Common cloud strategy for service providers

Cloud adoption is no longer optional for service providers. It is the pivotal aspect for network modernization, operational transformation, and future revenue growth.

Innovate and de-risk your business transformation

The telecommunication (telco) industry is at a critical juncture. The path forward is built on a common cloud.

Cloud adoption has grown from a peripheral IT strategy into the pivotal aspect of service provider network modernization, operational transformation, and future revenue growth. The choice is no longer whether to transform, but how to do so while being fundamentally reshaped by new technologies and intense competitive pressures.

The scale of this shift is unprecedented. It is not merely a trend, but a seismic reallocation of capital and strategic focus that will define the industry for the next 10 years. While 4G and 5G deployments laid the groundwork for this new era, Artificial Intelligence (AI) is now the primary conductor. The computational demands of AI, coupled with the urgent race to monetize AI-driven services, force organizations to consider a new architectural strategy. This situation presents service providers with a critical decision. Build a cloud-native, common cloud platform to innovate and deliver high-value services, or risk becoming marginalized while hyperscalers and other digital natives capture most of the value chain. A common cloud is seen as a disaggregated, common cloud-native platform, typically based on Kubernetes, where a unified infrastructure can support a diverse range of workloads.

Navigating this complexity requires a consistent, trusted, and comprehensive platform that offers flexibility without sacrificing control. Red Hat's solution portfolio, built on open source, provides a vendor-neutral foundation that service providers need to modernize their IT, core and radio networks, and operationalize AI at scale for future growth. All while managing costs and mitigating the risks inherent in such a profound transformation.

Moving beyond connectivity:

AI/ML workloads are the primary force advancing cloud adoption and infrastructure decisions.

AI transformation without the technical debt

The strategic inflection point for service providers is how to move beyond connectivity.

While 5G created the high-speed, low-latency foundation, the urgent need to deploy, manage, and monetize AI and machine learning (AI/ML) workloads is now the most significant force influencing cloud adoption and infrastructure decisions. The telco cloud market represents the huge revenue opportunity available to those service providers that successfully transform into platform-led techcos.

However, this transformation is interrupted by 3 core challenges that resonate in service provider boardrooms across the globe. They are:

1. **Modernizing networks and IT at scale.** Service providers are burdened by fragmented and aging infrastructure, monolithic operations, and business support systems (OSS/BSS). This accumulated technical debt slows time-to-market for new services and inflates

operational costs. The problem is now made worse by significant and unpredictable increases in licensing costs from proprietary virtualization vendors, making the status quo financially unsustainable.

2. **The system integrator burden.** The necessary strategic shift away from proprietary, vertically-integrated stacks toward disaggregated, multivendor, and common cloud platforms is essential to foster flexible innovation. This shift requires service providers to find new system integrators or develop complex new in-house capabilities for multivendor management, testing, and end-to-end service assurance roles—for which many are currently unprepared.
3. **The persistent skills gap.** Transformation to a cloud-native and software-defined future is fundamentally constrained by talent. There is a severe global shortage of professionals with the requisite skills in cloud-native technologies, development, security, and operations (DevSecOps), site reliability engineering (SRE), AI, and multicloud management, creating a major barrier to executing transformation strategies.

A single, horizontal common platform

The traditional, vertically integrated stack, where a single vendor provided a closed, monolithic hardware and software environment has proven to be flawed. It created lock-in, high costs, and a lack of agility that stifles innovation in a dynamic, software-driven market.

A common cloud architecture supports diverse workloads, from network functions to AI and edge computing more efficiently.

In its place, the industry is decisively moving toward a common cloud architecture. This is a disaggregated, common cloud-native platform, typically based on Kubernetes, where a unified infrastructure can support a diverse range of workloads. This model breaks down the operational and technology barriers that have historically separated network functions, IT applications, and new revenue-generating enterprise services like AI and edge computing.

Red Hat provides this essential common platform, helping service providers to build once and deploy any service or application anywhere, from the core datacenter to the public cloud, and the far edge. Red Hat's common platform is built on 3 foundational products:

- **Red Hat OpenShift®:** The industry's well-known hybrid cloud application platform powered by Kubernetes. It provides a consistent, trusted, and comprehensive foundation for running all service provider workloads, from 5G core and RAN to business-critical IT applications and new AI factory environments. Red Hat OpenShift is a dedicated platform designed to streamline the development, deployment, and management of AI models and applications.
- **Red Hat Ansible® Automation Platform:** Ansible Automation Platform provides the tools for intelligent, closed-loop automation to accelerate configuration changes, remediate network issues, reduce manual effort, and lower operational costs. This platform is the key to achieving autonomous intelligent networks and conquering operational complexity.
- **Red Hat Enterprise Linux®:** The trusted, security-focused operating system that serves as the foundation for the entire common cloud platform. Its real-time kernel and advanced tuning capabilities deliver the deterministic, high-throughput, low-latency performance required for the most demanding real-time network workloads.

A common platform strategy for critical business and technology imperatives

A single platform with 3 priorities: Operationalizing AI, unlocking 5G value, and building a diverse RAN.

A common platform strategy allows service providers to address their most pressing investment priorities on a single, unified foundation, maximizing their return on investment (ROI) and accelerating tangible business outcomes.

Priority 1: Operationalizing AI at scale

- The challenge: The high cost of specialized graphical processing unit (GPU) hardware, complex integration with data sources, and a lack of machine learning operations (MLOps) expertise create significant barriers to moving AI from the lab into production.
- The Red Hat solution: Red Hat OpenShift AI provides an integrated MLOps platform that accelerates AI models into production. It allows service providers to standardize AI across their organization, optimize the use of expensive hardware accelerators, and own their AI models by training them safely with their own private data, ensuring data sovereignty and competitive differentiation.

Priority 2: Unlocking 5G value and modernizing IT

- The challenge: Realizing ROI from massive 5G investments requires a modernized cloud-native platform, but migrating from legacy virtualized environments is complex, risky, and increasingly expensive due to punitive licensing.
- The Red Hat solution: A common cloud Red Hat platform, validated with a vast partner ecosystem, provides pre-integrated and pretested reference architectures. This de-risks and automates the deployment of 5G RAN, core, and migration of virtualized IT workloads, accelerating time-to-value for new services.

Priority 3: Building an adaptable RAN

- The challenge: The various deployment options for RAN (virtual, cloud, and open RAN) promise greater flexibility and cost savings, but introduce significant integration, interoperability, and performance tuning complexity, forcing service providers into the unfamiliar role of system integrator.
- The Red Hat solution: Red Hat provides a tuned and optimized enterprise platform with built-in security to run deterministic RAN workloads. Our declarative, GitOps-based automation simplifies the deployment and management of the RAN at scale, reducing both operational complexity and operational expenditure (OPEX).

Red Hat meets service providers where they are to take them where they need to be

From telco to techco, Red Hat collaborates with service providers to navigate transformation and innovation.

The era of the transactional customer-supplier dynamic is over. In today's complex environment, service providers require strategic partners who can coinvent, de-risk transformation, and help them navigate constant technological change. Red Hat's values as a leader have been well-established in open source communities for decades, along with an extensive ecosystem of hardware, software, and integration of Red Hat partners. This partner ecosystem offers flexibility, and a proven, phased approach to network and IT transformation that delivers value at every stage:

- **Modernize with confidence.** Service providers can start their journey by migrating existing workloads from costly and proprietary virtualization platforms to Red Hat's open, flexible, and cost-effective common platform. This foundation will immediately address rising licensing costs and take the first step toward a more agile future.
- **Automate everything.** Service providers can use Ansible Automation Platform to simplify operational processes across all domains. Service providers can implement zero-touch provisioning for network and IT infrastructure, and build a culture of automation that allows skilled engineers to focus more on innovation.
- **Innovate on a common platform.** With a modernized and automated foundation in place, Red Hat OpenShift provides a common platform to develop and deploy new, revenue-generating services from private 5G and edge computing to a sovereign AI cloud and digital marketplaces for enterprise customers.

The transformation to a cloud-native, AI-driven future is the defining challenge of our time. It is complex, but the path forward is clear. With Red Hat's common platform, deep industry expertise, and unparalleled partner ecosystem, service providers can simplify complexity, accelerate innovation, and build a future as leaders in the digital economy.

Ready to get started?

To schedule a strategic workshop, contact our experts today and begin mapping out your transformation journey.

About Red Hat

Red Hat helps customers standardize across environments, develop cloud-native applications, and integrate, automate, secure, and manage complex environments with award-winning support, training, and consulting services.

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