

CASE STUDY

Prasar Bharati OTT & Waves OTT Streaming Infrastructure

How Vensysco Technologies built and manages unified, cloud-native streaming infrastructure powering both Prasar Bharati OTT and Waves OTT broadcast platforms.

CLIENT

Prasar Bharati & Waves
OTT

INDUSTRY

Broadcast & Media
Streaming

PLATFORM

Hybrid Cloud &
AWS

USE CASE

Prasar Bharati OTT & Waves OTT Streaming Infrastructure

OVERVIEW

Vensysco Technologies developed and deployed comprehensive streaming infrastructure for Prasar Bharati OTT and Waves OTT platforms, establishing scalable cloud-native architecture supporting concurrent broadcast streaming for both services on unified, Kubernetes-orchestrated infrastructure.

1 What We Have Done

Vensysco Technologies developed and deployed comprehensive streaming infrastructure for Prasar Bharati OTT and Waves OTT platforms, establishing scalable cloud-native architecture supporting concurrent broadcast streaming for both services. We architected containerized microservices including authentication services, content ingestion systems, video encoding pipelines, stream delivery mechanisms, user interface platforms, personalization engines, and analytics services. Both OTT platforms operate on unified cloud infrastructure with Kubernetes orchestration, Infrastructure-as-Code for all components, and automated deployment pipelines enabling continuous service updates.

2 Challenges We Faced and Overcame

We navigated complex challenges including managing simultaneous streaming demands across Prasar Bharati OTT and Waves OTT platforms with distinct content requirements and audiences, handling unpredictable traffic surges during live broadcast events, ensuring consistent video quality across diverse network conditions and devices, and maintaining service reliability during legacy system migration to modern cloud platforms. We overcame these challenges through intelligent load balancing between services, predictive resource provisioning based on demand patterns, optimized video encoding for multiple network scenarios, and blue-green deployment strategies preserving service availability during infrastructure transitions.

3 New Implementations That Enhanced Solution Effectiveness

We implemented service mesh architecture enabling intelligent traffic routing and automatic failure recovery across platform services, deployed machine learning-driven content delivery optimization analyzing viewer patterns to pre-position content strategically, and established real-time quality monitoring systems providing visibility into viewer experience metrics. Additionally, we built self-healing infrastructure automatically recovering from component failures, integrated comprehensive monitoring and observability platforms enabling deep operational insights, and implemented chaos engineering practices proactively identifying and eliminating system vulnerabilities through failure scenario testing.

4 Cost Optimization Through Pattern Analysis

Through detailed analysis of content consumption patterns and infrastructure utilization across both Prasara Bharati OTT and Waves OTT platforms, we identified substantial optimization opportunities. We implemented dynamic resource scaling adjusting infrastructure based on predicted demand, deployed intelligent content caching reducing origin server load, optimized video encoding configurations balancing quality with bandwidth efficiency, and implemented tiered storage matching content lifecycle with cost-effective storage tiers. These initiatives significantly reduced infrastructure expenses while maintaining platform performance and viewer experience quality standards.

5 Service Alignment and Effective Orchestration

We unified Prasara Bharati OTT and Waves OTT services through comprehensive service dependency mapping and orchestrated resource allocation ensuring both platforms operate seamlessly on shared infrastructure. We deployed API gateways providing standardized interfaces protecting platform stability through rate limiting and request management. Event-driven architecture using message streaming enabled asynchronous communication allowing services to scale independently. Resource quota management ensured fair infrastructure allocation between both OTT platforms preventing one service from impacting the other. Network policies provided traffic isolation while maintaining inter-service communication enabling both platforms to deliver reliable content streaming while efficiently utilizing shared cloud resources.

6 Infrastructure & Management Architecture

The solution operates on a hybrid cloud architecture combining on-premises infrastructure with AWS cloud services, with comprehensive firewall security integrated throughout. Both Prasara Bharati OTT and Waves OTT platforms benefit from unified infrastructure management ensuring consistent performance, security, and scalability across environments. The management approach separates responsibilities strategically: our certified, on-site experienced team handles comprehensive project monitoring and day-to-day operations, while the management team oversees strategic project governance and coordination. This dual-management model ensures technical excellence through hands-on expertise combined with strategic oversight, enabling rapid issue resolution and continuous optimization. Network security is enforced at every layer through firewall services protecting traffic between on-premises systems and AWS resources, preventing unauthorized access while allowing necessary inter-service communication. The hybrid infrastructure provides flexibility for scaling services independently, cost optimization through strategic resource allocation, and disaster recovery capabilities leveraging both on-site and cloud-based redundancy ensuring service continuity.

CONCLUSION

Vensysco Technologies successfully built, deployed, and manages comprehensive streaming infrastructure supporting both Prasar Bharati OTT and Waves OTT platforms. Through modern cloud-native architecture, intelligent automation, strategic cost optimization, and effective service orchestration, we enabled both OTT services to deliver high-quality streaming experiences while operating efficiently within integrated cloud infrastructure. The solution supports current requirements while providing a foundation for future expansion and emerging broadcast technologies.

Vensysco Technologies