



Point of View

# Redefining the Media Landscape with Oracle Cloud Infrastructure (OCI)

Transforming Media with Innovative Technology



# Introduction

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The media and entertainment industry are undergoing a profound transformation driven by digital innovation, changing consumer behaviors, and the need for efficient content delivery and monetization strategies. As a CXO, CIO, or CTO in this dynamic sector, understanding the importance of robust technology solutions is crucial to stay competitive. Towards this, Oracle's extensive range of technology solutions spanning

Infrastructure as a Service (IaaS), Software as a Service (SaaS), and Platform as a Service (PaaS) provide substantial benefits in streamlining the media value chain and improving monetization strategies. This is achieved by leveraging the SaaS ecosystem instead of relying on various custom applications, along with a Gen AI platform and the adaptable computing power of the cloud.



# Media value chain optimization

Effectively managing the media value chain, comprising a foundation, core, and customer service, is crucial to providing consumers with high-quality content promptly and cost-effectively. Transitioning the media value chain to the Oracle Cloud Infrastructure (OCI) goes beyond merely shifting on-premises workloads to the cloud and involves operating applications in a cloud-native manner. This approach ensures the creation of high-quality, reliable software systems that can be delivered

swiftly and efficiently, while also fostering agility, observability, and automation. Incorporating DevOps and Site Reliability Engineering (SRE) methodologies in the development process is vital to achieving this goal.

It is essential to first comprehend the Oracle infrastructure and application services that are unique to the media value chain. It is also pertinent to know about how OCI native services can be effectively utilized.

## Oracle expertise across the e2e Media Value Chain

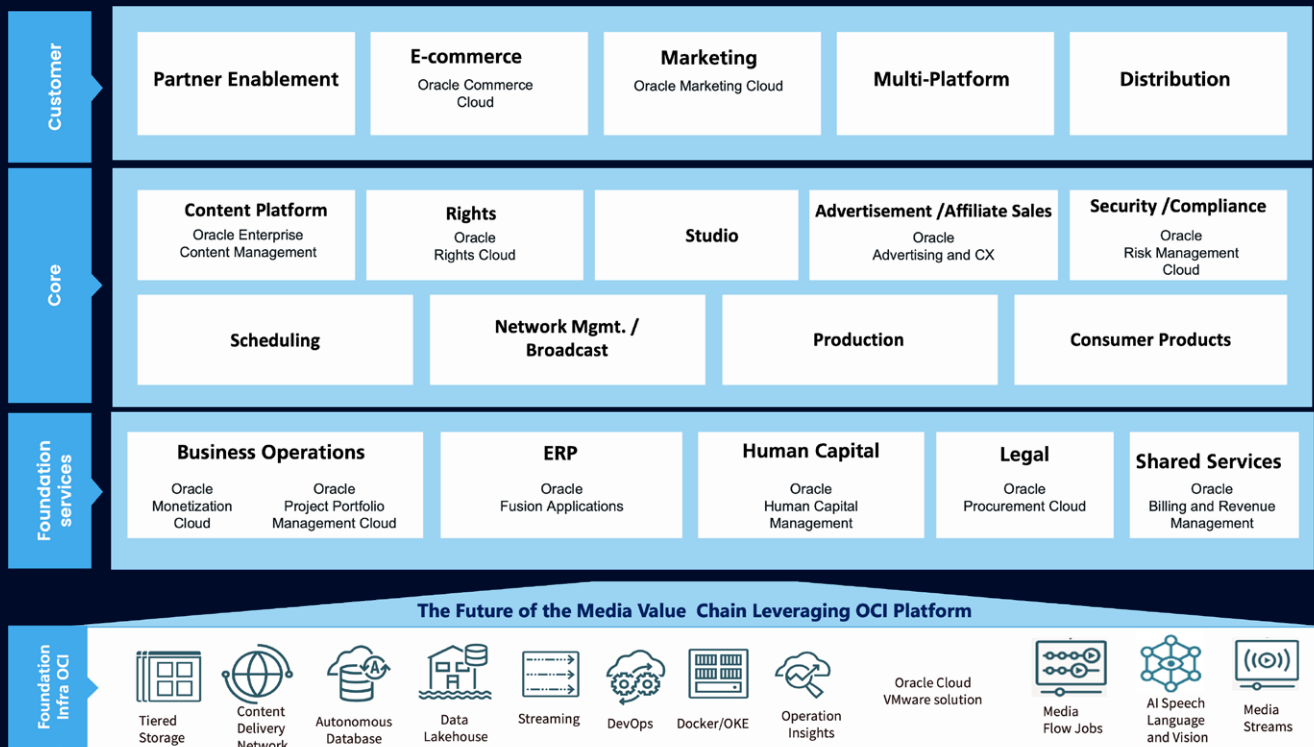


Figure 1: Oracle SaaS Applications deployed across the core foundation and customer tracks

# Leveraging Oracle SaaS and technology solutions in the media and entertainment industry

OCI, as mentioned earlier, can significantly optimize the media value chain by ensuring enhanced and data-driven decision-making. There are four phases in this process – moving to adaptable compute, building the right database ecosystem, leveraging Gen AI along with OCI native services related to the media industry, and simplifying the application landscape using the Oracle SaaS ecosystem.

## 1. Moving to adaptable compute

OCI provides an enterprise-grade platform at optimal price points to re-host Independent Software Vendor (ISV) applications running on VMware platforms, microservices-based setups, or dedicated servers.

**a. Transitioning from VMware:** Oracle Cloud VMware Solution (OCVS) is ideal for existing VMware setups, which can eventually be upgraded to Oracle Kubernetes Engine (OKE), serverless functions, or OCI compute. This VMware migration strategy enables customers to reduce OPEX by over 50%.

**b. Adaptable compute for workload demands:** OCI offers the ability to scale compute resources according to business needs. Some instances where this feature can be utilized in the media value chain include using OKE (Oracle Kubernetes Cluster) to scale up or down based on the business requirement

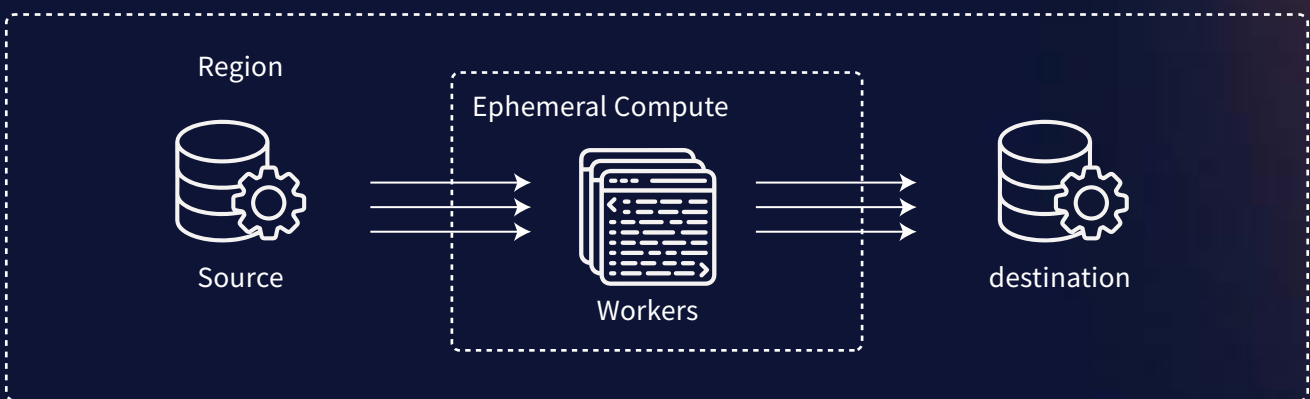
Video platforms are crucial in the media industry, offering live-streaming services for artists, creators, and events. They focus on real-time interaction and HD videos, scalable for any event size. In.Live is one example, used by independent artists and major events for performances, discussions, conferences, and concerts. The In.Live streaming platform caters to two primary audiences: content creators and consumers. Creators have the option to broadcast live or provide Videos On-demand (VOD). They upload their content to In.Live's stream cloud, where transcoding is managed by a K3S cluster utilizing Ampere instances. This cluster, currently comprising four workers, supports up to 8 to 10 shows and scales by adjusting the number of instances as needed. The live streams are delivered via the Fastly Content Distribution Network (CDN), and videos are stored in object storage for VOD access. Leveraging autoscaling solutions across OKE and compute along with integrated DevOps provides much-required agility to the media business.



**Figure 2:** Deploying video platform services on scalable Kubernetes

In this example, the reference architecture illustrates how digital media can be handled using OCI compute instances. OCI helps process a file (a "media asset"), performs a compute-heavy task on it (such as ffmpeg transcoding or another processing function), and then directs the result to an output bucket for further use.

A worker instance is launched to handle the uploaded object when the job is created. This then processes the job by retrieving the video from the source object storage bucket, transcoding it, and uploading the new version to the destination object storage for consumption. After successfully uploading to the destination object storage bucket, the worker instance terminates itself. While the features of OCI handle job management, the status is stored in an OCI NoSQL table.



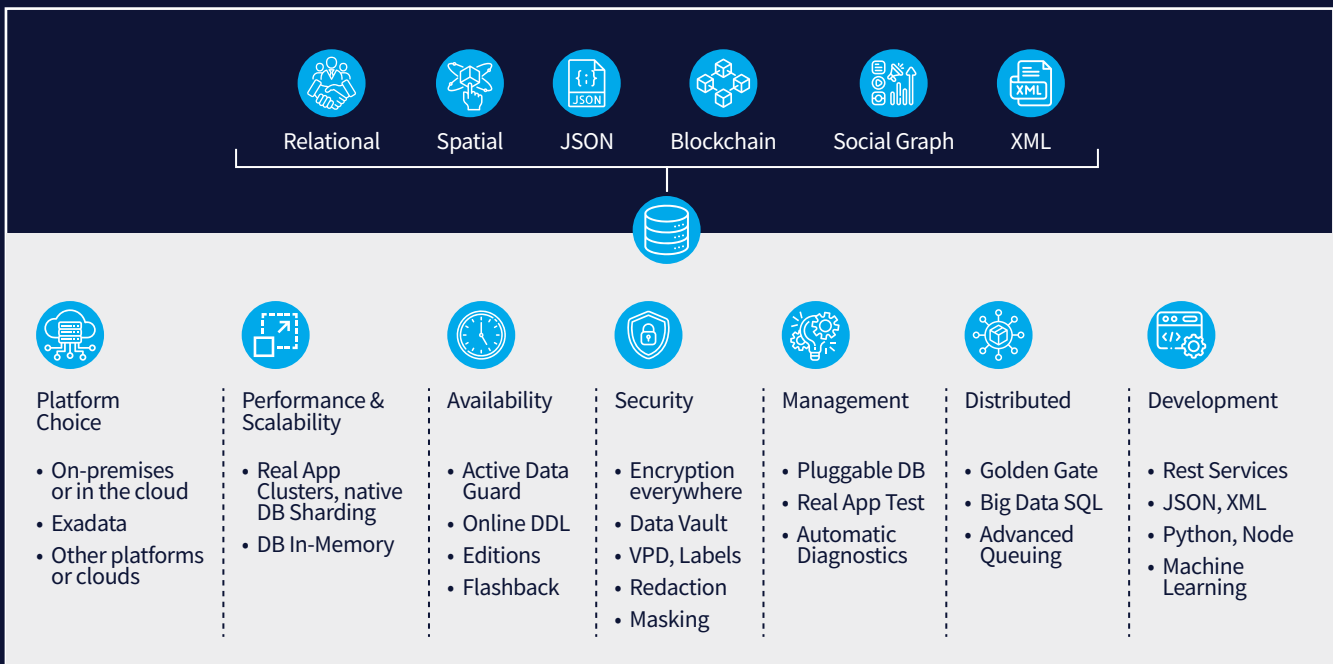
**Figure 3:** Low code compute for image processing

## 2. Building the right database ecosystem

Maintaining a unified database platform and enterprise-grade ecosystem is crucial. This approach is better than relying on multiple database platforms and open-source solutions to manage various data types. It also reduces operational expenses, minimizes security vulnerabilities, and ensures optimal performance levels as the business scales.

### a. Moving to a converged database platform

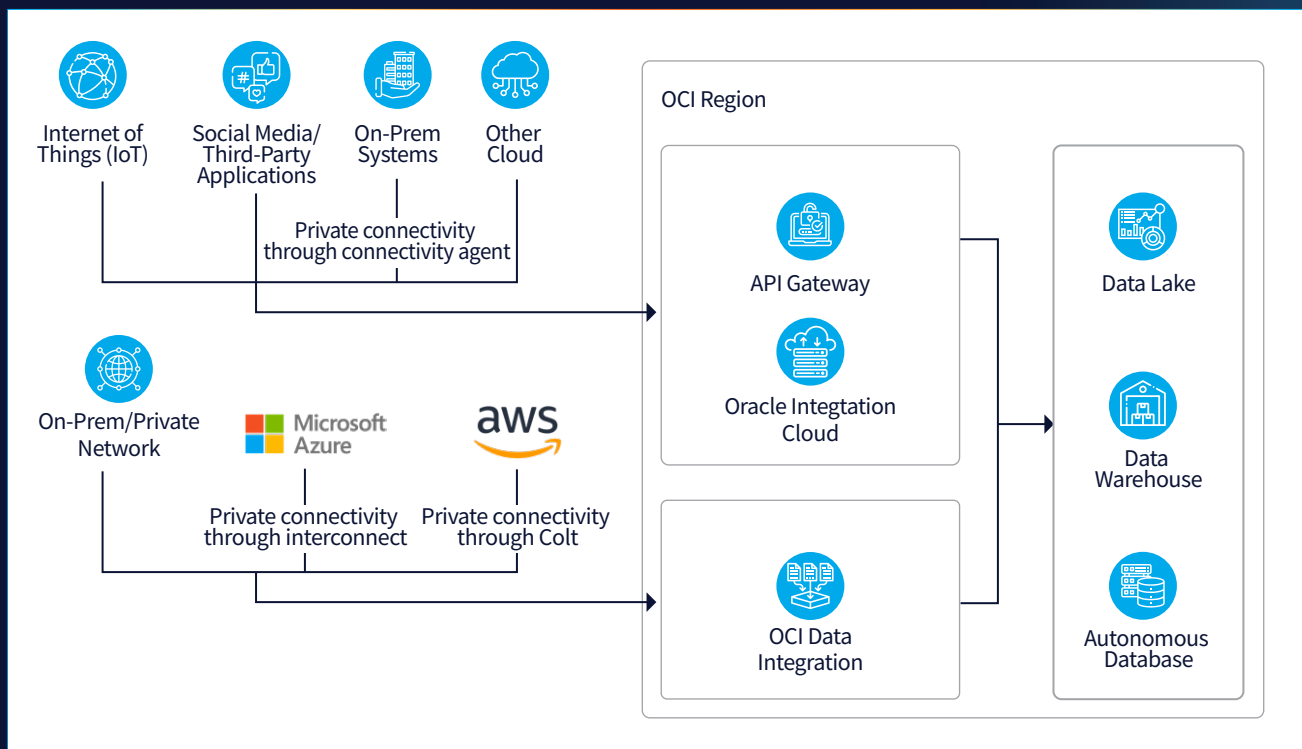
In the media value chain, consolidating multiple database platforms such as Oracle, PostgreSQL, MySQL, and MSSQL into a single version offers significant advantages. Oracle Converged Database supports multiple data models and workloads within a unified system, eliminating the need for separate databases for different types of data. This integration simplifies data management, reduces operational complexity, and enhances performance by providing a consistent and optimized environment for all types of operations. Additionally, it offers advanced features like multi-model data management, in-database machine learning, and automated tuning, which collectively improve efficiency, scalability, and reliability. By adopting Oracle Converged Database, media companies can streamline their data infrastructure, reduce costs, and accelerate the delivery of high-quality content.



**Figure 4:** Oracle Converged Database Simplifying Development and Deployment of Modern Business Apps, Maria Colgan  
<https://www.Oracle.com/a/tech/docs/technical-resources/-5-converged-database-sqlmaria.pdf>

## b. Setting up a data lake for analytics and insights

Establishing a data lake on OCI involves utilizing its durable and scalable storage capabilities, which helps provide comprehensive analytics in the media and entertainment sector. The process begins by creating an object storage bucket to gather raw data from multiple sources, including streaming platforms, social media, and user activities. OCI data integration is then employed to ingest and transform this data, ensuring it is clean and organized for analysis. After this, OCI data flow, a serverless service based on Apache Spark, is used to manage extensive datasets and perform sophisticated analytics. For real-time data processing, OCI streaming is then integrated to manage high-throughput data streams. Oracle Autonomous Data Warehouse is then utilized for automated data management, simplifying tasks like patching, provisioning, tuning, and scaling, without manual intervention. Finally, Oracle analytics cloud is leveraged for advanced data visualization and insights.



**Figure 5:** Building the data lake for structured and unstructured data

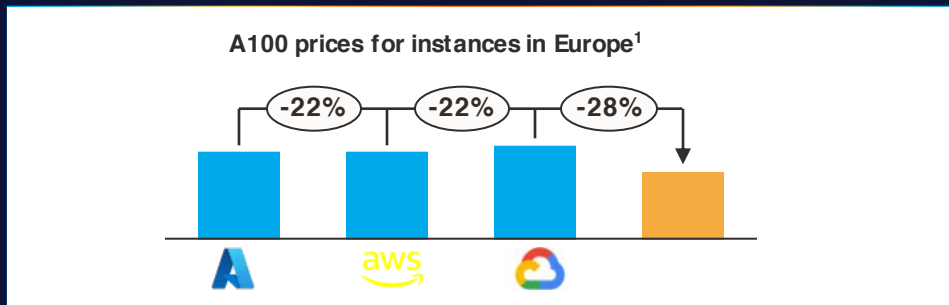
The benefits of this configuration include effortless scalability to manage extensive data volumes in petabytes (which is sometimes a challenge in the media industry), high availability and durability of data storage, and the capability to perform real-time analytics. Additionally, OCI's integrated security features ensure data protection and compliance with industry standards. Also, Oracle Autonomous Data Warehouse boosts efficiency by automating routine database management tasks, allowing data scientists and analysts to concentrate on deriving valuable insights.

### 3. Utilizing Gen AI and OCI-native media solutions

Gen AI datasets and advanced algorithms enable media companies to produce highly personalized ads and customized content experiences, ensuring sustained audience engagement. OCI-native media solutions improve content delivery, scalability, security, and efficiency, fostering innovation in the media and entertainment sector.

#### a. Power of Gen AI

OCI Graphic Processing Unit (GPU) offers the best pricing when compared to other cloud hyperscalers, with up to 28% cost advantage.



**Figure 6:** AI Infrastructure cloud cost comparison: Who provides the best value? Leo Leung and Akshai Parthasarathy, blogs.oracle.com, June 13, 2023:

<https://blogs.oracle.com/cloud-infrastructure/post/ai-infrastructure-cloud-cost-comparison-best-value>

Dedicated cluster networks with GPU and Remote Direct Memory Access (RDMA) provide a hyper-performant AI infrastructure by delivering near two microsecond latency, which is crucial for AI workloads and speeds up inferences. This latest Gen AI ecosystem plays a major role in transforming the media value chain, from operations to content ingestion and delivery, enhancing customer performance. Below are some of the Gen AI use cases to improve productivity, insights and engagement levels across the media value chain.

Creation and Improvement of Content	<ul style="list-style-type: none"> <li>Automated Script Writing: Generative AI can help write scripts for films, TV shows, and advertisements by offering initial drafts or refining existing ones.</li> <li>AI-generated Music: Create unique music tracks or background scores suited to scenes or moods.</li> <li>Image and Video Generation: Produce high-quality images and videos and integrate them into content.</li> </ul>
Personalization and Audience Engagement	<ul style="list-style-type: none"> <li>Tailored Suggestions: Examine viewer preferences to offer customized content recommendations.</li> <li>Dynamic Storytelling: Create narratives that adapt according to user interactions for engaging experiences.</li> </ul>
Operational Efficiency	<ul style="list-style-type: none"> <li>Automated Editing: Better video editing by pinpointing significant scenes and recommending cuts.</li> <li>Cost Reduction: Streamline repetitive tasks to decrease both production costs and time.</li> </ul>
Advertising and Promotion	<ul style="list-style-type: none"> <li>Dynamic Ad Creation: Craft tailored ads using user data.</li> <li>Social Media Content: Develop captivating social media posts to highlight releases or events.</li> </ul>
Analytics-driven Insights	<ul style="list-style-type: none"> <li>Audience Analysis: Understand audience behavior and tastes to customize content.</li> <li>Content Performance Analysis: Examine how content performs across different platforms and demographics</li> </ul>

**Figure 7:** Gen AI use cases for End to end(E2E) media value chain

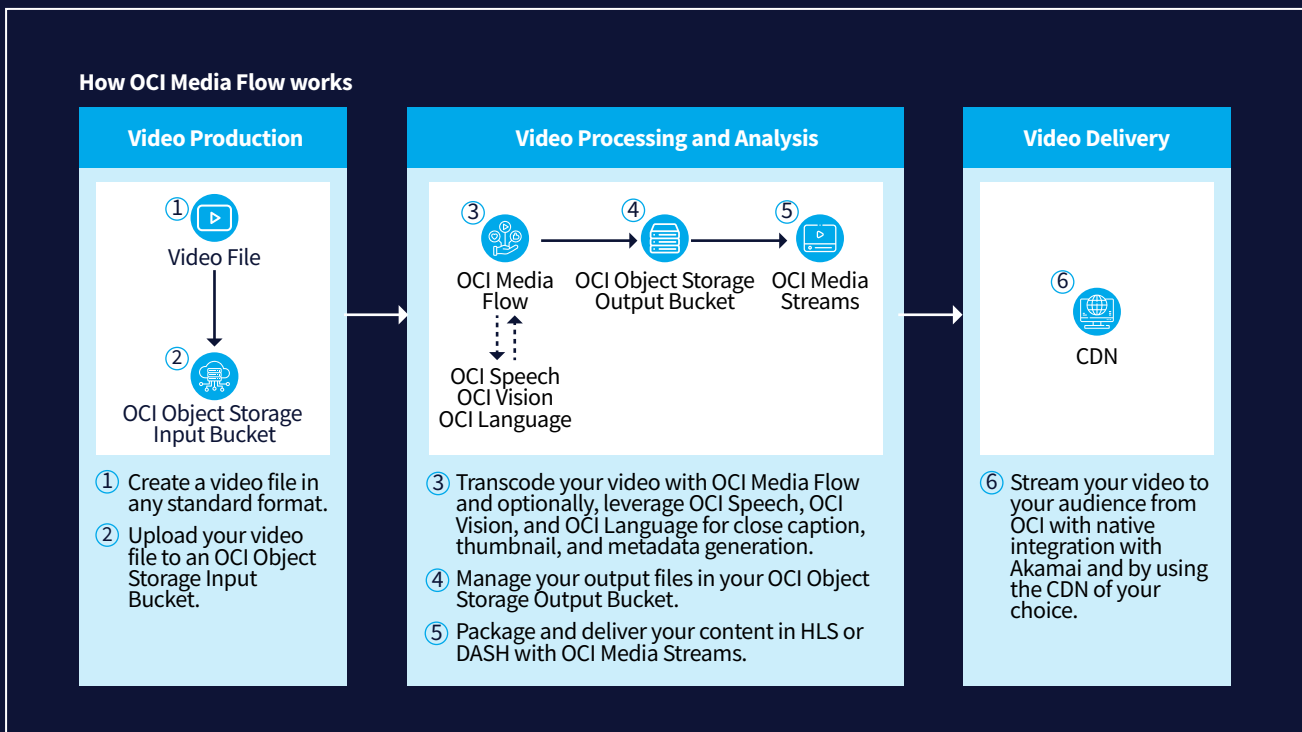


## b. Building applications through OCI-native services

OCI provides two media services, namely media flow and media streams. Media flow encodes and transcodes videos into various formats. After processing, videos can be streamed through OCI Edge or a CDN through media streams. These services are scalable, cost-effective, rich in APIs, and AI-enabled.

On top of streaming the data, video content analysis using AI services has become critical in the following processes:

- Ensuring the content is suitable for audiences
- Identifying objects or text within the video
- Conducting audio transcriptions



**Figure 8:** Media flow

<https://www.oracle.com/in/cloud/media-flow/>

Customers using AWS cloud-native services, for instance AWS elemental built for the media and entertainment industry may be presented with challenges when switching to OCI media flow and media streams. The below points will help to address these issues in advance and ensure a seamless transition and minimize workflow disruptions.

### **Compatibility and integration**

- **API Differences:** Considering AWS and OCI use different APIs and Software development Kits (SDKs), there may be a need to adapt code for OCI.
- **Service Features:** Although both AWS and OCI offer similar services, feature variations may impact workflows, which can be mitigated by testing.

### **Data migration**

- **Data Transfer:** Migrating large media files from AWS S3 to OCI Object Storage can be time-consuming and costly.
- **Format Compatibility:** Verify that media formats and codecs from AWS are supported by OCI media flow and media streams.

### **Operational changes**

- **Workflow Redesign:** An area of rework will comprise media processing workflows to fit OCI's services and best practices.
- **Training and Expertise:** The internal team may need training to become familiar with OCI's tools and services.

## **4. Using the SaaS ecosystem for end to end (E2E) monetization strategies**

Monetizing content effectively is a top priority for media and entertainment companies. Oracle's SaaS solutions offer innovative ways to maximize revenue and secure content rights.

### **a. Advertising and subscription models:**

- **Oracle advertising and customer experience (CX):** This suite provides tools for targeted advertising and personalized marketing campaigns. By leveraging customer data and AI-driven insights, media companies can deliver relevant ads and offers, increasing revenue and subscription rates.
- **Oracle monetization cloud:** This platform supports flexible pricing models, enabling media companies to experiment with various subscription plans, pay-per-view options, and bundled services. It ensures seamless billing and revenue management, enhancing customer satisfaction and loyalty.

### **b. Content licensing and rights management:**

- **Oracle rights cloud:** This solution simplifies the management of content rights and licensing agreements. It ensures compliance with licensing terms, maximizes revenue from content distribution, and reduces the risk of legal disputes.

### c. E-commerce and merchandising:

- Oracle commerce cloud: This solution allows media companies to set up and handle online stores for merchandise, digital downloads, and exclusive content, ensuring a smooth shopping journey that boosts revenues.

### d. Oracle Billing and Revenue Management (BRM)

- BRM greatly benefits media and entertainment firms by enabling swift service launches, accommodating various business models, and offering real-time customer data. This helps companies manage their clients and partners centrally, emphasizing revenue growth through competitive market offerings.

## Conclusion

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In the rapidly evolving media and entertainment industry, leveraging Oracle's technology solutions is essential to optimize the media value chain and enhance monetization strategies. By adopting these solutions, CXOs can ensure efficient content delivery, gain valuable insights, and maximize revenue opportunities. Oracle's comprehensive suite of tools empowers media companies to stay competitive, innovate continuously, and deliver exceptional experiences to their audiences.

## Reference links

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1. *Digital Transformation in Media and Entertainment Industry: A Guide for 2024*, Slawomir Sajdak, Miquido, December 18, 2023  
<https://www.miquido.com/blog/digital-transformation-media-entertainment-industry/>



## About the author

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### Guruprasad Gonjare

Senior Director Oracle Practice, LTIMindtree

At LTIMindtree, Guru, with more than 20 years of expertise in Oracle technologies, spearheads the expansion of Oracle Cloud Infrastructure through targeted go-to-market strategies, solution design, and technical solution implementation to deliver innovative and high-value initiatives for clients. He oversees key programs to deliver efficient Oracle Cloud Infrastructure solutions across various industries for both Oracle and non-Oracle workloads. Guru's proficiency also includes AWS, Azure, and GCP, where he adeptly designs multi cloud platforms customized to meet client requirements. He has worked for many Fortune 500 clients across various industries like Retail, High-Technology, M&E, Banking, Oil & Gas, Logistics and Manufacturing verticals at USA, UK, Singapore, India. Guru is CI, Azure, GCP, and IBM, certified.

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