bitcentral™

efficient media workflows

USER MANUAL

Maintenance and Troubleshooting Overview

Providing solutions that maximize the value of media.

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precis™ bitcentral

CONTENTS

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SYSTEM TERMINOLOGY

There are several major components of a Bitcentral news production system. To gain a better understanding of the overall system, it's best to understand these components, their functions and their product names.

Figure 1 Major System Components Bitcentral News Production System

Precis System

Major Component	Function
Precis servers • Content/Edit server • Media Encoders • PTA servers • Transcoder server	Heart of the news production system
NRCS Integration	Communication with third party system to create playlists
Edit server (RVR)	Central raw video storage for editors
Media Encoders with web-based control interface	Record live video for subsequent editing
Precis Web page	View rundowns and stories Attach video to stories (without editing) Export story video files
Playout Control Computer	Works with control hardware and PTA servers to play video during a newscast
Playout servers	Play video under control of the playout control computer

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OASIS System

Major Component	Function
Oasis server	Hosts Oasis software and integrates with Précis to receive rundowns and stories
Oasis Web Page	Primary user interface that displays the content of the • Local archive • Shared archive • CNN NewSource
Remote Contribution Web Page	Remotely accessed web page that enables upload or download of story content for field-based users
Oasis Storage	Bitcentral or third-party storage for story metadata and media
CNN NewSource Integration	Receives CNN stories via satellite
Wellspring	An optional storage component designed to work with data-tape or cloud-based tertiary storage systems.

EDITING System

Major Component	Function
Editing Software	Third-party editing software
Video Attach Plugin	Bitcentral software that enables the editing software to export story video to the Précis or Oasis system
Realtime I/O	Third-party hardware that works with the editing software to ingest or playout video

SERVERS AND GENERAL SYSTEM MONITORING

In a Bitcentral news production system there are a variety of servers designed to support specific functions. Depending on your station's configuration and choice of options you may have any of the following servers in your system.

- Play To Air servers
- Content server
- Edit server
- Media Encoder servers
- Oasis server
- Transcoder server

In some systems, two server functions may be combined into a single server. The most common scenario is to have the Content and Edit servers combined.

Tools for monitoring and diagnosing server health

- Visual Check

It is best to perform a daily check of the servers by looking at the disk drive lights and server annunciator panels. This only takes a few seconds and can give you a clear idea if any hardware problems are pending or if a failure has occurred. Amber lights in the panel indicate possible problems with power supplies, NICs, Processors, RAM and cooling fans. If problems are indicated, go to the HP System Management Homepage to get details.

Figure 2 Server Annunciator Panel

Though there can be variances, the typical arrangement of server drives is as follows:

- First 2 local drives – System Disk RAID 1
- Last 4 local drives – Data Disk RAID 5
- SAS connected storage array (selected servers) – Edit server or Oasis media storage RAID 5 or RAID 60 based on the application and station preferences

- HP System Management Homepage - Each HP server includes its own System Management Homepage. This is used to take a deeper look into problems indicated on the annunciator panel or disk lights. To log onto the System Management Homepage you use the Administrator user name and password.

- HP Array Configuration Utility (ACU) - Each HP server includes its own Array Configuration Utility. This is used to take a deeper look into problems indicated by disk lights. The ACU also provides details about the configuration of the storage array and the RAID configuration.
- Eagleye - Eagleye is the Proactive Monitoring system for Bitcentral Servers. Typically, Eagleye will report back to the Bitcentral Support Desk six times a day. It reports such information as free disk space, CPU usage, the amount of files in specific folders, the last time a server was rebooted, failed drives in the RAID array, and various other server stats that help us make sure that there are no pending problems in the system. Eagleye is installed on each Bitcentral server in your system and runs automatically.

When a system has been setup and validated all the normal functions will have been checked. Bitcentral systems are affected by parameters like network connectivity, permissions on shared folders, Internet connectivity (for some functions), drive space, virus checking software, and network fire walling. So, when problems occur, especially problems with something that worked previously, one of the first to consider is where any changes made to the overall system, network, group policies and so on?

Precis System and Web Browser Compatibility

There are 4 web pages included in the Precis system

1. Precis web page
2. Oasis web page
3. Remote Contribution web page
4. Media Encoder web-based control panel

Originally, Internet Explorer was the only browser that was supported with Bitcentral systems. Over time there have been other browsers added for some of the web pages. However, not all browsers work for all pages. So, Internet Explorer is still the simplest way to go.

Common problems

Component failure such as hard drive or power supply, HDD Failure, Power Supply Failure, NIC Failure & CPU Failure: Use the tools above to identify a problem and contact Bitcentral support ASAP. A case will be opened with HP and parts or a rep will be sent based on the problem.

THE PRECIS CONTENT SERVER

The Content server does several background functions such as NRCS integration, hosting of the database, hosting of the Precis web page and is the drop point for story video from the editors. Usually, the Content server also hosts the functions of the Edit server.

The Content server hosts the database for the system and the database contains the settings for certain parts of the system. If the database is not running, some portions of the system can't get their configuration parameters. So, in a reboot situation, the best thing is to have the Content server fully up and running before bringing up the other servers in the system.

The Content server contains the services that purge old media files. These services are the File and Folder Maintenance services and the Intake Aging Manager service.

Managing the RVR and the File and Folder Maintenance service (FAFM)

The RVR in Precis systems consists of a group of shared folders that editors connect to as NAS. Typically, the folders in the RVR are purged by FAFM running on the Content server. Most of the folders are purged on a 3 to 7 day cycle based on the station's preferences. Some folders are only purged manually. The most common example is the "Permanent Video" folder and its subfolders. The management and automated cleanup of certain files such as log files in the Precis system is also controlled by the "File and Folder Maintenance" service. The Precis technical manual provides more details about the service and how it is configured.

Managing Oasis and Precis content

Precis content consists of the videos that were attached to stories from the editor and any videos that have been marked Do Not Age. Usually, these are evergreen material like animations or opens. Unless individual videos have been marked “Do Not Age,” story videos in Precis live for 7 days. Precis content is purged by the Aging Manager service running on the Content server. Oasis local archive content consists of story videos from past shows, plus other content that has been put into Oasis manually. Oasis content lives in the system forever. Content can be removed from Oasis through a special Media Manager account.

What if it Breaks?

Some stations have a main and a full backup Content server others do not have a backup Content server. For those stations without a backup Content server, the backup is the second (backup) Play to Air server. The backup Play To Air server is setup with all the services of the Content server and can assume the role of the Content server if necessary. The database is also backed up during the overnight hours so that once the switch takes place, the information lost from a Content server failure would be minimized.

Common Problems

Loss of communication with NRCS - Check that the rundown settings have not changed. Check if new rundowns have been added that have not been used before. Check to see if network changes have been made that prevent communications between Bitcentral and the NRCS system.

Content that should be purged still present - Confirm that the File and Folder Maintenance service is running and that the folder list is up to date.

THE PRECIS EDIT SERVER (RVR)

The Edit server (commonly referred to as the Raw Video Repository (RVR)) provides central storage of raw media for all the edit computers in the station. The server architecture is designed to support multiple editing sessions, multiple ingest sessions and real-time recording from the Bitcentral Media Encoder servers. At its core, the Edit server is a big high-performance, high-throughput NAS that is connected via LAN to the editing computers and the Media Encoders.

Maintaining free space and performance are the key factors in trouble-free operations. As a general rule, performance begins to decline after the RVR exceeds 50% capacity. So, it is best to keep the RVR below 50% full. Managing the RVR consists of:

1. Using the File and Folder Maintenance purging software to delete old media content.
2. Manually purging old media content that is outside of the File and Folder Maintenance scope.

Common Problems

Server becoming full - Manage the content and delete unneeded files
Performance issues - Follow the defrag recommendations in this document
Drive failure - Contact support and open a case for a replacement ASAP
User disconnected from RVR - Reconnect the user. Bitcentral recommends that you use batch files or group policies on all editors so that if mapped drives become disconnected, they can be restored by re-booting the computer.
Sluggish performance - Defrag

What if it Breaks?

Alternatives include:

- Temporary central storage on another server such as a Media Encoder or Oasis server. Playout servers are not recommended for this.
- Hybrid central storage/local editing – use some other NAS storage to cache files. Copy the files to the local editor's drive when needed.
- Local editing – move all necessary files to the editor's local drive and edit locally.

Recommended Practice for Data Integrity

Some stations purchase Bitcentral supplied backup servers that mirror the files on the Edit server so there is no interruption in service in the case of an edit server failure. Others provide their own unique backup solutions. Whatever your choice, Bitcentral recommends that you keep track of the health of your servers and have appropriate practices in place, because ultimately you are responsible for your data integrity and the mechanism in place for data recovery.

MEDIA ENCODERS

Media Encoder servers include two live-recording channels per server. All files recorded on the Media Encoder are automatically copied to the "Media Encoder" folder in the edit server. Files are not made available to the editors until the recording is either stopped or split. Split is a function that breaks a recording into two pieces so that the first part can be edited while the recording continues.

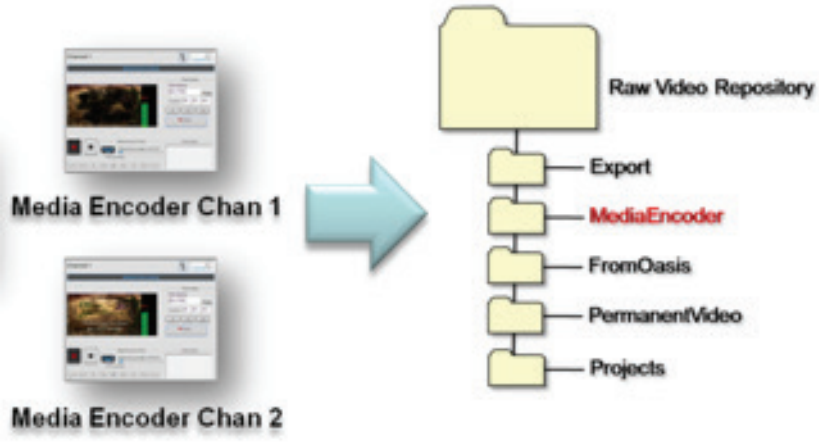

Figure 3 Media Encoder Server and RVR Folders

Types of Media Encoder

There are two types of Media Encoder servers, basic and enhanced. Basic Media Encoders have a 2-channel ingest board. So they can record 2 sources of video at the same time. Enhanced Media Encoders have a 2-channel ingest and 1-channel playout board. Enhanced Media Encoders can record 2 sources of video and do

instant replay of one of the ongoing sources. The primary application of the playout channel in the enhanced Media Encoder is to replay a breaking news feed direct to air and bypass editing completely. The enhanced Media Encoder comes with a dedicated control panel that can be used for the replay functions.

- Basic Media Encoder : 2 Real-time Inputs, 0 Real-time Outputs
- Enhanced Media Encoder : 2 Real-time Inputs, 1 Real-time Output

Figure 4 Control Panel for Enhanced Media Encoder

User Interface

The Media Encoder is controlled through a browser-based user interface. Not all browsers are supported, so we recommend you use Internet Explorer. There is no client software required but there are some IE setup requirements. So, we recommend you ask for instructions before trying to run the Media Encoder UI on a computer you haven't used before.

Figure 5 Media Encoder User Interface

Media Management

The Media Encoder's video files are purged by the File and Folder Maintenance service, running on the Content server. Therefore, there are no additional media management functions necessary for the Media Encoder servers.

Documenting Router Sources

One of the best things you can do to prevent user problems with Media Encoders is to document the router sources that feed the individual channels. Media Encoder operation is very straight-forward but if users can't sort out your routing system they can't make the recording that they need.

What if it Breaks?

- The Media Encoder servers are not backed up by other servers. However, if your station has editing workstations with live video capture cards, you can record live feeds with an editor.

Common Problems

IE Version 9 has a memory leak - Close the browser when not in use.
IE Version 9 needs to be in “compatibility mode” - Activate “compatibility mode” for the Media Encoder browser window.
Internet Explorer and popup blocker - Allow popups for the Media Encoder URL.
Can’t find a recording - Recordings don’t appear in the edit server until it is either split or completed.

NON-LINEAR EDITORS (NLE’S)

This section is intended to provide information on a variety of issues specific to Adobe Premiere and Edius editing in your newsroom.

Editor Integration with Precis

Connection to RVR/Edit Server

Edius editors connect to the RVR as a mapped drive. Normally, Bitcentral will provide you with a .bat file that connects to all the desired shared drives and is setup to run on startup. With this approach, if a user becomes disconnected from the shares, the problem can be resolved by simply restarting the computer. Once connected, users have read and write permissions for the sub-folders of the RVR. If desired, you can limit permissions for your users through group policy settings.

Connection to Pre Air Contribution Folder

The Pre Air Contribution folder allows users to drop video files directly into the Oasis system, thus bypassing the normal automated ingest process. The Edius editors connect to the Pre Air Contribution folder as a mapped drive. As noted above, Bitcentral will provide you with a .bat file that connects to all the desired shared drives and is setup to run on startup.

Connection to the Hot Drop Folder

The Hot Drop folder allows users to drop video files directly into the Precis system, thus bypassing the normal attach process. The Edius editors connect to the Hot Drop folder as a mapped drive. As noted above, Bitcentral will provide you with a .bat file that connects to all the desired shared drives and is setup to run on startup.

The Bitcentral Attach Plug-in

Bitcentral provides a plug-in that simplifies attaching video from the editor to Precis. The plug-in provides a view of the rundown that enables users to simply click on a story and press the Attach button in the GUI to export correctly formatted video to the playout system. This process is typically initiated by pressing the F11 button.
There are several sub-components and settings that have to be configured properly for this function to work. So, you should anticipate that some assistance from Bitcentral will be required if you need to add this integration to a new computer in your system. Once the plug-in is working properly, it will likely

continue working unless a user un-configures the mapping of this function to the F11 button. Bitcentral can help you fix this problem if it occurs.

What if it Breaks?

- There are multiple edit computers. If your editing computer ceases to function, open your project to another computer.

Common Editor Problems (All NLE's)

Camera date settings - When camera date settings are wrong it can cause video files to be purged prematurely from the RVR. Confirm that cameras date settings are correct before use.
Effects favorites - Commonly used effects can be imported so that they are easy for users to find.
Clip Aspect ratio - If the source video appears squished you may need to adjust the clip aspect ratio in the clip properties.
Export to Pre Air - Editors can send story video direct to Oasis by exporting to the Pre Air Contribution folder.
Export to Hot Drop - Editors can send story video direct to the ClipStore by exporting to the Hot Drop folder.
Laptops editing and WIFI - Frequently, when reporters work in the field with their WIFI connection in use, they forget to switch to a wired connection when they come into the office. Because editing uses a 1Gigabit wired connection to maximize throughput, your may need to remind users with laptops to switch to a wired connection and turn off their WIFI when they come in to the office.

Common Edius Problems

Edius help - The Help file for Edius is located in C:\Program Files (x86)\Grass Valley\EDIUS 6.5. It is a .PDF file and it can be replaced if it was accidently deleted.
Default Exporter become unregistered - Attach to Precis should be the "default" export preset but it can be over-written by the user.
Can't find project file (.EZP) - The project file is written to the project folder as a .EZP file. If the user saves their work it will be easy to locate the .EZP file. If not, it will be buried in a subfolder. Encourage users to save their work.
Edius and roaming profiles - If your station does not use generic user accounts for Edius computers, you need to understand that Edius does not support roaming user profiles.
Auto logoff - If Edius is left running and you log onto the computer with a different account, you will not be able to launch Edius again.
Clip Aspect ratio - If the source video appears squished you may need to adjust the clip aspect ratio in the clip properties

Common Premier Problems

Offline Clips - Items that have been purged from the RVR or files contained in folders that have been moved or renamed in the RVR will show as “File Offline”. If all clips are showing offline, a “Where is the clip named _____ Located?” window will present itself when a project is first opened. If you navigate to the folder where the clips are located, all edit decisions that reside in that folder will be restored.

F11 Key does not bring up the Attach window - Attach using the File Menu by selecting File > Export > Attach to Precis or the keyboard shortcut may need to be restored for that command.

Auto Save - By default Auto Save is set to 20 minutes. You can adjust this to shorter intervals in the preferences. Files will be created in the Auto Save folder of the project. Look at the actual file timestamp to judge which file is the newest as Adobe recycles the filename of the auto save file as the number increases over the selected files to keep.

Mixed Media - If a clip with different video properties is the first clip on a sequence, Adobe will ask if you would like to change sequence types. Select “Keep Existing Settings” in order for your sequence to export to your station’s house format correctly during the attach process.

THE PRECIS PLAY TO AIR (PTA) SERVERS

The Play to Air servers (PTA) have one job – to play video clips on air. The primary components of the PTA servers are:

1. PTA server software.
2. RAID 5 Media Storage Array.
3. Bitcentral playout engine and channel services.
4. 4-Channel playout board.
5. Serial control board.

PTA servers are configured specifically for your station’s choices of video playout format. Bitcentral PTA servers can be configured to support a range of video formats such as SD 16X9 with .MPG files to 1080i with .MXF files. However, we do not support switching formats (file types or video resolution) on the fly. Therefore, your system is configured with a single “House Format” in mind. This implies that nothing gets to the PTA servers in a different format than the House Format.

Video files live on the PTA servers for 24 hours and then are automatically purged to make room for new content. But, there is still a copy of any given video file on the Content server for 7-days. If a file that was purged from the PTA server is used again within its 7-day lifespan, it is automatically restored to the PTA server. Once the 7 day lifespan for a video file has passed, the file is purged from both the Content server and the PTA server. It is possible to mark individual video files permanent (Do Not Age). This is done through the Administrator account in the Precis web page.

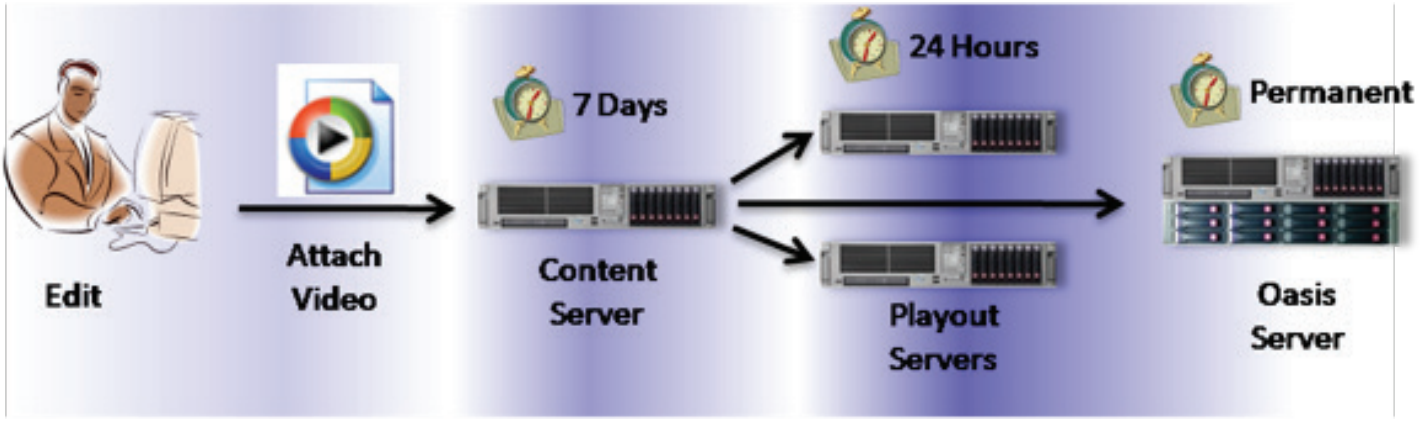

Figure 6 Flow of Story Video through the Precis System

What if it Breaks?

- There is a Main and a Backup PTA server.

Common Problems

Server channel failure - Switch to the backup server until you can diagnose the problem of the failure during a break or after the show.

Failure - Use the “Reset Playout” icon on the desktop of the Playout server. This will reset the required services for playout and solves many playout issues.

PLAYOUT CONTROL SYSTEM

The Playout Control System is made up of the client interface and the various hardware items used in the control room. The overall system includes:

- Main and the Backup Playout Control Computer (POC)
- Playout control client software
- Dedicated control panel (button box) with its serial control hub
- Main to backup video/audio switchover mechanisms

Playout Control Client Diagnostics

The playout control software that runs on the playout control computer contains diagnostic tools that enable users to detect problems with the system.

There are two diagnostic panels that need to be understood

- System status
- Channel status

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System Status

The System status panel comes up when you first launch the POC client. It shows the status of the various parts of the system. The diagnostics work by attempting to communicate with the major system components over Ethernet. If a component cannot be reached, the error indication is activated. The system components polled are:

- Main PTA server
- Backup PTA server
- NRCS (ENPS or INEWS)
- Database
- Network switch

Note: The diagnostics only run at the Playout Control startup. Close the Playout Control when not in use so that diagnostics can run on the next usage of the playout system.

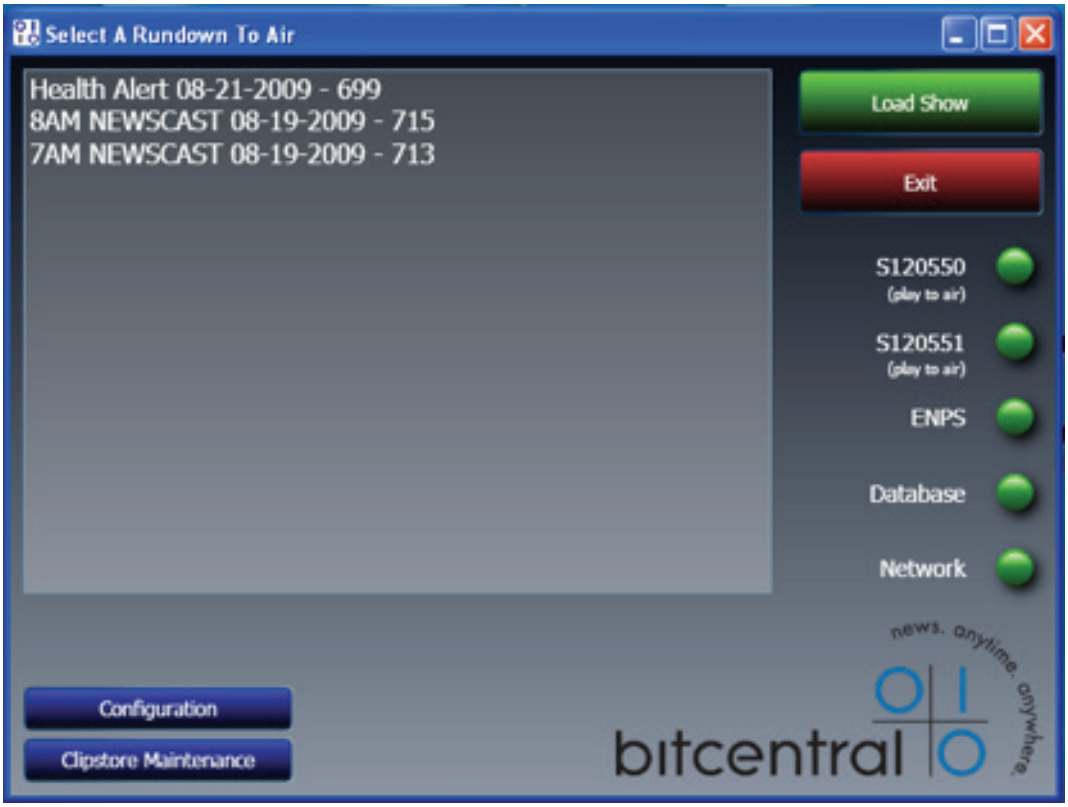


Figure 7 System Status

Channel Status

When a playlist is opened, the Channel Status appears to the right of the playlist. The Channel status diagnostics monitor each playout channel of each PTA server in real-time. If a channel goes offline, the status indicator will turn red.

Figure 8 Channel Status

- Many stations have a Main and a Backup playout control computer. Only one can be in use (running the application) at a time.
- The best practice is to have the Main and the Backup playout control computer on a simple A/B KVM switch, so that there would be a minimum of delay in switching over to the backup.
- The best practice is to have the playout control computer using an auto-logon to minimize delays in getting up and running.

Common Problems

System status shows something offline - Close the playout control application and try again. If the problem persists, start looking for network issues in your system.

Channel status shows one or more channels offline - Perform a “Playout Reset” on the PTA server that is showing a problem. (Playout Reset can only be run locally on the PTA server.)

Unable to load clip in playout channel - The clip may have been recently attached from the editor and not completely transferred when the operator tried to cue it up.

Control panel operating strangely, not responding predictably - If communications between the control panel and control hub are interrupted it may not be restored while “live”.

1. Close the playout control application
2. Confirm that the control panel is connected correctly
3. Cycle the power on the control hub
4. Open the playout control application and try again

The Serial Playout Control Sub System

As said previously, the playout system includes a Playout Control Computer, GUI, a dedicated control panel “Button Box” and a serial control hub “Black Box”. The playout control system is designed so that if the serial control portion were to fail, or one of the playout servers failed you can continue playout without interruption.

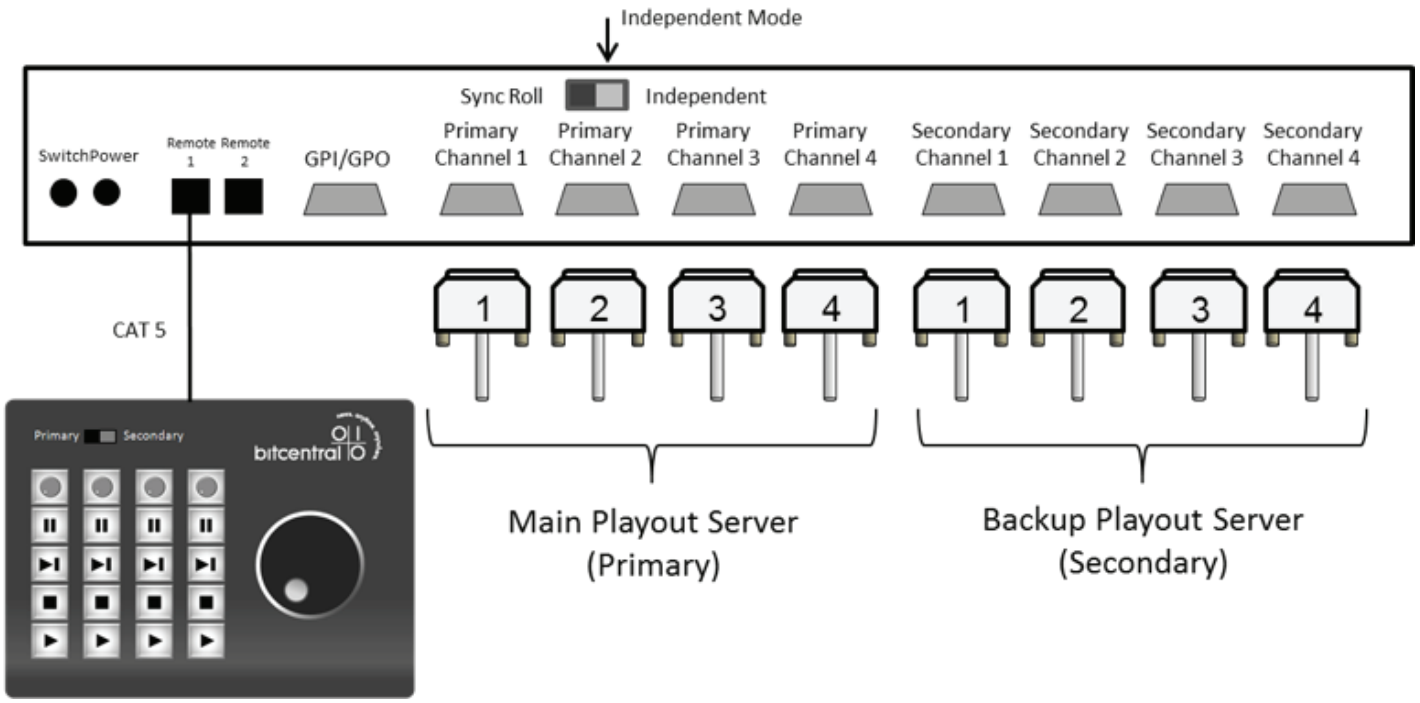
- If the main playout server failed, the backup playout server is already running the same playlist

and continues to roll video.

- Both playout servers roll when the Play button is pressed regardless of whether it was mouse/GUI or control panel.
- If the control panel were to fail, the mouse/GUI can be used to run the entire playout system without interruption.

Control Hub Connections

- The Control Panel receives power and sends serial control commands through a standard CAT 5 cable.
- Device control for each server channel goes through 9-Pin connections as shown below. The breakout cables provided by Bitcentral plug into a Rocketport serial control card installed in each PTA server.
- The control hub should be set in Independent mode.
- Power to the control hub is fed via a DC power adapter provided by Bitcentral.



OASIS SERVERS

The Oasis system combines local and group-wide sharing of stories and story video with access to CNN NewSource VOD content. A web page interface provides users access to basic functions. Additionally, Oasis provides a web page contribution portal for people in the field who need to upload their story video to the station over an Internet connection. Through a special login, administrative functions for the Oasis system are available.

Tools for visibility into the Oasis system

By looking at the Oasis web page, you can see the local content of your system, the content of sister stations in your group and stories that are available from CNN for download to your editing server. Oasis also provides an admin web page that allows for the management of the Oasis server as well as the management of content under a special logon.

Usage

Oasis is a media management system that makes it easy to locate and pull copies of media files. Most commonly users need to export media from Oasis to the RVR. This is done by setting up pre-defined export locations.

The content living on your Oasis Station server includes:

- All stories from your rundowns
- Field contributed stories
- File video (manually archived)
- CNN NewSource content

Oasis Web Page (user section)

The User web page displays stories, their attached video, metadata like slug, date and script. The primary use of the page is to:

- Find stories using the search functions
- Send a copy of the story video to the RVR for use in editing

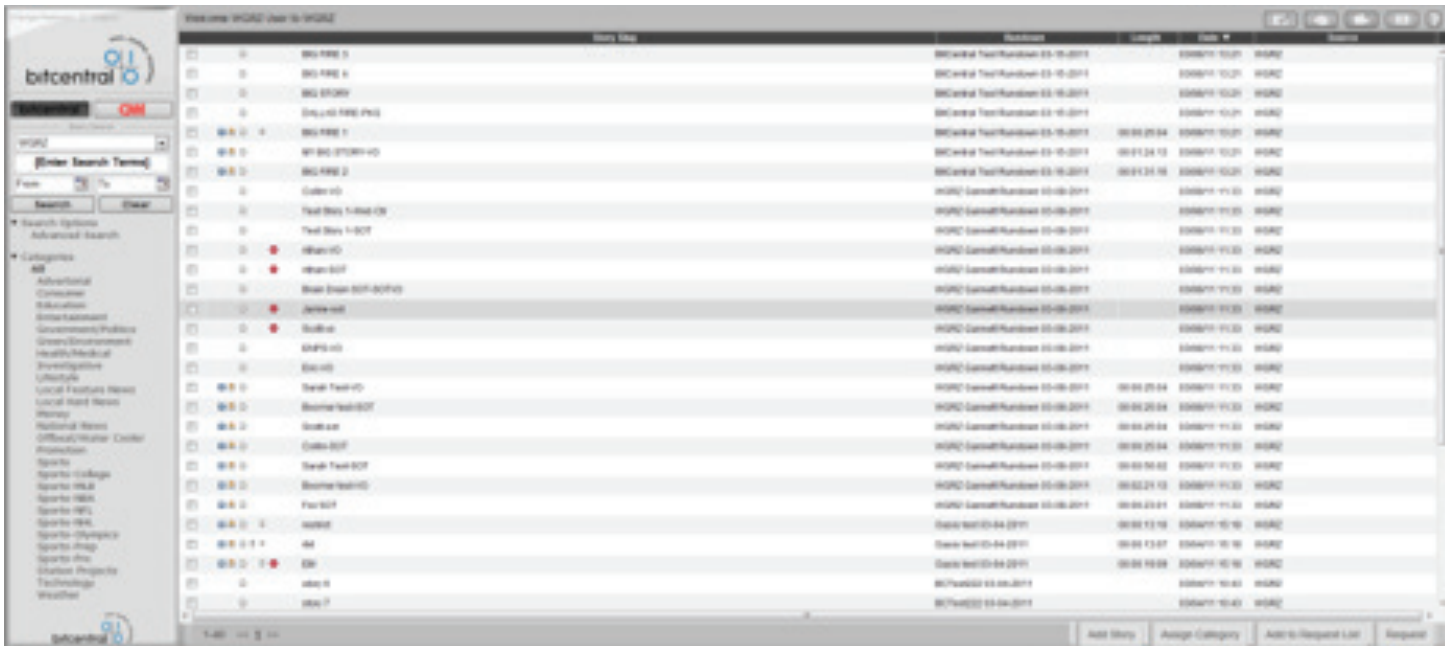


Figure 9 Oasis Web Page

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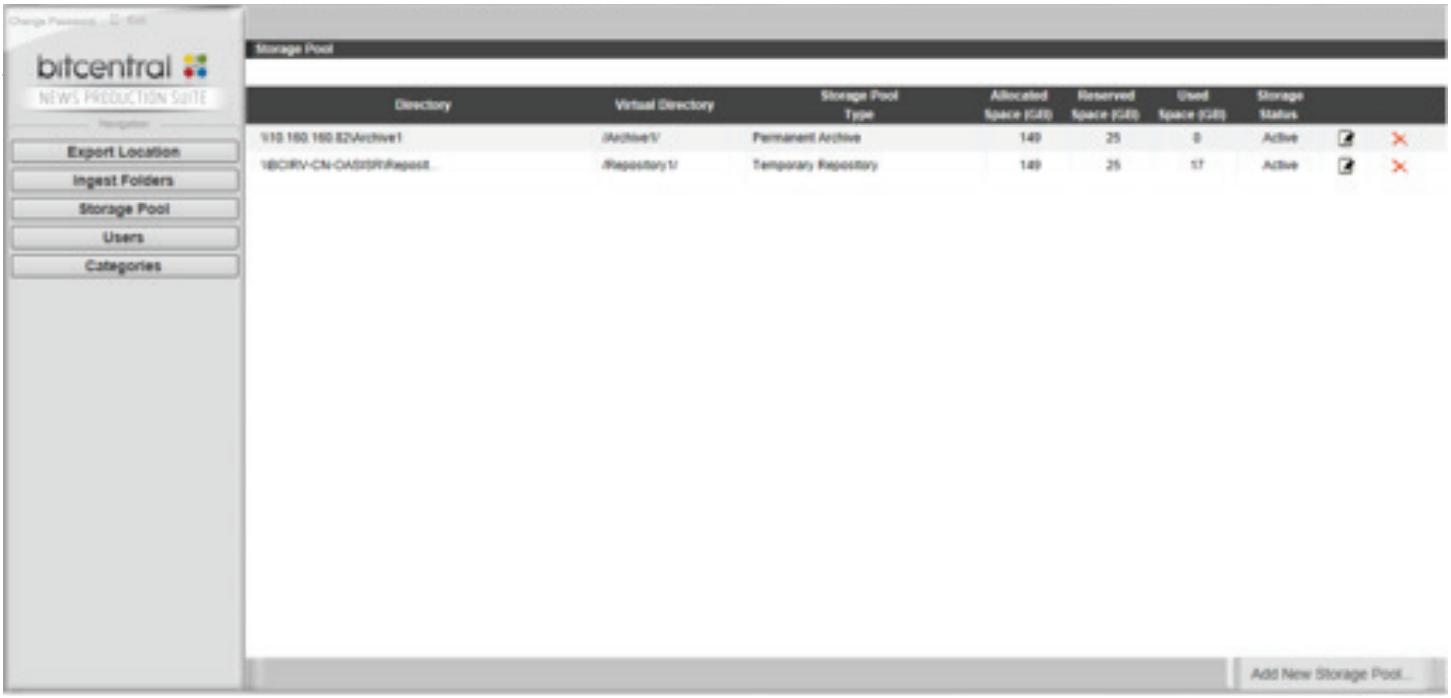

Figure 10 Oasis Web Page Admin Section

The Remote Contribution and Remote Download Features

Remote Contribution enables video files from the field (typically edited stories) to be uploaded to the station over an Internet connection. There are two basic models for Remote Contribution:

- Direct Upload: on arrival, the file is ingested into Oasis and appears in the Oasis web page. As of the release of Oasis version 3.24, remote contribution users can attach story video to Precis rundowns directly from the field. On arrival, the file will be transcoded to the house playout format when it arrives. If the direct attach option is not used then the normal workflow is that someone at the station will use the Oasis web page to export the story video to the edit server, then opens the file in their editor and attaches the video to a story in the rundown.
- Pass-through: the file is passed directly to a pre-determined location such as the edit server. In the pass-through model, someone opens the file in their editor and attaches the video to a story in the rundown.

Editing export types and RC

When contributing content from the field you can follow a simple rule, the smaller the file, the less transfer time. Therefore you may want to choose a file export type for field use that is different than what you broadcast. Normally in the planning process, Bitcentral engineers would work with you to determine your preferences for using remote contribution and assisted you with defining export templates for use with remote contribution.

Testing of Remote Contribution Clients

There are many factors that can impact the functioning of the Remote Contribution client. So, we recommend that you test it under a user's account before you send them out into the field. In addition to a variety of connectivity issues that are beyond Bitcentral control, you should confirm functionality for connection to the remote contribution web page, successful login, successful file selection and successful file upload. The major items to test include:

- Connection to the remote contribution web page – correct URL.
- Successful login – correct user account.
- Successful file selection – requires permission to run a Java plugin in the browser.
    - May require popups to be allowed.
- Successful file upload – requires permission to run a Signiant plugin in the browser.

Oasis Media Storage Expansion Options

Oasis is designed to add more media storage as your archive grows. There are a variety of expansion options available. The Oasis storage expansion options include:

- Expandable local storage.
- Wellspring storage options.

Wellspring provides additional storage, content migration and backup options for Oasis customers over and above spinning disk. These options include:

- On-premise LTO tape or Blu-ray library.
- Cloud Storage of archived content.

Common Problems

Non-essential video being archived - Newsroom users need to mark the "Do Not Archive" field in their rundowns to prevent this.

Rundown did not get archived - The configuration needs to be checked. Rundowns archive automatically.

Archive too soon or too late - The configuration can be adjusted to adjust the automatic archive time.

Need custom export locations - The configuration can be changed to add new export locations.

CNN story video not available - Stories from CNN are published in a first come first served order. Users can go to the CNN web page to download stories that are not completed in the satellite download queue.

Requested video from CNN can't be located - Sometimes users forget to direct the export to the CNN folder. Have the user check for the file in the From Oasis folder.

What if it Breaks?

- Bitcentral offers onsite and cloud based integrated backup solutions for archival data. If you have not purchased Wellspring from Bitcentral we can help to recommend other backup or DRS options. Unless your Bitcentral solution is configured and includes a backup solution, you are responsible for your data integrity and the mechanism in place for data recovery.
- If the Oasis server is out of commission don't fret. Precis keeps the stories and rundown metadata for 7 days.

- If the Oasis server is running but there is a storage problem, temporary storage can be configured.
- If there is a problem with the CNN download, the alternative is the CNN NewSource web page (newsource.cnn.com). Video files will come to your station via an Internet connection instead of the normal satellite delivery method. So, you can expect the file download to take longer.

RUNDOWN INTEGRATION WITH ENPS

The Basics of Integration

A Precis system is integrated with ENPS through the MOS communication protocol. MOS is a component of ENPS. During the system planning process, Bitcentral gathers the critical information we need to make Precis communicate with ENPS with bidirectional MOS communication. Once integration is complete, Precis receives rundown and story data from ENPS on an on-going basis.

Rundown Integration and seeing what Precis sees

The main elements involved with ENPS rundown integration are:

- Network communication between ENPS and Precis.
- A MOS ID for Precis in your ENPS configuration.
- The MOS Story Send setting that tells ENPS what MOS devices to send rundown data to.
- The MOS Control Active setting that makes individual stories in the rundown appear to Precis.

The fastest and simplest way of checking to see what rundown information is getting to the Precis system is to use the Precis web page. The Precis web page displays individual rundowns in a list on the left of the page, and displays stories for a rundown in the middle. If you don't see the rundowns and the stories for a particular rundown in the Precis web page, you need to start looking at your rundown settings in ENPS. Aside from seeing rundowns and stories, you should verify that rundowns are updating quickly and predictably by adding a story or two and seeing the web page update within a few seconds. If you float or remove a story, you should see the web page update appropriately as well.

Adding New Rundowns

When adding new rundowns to your ENPS system, you will need to make sure that two critical rundown settings are correct in the rundown settings. The settings are:

- MOS Story Send
- MOS Control Active

If both of these settings are not correct, rundown data from ENPS will not be sent to the Precis system.

What if it Breaks?

- If the Main ENPS server fails there is an automatic switch to the buddy server.
- If there is a loss of MOS communication and the above rundown settings are still correct, work with ENPS.
- If there is a total failure with no NRCS, Precis has manual rundown (playlist) creation features so a user can create a rundown and get stories aired in the event of a total NRCS failure.

ANTI-VIRUS SOFTWARE ON BITCENTRAL SERVERS

Bitcentral's Policy on Anti-Virus Software

This section describes the recommended configuration and application of anti-virus software to Bitcentral's Precis and Oasis products. Bitcentral customers should be able to use their IT approved anti-virus software. However, because some forms of anti-virus software can have a negative performance impact on the functions of the servers in your Bitcentral system, the following setup of the anti-virus software is recommended:

The following settings apply to all servers and editing computers:

1. Real-Time protection is turned OFF.
2. Scans are scheduled at times that will not impact the production of news or the newscast itself.
3. Exclude scans on the following extensions: .mpg, .mxf, .mov, .jpg, .wmv, .mp4, Any other applicable media file that is part of the workflow

The following folders should be excluded from scans.

Oasis Station Server:

- C:\Program Files\Bitcentral
- D:\Oasis\
- E:\

For Precis system:

- PTA Servers
- C:\Program Files\Bitcentral
- D:\StoryVideos

Content/Database Server:

- C:\Program Files\Bitcentral
- D:\Precis
- D:\StoryVideos
- D:\Proxies
- E:\

PERIODIC SERVER MAINTENANCE

This section is designed to assist you in the operation and maintenance of your Precis and Oasis Systems within the station environment. It provides a list of best practices to be referenced when using or maintaining your Bitcentral systems. All practices apply to all Bitcentral provided products unless otherwise specified.

Some maintenance functions require a server restart or shutdown to apply changes made to the server. When this is required, always log into the server and use the SHUT DOWN, or RESTART functions rather than simply powering-down the server.

Please contact Bitcentral before changing settings on encoders and NLE's because those changes could impact Precis, Oasis and/or Create. Also, please contact Bitcentral before changing file formats, codecs, bitrates, or other variables that may impact playout, so we can partner with the station's engineering and IT departments to ensure the highest system performance.

Rebooting Servers

When booting or restarting servers, keep in mind the following constraints;

- The Database server needs to be fully up before the Play-To-Air servers are booted up.
- The Database server needs to be fully up before the Playout Control client software is opened.
- Storage arrays, connected via SAS to the Edit, Content, and Oasis servers need to have been powered on and finished with their initial system checks before their respective servers are booted up.

If your configuration is unique please work with our team to define the best recommendation for optimal system health.

* Note: If the content and database functions are sharing the same server a monthly reboot is still recommended. It is critical to follow the shutdown procedures outlined above AND to make sure that no users are attempting to utilize the system as this could cause data corruption. A site maintenance window is recommended to perform these steps.

** Note: Please schedule defrags at times that will not conflict with news production cycles. Monthly operating system, HP server firmware maintenance, and Defrag Review With your purchased HP hardware it is important that you maintain the latest firmware on your system. This helps to ensure that the latest fixes are applied and allow for improved diagnostic and troubleshooting if issues do come up. We also recommended that you check the defrag levels of your system(s) and use a defrag solution to help overall performance. Note that disc performance is impacted both by low storage space and defragmentation of the disc.

Monthly Operating System & HP Firmware Updates

- Install critical OS updates on all servers *
- Install latest HP firmware on all HP servers

* Note: Do not install major service pack version jumps outside your current OS level without checking with Bitcentral first.

Server Update and Reboot Cycle

Bitcentral recommends that you schedule server updates (operating system and HP firmware updates) every other week. Regardless of whether updates have been rolled-out, the servers and Playout control computer in your system should be re-booted every other week. This applies to:

- Play To Air servers
- Content servers
- Edit servers
- Media Encoder servers
- Oasis server
- Playout Control computer

Server Defragmentation Cycle

Bitcentral recommends that you schedule server defragmentation on a weekly basis for the following servers/computers:

- Play To Air servers
- Content servers
- Playout Control computer

Note: Bitcentral recommends the use of Diskeeper software for use on the Content server.

Data Backup Data Storage Integrity

Bitcentral offers onsite and cloud based integrated backup solutions for archival data. If you have not purchased Wellspring from Bitcentral we can help to recommend other backup or DRS options. Unless your Bitcentral solution is configured and includes a backup solution, you are responsible for your data integrity and the mechanism in place for data recovery.

As always, if you have questions please contact Bitcentral Support.

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