Video Streaming on Ampere® Altra® Max Processors

Real world solutions using popular

Cloud Native applications on

Ampere® Altra® Max

Ampere® Empowering Video Streaming

The global video streaming market is projected to grow from $473 billion in 2022 to almost $1.7 trillion by 2029, exhibiting a CAGR of 19.9% during this period[1]. At Ampere, we understand the need to support effective and scalable video-on-demand (VOD) streaming workloads for a variety of clients, such as video service providers (VSPs) and digital service providers (DSPs). These customers require a consistent workload lifecycle with predictable performance for their growth rapidly audiences across the Internet. Ampere® Altra® and Altra® Max processors are based on a low-power Arm architecture which enables us to offer high core counts per socket and more scalable and predictable performance – ideal conditions for power-sensitive edge locations and large-scale datacenters

Cloud Native Advantage

Cloud native software development uses containerized computing to exploit scale, elasticity, resiliency, and flexibility to build and run scalable applications in the modern cloud. Developers increasingly embrace cloud native microservices-based architectures to develop and deploy applications, such as video streaming services, to the cloud and to the edge.

Key Benefits

- Scalable (VOD) solutions running Kubernetes on Ampere Altra Max platforms
- Predictable**,** linear scalability maximizes server performance.
- The VOD Streaming PoC runs an open source software stack: NGINX, Kaltura VOD module, and FFMpeg on Canonical MicroK8s (lightweight Kubernetes). Mayastor (the native NVMe-oF Container Attached Storage engine of openEBS) manages persistent storage.
- Ampere Altra Max high core counts enable adaptive bit rate video streaming with HLS and MPEG-DASH to provide improved viewing experiences even under constrained network conditions.

The Demo

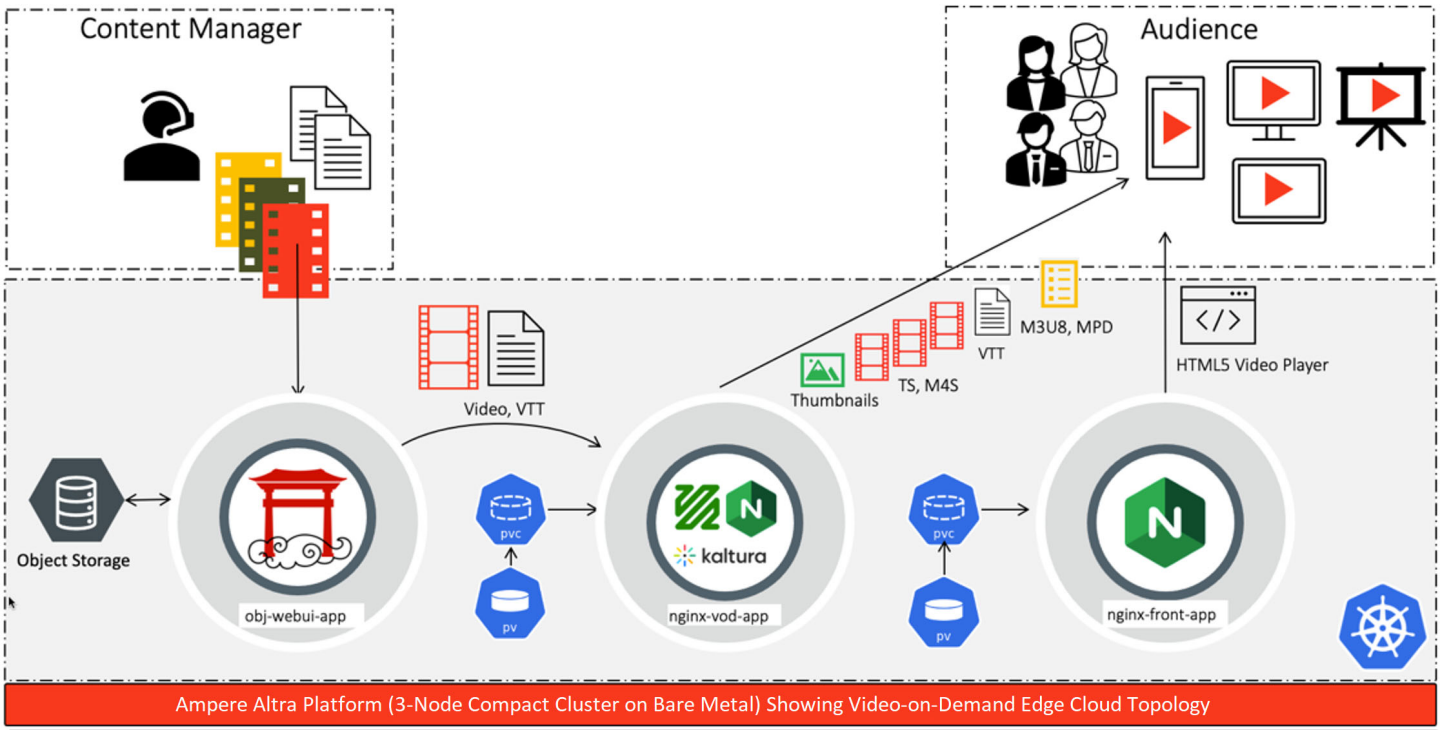
The demo setup provides video content in adaptive bit rate streaming protocols, such as HLS and MPEG-DASH over HTTP(S) with Kubernetes, on Ampere Altra Max.

We show the simplicity behind delivering video content to audiences with video players in HTML5 and JavaScript.

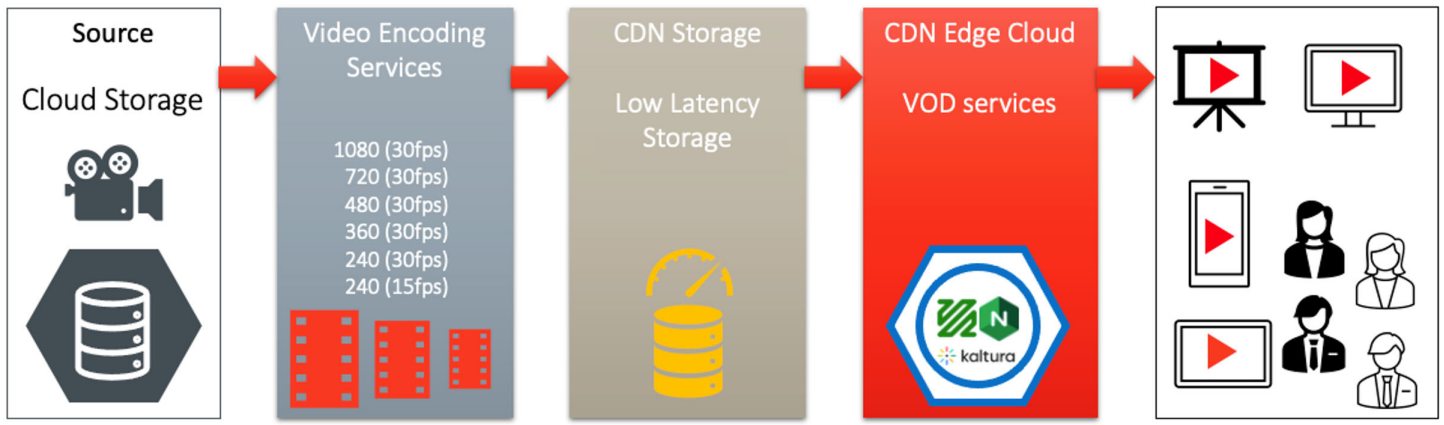
In the demo, we deploy a MicroK8s four-node cluster powered by Ampere Altra Max for high availability.

MicroK8s is often deployed in IoT Edge production environments such as 5G cell towers, vehicles, and servers running in remote edge facilities.

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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