Mindtree
A Larsen & Toubro Group Company

Reliability Engineering and Management for Media

Enabling Media Orgs to Deliver Immersive Content
at Scale with Reliability

Whitepaper
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Serving at scale is key for media enterprises

Providing reliable services at scale is of utmost importance to media enterprises. As per the ***Ericsson mobility report,*** 5G subscriptions will top 2.6 billion and boost average monthly traffic per-smartphone to 24GB by the end of 2025. 5G will drive new viewership behaviors towards immersive content formats such as virtual reality (VR) and ultra-high definition (UHD). To this end, media enterprises are making huge investments to reimagine content recipes and video operations. However, they are challenged by long service roll-out times as they tackle issues like application and infrastructure compatibility, interoperability, security and coverage.

Every viewer request demands a seamless and synchronous operation between different media systems in milliseconds. Millions of such daily requests from viewers across the world mandate reliability of services. Large content file transfer, processing and management between systems is also a major impediment.
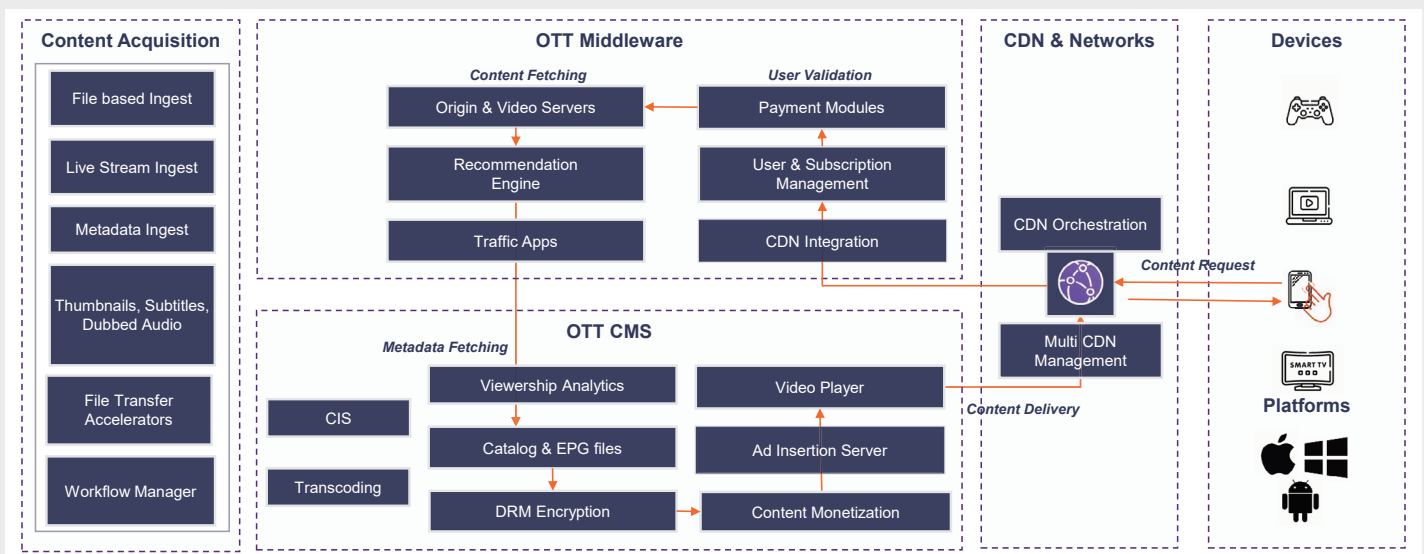

Figure 1. A single content request requires a seamless synchronization between media applications

Driving reliability for media enterprises

Media enterprises need to provide highly reliable services to viewers who are spoilt for content choices and have low switching costs. Enterprises will need to modernize applications and provide a flexible infrastructure to ensure reliable and high-quality services which are available 24X7. There are a few roadblocks though in maintaining enterprise-wide reliability as mentioned below:

- **Inability to deliver new services:** Monolithic architecture and on-premise infrastructure impede in developing and delivering new capabilities quickly

- **Increased complexity:** Silo DevSecOps that lacks integrated pipeline for development, operations and engineering increases complexity

- **Managing cultural shift:** DevSecOps teams with different skillsets need to collaborate, which requires a cultural shift

- **Rising IT spending:** Enterprises will need to spend heavily on additional resources and infrastructure to deliver at scale

- **Higher time to market:** Unavailability of systems and services like development and production environments increases the lead time of critical services

Mindtree's approach towards Reliability Engineering Management

Mindtree's reliability and engineering management (REM) offering ensures holistic reliability across applications, services and infrastructure.

Mindtree's REM offering includes:

- Media domain centric view that captures media business processes
- Cloud native enterprise application and infrastructure modernization strategy
- Integrated DevSecOps for process efficiency and automation
- Advanced AI and log analytics for predictive event and incident evaluation and prevention
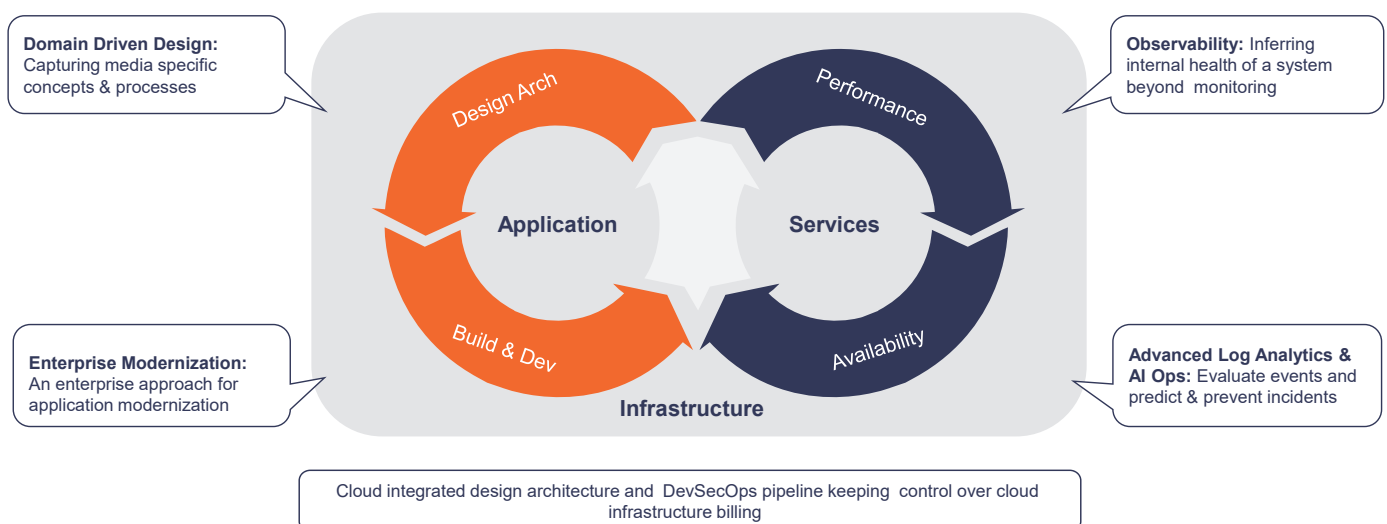

Domain Driven Design: Capturing media specific concepts & processes

Observability: Inferring internal health of a system beyond monitoring

Enterprise Modernization: An enterprise approach for application modernization

Advanced Log Analytics & AI Ops: Evaluate events and predict & prevent incidents

Design Arch • Build & Dev • Application • Services • Performance • Availability • Infrastructure

Cloud integrated design architecture and DevSecOps pipeline keeping control over cloud infrastructure billing

Figure 2. Mindtree's solution approach for REM

Mindtree's core guiding principles for REM are:

- **Reliability approach:** An integrated platform based design approach focused on application build, services and infrastructure

- **Modernization of the enterprise:** Micro-services based transformation, ensuring flexible and enterprise friendly architectural transition

- **Integrated DevSecOps pipeline:** An end-to-end service pipeline from infrastructure provisioning, code deployment, release management to monitoring

- **Low code environment:** A visual development environment that drags and drops components which reduces dependencies while building code

- **Cloud expense management:** Address cost challenges in multi and hybrid-cloud through governance model and tooling strategy

Holistic ownership of DevSecOps environment through an automated enterprise platform

Mindtree's Composable Automated Platform for Enterprises (CAPE) is an out of the box solution for comprehensive end-to-end ownership of reliability of applications across environments throughout the IT ecosystem - development, testing, application management, infrastructure and packages. Capabilities of DevSecOps along with robotic process automation (RPA), machine learning and test automation are woven onto this platform.

Compose
Compose reusable service blueprints using a drag-and-drop interface

Provision
Provision and deploy application stacks to On-premise or cloud infrastructure

Mindtree CAPE

Analyze
Gain insights into performance of service componets

Execute
Automated and resilient execution of designed compositions

Figure 3. CAPE Platform

Mindtree's CAPE helps in composing the DevSecOps pipeline by using pre-built tools integration and creating an extensive low code environment for users. The development and operations team can be brought together to provision and install software with a simple 'drag-and-drop' visual development approach. It enables provisioning of capabilities with the corresponding software components from the chosen infrastructure (on premise and/or cloud). It has in-built monitoring capabilities that enable actionable insights based on performance of various service components.
(See here for more details on CAPE).

Mindtree delivers true impact through REM

High velocity: Modernization enables 25% reduction in cycle time and up-to 30% reduction in time to market

Extreme reliability: 99.99%* availability of dev/test and production environments and up-to 30%* reduction in customer found defects (CFD)

Cost efficiency and automation: DevSecOps optimizes cost of operations by 30% and increases automation
Effort optimization: Spend time and effort on new deployments and less on maintenance

Mindtree has delivered great outcomes for its clients

- Reduced time to market of a digital marketing platform for a leading American consumer goods organization through CAPE resulting in 85% automation across the tool-chain, up from 60%

- Ensured end-to-end reliability for the world's leading IaaS/PaaS provider for all processes across the value chain from setting up to monitoring, resulting in 30% increase in platform releases and a 24% reduction in total cost of ownership

- Integration of multiple monitoring tools with MWatch™ Mindtree's proprietary infrastructure management and monitoring tool resulting in 20% productivity improvement to one of the world's largest provider of personalized campaigns, coupons, and digital media solutions

- Revamped structure of POD team to better leverage true agile delivery, thereby bringing a 20% increase in code coverage and a 39% drop in support call volumes for top ten issues for a leading US airline

Mindtree's industry recognition

- Gartner – Featured in Gartner's top 3 large providers for Agile and DevOps
- ISG Provider Lens (2019) – Market leader in next-gen Application Development and Maintenance Services
- Zinnov Zones (2019) – leader across Digital Services including Legacy Modernization

The Mindtree Media Industry Group

Established in 2006, Mindtree's Media Industry Group has 1000+ employees more commonly known as Mindtree Minds. Within Media, Mindtree works with broadcasters, cable networks, publishers, advertisers, business information services, new media and gaming companies. Mindtree has executed 100+ projects for over 50 clients across North America, Europe, Middle East and Asia Pacific regions. Mindtree is serving 6 of the top 10 media and publishing companies with more than 50% of its revenue coming from digital services. Mindtree is positioned in Leadership Zone for Publishing, Broadcasting and Education in Zinnov Zones 2017 report.

About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. "Born digital," in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 300+ enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in 18 countries and over 40 offices across the world, we're consistently regarded as one of the best places to work, embodied every day by our winning culture made up of over 21,000 entrepreneurial, collaborative and dedicated "Mindtree Minds."