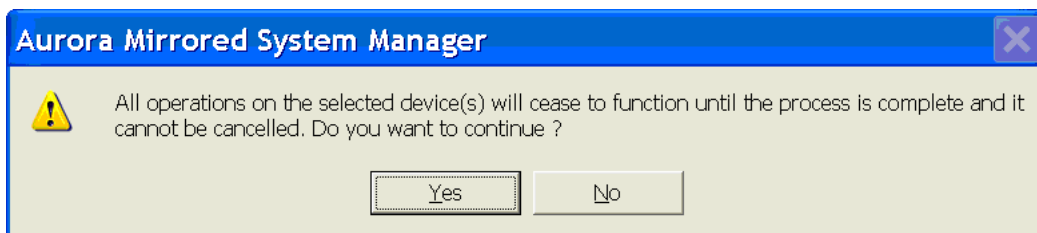
Switch clients from X to Y

To switch clients from X storage pool to Y storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the X-DSM side of the user interface, highlight all clients that are not running SmartBins.



2. From the SmartBins Servers, iSCSI Clients and InSync Controls group from X-DSM side, in the Switch storage pool from X controls, click **Switch ->**.
3. The following alert message appears. Click **Yes** to continue.



The client devices that are switching restart twice. Do not proceed until restart processes are complete and devices have switched from X to Y. This can take several minutes. Do not attempt to log in to a device or otherwise initiate

operations.

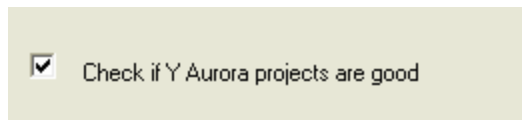
4. To monitor the X to Y switch process, refer to the Number of devices with active pending operations count field. This should decrement down to 0 when all of the devices have moved to connect to the Y storage pool.

The names of all the devices moved should now appear on the Y-DSM side of the SmartBins Servers and Switchable iSCSI Clients list.

Check if Y Aurora projects are good

To check if the Aurora projects that were moved to the Y storage pool are functioning correctly, perform the following steps:

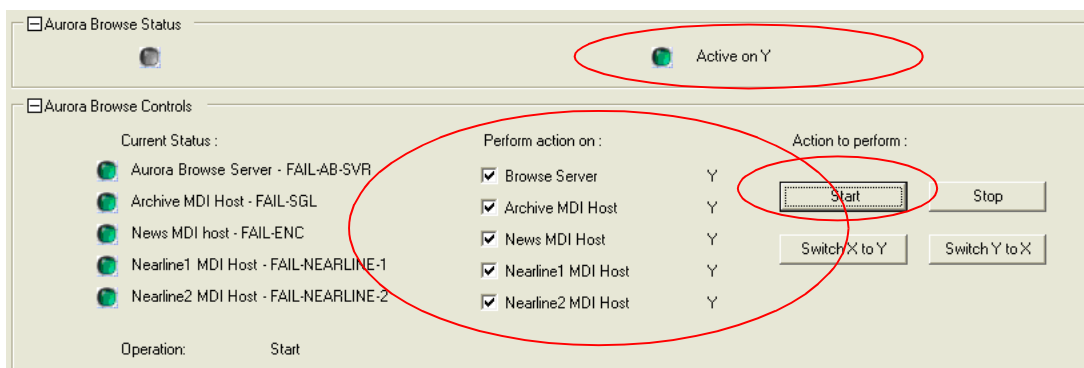
1. Log into an Aurora Edit client.
2. Open and check a few projects using the instructions in the *Aurora Edit, FAST TURN PRODUCTION TOOLS, User Guide*.
3. When completed, click the **Check if Y Aurora projects are good** checkbox.



Start Browse components

To start Browse components on Y system perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click all of the checkboxes listed.
2. From the Action to perform area, click **Start**.



3. Confirm all browse components have been started by checking the following status changes in the Perform action area:

- On the Y-DSM side of the Aurora Browse Status group, the LED should be green.

- Next to the Y-DSM side LED, “Active on Y” should appear.
- On the X-DSM side of the Aurora Browse Status group, the LED should be gray.
- All LEDs next to the devices listed under “Current status should change to green

Verify - Record on Y K2, edit project on Y, Verify Browse functionality (check box when done)

To verify a client can record, edit a project, and browse on the K2 storage pool correctly, perform the following steps:

1. Log into an Aurora Edit client.
2. Open and try recording, check a few projects, and verify that you can browse using the instructions in the *Aurora Edit, FAST TURN PRODUCTION TOOLS, User Guide*.
3. When completed, click the **Verify - Record on Y K2, edit project on Y, Verify Browse functionality (check box when done)** checkbox.

☒ Verify - Record on a Y K2, edit project on Y, verify Browse functionality (check box when done)

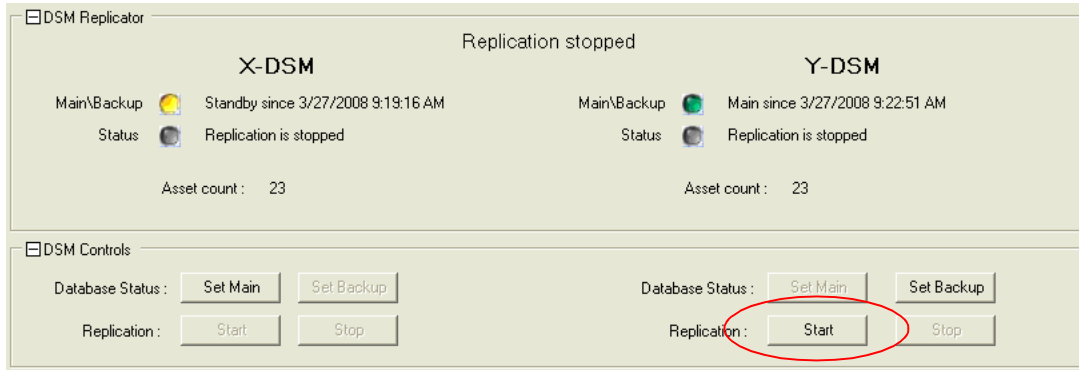


CAUTION: *The steps so far in this procedure are necessary to make the Y K2 Storage System fully functional. Further steps will initiate mirroring from Y to X, causing data on the X K2 Storage System to be overwritten. DO NOT CONTINUE this procedure until you are absolutely certain that the media and database material on the X K2 Storage System are no longer necessary.*

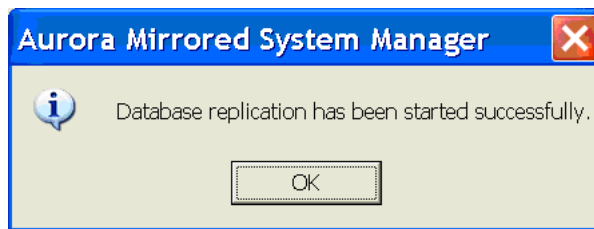
Start replication on DSM Y

To start replication on the Y-DSM perform the following steps:

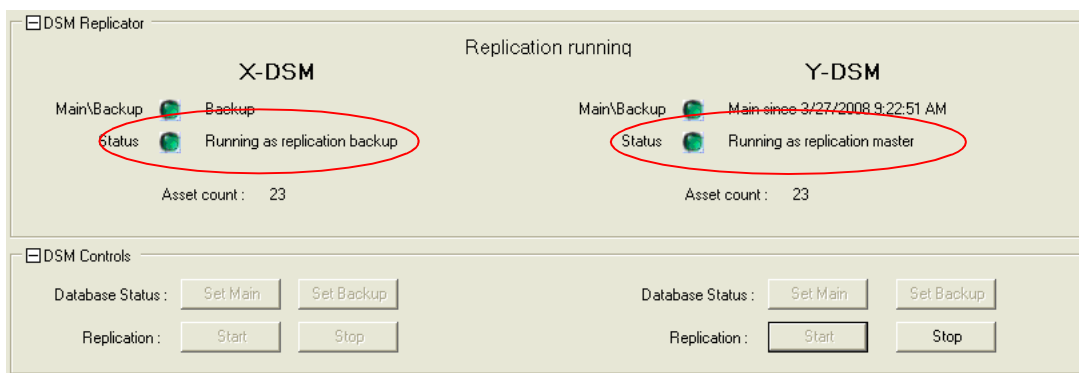
1. From the DSM Controls group on the Y-DSM side of the user interface, and next to the Replicate label, click **Start**.



2. the following alert message appears. Click **OK** to continue.



3. Confirm replication has started by checking the following status changes in the DSM Replicator status group (shown in the following illustration):
 - Y-DSM side, the Main LED should change to green followed by, “Main since mm/dd/yyyy:hh:mm” (with the time being very recent).
 - Y-DSM side, the replication LED should change to green followed by, “Running as replication master”.
 - X-DSM side, the Backup LED should change to gray followed by, “Backup”.
 - X-DSM side, the replication LED should change to gray followed by, “Running as replication backup”.



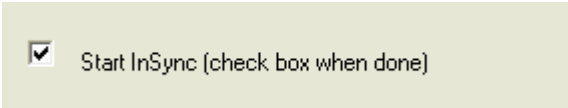
Start InSync (check box when done)

To start InSync perform the following steps:

1. Start InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must start the K2 InSync application on the Control Point PC.

2. When completed, click the **Start InSync (check box when done)** checkbox.



☒ Start InSync (check box when done)

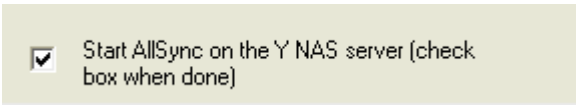
Start AllSync on Y NAS server (check box when done)

To start AllSync perform the following steps:

1. Start AllSync using the instructions in the *AllSync Documentation*.

NOTE: You must start the AllSync application on the Control Point PC, and the NAS attached to the Y storage pool.

2. When completed, click the **Start AllSync on Y NAS server (check box when done)** checkbox.



☒ Start AllSync on the Y NAS server (check box when done)

That completes the process to switch from X storage pool as the main system used for daily workflow to the make the Y storage pool the main system. This workflow transitioned all operations to use the Y system.

This process made the Y-DSM and SmartBins main, moved over clients and reconfigured the Aurora Browse system to direct files to the Y system and has InSync operate with the Y system as main.

At the same time, all components operating in main mode on the X system side are now in backup mode and DSM replication is initiated from the Y-DSM to the X-DSM.

NOTE: The previous description explains a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.

Split and Switch Workflow

Use this workflow when you want to switch to the alternate storage system in phases. This operational mode switches, for example, from X as main and Y as backup to Y as main and X as backup. This allows you to perform this process in stages. For example, you can:

- Split X and Y into two independent systems
- Move one editor to the Y storage pool
- Validate material and work-flow on the Y system using the one editor
- Complete the switch of editors and browse from X to Y systems
- Restart the replication process from Y to X systems

NOTE: The following description explains a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.

Split and Switch Workflow Management Steps

The following section describe the processes needed to split and then switch the X storage system to Y storage system in stages.

To Start

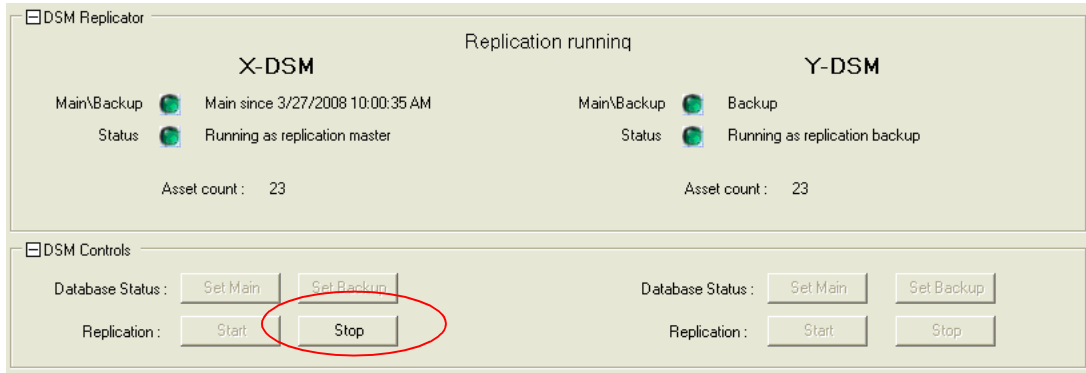
From the Select workflow drop-down list select **Split and Switch to Y** and the custom list of steps needed to make the change appear in the workflow checkboxes list.

The screenshot shows a web-based interface titled "Start Here". It features a "Select workflow:" label above a dropdown menu currently displaying "Split and Switch to Y". To the right of the dropdown is a "Reset" button. Below this, a yellow box contains instructional text: "Use this workflow if : The X system is the current main and you would like to split the systems to operate independently first. Then, after validation, transition operations to the Y system". Underneath the instruction box is a list of five checkboxes, all of which are currently unchecked. The checkboxes are labeled: "Stop replication on X DSM", "Stop InSync (check box when done)", "Stop AllSync on the X NAS server (check box when done)", and "Set Y DSM to main". The fifth checkbox is partially obscured by a vertical scrollbar on the right side of the form.

Stop replication on the X DSM

To stop replication on the X-DSM perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to the Replicate label, click **Stop**.



2. Confirm replication has stopped by checking the following status changes in the DSM Replicator status group:

- DSM replication status text should change from “Replication running” to “Replication stopped” on both the X-DSM and Y-DSM sides.
- The Status LEDs should change from green to gray.

Stop InSync (check box when done)

To stop InSync perform the following steps:

1. Stop InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must stop the K2 InSync application on the Control Point PC.

2. When completed, click the **Stop InSync (check box when done)** checkbox.



Stop AllSync on the X NAS (check box when done)

To stop AllSync perform the following steps:

1. Stop AllSync using the instructions in the *AllSync Documentation*.

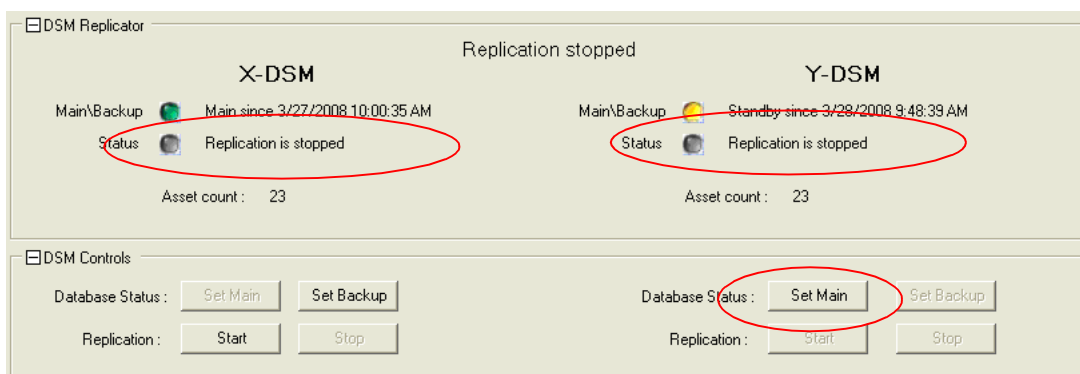
NOTE: You must stop the AllSync application on the NAS attached to the X storage pool.

- ☒ Stop AllSync on the X NAS server (check box when done)

Set Y DSM to Main

To change the Y-DSM state to main, perform the following steps:

1. From the DSM Controls group on the Y-DSM side of the user interface, and next to DB Status, click **Set Main**.

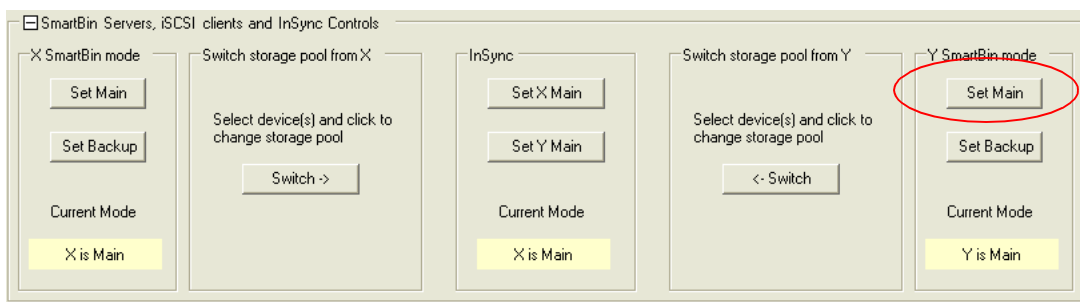


2. Confirm the Y-DSM has switched by checking the following status changes in the DSM Replication status group:
 - The text next to the main\backup LED under Y-DSM should read “Main since mm:dd:yyyy hh:mm:ss”.

Set Y SmartBins to main

To set Y SmartBins server to the main storage pool perform the following steps:

1. From the SmartBin Servers, iSCSI clients and InSync Controls group, under Y SmartBins mode, click **Set Main**.

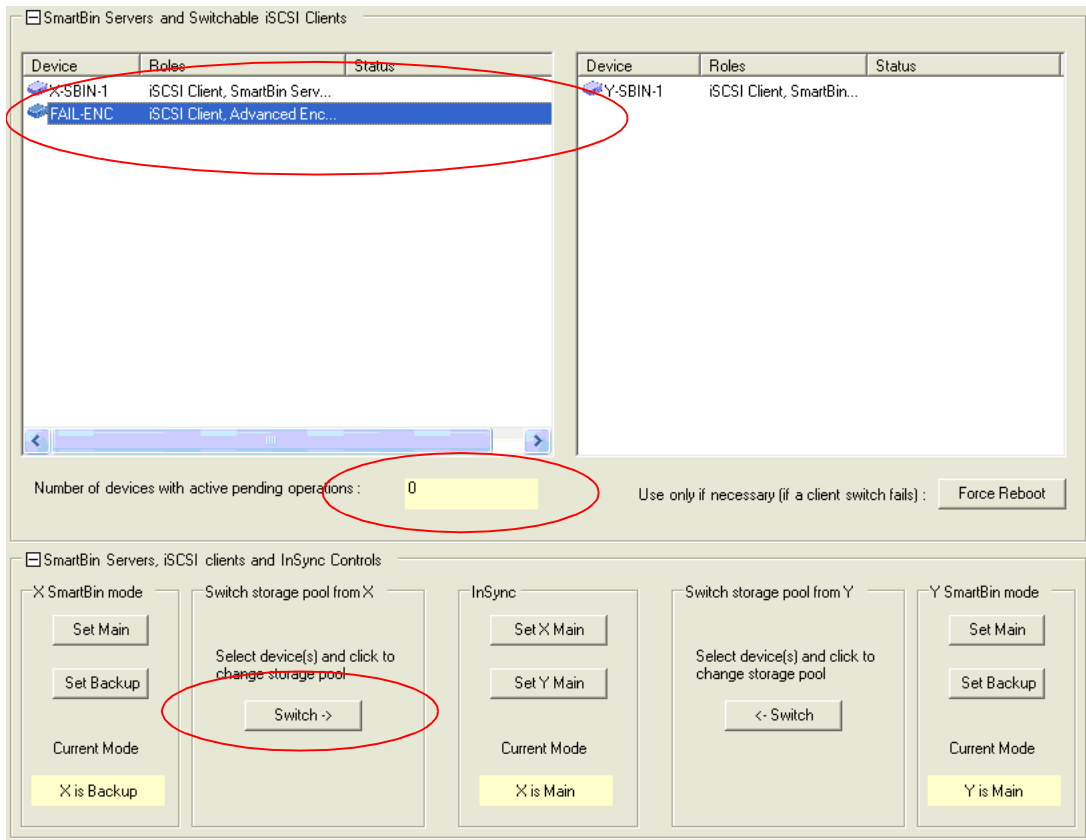


2. Confirm Y system has been configured as the main storage pool by confirming “Y is Main” appears under Current Mode.

Switch one or more clients

To switch one or more clients from the X storage pool to Y storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the on the X-DSM side of the user interface, highlight all clients that are not running SmartBins.



2. From the SmartBins Servers, iSCSI Clients and InSync Controls group from X-DSM side, in the Switch storage pool from X controls, click **Switch ->**.
3. Refer to the Number of devices with active pending operations count field. This should decrement down to 0 when all of the devices have moved to connect to the Y storage pool.

The names of all the devices you chose to move should now appear on the Y-DSM side of the SmartBins Servers and Switchable iSCSI Clients list.

Verify - Record on a Y K2, edit project on Y (check box when done)

To verify a client can record, edit a project, and browse on the K2 storage pool correctly, perform the following steps:

1. Log into an Aurora Edit client.

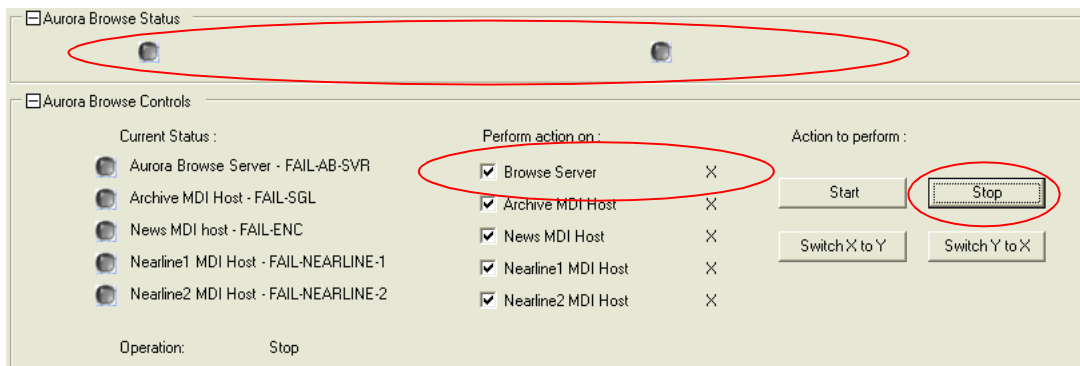
2. Open and try recording, check a few projects, and verify that you can browse using the instructions in the *Aurora Edit, FAST TURN PRODUCTION TOOLS, User Guide*.
3. When completed, click the Verify - Record on a Y K2, edit project on Y (checkbox when done) checkbox.

☒ Verify - Record on a Y K2, edit project on Y (checkbox when done)

Stop the Browse system

To stop the Browse server perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click the Browse Server checkbox.
2. From the Action to perform area, click **Stop**.

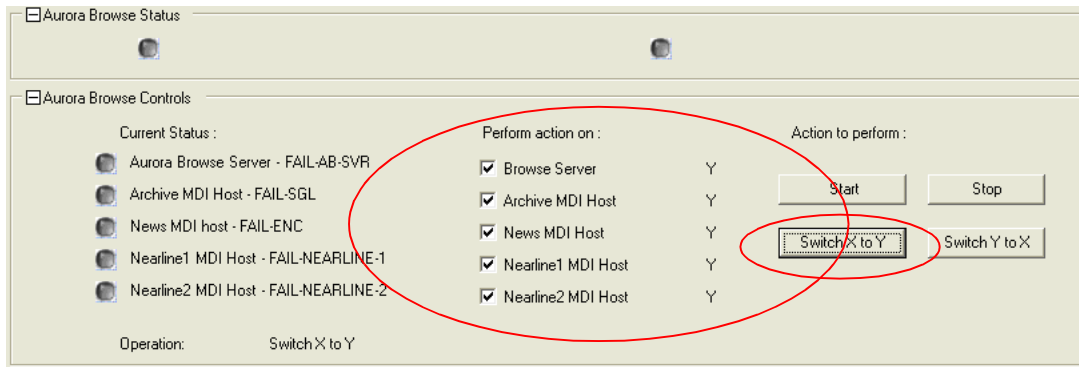


Switch Browse to Y. Do not start Browse Yet

To switch Browse from X to Y system, perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click the Browse Server checkbox only.
2. From the Action to perform area, click **Switch X to Y**.

NOTE: Do not start Browse components yet. You will start Browse components in a later step.



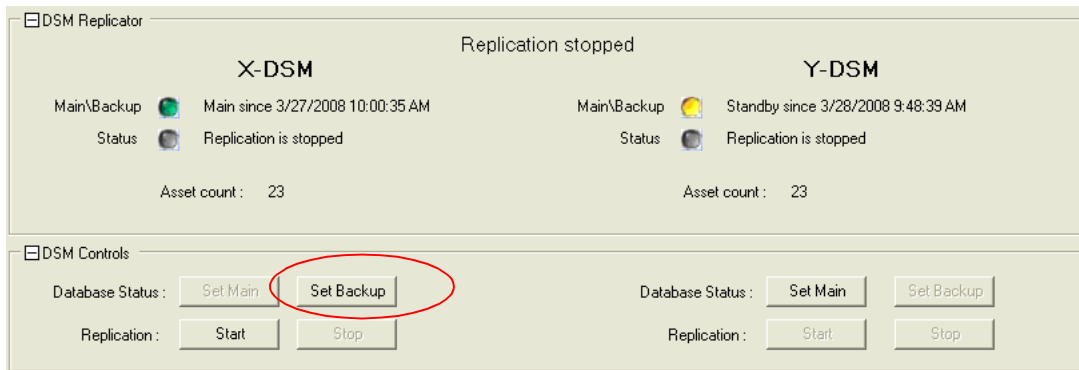
3. Confirm Browse Server has been switched by checking the following status changes in the Perform action area:

- A “Y” should appear following the checked Browse Server

Set X DSM to backup mode

To change the X-DSM state to backup perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to DB Status, click **Set Backup**.



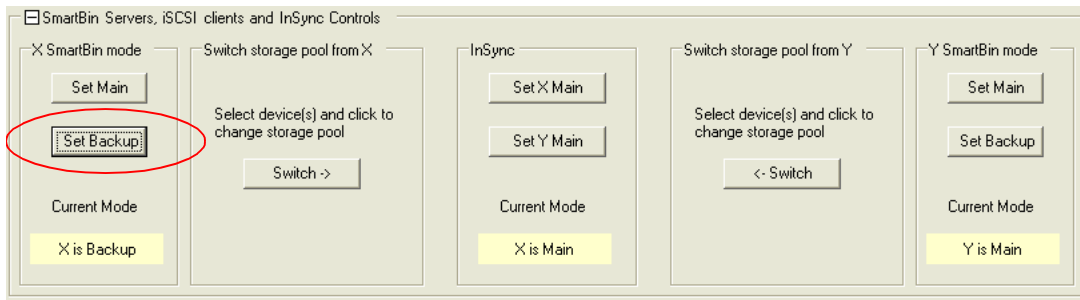
2. Confirm the DSMs have switched roles by checking the following status changes in the DSM Replication status group:

- X-DSM side, should change to “Running as replication backup” with a gray LED
- The text next to the main\backup LED under Y-DSM should read “Main since mm:dd:yyyy hh:mm:ss”.

Set X SmartBins to backup mode

To set the X-SmartBins server to backup mode perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the X SmartBins mode controls, click **Set Backup**.

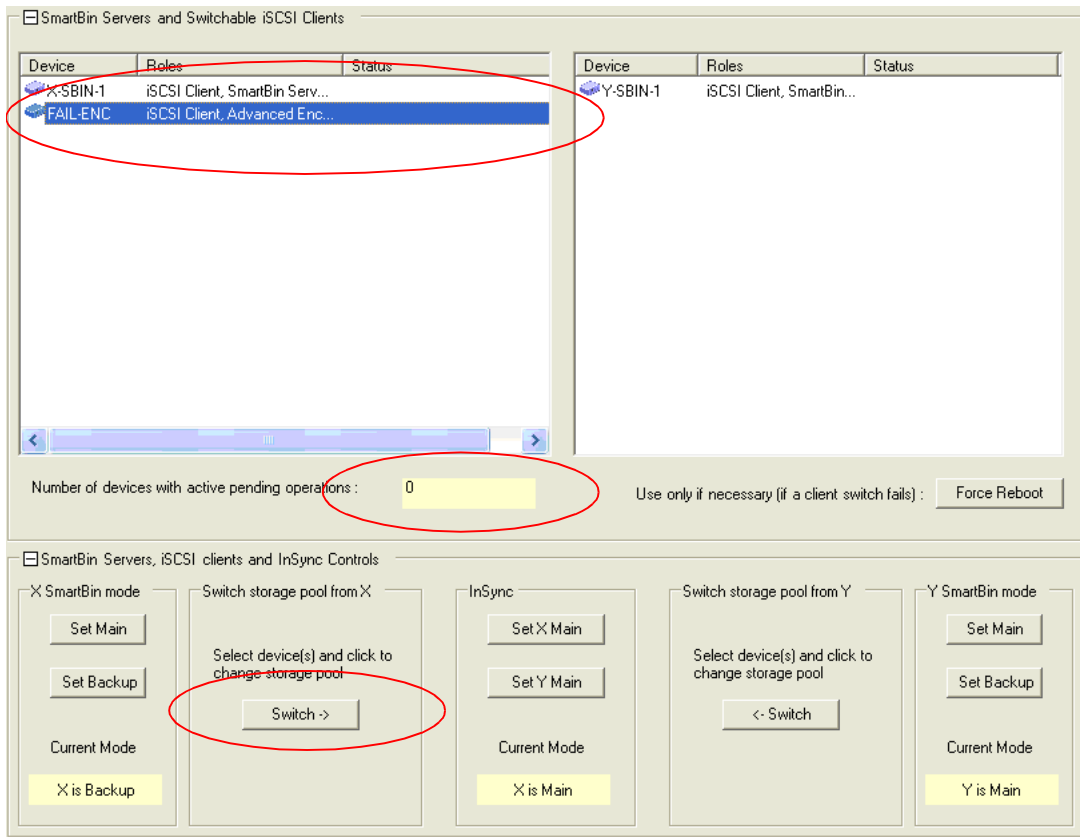


2. Confirm X system has been configured as the backup storage pool by confirming “X is Backup” appears under Current Mode.

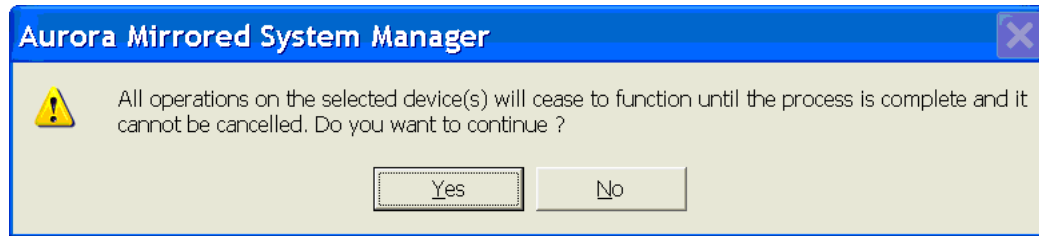
Switch clients to Y

To switch clients from X storage pool to Y storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the on the X-DSM side of the user interface, highlight all clients that are not running SmartBins.



- The following alert message appears. Click **Yes** to continue.



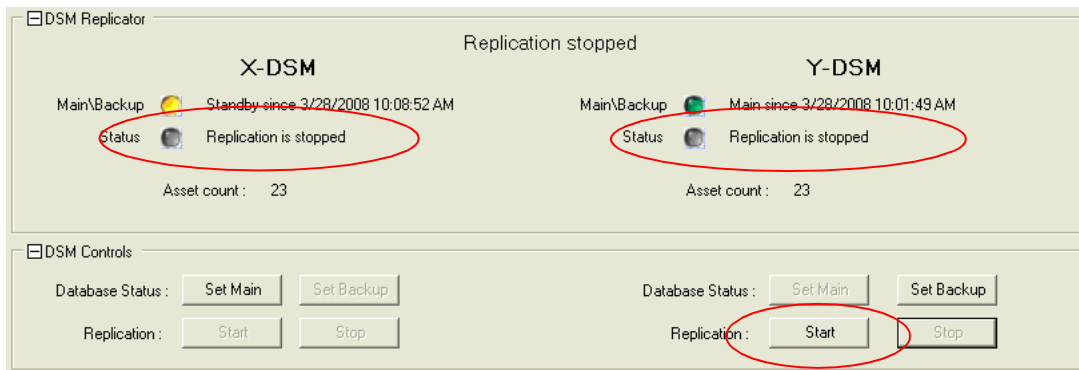
- Refer to the Number of devices with active pending operations count field. This should decrement down to 0 when all of the devices have moved to connect to the Y storage pool.

The names of all the devices moved should now appear on the Y-DSM side of the SmartBins Servers and Switchable iSCSI Clients list.

Start replication on DSM Y

To start replication on the Y-DSM perform the following steps:

- From the DSM Controls group on the Y-DSM side of the user interface, and next to the Replicate label, click **Start**.



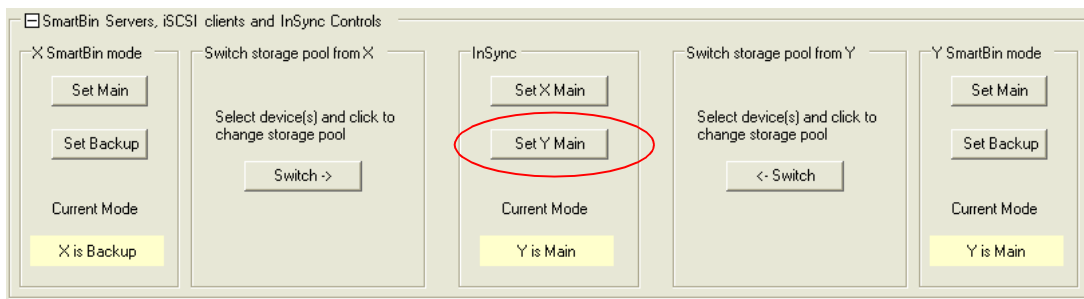
- Confirm replication has started by checking the following status changes in the DSM Replicator status group:
 - Y-DSM side, the Main LED should change to green followed by, “Main since mm/dd/yyyy:hh:mm” (with the time being very recent).
 - Y-DSM side, the replication LED should change to green followed by, “Running as replication master”.
 - X-DSM side, the Backup LED should change to gray followed by, “Backup”.
 - X-DSM side, the replication LED should change to gray followed by, “Running as replication backup”.
 - After waiting for a couple of minutes to allow the databases to synchronize, verify that both databases are in sync by looking at the asset counts. The counts

should be equal or close to being equal and should continuously update based on assets being added or deleted on the main DSM.

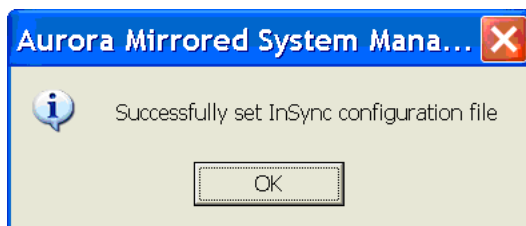
In the InSync controls area, click the button to make Y main

To make the Y system main in the InSync controls area, perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the InSync controls, click **Set Y Main**.



2. The following alert message appears. Click **Yes** to continue.



3. Confirm that InSync has been configured to use Y as the main storage pool by confirming "Y is Main" appears under Current Mode.

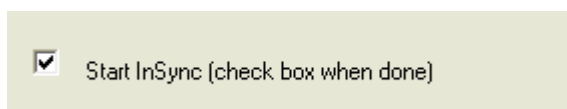
Start InSync (check box when done)

To start InSync perform the following steps:

1. Start InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must start the K2 InSync application on the Control Point PC.

2. When completed, click the **Start InSync (check box when done)** checkbox.



Start AllSync on the Y NAS server (check box when done)

To start AllSync perform the following steps:

1. Start AllSync using the instructions in the *AllSync Documentation*.

NOTE: You must start the AllSync application on the Control Point PC, and the NAS attached to the Y storage pool.

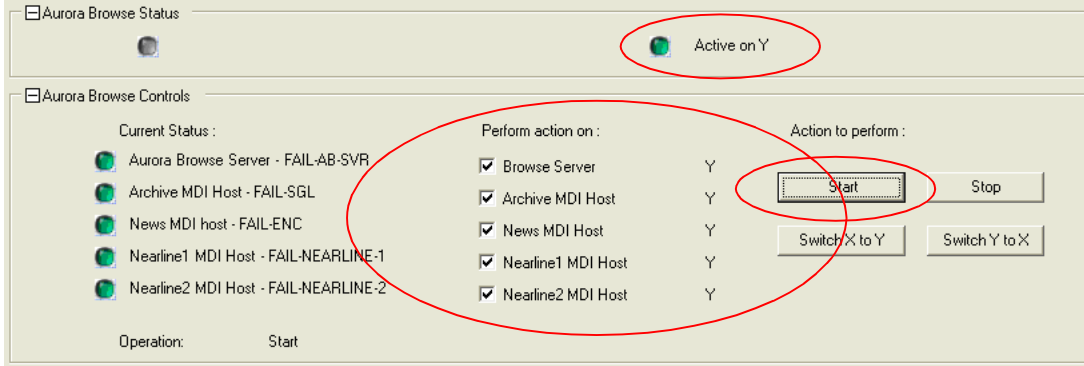
2. When completed, click the **Start AllSync on Y NAS server (check box when done)** checkbox.

☒ Start AllSync on the Y NAS server (check box when done)

Start Browse system

To start Browse Server, perform the following steps:

1. From the Aurora Browse Controls group, and under the Perform action on label, click the Browse Server.
2. From the Action to perform area, click **Start**.



3. Confirm the Browse Server has been switched by checking the following status changes in the Perform action area:

- A “Y” should appear following all of the Browse Server

That completes the process to switch to the alternate storage system in phases. This process switched, from X as main and Y as backup to Y as main and X as backup. It allowed you to split X and Y into two independent systems, with one editor moved to the Y storage pool. Validate material and work-flow on the Y system using the one editor. Complete the switch of editors and browse from X to Y systems. Then, start the replication process from Y to X systems.

NOTE: *The proceeding description explained a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.*

Split Workflow

This workflow splits the X and Y storage systems so they operate independently. When split the following occurs:

- There is no database replication between DSMs
- No InSync
- AllSync and the Browse system remain active on the X system

NOTE: The following description explains a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.

Split Workflow Management Steps

The following section describe the processes needed to operationally split the X storage system and Y storage system.

To Start

From the Select workflow drop-down list select **Split X and Y (X current main)** and the custom list of steps needed to make the change appear in the workflow checkboxes list.

Start Here

Select workflow :

Split X and Y (X current main) [Reset]

Use this workflow if : The X System is operating in main mode, the Y system is operating in backup mode and you would like to split both systems to operate independently

☐ Stop replication on DSM X

☐ Stop InSync (check box when done)

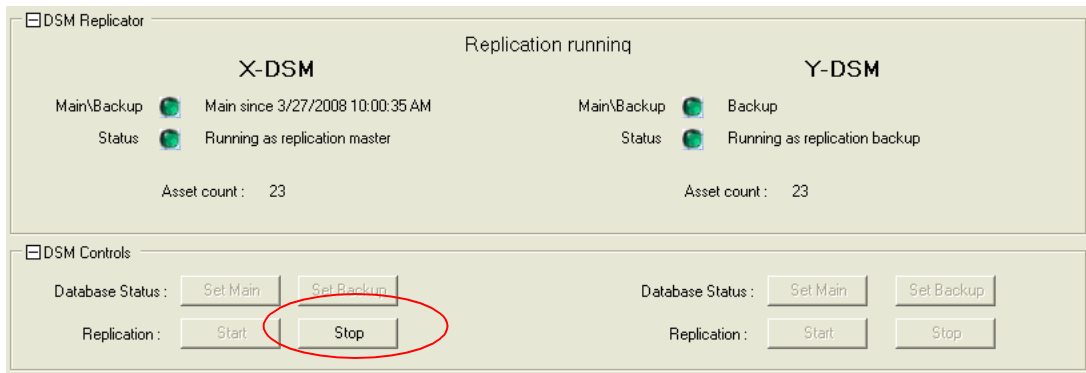
☐ Stop AllSync on the X NAS server

☐ Set Y DSM to main

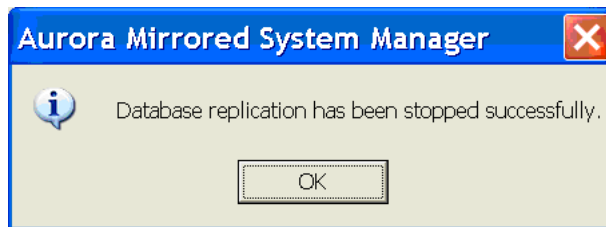
Stop replication on DSM X

To stop replication on the X-DSM perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to Replicate, click **Stop**.



A DSM Replicator status alert message appears and asks you to Please wait. When the change is completed the following alert message appears:



2. Click **OK**.
3. Confirm replication has stopped by checking the following status changes in the DSM Replicator status group:
 - DSM replication status text should change from “Replication running” to “Replication stopped” on both the X-DSM and Y-DSM sides.
 - The Status LEDs should change from green to gray.

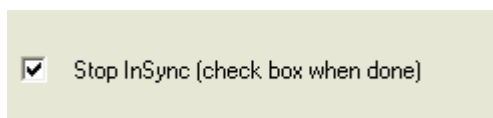
Stop InSync (check box when done)

To stop InSync perform the following steps:

1. Stop InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must stop the K2 InSync application on the Control Point PC.

2. When completed, click the **Stop InSync (check box when done)** checkbox.



Stop AllSync on X NAS server

To stop AllSync perform the following steps:

1. Stop AllSync using the instructions in the *AllSync Documentation*.

NOTE: You must stop the AllSync application on the NAS attached to the X storage pool.

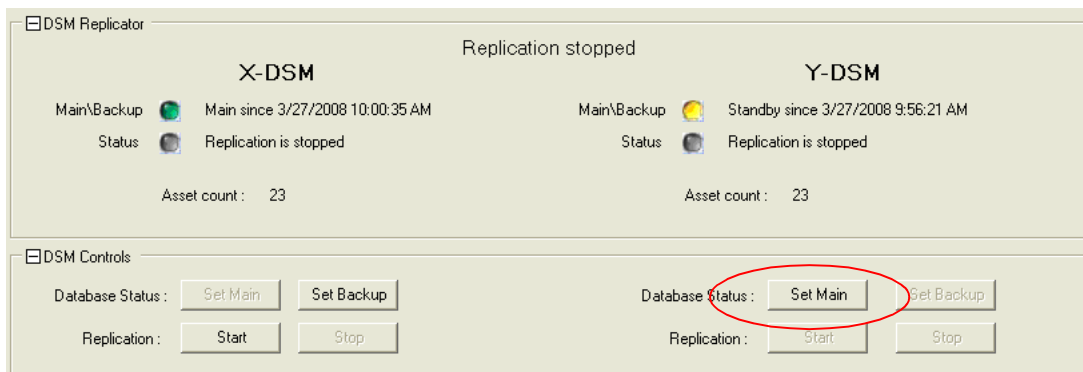
2. When completed, click the **Stop AllSync on the X NAS server (check box when done)** checkbox.

☒ Stop AllSync on the X NAS server (check box when done)

Set Y DSM to Main

To set the Y-DSM to main mode perform the following steps:

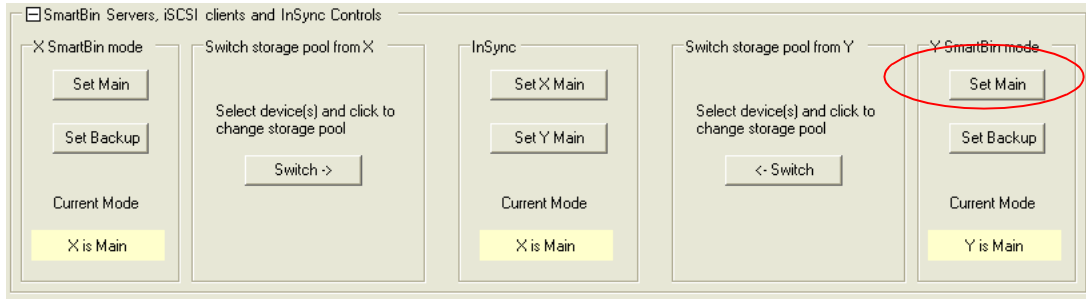
1. From the DSM Controls group on the Y-DSM side of the user interface, and next to DB Status, click **Set Main**.



Set Y SmartBins to Main

To set the Y-SmartBins server to main mode perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the Y SmartBins mode controls, click **Set Main**.



2. Confirm Y SmartBins Server has been configured as the main storage pool by confirming “Y is Main” appears under Current Mode.

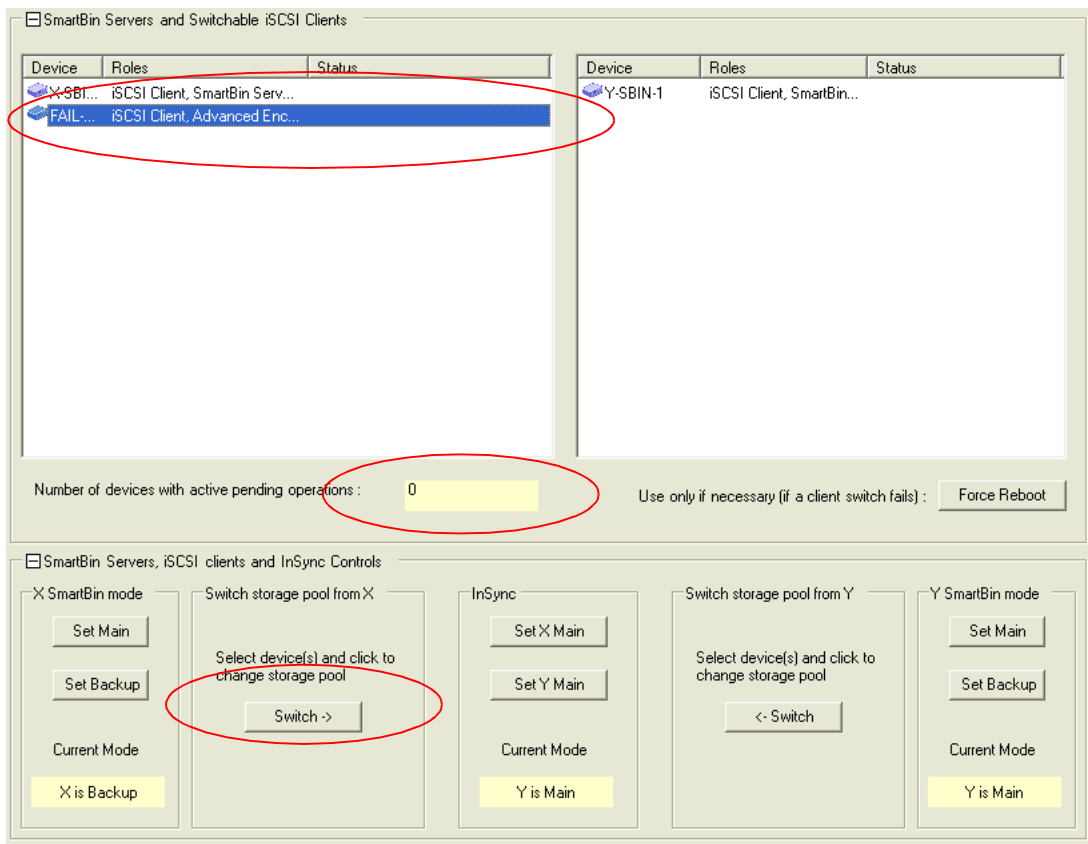
Switch one or more editors if necessary

This section describes moving clients back and forth between the X and Y storage pool. The processes are very similar.

Switch X Clients to the Y Storage Pool

To switch one or more clients from X storage pool to Y storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the on the X-DSM side of the user interface, highlight all clients that are not running SmartBins.



2. From the SmartBins Servers, iSCSI Clients and InSync Controls group from X side, in the Switch storage pool from X controls, click **Switch ->**.
3. Refer to the Number of devices with active pending operations count field. This should decrement down to 0 when all of the devices have moved to connect to the Y storage pool.

The names of the devices moved should now appear on the Y side of the SmartBins Servers and Switchable iSCSI Clients list.

Switch Y Clients to the X Storage Pool

To switch one or more clients from Y storage pool to X storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the on the Y-DSM side of the user interface, highlight on the client names in the Device column.
2. From the SmartBins Servers, iSCSI Clients and InSync Controls group from Y side, in the Switch storage pool from Y controls, click **<-Switch**.
3. Refer to the Number of devices with active pending operations count field. This should decrement down to 0 when all of the devices have moved to connect to the X storage pool.

The names of the devices moved should now appear on the X side of the SmartBins

Servers and Switchable iSCSI Clients list.

That completes the process to split and switch from X storage pool as the main system used for daily workflow to the make both X and Y storage pools function independently. This workflow transitions some operations to use the X system and some to use the Y system.

Restore Workflow

Use this workflow when the systems are currently running in split mode where the X and Y systems are independent. This workflow can be used to:

- Restore mirrored operations where the X system becomes main
- Sets the Y storage system DSM and SmartBins servers to backup mode
- Moves all clients to X
- Restarting replication from X to Y
- Configures InSync to move K2 assets to Y from X

NOTE: The following description explains a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.

SmartBins Cleanup

Before reestablishing mirrored operation, so called orphan files must be purged from the target K2 Storage System. That means, if the target has been running in split mode, its file system may have accumulated .vmf files (Aurora master clips) that do not exist on the source K2 Storage System. These files must be deleted on the backup volume, but only on the backup volume. **It is very important that you not delete these orphan files from the main volume.** For example, during split operation on the target, a Clip_1 movie and corresponding Clip_1 master clip are created in a SmartBin. This Clip_1 has no relationship to assets on the source K2 Storage System. This file must be deleted from the target so that it does not interfere with replication. Assets that remain synchronized from the previous instance of mirroring do not need to be purged.

When mirroring has been established, verify that the service is working by confirming the creation of media files on the backup K2 Storage System that correspond to the media files in the SmartBins of the main K2 Storage System.

Limitations

PseudoSmartBins automatically mirrors SmartBins configuration changes (such as creating or disabling) to the backup K2 Storage System. However, because of AllSync’s action within the work-in-progress (WIP) bins, it is an error to create a SmartBins in the WIP subtree. This causes mirroring collisions between AllSync and PseudoSmartBins.



CAUTION: You can cause collisions if you move clips into or out of a SmartBins from Aurora Edit.

The teaming feature of SmartBins allows multiple SmartBins servers to operate on the same SAN and automatically share the job load amongst themselves. While SmartBins servers can team when running in normal mode, they *cannot* team in

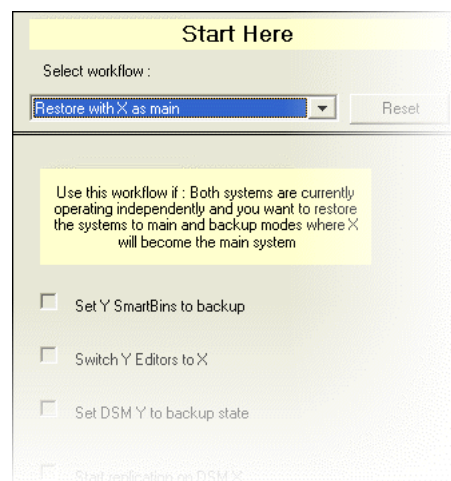
pseudo mode. Only one SmartBins server on the backup K2 Storage System can be running and it must be in pseudo mode. This is automatically managed by Mirrored System Manager.

Restore Workflow Management Steps

The following section describe the processes needed to restore mirrored operation of the X storage system and Y storage system.

To Start

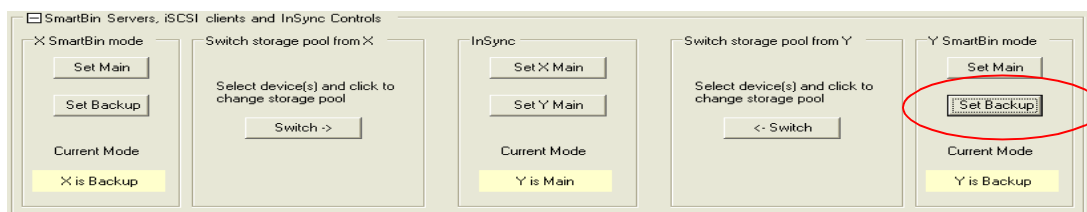
From the Select workflow drop-down list select **Restore with X as Main** and the custom list of steps needed to make the change appear in the workflow checkboxes list.



Set Y SmartBins to backup

To set the Y-SmartBins server to backup mode perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the Y SmartBins mode controls, click **Set Backup**.

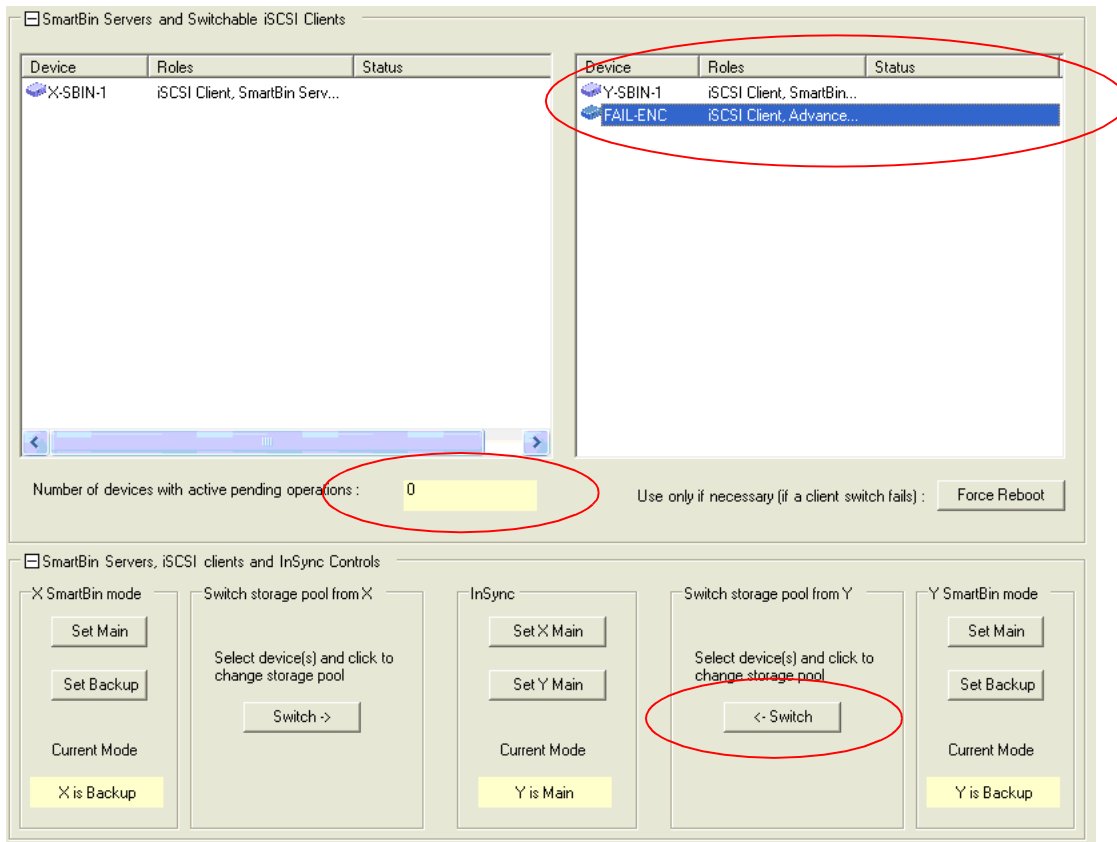


2. Confirm Y system has been configured as the backup storage pool by confirming “Y is Backup” appears under Current Mode.

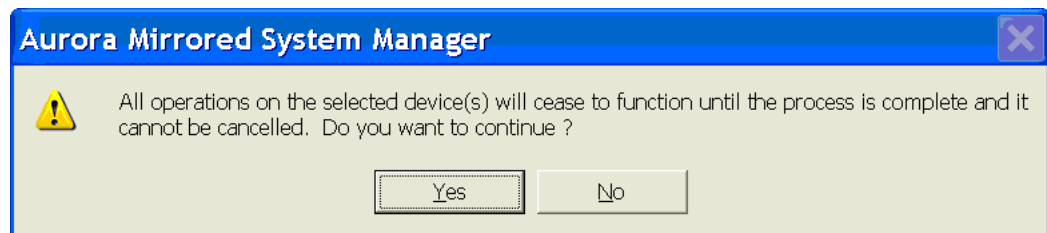
Switch Y editors to X

To switch Y clients from Y storage pool to X storage pool perform the following steps:

1. From the SmartBins Servers and Switchable iSCSI Clients list on the on the Y-DSM side of the user interface, highlight all clients that are not running SmartBins.



2. From the SmartBins Servers, iSCSI Clients and InSync Controls group from Y-DSM side, in the Switch storage pool from Y controls, click **<-Switch**.
3. The following alert message appears. Click **Yes** to continue.



4. Refer to the Number of devices with active pending operations count field. This

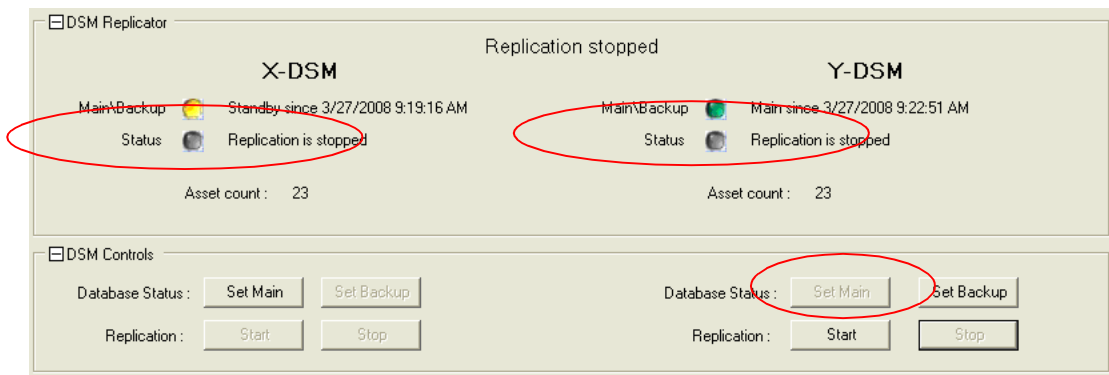
should decrement down to 0 when all of the devices have moved to connect to the X storage pool.

The names of all the devices moved should now appear on the Y-DSM side of the SmartBins Servers and Switchable iSCSI Clients list.

Set DSM Y to backup state

To change the DSM state to backup on the Y-DSM perform the following steps:

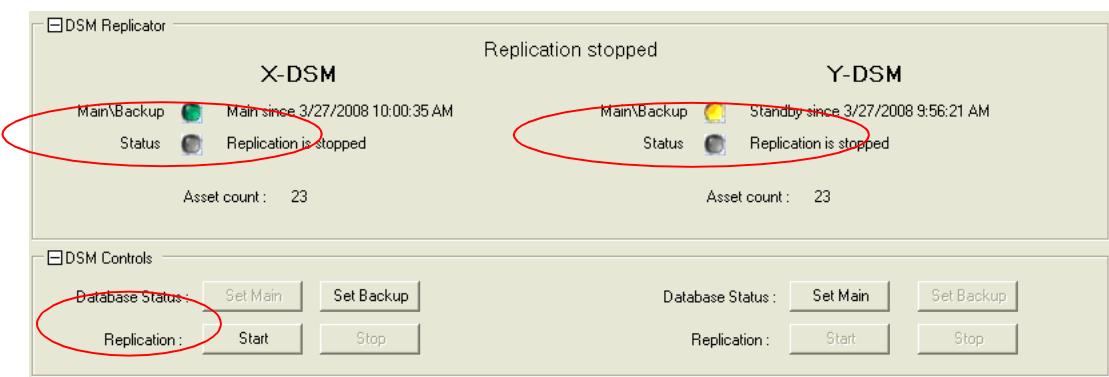
1. From the DSM Controls group on the Y-DSM side of the user interface, and next to DB Status, click **Set Backup**.



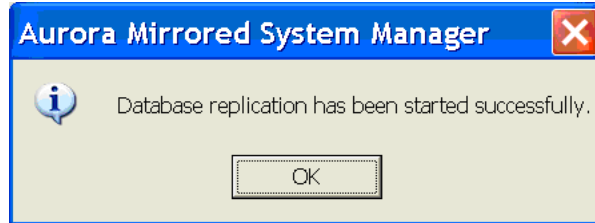
Start replication on DSM X

To start replication on the X-DSM perform the following steps:

1. From the DSM Controls group on the X-DSM side of the user interface, and next to the Replicate label, click **Start**.



2. The following alert message appears. Click **OK** to continue.

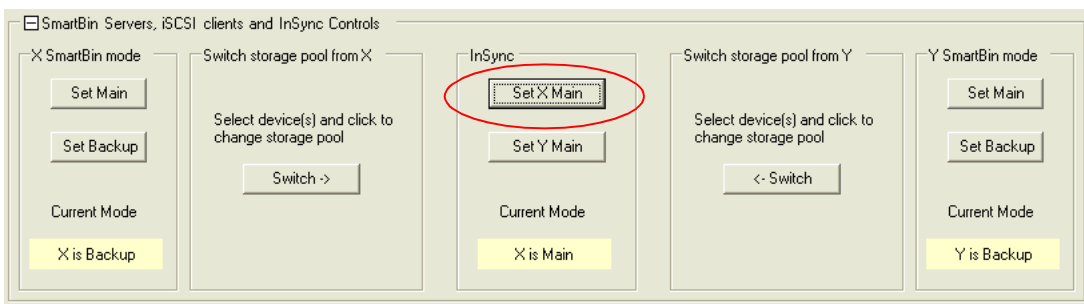


3. Confirm replication has started by checking the following status changes in the DSM Replicator status group:
 - X-DSM side, the Main LED should change to green followed by, “Online since mm/dd/yyyy:hh:mm” (with the time being very recent).
 - X-DSM side, the replication LED should change to green followed by, “Running as replication master”.
 - Y-DSM side, the Backup LED should change to gray followed by, “Backup”.
 - Y-DSM side, the replication LED should change to gray followed by, “Running as replication backup”.
 - After waiting for a couple of minutes to allow the databases to synchronize, verify that both databases are in sync by looking at the asset counts. The counts should be equal or close to being equal and should continuously update based on assets being added or deleted on the main DSM.

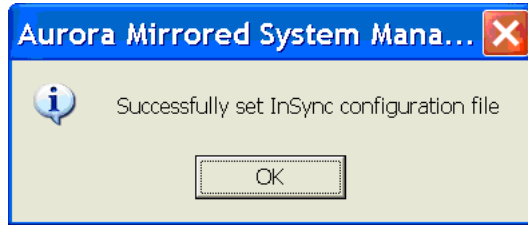
In the InSync controls area, click the button to make X main

To make the X system main in the InSync controls area, perform the following steps:

1. From the SmartBins Servers, iSCSI Clients and InSync Controls group, in the InSync controls, click **Set X Main**.



2. The following alert message appears. Click **OK** to continue.



3. Confirm X system has been configured as the main storage pool by confirming "X is Main" appears under Current Mode.

Start InSync (check box when done)

To start InSync perform the following steps:

1. Start InSync using the instructions in the *K2 InSync, K2 MIRRORING SOFTWARE, User Guide*.

NOTE: You must start the K2 InSync application on the Control Point PC.

2. When completed, click the **Start InSync (check box when done)** checkbox.

☒ Start InSync (check box when done)

Start AllSync on the X NAS server (check box when done)

To start AllSync perform the following steps:

1. Start AllSync using the instructions in the *AllSync Documentation*.

NOTE: You must start the AllSync application on the Control Point PC, and the NAS attached to the X storage pool.

2. When completed, click the **Start AllSync on Y NAS server (check box when done)** checkbox.

☒ Start AllSync on the Y NAS server (check box when done)

That completes the process to restore mirrored operations where the X system becomes main. This included setting the Y system DSM and SmartBins servers to backup mode, moving clients to X, and then restarting replication from X to Y and configuring InSync to move K2 assets to Y from X.

Start AllSync on the X NAS server (check box when done)

NOTE: *The previous description explained a change from X storage system to Y storage system. The steps needed to change from “Y” to “X” are the same only the letter indicators are reversed.*

Folder Structure

This chapter describes the folder structure used to allow the Aurora Mirrored System Manager and supporting applications to control the replication of data between two K2 Storage Systems.

This chapter is intended as a guide for the Media Manager to use as part of the operations and management for the Aurora Mirrored System Manager storage system. It is not intended to provide specific procedures, but rather as a starting point to develop procedures that are specific to a sites particular workflow policies.

It is assumed that readers of this chapter are familiar with the architecture deployed at their site and are trained on the individual components of their system. From the guidelines in this guide, the Media Manager creates specific policies and repeatable processes as applicable to ongoing business requirements.

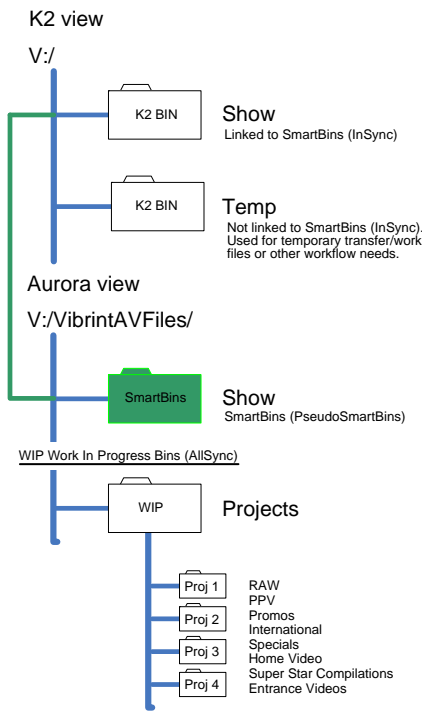
This document provides guidelines for organizing media, creating directories, deleting media, and other media management tasks. The goal of these guidelines is to maintain the integrity of the media so that problems do not arise when Mirrored System Manager is used to modify the K2 Storage System.

The target audience of this chapter is responsible for the following:

- Managing media as it comes into the facility and moves through its life-cycle
- Directing media to locations, creating and modifying directories, and otherwise keeping the evolving media set organized.

Folder hierarchy

The following illustrates an example folder hierarchy:



The following table details the example folder hierarchy:

Host	Folder	Master/WIP
K2	V:/Show	
Aurora	V:/VibrantAVFiles/Show	Master
	V:/VibrantAVFiles/Projects	WIP

To meet your specific workflow requirements it is possible to have multiple Master and/or WIP folders. Do this only by direction of the system administrator, as it requires configuring SmartBins (for Master folders) and InSync/AllSync (for WIP folders).

K2 InSync

This appendix describes the specific configuration of K2 InSync needed to install and use Aurora Mirrored System Manager. For additional information see the document, *K2 InSync User Guide*. See the Release note for the required version number.

When K2 Insync is run on the Control Point PC it mirrors from the Main K2 Storage Systems to the Backup K2 Storage Systems. All K2 assets created, deleted and renamed on the Main K2 Storage System are reflected on the Backup K2 Storage Systems. This process insures that the Backup K2 Storage Systems has all the same assets as the Main K2 Storage System.



CAUTION: K2 Insync does NOT reflect any changes performed on the Backup K2 Storage System while it was operating in split mode. No creation, deletion or renaming of assets on the Backup K2 Storage System are performed. If media is lost or changed on the Backup K2 Storage System, K2 Insync must be restarted to bring the Backup K2 Storage System up-to-date.

Operation Modes

This section lists the various state of the mirrored K2 Storage Systems and the process or state of K2 InSync:

- Split—K2 Insync not operational.
- Joined—K2 Insync operational.

Transitions

- Rejoining—Run K2 Insync on the Main K2 Storage Systems to bring the rejoining K2 Storage Systems up-to-date.
- Splitting—Stop K2 Insync.
- Switch—Stop K2 Insync and restart after the switch. Synchronization is from the new Main to the new Backup.
- Split-then-Switch—Stop K2 Insync and restart only after the K2 Storage Systems switch is complete. Synchronization is from the new Main to the new Backup.

Configuration

To function correctly the Control Point PC with K2 InSync installed must be able to communicate with both K2 clients, one on each of K2 Storage Systems (Main and Backup). The Main K2 client will initiate the create, delete, and rename functions when required by the K2 Insync application running on the Control Point PC.

The Control Point PC also must also use the K2 media file system (SNFS) to mount the V-drive of each K2 Storage System. The Control Point PC mounts the V-drive by mounting through each K2 Storage System's NAS head as follows:

- The X: mount point mounts the X K2 Storage System's network attached storage

(NAS) head.

- The Y: mount point mounts Y K2 Storage System's NAS head.

These two mount points are used to save and restore the configuration information for each K2 storage System.

NOTE: *If the Control Point PC fails, another PC can be substituted.*

To perform the following process, procure the files stored in the following Zip file:

InSync-CP.zip.

NOTE: *The zip-file contains the files that will help configure K2 Insync.*

These files should all be placed in each K2 Storage System's **V:\ConfigFiles\Insync-CP** folder. This folder is saved to the Backup K2 Storage System by AllSync to guard against loss.

Perform the following steps to configure K2 InSync on the Control Point PC:

1. Find the files stored in **\ConfigFiles** on the Master and Backup's V-drive.
2. Copy all these files to a folder on the new Control Point PC's **C:**.
3. Established the mount points for (X: and Y:) using **make-NAS-mount.bat** to help construct the X and Y mounts.

Make-NAS-mounts.bat sets the X: and Y: to point to the X and Y K2 Storage Systems via their respective NAS Heads.

- The K2 Insync registry entries must be setup using one of the following:
 - If X is Master, run **X-Master.bat**.
 - If Y is Master, run **Y-Master.bat**.

X and **Y-Master.bat** are for the initial setup of the Control Point. Choose one, only. If X is the Main K2 Storage System and Y is Backup, choose X-Master.bat.

These scripts modify the registry and put the configuration files in the correct initial place. After that the Aurora Mirrored System Manager performs this functionality.

- K2Insync's **Insync.cfg** file must be retrieved and placed in **C:** using one of the following:
 - If X is Master then use **InsyncXtoY.cfg**.
 - If Y is Master then use **InsyncYtoX.cfg**.

K2 InSync Settings

This section describes settings used to configure K2 InSync to work with the Aurora Mirrored System Manager. For detailed K2 InSync configuration, see the *K2 InSync User Guide*.

Perform the following steps to configure K2 InSync to work with the Aurora Mirrored System Manager:

1. The Control Point PC and the two K2 clients that K2 Insync uses as Master and Slave must have the same Administrator password

NOTE: K2 Insync must be run as Administrator.

2. Open the K2 InSync configuration user interface and the following screen appears:

3. In the General group configure the following:
 - Video Standard: NTSC Drop Frame
 - Sabretooth Server: localhost
4. In the Paths group configure the for master and Slave as *hostNameIV:*

NOTE: Where *hostName* is the K2 client name.

This causes any new folders created on the Master to be created on the Backup without manual intervention.

5. In the Synchronization Mode group select the following:
 - **Event**

- **One Way**

6. In the Delete Processing Mode group select **Normal**.

7. In the Queue group select the following:

- **Retry Attempt:** 3
- **Retry Interval:** 10
- **Number of Simultaneous Transfer:** 4-6

***NOTE:** This depends on your system needs.*

- Uncheck **Transfer when clip has finished recording**

8. Configure the Recycle Bin as **Excluded** so that deleted material isn't synchronized.

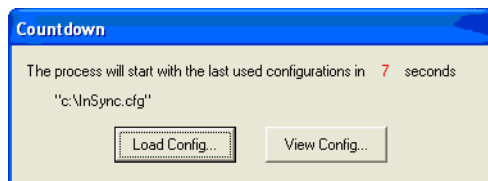


***CAUTION:** Do not change any parameters from the K2 Insync user interface. These changes are not saved to the configuration files. If needed contact Grass Valley Technical Support.*

Verification when starting K2 Insync

Start K2 InSync and perform the following verification steps:

1. When it initial starts, choose the View Config button from the Countdown window. You have ten seconds to do this. The following Configuration window appears.

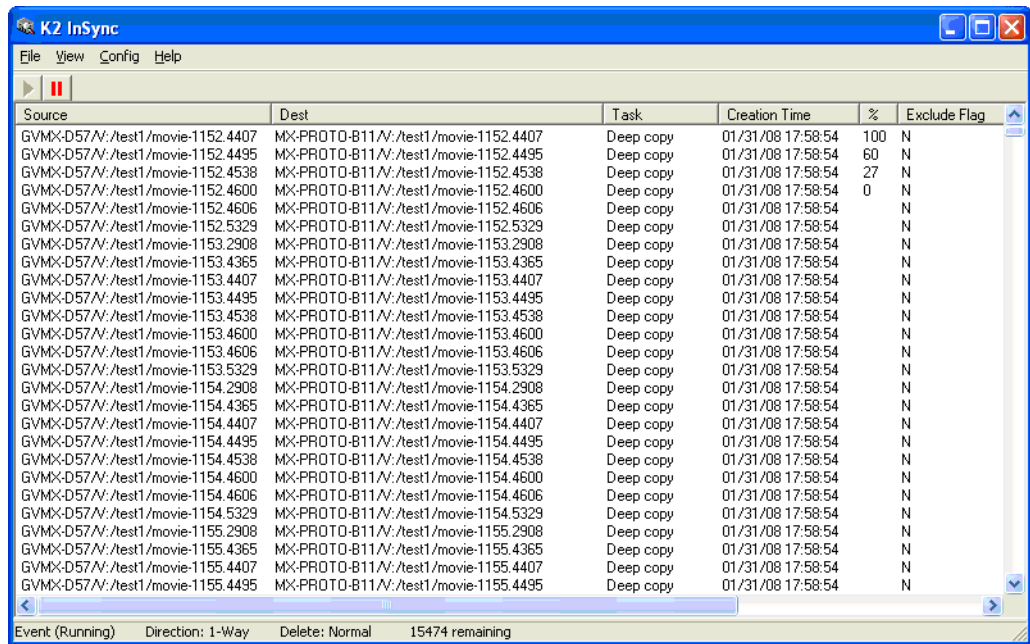


2. Verify that the Master host name is a K2 client on the Main K2 Storage System and that the Slave host name is a K2 client on the Backup K2 Storage System.

***NOTE:** You must to have the K2 Insync direction set correctly. If it is not correct, choose Cancel and correct the problem, otherwise choose Ok*

Verification that K2 Insync is working

With the main K2 Insync window open, you should see transfers that are currently being down, as well as deletes and renames.



If there are no entries, copy a short movie into the Main K2 Storage System's bin that K2 Insync is mirroring. You may record a short clip or simply copy an existing clip and later delete it.

Things to verify after installation:

Confirm the following after configuration:

- The file, **C:\Insync.cfg**—should have current configuration file. This should be the same as InsyncXtoY.cfg or InsyncYtoX.cfg.
- Confirm the Registry—regedit to [HKEY_LOCAL_MACHINE\SOFTWARE\GVG\InSync]

Check the following Log files:

- LogFilePath=X:\ConfigFile\InSync\InSync Logs\Logs
- InsyncHistoryFilePath=X:\ConfigFiles\InSync\InSync History\History

Check the following User configurations:

- ConfigFilePath=C:\Insync.cfg
- InsyncHistoryFilePath=C:\Insync.sync

Failure Scenarios

This section includes a short list of failure scenarios.

Control Point Failure

In case of a failure of the Control Point PC, another PC can be substituted. Perform the same steps described in section the “[Configuration](#)” on a different PC.

NAS Head Failure

For short outages where minor amounts of data are ingested solely on the Main K2 Storage System, no change is necessary. K2 Insync will catch-up in a short period.

In case of a failed NAS Head, the redundant NAS Head can be used. Perform one of the following steps, unless both fail, then do both:

- Replace the X NAS Head, change the FTP server designation of the K2 client on X K2 Storage System to use the redundant K2 Storage System NAS Head. Then, restart this K2 client.
- Replace the Y NAS Head, change the FTP server designation of the K2 client on Y K2 Storage System to use the redundant K2 Storage System NAS Head. Then, restart this K2 client.

***NOTE:** This failure will necessitate changes to AllSync as well.*

K2 Client Failure

If one of the two clients that are used by K2Insync is not in service, K2Insync will not operate. For short periods, this might be fine.

If one of the clients must be replaced the Master or Slave host name must be changed. A client that uses the same NAS Head must be chosen as a replacement. Otherwise, you must go through the previous NAS Head Failure configuration.

AllSync

This appendix describes the specific configuration of AllSync needed to install and use Aurora Mirrored System Manager. For additional information, see the *AllSync Documentation*. See the Release note for required version number.

AllSync is always run from the Master K2 Storage System's NAS Head. The Master K2 Storage System's view of "Work in Progress" (WIP) folder is imposed on the Backup SAN. Any changes made to the files on the Backup SAN while the mirrored K2 Storage Systems are run in split mode will be lost. If the SANs are split, AllSync is not run. When AllSync is started all changes in WIP are lost.

Operation Modes

This section lists the various state of the mirrored K2 Storage Systems and the process or state of AllSync:

- Split—AllSync not operational.
- Joined—AllSync not operational.

Transitions

- Rejoining—AllSync is run on the Main SAN to bring the rejoining SAN up-to-date.
- Splitting—Stop AllSync.
- Switch—Stop AllSync, restart after the switch. Synchronization is from the new Main to the new Backup.
- Split-then-Switch—stop AllSync, restart only after the switch is complete. Synchronization is from the from the new Main to the new Backup.

Configuration

AllSync keeps the Backup SAN synchronized with Main SAN. This mode is referred to as 1:1. All files and directories on the Main SAN will be on the Backup system. This includes file and directory deletions. Renames are also handled, but will be done via a delete and recopy. Using 1:1 mode in AllSync is analogous to K2 Insync's One Way mode.

To monitor, copy, and delete, a computer must "see" both Main and Backup K2 Storage System's V-drive. AllSync needs to have the Backup K2 Storage System's V-drive mounted as U:. It will then copy and delete based on changes within the V: mount (local) and the results appear on the U: mount (remote).

To minimize the time to synchronize, use the fastest interface between the two NAS Heads. If there is 10 Gigabit, use that. Do not use the control network. This means that the U: mount must use a name or IP address that corresponds to the desired interface on the remote system.

The AllSync application will be run from a Main K2 Storage System's NAS Head and send updates to the Backup K2 Storage System's NAS Head using the Main K2 Storage System's U:. For AllSync to continue proper operation, these two NAS Heads must continue to operate.

After initial configuration of NAS Heads on both the X and Y SANs, the configuration will always stay the same. AllSync does not save any state information. Having both X and Y's NAS Heads mount the other V-drive as U:, the same configuration file works for both systems.

If there is a failure of the NAS Head running AllSync, another NAS Head on the same SAN as the failed unit must be put in service. This new NAS Head must have its U: mount set correctly. To help ease transition, a batch file is provided under \ConfigFiles to help. It is called **make-NAS-mounts.bat**. Copy the script to the replacement NAS Head and run. It will prompt the you for a hostname or IP address of the remote NAS Head (on the other SAN). It will then mount that NAS Head's V-drive as the local U:.

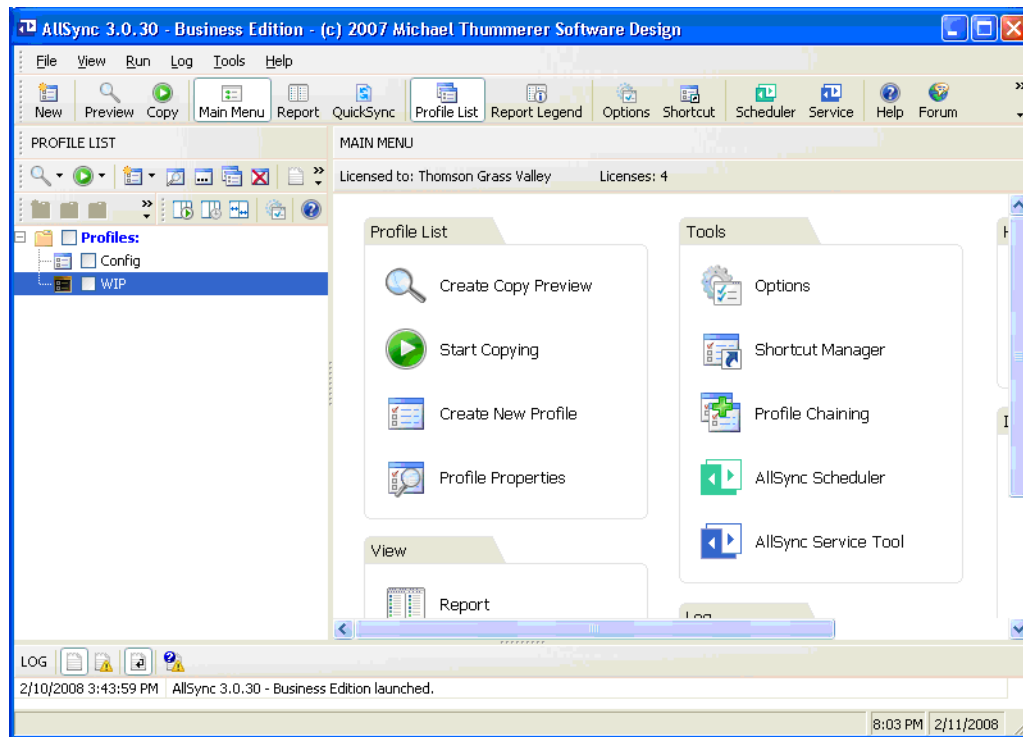
Settings

There are two scheduled items that AllSync runs. The first is a set of configuration files used by the Aurora Mirrored System Manager, K2Insync, and others. This allows for failure recovery. The second is used to synchronize Aurora Edit WIP. The reason for two separate items is to allow control of the rate of update. The configuration update occurs once per minute. The WIP rate occurs approximately of twice an hour.

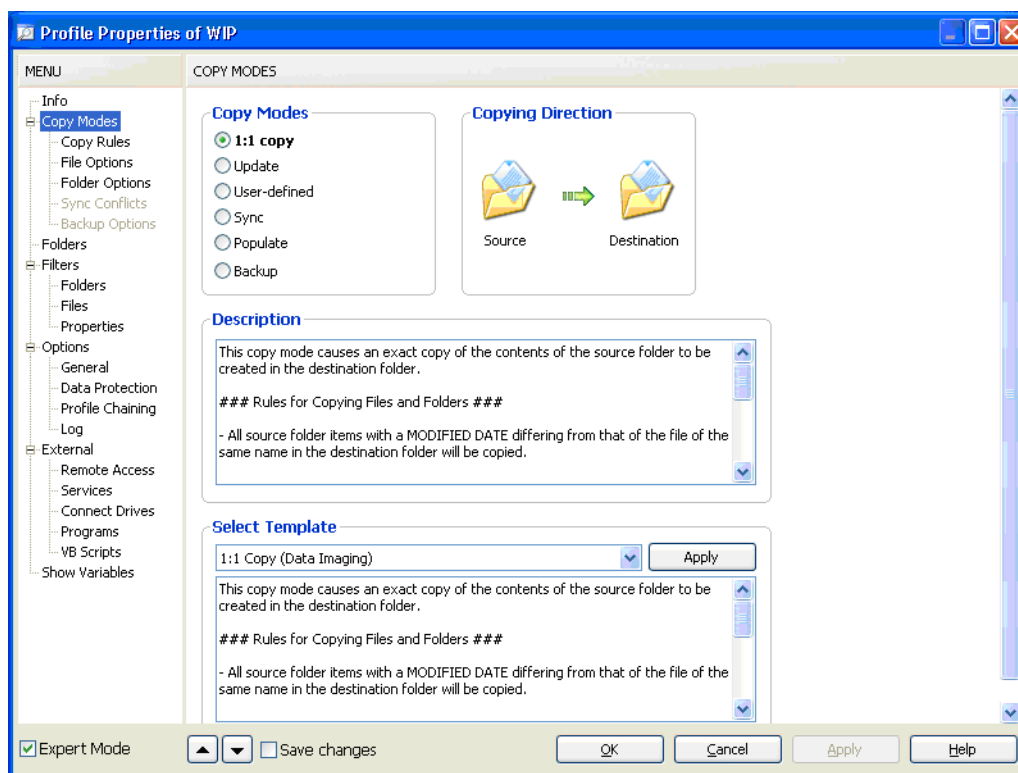
All configuration files for the Profiles are saved in the following:

C:\Documents and Settings\All Users\Application Data\AllSync\profile.

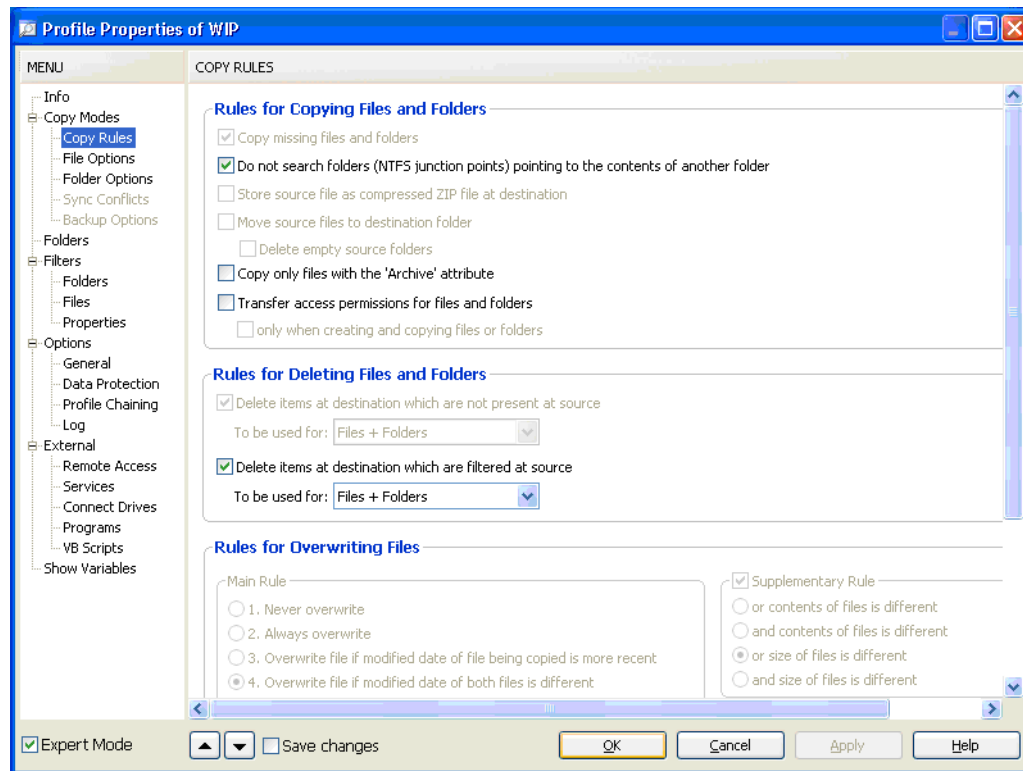
The following illustration is an example of the AllSync Main screen settings for the configuration for WIP.



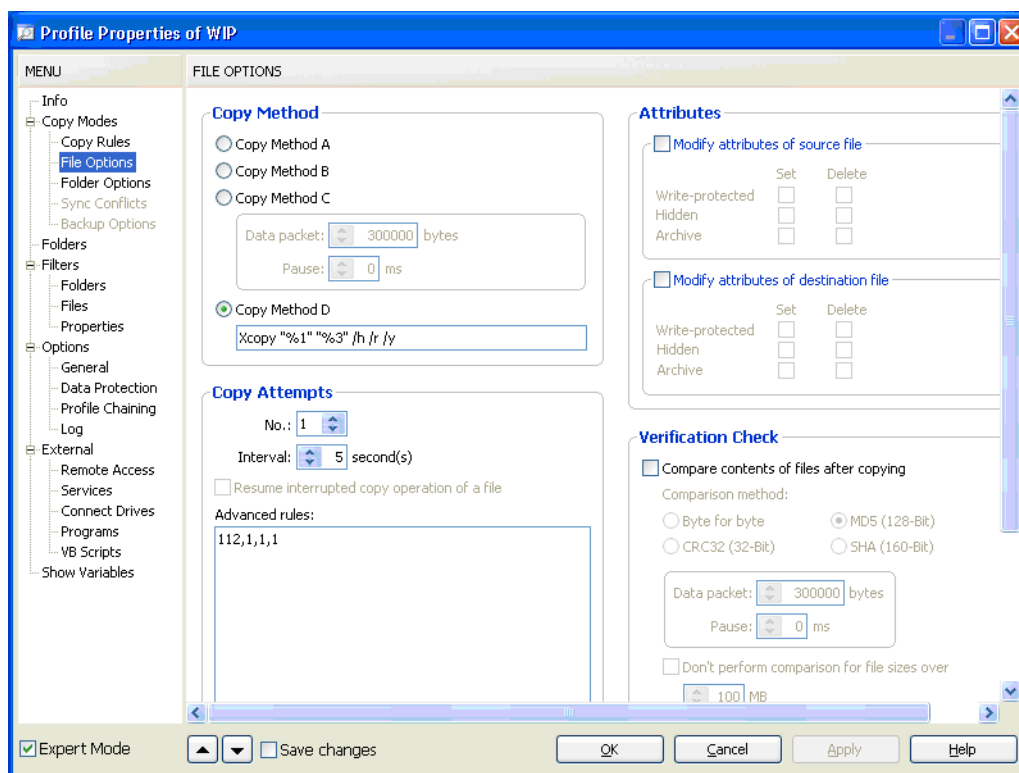
This is the global settings page.



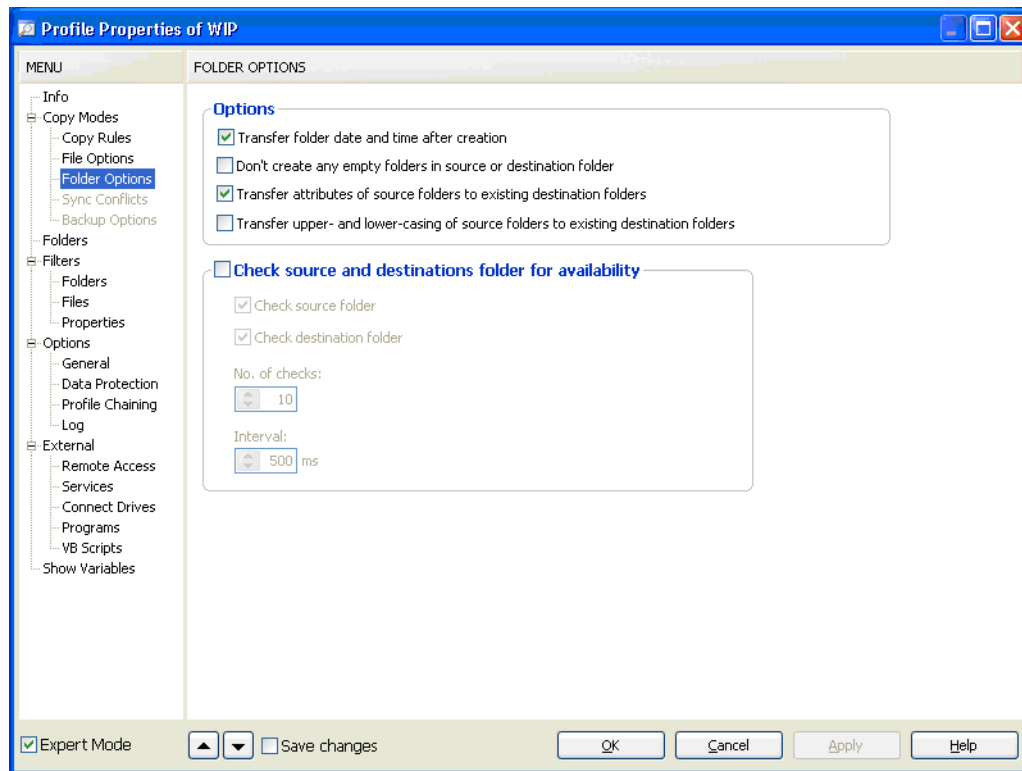
This is the rules page.



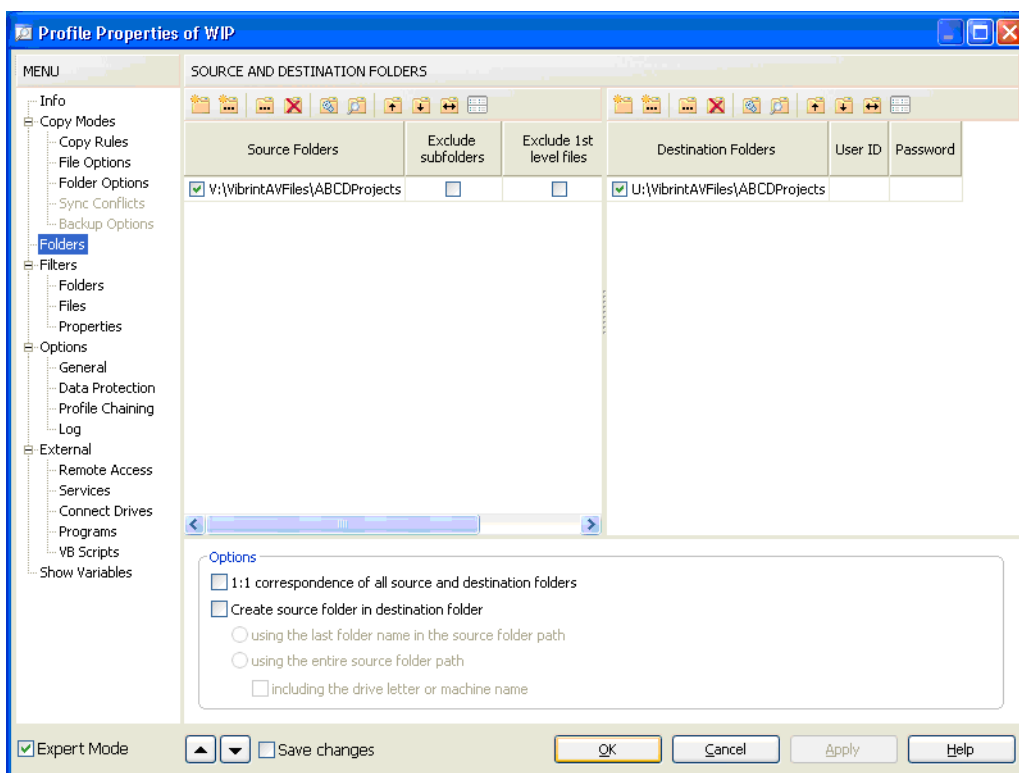
This is the file copy options page.



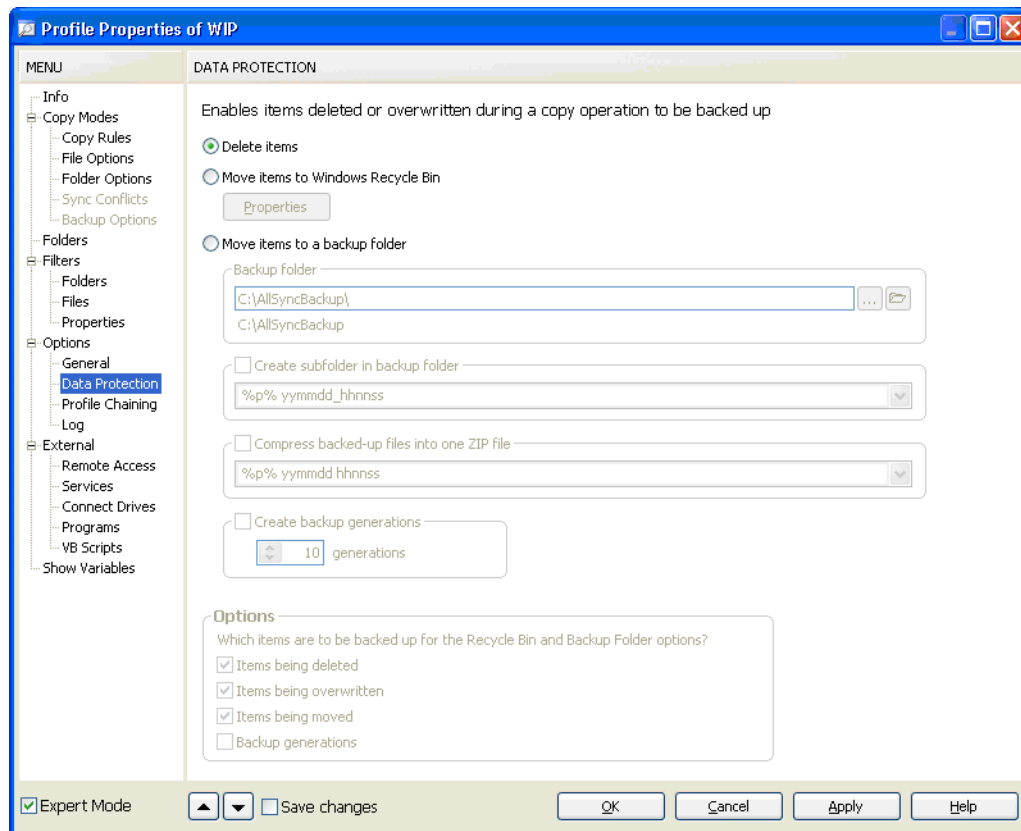
This is the folder options page.



This is the folders source and destination page.



This is the Data Protection page. This page is very important! On this page you must turn off copying data that is overwritten on the destination. Do not leave the default setting selected. The default setting is “Move items to a backup folder”. If you leave the default setting selected, it can fill up the Main NAS Head’s C:.



On the Data Protection page, select **Delete items**.

The above pages are set up as part of the configuring a Profile. A Profile is a logical unit of data that needs to be saved/copied. WIP is one, while Config (configuration information) is another. More can be added.

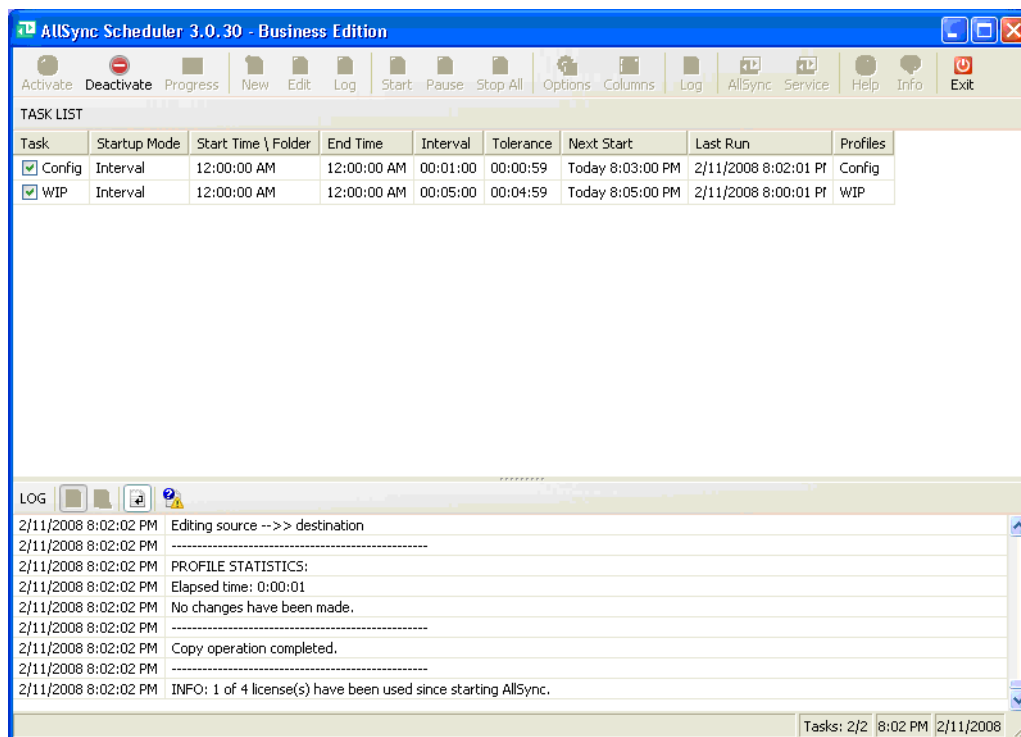
After one or more Profiles are created, you must then make a schedule for each.

To make a schedule for a Profile, do the following:

1. In the tool bar of the Main screen, click the **Scheduler** button.

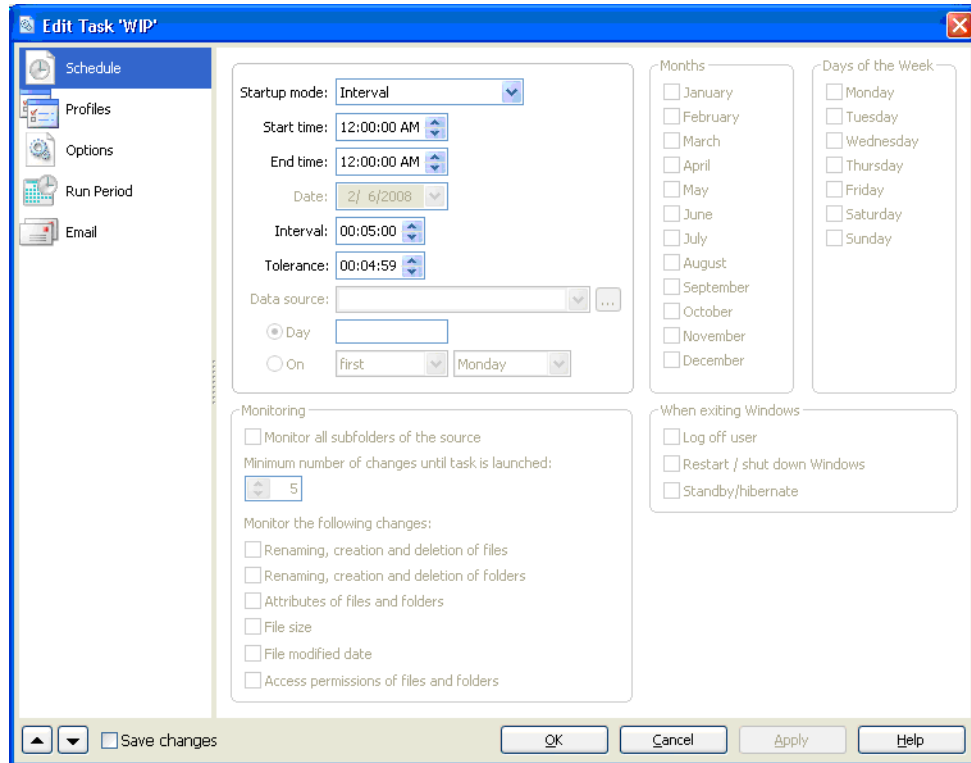
The Scheduler window opens.

2. Proceed as indicated by the following examples and configuration screens.



3. Select a task and click **Edit**.

The Edit Task window opens.



4. On the **Schedule** tab, do the following:

a. Set **Startup mode** to **Interval**.

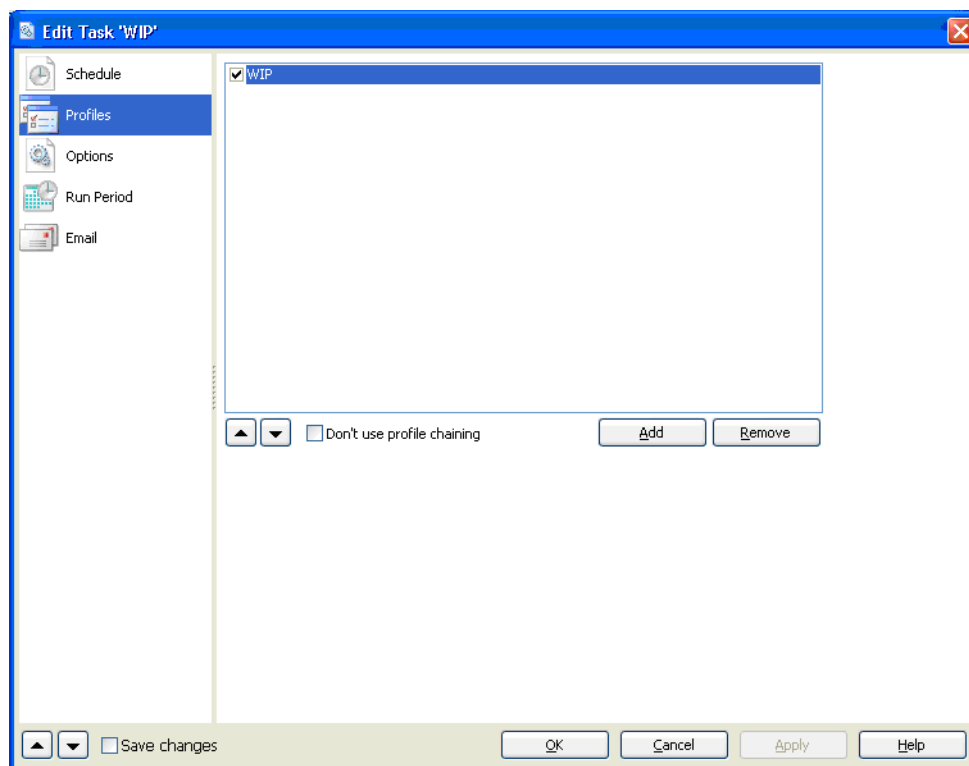
This causes the Profile to run periodically.

b. Verify that the **Start time** and **End time** are the same.

This allows for 24 x 7 execution by the Scheduler.

c. Increase **Interval** sometime in the range of 30 minutes to an hour.

5. On the **Profile** tab, compare and configure as indicated by the following example:



This screen only shows that one show add the Profile of choice. This is done by clicking the Add button and then choosing one of the Profiles created in the configuration step.

Verification of AllSync operation

To verify AllSync operation, do the following:

- Check the logs for the Scheduler.
- Compare the two WIP folders between the Master (V:\...\WIP folder) and Backup (U:\...\WIP folder). They should have the same directories and files.

Note there will be a time lag between material created on the Main and when it shows up on the Backup.

Failure Scenarios

Use the following information to correct problems.

Main or Backup NAS Head Failure

1. Replace the failed unit.
2. Run the *make-NAS-mount.bat* file.
3. Replace the configuration files from the V:\ConfigFiles.

4. Rebuild the Scheduler portion by hand.
5. Restart the Scheduler on the Main NAS Head.

If two pairs of NAS Heads are available, it would be best to configure X-NAS-1 and Y-NAS-1 as pairs, X-NAS-2 and Y-NAS-2, like-wise. If X-NAS-1/Y-NAS-1 are running AllSync and a failure of either occurs, then stop AllSync on that pair. Then start AllSync on the X-NAS-2/Y-NAS-2 pair.

FSM Failure

1. Do not change configurations.
No configuration changes are necessary.
2. Replace/reboot the failed FSM
3. Restart the Scheduler.

K2 Client/Aurora Edit/DSM/SmartBin

No change of operation or configuration is necessary.

Installation and Configuration files

1. Procure the *AllSync-NAS.zip* file.
This zip file contains batch files to do the initial configuration of the NAS head and AllSync.
2. Save the batch files under *V:\ConfigFiles\AllSync-NAS*.
AllSync mirrors the files to the Backup SAN.

