



# Avid® Interplay®

What's New in Version 2.7

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# 1 What's New for Interplay Production Version 2.7

This guide provides information about the new features in Interplay Production version 2.7.



*For the latest information about new features and documentation changes, see the Avid Interplay ReadMe on the Avid Customer Support Knowledge Base.*

## Support for Interplay Sphere

Interplay v2.7 provides support for Avid Interplay Sphere. Avid Interplay Sphere is a technology that lets Media Composer and Avid NewsCutter users edit media stored on a local system or in an Interplay workgroup at a remote site, such as a production facility or broadcast station. With Interplay Sphere, a user connects to an Interplay server by way of a Virtual Private Network (VPN) using either a WiFi or a wireless connection.

The Interplay Administrator includes settings that are used for Interplay Sphere. See [“New Settings in the Interplay Administrator” on page 8](#). Interplay Sphere clients require a new license type, Key-XA, which you install in the Licenses view of the Interplay Administrator.

For more information, see the following:

- *Avid Interplay Sphere Installation and Configuration Guide*
- *Avid Interplay Sphere Remote News Editing Workflow Guide*
- *Avid Media Composer User's Guide*
- *Avid NewsCutter User's Guide*

## Support for AFD Ancillary Data

Active Format Description (AFD) is a standard set of codes through which the preferred display format for media can be embedded in video signals. Media Composer v6.1 and later allows the creation of AFD values for sequences in an ancillary data track (D1). Interplay v2.7 and later supports workflows for sequences that include modified AFD values. See [“Support for AFD Ancillary Data” on page 11](#).

## Support for Avid DNxHD 100 Resolutions

Interplay v2.7 supports workflows for clips and sequences that use the DNxHD 100 group of resolutions, with some limitations. See [“DNxHD 100 Resolutions Supported in Interplay” on page 13](#).

## Support for 64-bit Applications

The following Interplay components have been re-engineered to run as 64-bit applications:

- Interplay Media Services Engine v2.7
- Interplay Copy v2.7
- Interplay Move v2.7
- Interplay Delivery v2.7

These components have been qualified on AS3000 servers running the Microsoft Windows 7 Professional SP1 64-bit operating system.

## Support for H.264 2.0 MB Proxy Media

Interplay version 2.7 and later supports workflows for H.264 2.0 Mbps (HD) and 1500 Kbps (SD) proxy resolutions. See [“H.264 2.0 Mbps Proxy Resolutions” on page 14](#).

## New Settings in the Interplay Administrator

Interplay Administrator v2.7 includes the following new settings:

- Application Database Settings > Editing Settings > Interplay Common Playback Service  
Interplay Sphere requires the hostname, username, and password for the Interplay Common Playback Service (ICPS). For more information, see the Interplay Sphere documentation.
- Application Database Settings > Editing Settings > Interplay Sphere Proxy Bit Rate
  - When connected to an Interplay v2.7 workgroup, you can choose one of two bit rates for H.264 proxy media: 2 Mbps or 800 Kbps.
  - When connected to an Interplay v2.5 or v2.6 workgroup, 800 Kbps is automatically selected.
- Database Information Settings > Object Statistics > Database objects per database page

This statistic is calculated as

*total number of database objects / total number of database pages*

For more information, see [“Determining Interplay Database Scalability” on page 15](#). For more information about database statistics, see [“Database Information Tabs” on page 27](#).



## Partially Restored Clips Not Archived

When you perform a partial restore, the restore process creates new media files for the restored clip or subclip. These media files are displayed as “reference tracks” in a separate subfolder within the target folder.

Archiving these new media files is not necessary because the original media is already archived. To save time and storage space, Interplay Archive v2.7 and later does not archive these reference tracks. If a sequence that uses the restored media is selected for archiving, the Interplay Archive service skips any reference tracks that are used in the sequence.

## New Features for Media Indexer

Media Indexer V2.7 includes the following new features:

- Managing the order of storage locations
- Viewing the size of indexed workspaces and folders
- Remove Mode button

For more information, see [“New for Media Indexer v2.7” on page 30](#)

## Support for ISIS 2000 (Nearline)

Interplay v2.6 and v2.7 supports ISIS 2000 (Nearline) systems and ISIS 4.1 software in the following configurations:

- Single shared-storage system in a workgroup
- Shared-storage system in a multiple ISIS workgroup

The following are possible workflows:

- Proxy ingest: In a dual-ingest configuration with an AirSpeed 5000 system, write low-res proxy media to an ISIS 2000 system and write high-res media to an ISIS online system (ISIS 5000 or ISIS 7000). Use low-res proxy media for browsing, logging, and rough cut edits and dynamically relink to high-res media for send-to-playback.
- Central ingest: Write high-res media to an ISIS 2000 system. Use this configuration to store media that is not required for immediate editing, then use Interplay Move to transfer media to an ISIS online system for editing.
- Asset parking: Write high-res media to an ISIS 2000 system. Use this configuration as a permanent library for regularly accessed hi-res assets that do not need to reside on an ISIS online system.

In any of these workflows, you can use Interplay Restore to restore media assets from an archive to the ISIS 2000 system.



*Play While Transfer is not supported for send-to-playback operations from an ISIS 2000.*

## **SGL Direct Connect to Shared Storage**

Avid Interplay v2.6 and v2.7 support SGL FlashNet v6.4.x. This version of SGL FlashNet allows the FlashNet server to directly connect to an Avid ISIS shared-storage system through a 1-GB connection, dual-connected on the same subnet to the ISIS System Director in Zone 1. SGL FlashNet v6.4.x is qualified with Avid ISIS 7000 systems. ISIS v4.0 or later client software must be installed on the FlashNet server.

This configuration results in a significant performance increase for Interplay archive and restore operations.

Your SGL representative installs and configures the FlashNet client software on the Archive Provider. After installing the FlashNet client on the provider, the representative needs to create a registry key, as follows:

1. In a Command Prompt window, type `regedit` to open the Registry Editor.
2. Locate and select the following registry key:  
    `\HKEY_LOCAL_MACHINE\SOFTWARE\Software  
    Generation\Wow6432Node\FlashNet6.`
3. Select Edit > New > String Value, name the new registry key “DETDropClient” and enter 1 as the value. (0 specifies disabled).
4. Restart the FlashNet socket listener service.
5. Restart the provider services.

SGL FlashNet v6.4.x includes support for Simplified Chinese, which is qualified for use with Interplay Archive and Interplay Restore services.

## 2 Support for AFD Ancillary Data

Active Format Description (AFD) is a standard set of codes through which the preferred display format for media can be embedded in video signals. Media Composer v6.1 and later allows the creation of AFD values for sequences in an ancillary data track (D1).



*For more information, see the Media Composer documentation.*

Interplay v2.7 and later supports workflows for sequences that include modified AFD values. AFD values are preserved when you check sequences in and out of the Interplay database, process them through Interplay Media Services, and use Interplay Transfer for workgroup-to-workgroup transfers and send-to-playback operations. AFD values are displayed in the metadata property labeled AFD, which can be displayed in an Avid editing application bin and in Interplay Access.

	Name	AFD
	1080i60_J2K_to_XDCAM50Mb	
	dnx145_33minSEQ1	16x9 0000
	DNX_10min_copy	
	xd1080i6050_30sec13SEQ1	16x9 0000
	xd1080i6050_30sec12SEQ1	16x9 0100

	Name	AFD
	AFD_CC_FillerxdcamSEQ...	16x9 0100
	AFD_CC_FillerxdcamSEQ...	16x9 0100
	afdNONEto0100.transfer	16x9 0100
	afdNONEto0100.transfer	16x9 0100
	xd1080i6050_30sec12SE...	16x9 0100

### Working with AFD Values on Avid Editing Systems

When you add an AFD value to a Media Composer sequence, you add the value to the entire sequence. If there is not already a D1 track in the sequence Timeline, Media Composer creates one.

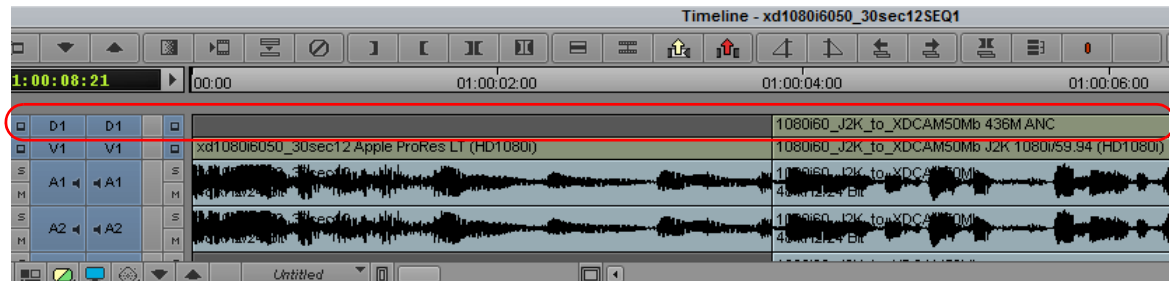
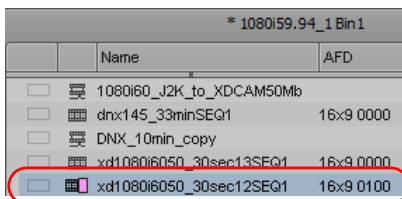
The D1 track must be present and monitored during playback to display the AFD value when the sequence is played back through an ancillary data decoder. Deleting the D1 track prevents display of the AFD value, but it does not remove the assigned AFD value from the sequence.

When you add an AFD value to a sequence, the Timeline display depends on whether there is already a D1 track in the Timeline.

**Sequences that do not have a D1 track:** When an AFD value is assigned to a sequence without a D1 track, an empty D1 track is created in the sequence to store the AFD value. The D1 track in the Timeline does not display essence for the AFD value.

**Sequences that already have AFD values in a D1 track:** When you assign an AFD value to a sequence whose master clips already have AFD values in a D1 track, the sequence in the Timeline does not display essence for the new AFD value. However, during playback, the new AFD value supersedes the AFD values for the master clips.

The following illustration shows a Timeline in which an AFD value has been applied to the sequence. The D1 track for the first master clip is empty: it does not include essence. The D1 track for the second master clip includes essence with an AFD value. This value is superseded by the AFD value applied to the sequence.



## AFD Values and Send to Playback

The modified AFD value is preserved through a send-to-playback operation, resulting in an asset on the destination playback server that holds the AFD value of the sequence in a D1 track with data essence. If the user on an Avid editing system assigns an AFD value, then deletes a sequence's D1 track before sending it to the playback server, the AFD value will be written on a newly created D1 data track.

### 3 DNxHD 100 Resolutions Supported in Interplay

Interplay v2.7 supports workflows for clips and sequences that use the DNxHD 100 group of resolutions, with some limitations. You can capture media that uses these resolutions on an AirSpeed Multi Stream system, work with it in an Avid editing application, check it in and out of the Interplay database, and process it using Interplay Media Services. You can use Interplay Transfer for workgroup-to-workgroup transfers. Sequences composed of DNxHD 100 clips are supported for Send to Playback.

Partial restore and delivery is supported for DNxHD 100 media.

The following table lists the supported resolutions. These resolutions are supported as sources and targets for Interplay Transcode.

Project	Edit Rate (frames/sec)	Resolution Name in Avid Editing Application	Resolution Name in Interplay Access and Interplay Transcode	Approximate Video Bit Rate (Mbit/Sec)	Raster Size
720p/23.976	23.976	DNxHD 40	DNxHD 720p 100	40 Mbit	960x720
720p/50	50	DNxHD 85	DNxHD 720p 100	85 Mbit	960x720
720p/59.94	59.94	DNxHD 100	DNxHD 720p 100	100Mbit	960x720
1080i/50	25	DNxHD 85	DNxHD 1080i 100	85 Mbit	1440x1080
1080i/59.94	29.97	DNxHD 100	DNxHD 1080i 100	100 Mbit	1440x1080
1080p/23.97	23.976	DNxHD 80	DNxHD 1080p 100	80 Mbit	1440x1080
1080p/24	24	DNxHD 80	DNxHD 1080p 100	80 Mbit	1440x1080

# H.264 2.0 Mbps Proxy Resolutions

Interplay version 2.7 and later supports workflows for H.264 2.0 Mbps (HD) and 1500 Kbps (SD) proxy resolutions. These resolutions are created by an Interplay Sphere editing system or by an Interplay Transcode provider. You can work with H.264 2.0 Mbps material in an Avid editing application, check it in and out of the Interplay database, and process it through Interplay Media Services and Interplay Transfer.

Note the following limitations:

- Partial delivery and partial restore are not supported for H.264 proxy resolutions.

The following table lists the supported H.264 2.0 Mbps resolutions.

Project	Edit Rate (frames/sec)	Resolution Name in Interplay Access and Interplay Transcode	Bit/Sec	Aspect Ratio	Proxy Raster Size
30i NTSC	29.97	H.264 1500Kbps Proxy 525	1500 Kbps	4:3	352x240
25i PAL	25	H.264 1500Kbps Proxy 625	1500 Kbps	4:3	352x288
720p/59.94	59.94	H.264 2.0Mbps Proxy 720p 59.94	2.0 Mbps	16:9	320x180
720p/50	50	H.264 2.0Mbps Proxy 720p 50	2.0 Mbps	16:9	320x180
1080i/59.94	29.97	H.264 2.0Mbps Proxy 1080i 29.97	2.0 Mbps	16:9	480x270
1080i/50	25	H.264 2.0Mbps Proxy 1080i 25	2.0 Mbps	16:9	480x270

Support includes eight channels of compressed MPEG1 Layer 2 audio media (96k per channel).



*If a clip has both 800 Kbps and 2Mbps proxies, Access plays the 800 Kbps version.*

## 5 Determining Interplay Database Scalability

This document describes how to use the size of the Interplay Engine database and the amount of available RAM to make decisions about how much larger your database can grow while maintaining your current workflow and hardware. This document contains the following topics:

- [Definition of Terms](#)
- [Total Used Database Pages and Estimated Database Page Limit](#)
- [Comparing Database Page Count and Cache Size](#)
- [Tips for Improving Database Performance](#)

### Definition of Terms

#### Database Page

A *database page* is a fixed size, contiguous block of data that contains persisted database content. The metric of *total used database pages* provides a consistent way to determine whether you are operating within the scalability limits of your system. For additional information, see [“Total Used Database Pages and Estimated Database Page Limit” on page 17](#).

#### Maximum Cache Size

The *maximum cache size* refers to the maximum number of database pages the Interplay Engine can keep cached in RAM. This value is dependent on the amount of RAM available on the Interplay Engine system or by manual configuration (in the case of the Interplay Bundle).

If the database size exceeds the maximum cache size, the Interplay Engine may need to swap out pages whenever it needs to load new database pages into RAM. The probability of swapping pages increases as you continue to exceed the maximum cache size. Slow downs can occur when you perform large searches, deletions, or add a large number of new assets to the database.

## Database Object

A *database object* contains the metadata that defines an asset in the Interplay database. One database object can reference many other objects. For example, a sequence is represented as a database object and each sequence references other database objects such as master clips and audio tracks.

The number of database objects that an Interplay environment can support is highly dependent on the workflow at a particular site. The following areas can be affected by the workflow:

- *Highly linked objects*: For example, if your workflow involves adding one short introductory clip to the beginning of every sequence, that clip might be associated with hundreds of database objects. See [“Tips for Improving Database Performance” on page 22](#).
- *Dependency complexity*: For example, if you have a complex sequence with many rendered effects, master clips, subclips, and locators, the database object representing the sequence can be complex. Different versions of the sequence and multiple resolutions associated with master clips also adds complexity.
- *Object size*: Depends on the type of object and the number of (custom) properties associated with the object. For example, if you store a large amount of text within locators this can contribute to the size of the object.

For additional information, see [“Establish a Stable Ratio Between Database Objects and Database Pages” on page 23](#).

## File Count Limit

The *file count limit* is the maximum number of media files that the Interplay Media Indexer can index on ISIS shared storage. Starting at Interplay v2.6, the value is 5 million files for an MI running on an AS3000 system with 12 GB of RAM.

The Interplay Engine uses the filemob object to keep track of the media files that are checked into the Interplay database. However, the Media Indexer may be monitoring a much larger number of media files than the ones that are checked in. For example, there may be five different resolutions for a master clip but possibly only two are checked in.



# Total Used Database Pages and Estimated Database Page Limit

The metric of *total used database pages* provides a consistent way to determine whether you are operating within the scalability limits of your system. A *database page* is a fixed size, contiguous block of data that contains persisted database content. To maintain an acceptable level of performance, the total number of used database pages should not exceed the recommended database page limit for your system. Recommended values are listed in the [“Interplay Engine Database Page Limits” on page 18](#).

For Interplay v2.6 and higher, you can view the total number of database pages in use in the Database Information view of the Interplay Administration tool. See [“Comparing Database Page Count and Cache Size” on page 19](#). The same information is available (for all releases) in the log file named NXNServer\_<date>.log in the following directory:

C:\Program Files\Avid\Avid Interplay Engine\Logs\Machines\<machine name>

In the NXN log file, search for the text string “AvidWG pages total” for Interplay Engines and search for “AvidAM pages total” for Archive Engines.

The *estimated database page limit* is the maximum amount of pages the Interplay Engine can keep cached in RAM (maximum cache size) plus an estimated permissible percentage of overusage.

This “overusage” is possible because all databases contain data that is never or very seldom accessed and because a low frequency of swapping cached pages does not have a perceptible performance impact. The permissible overusage value is typically 20% of the size of the cache. The values for different hardware configurations are estimated by extracting cache usage data from customer databases and by performing internal testing with databases that are slightly larger than recommended.



*The permissible overusage depends on the customer's workflows and might exceed or be lower than the estimated 20%. Therefore it is important that you closely monitor the performance of the Interplay Engine once the total used database pages exceed the Maximum Cache size.*

If the total used pages exceeds the recommended limit for your system, performance may degrade and slow downs may occur. In this case, do one of the following:

- Delete assets in the Interplay database to bring the total number of pages down below the recommended limit for your system.
- Increase the amount of RAM or move to a more powerful system as shown in the table under [“Interplay Engine Database Page Limits” on page 18](#).

## Interplay Engine Database Page Limits

This section lists the maximum cache size and the estimated database page limits supported by an Interplay Engine running on an Intel SR2500 or AS3000 server for Interplay v2.4 or higher. Values are the same for standalone engines and cluster systems.

The table also shows values for the Interplay Bundle. An Interplay Bundle consists of an Interplay Engine, Media Indexer, and Lookup Service running on the same system. A configurator script is run on the system to limit the memory requirements of the Interplay Engine and the Media Indexer.

System	RAM	Operating System	Maximum Cache Size	Estimated Database Page Limit <sup>a</sup>
<b>Standalone Interplay Engine and Interplay Engine Cluster</b>				
SR2500	4 GB	W2K3 R2	500,000	600,000
	12 GB	W2K3 R2 Enterprise	1.8 million	2.2 million
AS3000	12 GB	W2K8 R2 W2K3 R2 Enterprise	1.8 million	2.2 million
	36 GB <sup>b</sup>	W2K8 R2 Enterprise	7.0 million	8.4 million
<b>Interplay Bundle Configurations</b>				
SR2500	4 GB	W2K3 R2 (32-bit)	200,000	240,000
	9 GB <sup>c</sup>	W2K3 R2 (64-bit)	1 million	1.2 million
AS3000	12 GB	W2K8 R2 (64-bit)	1.4 million	1.7 million

a. The estimated database page limit is the maximum cache size plus a 20% overusage value.

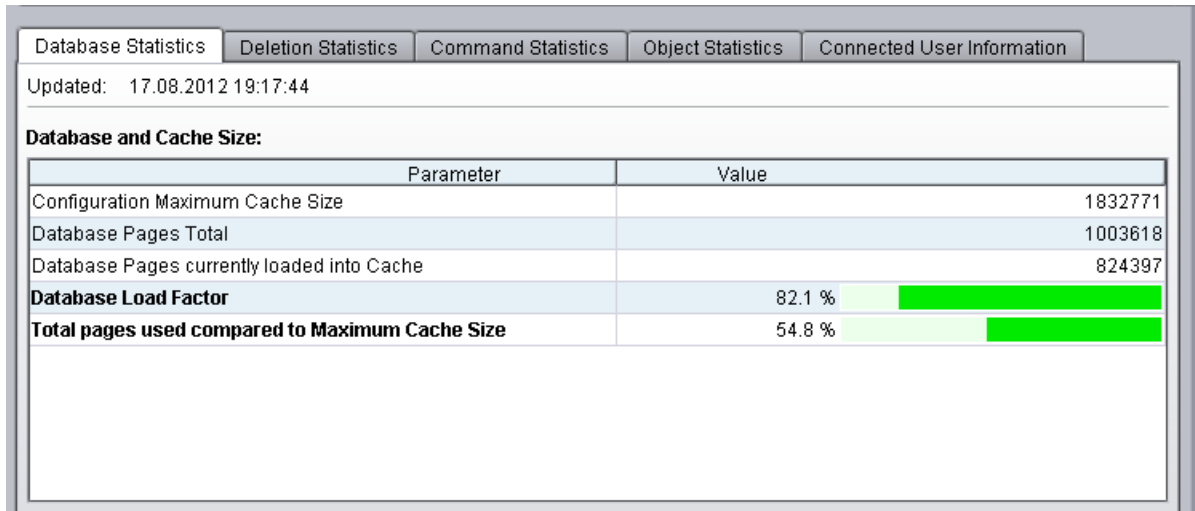
b. Purchasable option.

c. Not a standard configuration.

Note that for Interplay v2.3 and earlier, the database page limit numbers are lower.

# Comparing Database Page Count and Cache Size

The following illustration shows an example of the Database Information view for Interplay v2.6.



The Database and Cache Size parameters are described as follows:

- **Configuration Maximum Cache Size:** The number of database pages that can be loaded into RAM for this system. This value corresponds directly to the “Maximum Cache Size” column in the tables listed in [“Interplay Engine Database Page Limits” on page 18](#). In this example, the RAM cache can hold 1.8 million pages. This corresponds to an SR2500 or AS3000 with 12 GB of RAM.
- **Database Pages Total:** The number of pages in this Interplay database. This is the current size of the database.
- **Database Pages currently loaded into Cache:** The number of database pages currently loaded into RAM. In this example, the database contains 1,003,618 pages and 824,397 of those pages are loaded into RAM.

- The fourth entry in the display differs depending on whether you are using Interplay v2.6 or v2.7 and higher:

- Interplay v2.7: Database Load Factor. Shows the percentage of the database that is currently loaded into RAM. On a completely loaded database the ratio would be 100%, but since some pages of a database are never loaded, it will always stay below 100%. If the operations/workflows executed against this database do not require the whole database to be loaded into cache, this ratio will stay farther below 100%.

This number can be used to judge the "warmness" of a database (whether the database is fully operational). For example, the value may steadily increase after starting up the Interplay Engine after a maintenance window.

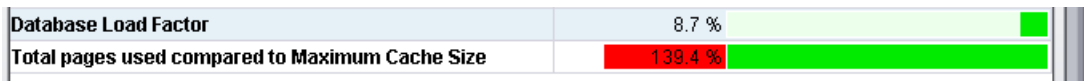
Note that if the "Total pages used compared to Maximum Cache Size" of the database exceeds 100%, then the load factor can never reach 100%. The bigger the database grows over the maximum cache size, the less database pages can be loaded into the cache.

- Interplay v2.6: Cache Utilization. Shows a graphical representation of how much RAM you are currently using. As the number of cached pages gets very close to the maximum cache size, performance degrades during times when large database activities occur. The slow downs occur because the Interplay Engine must swap pages in and out of RAM in order to make room for the new information

This value cannot be larger than 100% because the amount of RAM is fixed. Note that when you get close to 100% the Interplay Engine automatically starts releasing pages to allow for new requests. If you reach 100%, the Interplay Engine runs out of memory and you will see a corresponding error in the NXNserver.log file.

- Total pages used compared to Maximum Cache Size: Shows a graphical representation of how close the current database size (total pages used) is to the maximum cache size. This graphs shows whether the entire database can fit into RAM.

This value can be larger than 100% because it is possible for your database to be larger than the number of pages that can be loaded into RAM. If that occurs, the excess portion of the graph turns red as shown in the following illustration.



The value can be up to 120% without causing performance problems. Recall that the recommended database page limit is the maximum cache size plus 20%. See [“Interplay Engine Database Page Limits” on page 18](#). If the total number of database pages exceeds 120%, performance slowdown can be dramatic (exponential). In this case you should either delete assets to reduce the size of your database or increase the cache size by adding RAM or moving to a more powerful system.

As mentioned earlier, the permissible overusage depends on the customer's workflows and might exceed or be lower than the estimated 20%. Therefore it is important that you closely monitor the performance of the Interplay Engine once the total used database pages exceed the Maximum Cache size.

## Database Activity Information

The following illustration shows the Database Activity parameters at the bottom of the Database Statistics tab.

Database Activity:			
Period	Pages Created	Pages Written	Pages Read
Since last Engine start	0	86	53443
In the last 180 second interval	0	0	3064
End of last 180 second interval: 30.05.2012 16:45:53			

The page activity counters are accumulated for two different intervals:

- The time interval since the last time the Interplay Engine was started
- The three minute interval that ended at the time displayed at the bottom of the screen. The Interplay Engine collects the information every three minutes and displays the results at the bottom of the screen.

The Database Activity parameters are described as follows:

- Pages created: Gives an indication of how much new information has been added to the database.
- Pages Written: An indication of how much has changed in the database.
- Pages Read: An indication of the requests that have been made of the database. This shows how many pages have been read from disk. After pages are loaded into RAM, this number usually decreases.

At the bottom of the screen the system shows the date and time of the last data collection. Time is measured by the system time of the Interplay Engine.

# Tips for Improving Database Performance

The following list provides some tips for improving performance:

- Determine the ratio between the number of objects in your Interplay database and the number of total pages used in the database to understand how the number of objects stored in the database relate to the size of your database. See [“Establish a Stable Ratio Between Database Objects and Database Pages”](#) on page 23.

- Reduce the number of highly linked objects.

For example, a broadcast site may have one high level Projects folder that contains an Intro\_clip that is used by all groups at the site. You could consolidate that clip to create several copies and then move the copies into separate folders, one for each group. For example, you could create a Promo\_Intro\_clip and a News\_Intro\_Clip, and put those clips in folders that would be accessed by the different groups. Delete the old Intro\_clip asset and have the groups start using the new versions. This can dramatically reduce the number of highly linked objects.

- Develop an efficient deletion workflow and only perform large deletions using a custom deletion schedule. For additional information, see the *Interplay Best Practices Guide*.
- Use search criteria to avoid searching the entire database.

If you only use the simple “Contains” text search option, the Interplay Engine searches the entire database for the asset. To improve search performance, limit the search to a particular folder or use an attribute such as a particular time frame to narrow down the search. Note that for simple text searches the search time increases linearly as your database grows. For example, if the database is twice as large, it can take twice as much time to perform the same simple text search. For additional information, see the *Interplay Best Practices Guide*.

- Keep the number of files per folder on ISIS under 5000. As the number of files in a folder grows, it takes the Media Indexer a longer time to traverse the folder. Traversing a folder with more than 5000 files can result in a performance degradation. Note that this does not affect the Interplay database performance directly but it does affect the performance of the system as a whole.

Apply this same limitation to the number of assets in a folder in the Interplay database.

# Establish a Stable Ratio Between Database Objects and Database Pages

The number of database objects that an Interplay environment can support is dependent on the workflow at a particular site. For additional information, see [“Database Object” on page 16](#).

For a given workflow, the ratio of database objects per total number of database pages remains fairly constant. Stable ratios are often in the range of 0.4 to 1.5 but this can vary depending on your workflow. Calculate the ratio when you feel you have an established workflow. Keep track of the following values:

- Total number of objects in the database
- Total number of database pages in use
- Ratio of objects per total number of pages (*total objects / total database pages*)

If you do this periodically while you maintain a constant workflow, you will start to see a pattern. Once you determine a stable ratio for your current workflow you can start to make predictions about how much you can increase the database size while maintaining the same workflow.

## Calculating the Ratio Between Pages and Objects

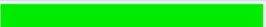

The method for determining the ratio differs depending on your Interplay version. The following table shows where to locate the data for each version.

Interplay version	Total Objects	Total Database Pages	Ratio
v2.7 and higher	Objects Statistics tab	Database Statistics tab	Automatically calculated and displayed on the Objects Statistics tab
v2.6	Objects Statistics tab	Database Statistics tab	calculate: total objects/total database pages
v2.5 and earlier	Objects Statistics tab	NXNServer_<date>.log file See <a href="#">“Total Used Database Pages and Estimated Database Page Limit” on page 17</a>	calculate: total objects/total database pages

The following section presents an example of how to use the ratio.

## Example: Using the Ratio to Plan for Database Growth

The following illustration shows an example database.

Database Statistics	Deletion Statistics	Command Statistics	Object Statistics	Connected User Information
Updated: 17.08.2012 19:17:44				
<b>Database and Cache Size:</b>				
Parameter		Value		
Configuration Maximum Cache Size		1832771		
Database Pages Total		1003618		
Database Pages currently loaded into Cache		824397		
<b>Database Load Factor</b>		82.1 %		
<b>Total pages used compared to Maximum Cache Size</b>		54.8 %		

The following statistics apply to this database:

- Maximum cache size: For this hardware configuration, the maximum number of database pages that can fit into RAM is 1.8 million. For additional information, see [“Interplay Page Limits” on page 18](#).
- Database Pages: The total number of database pages is currently 1,003,618.
- The number of database pages currently loaded into cache (RAM) is 824,397.
- The fourth entry in the list differs depending on whether you are using Interplay v2.6 or v2.7 and higher:
  - Interplay v2.7: Database Load Factor. Shows the percentage of the database that is currently loaded into RAM.
  - Interplay v2.6: Cache Utilization. Shows how much of the cache is currently being used.
- Total pages used compared to Maximum Cache Size: If the complete database (1,003,618 pages) was loaded into cache, it would consume 54.8% of the cache.

According to the final list item, the database can grow by almost 45% and still be within the cache limits. Calculate the number of pages that can be added as follows:

$$\text{maximum cache size} - \text{total database pages} = 1,832,771 - 1,003,618 = 829,153$$

This means that you can add 829,153 database pages and the database should still load into RAM.

Growing the database by a specific number of pages is a relatively abstract concept. The following sections describe how to correlate this information to the more concrete terms of database objects such as master clips and sequences.





*You can add an additional 20% of pages to the database once the number of pages reaches the maximum cache size. This is the “overusage” value described in “Total Used Database Pages and Estimated Database Page Limit” on page 17. The extra 20% is not included in these calculations and you can consider it as an additional buffer.*

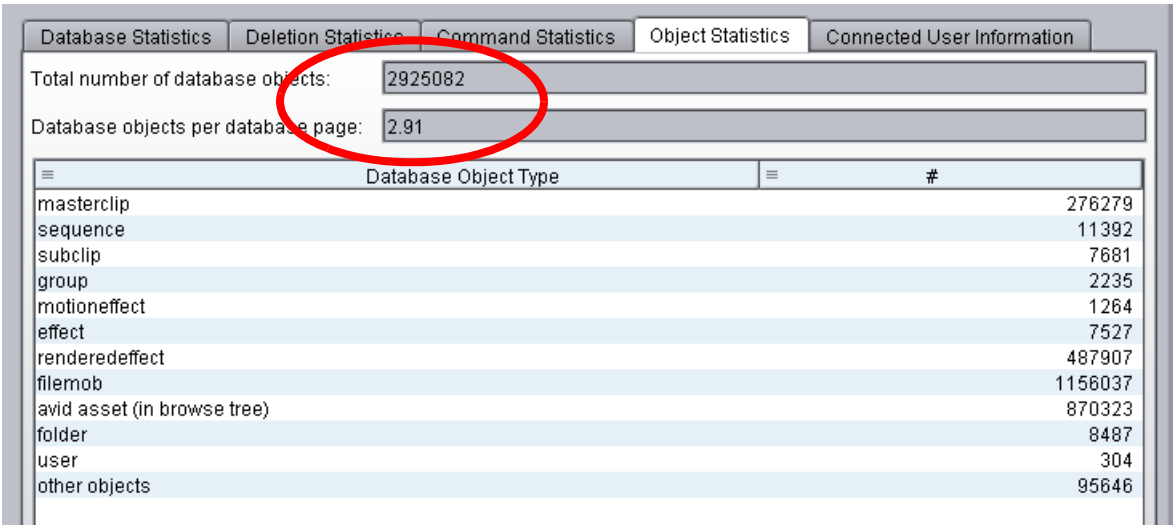
### Calculating the Objects per Page Ratio

Interplay v2.7 automatically calculates and displays the objects per database page ratio on the Objects Statistics tab. For earlier releases, you can calculate the ratio of database objects to database pages. For information on where to obtain the data, see “[Calculating the Ratio Between Pages and Objects](#)” on page 23.

The objects per page ratio can help determine how much you can grow your database while maintaining the same workflow. When your workflow is stable, the ratio tends to be constant over time. If you change your workflow then you need to calculate a new ratio. The objects per page ratio is calculated as follows:

$$\text{total number of database objects} / \text{total number of database pages}$$

The following illustration shows the Object Statistics tab for this example. The total number of database objects is 2,925,082.



Database Statistics		Deletion Statistics		Command Statistics		Object Statistics		Connected User Information	
Total number of database objects:		2925082							
Database objects per database page:		2.91							
Database Object Type		#							
masterclip		276279							
sequence		11392							
subclip		7681							
group		2235							
motioneffect		1264							
effect		7527							
renderedeffect		487907							
filemob		1156037							
avid asset (in browse tree)		870323							
folder		8487							
user		304							
other objects		95646							

The objects per page ratio in this example is  $2,925,082 / 1003618 = 2.91$ .

The ratio is 1:2.91. This means that there are approximately 2.91 database objects per database page.

In this example, the database can grow by 45% or roughly 829K database pages. Using a ratio of 1:2.91, that means you can add 2.4 million objects and the database should still be able to load into RAM. (829K x 2.91= 2,412,390)

### Using the Ratio with Masterclip Objects

This example takes the calculation one step farther to predict how many additional masterclips can be added to the Interplay database and still keep the database within the cache limits. First calculate the percentage of database objects that includes masterclips:

$$\text{Masterclip count} / \text{total database objects} = 276,279 / 2,925,082 = 0.9 = 9\%$$

In this example, masterclips make up approximately 10% of the total number of database objects.

Since the database can grow by 2.4 million objects, this means that you can add approximately 240K masterclips (10% of 2.4 million).

In summary, you can increase the size of the database by adding 240K masterclips and the database should still be able to load into RAM. If you change the workflow you will need to calculate a new ratio and recalculate the number of masterclips you can add.

## 6

# Database Information Tabs

The following sections describe the individual tabs in the Database Information view.

### Database Statistics

Statistics in this tab provide information about the number of pages in the database, cache usage, and how they relate to each other. These statistics are useful in determining database scalability. For more information, see “Determining Interplay Database Scalability” in the *Avid Interplay Best Practices Guide*.

### Deletion Statistics

Statistics in this tab provide information about deletion activity.

The time at the top of the tab is the last time information was received from the Interplay Engine and is automatically updated every minute.

Statistics are divided into two categories:

- **Scheduled Deletion Statistics.** If the Engine is currently performing a scheduled deletion, the Current Deletion Slot column shows statistics from the deletion in progress. If the Engine is not currently performing a scheduled deletion, the column is not displayed.

The third column shows statistics about the last completed scheduled deletion. If there has not been a scheduled deletion since the last time the Interplay Engine was started, the column is not displayed.

Statistics in this tab refer to assets that were sent to the Orphan Clips folder as a result of a scheduled deletion. Statistics are shown for the following parameters:

- **Processed Assets:** The number of assets in the Orphan Clips folder that the Interplay Engine processed during the deletion. This process includes examining whether the assets should be deleted or moved to another folder. This number is usually higher than other similar statistics. For example, if the deletion is delayed (a setting in the Scheduled Deletion section of the Delete Behavior view), the Engine examines the assets before a deletion takes place.
- **Deleted Assets:** The number of assets in the Orphan Clips folder that were deleted.
- **Assets moved to Kept Media:** The number of objects moved as a result of the scheduled deletion.

- Assets moved to Failed to Delete: The number of objects that failed to delete as a result of the scheduled delete.
- Successfully deleted media files: The number of media files deleted from shared-storage. Only media files deleted by a scheduled deletion from Orphan Clips are counted, not media files deleted by the interactive part of a deletion.
- Size of successfully deleted media files. The cumulative size of the successful deletions in KB, based on information in the Interplay Engine database. This information is not necessarily the most recent information from the Media Indexer.
- Deletion Statistics Since Last Engine Start: These parameters list cumulative totals since the last time the Interplay Engine was started. The statistics in this section include deletions outside of the scheduled deletion slots. for example, media files deleted directly in Interplay Access. Statistics are shown for the following parameters:
  - Failed media files deletions
  - Successful media files deletions
  - Failed metadata deletions
  - Successful metadata deletions

### **Command Statistics (Engine Search Requests)**

The statistics in this tab provide information about commands executed by the Interplay Engine. Currently the only command included is Search, which is listed as Engine Search Requests. These commands are search requests made in Access or other clients that are processed by the Interplay Engine.

Because searches are a common way that users notice a slowdown in Interplay Engine performance, these statistics can be useful in troubleshooting performance problems.

The time at the top of the tab is the last time information was received from the client and is automatically updated every minute.

Statistics are shown for the following parameters:

- Period: The ten most recent measurement periods are listed in the Period column. Periods are a maximum of one minute and are created only if there are search commands executed. You cannot check statistics for earlier periods.
- Duration: The length of the measurement period, from the finish of the first search until the finish of the last search in this period. Note that the summary for the Duration column displays the time from the oldest to the latest measurement period, not a summary of the Duration periods.

Other parameters are described in the tab.

## Object Statistics

Statistics on this tab show totals for objects in the database. This information is not updated until you open the view again.

- Total number of database objects: A sum of the objects listed below.
- Database objects per database page: This statistic is calculated as  
*total number of database objects / total number of database pages*
- masterclip, sequence, subclip, group, motioneffect, effect, renderedeffect: the number of these object types.
- filemob: the number of file locations that are known to the Engine, regardless of online or offline status. Matches the files listed in the File Locations tab in Interplay Access.
- avid asset (in browse tree): the number of links or representations visible in the database tree.
- folder: the number of folders in the database, both those visible in the database tree and those not visible in the database tree.
- user: the number of users in the database.
- other objects: additional versions of sequences, internal database management objects, and file assets

## Connected User Information

Statistics on this tab show information about each user currently connected to the Interplay Engine. This information is not updated until you open the view again. The License Class column lists the license keys that are used internally by the Interplay Engine.

# 7

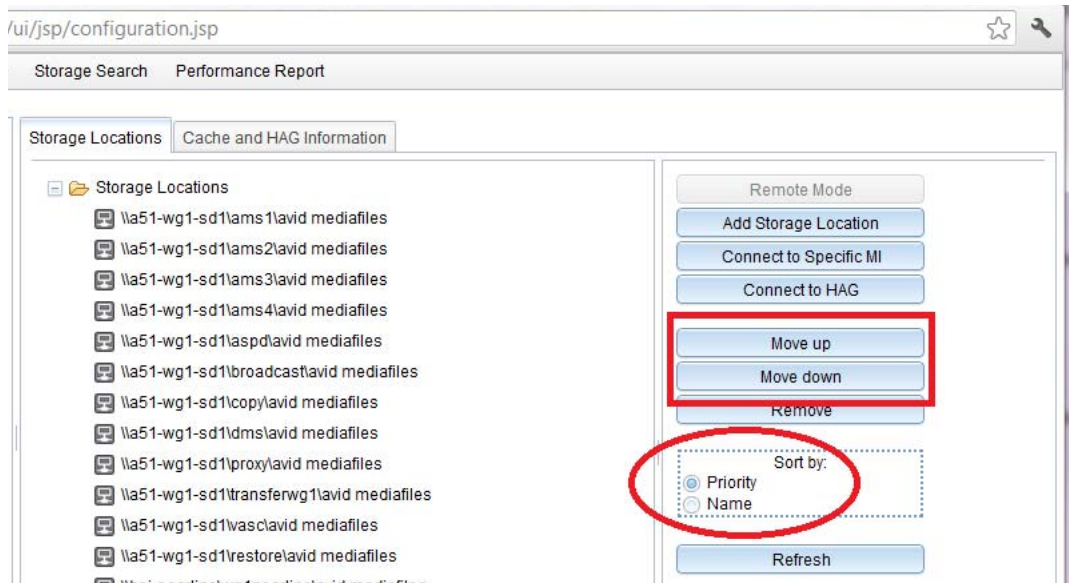
## New for Media Indexer v2.7

This section describe the following topics:

- [Managing the Order of Storage Locations](#)
- [Viewing the Size of Indexed Workspaces and Folders](#)
- [Remote Mode Button](#)

### Managing the Order of Storage Locations

Media Indexer v2.7 adds support for changing the order of storage locations. This feature is already available in the Service Configuration tool. The following illustration shows the new buttons.



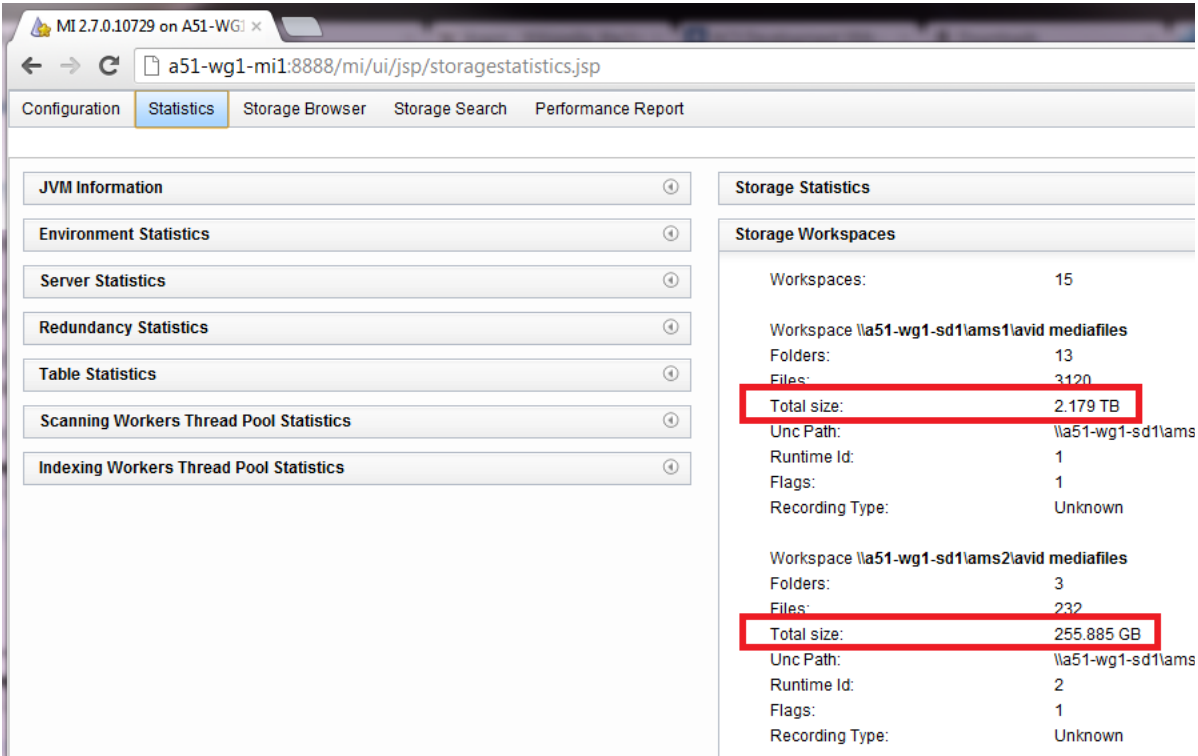
- Move up and Move down buttons: Allow you to move the storage locations within the list. When Sorting by Priority is enabled, you can manage the priority by moving the storage locations up and down in the list. The highest priority storage location is at the top of the list.
- Sort by buttons: Allow you to switch between the default priority order and alphabetical order.



*In the case of a local Media Indexer, the local results are always returned before the results from the Media Indexer HAG.*

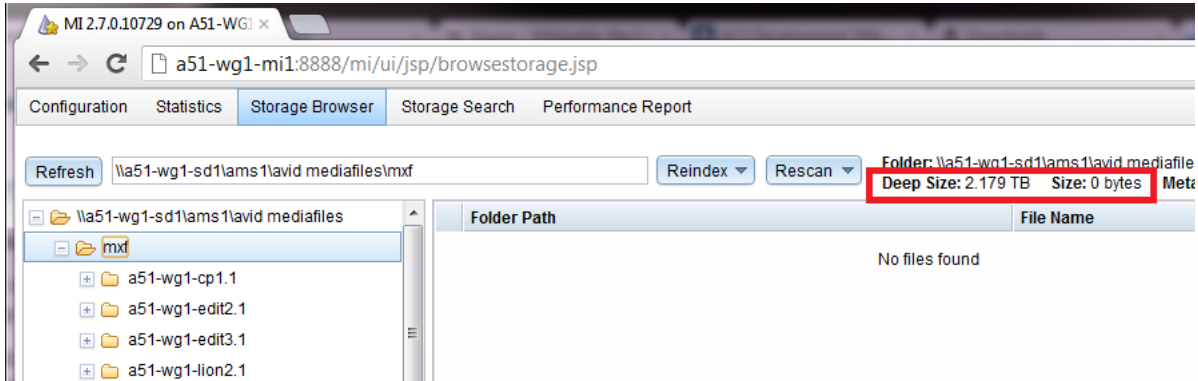
## Viewing the Size of Indexed Workspaces and Folders

You can view the total size of the files indexed by a storage location and by a particular folder. The following illustration shows the total size of each storage location in the Statistics tab.



*The Media Indexer only calculates the size of files that are indexed. If there are non-indexed files in the folder they are not reported in this value.*

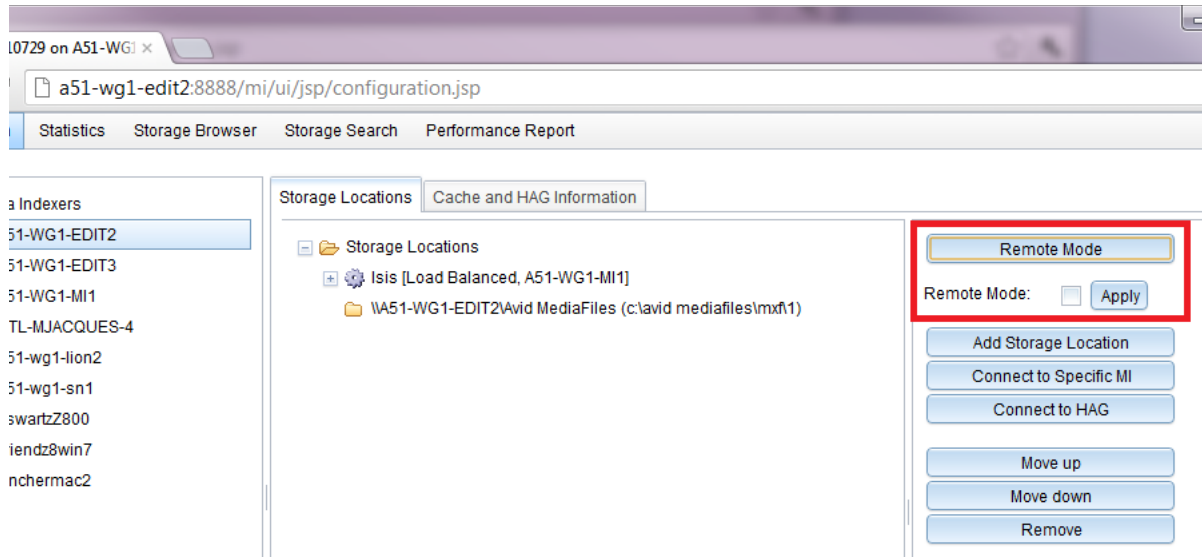
The following illustration shows the size of folders in the Storage Browser tab. The Deep value is the size of the currently selected folder and all subfolders under this folder. The value on the right is the size of the currently selected folder. In this example the top folder is empty but the subfolders contain indexed media.





## Remote Mode Button

Local Media Indexers have a Remote Mode button that allows you to disconnect from the HAG. On the Service Configuration tool, the Remote Mode button is in the Configure Storages window. On the Web user interface the button is on the Configuration tab. When you click the Remote Mode button it expands as shown in the following illustration.



**Do not use the Remote Mode button for Interplay v2.7. It is intended for a future release and has not been qualified.**