Avid Unity™ MediaNet

Release 3.0 Supported Configurations

for the Macintosh®, Windows NT®, and Windows 2000® Operating Systems

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Important Information

Avid® recommends that you read all the information in these notes thoroughly before installing or using any new software release.

These notes describe the MediaNet workgroups that Avid currently supports. They include information about Macintosh and Windows clients, MEDIArray™ storage, and recommended cabling. They also describe the different types of clients that you can attach to a MediaNet workgroup.

These notes are broken into two sections: 2-Gb workgroups and 1-Gb workgroups. The configuration requirements for both types of workgroups are different.

If you have a workgroup that contains both 1-Gb and 2-Gb components, do not try to use configuration information for both types of components when setting up the workgroup. Use only the 1-Gb configuration information in cases where you have mixed components.

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Contents

Symbols and Conventions

These configuration notes use the following special symbols and conventions:

A check mark indicates a bug that has been fixed.

An X indicates a known bug or limitation. Where appropriate, a workaround is provided.

A note provides important related information, reminders, recommendations, and strong suggestions.

A caution means that a specific action you take could cause harm to your computer or cause you to lose data.

Types of MediaNet Clients

MediaNet workgroups support three types of MediaNet clients: nonfinishing clients, finishing clients, and audio clients. You can use these clients in workgroups that contain only one type or the other, or you can mix these clients in the same workgroup.

A nonfinishing MediaNet client is any client using:

- One or two tracks of 2:1 or lower video resolution and up to four tracks of audio
- One track of 1:1 video resolution and up to four tracks of audio

A finishing MediaNet client is any client using two tracks of 1:1 video resolution and up to four tracks of audio. Two types of finishing clients are available: Avid Meridien™-based clients and Avid | DS clients.

An audio client is any client using the Digidesign® Pro Tools® software and editing up to 48 tracks of audio files with up to two streams of 3:1 video resolution, or one stream of 1:1 video resolution.

Types Of MediaNet Workgroups

As you create your MediaNet workgroup, it will fit into one of the following categories: a nonfinishing workgroup, a mixed workgroup, a finishing workgroup, or an audio workgroup. You can determine your type of workgroup from the following descriptions:

- A nonfinishing workgroups contains only nonfinishing allocation groups and clients. See "Nonfinishing Allocation Group General Guidelines" on page 6 for information on setting up a nonfinishing workgroup.
- A finishing workgroups contains only finishing allocation groups and clients. See "Finishing Allocation Group General Guidelines" on page 7 for information on setting up a finishing workgroup.
- An audio workgroups contains only audio allocation groups and clients. See "Audio Workgroup General Guidelines" on page 8 for information on setting up an audio workgroup.
- A mixed workgroup can contain nonfinishing allocation groups and clients, audio allocation groups and clients, and finishing allocation groups and clients. See "Mixed Workgroup General Guidelines" on page 11 for information on setting up a mixed workgroup.

Finishing workgroups can contain either finishing allocation groups (only one finishing client can use the allocation group at a time) or shared uncompressed allocation groups (several clients can use the allocation group at the same time). You can also mix these allocation groups in the same workgroup.

For more information on finishing allocation groups, see "Finishing Allocation Group General Guidelines" on page 7.

For more information on shared uncompressed allocation groups, see "Shared Uncompressed Allocation Group General Guidelines" on page 10.

MediaNet workgroups with up to 5 TB of total storage require the File Manager to have 768 MB or 1 GB of memory. MediaNet workgroups with more than 5 TB of total storage require the File Manager to have 2 GB of memory.

Nonfinishing Allocation Group General Guidelines

Because of the low data throughput requirements of nonfinishing clients, nonfinishing workgroups have no special configuration requirements. For specific configuration information about nonfinishing workgroups:

- For 2-Gb workgroups see "Configuring 2-Gb Nonfinishing Allocation Groups" on page 20
- For 1-Gb workgroups "Configuring 1-Gb Nonfinishing Allocation Groups" on page 41

Cabling and Access Guidelines

MediaNet nonfinishing clients can share a connection to the allocation group that they are using. Several nonfinishing clients can use the same allocation group at the same time.

Make sure that your nonfinishing workgroup meets the following cabling and access guidelines:

- Nonfinishing workgroups can support up to 24 clients.
- Each nonfinishing client connects to a MEDIASwitch port.

Metadata Drives

Nonfinishing workgroups have no special requirements for the metadata stripe set. The default values are adequate to handle the workgroup needs. If you need to adjust the size of the metadata stripe set, follow the recommendations in "Determining Metadata Drives" on page 14 to determine the number of drives for the metadata stripe set.

Finishing Allocation Group General Guidelines

Because of the high data throughput requirements of finishing clients, finishing configurations have special configuration requirements. To configure a finishing workgroup, you should start with a nonfinishing configuration and add finishing clients according to the configuration considerations and requirements outlined in the following sections. For specific configuration information about finishing workgroups:

- For 2-Gb workgroups see "Configuring 2-Gb Finishing Allocation Groups" on page 23
- For 1-Gb workgroups "Configuring 1-Gb Finishing Allocation Groups" on page 41

Cabling and Access Guidelines

Each MediaNet finishing client needs a dedicated connection to the finishing allocation group that it is using. While one finishing client is using a finishing allocation group, no other client can use the same allocation group at the same time.

Make sure that your finishing workgroup meets the following cabling and access guidelines:

- Finishing workgroups can support no more than fourteen clients.
- Each finishing client connects to a MEDIASwitch port.

- Each finishing allocation group for finishing clients *must* connect to its own MEDIASwitch port.
- In a dual 8-port MEDIASwitch configuration, the maximum number of finishing clients that can be supported is six.
- In a finishing workgroup containing more than three clients, the drives in finishing allocation groups must be isolated from the drive enclosure containing the metadata drives.

Audio Workgroup General Guidelines

Because of the high data throughput requirements of audio clients, audio configurations have special configuration requirements. For specific configuration information about nonfinishing workgroups:

- For 2-Gb workgroups see “Configuring 2-Gb Audio Allocation Groups” on page 25
- For 1-Gb workgroups “Configuring 1-Gb Audio Allocation Groups” on page 51

Cabling and Access Guidelines

Audio clients must have separate allocation groups for audio files. You cannot mix audio files and video files in the same allocation group.

Audio clients can share a connection to the audio allocation group that they are using. Several audio clients can use the same allocation group at the same time.

MediaNet nonfinishing clients can share a connection to the allocation group that they are using. Several nonfinishing clients can use the same allocation group at the same time.

Each MediaNet finishing client needs a dedicated connection to the finishing allocation group that it is using. While one finishing client is using a finishing allocation group, no other client can use the same allocation group at the same time.

Make sure that your audio workgroup meets the following cabling and access guidelines:

- Audio workgroups can support no more than eleven clients.
- Each audio, nonfinishing, and finishing client connects to a MEDIASwitch port.
- Each finishing allocation group for finishing clients *must* connect to its own MEDIASwitch port.
- In an audio workgroup containing more than three clients, the drives in finishing allocation groups must be isolated from the drive enclosure containing the metadata drives.

You can share audio and video files among several MediaNet clients. You must, however, remember the following restrictions when you are sharing files:

- Each finishing client that is using dual-stream 1:1 video (Media Composer or Symphony) must have dedicated access to the audio allocation group containing the audio files. No other clients can share the audio files while these clients are using them.
- Each finishing allocation group must connect directly to a MEDIASwitch port.
- Up to two audio clients can access an allocation group containing 1:1 video files, provided the allocation group is not being used by a video editing client and each Pro Tools client plays a single stream of video.
- Up to three audio clients can access an allocation group containing 3:1 or higher compressed video files and share the files in the allocation group while they are being used by a video editing client.
- Audio files for audio clients should be in a separate allocation group from the video files. The allocation group can have a minimum of five drives, if it is unprotected, or ten drives, if it is protected.

Metadata Drives

Most audio workgroups have no special requirements for the metadata stripe set. The default values are adequate to handle the workgroup needs. If you need to adjust the size of the metadata stripe set, follow the recommendations in “Determining Metadata Drives” on page 14 to determine the number of drives for the metadata stripe set.

Shared Uncompressed Allocation Group General Guidelines

Several Avid workstations can share a workspace that contains uncompressed (1:1) media files. If you choose to share uncompressed workspaces, you must adhere to the recommendations provided in the following sections to create a working shared uncompressed allocation group.

Because of the high data throughput requirements of finishing clients, shared uncompressed allocation groups have different configuration requirements from the standard nonfinishing workgroups, stand-alone finishing workgroups, mixed workgroups, and audio workgroups.

Shared uncompressed allocation groups currently do not support audio clients. Using an audio client in these allocation groups can produce unpredictable results.

Cabling and Access Guidelines

Make sure that your shared uncompressed allocation group meets the following cabling and access guidelines:

- MediaNet workgroups with two MEDIASwitches use a standard switch configuration file.
- MediaNet workgroups with one MEDIASwitch *must* use a zoned switch configuration file. Special zoned switch configuration files are provided.

- In MediaNet workgroups with one MEDIASwitch, the finishing clients *must* be balanced across the MEDIASwitch zones; that is, one finishing client in each zone.
- MediaNet workgroups with one MEDIASwitch require that the drive enclosures have two connections to the MEDIASwitch, one connection to each zone.
- Workgroups with a single 8-port MEDIASwitch can support up to 5 clients. Workgroups with a single 16-port MEDIASwitch can support up to 11 clients.
- MEDIArray drive enclosures can be daisy-chained together.
- *All* workspaces in the shared uncompressed allocation group *must* be protected.

Metadata Drives

Most shared uncompressed allocation group configurations have no special requirements for the metadata stripe set. The default values are adequate to handle the workgroup needs. If you need to adjust the size of the metadata stripe set, follow the recommendations in "Determining Metadata Drives" on page 14 to determine the number of drives for the metadata stripe set.

Mixed Workgroup General Guidelines

Because of the high data throughput requirements of finishing clients, mixed workgroups have some special configuration requirements. To configure a mixed workgroup, you should start with a nonfinishing configuration, and add finishing clients and audio clients according to the configuration considerations and requirements outlined in the following sections.

For specific configuration information about mixed workgroups:

- For 2-Gb workgroups see “Configuring 2-Gb Mixed Workgroups” on page 29
- For 1-Gb workgroups “Configuring 1-Gb Mixed Workgroups” on page 55

Cabling and Access Guidelines

When you create a mixed workgroup from the nonfinishing configurations:

- MediaNet nonfinishing clients can share a connection to the allocation group that they are using. Several nonfinishing clients can use the same allocation group at the same time.
- Audio clients must have separate allocation groups for audio files. You cannot mix audio files and video files in the same allocation group.
- Audio clients can share a connection to the audio allocation group that they are using. Several audio clients can use the same allocation group at the same time.
- Each MediaNet finishing client needs a dedicated connection to the finishing allocation group that it is using. While one finishing client is using a finishing allocation group, no other client can use the same allocation group at the same time.

When you create a mixed workgroup from the shared uncompressed allocation group configurations:

- MediaNet nonfinishing clients can share a connection to the shared uncompressed allocation group that they are using. Several nonfinishing clients can use the same allocation group at the same time.
- MediaNet finishing clients need a dedicated connection to the shared uncompressed allocation group that they are using. Several finishing clients can share the same shared uncompressed allocation group at the same time.

- MediaNet finishing clients and nonfinishing clients can use the same allocating group at the same time.

Make sure that your mixed workgroup meets the following cabling and access guidelines:

- Mixed workgroups containing finishing clients can support no more than fourteen clients.
- Each nonfinishing and finishing client connects to a MEDIASwitch port.
- Each finishing allocation group for finishing clients *must* connect to its own MEDIASwitch port.
- Each shared uncompressed allocation group *must* connect to its own MEDIASwitch port.
- In a dual 8-port MEDIASwitch configuration, the maximum number of finishing clients that can be supported is six.
- In a mixed workgroup containing more than three clients, the drives in finishing allocation groups must be isolated from the drive enclosure containing the metadata drives.

Metadata Drives

Most mixed workgroups have no special requirements for the metadata stripe set. The default values are adequate to handle the workgroup needs. If you need to adjust the size of the metadata stripe set, follow the recommendations in "Determining Metadata Drives" on page 14 to determine the number of drives for the metadata stripe set.

Determining Metadata Drives

The File Manager uses a portion of some of the MEDIArray drives to save metadata that describes the file system. The metadata is written continuously to the drives at a low data rate. In configurations with finishing clients, the continuous metadata writing impacts finishing clients significantly.

MediaNet uses a group of drives (as many as 15) to save the metadata. The group is divided into three striped sets to provide multiple recovery copies in case of a drive failure. The default large metadata striped set works well with MediaNet clients that are using 2:1 or lower video resolutions. They do not work well with finishing clients that require exclusive access to drives for maximum performance.

Finishing clients require a dedicated unshared allocation group as described in "Configuring 1-Gb Finishing Allocation Groups" on page 41. You should locate the metadata drive group on the extra storage, separate from the unshared allocation group.

Small 1-Gb MediaNet workgroups, with a shared uncompressed allocation group that has 30 MEDIArray drives and a 1-GB File Manager, have no special requirements for the metadata stripe set. The default values are adequate to handle the workgroup needs. If you have a 2-GB File Manager or you add more storage, you should locate the metadata drive group on the extra storage, away from the shared uncompressed allocation group. Follow the instructions in "Adjusting the Metadata Stripe Set Size" on page 15 to change the size and location of the metadata stripe set.

If you add MEDIArray drive enclosures to a small MediaNet workgroup, the size of the metadata stripe set increases to handle the additional storage. This might cause you to have to reconfigure your MediaNet workgroup to isolate the metadata drives in an allocation group separate from the shared uncompressed allocation group.

Large 1-Gb MediaNet workgroups, with a shared uncompressed allocation group, more than 50 MEDIArray drives, and a 2-GB File Manager, should make sure that the metadata stripe set uses an allocation group other than the shared uncompressed allocation group. Follow the instructions in "Adjusting the Metadata Stripe Set Size" on page 15 to change the size and location of the metadata stripe set.

Adjusting the Metadata Stripe Set Size

MediaNet automatically controls the size of the metadata drive group to allow maximum performance for finishing clients. Table 1 and Table 2 show the number of metadata drives necessary for the metadata stripe set. The metadata stripe set is multiplied by three (for backup copies) to find the size of the metadata drive group. You need to allocate enough drives, in a separate allocation group from the shared uncompressed allocation group, to handle the size of the metadata drive group.

If you have drives of different sizes, determine your total storage capacity (based on the drive sizes) and select the next larger storage capacity in the tables to determine your metadata stripe set size and your metadata drive group size.

The File Manager defaults to using the minimum number of drives necessary to store the metadata.

Table 1 250,000 Files / 10,000 Folders on a 768-MB / 1-GB RAM File Manager

Storage Capacity	Number of MEDIArray Drives			Metadata Striped Set Size	Metadata Drive Group Size
	18 GB	50 GB	73 GB		
Up to 522 GB	1 to 29	N/A[a]	N/A	1	3
Up to 1 TB	30 to 59	1 to 19	N/A	2	6
Up to 1.32 TB	60 to 79	20 to 29	1 to 19	2	6
Up to 3.75 TB	80 to 99	30 to 79	20 to 49	3	9
Up to 4.65 TB	N/A	80 to 99	50 to 69	4	12

a. Not applicable

Table 2 500,000 Files / 10,000 Folders on a 2-GB RAM File Manager

Storage Capacity	Number of MEDIArray Drives			Metadata Striped Set Size	Metadata Drive Group Size
	18 GB	50 GB	73 GB		
Up to 1.32 TB	1 to 79	1 to 29	1 to 19	2	6
Up to 3.75 TB	80 to 99	30 to 79	20 to 49	3	9
Up to 4.65 TB	N/A	80 to 99	50 to 69	4	12
Up to 7.3 TB	N/A	N/A	70 to 99	5	15

To create the metadata drive group:

1. Connect the File Manager to only the MEDIArray drives that you need for spare drives and the metadata drive group. This causes these drives to be assigned the lowest logical drive numbers by the File Manager software.

You need to connect at least one MEDIArray drive enclosure with enough MEDIArray drives for a spare drive, and the metadata drive group.

The metadata drives can also be used to store, edit, and play 2:1 video resolution or lower media files. Table 3 shows the number of clients and the video resolutions supported by different size metadata stripe sets.

You *must* assign the metadata drives when you create the data drive set. When the Setup Manager creates a partition, it assigns a logical number to every drive. The File Manager uses the lowest drive number as the location for metadata, thereby isolating the metadata drives.

Table 3 Metadata Stripe Set Storage Capabilities

Metadata Drives	Metadata Allocation Group Size	Maximum Clients	Maximum Video Resolution Per Client	Maximum Video Tracks Per Client	Maximum Audio Tracks Per Client	MEDIASwitch Ports Required
3	4	1	3 to 1	2	4	1
6	6	1	3 to 1	2	4	1
		1	2 to 1	1	4	1
9	10	2	3 to 1	2	4	1

Table 3 Metadata Stripe Set Storage Capabilities (Continued)

Metadata Drives	Metadata Allocation Group Size	Maximum Clients	Maximum Video Resolution Per Client	Maximum Video Tracks Per Client	Maximum Audio Tracks Per Client	MEDIASwitch Ports Required
		1	2 to 1	2	4	1
12	12	2	3 to 1	2	4	1
		1	2 to 1	2	4	1
		3	3 to 1	2	4	2
		2	2 to 1	2	4	2
15	16	3	3 to 1	2	4	1
		1	2 to 1	2	4	1
		3	3 to 1	2	4	2
		2	2 to 1	2	4	2

2. Boot the File Manager.
3. Start the Setup Manager.
4. Create a drive set containing the drives needed for spares and the metadata drive group.
5. Choose Start File Manager from the File Manager menu.

6. Run the Administration Tool and create an allocation group containing all the drives in the metadata drive group. This allocation group can be used only for metadata and 2:1 or lower video resolution media files. It cannot be used to store 1:1 video resolution media files.

If your metadata drive group contains less than four drives, create an allocation group of at least four drives. Allocation groups cannot have less than four drives.

7. Verify that the File Manager is using the designated drives for metadata. The File Manager starts to write metadata every 20 seconds once it is running. You'll see drive activity by watching the drive LEDs on the MEDIArray drive enclosure. There should be one metadata stripe set of drive LEDs flashing at a time. It takes approximately four minutes for all metadata striped sets to write one copy of the metadata each.
8. Shut down the File Manager.
9. Connect the additional drives for any finishing allocation group, or any shared uncompressed allocation group. This causes the File Manager to assign the next logical numbers to just these drives. This will help you to more easily find these drives at a later time.
10. Run the Setup Manager to add the new drives to the data drive set.
11. Run the Administration Tool and create an allocation group containing the new drives.

It is helpful to create allocation groups after each finishing client MEDIArray drive enclosure or shared uncompressed MEDIArray drive enclosures are added to the drive set. Using this method, the new drives are the only ones not yet assigned to the drive set and there is no need to use the Identify Drive to indicate the drives that must be in the next allocation group.

12. Repeat steps 8 through 11 for each finishing client allocation group or each shared uncompressed allocation group.

2-Gb Workgroups

The following sections provide information for setting up and configuring 2-Gb workgroups.

Supported Hardware

The following hardware is supported in 2-Gb workgroups:

- Intel® SR 2200 (File Manager)
- Vixel 9100 and Vixel 9200 Fibre Channel Switches (MEDIASwitch)
- MEDIArray II drive enclosure and MEDIArray II drives

Supported Drives

MediaNet Release 3.0 supports the following MEDIArray drives:

- 73-GB MEDIArray II drives

Configuring 2-Gb Nonfinishing Allocation Groups

Use the guidelines in the following sections to configure a nonfinishing allocation group. You can have several nonfinishing allocation groups in your MediaNet workgroup.

Sizing Allocation Groups

To size an allocation group for nonfinishing clients:

1. Determine all of the video resolutions for the clients that will share the allocation group.

2. Multiply the video resolution by the number of drives required. Use Table 4 and Table 5 to determine drive requirements for your video resolutions.
3. Round the resulting number of drives up to the next even number. For more information, see "Allocation Group Sizing Examples" on page 22.

Table 4 NTSC 30i/PAL 25i

Resolution	Drives per Client
10:1m	0.6
4:1m	1.3
15:1s	0.3
4:1s	0.5
2:1s	0.7
20:1	0.4
10:1	0.7
3:1	1.6
2:1	2.4

Table 5 NTSC 24p/PAL 24p

Resolution	NTSC Drives per Client	PAL Drives per Client
8:1m	0.6	0.7
3:1m	1.3	1.6
35:1	0.3	0.3
28:1	0.3	0.4
14:1	0.5	0.5
3:1	1.3	1.6
2:1	1.8	2.4

Allocation Group Sizing Examples

The following configuration examples show how to size allocation groups for nonfinishing clients.

Configuration Example 1

Configuration Example 1 has 16 clients using an NTSC video resolution of 2:1. Each client uses 2.4 drives.

```
16 clients x 2.4 drives/client = 38.4 drives
```

The allocation group requires 40 drives after rounding up to the next even drive number.

Configuration Example 2

Configuration Example 1 has 5 clients using an NTSC video resolution of 2:1, 6 clients using an NTSC video resolution of 3:1, 8 clients using an NTSC video resolution of 10:1. The 2:1 clients use 2.4 drives each, the 3:1 clients use 1.6 drives each, and the 10:1 clients use 0.7 drives each.

```
5 clients x 2.4 drives/client = 12 drives
6 clients x 1.6 drives/client = 9.6 drives
8 clients x 0.7 drives/client = 5.6 drives
Total drives = 27.2 drives
```

The allocation group requires 28 drives after rounding up to the next even drive number.

Configuring 2-Gb Finishing Allocation Groups

Use the guidelines in the following sections to configure a finishing allocation group for a single finishing client. Your workgroup can contain several finishing allocation groups.

Cabling and Access Guidelines

Make sure that your Meridien-based finishing clients meet the following cabling and access guidelines:

- The allocation group requires a minimum of four drives for an unprotected allocation group and six drives for a protected allocation group.
- There are no metadata drives in the allocation group.
- Each client can play two streams of 1:1 video and four tracks of audio.
- Each client can digitize one stream of 1:1 video and four tracks of audio.

- Only one client can use the allocation group at any time.
- No more than one finishing client can share the connection to the allocation group at a time.
- The MEDIASwitch must be zoned if more than one finishing client needs to use drives in the same MEDIArray at the same time.

Make sure that your Avid | DS-based finishing clients meet the following cabling and access guidelines:

- Audio files and video files must be placed in separate allocation groups.
- The video allocation group requires a minimum of four drives for an unprotected allocation group and six drives for a protected allocation group.
- The audio allocation group requires a minimum of four protected drives. This allows two Avid | DS clients to share the audio files. Two additional drives must be added to the allocation group for each additional Avid | DS client.
- There are no metadata drives in the video allocation group.
- Each Avid | DS client can play two streams of 1:1 video and eight tracks of audio.
- Each Avid | DS client can digitize one stream of 1:1 video and four tracks of audio.
- Only one Avid | DS client can use the video allocation group at any time.
- No more than two Avid | DS clients can use the same MEDIArray at a time.
- Two Avid | DS clients can used separate video allocation groups in the same MEDIArray at the same time.

Configuring 2-Gb Audio Allocation Groups

Use the guidelines in the following sections to configure allocation groups for audio clients. Your workgroup can contain several audio allocation groups.

Cabling and Access Guidelines

Audio files for Pro Tools clients should be in a separate audio allocation group from the video files. Table 6 shows the number of drives needed in audio allocation groups for Pro Tools clients to play 48 tracks.

Table 6 Allocation Group Sizes

	Edit Density		
Pro Tools Clients	**1000 ms**	**500 ms**	**300 ms**
1	4	4	8
2	6	8	16
3	8	10	24
4	28	28	28
5	28	28	NA[a]
9	28	NA	NA

a. NA - not applicable

Leave all of your Pro Tools audio allocation groups unprotected.

Configuring 2-Gb Shared Uncompressed Allocation Groups

Use the guidelines in the following sections to configure shared uncompressed allocation groups. Your workgroup can contain several shared uncompressed allocation groups.

MediaNet supports several types of shared uncompressed workgroups. They can contain all Meridien-based clients, all Avid | DS clients, or a mixture of the two types of clients.

For Windows clients:

- Avid Symphony™ Release 3.5 or later
- Media Composer® and Film Composer® Release 10.5 or later
- Avid Xpress® Release 4.5 or later
- Avid | DS 5.0 or later

For Macintosh clients:

- Media Composer and Film Composer Release 10.5 or later
- Avid Xpress Release 4.5 or later
- Pro Tools 5.1.3 or later

Client Connection and Access Guidelines

Each MediaNet client needs a dedicated connection to the shared uncompressed allocation group. This makes it possible for several clients to access the allocation group at the same time, using the same or different video resolutions.

Table 7 shows client access to the allocation group to play video sequences. Each line shows the number of clients and the video resolutions that they can use.

Table 7 Supported Client Access

Finishing Clients (1:1)	Nonfinishing Clients (2:1)	Nonfinishing Clients (3:1)
2	0	0
1	2	0
1	0	3
1	1	1

Cabling and Access Guidelines

Make sure that your Meridien-based shared uncompressed allocation group meets the following cabling and access guidelines:

- The allocation group requires a minimum of 28 MEDIArray II drives. The drives must be protected.
- There can be no more than two active metadata drives in the allocation group.
- Each client can play two streams of 1:1 video and four tracks of audio.
- Each client can digitize one stream of 1:1 video and four tracks of audio.
- A single zoned MEDIASwitch can’t support more that four MEDIArray II drive enclosures.
- Increasing the number of audio tracks might cause video underruns.

Make sure that your mixed Meridien-based and AVID | DS-based shared uncompressed allocation group meets the following cabling and access guidelines:

- Audio files and video files must be placed in separate allocation groups.
- The video allocation group requires a minimum of 24 MEDIArray II drives. The drives must be protected.
- The audio allocation group requires a minimum of four MEDIArray II drives. The drives must be protected.
- There can be no more than two active metadata drives in the video allocation group.
- The Meridien client uses the separate audio and video allocation groups.
- The Avid | DS client can play two streams of 1:1 video and eight tracks of audio.
- The Meridien client can play two streams of 1:1 video and four tracks of audio.
- Each client can digitize one stream of 1:1 video and four tracks of audio.
- The RPS client must have the Throttle Manager software installed.
- A single zoned MEDIASwitch can't support more than four MEDIArray II drive enclosures.
- Increasing the number of audio tracks might cause video underruns on the Meridien client and dropped frames on the Avid | DS client.

Make sure that your AVID | DS-based shared uncompressed allocation group meets the following cabling and access guidelines:

- Audio files and video files must be placed in separate allocation groups.

- The video allocation group requires a minimum of 14 MEDIArray II drives to support two Avid | DS clients. The drives must be protected.
- The audio allocation group requires a minimum of four protected drives. This allows two Avid | DS clients to share the audio files. Two additional drives must be added to the allocation group for each additional Avid | DS client.
- There can be no metadata drives in the video allocation group.
- The audio allocation group can contain all the metadata drives.
- A single MEDIASwitch *does not* need to be zoned. It can use standard configuration files.
- Two Avid | DS clients can use the same allocation group through the same MEDIASwitch port at the same time.
- The MEDIArray II drive enclosure used for the video allocation group must have a dedicated connection to the MEDIASwitch.
- Each Avid | DS client can play two streams of 1:1 video and eight tracks of audio.
- Each Avid | DS client can digitize one stream of 1:1 video and four tracks of audio.

Configuring 2-Gb Mixed Workgroups

Use the guidelines in the following sections to configure mixed workgroups.

Cabling and Access Guidelines

Make sure that your mixed workgroup meets the following cabling and access guidelines:

- Mixed workgroups can contain nonfinishing, finishing, audio, and shared uncompressed workgroups.

- When you mix allocation groups in a workgroup, follow the guidelines for the type of allocation group you are adding.

2-Gb Cabling Illustrations

The following sections provide cabling information and diagrams for nonfinishing, mixed, audio, and finishing workgroups, and for workgroups that contain shared uncompressed allocation groups. The line work in the diagrams should be interpreted as follows:

- Components with solid lines are necessary to create the MediaNet workgroup with the *minimum* recommended storage configuration.
- Components with dotted lines are optional additions that can be made to the MediaNet workgroup up to the *maximum* configuration. They also show where the component should be attached to the MediaNet workgroup.

The following sections contain detailed information about each supported configuration. The information includes:

- The maximum number of MediaNet clients.
- The maximum video resolution that MediaNet clients can use.
- The maximum number of audio tracks that each MediaNet client can use.
- The minimum number of MEDIArray enclosures.
- The amount of File Manager memory required for the workgroup.
- The number of MEDIASwitches and the MEDIASwitch sizes in the configuration.
- The host file name that should be used to configure the MEDIASwitches.

Nonfinishing Configurations

The configurations in this section are based on the nonfinishing configuration examples in “Configuring 2-Gb Nonfinishing Allocation Groups” on page 20.

Configuration 1

In Configuration 1:

- 16 clients at 2:1 video resolution
- Three MEDIArrays with 40 drives and one allocation group

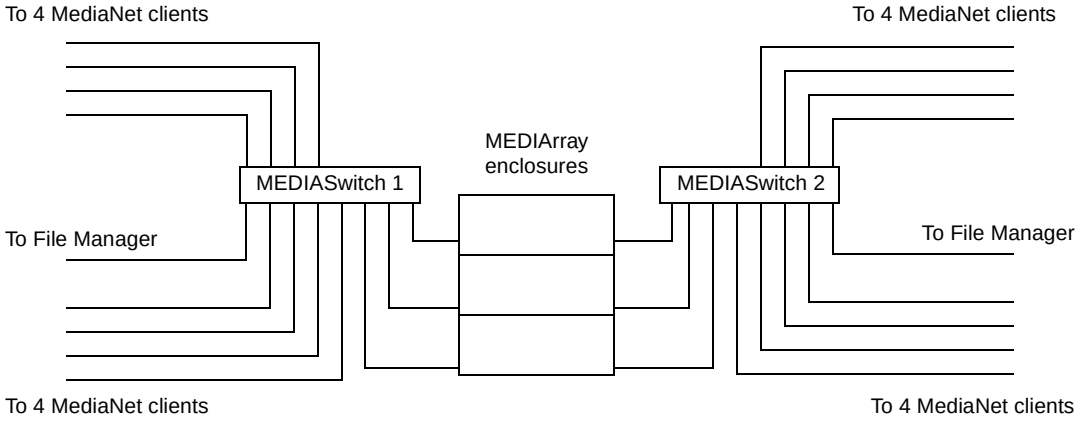

Figure 1 Configuration 1

Configuration 2

In Configuration 2:

- 5 clients at 2:1 video resolution
- 6 clients at 3:1 video resolution
- 8 clients at 10:1 video resolution
- Two MEDIArrays with 28 drives and one allocation group

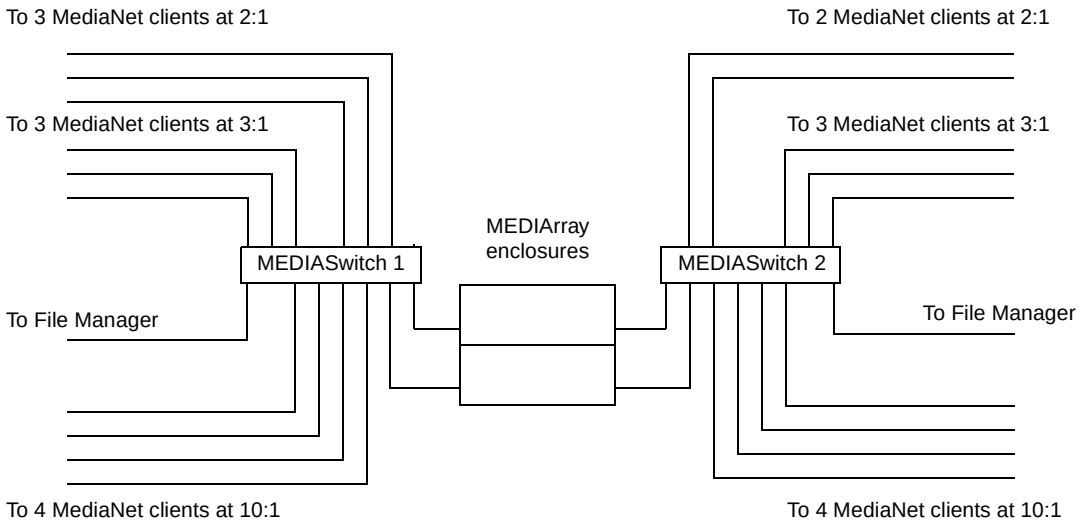

Figure 2 Configuration 2

Shared Uncompressed Configurations

The following configurations contain detailed information about shared uncompressed allocation groups. Each configuration also has notes about specific client access to the allocation group.

Numbers near the cables indicate the MEDIASwitch port where the cable should be connected.

Configuration 3

In Configuration 3:

- MEDIArray 1 and MEDIArray 2 contain an allocation group.
- The Meridien clients share the allocation group through the zoned MEDIASwitch.

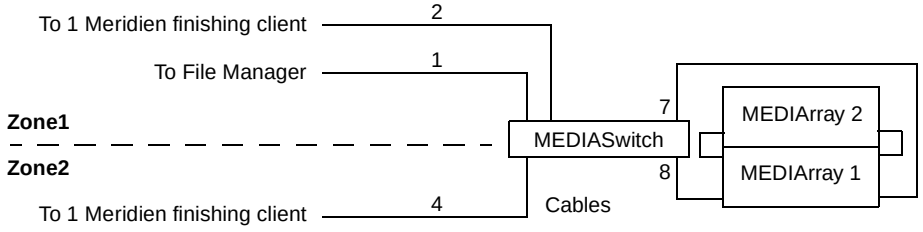

Figure 3 Configuration 3

Configuration 4

In Configuration 4:

- MEDIArray 1 and MEDIArray 2 contain allocation group 1.
- MEDIArray 3 and MEDIArray 4 contain allocation group 2.
- The Meridien clients using ports 2 and 7 share allocation group 1 through the zoned MEDIASwitch.
- The Meridien clients using ports 3 and 8 share allocation group 2 through the zoned MEDIASwitch.

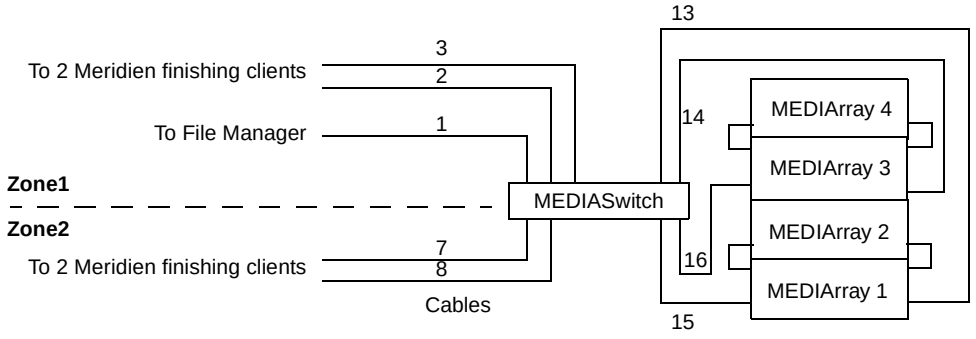

Figure 4 Configuration 4

Configuration 5

In Configuration 5:

- MEDIArray 1 and MEDIArray 2 contain allocation group 1.
- MEDIArray 3 and MEDIArray 4 contain allocation group 2.
- One Meridien client from MEDIASwitch 1 and one Meridien client from MEDIASwitch 2 share allocation group 1.
- One Meridien client from MEDIASwitch 1 and one Meridien client from MEDIASwitch 2 share allocation group 2.

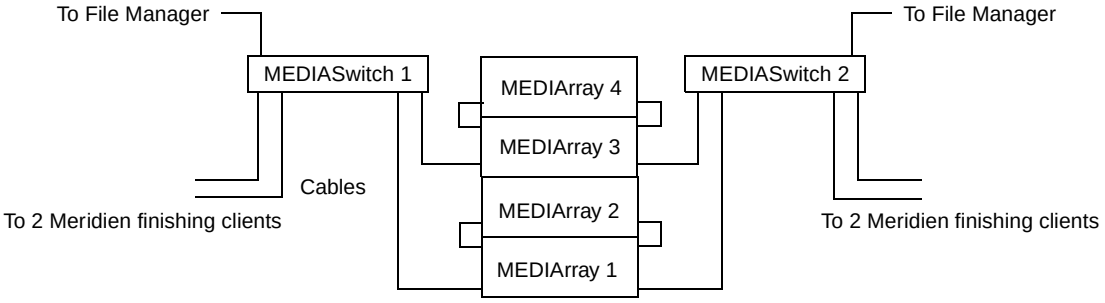

Figure 5 Configuration 5

Configuration 6

In Configuration 6:

- MEDIArray 1 and MEDIArray 2 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group first so it contains the metadata drives)
  - a video group with 24 drives
- The Meridien client, the Avid | DS client, and the RPS client share the allocation groups through the zoned MEDIASwitch.

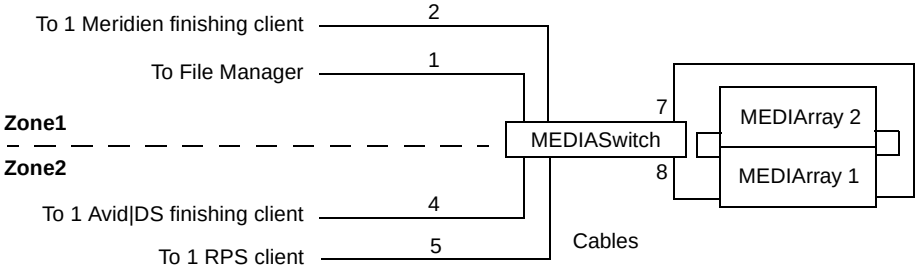

Figure 6 Configuration 6

Configuration 7

In Configuration 7:

- MEDIArray 1 and MEDIArray 2 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group first so it contains the metadata drives so they become metadata drives)
  - a video group with 24 drives (create this allocation group third)
- MEDIArray 3 and MEDIArray 4 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group second so it contains the metadata drives)
  - a video group with 24 drives (create this allocation group fourth)
- The Meridien client in Zone 1, and the Avid | DS client and the RPS client in Zone 2 share the allocation groups in MEDIArrays 1 and 2 through the zoned MEDIASwitch.
- The Meridien client in Zone 2, and the Avid | DS client and the RPS client in Zone 1 share the allocation groups in MEDIArrays 3 and 4 through the zoned MEDIASwitch.

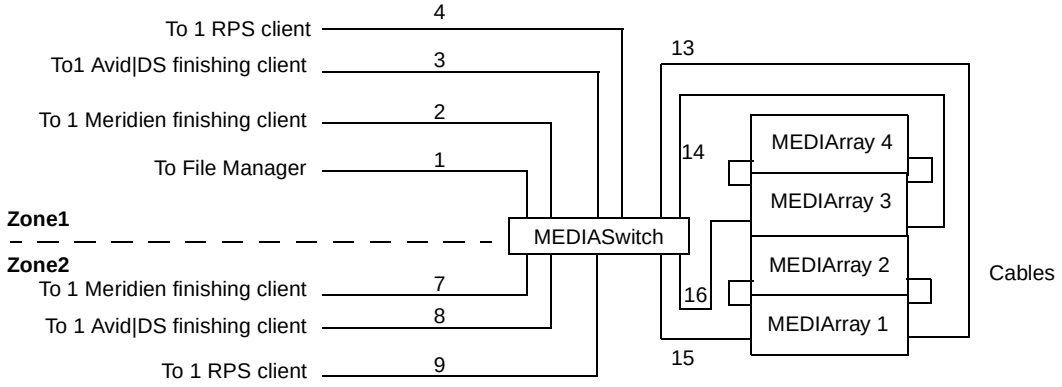

Figure 7 Configuration 7

Configuration 8

In Configuration 8:

- MEDIArray 1 and MEDIArray 2 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group first so it contains the metadata drives)
  - a video group with 24 drives (create this allocation group third)
- MEDIArray 3 and MEDIArray 4 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group second so it contains the metadata drives)
  - a video group with 24 drives (create this allocation group fourth)
- The Meridien client on MEDIASwitch 1, and the Avid|DS client and the RPS client on MEDIASwitch 2 share the allocation groups in MEDIArrays 1 and 2.
- The Meridien client on MEDIASwitch 2, and the Avid|DS client and the RPS client on MEDIASwitch 1 share the allocation groups in MEDIArrays 3 and 4.

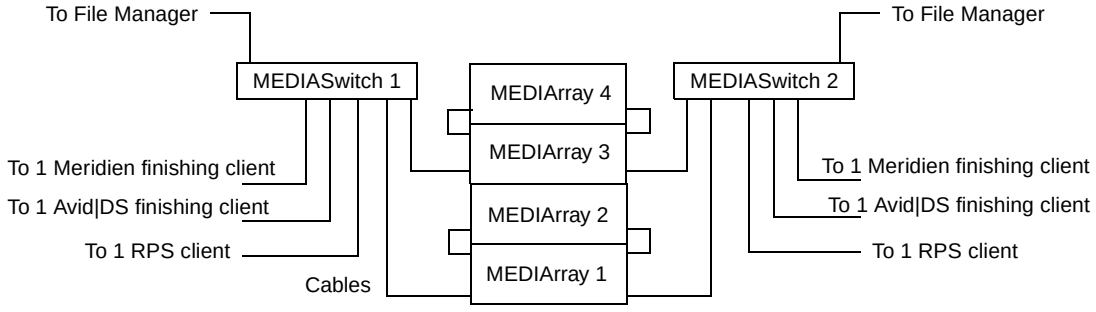

Figure 8 Configuration 8

Configuration 9

In Configuration 9:

- MEDIArray 1 and MEDIArray 2 contain two allocation groups:
  - an audio group with 4 drives (create this allocation group first so it contains the metadata drives)
  - a video group with 14 drives (create this allocation group second)
- The Avid | DS clients and the RPS clients share the allocation groups.

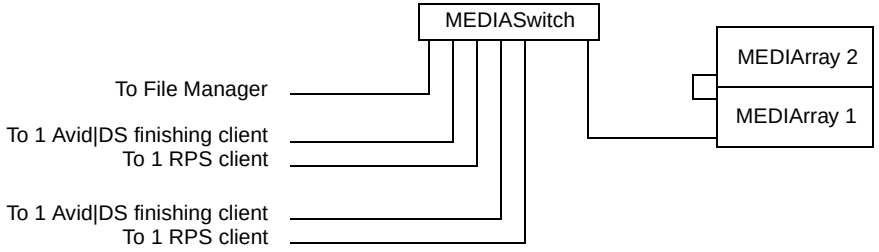

Figure 9 Configuration 9

Configuration 10

In Configuration 10:

- MEDIArray 1, MEDIArray 2, and MEDIArray 3 contain three allocation groups:
  - an audio group with 8 drives in MEDIArray 1 (create this allocation group first so it contains the metadata drives)
  - two video groups with 14 drives each in MEDIArrays 2 and 3 (create these allocation groups second)
- Two Avid | DS clients and two RPS clients share the video allocation group in MEDIArray 2.

- Two Avid | DS clients and two RPS clients share the video allocation group in MEDIArray 3.
- All eight clients share the audio allocation group in MEDIArray 1.

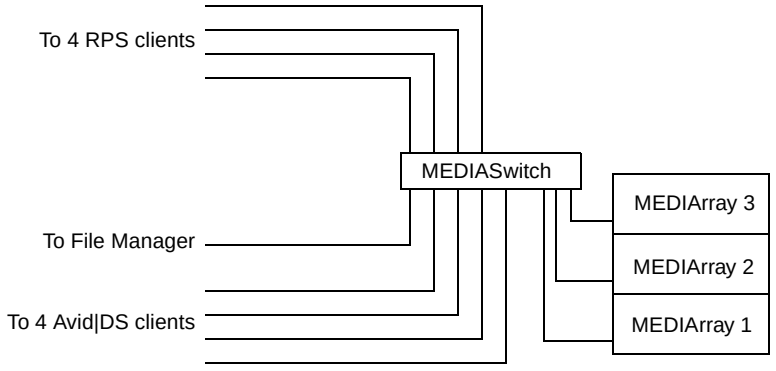

Figure 10 Configuration 10

Configuration 11

In Configuration 11:

- MEDIArray 1, MEDIArray 2, and MEDIArray 3 contain three allocation groups:
  - an audio group with 8 drives in MEDIArray 1 (create this allocation group first so they become metadata drives)
  - two video groups with 14 drives each in MEDIArrays 2 and 3 (create these allocation groups second)
- Two Avid | DS clients and two RPS clients share the video allocation group in MEDIArray 2.
- Two Avid | DS clients and two RPS clients share the video allocation group in MEDIArray 3.
- All eight clients share the audio allocation group in MEDIArray 1.

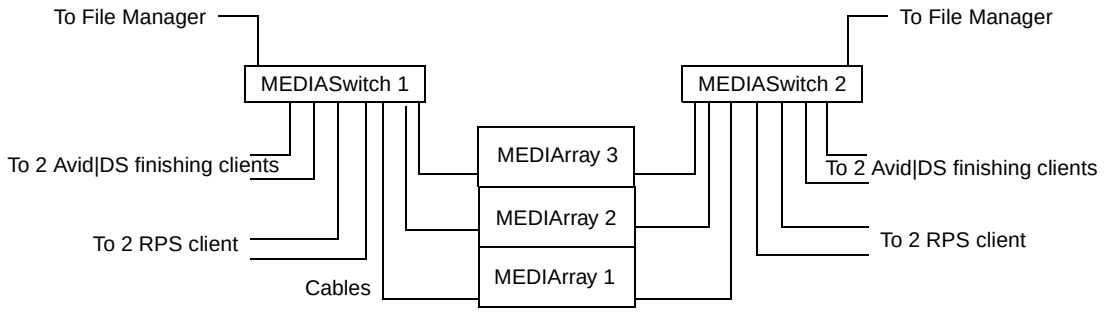

Figure 11 Configuration 11

1-Gb Workgroups

The following sections provide information for setting up and configuring 1-Gb workgroups.

Supported Hardware

The following hardware is supported in 1-Gb workgroups:

- Intel ISP 2150 or Systium 340 (File Manager)
- Vixel 7100 and Vixel 7200 Fibre Channel Switches (MEDIASwitch)
- MEDIArray drive enclosure and MEDIArray drives

Supported Drives

MediaNet Release 3.0 supports the following MEDIArray drives:

- 18-GB MEDIArray drives (HH, LP, and XL)
- 50-GB MEDIArray drives
- 73-GB MEDIArray drives

You can mix 18-GB, 50-GB, and 73-GB MEDIArray drives in the same MediaNet workgroup. To mix these drives, use the following configuration guidelines:

- Different size drives *must* be placed in different MEDIArray drive enclosures. You *cannot* mix different size drives in the same MEDIArray drive enclosure.
- Different size MEDIArray drives *must* be placed in different allocation groups.

Configuring 1-Gb Nonfinishing Allocation Groups

To configure a nonfinishing workgroup, use any of the nonfinishing configurations as they appear in Table 15.

Configuring 1-Gb Finishing Allocation Groups

To configure a finishing workgroup, use any of the nonfinishing configurations as they appear in Table 15 and add finishing clients as describes in "Finishing Configuration Examples" on page 42.

Cabling and Access Guidelines

Make sure that your finishing workgroup meets the following cabling and access guidelines:

- If protection is enabled and the workgroup contains 18-GB HH or 50-GB HH drives, the finishing workgroup can support no more than six clients.
- If you base your finishing workgroup on Configuration 1, you might need to add a second drive enclosure and expand the metadata stripe set before you add any finishing clients. See "Determining Metadata Drives" on page 14 for information on determining how many metadata drives your workgroup will need.

- In a finishing workgroup with no more than three clients and all the drives used are 18-GB LP:
  - A five drive finishing allocation group must contain unprotected workspaces at all times.
  - One finishing client can be assigned to a five drive allocation group.

  If these conditions is not met, the drives in finishing allocation groups must be isolated from the enclosure containing the metadata drives.

Finishing Configuration Examples

The following examples provides configuration information for adding finishing clients to an existing workgroup.

Configuration Example 1

Configuration Example 1 contains three finishing clients (F1, F2, and F3) connected to two MEDIASwitches (see Figure 12). The switches are also connected to three MEDIArray drive enclosures (E1, E2, and E3). Drive enclosure E1 is for low-resolution media files. Drive enclosures E2 and E3 are for 1:1-resolution media files and are divided into two finishing allocations groups (G1 and G2). Drive enclosures E2 and E3 are also daisy chained together. Other clients, like client C1, can also be connected to the configuration.

Configuration Example 1 demonstrates the effect cabling has on simultaneous shared data throughput in a MediaNet finishing workgroup. The workgroup shows a symmetric configuration with partial access to the allocation groups from MEDIASwitch 1 and full access from MEDIASwitch 2.

This configuration allows either client F1 or client F3 on MEDIASwitch 1 a direct connection to allocation groups G1 and G2. Only one of these clients can access either group G1 or G2 at any time because MEDIASwitch 1 has only one direct connection route to the groups.

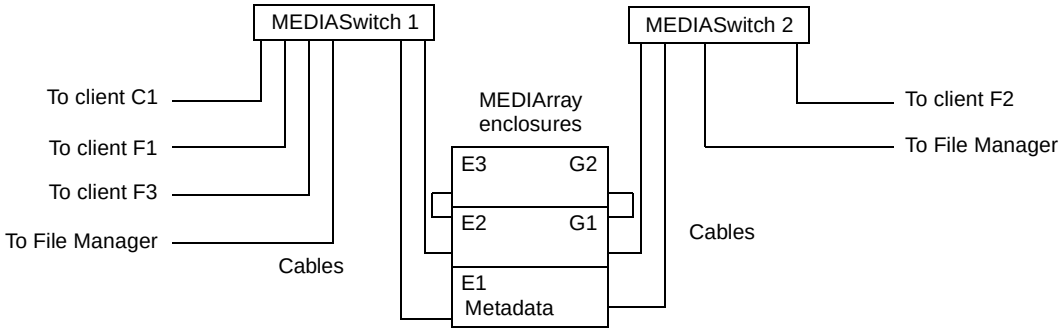

Figure 12 Configuration Example 1

Client F2 on MEDIASwitch 2 also has a direct connection to these same groups. It can access either group G1 or G2, but not the same groups as a finishing client from MEDIASwitch 1.

Table 8 shows the possible finishing client connections to finishing allocation groups G1 and G2.

Table 8 Example 1 Client Connections

Client Number	Allocation Group		Client Number	Allocation Group
F1	G1	&	F2	G2
F1	G2	&	F2	G1
F3	G1	&	F2	G2
F3	G2	&	F2	G1

Configuration Example 2

Configuration Example 2 contains three finishing clients (F1, F2, and F3) connected to two MEDIASwitches (see Figure 13). The switches are also connected to three MEDIArray drive enclosures (E1, E2, and E3). Drive enclosure E1 is for low-resolution media files. Drive enclosures E2 and E3 are for 1:1-resolution media files and are divided into two finishing allocation groups (G1 and G2). Drive enclosures E2 and E3 are each directly connected to MEDIASwitch 1 and daisy chain connected to MEDIASwitch 2. Other clients, like client C1, can also be connected to the configuration.

Configuration Example 2 demonstrates the effect cabling has on simultaneous shared data throughput in a MediaNet finishing workgroup. The workgroup shows an asymmetric configuration with full access to the allocation groups from MEDIASwitch 1 and partial access from MEDIASwitch 2.

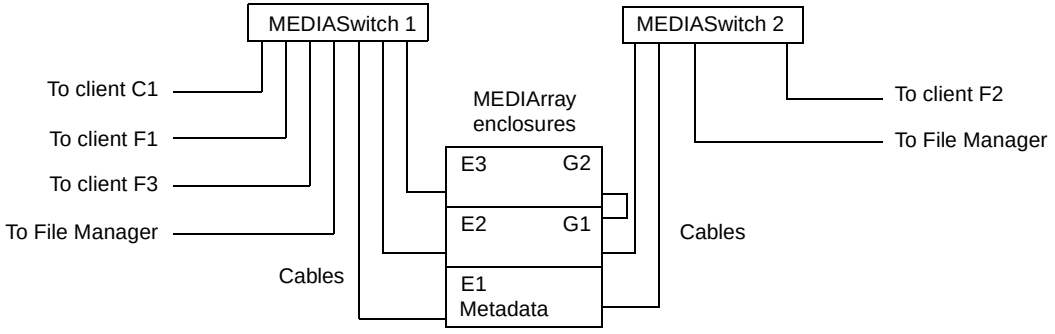

Figure 13 Configuration Example 2

This configuration allows both client F1 or client F3 on MEDIASwitch 1 a direct connection to allocation groups G1 and G2. Both clients can access either group G1 or G2 at the same time because MEDIASwitch 1 has two direct connection routes to the groups.

Client F2 on MEDIASwitch 2 also has a direct connection to these same groups. It can access either group G1 or G2, but not the same groups as a finishing client from MEDIASwitch 1, when only one of the clients on MEDIASwitch 1 is accessing one of the groups.

Table 9 shows the possible finishing client connections to finishing allocation groups G1 and G2.

Table 9 Example 2 Client Connections

Client Number	Allocation Group		Client Number	Allocation Group
F1	G1	&	F2	G2
F1	G2	&	F2	G1
F3	G1	&	F2	G2
F3	G2	&	F2	G1
F1	G1	&	F3	G2
F1	G2	&	F3	G1

Configuration Example 3

Configuration Example 3 contains three finishing clients (F1, F2, and F3) connected to two MEDIASwitches (see Figure 14). The switches are also connected to three MEDIArray drive enclosures (E1, E2, and E3). Drive enclosure E1 is for low-resolution media files. Drive enclosures E2 and E3 are for 1:1-resolution media files and are divided into four finishing allocation groups (G1, G2, G3, and G4). Drive enclosures E2 and E3 are each directly connected to MEDIASwitch 1 and daisy chain connected to MEDIASwitch 2. Other clients, like client C1, can also be connected to the configuration.

For this configuration to function properly, all of the drives in drive enclosures E2 and E3 must be 18 GB LP drives or 50 GB HH drives in allocation groups with 15% reserved space (see "Creating Reserved Space to Improve 50 GB HH Drive Performance" on page 50).

In this configuration, the finishing *allocation groups G1 through G4 are not protected. This allows for a maximum of four finishing clients, two on MEDIASwitch 1 and two on MEDIASwitch 2, to access the four allocation groups simultaneously, with one client having access to one allocation group at a time.*

Configuration Example 3 demonstrates the effect cabling has on simultaneous shared data throughput in a MediaNet finishing workgroup. The workgroup shows a symmetric configuration with full access to the allocation groups from MEDIASwitch 1 and MEDIASwitch 2.

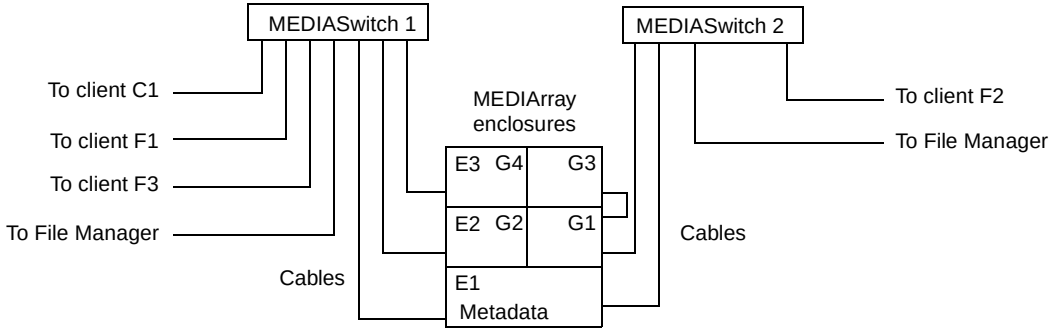

Figure 14 Configuration Example 3

This configuration allows client F1 and client F3 on MEDIASwitch 1 a direct connection to allocation groups G1 and G2 or allocation groups G3 and G4. Both clients cannot access groups G1 and G2 or groups G3 and G4 at the same time because they are finishing allocation groups and MEDIASwitch 1 has only two direct connection routes to the groups.

Client F2 on MEDIASwitch 2 also has a direct connection to these same groups. It can access either groups G1 and G2 or groups G3 and G4, but not the same groups as a finishing client from MEDIASwitch 1, when only one or both of the clients on MEDIASwitch 1 is accessing one of the groups.

Table 10 shows some of the possible finishing client connections to finishing allocation groups G1 through G4.

Table 10 Example 3 Client Connections

Client Number	Allocation Group		Client Number	Allocation Group	Client Number	Allocation Group
F1	G1	&	F2	G2	F3	G3 or G4
F1	G2	&	F2	G1	F3	G3 or G4
F3	G1	&	F2	G2	F1	G3 or G4
F3	G2	&	F2	G1	F1	G3 or G4
F1	G1	&	F3	G3	F2	G2 or G4
F1	G2	&	F3	G3	F2	G1 or G4

Configuration Example 4

Configuration Example 4 contains three finishing clients (F1, F2, and F3) connected to one MEDIASwitch (see Figure 15). The switch is also connected to three MEDIArray drive enclosures (E1, E2, and E3). Drive enclosure E1 is for the metadata drives and spare drive, and also has a five drive, unprotected, finishing allocation group (G3) for 1:1-resolution media files. Drive enclosures E2 and E3 are also for 1:1-resolution media files and are divided into two finishing allocation

groups (G1 and G2). Drive enclosures E2 and E3 are each directly connected to MEDIASwitch 1. No other clients types are in this configuration.

For this configuration to function properly, all of the drives in drive enclosures E1, E2, and E3 must be 18 GB LP drives and the metadata stripe set must not exceed three drives (see "Creating Reserved Space to Improve 50 GB HH Drive Performance" on page 50).

In this configuration, the finishing *allocation groups G1 and G2 are protected, and* finishing *allocation group G3 is not protected. This allows the three finishing clients to access the three allocation groups simultaneously, with one client having access to one allocation group at a time.*

Configuration Example 4 demonstrates the effect cabling has on simultaneous shared data throughput in a MediaNet finishing workgroup. The workgroup shows a symmetric configuration with full access to the allocation groups.

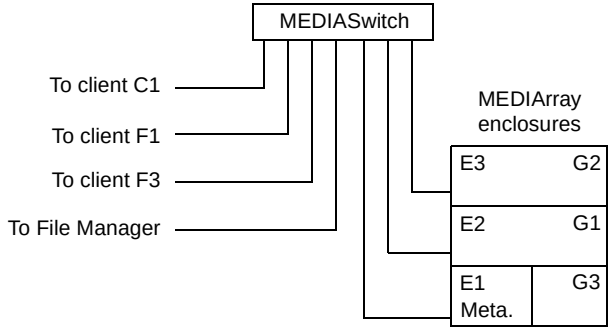

Figure 15 Configuration Example 4

This configuration allows client F1, client F2, and client F3 direct connection to allocation groups G1, G2, and G3. The three clients cannot access groups G1, G2, and G3 at the same time because they are finishing allocation groups and MEDIASwitch 1 has only three direct connection routes to the groups.

Table 11 shows some of the possible finishing client connections to finishing allocation groups G1 through G3.

Table 11 Example 4 Client Connections

Client Number	Allocation Group		Client Number	Allocation Group	Client Number	Allocation Group
F1	G1	&	F2	G2	F3	G3
F1	G1	&	F2	G3	F3	G2
F1	G2	&	F2	G1	F3	G3
F1	G2	&	F2	G3	F3	G1
F1	G3	&	F2	G1	F3	G2
F1	G3	&	F2	G2	F3	G1

Determining Minimum Allocation Group Sizes

Each MediaNet finishing client requires that a specific number of MEDIArray drives be set aside in a finishing allocation group for its exclusive use while editing. The minimum number of drives in the allocation group depends on the drive type and its performance. The preferred configuration is to have all of the drives in the same MEDIArray drive enclosure, but in some cases this is not possible and two drive enclosures are required. Table 12 shows the drive types, model numbers, allocation group size, and usable capacity for MEDIArray drives that can be used in finishing allocation groups.

Table 12 Finishing Client Minimum Allocation Group Sizes[a]

Drive Type	Model Number	Unprotected/Protected Allocation Group Size	Usable Capacity	Reserved Space
18 GB HH	ST118202FC	7/14	100%	N/A
18 GB LP	ST150173FC	5/10	100%	N/A
50 GB HH	ST318206FC	5/10	85%[b]	15%
50 GB HH	ST318206FC	6/12	100%	N/A
73 GB	ST173404FCV	5/10	100%	N/A

a. For finishing clients using two tracks of 1:1 video and four tracks of audio with two-second cuts.
b. To get the necessary performance from 50 GB HH drives in the smallest possible allocation group, you need to reserve a portion of the drive space in the allocation group so that it can't be used. This reserved drive space blocks out the slowest performing section of the drives. For more information, see "Creating Reserved Space to Improve 50 GB HH Drive Performance" on page 50.

Creating Reserved Space to Improve 50 GB HH Drive Performance

You create reserved drive space in an allocation group by creating a no-access workspace that is the size of the portion of the drive that you do not want to use. You need to make sure that you create the reserved drive space immediately after you create each finishing allocation group. To create the reserved drive space:

1. Start the Administration Tool. The Administration Tool window opens.

See the Avid Unity MediaNet Management Guide *for specific information about using the Administration Tool.*

2. Click the Allocation Group tab.
3. Click the drive set.
4. Locate the necessary drive type by its model number in the Model column.
5. Make sure that all of the desired drives are in the same drive enclosure by selecting the drive and choosing Identify from the Allocation Group menu. If all of the drives are not in the same drive enclosure, continue to locate drives until you have all the drives in the same drive enclosure.
6. Create an allocation group containing all of the selected drives.
7. Make the new allocation group a finishing group by selecting the new allocation group and choosing Single User from the Allocation Group menu.
8. Click the Workspace tab.
9. Expand the drive set.
10. Select the new allocation group.
11. Create a new workspace by clicking the New Workspace button.
12. Size the workspace to 15% of the allocation group size. For a five drive or ten drive unprotected allocation group, use 15% of the total available space. For a ten drive protected allocation group, use 15% of one half the total available space.

Configuring 1-Gb Audio Allocation Groups

To configure a finishing workgroup, use any of the audio configurations as they appear in Table 16. These are maximum configurations that should not be exceeded.

Cabling and Access Guidelines

Audio files for Pro Tools clients should be in a separate audio allocation group from the video files. Table 13 shows the number of drives needed in audio allocation groups for Pro Tools clients to play 32 tracks.

Table 13 Allocation Group Sizes

	Edit Density		
Pro Tools Clients	**1000 ms**	**500 ms**	**300 ms**
1	4	4	8
2	6	8	16
3	8	10	24

Make sure that your audio workgroup meets the following cabling and access guidelines:

- In an audio workgroup with no more than three clients and all the drives used are 18-GB LP:
  - A five drive finishing allocation group must contain unprotected workspaces at all times.
  - One finishing client can be assigned to a five drive allocation group.

  If these conditions is not met, the drives in finishing allocation groups must be isolated from the enclosure containing the metadata drives.

You can share audio and video files among several MediaNet clients. You must, however, remember the following restrictions when you are sharing files:

- In an environment with at least one client running two streams of 1:1 video, the maximum number of clients that can be supported is seven. However, if protection is enabled and the environment contains 18 GB HH or 50 GB HH drives, the maximum number of clients is six.

Configuring 1-Gb Shared Uncompressed Allocation Groups

To configure a shared uncompressed allocation group, use any of the configurations as they appear in Table 17.

Sharing uncompressed allocation groups can be used at 2:1 or lower resolutions by clients with the following Avid Composer Products software:

- For Windows platforms:
  - Avid Symphony Release 2.1 or later
  - Media Composer and Film Composer Release 9.1 or later
  - Avid Xpress Release 3.1 or later
- For Macintosh platforms:
  - Media Composer and Film Composer 8.1 or later
  - Avid Xpress Release 3.1 or later

If you plan to use finishing clients in the shared uncompressed allocation group, they must have the following Avid Composer Products software:

- Avid Symphony Release 3.1 or later
- Media Composer and Film Composer Release 10.1 or later
- Avid Xpress Release 4.1 or later

Avid Symphony Release 3.1, Media Composer and Film Composer Release 10.1, and Avid Xpress Release 4.1 require a patch to work correctly in a shared uncompressed allocation group. Contact Avid Customer Support to obtain a copy of the patch software.

Client Connection and Access Guidelines

Each MediaNet client needs a dedicated connection to the shared uncompressed allocation group. This makes it possible for several clients to access the allocation group at the same time, using the same or different video resolutions.

Table 14 shows client access to the allocation group to play video sequences. Each line shows the number of clients and the video resolutions that they can use.

Table 14 Supported Client Access

Finishing Clients (1:1)	Nonfinishing Clients (2:1)	Nonfinishing Clients (3:1)
2	0	0
1	2	0
1	0	3
1	1	1

Cabling and Access Guidelines

Make sure that your shared uncompressed allocation group meets the following cabling and access guidelines:

- Each shared uncompressed allocation group needs a minimum of 30 MEDIArray drives (3 MEDIArray drive enclosures).

- MediaNet workgroups with one MEDIASwitch can only support up to 50 MEDIArray drives (5 MEDIArray drive enclosures).
- MediaNet workgroups with two MEDIASwitches can support up to 100 MEDIArray drives (10 MEDIArray drive enclosures).
- Shared uncompressed allocation groups can only use 18-GB XL (ST318304FCV) and 73-GB (ST173404FCV) MEDIArray drives.

Configuring 1-Gb Mixed Workgroups

To configure a mixed workgroup, use any of the nonfinishing configurations as they appear in Table 15. You can also configure a mixed workgroup by using one of the shared uncompressed allocation group configurations as they appear in Table 17.

Cabling and Access Guidelines

Make sure that your mixed workgroup meets the following cabling and access guidelines:

- If protection is enabled and the workgroup contains 18-GB HH or 50-GB HH drives, the mixed workgroup containing finishing clients can support no more than six clients.
- If you base your mixed workgroup on Configuration 1, you might need to add a second drive enclosure and expand the metadata stripe set before you add any finishing clients. See “Determining Metadata Drives” on page 14 for information on determining how many metadata drives your workgroup will need.
- In a mixed workgroup with no more than three clients and all the drives used are 18-GB LP:
  - A five drive finishing allocation group must contain unprotected workspaces at all times.
  - One finishing client can be assigned to a five drive allocation group.

If these conditions are not met, the drives in finishing allocation groups must be isolated from the enclosure containing the metadata drives.

1-Gb Cabling Illustrations

The following sections provide cabling information and diagrams for nonfinishing, mixed, audio, and finishing workgroups, and for workgroups that contain shared uncompressed allocation groups. The line work in the diagrams should be interpreted as follows:

- Components with solid lines are necessary to create the MediaNet workgroup with the *minimum* recommended storage configuration.
- Components with dotted lines are optional additions that can be made to the MediaNet workgroup up to the *maximum* configuration. They also show where the component should be attached to the MediaNet workgroup.

The tables contain detailed information about each supported configuration. The information includes:

- The maximum number of MediaNet clients.
- The maximum video resolution that MediaNet clients can use.
- The maximum number of audio tracks that each MediaNet client can use.
- The minimum number of MEDIArray enclosures.
- The amount of File Manager memory required for the workgroup.
- The number of MEDIASwitches and the MEDIASwitch sizes in the configuration.
- The host file name that should be used to configure the MEDIASwitches.

Nonfinishing Configurations

Table 15 contains detailed information about the supported nonfinishing configurations. Figure 16 through Figure 26 illustrate the cabling for the standard configurations in Table 15.

The information in Table 15 is valid only for the drive types shown in Table 12 at 100% capacity.

Table 15 Nonfinishing Configurations

Configuration	Maximum Clients	Maximum Video Resolution Per Client	Maximum Audio Tracks Per Client	Minimum MEDIArray Enclosures	Qualification Status[a]	Number of MEDIASwitches	MEDIASwitch Configuration File
12	2	3 to 1	4	1	Q	1 (8-port)	7100_tm_1fm_4h_3j[b]
13	3	2 to 1	4	2	E	1 (8-port)	7100_tm_1fm_4h_3j
14	4	2 to 1	4	3	Q	1 (8-port)	7100_tm_1fm_4h_3j
154	5	3 to 1	4	3	E	1 (8-port)	7100_tm_1fm_5h_2j
16	7	2 to 1	4	6	E	2 (8-port)	7100_tm_1fm_4h_3j
17	8	2 to 1	2	6	E	2 (8-port)	7100_tm_1fm_4h_3j
18	9	3 to 1	4	3	E	2 (8-port)	7100_tm_1fm_5h_2j
19[c]	9	2 to 1	4	6	E	1 (16-port)	7200_tm_1fm_9h_6j
20	14	2 to 1	4	10	E	2 (16-port)	7200_tm_1fm_12h_3j
21	23	AVR 77/ 3 to 1	4	6	Q E	2 (16-port)	7200_tm_1fm_12h_3j

Table 15 Nonfinishing Configurations (Continued)

Configuration	Maximum Clients	Maximum Video Resolution Per Client	Maximum Audio Tracks Per Client	Minimum MEDIArray Enclosures	Qualification Status[a]	Number of MEDIASwitches	MEDIASwitch Configuration File
22	24	AVR 70	4	3	Q	2 (16-port)	7200_tm_1fm_12h_3j
23	24	10 to 1	4	3	E	2 (16-port)	7200_tm_1fm_12h_3j

a. Q = Qualified; E = Estimated
b. For the Vixel 8100 MEDIASwitch, use the equivalent 8100 configuration file.
c. This configuration also supports 8 to 9 clients running one track of 1:1 video resolution with up to 4 tracks of audio.

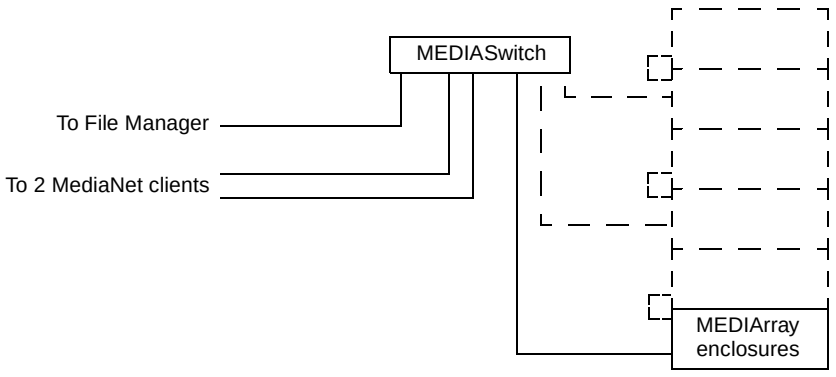

Figure 16 Configuration 12

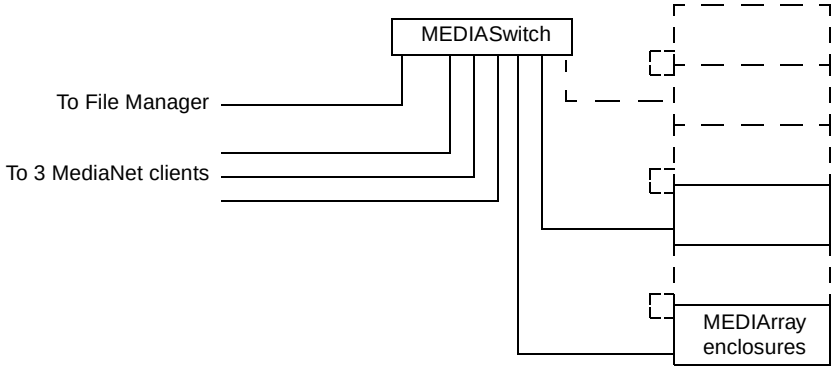

Figure 17 Configuration 13

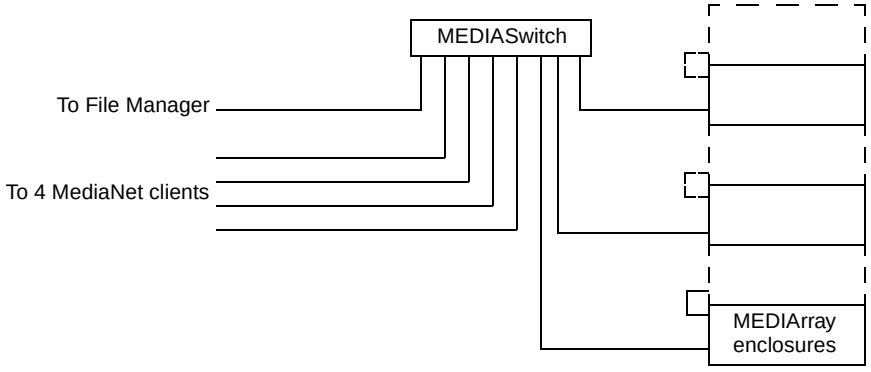

Figure 18 Configuration 14

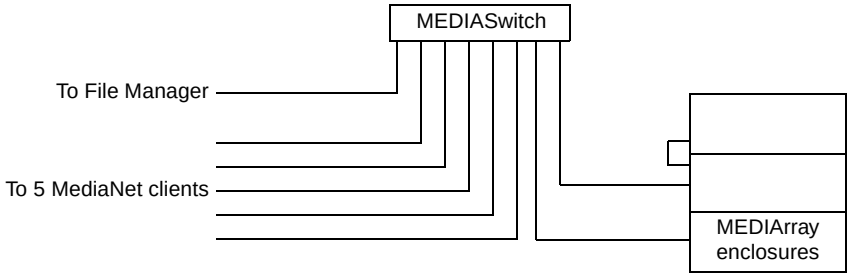

Figure 19 Configuration 15

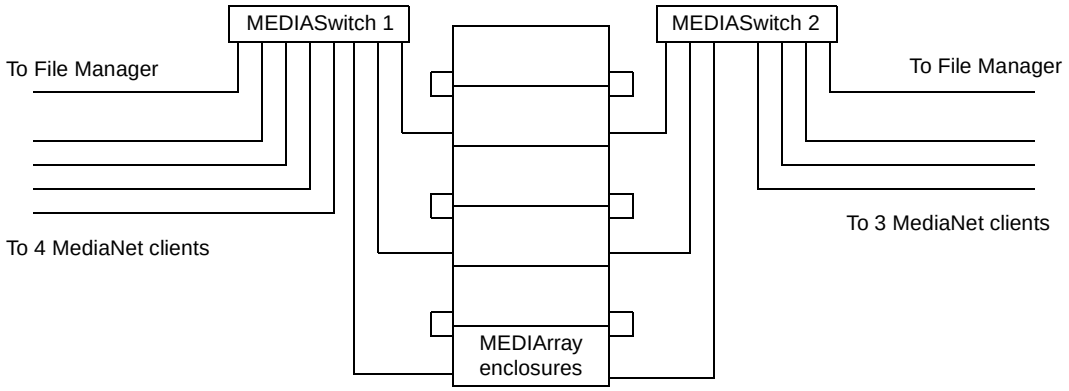

Figure 20 Configuration 16

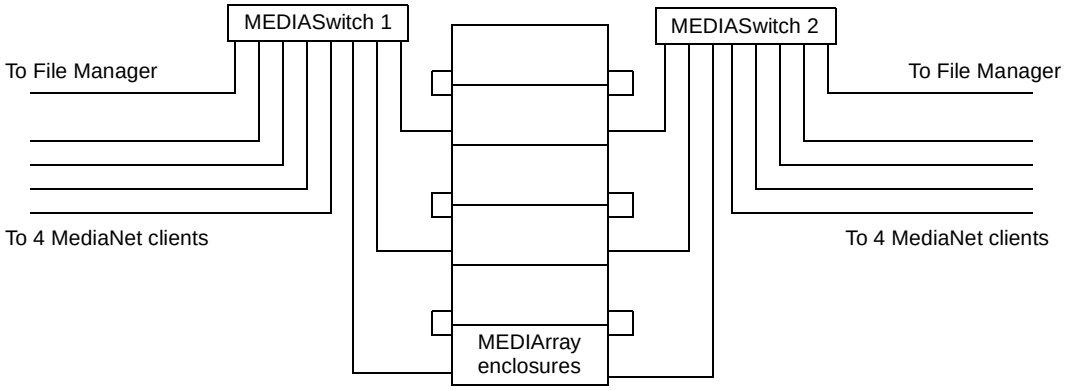

Figure 21 Configuration 17

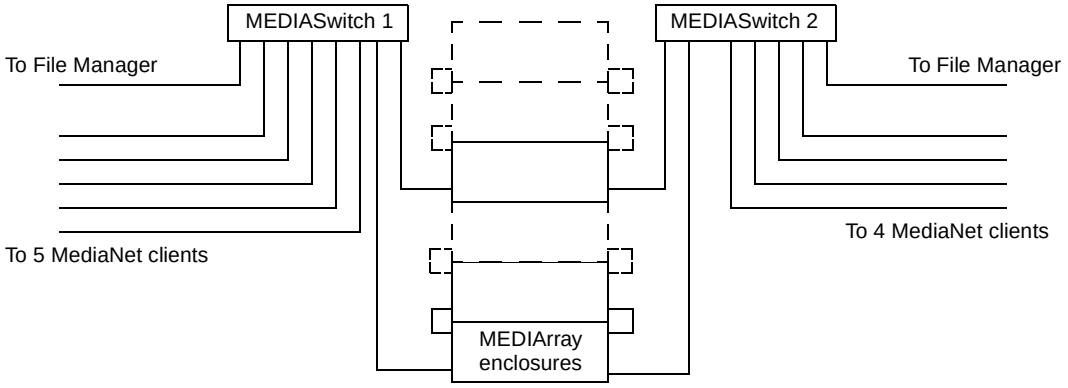

Figure 22 Configuration 18

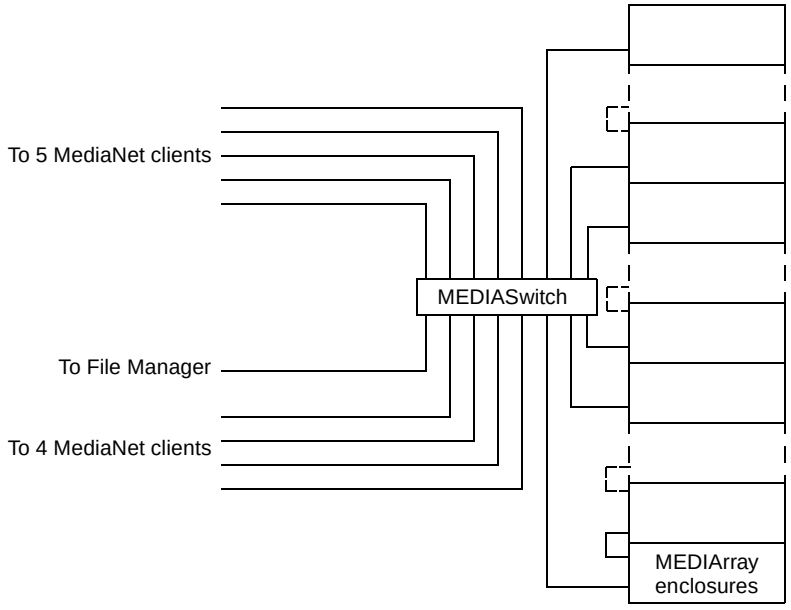

Figure 23 Configuration 19

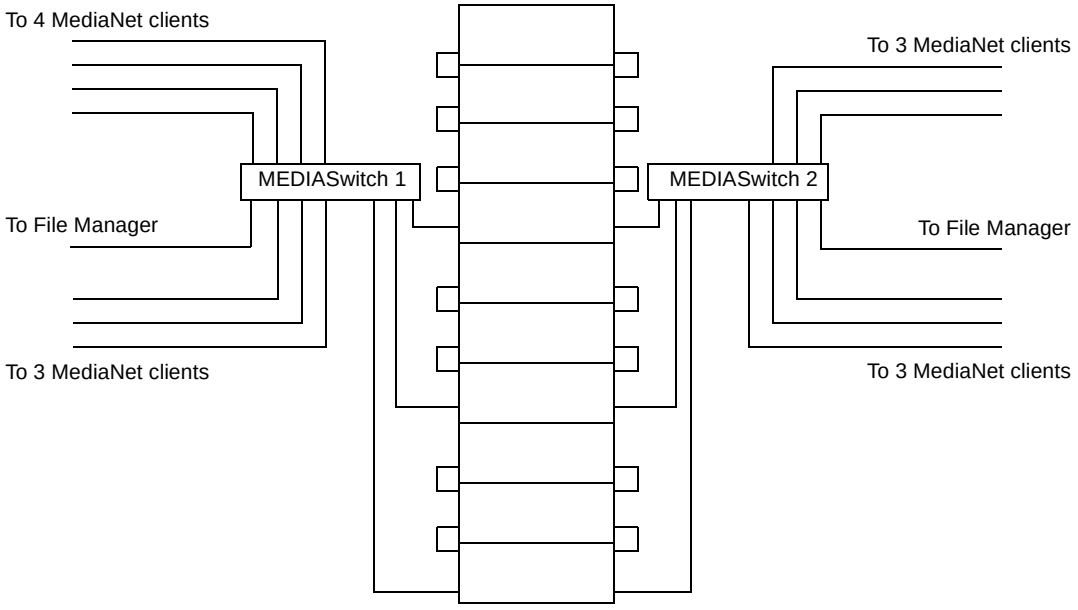

Figure 24 Configuration 20

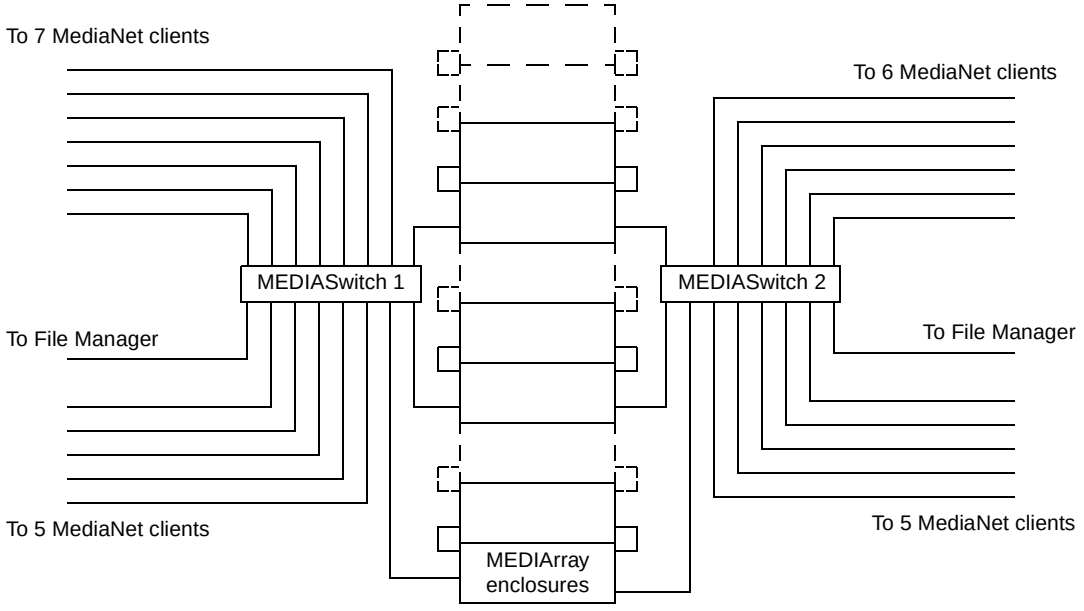

Figure 25 Configuration 21

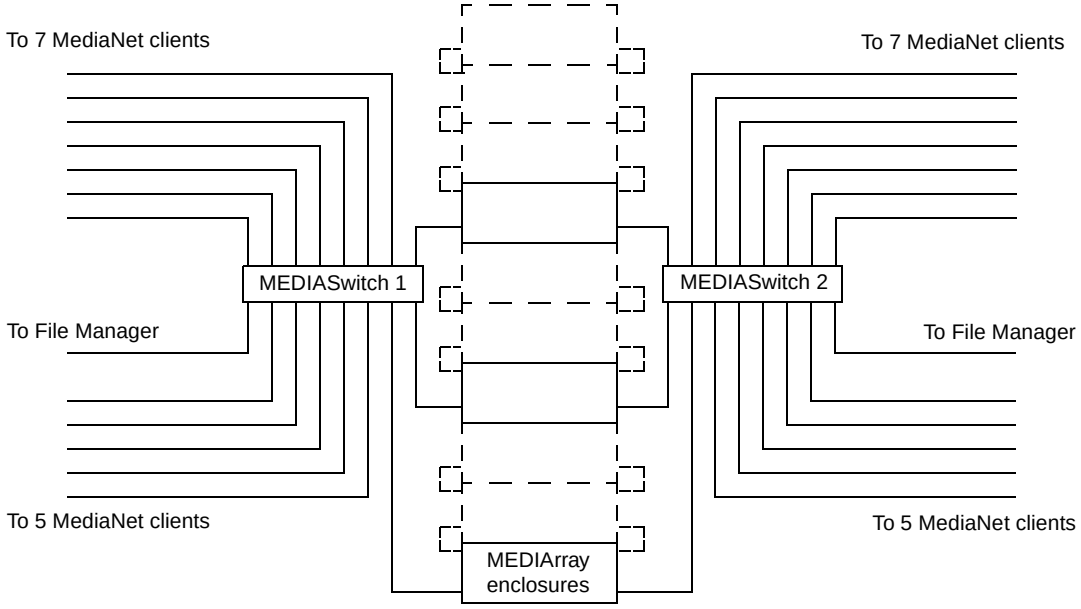

Figure 26 Configuration 22 and 23

Audio Configurations

Table 16 contains detailed information about the supported audio configurations. Figure 27 through Figure 31 illustrate the cabling for the audio configurations in Table 16.

Table 16 Audio Configurations

Configuration	Maximum Clients	Pro Tools Clients	Maximum Video Resolution Per Client	Maximum Audio Tracks Per Client	Composer Clients	Maximum Video Resolution	Maximum Audio Tracks Per Client	Minimum MEDIArray Enclosures	Qualification Status[a]	Number of MEDIASwitches	MEDIASwitch Configuration File
24	4	1 3	1 to 1 3 to 1	32	0	N/A	N/A	2	Q	1 (8-port)	7100_tm_1fm_5h_2j
25	5	1	1 to 1	32	4	1 to 1	4	5[b]	Q	1 (16-port)	7200_tm_1fm_9h_6j
26	11	3	10 to 1	32	2 6	1 to 1 10 to 1	4	4[c]	Q	1 (16-port)	7200_tm_1fm_11h_4j
27	12	3	3 to 1	32	9	3 to 1[d]	4	4	Q	1 (16-port)	7200_tm_1fm_12h_3j

a. Q = Qualified; E = Estimated
b. This configuration requires an individual drive enclosure for each 1:1 Composer client and a separate drive enclosure for the Pro Tools audio.
c. This configuration requires an individual drive enclosure for each 1:1 Composer client.
d. Single-streams of 3:1 video.

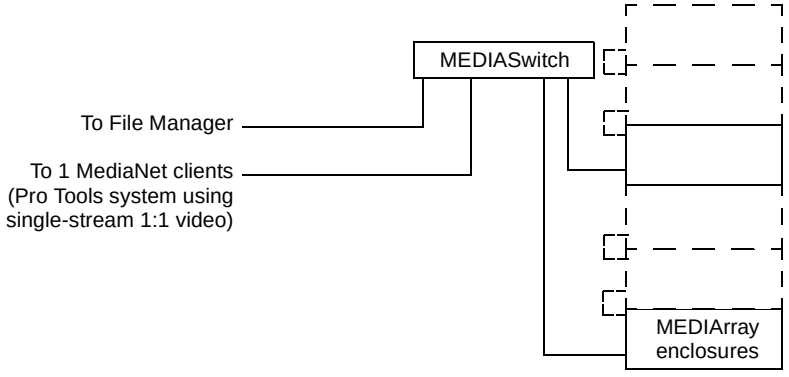

Figure 27 Configuration 24a

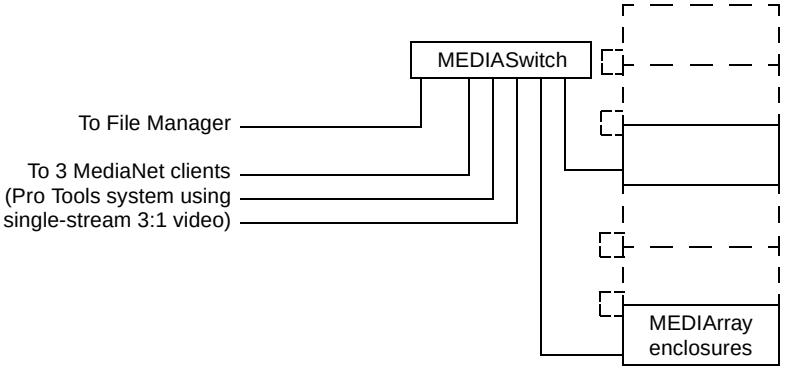

Figure 28 Configuration 24b

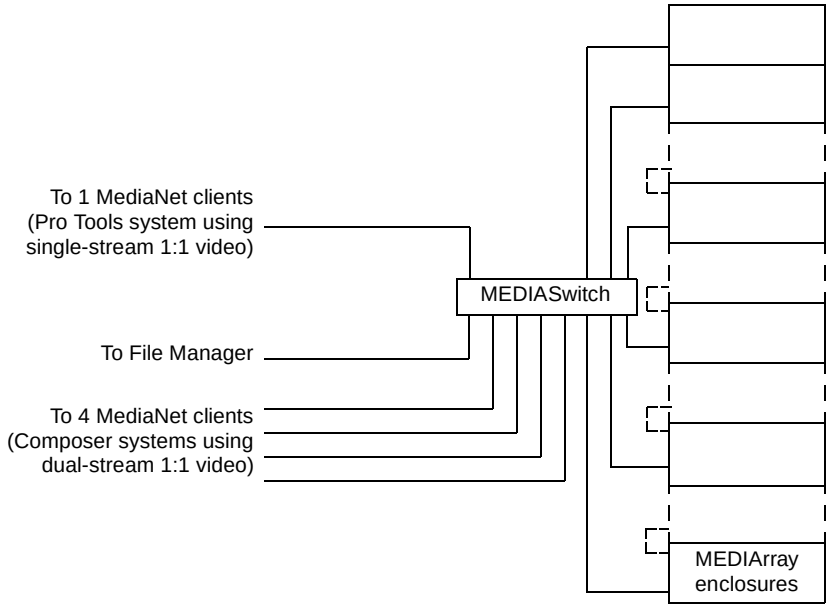

Figure 29 Configuration 25

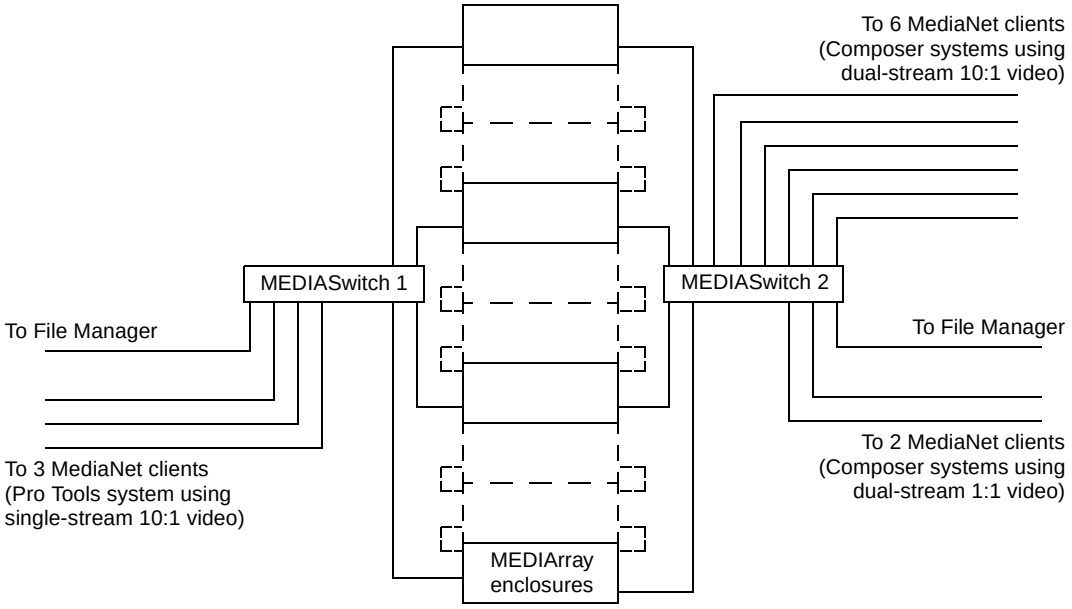

Figure 30 Configuration 26

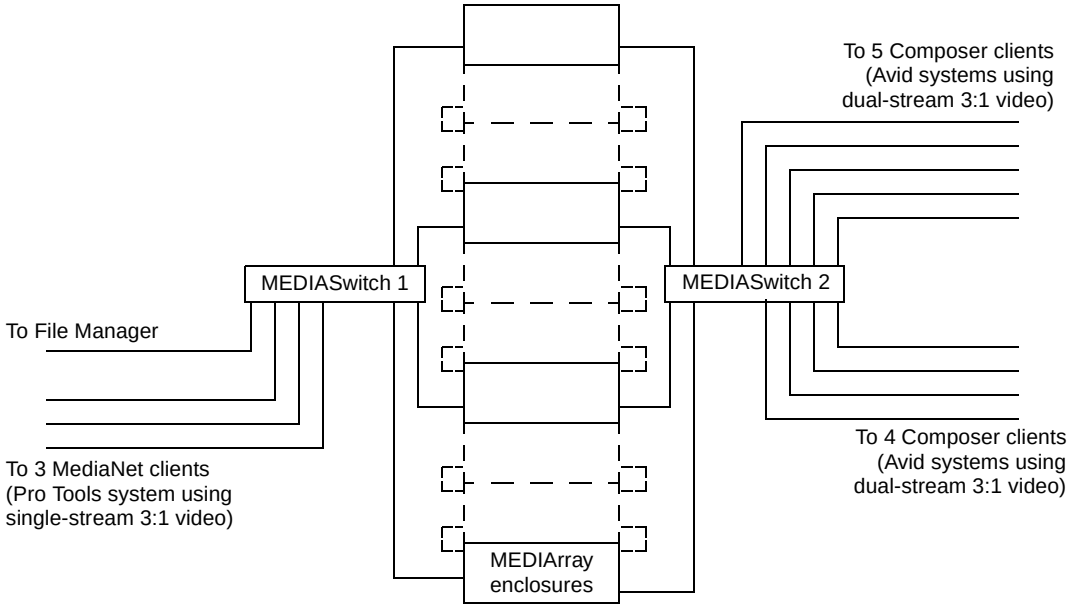

Figure 31 Configuration 27

Shared Uncompressed Allocation Group Configurations

Table 17 contains detailed information about the supported shared uncompressed configurations. Figure 32 through Figure 38 illustrate the cabling for the audio configurations in Table 17.

Numbers near the cables indicate the MEDIASwitch port where the cable should be connected.

Table 17 Shared Uncompressed Configurations

Configuration	Maximum Clients[a]	Maximum Video Resolution Per Client[b]	Maximum Audio Tracks Per Client	Minimum MEDIArray Enclosures	Qualification Status[c]	Number of MEDIASwitches	MEDIASwitch Configuration File[d]
28	5	1 to 1	4	3	Q	1 (8-port)	7100z_tm_1fm_5h_2j or 7100z_tm_2fm_4h_2j
29	3	1 to 1	4	3	Q	1 (8-port)	7100z_tm_1fm_3h_4j or 7100z_tm_2fm_2h_4j
30	11	1 to 1	4	3	Q	1 (16-port)	7200z_tm_1fm_11h_4j or 7200z_tm_2fm_10h_4j
31	7	1 to 1	4	8	E	2 (8-port)	7100_tm_1fm_4h_3j

a. The maximum number of clients is reduced by one in File Manger failover configurations.
b. For a complete list of available resolutions and client usage, see Table 14.
c. Q = Qualified; E = Estimated
d. For the Vixel 8100 MEDIASwitch, use the equivalent 8100 configuration file.

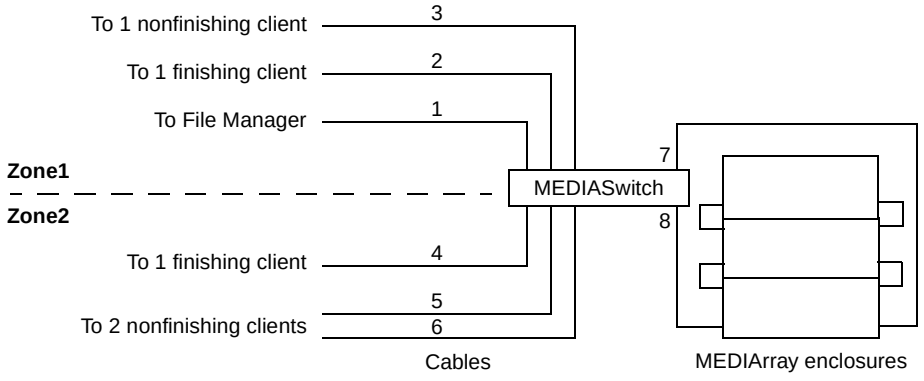

Figure 32 Configuration 28

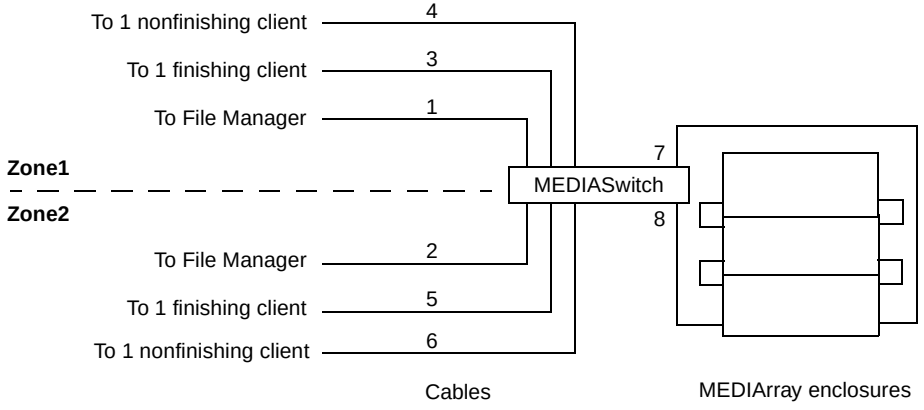

Figure 33 Configuration 28 with File Manager Failover

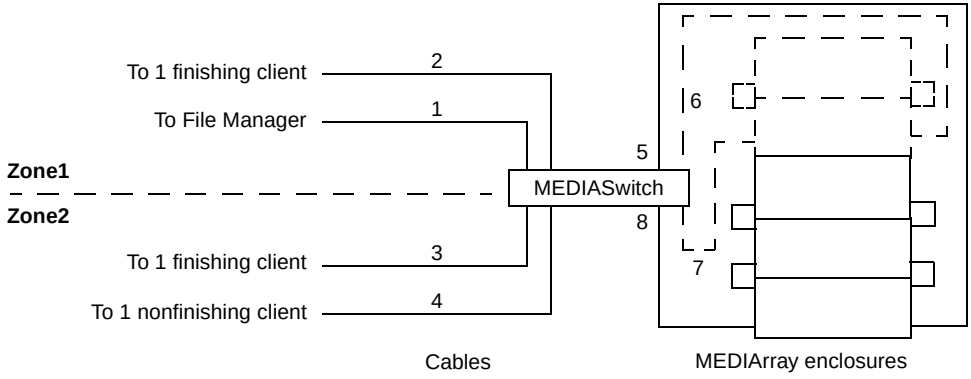

Figure 34 Configuration 29

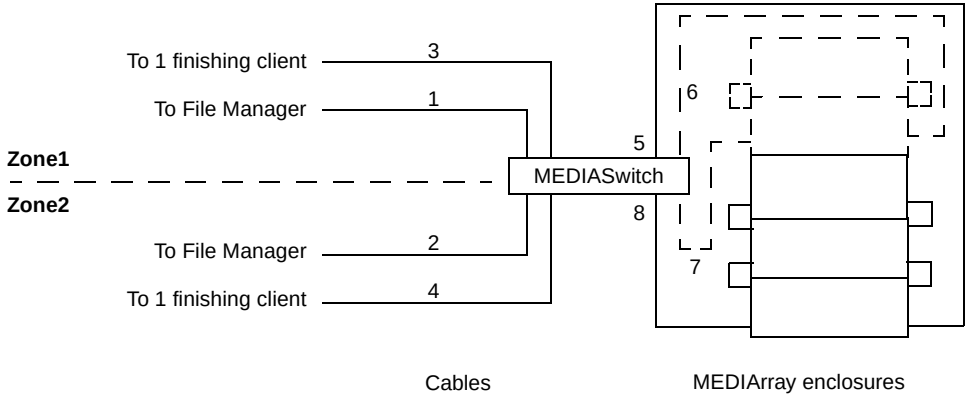

Figure 35 Configuration 29 with File Manager Failover

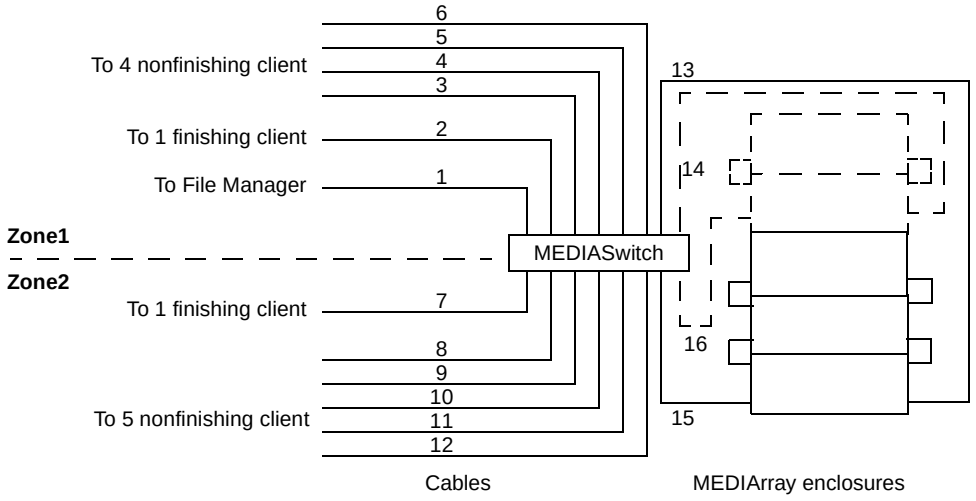

Figure 36 Configuration 30

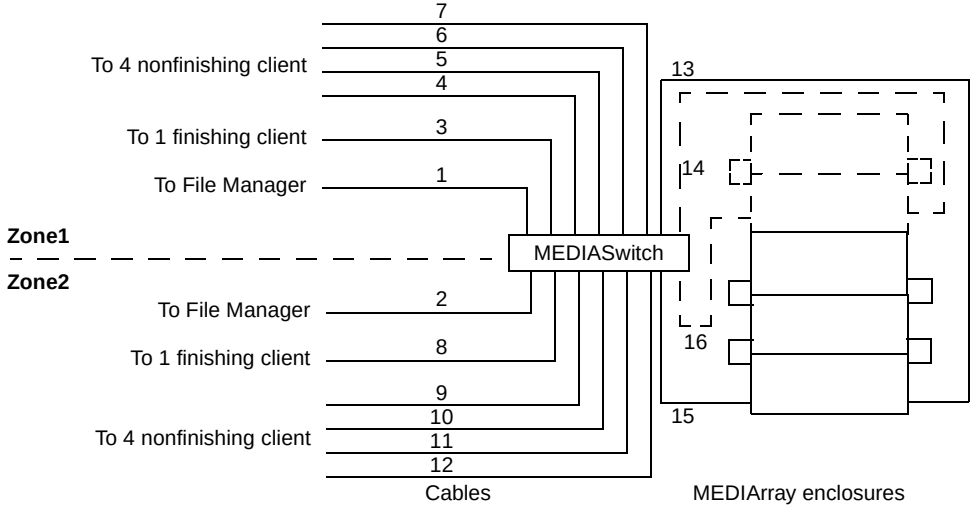

Figure 37 Configuration 30 with File Manager Failover

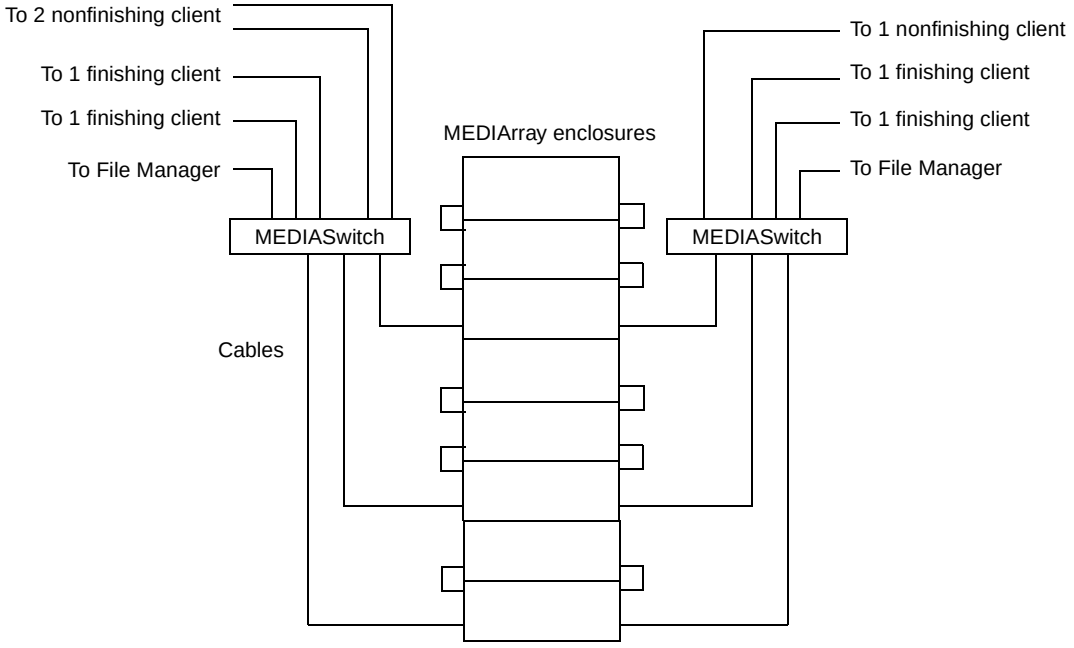

Figure 38 Configuration 31

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