HPE TELECOM APPLICATION SERVER

A platform for communications innovation—today and in the future
EXECUTIVE SUMMARY

As communications service providers (CSPs) blaze new trails in 5G and the cloud, it can seem like the whole telecommunications world is changing. For the millions of customers relying on CSP voice services every day though, telephony is just as important as ever.

With modern software and virtualization techniques, CSPs can deliver classic telephony services much more efficiently and reliably. They can even combine them with messaging, video, and other network services to bring exciting new offers to their customers. However, many still don’t. Instead, they rely on the same antiquated technologies they’ve used for years, wrestling with monolithic architectures and inflexible pricing.

Hewlett Packard Enterprise offers a better approach. With the HPE Telecom Application Server (TAS), you can deliver communication services with a platform that’s scalable, cloud-ready, and consumable as a service. You can give your developers the tools to build new, value-added applications for a digital world.

IN A CHANGING WORLD, TELEPHONY STILL MATTERS

5G and cloud innovations capture most of the headlines in the CSP marketplace these days. Looking at the numbers, voice telephony still makes up a large share of most service providers’ revenues.

Analysts forecast the global IP Multimedia Subsystem (IMS) market (which includes voice over IP, LTE, Wi-Fi, and messaging) will grow at 16.5% CAGR between 2020 and 2025. By 2023, the IMS market will have more than doubled from five years earlier, reaching \$3.71 billion.

Analysts made those forecasts before COVID-19 drove millions to work from home. Many now believe that shift will prove durable, representing a long-term change in how and where people work. In which case, operators can expect demand for telephony-centric applications to grow even faster.
In theory, voice and messaging should be among the most flexible, interoperable services in a CSPs’ portfolio, offering endless opportunities to develop novel offers for both business and residential customers. In practice, CSPs face a number of barriers to innovating in this space, including:

- **Complex technology:** As CSP networks have evolved, they’ve become increasingly complicated, incorporating network technology that spans multiple generations (2G, 3G, 4G, and 5G). Developing new communications services typically means integrating and interworking multiple legacy systems (such as for charging, messaging, service broker, and other use cases). Even when operators would like to develop new service offerings, innovating is risky and expensive.

- **Siloed, monolithic architectures:** Adding to the problem, many of the technologies that could be used to develop novel telecom applications rely on monolithic architectures, operating in silos. Operators must devote substantial time and resources to network and OSS/BSS integration any time they want to make a change. These siloed architectures also require extra compute resources, power, cooling, and rack space, all of which increase OPEX.

- **Lack of agility:** The legacy technologies delivering many of today’s communications services are typically closed, monolithic systems, making it difficult or impossible for CSPs or their partners to modify them. Instead, operators have to wait for the vendor for any new features or capabilities. As a result, they can’t react quickly to changing customer needs or new opportunities.

- **Lack of support for new software and cloud models:** The companies delivering modern cloud-based applications over the top of CSP networks are constantly innovating. Using the latest agile software approaches and CI/CD pipelines, they continually bring new features and applications to their customers. Meanwhile, most CSP organizations still rely on antiquated waterfall development models, making releases riskier, more expensive, and much slower to market.

- **Inflexible pricing:** It’s not just the software approaches for communications technologies that are antiquated; consumption models are too. In most cases, implementing new capabilities still requires high up-front CAPEX, further increasing the costs and risks of innovation.

If CSPs want to break free from the expensive, inflexible telephony models holding back innovation, they need to transform the service layer of the network. They need to embrace software-first architectures, where all the various components of telephony applications are virtualized and elastically scalable, like any other modern cloud service. They need to build a foundation for 5G-ready communications, where voice and messaging services operate in cloud-native architectures, using service-based interfaces and zero-touch automation. This digital transformation journey starts with reimagining yesterday’s telephony application servers.
HPE TELECOM APPLICATION SERVER

HPE can help you take the next step in your digital transformation journey with a different kind of TAS—HPE Telecom Application Server—an open, telco-grade, and high-performance application server that delivers a wide range of telecom applications, while powering modern software innovation. It provides comprehensive support for call control, interactive multimedia control, messaging, and interworking applications in both 5G/4G and older mobile core or fixed-line networks—in an open, cloud-scalable platform. It’s also a future-ready solution, with support for services-based interfaces and cloud-native components, making your journey to 5G services much easier.

As a core component of your service plane transformation, HPE TAS empowers you to converge a multitude of technologies that currently lives in silos. You can consolidate conference servers, interactive voice response (IVR) systems, interactive voice and video response (IVVR) systems, voicemail systems, messaging servers, service brokers, and messaging gateways into a unified, high-performance, highly scalable platform. From this foundation, you can create, execute, and orchestrate telecom applications for diverse:

- **Network types**, including mobile 5G, 4G, 3G, 2G, and fixed networks
- **Service types**, such as call control, messaging, interworking, and multimedia-interactive applications
- **Protocols**, including SIP, INAP/CAP, MAP, Diameter, SMPP, UCP, HTTP, and others
- **Deployment models**, including running HPE TAS as a physical or virtual network function, deployed in a conventional, telco-cloud, or even public-cloud environment

You can also take advantage of HPE’s industry-leading, flexible, cloud-friendly licensing to use HPE TAS through whichever procurement model makes sense for your business. That includes options for pay-as-you-grow, consumption-based pricing, and shifting the costs of innovations to operational rather than capital budget. You gain a versatile platform to deliver a new generation of differentiated service offerings that were too expensive, risky, or technically infeasible before.

**FIGURE 1.** HPE TAS—one platform, many use cases
Not all are created equal

In the CSP marketplace, you can find lots of different solutions called TAS. But the fact is, most are strictly telephony application servers—specialized black-box platforms that provide only basic telephony services. (That is, they enable subscribers to make and receive phone calls, with associated supplementary services, using MMTel and IR.94 standards.)

HPE TAS is a complete telecom application server. This is an open application platform that lets you and your partners develop a wide range of high-performance, carrier-grade applications. That can include classic telephony services, but it can also support messaging applications, multimedia interactive value-added applications, interworking applications, IN/IMS call control applications, charging applications, and many others.

Some vendors now offer TAS platforms that promise similarly broad application support. Invariably, they’re closed platforms designed to support a limited set of protocols and use cases. They don’t provide open APIs, and they don’t have SDKs available to third-party developers.

HPE TAS supports a wide range of protocols for practically any telephony-related use case, while meeting stringent requirements for carrier-grade performance, reliability, and security. Its open APIs, well-documented SDK, and development and testing tools give developers everything they need to create novel applications. You can bring new experiences to your customers that are truly differentiated and capitalize on the growing market for new telecom applications.

A PLATFORM FOR ENDLESS INNOVATION

HPE TAS gives your developers a platform to create and deliver a broad portfolio of differentiated communications applications. Unlike most conventional telephony application servers, HPE TAS is based on open, scalable, and carrier-grade Java technologies. It features a broad, extensible set of network and protocol connectors. And, it includes a comprehensive software development kit (SDK) to facilitate agile development and rapid rollout of converged telecom applications.

With HPE TAS, your developers and designers get:

- **Simple, consistent, high-level API abstractions**: Instead of having to master the low-level nuances of diverse protocols, HPE TAS gives your developers easy-to-use APIs that abstract away the complexity. These APIs provide contextually meaningful and correct default behavior for components in every use case, with the freedom to programatically alter that behavior if needed. HPE TAS APIs also look and act the same, even when developers are coding for different use cases and operations, using different underlying protocols. Ultimately, they can focus on higher-level business logic—the areas where you can really differentiate—instead of wrestling with protocol-level complexity.

- **A batteries-included platform**: Even when other TAS-type solutions claim to support innovative software development, they don’t make it easy. Developers have to build everything from scratch—at significant time, effort, and expense. HPE TAS comes preloaded with diverse network protocols, front-end and load-balancer components, and a set of ready-to-use higher-level functions and utility applications. That includes prebuilt application logic for functions like multiparty calls, SIP B2BUA abstraction for VoLTE/VoWiFi networks, multimedia interaction, diameter charging trigger function, message store and message queue components, and more. These prebuilt functions are field-proven, often having undergone deployment and integration with third-party equipment in multiple real-world networks, making them much quicker and simpler to implement.

- **A future-ready platform**: Unlike legacy telephony application servers, HPE TAS is built for modern cloud and virtualized IT environments, as well as legacy CSP infrastructures. It adheres to ETSI Network Functions Virtualization (NFV) standards and supports cloud-native components and microservices. As a result, HPE TAS supports your business well into the future, making your journey to new 5G services and digital subscriber experiences much simpler. Whenever you choose to migrate your communications applications to a cloud model—in a telco cloud or even a public cloud—you can do it with minimal effort, cost, and risk.
• **Powerful, flexible service orchestration:** HPE TAS includes SCXML script-based service orchestration. This allows developers to blend application logic from multiple systems more easily, and quickly develop and customize converged applications. Once developed, they can continually reuse and extend this logic, reducing the time and costs required for future projects. Developers can modularize application logic into reusable libraries, or even treat an entire application as a library, extending or altering its behavior through service orchestration—drawing the behavior in the platform’s service creation environment (SCE) instead of writing new code. HPE TAS treats these orchestrated applications the same way it treats Java applications, delivering the same capabilities and performance.

• **Tools to enable modern CI/CD and DevOps models:** HPE TAS includes extensive monitoring capabilities, providing deep visibility into how customers are adopting and using services. These include SNMP MIBs, call data records (CDRs), and the ability to expose key performance indicators (KPIs) via REST. By ingesting in-depth usage and uptake information into reporting systems, you can quickly validate new applications and perform A/B testing in a controlled test environment before making them available to all subscribers. Business decision-makers can view the same reporting to see which innovations are working, which are not, and quickly react to changing customer and market needs.

Together, these capabilities substantially reduce the costs of innovation, mitigate risk, and accelerate time to-market, giving you a platform for ongoing innovation.

**THE HPE TAS ADVANTAGE**

Today, CSPs around the globe trust HPE TAS to power diverse telecom applications and digital transformation. By working with HPE, you can:

• **Unlock innovation:** Unlike other telecom application solutions, HPE TAS is open and extensible by design, based on Java and other industry-standard IT technologies. It helps eliminate vendor lock-in, empowering you to deliver new features and capabilities on your timeline instead of your vendors’. With easy API abstractions, reusable application logic, comprehensive SDK and resources, and more, your developers have the freedom to take your telecom applications wherever you choose to go.

• **Reduce costs and complexity:** HPE TAS streamlines your operations by unifying multiple applications that currently live in silos—and have to be managed and maintained separately, at significant expense—into a single solution. The platform’s consistent tools and reusable logic allow developers to learn the platform once and continually reuse and extend it to diverse applications in the future. These capabilities empower you to bring new applications to your customers at a lower cost, in far less time, with much less risk.
Choose the right procurement model for your business: HPE TAS is available with a wide range of consumption and licensing models. You have the flexibility to choose the licensing that works best for your business, including using it on a consumption-based, pay-as-you-grow basis.

Accelerate your cloud and 5G journey: You can use HPE TAS in conventional networks, but it’s designed from the ground up to support your evolution to 5G and telco cloud environments. It provides core components needed to enable service-based architectures and cloud-native and stateless models—key requirements for 5G deployments. These capabilities help you shift to 5G services and state-of-the-art cloud and digital models more quickly and easily.

Work with a partner you can trust: HPE has been a longtime partner to the world’s leading CSPs. HPE TAS is already being used in dozens of the world’s largest networks, on every continent except Antarctica. And, like all our CSP solutions, HPE TAS is backed by our global support organization and worldwide system-integration and delivery capabilities.

Are you ready to start your journey to a new world of telecom innovation?

LEARN MORE AT
hpe.com/dsp/transform