



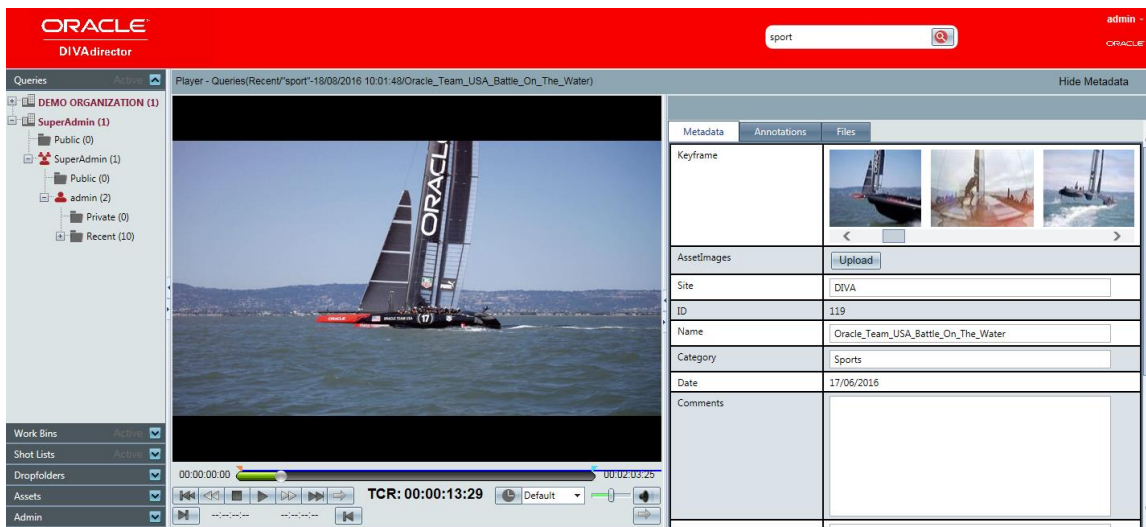
## DIVAdirector Overview

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## Introduction

DIVAdirector is a user-friendly web based application providing access to all assets stored in the DIVArchive system. The low cost DIVAdirector application addresses the most fundamental asset management requirements for broadcasters, content providers or any enterprise dealing with video archive workflows. It includes features such as:

- Simple to use web based user interface, running on multiple OS and browsers
- Active tracking of all assets in the DIVArchive system
- Extensive metadata search capabilities
- Dynamic metadata model can be configured on the fly
- Advanced User and Group management as well as collaborative workflows
- Proxy browse, frame accurate EDL generation and export for audio and video content.
- Easy import and export of metadata



1 - DIVAdirector Query & Player

## Basic Features & environment

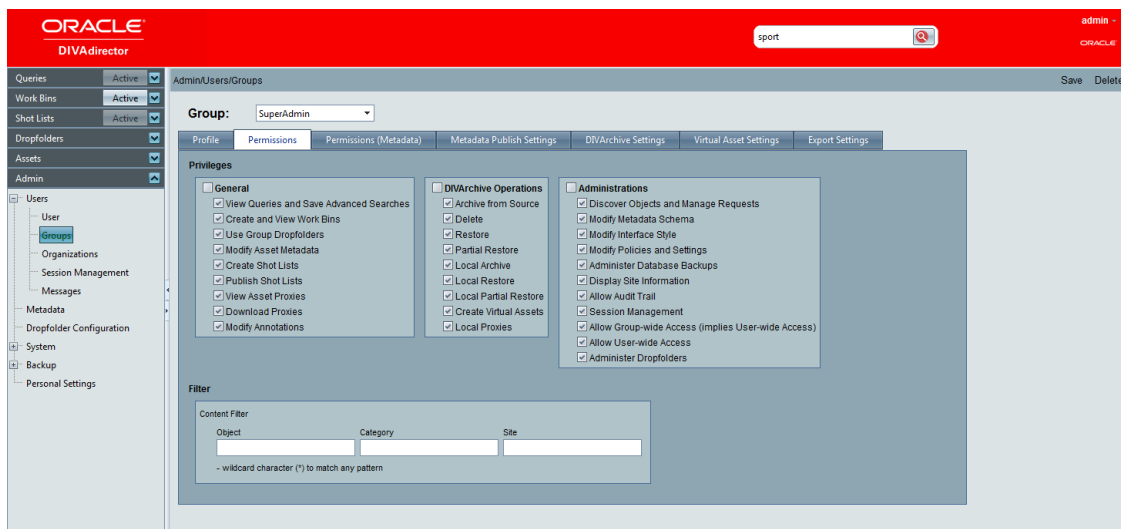
### Active Tracking of DIVArchive content

DIVAdirector connects to the DIVArchive system via the DIVArchive API. This ensures that the DIVAdirector database will always accurately reflect the assets contained in the DIVArchive system, from whatever source they have been archived: automation, other enterprise MAM, production (Avid, EVS, Quantel, etc.).

With such capability, it is easy to exchange archived content across your organization's departments. A "news" content archived in DIVArchive can be searchable by any DIVAdirector user and restored to any destination from.

## User and Group Authentication

Security and protection of the valuable assets contained in the DIVArchive system is fundamental to the design and architecture of DIVAdirector. The system's granular access control mechanisms ensure that no one can interact at any level unless they have the permissions to do so. System administrators can control permissions on metadata, type of content and type of operations at Organization, Group or User levels. With new features such as real time tracking of connected users (audit trail), and integration with LDAP servers, you can rest assured that your assets are protected.



2 - DIVAdirector User administration interface

## Multi environment

The DIVAdirector system is fully web based, including all system configuration and administration. Interfaces are clean and simple and require little training before users can become productive. With no client software to deploy, installation and rollout of the application is simple.

## Metadata management

### Flexible metadata model

The DIVAdirector system is built on a powerful, embedded database for metadata storage and asset tracking. An asset can have an unlimited number of metadata that can be:

- Legacy metadata from DIVArchive (archive date, object name, category...) or from the video associated to this object (thumbnails, duration, SOM)
- Custom fields of various types (char, date, integer, binary file like word documents, Excel, PDF, images...) fully configurable via the web interface

The screenshot shows the Oracle DIVAdirector Administration interface. On the left is a navigation tree with 'Metadata' selected. The main area is titled 'Admin/Metadata' and contains a 'New Column' form and a table of existing metadata fields.

**New Column Form:**

- Title: [Text Input]
- Type: CHAR (dropdown)
- Length: [Text Input]
- Format: EditBox (dropdown)
- Description: [Text Area]
- Hidden (Hid):
- Read Only (RO):
- Search Results (SR):
- Tooltip (TT):

**Metadata Schema Table:**

ID	Title	Type	Format	Table Name	Length	Description	Hid	RO	SR	TT
41	Site	CHAR	EditBox	object_locations	240	Site ID	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	ID	INT	EditBox	base		Object ID	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Name	CHAR	EditBox	base	240	Object name	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Category	CHAR	EditBox	base	240	Object category	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Date	DATE	Calendar	base		Archiving date	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Comments	CHAR	TextBox	base	240	Object comments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3 - Administration interface to configure the metadata schema.

The screenshot shows the Oracle DIVAdirector Metadata page. On the left is a navigation tree with 'Recent' selected. The main area is titled 'Player - Queries(SuperAdmin/SuperAdmin/admin/Recent/sport~20/06/2016 17:38:51/Football)'. It features a video player and a metadata form.

**Metadata Form:**

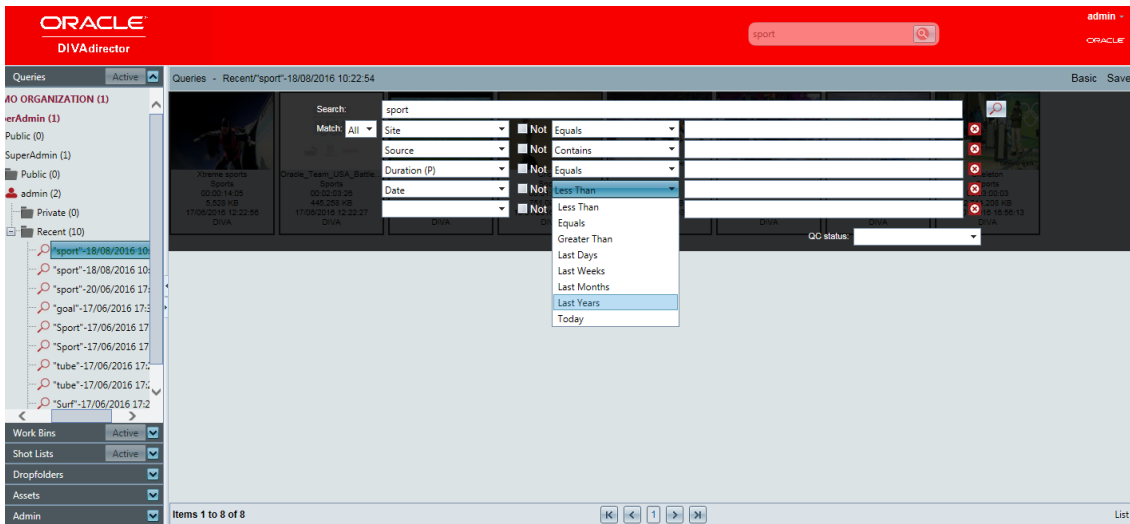
- Keyframe: [Image Thumbnails]
- AssetImages: [Upload Button]
- Site: DIVA (text input)
- ID: 117 (text input)
- Name: Football (text input)
- Category: Sports (text input)
- Date: 18/01/2016 (text input)
- Comments: [Text Area]

4 - Metadata page to document an object.

## Advanced Metadata Search Functionality

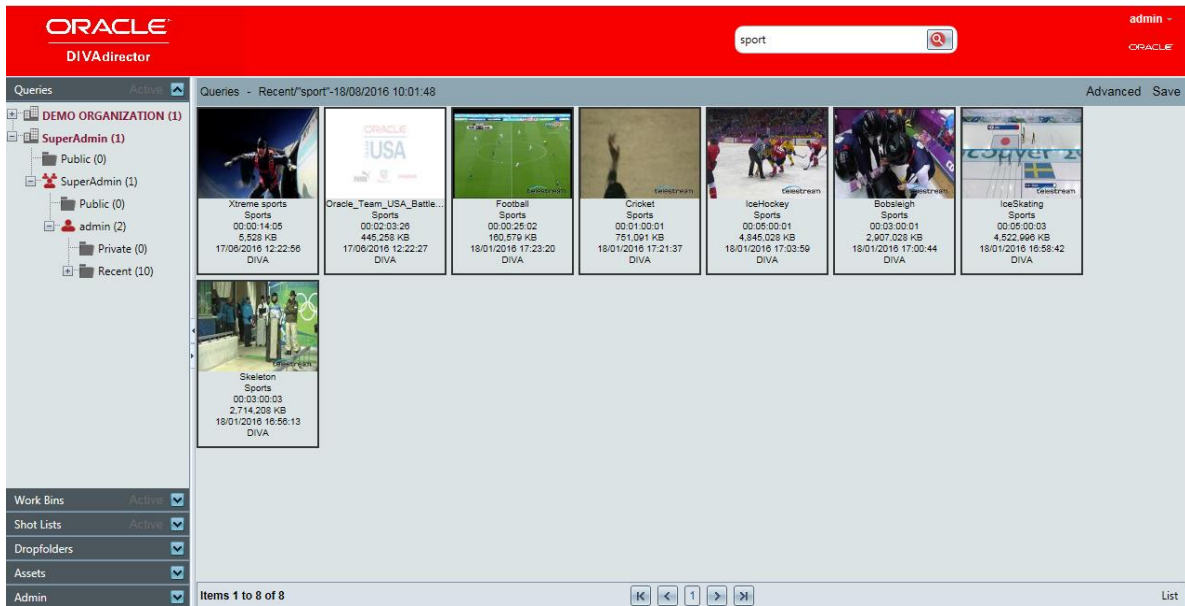
DIVAdirector is built on a very powerful search engine allowing complex metadata searches to be performed. Users can define Queries and save, rename, and group Queries for easier access. In addition to being able to save queries, they can also be logically arranged in a hierarchical fashion allowing the user to define group names and place saved queries within specific groups.

Search criteria can be concatenated, including complex comparisons on any metadata field defined in the system. This, of course, includes all dynamically defined metadata fields configured in the system. When a new metadata field has been defined, it becomes immediately available as a search criterion. By defining and saving frequently-used queries on a user per user basis, DIVAdirector allows a very efficient location of desired assets.



5 - Advanced Search

Search results can be displayed in a grid (to see many items on the same page), with paging or as a list to easily sort the results according to specific metadata fields.



### 6 - Search Results

## Annotations

It is possible to add metadata to a video segment or scene identified by its start timecode and end timecode. This will allow entering logging annotation and enrich the database with metadata related to a section of the video.

The end user is able to enter metadata from a TCin to a TCOut from the video player, and the search result will directly point to this section of the video. DIVAdirector improves navigation inside a video with this feature: the user can click on the comment on the metadata page on the right of the player and this will set the player to start at the relevant frame. It is also possible to import such metadata in a text format (coming from external logging systems, etc.).





7 - Annotations

## Metadata exchanges

### Standard import/export of metadata


DIVAdirector includes an automatic file processing wizard which periodically imports any flat file and will perform actions on the contents of the file.

The “metadata drop folder” configuration allows defining mapping between the metadata fields contained in the input file (in .CSV or .XML format) and the metadata fields contained in the DIVAdirector database. Different mappings can be defined in multiple directories to allow multiple systems to feed metadata into the DIVAdirector database. For example, the Traffic system can periodically export a flat file containing all asset IDs and their associated metadata and deposit it into a network directory monitored by the file processing wizard. Once a file arrives, the mapping defined in the XML document will be used to process the file and update all of the assets contained in the DIVAdirector system. This eliminates the need for manual metadata entry and guarantees tight linkage between metadata systems.

It is also possible to export metadata populated in DIVAdirector into flatten files or XML formats to allow easy integration with other third party software.

### MAM/DAM System Migration Support

Designed as an entry-level content management system, it is clear that some users may require more advanced features than the DIVAdirector system can provide. To facilitate migration from a DIVAdirector system to one of our more advanced partner Digital Asset Management (DAM) systems, the DIVAdirector system supports full export of all metadata contained within the system. This allows an inexpensive entry into the realm of asset management with a clear growth path that can be defined later. The choice of a DAM system no longer has to be



a long term planning decision given the flexibility of the DIVAdirector system and the ability to migrate to other solutions in the future.

### **QC software integration**

Several quality control tools such as Cerify, Baton or Venera can generate XML reports specifying errors detected on the video and alerts. With DIVAdirector, it is possible to integrate such report as part of the asset's metadata, with the ability to execute the following operations:

- Display the thumbnails of the problematic frames detected by the QC software
- Launch a workflow (configurable) to trigger some actions by clicking on a ACCEPT/FAIL button
- Flag an asset as accepted or failed to facilitate search for other users based on this flag.

## **Media management**

### **Proxy browse interface**

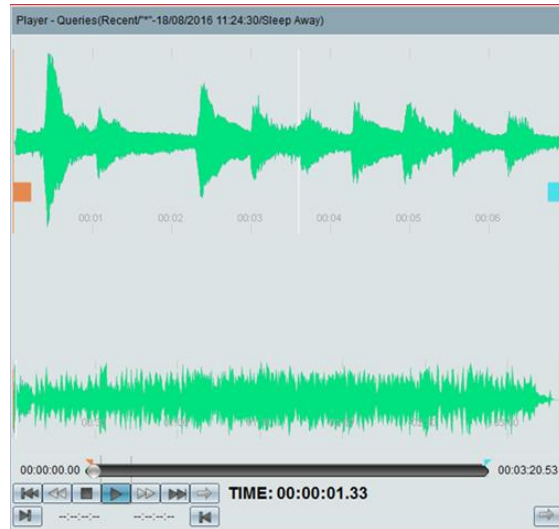
One of the most powerful features of DIVAdirector is its tight integration with proxy versions of the high bitrate assets contained in the DIVArchive system. Through the web interface, any authorized user can view proxy content generated by DIVArchive integrated transcode engines, available as an option. These proxies provide authorized users with a proper “window” into the high bitrate assets stored in Nearline or Archive storage. Because of the advanced design of DIVAdirector, the core functionality of the system does not require the inclusion of a proxy transcode engine but this is where the real collaborative value of the system is. DIVAdirector is able to manage 2 types of proxy files: WM9 and H264 (wrapped in MOV). DIVArchive (or DIVAdirector) interfaces third party transcoding software for automated proxy generation, copies the proxy file in a shared folder and then matches proxies with high resolution (based on the name of the file and some configurable parameter). Proxies can be stored on the DIVAdirector server's dedicated storage, or on an external NAS / SAN accessible from the DIVAdirector server. Users with appropriate permissions can also download proxies locally on the end user's workstation from the DIVAdirector interface.

Preview and browse works for both audio and video assets:





8 - Video Preview Player

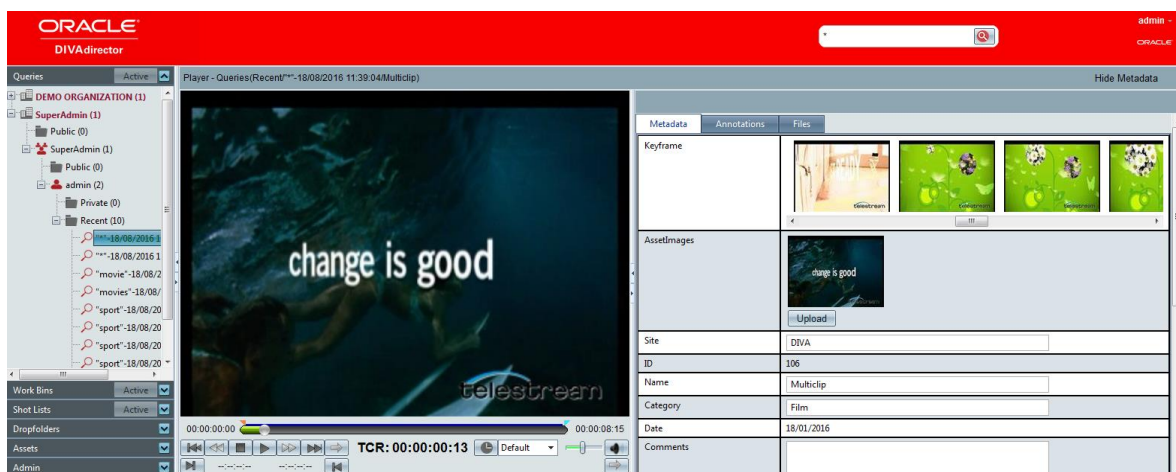


9 - Audio Preview Player

## Still images management

DIVAdirector interface manages still images (.jpg, .bmp, .gif) with search functionality, metadata and archive operation to trigger operations on a DIVArchive.

Then, it is possible to associate one (or several) still images as a metadata of an asset to define the thumbnail in the search result windows or any important information associated to an asset. This can be used for example to associate movie poster to a video asset or a thumbnail to an asset image. DIVAdirector user can then easily download or restore the image in full screen to view this image as illustrated in the screen shot below.



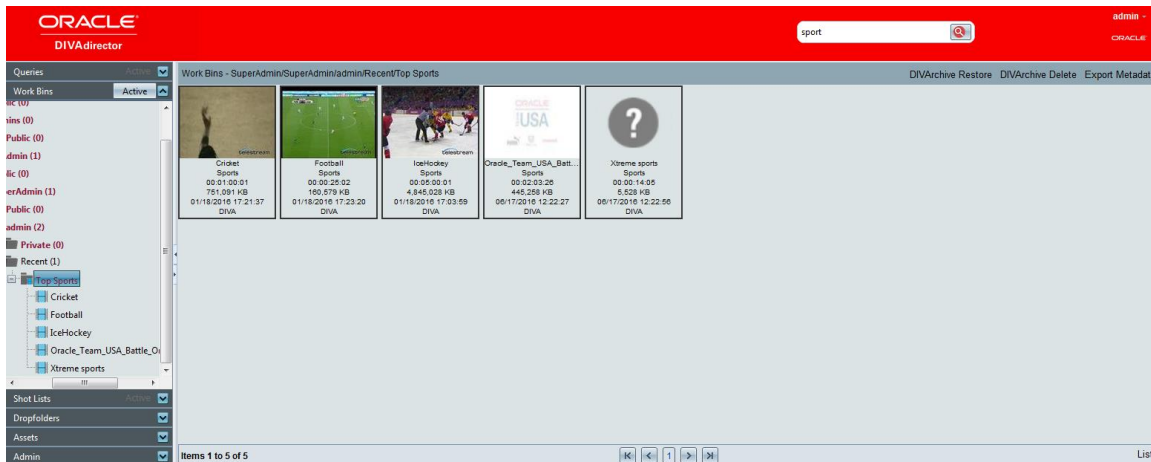
10 - Association of image to an asset

## Work bin workflows

DIVAdirector can be used as a collaborative workflow tool through its advanced Work Bin support. Users can define their own work bins, which are specific to their login, or can make these work bins public so that others can interact with the assets contained in the shared work bin. The work bin functionality also supports grouping of the work bins following a hierarchical model in order to organize larger sets of work bins.

Typically, a work bin is a collection of pointers to DIVAdirector content. Assets returned by queries can be added to the currently selected work bin individually or as a group by selecting the desired items. Once in the work bin the assets can be shared so that any user can interact with these items, review the proxies, update the metadata or create EDLs using content from the work bin.

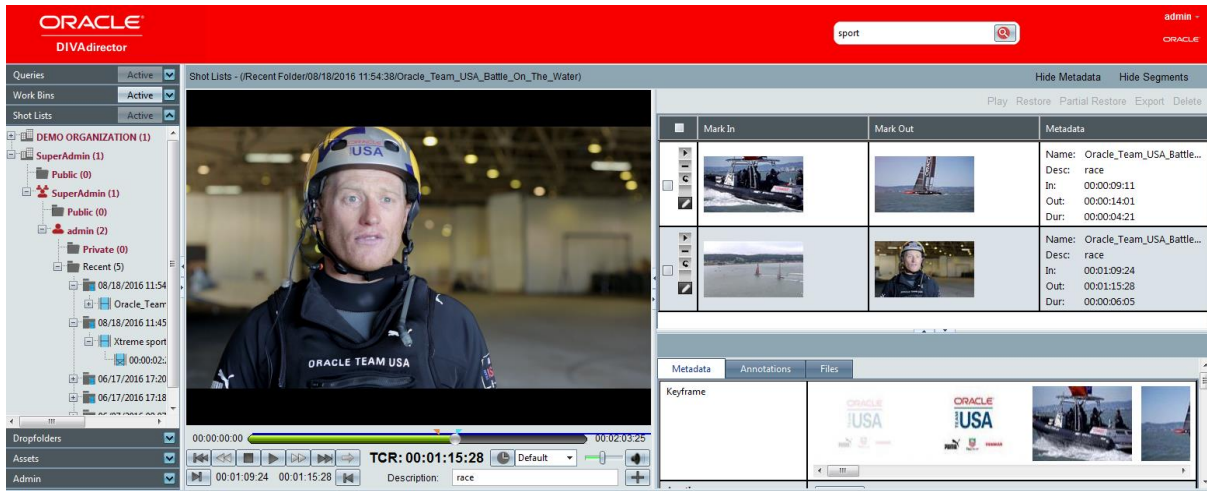
For example, a work bin titled “top 5 Reuters news” can be created, and populated with assets returned by various queries for items related to “top 5 Reuters news”. This work bin can then be made public and accessed by another user to use this content and benefit from someone’s query results. Items can also be removed from a work bin individually or as a group, so once the desired operation has completed on an asset the user can remove the item.



11 - Workbin

## Shot list: EDL Generation, Export and partial restore

DIVAdirector allows any authorized user to create frame accurate Edit Decision Lists (EDLs) from their web browser. DIVAdirector allows powerful interactions with the assets contained in the system and their associated proxies in order to create EDLs. Any authorized user can select one or several assets in the system, and can add, delete, reorder or preview frame accurate EDL elements. Once complete, the user can save or export the current EDL for use in external editing systems. Each EDL saved in a shot list allows collaborative workflows such as with a work bin.



12 - Shotlist

DIVArchive offers timecode based partial restore functionality for most leading video servers and production formats. By marrying this powerful partial restore feature with the EDL functionality in DIVAdirector, proxy content can be used to “shot list” content and have DIVArchive restore only the required portions of the high bitrate assets to a destination video server or another broadcast device.

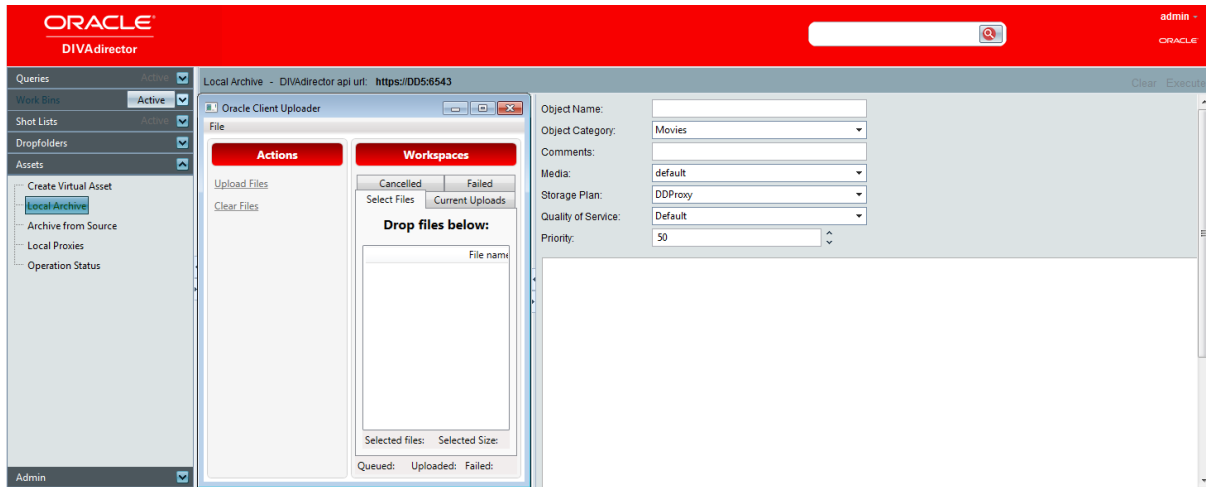
By combining advanced asset search, work bin support, proxy browsing, EDL generation and partial restore functionality the system can become a very powerful content creation and repurposing tool.

### Archive and Restore

From the web interface of DIVAdirector, an end user often needs to perform operations such as:

- Archiving one or more local files hosted on his computer or on a shared source (NAS, video servers)
- Restoring assets not only to a corporate destination (NAS, video server...) but also to the DIVAdirector User’s local PC for editing or for the storage of a local copy before going on the field.

For such purposes, DIVAdirector allows not only usual archive and restore operations but also “local” archive and restore operations, based on secured http transfers between the back-office DIVAdirector server infrastructure and the local client.







13 - Local Archive interface Client Uploader

Using File base processing option, it is possible from DIVAdirector to “preload” a list of assets stored by DIVArchive by dropping a restore command file to a DIVAdirector restore drop folder.



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Unique Features in DIVArchive: The Benefits of a Content Storage Management System  
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