Ubiquity SIP Application Server
A solution brief from HP
The emergence of next-generation networks will introduce converged applications that drive service provider infrastructure deployments and enhance revenue. Since traditional telecommunications networks and infrastructure were not designed for rapid, cost-effective development and deployment of applications and services, there is a need for solutions that enable efficient development of converged services combining voice, video, instant messaging (IM) and Internet protocol (IP)-based media.

The Ubiquity SIP A/S brings Internet-like application development to next-generation networks by enabling programmers to employ familiar tools to quickly develop converged services, accelerating network service providers’ time-to-market and return on investment (ROI).

The manageability and reliability of application servers are equally important in a carrier network. While the Ubiquity SIP Application Server provides an easy-to-use graphical user interface (GUI) to manage server cluster applications, it also supports Simple Network Management Protocol version 2c (SNMPv2c) for easier integration with external Operations Support Systems (OSS).

In addition, the Ubiquity SIP A/S provides a comprehensive logging service that enables service providers to quickly collect fault and performance data. This logging service also permits providers to extract accounting information and export it to external billing systems, expediting customer invoices.

Overview

Ubiquity’s SIP A/S is a carrier-class deployment platform with a programmable, standards-based application creation environment (ACE) that allows providers to develop and deploy next-generation converged communications services. Use of the Ubiquity SIP A/S is extended through the open, standards-based SIP servlet application programming interface (API). By offering a range of Application Building Blocks (ABBs) and non-SIP based connectors (ABB-Cs), programmers can employ familiar tools to quickly develop real-time communications applications without detailed knowledge of SIP or underlying telecom network infrastructure.

Deployment of next-generation converged services with ease Ubiquity Session Initiation Protocol (SIP) Application Server (A/S)

To make the application development environment familiar and accessible to a large developer community, the Ubiquity SIP A/S uses industry-standard and Java 2 Platform Enterprise Edition (J2EE) Integrated Development Environments (IDEs). It also includes the ability to support third-party development of additional ABBs and ABB-Cs in a high availability, carrier-class deployment architecture.

Seamless interoperability with IP networks and SIP devices

The Ubiquity SIP A/S uses the SIP as its primary signaling construct for interconnecting endpoint devices and network resources. The Ubiquity SIP A/S offers service providers the flexibility to deliver converged communications across all IP networks and SIP clients.

The Ubiquity SIP A/S seamlessly interoperates with wireline IP networks, including local area networks (LANs), wide area networks (WANs) and the public Internet, as well as mobile 2.5G, 3G and wireless fidelity (Wi-Fi) networks. In wireline and pre-3G networks, it communicates via SIP to other network devices, including media gateways for public switched telephone network (PSTN) connectivity, network servers, media servers, IP phones and other SIP clients, as well as soft switches.

In completely IP-based, 3G mobile networks, the Ubiquity SIP A/S facilitates the delivery of services by communicating with a mobile SIP proxy server, a home subscriber system and other application servers. The Ubiquity SIP A/S resides on top of the HP ProLiant running either the HP Linux or Microsoft® Windows NT® operating system.

Reliable, high-performance delivery of real-time services

Today’s real-time communications require deployment of high-performing, ultra-reliable application servers in the core of carrier networks. To meet these exacting standards, the Ubiquity SIP A/S is designed with a customized, load-balanced, distributed architecture without single points of failure. Fully optimized to execute SIP service requests, this high-availability system easily scales to meet growing service providers’ demands. Applications are replicated across individual service hosts, using service directors to load balance incoming service requests across these hosts.

Standards-based, open and programmable application-creation environment

Agility, component re-use and future-proofing are paramount to the success of launching converged services on emerging IP-based service delivery networks. To answer this challenge, the Ubiquity SIP A/S Application Creation Environment (ACE) comprises a developer software development kit (SDK) coupled with the standards-based SIP servlet application API to provide ease-of-use and expandability.
Ubiquity’s SDK provides the powerful, preloaded ABBs that dramatically reduce the effort and knowledge needed by developers to build SIP applications. The ABBs include:

- **Session control**—provides the capability to create, tear down and modify existing communications sessions for all media types.

- **Call processing language (CPL)**—provides CPL storage and execution capabilities, enabling developers to deploy user-profiling services such as call forwarding and find-me/follow-me.

- **Call forwarding**—provides a superset of special call forwarding attributes for developers who want a higher level of abstraction for call handling than CPL.

- **Application event logging**—enables logging of application-context-sensitive information for accounting, fault- or performance-management purposes.

- **Presence management**—allows applications to subscribe to notifications regarding the status of other registered SIP entities.

- **Instant messaging**—offers an Internet Engineering Task Force (IETF) SIP for instant messaging and Presence Leveraging Extensions (SIMPLE)-compliant IM handling capability.

- **Conferencing**—allows the conference server to connect to the Ubiquity SIP A/S and provides the application developer with complete conferencing control.

- **Integrated voice response (IVR) control**—enables developers to access IVR capabilities within applications.

- **SIP registration**—provides SIP registrar capabilities as well as user location information for SIP applications and devices.

The Ubiquity SIP Application Server ABBs are available in the Ubiquity SDK, giving carriers a service development community of more than three million third-party Java developers. The Ubiquity SDK is a set of library components that can be used in a free-form manner, unleashing a powerful blend of IT, web and communication applications that even developers without networking expertise can leverage. The Ubiquity SDK works with familiar Java 2 Platform, Enterprise Edition (J2EE) IDEs, including BEA WebLogic Workshop.

Beyond the pre-loaded ABBs, the Ubiquity SIP A/S enables application developers to add new SIP features via a standards-based mechanism (JAIN SIP Servlet API). This programmable architecture maximizes the longevity of the platform, in stark contrast to proprietary, closed telecom application models.

**Benefits**

- Standards-based, open and programmable application creation environment allows carriers to leverage a larger development community, resulting in less expensive and faster service creation and delivery.

- Modular and expandable platform reduces the time and cost required to deliver multiple applications.

- Comprehensive platform management, administration, and billing support simplifies service management and reduces operating expenses.

- Carrier-class platform ensures system uptime minimizing service outage costs and increasing end-user satisfaction.
Features

The Ubiquity SIP A/S is a carrier-class architecture designed to meet the performance, scalability, redundancy, and extensibility requirements of a carrier network. The Ubiquity SIP A/S:

• Scales in a predictable and linear fashion.
• Provides an advanced SDK for client-side and server-side application development, allowing rapid service and application development using industry standard IDEs and programming models.
• Allows device-independent access to applications because the application layer is separated from the network layer. Customers can migrate network architecture over time without impacting subscribers.

Partners

Ubiquity Software Corporation develops and markets SIP-based communications software for service providers, Independent Software Vendors (ISVs) and OEM partners worldwide. The company offers two products, its award-winning SIP Application Server (SIP A/S) and Speak Conference Director (SCD). Through its SIP Applications Partner Program, Ubiquity makes available for deployment a suite of third-party mobile and wireline SIP-based applications powered by the Ubiquity SIP Application Server. The company has 100 employees and corporate offices in three countries.

HP advantage

Communications solutions are highly complex, and service providers must deliver even more innovative services to the market while keeping customers loyal and insulated from the complexities behind the services. In order to achieve this, service providers need strategic partners who can do more. HP offers a range of targeted, seamless solutions, integrated with partners, delivered quickly and efficiently. HP systems and solutions are open and flexible, empowering customers to customize or create value-added services. Our service capabilities provide the expertise to develop, integrate, test, install and support the most complex service launches. This one-stop shopping approach lets service providers focus on their customers—not their suppliers.

HP focuses more than 25 years of telecommunications expertise into a powerful integrated team, the Network Service Provider Business Unit (NSPBU). The NSPBU, along with 500 valued solutions partners, assists the world’s top 200 service and equipment providers, and meets the voice and data needs of hundreds of millions of wireless and wireline subscribers.

With solutions, technologies and services including: HP OpenCall and HP OpenView telecommunication capabilities arrayed across network infrastructure, network services, operations and business support, mobile and rich-media solutions, and end-user access, the HP NSPBU is a major player that is leading change in the network and service provider industry.