ORACLE STORAGETEK

ORACLE DIVA

DIVA Cloud Service Presentation

Scalable. Secure. Proven.

SEPTEMBER 2016

Executive Summary

Managing digital assets in broadcast, production, and general audiovisual environments can be extremely complex without both intelligent software applications and powerful, flexible, hardware platforms. As higher resolution digital formats drive exponential growth in file sizes, the supporting digital archives and workflow solutions need to scale to support the requirements of today and the future. Cloud computing provides on demand access to a shared pool of resources in a self-service, elastically scalable and metered manner, delivering significant advantages in speed, agility and efficiency.

Based on Oracle DIVA Content Storage Management (CSM) software, DIVA Cloud delivers an integrated service that provides the performance, scalability and flexibility that nowadays production and broadcast environments demand. DIVA Cloud addresses long-term media asset storage, leveraging established secure Cloud technology. Customers using DIVA Cloud enjoy an outstanding range of benefits in adaptability, on-demand scalability, capital and operational cost reduction, and simplified technology migration and maintenance. DIVA Cloud integrates seamlessly with on premises Oracle DIVArchive systems and Customers' applications and allows an organization to either augment or replace some of its in-house, dedicated, capital-intensive equipment with private, public or hybrid Cloud services. In addition, it enables delivery to all necessary channels, from traditional broadcast playout to online platforms.

The foundation for DIVA Cloud is the DIVArchive portfolio of products implemented in world class, super secure and highly available facilities, all managed by Oracle. The platform and products are video aware and represent much more than storage. DIVA Cloud service is built to meet the broader business challenges now facing organizations, including constantly changing organizational structures, the need to consolidate operations, and the increasing reliance on outsourcing. DIVA Cloud provides a route to sustained profitability in such fluid and competitive operating conditions by offering rapid infrastructure deployment, matching IT investment to revenue opportunities, and making it easier to bring new channels to market at the lowest possible cost in the shortest possible time.

Service Platform

The DIVA Cloud service platform is a Content Storage Management environment managed by Oracle in highly secure data centers that allows any enterprise with video management requirements to centralize critical assets and consolidate operations. The subscribers will get a remotely hosted secure DIVArchive infrastructure with integrated disk and tape library storage. DIVA Cloud manages video assets received either on data-tape or using online WAN (Wide Area Network) methods.

The service is designed as an extension to DIVArchive solutions deployed locally. Customers have been able to use disaster recovery capabilities built into their DIVArchive platforms for many years, so they have the ability to expand to an offsite service with minimal disruption to their existing operations, ensuring assets are safe and secure and ready for monetization in any circumstance.

Files (with associated checksums) are replicated from on premise systems through a secure encrypted tunnel. On receipt of the files, Oracle will read the files (and verify checksums to validate the content), then copy them to encrypted data tapes within our hosted library, and to our agreed policy. DIVA Cloud ensures that there are two copies of the assets, one remaining in the tape library and the other being stored offline within our facility for greater resilience. Oracle can also import Customers' assets from tapes in order to import legacy content and avoid heavy network transfers for initial ingest into the Cloud.

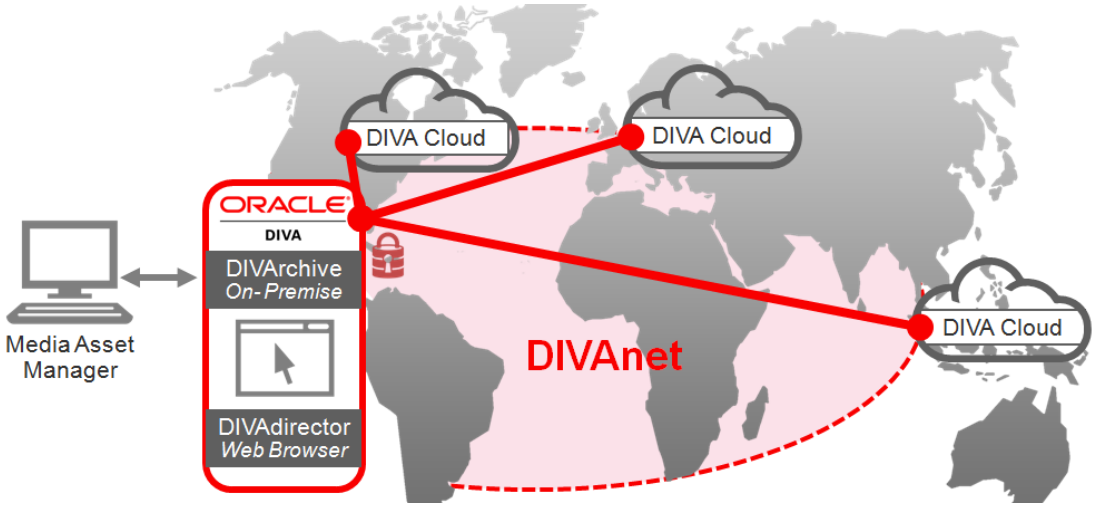
In the event of total loss of a customer site, Oracle will interface with the customer to allow access to critical assets and to ensure replacement systems populate with their content. In addition, Oracle partners integrate with DIVA Cloud to provide Business Continuity services through alternative play-out facilities.

A shared network and storage infrastructure services multiple customers in each DIVA Cloud data center but each customer benefits from independent DIVArchive and DIVAdirector systems. DIVA Cloud encrypts and stores customer assets in separate tape groups, but the shared physical infrastructure enables elastic provisioning of additional storage resources such as disk capacity or tape drives.

Software As A Service functionality

Besides DIVArchive functionality, DIVA Cloud includes access to DIVAdirector so customers can search & browse their video and audio assets in low resolution and restore (or partially restore) selected assets from the DIVAdirector Web interface. The content replicated into the DIVA Cloud system is automatically transcoded to generate the proxy files for viewing from DIVAdirector. Customers will be able to restore content online directly or by tape shipment request. DIVAdirector interface offers an alternative (backup) to customers' Media Asset Management (MAM) systems, which seamlessly interface with DIVA Cloud through a DIVAnet client adapter installed on premise.

Through the usual DIVArchive API, MAM applications can transparently access the local on premise DIVArchive system or the remote DIVA Cloud system if assets have been deleted locally or for any reason cannot be restored from local storage.



Customer site connectivity relies on the DIVAnet software and wide-area network (WAN) transfer acceleration software both provided by Oracle. The acceleration software also creates AES encrypted tunnels for a secure transfer of data from customer sites to DIVA Cloud sites.

On premise options

DIVA Cloud addresses various customer needs requiring more or less on premise equipment and associated capital expenses:

- Customers can keep or implement a complete DIVArchive solution with disk and tape libraries and connect it to DIVA Cloud for data protection, disaster recovery and business continuity in association with Oracle partner's services.
- On premise hardware footprint reduction is another option. DIVA storage policies can move all aged assets into DIVA Cloud. Onsite footprint reduction can translate into a disk only DIVArchive system on the customer site or a reduction in the tape library model or configuration.
- Some customers even use DIVA Cloud as their main Content Storage Management solution and only keep online disk storage on premise. Their applications can move assets from onsite central storage to DIVA Cloud directly.

Network Connectivity

Oracle selects DIVA Cloud Data Centers offering network agnosticism with many network providers of dedicated lines or MPLS services. DIVA Cloud supports both private and public networking, to ensure we meet the specific needs of our customers. DIVA Cloud includes encryption technology for all transfers and uses advanced firewall technologies for a secure access to DIVAdirector through the Public Internet.

Security and Quality

Oracle's global expertise applies to DIVA Cloud and this includes world-class security and best practice regulatory compliance and governance in order to reduce risk. The platform and surrounding services were designed and implemented with best of breed security practices. Independent auditors were engaged to perform penetrative testing through each stage of the build to ensure the solution meets the most demanding standards such as ISO27000 and SAS70. MPAA (Motion Pictures Association for America) is the most specific to the movement, storage and protection of media assets and DIVA Cloud follows its guidelines.

All selected data centers are highly secure and highly available data centers rated as Tier III per the Uptime Institute classification.

Key Features and Benefits

- **Private Cloud**: DIVA Cloud is a purpose built private cloud. Each deployment of DIVA Cloud is dedicated and segregated from other cloud customer instances.
- **Managed Service**: DIVA Cloud is a managed service and is wholly owned and operated by Oracle. DIVA Cloud is monitored 24x7x365 by Oracle.
- **Ability to preserve and secure content**. Ensure that content remains protected, secure, intact, and highly available by replicating content in DIVA Cloud's highly secure and geographically remote data centre.
- **Multi-site support**. Distribute content across multiple customer and DIVA Cloud sites, and manage content from a central location for easy and fast access, as well as for disaster recovery planning. Global organization can also use multiple geographically separate DIVA Cloud sites for increased availability and data protection.
- **Reliability and scalability**. Oracle DIVA Cloud service is architected for mission-critical environments and optimized transfer of rich media content across wide-area networks.
- **Content Integrity**. DIVA Cloud workflows include checksum verification after every copy or transfer of an asset. Applications can provide so-called genuine checksums for each file comprised in an asset in order to ensure end-to-end workflow verification and a guarantee of the content integrity.
- **Archive eXchange Format (AXF) Standard**: AXF provides a standardized container format for generic files, which enables them to be stored, transported, and preserved on any type of operating system, file system, or storage media.
- **Access Control**. DIVA Cloud enables customers to configure access control rules in order to allow or deny access to specific functions from different applications or IP addresses.
- **Fast access to content**. The DIVA Cloud platform design supports fast transfer of rich media files of several Gigabytes. In addition, features such as video partial restore enable applications or users to restore only the required video segments, saving time, network resources and storage.
- **Complex Object Support**: Support for assets with up to 1 million files and a maximum of 10,000 folders
- **On-premise and cloud storage support**. Customers can implement hybrid Cloud solutions combining on premise DIVArchive systems and DIVA Cloud services. DIVAnet acts as a federation layer and applications can transparently access local or Cloud resources.
- **Media management**. Authorized users can retrieve, track usage for, and manage access to specific content through the DIVAdirector web enabled browser.

- **Integration**. Oracle DIVA Cloud integrates with existing broadcast and video management applications such as media asset management (MAM), non-linear-editing (NLE), traffic, automation, and other newsroom systems, including existing production and post-production shared storage systems.
- **Access to other Cloud services**. Once customers' assets are stored in the Cloud, data centre's cross-connection allow fast access to other Cloud services including Oracle Archive Cloud which can be used for deep archiving for example.

The Opportunity for an Integrated Oracle, StorageTek, and Oracle DIVA for M&E

Questions to Ask Yourself

How do you deal with

- Long-term scalability, TCO, and storage efficiency
- Forecasting and managing higher resolutions and related data growth
- Managing technology and application refresh, obsolescence, and periodic migrations
- Partial file restore and time code integration and large file optimization
- Production and playout application integration

Right now, you have an opportunity to work with a coordinated group of technical and business experts to help create new revenue streams, technology updates, and cost optimizations. Oracle's media and entertainment solutions provide best-in-class performance and efficiency for transcoding, digital animation rendering, streaming media, and active archiving. Oracle technologies enable companies to maximize the value of archived digital content, profit from big data and customer analytics, create new digital revenue streams, and deliver personalized content to consumers.

For more information, visit www.oracle.com/csm

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