Multimedia – Video on Demand

Classic Solution

Introduction

The multimedia industry has witnessed unprecedented growth over the last decade owing to the expansion of the world-wide-web and new multimedia platforms such as Netflix and Periscope. With the revolution in mobile technology and "on-demand" becoming the new normal, Video-On-Demand (VOD) has gained center stage in the multimedia industry. The global VOD market is expected to grow to $100 USD billion by 2021.

Incessant growth brings with it pronounced demand for network efficiency, video processing, and high service quality. Traditional infrastructures have reached a deadlock and this is where the cloud fills the gap with faster performance, near-instant scalability, and reduced costs.

Background

VOD is a service that enables immediate downloading and viewing of videos either in real-time or for future consumption. It is a common business scenario which requires strong infrastructure resources to handle large and periodic business load fluctuations. Traditional solutions face challenges such as delays in simultaneous video uploading, processing, streaming, playing, and uncontrollable peak traffic caused by burst services.

Network complexities often result in a poor user experience, which makes it essential to create a fast, elastic, and powerful architecture for VOD services.

Alibaba Cloud provides tailored VOD solutions with powerful CDN and storage infrastructure capabilities. These solutions enable enterprises to support millions of concurrent viewers while ensuring an enriching user experience.
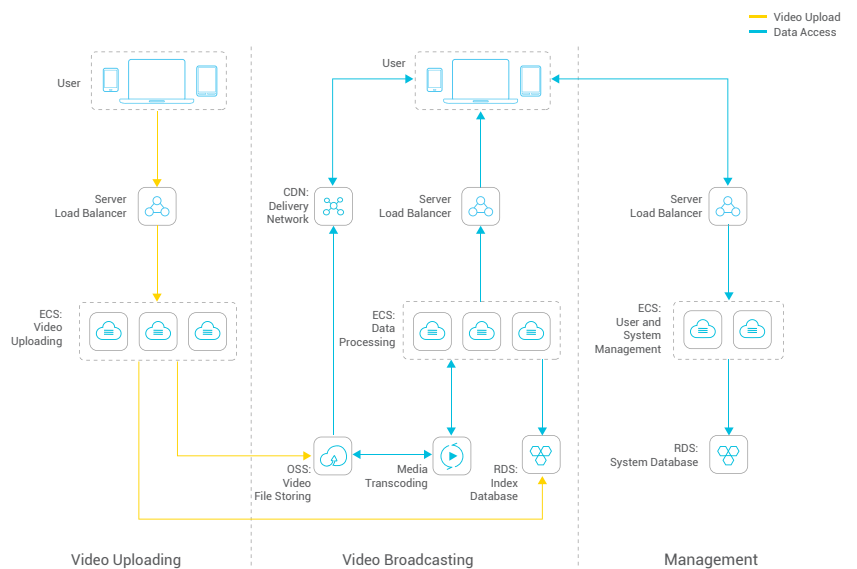
Highlights

- Reduces development costs
- Tailored VOD solutions
- High availability VOD web service

Benefits

✔ Unlimited scalability at any time, as required

✔ Reduced development and maintenance costs

✔ Highly available and tailored VOD solutions with fast downloading

Recommended Solution Architecture

This solution has video uploading, video broadcasting, and system management modules. In the video uploading module, video files are uploaded to a web page and stored on OSS, which provides PB-level video file storage capabilities. The segment index is stored in an RDS database. Moreover, OSS can be directly integrated with Media Transcoding and CDN to provide video file transcoding and delivery capabilities.

The solution uses elastic scaling for different business loads, which is cost effective as OSS and CDN usage is billed per usage. The video broadcasting module creates an external web service for real-time viewing capabilities. The Server Load Balancer instance receives access requests from user terminals and submits them to ECS instances (web servers) for processing. The web server performs user and device verification, retrieves the index database and searches the video index to retrieve the required video. The system management module manages user information, devices, and other related services.