GLOBECAST

BEYOND THE CLOUD

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Evolving Broadcast and Media Delivery Through Cloud and Edge Computing

part of the Orange group

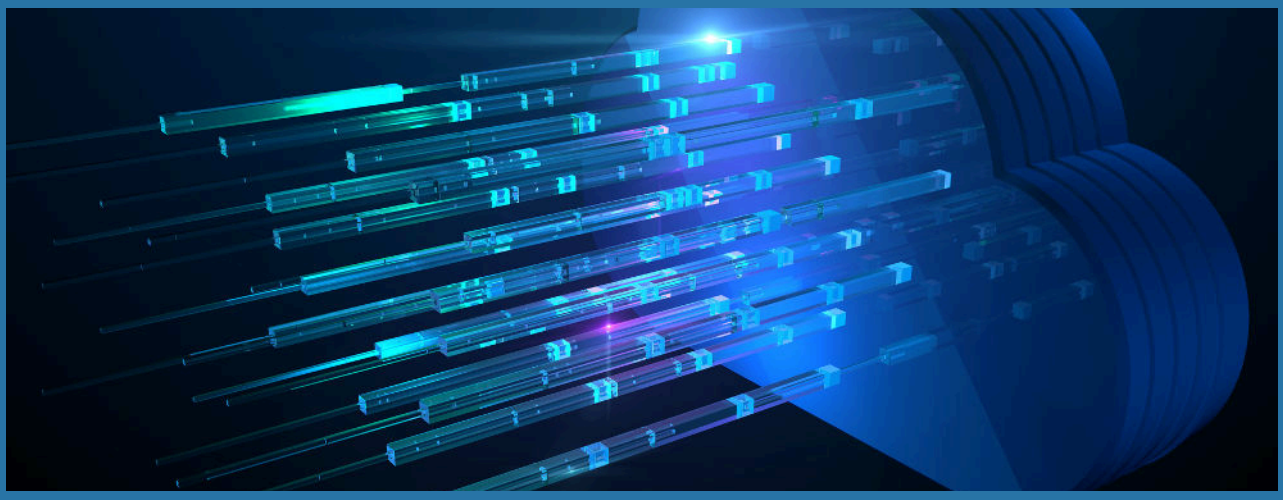
Executive Summary

Cloud computing has become a foundational element of modern media delivery infrastructure. Yet, contrary to early expectations, it is not a "set-and-forget" solution. Instead, the cloud represents an evolving, almost fluid-like environment that demands continuous optimization.

With edge computing emerging as a powerful complement, and the on-going reallocation of the C-band spectrum in the U.S., media organizations face both disruption and opportunity. This report explores the importance of ongoing cloud optimization, and how combining cloud and edge computing not only addresses looming spectrum challenges but also enables new efficiencies, scalability, and agility in delivering broadcast content.

Introduction

The media and broadcast industry has been undergoing a major shift from satellite-based, hardware-intensive infrastructure to software-defined, IP-based workflows. Cloud computing has played a central role in this transformation, enabling flexibility, scalability, and global reach. As audiences demand faster, more personalized content delivery, the need for edge computing has come to the forefront—enabling low-latency, regionalized content distribution closer to the end user.



Together, cloud computing and edge delivery represent the next chapter in media infrastructure—driving innovation while also preparing for a future without traditional delivery mechanisms like C-band satellite distribution.

Cloud Computing:

A Continuous Journey, not a Set-and-Forget

When cloud computing first entered mainstream media operations, many organizations approached it as a finite migration—moving from on-premises infrastructure to a centralized, cloud environment and considering the job done. However, the reality is far more dynamic. Cloud computing, by its very nature, is not a one-time transition but a continual process of evaluation, optimization, and elastic reinvention.

The Myth of Static Cloud Adoption

The initial stages of cloud adoption typically focus on lift-and-shift strategies—moving existing workflows and systems into cloud environments with minimal change. While this approach may yield early cost savings and operational flexibility, it is often where many organizations stop. This "set-and-forget" mindset can be costly over time. Without active management, cloud costs can balloon due to underutilized resources, outdated configurations, or missed opportunities for better performance at lower prices.

The Innovation Curve of Cloud Providers

Major cloud service providers (CSPs) such as AWS, Google Cloud, and Oracle Cloud (OCI) release hundreds of service updates, new instance types, and cost-saving features each year. These include more efficient compute instances, storage tiers, network enhancements, and AI/ML integrations.

For example:

- **Newer instance types** often provide better performance at a lower cost.
- **Savings plans and spot pricing** can drastically reduce operational expenses when used strategically.
- **Automated scaling and orchestration tools** allow for real-time resource adjustment based on demand.

Organizations that fail to track and adopt these changes risk falling behind—not just in cost competitiveness but in performance and service delivery.

Optimization as an Ongoing Discipline

Running effectively in the cloud requires constant attention to resource consumption, cost modeling, and architectural refinement. This involves:

- **Regular auditing of cloud usage** to eliminate waste and underutilized resources.
- **Re-platforming and re-architecting** workloads to take advantage of containerization, serverless functions, or microservices.
- **Implementing cost monitoring tools** (e.g., AWS Cost Explorer, GCP Billing Reports) for real-time insights and alerts.
- **Keeping development teams aligned** with FinOps practices to ensure infrastructure choices support business goals.

Just as businesses optimize supply chains or marketing spend over time, cloud infrastructure demands the same active management mindset.

The Cloud as an Enabler of Edge Evolution

Crucially, this cloud-centric mindset also lays the groundwork for edge computing. Efficient edge delivery architectures rely heavily on the cloud as their control plane and content hub. Without a well-optimized cloud infrastructure, edge deployments are harder to manage, more expensive to operate, and less effective in performance.

Thus, mastering the cloud is not just about managing costs—it's about positioning your organization to leverage new technologies such as edge computing, AI-enhanced media workflows, and real-time personalization.

Strategic Implications for Media Organizations

For media and broadcast companies, where margins are tight and demand is high, the stakes are even greater. Organizations must:

- Treat cloud infrastructure as a living ecosystem.
- Invest in internal capabilities or partnerships that continuously tune and modernize their environments.
- Align technical roadmaps with the innovation timelines of their Cloud Service Providers.

By doing so, they don't just maintain the status quo—they unlock new value, achieve greater efficiency, and gain the agility to adapt as market conditions evolve.

The Shift in Media Infrastructure:

Sunset of C-Band Spectrum in the U.S.

A significant catalyst accelerating the move away from legacy delivery systems is the reallocation of the C-band spectrum in the U.S. As this spectrum is increasingly repurposed for 5G and other telecommunications services, media companies must prepare for its eventual disappearance as a delivery mechanism for cable networks and other broadcast content.

This shift is not speculative—it is coming. The question is not if the spectrum will be fully reallocated, but when. For organizations relying on this infrastructure, proactive planning is essential.

Strategic Response:

Cloud and Edge as Delivery Replacements

The retraction of satellite-based delivery channels requires a rethinking of how content is distributed. Cloud infrastructure emerges as the foundational replacement—serving as the centralized hub from which content can be distributed to diverse platforms and devices. But to truly replicate and enhance the "one-to-many" distribution model of satellite, edge computing becomes crucial.

Edge computing enables content to be processed and delivered closer to the end viewer—reducing latency, enabling personalization, and easing the load on centralized systems. When integrated with cloud platforms, edge solutions offer a seamless, scalable, and responsive alternative to legacy systems.

Globecast's ongoing work in this area exemplifies how organizations can leverage their existing cloud experience to pioneer in the edge space—delivering integrated, IP-native, cloud-first solutions for today's complex distribution needs.

Architecting the Future: Integrated Edge Processing

Designing workflows that integrate cloud and edge requires a strategic approach. Core considerations include:

- **Scalability:** Systems must scale up and down dynamically based on demand.
- **Resilience:** Redundancy, failover, and high availability must be built in from the ground up.
- **Interoperability:** Seamless integration between cloud and edge platforms is essential.
- **Security:** Robust security and compliance frameworks must be maintained across distributed environments.

A typical architecture might involve central content ingest and processing in the cloud, with localized edge nodes handling transcoding, adaptive bitrate packaging, and delivery to ISPs or mobile networks.

Real-World Implementation Examples

Across major clients and use cases, the integration of cloud and edge has demonstrated tangible benefits:

- **Satellite Replacement:** In markets impacted by spectrum reallocation, Globecast has deployed cloud-first IP delivery pathways that mimic the broad reach of satellite without its limitations.
- **Cost Optimization:** By continuously tracking cloud usage and leveraging newer cloud instance types, clients have achieved up to 30% savings annually.
- **Flexible Delivery Models:** Through intelligent orchestration, customers are offered context-aware solutions—balancing cloud and edge resources based on geography, audience behavior, and network conditions.

These cases highlight the practical, scalable nature of integrated cloud-edge strategies and how they align with evolving business models.

The Road Ahead

The pace of change is accelerating. With satellite delivery models declining, cloud and edge computing will become the de facto infrastructure for media distribution. Future developments in 5G, AI-enhaanced processing, and real-time analytics will further enhance this transformation.

Media organizations must embrace flexibility—not just in technology, but in their operational mindset. Those who adopt cloud-edge strategies today will not only navigate the spectrum reallocation smoothly but also position themselves as agile leaders in next-gen media delivery.

The real game-changer of IP delivery to the Edge is that it enables true edge monitoring by the source provider, ensuring proactive delivery and support — a capability that satellite delivery cannot match without significant cost and complexity.

Conclusion

Cloud and edge computing are not isolated trends—they are converging forces shaping the future of content distribution. Staying cloud-current means continually evolving architectures, revisiting optimization opportunities, and preparing for market shifts like the end of C-band satellite delivery.

By combining the scalability of the cloud with the precision of edge computing, organizations can replace traditional mechanisms and unlock new possibilities. The time to act is now—modernizing infrastructure, rethinking delivery models, and leading the next wave of innovation in media and broadcasting.

Globecast brings decades of media delivery experience with a proven track record in cloud transformation and IP-first strategies. With operations across continents and partnerships with leading cloud and edge platforms, we empower broadcasters, streaming services, and content owners to thrive in the digital age.

Our mission is clear: to enable seamless, efficient, and scalable media distribution—wherever your audience is, however they watch.

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