Hewlett Packard Enterprise

HPE Integrated HSS

For a heterogeneous network environment

Insights

- IP-based networks provide new opportunities and introduce architectural highlights to the way mobile operators can treat their subscriber data.
- Subscriber data can no longer be considered an in-network repository, as subscribers now connect via different access methods and multiple devices.
- Operators, like you, need to control service delivery in real time—regardless of network, which calls for a converged approach to managing user data that's off network and vendor independent.

The mobile network core is changing with the introduction of new technologies, such as LTE and Wi-Fi. As a mobile network operator, this means you face inclusion of another network to manage within your environment.

Rolling out a next-generation network, like Wi-Fi, presents numerous challenges, including:

- Reconciling new services and data with legacy services and existing data—a single logical entity is the most practical way of evolving operationally, architecturally, and economically
- Avoiding dependencies on proprietary equipment, which can limit flexibility and have undesirable influence over growth and change in the network
- Introducing integration issues unique to your system
- Finding products with proven success

Get the answer

Hewlett Packard Enterprise (HPE) offers HPE Integrated Home Subscriber Server (I-HSS)—a standards-based Home Location Register (HLR) and HSS. It's developed for Evolved Packet System (EPS) and IP Multimedia Subsystem (IMS) environments, with an integrated Subscriber Location Function (SLF). HPE I-HSS leads the industry as a mission-critical component for next-generation networks, providing integrated subscriber data storage and management for instant group communication services within the network. So, whether you're migrating an existing wireless platform, converging wireless with your wireline, or delivering broadband services, HPE I-HSS gives you a smooth, cost-effective transition.

HPE I-HSS has been tested with numerous vendors' Wi-Fi, IMS, and LTE products, validating its ability to drop into new networks with minimum interruption—quickly and affordably, with maximum support from experienced HPE integrators. Standards-compliant interfaces support a mixed, multivendor environment, so you can introduce new components from diverse sources into your network. No need to depend on a single source.

Learn how it works

HPE I-HSS is the core data storage and management element required to extend your 2G/3G Subscriber Data Management (SDM) to IMS, LTE, Wi-Fi, and beyond. With it, you can provision and access subscriber data, subscriber access information, IMS/LTE service information, and feature lists. And within heterogeneous access networks, HPE I-HSS supports interfaces to the call session control server with routing and roaming information, and a mobility manager entity. It also provides authentication, authorization, and naming/addressing resolution, and helps resolve subscriber location.

HPE I-HSS for the NonStop NB-Series platform is network ready, and sets the industry benchmark for co-locatable I-HSS-HLR capability.

Proven availability with data synchronization
HPE I-HSS replicates your subscriber database in real time, enabling failover to a stand-by system, in the unlikely event of a system failure.

Extended authentication
HPE I-HSS supports primary IMS authentication procedures using an authentication and key agreement-based, and mutual authentication security architecture, as specified in 3GPP TS 33.102. It also supports TISPAN-compliant, delegated HTTP Digest authentication, and Network Access SubSystem (NASS) bundled authentication for next-generation network terminal support. And it can operate as a standalone network Authentication Center (AUC).

Enhanced data handling and synchronization
Unique, state-of-the-art HPE data-handling technology extends I-HSS capabilities with functions that notify external applications—or services—when data changes are made, reducing the need to request subscriber data updates. And its enhanced interface supports nonlocal data storage on external hardware, enabling simple system recovery to a redundant database—in the unlikely case of failure.

All-IP network compatible Diameter interface—Cx, Sh, S6a, and S6d
HPE I-HSS is designed to operate with any vendor's network-standards-compliant Call Session Control Function (CSCF), Application Server (AS), or Mobility Management Entity (MME).

Its interfaces strictly conform to the IMS reference architecture that other all-IP networks standards bodies are adopting, following 3rd Generation Partnership Project's (3GPP) lead: 3GPP, 3GPP2, Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN), and CableLabs, among others.

- Cx interface is the key network interface to request subscriber profile information—to register, authenticate, and locate subscribers, by connecting I-HSS with CSCF.
- Sh interface connects I-HSS with an IMS Application Server. A farm of service applications can be created by having application servers share data content and execution scripts in the I-HSS database, and accessing these data and scripts through the IMS standards-based Sh interface.
- S6a interface is the key network interface to request subscriber profile information—to register, authenticate, and locate subscribers—by connecting I-HSS with MME.
- S6d interface is the key network interface to request subscriber profile information—to register, authenticate, and locate subscribers—by connecting I-HSS with S4-SGSN.

- I-HSS can store and access transparent data from AS, which can download or receive data updates and notification of changes in data from I-HSS.
- HPE I-HSS interfaces comply with these standards: 3GPP 29.228. 29.229 v5.10 and v5.90; 3GPP2 TSG-X X.S0013-0060 v1.0 and TISPAN; ETSI TS183 033 v0.0.8; and 3GPP 29.272 V9.5.0

Rapid, efficient, adaptable provisioning
HPE I-HSS uses the proven DPA system to create and implement a rapid, efficient, and adaptable I-HSS provisioning interface through:

- An easy to use, web-based graphical user interface
- An efficient command line interface for bulk processing

Review key benefits and features

Protect your 3G investments and leverage them to jump-start your LTE, Wi-Fi, and IMS network. Don't put your solid, already profitable 3G business plan at risk—SS7-based connectivity enables HPE I-HSS to interoperate with any 3G GSM network. It's the new generation of HPE HLR and HSS products—using the same general computing platform, management systems, and provisioning architecture as its predecessors, letting you integrate new generation services into your existing networks quickly.

- **Streamline your transition to LTE or Wi-Fi**—Transitioning to new LTE network technologies requires a considerable phase of co-existence with 2G/3G networks. HPE I-HSS supports session information exchange between legacy and new technologies, letting you reduce the risk of service drop.
- **Provide high-quality service to greater numbers of subscribers with scalability**—Gain a scalable, multimillion subscriber capacity on proven HPE NonStop platforms, which are already in service in today's telecommunication networks. Our experience in providing the world's largest subscriber profile management services is built on general computing platforms—not switches, and is incorporated into the fundamental design of the large-scale, reliable, high-performance HP I-HSS.
- **Integrate new elements based on existing and anticipated standards**—Know that the commercial ready I-HSS is based on 3GPP and 3GPP2 standards, and uses standards-compliant Diameter-based Cx, Sh, Dx, Dh, and Wx, and S6a and S6d interfaces.
- **Voice over LTE**—Use Support for Terminating Access Domain Selection (T-ADS); it enables selection of access network to deliver incoming sessions. Session Transfer Number (STN) for Single Radio Voice Call Continuity (SRVCC)—supported via Sh—enables exchange of STN information with an Application Server (SCC AS) across the Sh interface. This lets voice and data sessions transfer from new network domains to legacy CS/PS domains.
- **Gain cross-device experience for LTE and other networks**—Engage the support of multiple termination points; you can now deliver sessions to user devices across multiple access networks.
- **Quickly deploy SIP services across the 2G/3G and LTE data network core to speed transition from trial to deployment when you want a risk-free revenue trial**—Use HPE I-HSS pre-IMS security functions to quickly deploy new revenue-generating services. The extended authentication features also provide standard-compliant Authentication and Key Agreement (AKA) authorization, single password entry, and TISPAN-compliant HTTP Digest authorization.
- **Proven interfaces put you ahead**—Know that more than 450 million subscribers already use HPE I-HSS technology—an important element in many existing 3G and 4G/LTE networks, on which their design and technology is based. And its extensive capabilities and interfaces are used in multiple deployments worldwide.

Hewlett Packard Enterprise Services

A leading telecommunication provider, HPE supplies a breadth of reliable, innovative, and cost-effective telecommunications products to service and network equipment providers. These products include I-HSS, Intelligent Network Server (INS) Service Control Point capabilities, Media Resource Function (MRF), Prepaid Billing, IP Signaling Transfer Gateway, Diameter, SS7, and Instant Group Communications. We continue to lead the industry with scalable and affordable voice and data communications and multimedia solutions with HPE I-HSS as a core component.

Additionally, 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 expenditures and operating expenses 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** offer a low-risk project lifecycle across design, development, customization, and network and system integration.
- **HPE Solutions Management Services** increase the operational efficiency of your existing solutions, including reactive, proactive, operational, and enhancement services.
- **HPE outsourcing** offers a variety of options designed to improve business agility while reducing your operating expenditures; options include IT and infrastructure outsourcing, application management, and business process outsourcing.

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