Video Streaming on Ampere® Altra® Processors

Real world solutions using popular Cloud Native applications on

Ampere® Altra®

Ampere® Empowering Video Streaming

The global video streaming market was valued at $372.07 billion in 2021. It is projected to grow from $473 billion in 2022 to $1,690 billion by 2029 exhibiting a CAGR of 19.9% during the forecast period[1]. At Ampere, we observe the need for effective and scalable video-on-demand streaming workloads from Video Service Providers or Digital Service Providers who want a consistent workload lifecycle with predictable performance for their growth rapidly audience across the Internet. Ampere Altra and Altra Max processors offer high core counts in a single socket processor, a low-power architecture for power-sensitive edge locations, and more performance-efficient data centers.

Cloud Native Advantage

Cloud native is a modern approach to software development that utilizes cloud computing to build and run scalable applications by exploiting the scale, elasticity, resiliency, and flexibility that the cloud provides. More and more developers are embracing Cloud Native microservices-based architecture to develop and deploy applications such as video streaming services to the cloud.

The video streaming service used here presents the real-world video service providers using many popular Cloud Native applications such as NGINX web server, FFmpeg, Kaltura VOD module, and JavaScript on Kubernetes across on-prem and public clouds.

Key Benefits

- A scalable Video-on-Demand (VOD) solution with Kubernetes on Ampere® Altra® Max Platform's **Predictable Linear Scalability** to maximize server performance.
- VOD PoC demo is based on open source software stack of NGINX, Kaltura VOD module, FFMpeg on Red Hat OpenShift Container Platform, an enterprise Kubernetes with Persistent Storage managed by Rook Ceph Operator.
- Offers Adaptive Bitrate Video Streaming with HLS and MPEG-DASH on high core-count Ampere Altra Max Platform.

The Demo

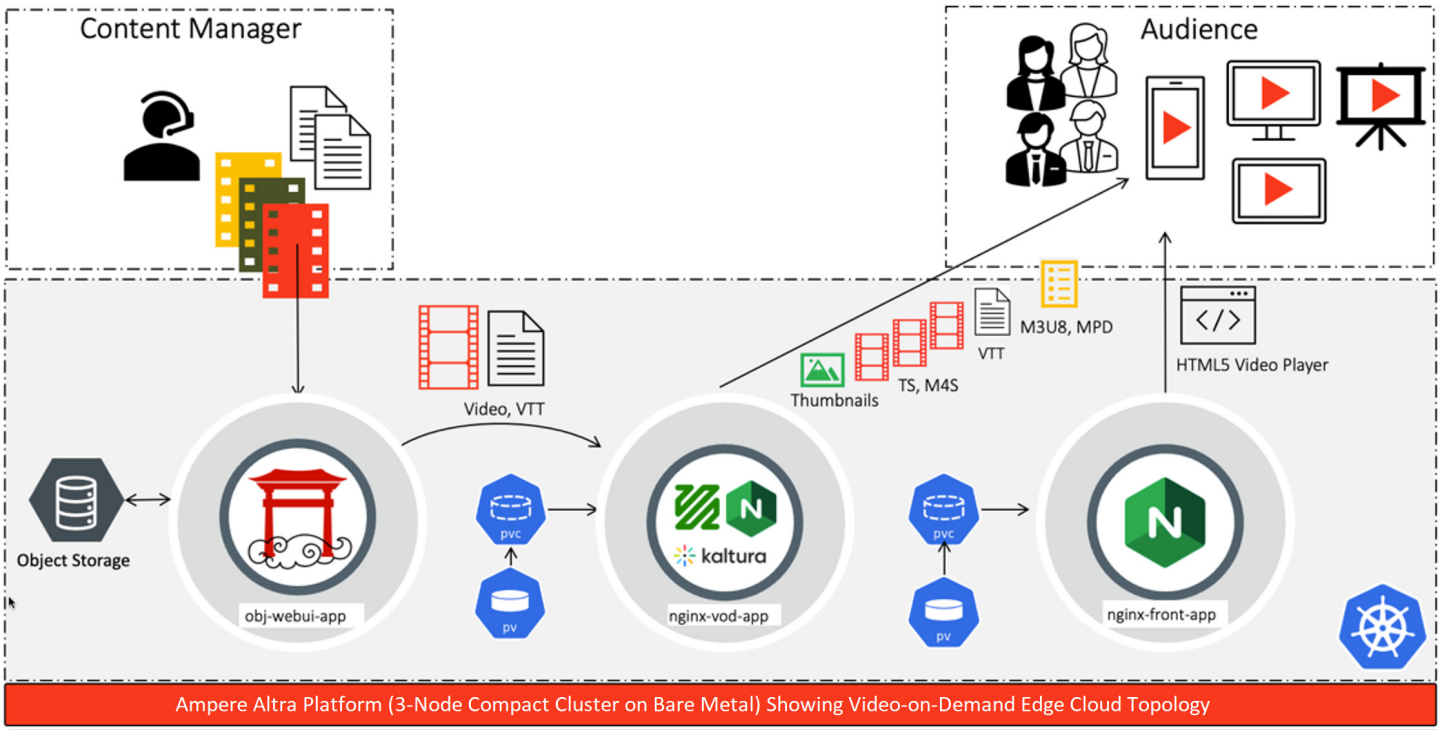
The Video-on-Demand Streaming PoC demo presents how it serves video contents in Adaptive Bitrate Streaming protocols such as HLS and MPEG-DASH over HTTP(S) with Kubernetes on Ampere Altra Max.

The demo shows a simple way how video content is delivered to the audience with video players in HTML5 and JavaScript.

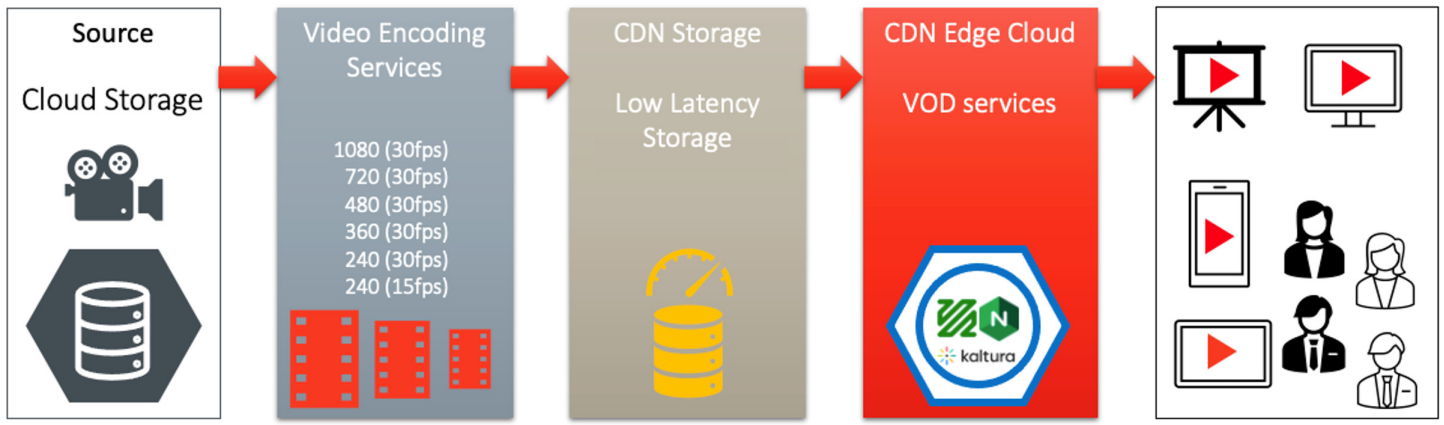
In our lab, we have deployed the Video-on-Demand (VOD) demo on a 3-node OpenShift compact cluster for high availability.

Due to limited space, this on-site VOD demo is running on Ampere Altra Max platform with Single Node OpenShift (SNO), which are often used in Edge and remote workload environments like radio/cell towers, wind farms, and manufacturing factory floors.

1.https://www.fortunebusinessinsights.com/video-streaming-market-103057



Ampere Altra Platform (3-Node Compact Cluster on Bare Metal) Showing Video-on-Demand Edge Cloud Topology



Video CDN Services Can Use VOD Services on Edge Cloud

For additional information, visit the Ampere Solutions Portal.

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