Overview of Functional Components

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The platform's logical layers, described in the previous section, are implemented using several different functional components that are listed in this section. Some of the components must be deployed as part of the core platform (i.e. the service will not operate without them), and some are optional, whereby the decision for their deployment is derived from the applicative needs and/or from the necessary scale of the deployment. All optional components are operable as part of Kaltura SaaS edition deployment.

Required Components

The following components must operate within Kaltura’s online video platform:

1. **Kaltura Web Services**
   Apache server and Kaltura web services layer in the form of a set of Application Programming Interfaces (API) as a single access point for client-server applicative communication. This module should be deployed on front-end server/s (traffic distributed by load balancing equipment).
2. **Kaltura Batch Jobs**
   Scalable middleware entities deployed on back-end server/s. Central orchestration of atomic batch services such as media import, media info extraction, transcoding, server notification and others. This module should be deployed on a backend server.
3. **Kaltura Transcoding Engine**
   This module manages all media transcoding tasks, by utilizing open source and/or commercial transcoders. This is a CPU intensive module and could either be deployed on a backend server at a local deployment or can be distributed using independent transcoding servers deployed in a cloud solution.
4. **Shared Storage**
   A dedicated disk space that is shared and accessible by all of Kaltura’s servers within a specific deployment. The Shared storage holds all content and application files, including: media assets, Kaltura flash widgets/applications, skins, thumbnails, players/playlist configuration files (UI conf) etc. The shard storage can be deployed as part of a local deployment or using independent storage within a cloud solution.
5. **Operational Database**
   This is the applicative database, used for storing and managing both content related data (metadata, identifiers, URLs etc.) as well as application and business

logic supporting data. The operational database should be deployed as part of a local deployment, preferably on dedicated server/s utilizing a master/slave topology.

6. **Search Server**
   Full text search servers based on the Sphinx open source solution for fast indexing and search.
7. **Site Admin Module**
   This module is responsible for operating Kaltura's Admin Console, enabling site administrators to monitor and operate their own deployment of Kaltura's online video platform. For full monitoring, it is important to deploy this module on a local separate server.
8. **Media Analytics Module**
   This module is responsible for processing and aggregating Kaltura's video analytics data into a dedicated Data Warehouse (DWH), and the production of video usage and behavior reports. The module includes the data Exporting, Transforming and Loading processes (ETL), a DWH database, and the reporting utilities in use. This module can be deployed as part of a local deployment or can be distributed using independent analytics servers deployed in a cloud solution.

Optional Components

1. **MediaSpace (Optional)**
   Kaltura MediaSpace is a fully customizable media destination site for the organization. MediaSpace is an out-of-the-box video-centric site that can serve as a repository for media collections across the organization or a full-featured "internal YouTube. It can be integrated into the local authentication environment for role-based authentication, or use it as a public destination site. It can be easily configured and branded, and requires minimal resources to get up and running while allowing extensive customization.
2. **Document Conversion Module (Optional)**
   The Document Conversion Module converts various document formats into a Flash based swf document, later to be used within the Kaltura Dynamic Player as a synchronized slideshow alongside a video. The supported document formats include the following: MS Office documents (for example. Word, PowerPoint), Open Office documents, and Adobe PDF. The document conversion process can be distributed using independent document conversion servers deployed in a cloud solution. Each server must run Open Office and MS to perform the document conversion.
3. **Video Recording Module (Optional)**

This module is responsible for recording web camera streams; it is an optional component to be deployed only when there is a need to support video recording functionalities. Kaltura operates this module using the Adobe FMIS (Flash Media Interactive Server) solution. Using a local FMS of another provider is possible as well but may require validation.

4. **Lecture Capture (Optional)**
   Kaltura CaptureSpace enables easy capture in class, at home or on-the-go with automated publishing and interactive viewing within the LMS and Kaltura's MediaSpace video portal. CaptureSpace is a professional and all-inclusive capture solution.
5. **Web Conferencing**
   Whether you're using WebEx, Go2Meeting, Lync, Vidyo or others, Kaltura web-conferencing connectors maximize the effectiveness of your web-conferences and significantly reduce storage and other costs.
6. **Webcasting**
   Kaltura Webcasting supports internal delivery, ingest from different encoders and source types, archiving of webcasts to your VOD portal and enhanced interactive features. This all makes it easy for your organization to optimize internal communication and increase return on investment for customer facing communications.
7. **Live Streaming**
   The Kaltura live streaming platform enables you to broadcast live events or 24/7 broadcasts to any screen. A Kaltura live stream can be provisioned in the Kaltura Management Console (KMC) or directly from applications such as MediaSpace. Kaltura live streaming supports both passthrough and cloud encoding with multi protocol output for HLS, HDS, MPEG-DASH and Smooth Streaming. Kaltura live streams can be delivered through a Content Delivery Network (CDN) such as Akamai, as well as support internal delivery in diverse network topologies with support for eCDNs and Multicast. Kaltura live streaming also supports Live to VOD with a single embed code, instant provisioning and live captions passthrough.
8. **DRM**
   Kaltura is a Certified Widevine Implementation Partner that is authorized to provide Widevine DRM services. Kaltura offers an out-of-the-box DRM solution integrated with Kaltura's Dynamic (Flash) Player (KDP) while also enabling its customer to integrate their device specific applications with Widevine's DRM packaging and license services according to the application specific workflow.