



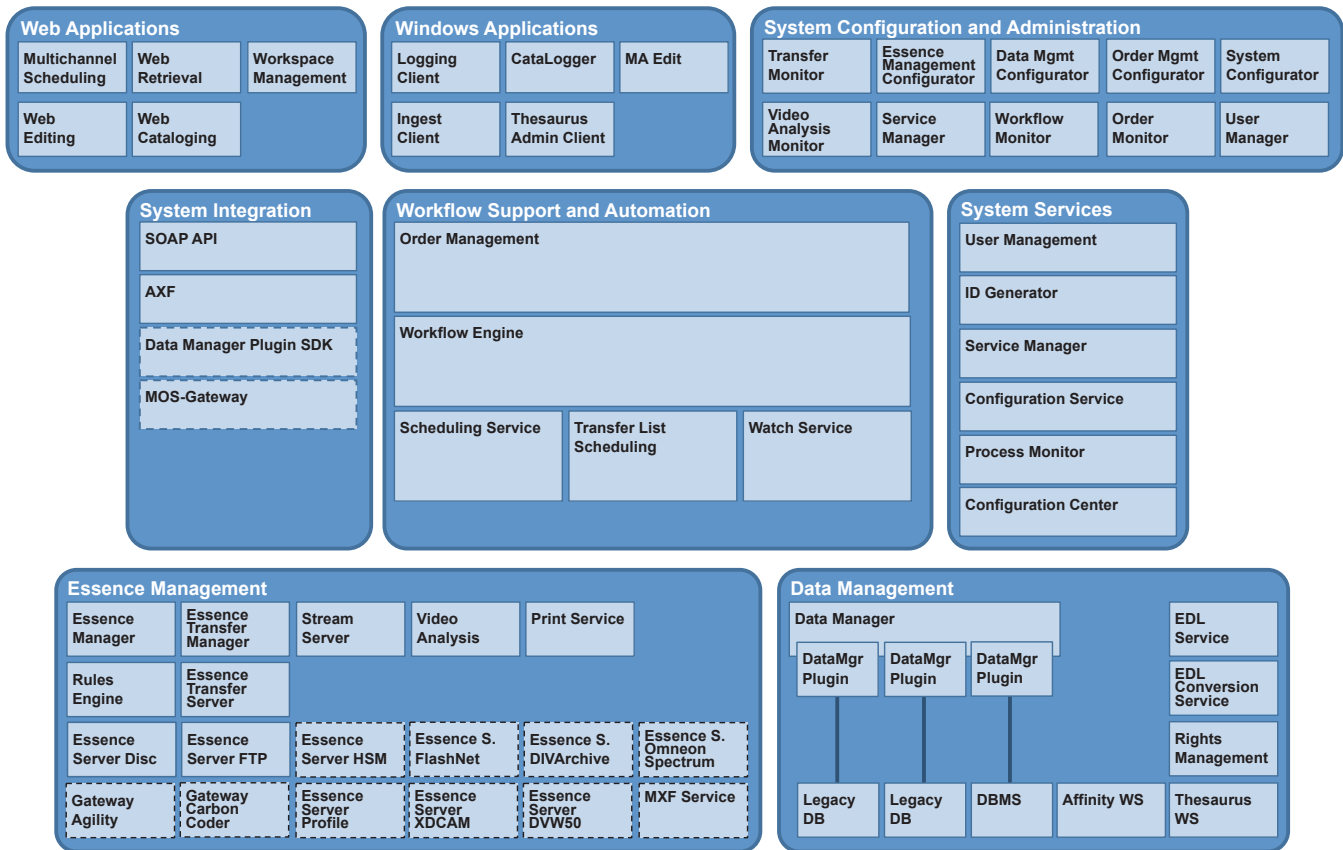
Overview

Interplay® is a distributed system of co-operating web services, each contributing features to the overall system. These services can be freely distributed over a number of servers, providing unparalleled scalability and redundancy. The system is self-contained, open, and based on a Service-Oriented Architectures (SOA) architecture.

Interplay Media Asset Manager:

- Integrates islands
- Facilitates and streamlines workflows
- Grants access to assets from any desktop workstation

All services are web services, implemented using Microsoft's .NET framework. The communication is based on SOAP (Simple Object Access Protocol).



Software Architecture

Interplay Media Asset Manager

Workflow Support and Automation

At the core of the system is Workflow Support and Automation comprised of:

- Workflow Engine for the configuration and processing of system workflows
- Order Management to support human workflows such as ordering material delivery, requesting archive searches, digitization requests, etc.
- Scheduling Service for schedule-based start workflows
- Watch Service for event-driven start of workflows; and
- Rules Engine for rule-based handling of Essences e.g. transfers or cleanup

These services are used to configure workflows Interplay offers to the users to support their work

Order Management manages complex user workflows, providing metadata management, status management and GUIs (forms and reports). The Workflow Engine ties system features and user workflows together into comprehensive project workflows. Scheduling Service and Watch Service expand the ability to invoke workflows. Interplay services provide system features required to process the individual tasks in these workflows.

System Management and Administration

System Management and Administration include components such as User Management, ID-Generator, Service Manager, Scheduler and Configuration Service. Other Interplay services use these for authentication and authorization, generation and management of unique IDs, system monitoring and maintenance, tasks to be performed either periodically or at a pre-defined time, and as configuration registry.

Data Management

Data management services cover Interplay's own cataloging databases for the management of descriptive metadata, plug-ins to third party or legacy catalogues, and the management of distributed database architectures (direct search and federated update). Interplay offers various kinds of searches such as simple search, attribute search, stratified search and combined search. Data Management is configurable and supports simple data models such as Dublin Core as well as elaborate models such as IPTC-NAA or SCORM. These data models can be complemented by user-defined masterdata sets and controlled vocabulary contained in configurable lists. Attributes in Interplay can have multiple values, and Data Management has a dedicated service for the management of EDLs.

Essence Management

Besides management of all essence related metadata in Essence Manager, the Essence Management offers Essence Servers and Conversion Services that integrate third party devices into the MAM environment. These devices fall into three categories:

1. Video servers, production systems and tape decks
2. Transcoding and conversion engines
3. Archive management systems

Devices in category 1 are systems that may be able to record, store, play, stream, and fully or partially transfer essence. Interplay currently supports Essence Servers for GVG Profile, Sony XDCAM Decks, SONY XDCART Library, Panasonic P2, Quantel sQServer, Omneon Spectrum and MediaDeck, Harris Nexio and DVW-500 compliant VTRs. In addition, an Essence Server supporting the FTP protocol is available for integration of any FTP-compliant system (including FTP side commands).

Devices in category 2 allow transcoding between different encoding formats or changing wrapper formats. A popular application is creating browse proxies for high resolution content that has been imported via file transfer. Currently, Conversion Service Gateways are available for Anystream Agility, Telestream FlipFactory and Rhozet CarbonCoder.

Devices in category 3 include solutions dedicated to manage nearline storage systems for long-term archiving in digital file formats. Currently Essence Servers for Front Porch DIVArchive, SGL FlashNet and IBM Admira are available. Interplay Generic Essence Servers support direct access to file systems via UNC or access to FTP servers using FTP.

Software Architecture

Interplay Media Asset Manager

The Essence Transfer Management provides capabilities to transfer Essences between the various Essence Servers. The Essence Transfer Manager identifies the best protocol and access path between the Essence Servers and can also start Essence Transfer Servers if the Essence Servers cannot perform the transfers by themselves.

Video Analysis is also part of the Essence Management, providing shot detection or periodic key frame extraction for video. Stream Server MBA provides format agnostic streaming capabilities, supporting MPEG-1, MPEG-4, SONY MXF and WM9 in the current version. The Essence Management provides internal archive management capabilities, either native or by integrating third party archive management systems.

Applications

Within Interplay's SOA, the services described above are used by other Interplay services and applications that define the user interface. There are three major categories: 1) web applications, 2) native Windows applications, 3) applications for system configuration and administration.

Web Applications

Interplay Web applications include Scheduler, Web Retrieval, Web Cut, and MAM Desktop. Scheduler provides users with a web interface that allows scheduling of recordings (both on-time and recurring recordings) and to do crash records.

With Web Retrieval, users can search, retrieve and browse assets. It combines Workspace Management with search forms, hit list, various forms to display details of search results, and shortcuts to invoke dedicated Windows applications to work with selected objects.

Web Cut is new in v.3.4 and allows compiling of EDLs using mark-in and -out right from the browse video and audio.

Web Cataloging allows users with access privileges to edit metadata attributes directly from the web GUI without involving a native client. The Essence View gives an overview of all essences for a specific media object and allows web based upload and download of essences.

Interplay MAM Desktop provides an explorer-style folder structure that allows users to collect assets, store and re-issue queries, browse the content, and copy assets between Essence Servers as well as perform such functions as placing and monitoring orders. A comprehensive access rights model allows users to establish private and public folders, ensuring that users can share information and assets.

Windows Applications

Interplay provides a number of native Windows applications that have been developed to serve a dedicated purpose while providing optimum performance and interactivity. These clients include:

- Logging Client for close to real-time annotation even while recording
- Cataloger for in-depth annotation of content including segment-based annotations in multiple dimensions (strata)
- Cut for browsing, clip selection and rough cut
- Cut Pro for audio and video editing on several tracks with transitions and voice-over
- Tape Ingest Client for batch digitization of clips from tape

Applications for System Configuration and Administration

Interplay provides a comprehensive set of configuration and administration tools, including:

- System Configurator to configure system parameters such as ports and IP addresses
- Workflow Configurator to develop workflows for processing by the Workflow Engine
- Data Management Configurator to develop and modify the data model, metadata forms, etc.
- Order Administrator to develop and modify Order Metadata and other parameters
- Essence Management Configurator to configure Essence Servers, carriers, and pools for Interplay Essence Management
- Service Manager for remote start, stop and monitoring of all system services
- Workflow Monitor to monitor active workflows
- Order Monitor to monitor the processing of orders
- User Manager to configure user accounts, preferred user language, and associated functional user rights.
- System Integration

Software Architecture

Interplay Media Asset Manager

System Integration

Interplay is specifically designed to allow for easy integration with a multitude of third party systems, such as scheduling and traffic systems, automation systems, news room computer systems, video servers, transcoding engines, content indexing engines, non-linear editing systems, and computer aided radio systems.

For file-based exchange of metadata, Interplay supports the XML-based Attribute eXchange Format (AXF). Interplay also provides an SDK for custom Data Manager plug-ins. A MOS Gateway supports parts of the MOS protocol.

For more information visit www.avid.com/interplay

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