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In the Evolving AI Landscape, Telecoms See New Opportunity

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In the initial surge of investment following the first commercial language models (LLMs), it seemed like every enterprise, in every industry, was racing to apply generative AI (GenAI) to their business. Almost all of them used public cloud. This was a sound decision; public cloud providers were among the first to build out the massive, specialized computing infrastructures needed for AI model-training and inferencing. Since then, however, much has changed in the AI landscape.

Due to multiple factors (especially concerns about AI data privacy, governance, and costs), many organizations are now rethinking a public cloud-centric approach. Indeed, cloud repatriation is a growing trend we're tracking in 2025, as we expect more enterprises to move more of their AI investment into private and hybrid deployments.

This shift will have implications throughout the AI value chain, but no one is paying closer attention than telecoms. As businesses seek to apply AI intelligence to more of their operations (especially at edge locations), and *also* to exert tighter control over AI governance and costs, telcos see a significant opportunity. Many industry leaders believe that telecom is perfectly situated to address the evolving AI requirements of enterprise and government customers. And they're preparing a major push into AI network infrastructure as a service (NIaaS) offerings to meet them.

How is ongoing AI evolution creating new opportunities for telecom? And what can telcos bring to the table, both through their own networks and in partnership with public cloud providers, to make AI NIaaS offerings so attractive to customers? Let's take a closer look.

The Rise of Private AI

Organizations have a variety of concerns driving them to rethink public cloud AI approaches, but we can summarize them as the "Three Big Cs": Control, Capabilities, and Costs.

Start with the new regulations emerging around AI, as governments and regulators implement stringent data sovereignty laws mandating that sensitive data remain within national boundaries. Organizations seeking to apply GenAI in sectors like government, healthcare, and finance must also comply with strict data security and privacy requirements. Shifting to sovereign and on-premises AI systems can enable such customers to exert tighter control over their data, while offering better auditability.

In response to both regulatory mandates and ongoing cybersecurity threats, organizations also want greater Control over how AI applications and data are secured. Enterprises that routinely handle sensitive data, as well as government and defense agencies managing classified information, increasingly view private AI as a means to minimize exposure to cyberattacks. For any business investing in AI, shifting to on-premises deployments allows for tighter control over proprietary algorithms, intellectual property, and customer data, safeguarding against leaks or misuse.

From a Capabilities perspective, private and sovereign AI models allow for greater customization to meet specific organizational needs, such as applying unique workflows, specialized hardware optimizations, or domain-specific models. Additionally, more enterprises are bumping up against technical limitations of public cloud-centric deployments, especially at distributed edge locations. For a growing number of AI use cases that involve real-time inferencing and decision-making, having to route traffic back through a geographically centralized public cloud data center introduces too much latency, effectively breaking the application.

Finally, many enterprise leaders have expressed concerns about high Costs for public cloud resources as they scale up AI footprints. That's on top of longstanding unease with cloud lock-in and the difficulty of moving workloads from one cloud to another, problems that many enterprises want to avoid as AI becomes a more important element of business strategy.

The Telecom AI Advantage

Given all these factors, it shouldn't be surprising that more organizations planning AI investments are exploring alternatives to public cloud. Most businesses don't plan to abandon public cloud entirely. But by pursuing a hybrid AI model, they believe they'll be able to address the needs of each application workload optimally, while keeping costs and governance under tighter control. This is where telecoms see a growing opportunity: by acting as a cloud-agnostic AI partner, they can help customers combine the best of both public and private cloud worlds.

Telcos offer a number of geographic and technical attributes that make them well-suited to support hybrid, sovereign, and private AI deployments. They have significant assets in 5G, fiber networks, data centers, and other investments that can be monetized to optimize AI networking services, especially at distributed edge and branch locations. And they have proven expertise providing multitenant, scalable, and secure networking and hosting solutions. Indeed, most

organizations expanding their AI footprints already work with a telco partner to connect branches and data centers, and often to provide additional services like software-defined wide-area networking (SD-WAN) and Secure Access Service Edge (SASE) as well. Telcos in multiple markets are developing new NIaaS offerings focused on sovereign and enterprise AI. These solutions offer enterprise customers a scalable, AI-ready networking infrastructure that's optimized for the performance and governance requirements of AI workloads, combined with on-demand access to AI computing clusters and hardware accelerators, including graphical processing units (GPUs).

Controlling AI Governance and Costs

To understand why telcos believe these new AI NIaaS offerings will be so compelling, we need only review the Three Big Cs, starting with Control. Telecom networks already reach most locations where enterprises want to extend AI and often have a kind of "built-in sovereignty." They typically support local breakout to minimize data movement across borders, and many already comply with laws like the European Union's General Data Protection Regulation (GDPR).

Using a telecom NIaaS service can also make it easier for organizations to strengthen security. Telco IP transport networks allow for end-to-end encryption to protect sensitive AI data during transport. Working with a telecom partner also makes it simpler to layer cyber defenses like zero trust network access (ZTNA), secure service edge (SSE), quantum secure, and private edge distributions on top of AI deployments.

Telcos also offer advantages in helping organizations control Costs. They typically offer competitive pricing compared to large cloud providers, especially for local or regional services. Just as important, working with a telco does not lock in customers. Many operators work with multiple public cloud providers on behalf of enterprise customers, and most already offer hybrid cloud models that combine edge cloud capabilities with local traffic breakout to public cloud infrastructures.

The Telecom Technology Edge

On top of the first two Cs, telcos can also offer significant differentiation through the unique technical Capabilities they bring to help customers unleash the full potential of AI. Those strengths will only come into sharper focus as AI becomes more distributed in the coming years.

First, there's the proximity of telecom networks to the enterprise edge. As the party responsible for actually connecting distributed branches and edge locations, telcos are inherently positioned close to end-users and devices. This physical presence puts telcos in prime position to combine on-demand edge hosting infrastructure with high-performance IP networking. Many advanced enterprise AI applications — like real-time AI decision-making, quality monitoring, analytics, autonomous systems, and end-customer interactions — break down if queries are routed to a centralized public cloud data center. Using AI-ready telco edge computing capabilities, organizations can process and act on data right at the point where it's generated. They can also lower costs, since processing more data locally reduces the traffic that organizations transfer to a centralized cloud.

Telcos can also tightly integrate AI workloads with their wireline and wireless network services to meet more stringent performance requirements. They can assure consistent bandwidth, reliability, low latency, and jitter, all of which are crucial for advanced real-time AI applications like video analytics. Additionally, telcos are in prime position to apply network-aware AI intelligence to their own infrastructures. They can optimize their customers' AI traffic based on real-time network conditions and assure specific latency and throughput metrics under stringent service-level agreements (SLAs).

Emerging telco NIaaS offerings can also apply dedicated network slices tuned to meet the demanding performance requirements of AI model-training and inferencing. This can include both hard and soft slices, over both wired and wireless infrastructure. (Initial AI offerings will primarily use static wireline slices, though as more telcos complete 5G Standalone deployments, dynamic over-the-air slicing will offer new options as well.) Internally, slicing allows operators to safely dedicate network paths and resources for AI without compromising other services. Meanwhile, slicing also enables operators to assure customized performance for specific customer applications, enhance security, improve visibility, and simplify SLA management.

Finally, telcos can apply the strengths of existing IP transport infrastructures to NIaaS solutions, strengths that other AI stakeholders will find hard to replicate. Telcos can, for example, scale bandwidth from 50G to 800G connections to handle data-intensive AI workloads. They can apply technologies like Flex Ethernet (FlexE) and dynamic resource allocation to elastically adjust transport bandwidth based on workload needs. They can provide latency-optimized architectures that minimize hops and provide direct paths between edge nodes, data centers, and enterprise locations. They can support time-sensitive networking (TSN) to ensure precise timing and synchronization for AI model updates. And they can apply low-latency routing and deterministic packet transport to guarantee consistent and predictable network performance for AI training pipelines.

Unleashing AI Innovation

All of these differentiated capabilities make telco NIaaS solutions a compelling option for organizations planning future AI deployments. Once again, it's likely that many telco AI networking solutions will be offered in partnership with public cloud providers rather than in competition. But for organizations seeking to capitalize on AI in the face of growing regulatory and security requirements, or who view advanced AI applications as a means to achieve durable strategic advantage, it's time to look beyond public cloud-only solutions. Telecoms can offer significant, differentiated AI value too.