Hewlett Packard Enterprise

Enhance the experience
HPE Multimedia Services Environment

Provide superior customer experience

As people get accustomed to instantly communicating with their peers through their devices, the demand for voice and messaging services is exploding, driving more and more traffic. As a communications service provider (CSP), you have to deal with traffic growth, while losing revenues to other CSPs and over-the-top (OTT) providers, by bringing communication services over IP at lower rates with richer experience.

In response to these challenges, you may be looking to move to broadband networks and take this opportunity to lower your costs, while continuing to differentiate with high-quality, innovative multimedia services. Voice over LTE (VoLTE) is ideal to ensure voice service continuity over IP, and for enhancing these services with, for example, high definition (HD) audio, interactive video, and video conferencing. With timely implementation, you should be able to fully benefit from VoLTE capabilities, provide a customer experience that is superior to OTT, and preserve customer loyalty into the future for all IP networks by differentiating on quality and reliability.

Furthermore, you may want to integrate with the latest browser technology to make your voice and video services available to a wide range of applications and users. WebRTC (web real-time communications) allows real-time audio and video communication between webRTC-enabled browsers and applications supporting webRTC. Extending your reach with webRTC-ready media processing can be a clear differentiator.

HPE Multimedia Services Environment benefits include:

- VoLTE readiness
- NFV ready
- webRTC enabled
- Standards compliance
- High availability
- Modularity and scalability
- Solution homogeneity
- Secure multitenancy
- Standard hardware

Make the move

To help you transition to an all-IP architecture, Hewlett Packard Enterprise (HPE) proposes the HPE Multimedia Services Environment. It can virtually host any interactive multimedia application on one common system, and is a VoLTE and IP Multimedia Subsystems (IMS) compliant platform. With the versatile HPE OpenCall Media Platform at its core, the HPE Multimedia Services Environment includes a highly scalable carrier-grade media resource function (MRF) and a telecom application server for interactive multimedia services.

It also supports legacy telecom functions such as interactive voice response (IVR), intelligent networks specialized resource function (IN SRF), IP Media Server, and USSD gateway. This helps you further reduce costs while maintaining existing services to your customers.

Get an open, flexible solution

The HPE Multimedia Services Environment is built on an open standards-based architecture for multimedia application development, supporting applications such as interactive video, HD audio, video conferencing, prepaid IVR, self-service IVR for contact centers, intelligent peripheral announcement, Communication-as-a-Service IVR, and other interactive multimedia services.

It includes the following functions:

- Service Creation Environment
- Service Execution Environment
- Media Resource Function

It offers these benefits:

- **VoLTE ready**—Rapidly deploys innovative applications with enhanced user experiences on the HPE Multimedia Service Environment, thanks to its support for direct integration with your IMS/VoLTE network

- **Network function virtualization (NFV) ready**—Rapid scale up and down of capacity, reduced hardware equipment cost, and simplified operations of the HPE Multimedia Services Environment

- **webRTC enabled**—Allows enabled browsers to access webRTC-ready media processing, such as transcoding and media mixing bridging

- **Standards compliance**—Conforms with the most relevant industry standards for multimedia interactive services—VoLTE, webRTC, VoiceXML, CCXML, MSCML, SIP, and more

- **High availability**—Uses robust and resilient technology, preventing any technical single point of failure

- **Modularity and scalability**—Independently configures components based on load and usage patterns; presenting a comprehensive framework that enables rapid addition of interactive multimedia services with less management overhead

- **Cross-solution homogeneity**—Deploys several applications based on a single cost-efficient platform and unique application execution engine

- **Secure multitenancy**—Gives tenants (subsidiaries, mobile virtual network operators, partners) a secure and private system access, enabling smart resource management per organization, using one or several interactive multimedia applications

- **Standard hardware**—Operates on industry-standard HPE ProLiant and HPE BladeSystem hardware and the Linux operating system with a smaller, less specialized staff

Get better outcomes

Transform your business
With HPE, you can expand your market reach with services-on-demand offerings, meeting your user expectations on price point and dynamic consumption model. The HPE Multimedia Services Environment is the right solution to generate new business opportunities, leveraging the network assets for cloud services with:

• A suite of multimedia applications, providing fast ROI

• Strong system integration capabilities with IT and the network, from market validation to full support

Increase revenues
The HPE Multimedia Services Environment enables you to establish new revenue streams, leveraging your core competency in voice and media services. With it, you can attract new clients and retain existing ones by hosting interactive multimedia applications for enterprises, and offering "one-stop shop" IVR services-on-demand for small and medium businesses.

Operate cost-efficiently
Streamline your operations by automating key processes to optimize resource, sharing and enabling easy services configuration with the HPE Multimedia Services Environment. It reduces expenses for voice and video services by consolidating multiple services. These savings stem from lower license and support fees, as well as reductions in footprint, energy consumption, and operation staff. Using NFV-ready capabilities and monitoring of key performance indicators, you can scale in and out your multimedia services environment resources, allocating them only when needed.

Shorten the time to market
The HPE Multimedia Services Environment enables fast creation and amendment of call flows, using ready-to-deploy connectors to back-end systems, standard software such as SIP and VoiceXML, and a graphical service creation environment. It reduces the time required to make changes from months to days, or even hours. In addition, it speeds up the transition to IMS and VoLTE, and frees you from vendor lock in, giving you control over service development, customization, and evolution.

Increase flexibility
Quickly innovate with packaged and customized services that differentiate you from the competition, while improving your overall user experience with the HPE Multimedia Services Environment. From legacy IVR and IP Media Server, to VoLTE and cloud/NFV, covering voice, text-based, and video capabilities, HPE Multimedia Services Environment gives you a strong launch pad for rich media services.

Get flexible pricing
We understand the importance of reducing your total cost of operations. For that reason, flexible pricing models are offered to reduce capital expenditures and risks. This set of flexible pricing models, such as pay-per-use, enables you to:

• Align spending with business benefits

• Track consumption and accommodate changing demand

• Maximize ROI and preserve capital

• Manage cash efficiently and spread payments over use time instead of up front

HPE OpenCall Media Platform, a carrier-grade MRF, is the core of the HPE Multimedia Services Environment.

- Highly scalable
- Versatile codecs and features
- Managed resources and logic
- Monitoring and reporting
- Multi-tenancy

Reduce risk

With HPE, you have at your disposal a leading technology company with more than 15 years of experience in building, deploying, and operating multimedia services environment solutions for mission critical, value added services. Our solutions are backed by a solid track record in network services transformation, and consolidation through cost-effective migration of legacy environments, to IT-based components. Additionally, our expertise spans multiple domains, including IT, intelligent networks media, subscriber data, BSS and OSS, providing you with a 360-degree view for more efficient consulting and delivery.
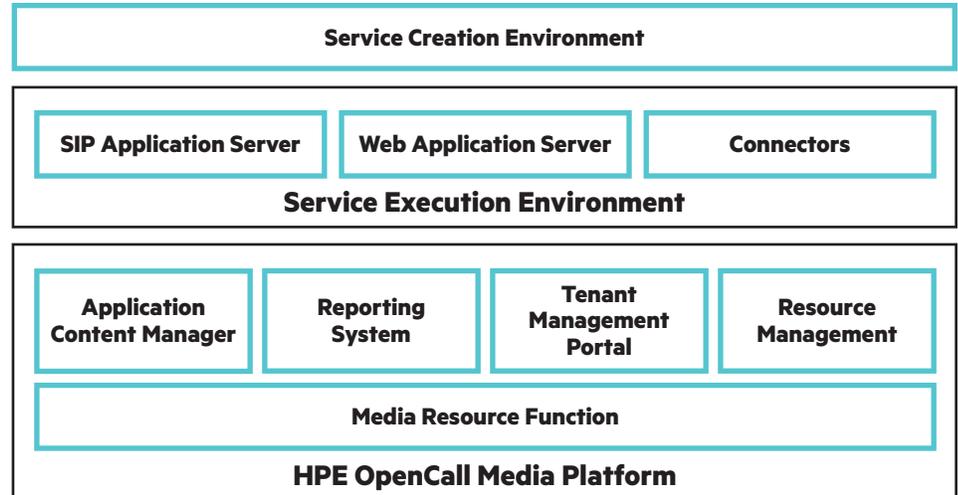

Service Creation Environment

SIP Application Server	Web Application Server	Connectors

Service Execution Environment

Application Content Manager	Reporting System	Tenant Management Portal	Resource Management

Media Resource Function

HPE OpenCall Media Platform

Figure 1: HPE Multimedia Services Environment is a complete solution for multimedia applications.

Build on a modular architecture

The HPE Multimedia Services Environment offers all features required to develop and run a large number of compelling interactive multimedia applications on a shared infrastructure.

Its core is the HPE OpenCall Media Platform, a carrier-grade **MRF**, as defined by 3GPP IMS standards. It's a highly scalable, easy-to-manage, carrier-grade multimedia server that supports applications from traditional IVR, to advanced video portals and conferencing. This reliable component makes efficient use of resources and guarantees service availability and performance. And state-of-the-art VoiceXML and CCXML interpreters and software digital signal processing resources give the HPE OpenCall Media Platform unique flexibility for multimedia services deployments.

Extending beyond the MRF, HPE OpenCall Media Platform also contains a number of key functions that enable you to offer highly differentiated services:

- **Application Content Manager** provides centralized storage of application resources, such as voice and video prompts, multimedia applications, ECMAScripts, and ASR grammars. It supports multiple prompt sets and versioning with secure per tenant branding. The Application Content Manager simplifies your management of applications, reducing operational cost.

- **Reporting System** enables applications specific monitoring and off-line reporting, and an improved understanding of the user experience, while reducing application-level reporting costs. It is a scalable and highly available carrier-grade system that offers live monitoring, offline service use reports, and statistics from different perspectives for the applications and services, in live and offline modes.

HPE Multimedia Services Environment
provides out-of-the-box connectivity to a
wide range of back-end and network systems:

- JDBC database

- LDAP directory

- Diameter charging

- SMPP messaging

- SOAP web services

- MAP for USSD

- SIP back-to-back user agent and more

- **Tenant Management Portal** is a centralized, secured interface used to implement role
  and user-based access permissions. It enables you to meet internal and external security
  requirements, and reduce costs by providing different tenants a secure and independent
  access to application provisioning, configuration, and reporting. It provides authentication,
  authorization, and audit trail on the tenant resources operations and is deployed in a
  redundant, scalable model without single point of failure.

- **Legacy Network Support**, in addition to the standard MRF for IMS/VoLTE and IP Media
  Server for NGN, OCMP provides native support for SS7 TDM networks including ISUP/ISDN
  TDM and SS7 signaling.

The **Service Execution Environment** of the HPE Multimedia Services Environment offers the
possibility to host call and media type applications requiring SIP application server functionality,
and provides REST APIs in a hardened Web application server environment. In addition, it
provides a real-time extensible framework for connectors of back end, contact center, and
telecom network integration. This includes a large number of deployment-ready connectors
that enable rapid integration with databases, web services, messaging systems, charging
systems, and Computer Telephony Integration (CTI) functions of contact centers. This enables
reuse of a variety of integration points across applications, and reduces the cost of introducing
new interactive multimedia services.

- Database connectors provide access to back-end databases, using Lightweight Directory
  Access Protocol (LDAP) and Java database connectivity (JDBC).

- Contact center connectors quickly consolidate with contact center and self-service IVRs.

- They integrate legacy and new IP-based contact center vendors with a CTI link. The
  connectors filter and route incoming calls through various contact center services. Feature,
  such as call filtering, call routing, queue management, and pre-call qualification, are made
  available to help optimize use.

- Charging connectors enable smooth integration with online and offline charging systems,
  using protocols such as User Communication Interface Protocol and   Diameter.

- Messaging connectors send and receive messages to and from users via protocols, such as
  Short Message Peer-to-Peer (SMPP), Direct SMS over MAP, and Unstructured Supplementary
  Service Data (USSD).

- Web service connector enables interactive multimedia application logic to access service-oriented
  architecture back-end resources or web services in a simple, secured, and carrier-grade
  manner. The Simple Object Access Protocol (SOAP) connector supports enhanced security
  features—such as HTTP secure and user password headers—and is highly configurable.

- USSD Gateway connector provides a messaging-based channel to handle the capability to
  convert USSD messages from MAP into HTML, easing USSD application development.

- SIP media control connector enables a decomposed SIP Application Server/Media Server NGN
  architecture. It lets incoming SIP calls trigger, control, and chain multimedia (single-party or
  multi-party) applications, for example, voice or multimedia interaction then conference) via
  standard media control protocols (MSCML, NETANN, SIP Interface to VoiceXML media services).

The **Service Creation Environment** of the HPE Multimedia Service Environment features a graphical tool that enables interactive multimedia applications development by simply using drag-and-drop. The Service Creation Environment (SCE) is based on the Eclipse environment. It generates standards-compliant VoiceXML scripts that can automatically be provisioned on the live system, due to integration with the Application Content Manager. A USSD SCE add-on is available to develop applications using the USSD gateway.

The HPE Multimedia Service Environment runs on industry standard servers and operating system, can be deployed in a virtualized environment, and is prepared for NFV.

Support your interactive multimedia application lifecycle

The HPE Multimedia Services Environment enhances your application lifecycle management for interactive multimedia applications, by making them easier to create, deploy and execute, process, and analyze.

- **Create**—Combines a full-featured service creation environment with simplified integration, based on our deployment-proven connectors and standardized   interfaces

- **Deploy and execute**—Use a common application content manager and service execution environment instead of dedicating separate, proprietary call and media solutions for service logic and resources of applications

- **Process**—Benefits from a unique flexibility for a variety of multimedia services supported by a carrier-grade media server environment

- **Analyze**—Uses a centralized processing system to monitor and analyze use of multiple services for all users or per tenant

Guide you through a smooth deployment

HPE Solution Lifecycle Services for the communications and media industry help you realize the full value of your solutions, from planning and assessment through testing, deployment, operation, and nearly continuous improvement. Each service area leverages proven processes and best practices to balance capital expenses and operating expenses (OPEX) and reduce risk, while keeping your projects on time and your operations running smoothly.

HPE Solution Consulting Services help define business transformation and translate strategies into actionable solutions.

HPE Solution Implementation Services enable a smooth and efficient HPE Multimedia Services Environment deployment in the network through:

- **Solution design**—Workshops on business and/or architecture strategy, covering topics such as migration assessment, IVR consolidation return on investment (ROI), or leveraging the power of the cloud and NFV.

- **Developer assistance**—A partner enablement project that can include developer trainings and assistance to accompany the applications' design, development, and testing before live deployment.

- **Application development**—Tailored multimedia services customization and new applications creation is provided in addition to the standard solution. This includes a smooth migration of existing applications.

- **System and network integration**—HPE experts integrate, activate, deploy, and install the solution. It includes application modifications, OSS and BSS integration points, and system backup and restore.

The complete interactive multimedia application lifecycle
- Create
- Deploy and execute
- Process
- Analyze

HPE Solution Management Services increase operational efficiency of HPE Multimedia Services Environment solutions. These services are delivered by HPE Multimedia Services experts, who are chartered to satisfy day-to-day challenges and long-term developments. Solution Management Services include:

- **Total solution support**—Multimedia application and customized solution support

- **Monitoring and support**—Real-time performance and health check

- **Educational services**—Administration and operations trainings, and troubleshooting

- **Operational services**—Application and call-flow tuning, and performance benchmarking

Start sooner; gain a better business outcome

In an all-IP network, the role of communications and media companies is evolving. Getting your clients excited and protecting your margins require transformational thinking. In extraordinary times, you need a partner that can help you leverage existing assets, while capitalizing on future opportunities. Turn to HPE.

Learn more at
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- Solution Consulting Services
- Solution Implementation Services
- Solution Management Services

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