

# ngHLR 3000™ Datasheet



The Blueslice SIP Application Server 3000 solution allows mobile and VoIP services to be offered wherever the subscriber roams. Traditional mobile services can be offered to SIP end-points, or SIP services to be offered to traditional mobile end-points. By bridging SS7 and SIP networks, the SIP-AS 3000 provides a comprehensive Fixed Mobile Convergence solution allowing a seamless service with a single number, while supporting many access types and devices. The SIP-AS 3000 includes a SIP Registrar, SIP Redirection Server and SIP User Agent all tied together with a sophisticated Domain Selection Function (DSF). The Blueslice solution is built on the Converged Subscriber Platform 3000™ and Subscriber Data Server 3000 that supports HLR, AAA and HSS functionality to enable a unique convergence at the subscriber layer. The Blueslice solution supports IETF SIP deployments and is also compliant to 3GPP-IMS.

## Differentiating Features

- Hybrid solution for today's networks offering a carrier-class platform to mediate between SS7 and SIP
- Advanced Domain Selection Function (DSF), mediating between SIP and HLR, supporting multiple devices with single number
- Compliant with both IETF and 3GPP SIP specifications
- GSM devices can appear as "registered" SIP end-points
- GSM calls arriving on a GMSC can be terminated on SIP VoIP devices
- SIP calls arriving on a SIP proxy can be terminated on GSM devices
- Compliant with both SIP VCC (Voice Call Continuity) and UMA (Unlicensed Mobile Access) FMC approaches
- Combined profile management for SIP and HLR profiles

## SIP & XML Interfaces

With traditional HLRs, a next-gen service provider has to deploy a completely new architecture, with Gateway-MSCs and MAP protocol stacks. The VoIP/SIP domain and GSM domain remain completely separated. With the Converged Subscriber Platform 3000™, the operator can deploy a fully 3GPP-compliant HLR, without changing their current architecture. Dual-mode or multi-device subscribers will register in both domains (GSM MAP Location Update or SIP REGISTER) on the ngHLR 3000™. The Gateway-MSC and SIP soft switches/proxies can both query the HLR for a routing number. Such architecture allows for intelligent routing of incoming calls to the SIP or GSM domains, within complete control of the operator.

## Advanced Low Cost Roaming

Blueslice FMC is performed by the Converged Subscriber Platform 3000™ hosting an ngHLR 3000™ and SIP-AS 3000™ (that includes the SIP Registrar, Redirection Server and User Agent Gateway) and Domain Selection Function (DSF). These functions are built on a single, logical platform. The unification of multiple access technologies into a single core network lowers transmission costs, reduces network complexity and enables the deployment of sophisticated next-generation services. The Blueslice solution allows a smoother evolution to IMS-defined FMC. An integrated subscriber profile, where the subscriber's attributes are provisioned on a single system, significantly minimizes network complexity and lowers operational expenditures, enabling new and enhanced call-routing options.

Upon reception of either an SS7 MAP or SIP message, the Domain Selection Function (DSF), integrated into the HLR, determines the optimal routing destination based on the registration status of the subscriber (GSM-only, SIP-only, or GSM and SIP), the subscriber's preferences, and the operator's policies.

Further, the Blueslice HLR is future-proof for IMS networks with a smooth evolution to a SIP Application Server and 3GPP-IMS HSS, providing an enduring solution and protecting your investments. The pre-IMS configuration can be maintained to support non-IMS user agents.

**Convergence Starts with Your Subscribers**

## The Converged Subscriber Platform

The Blueslice SIP-AS 3000™ solution is built on the Converged Subscriber Platform 3000™, the next-generation subscriber management platform. The Blueslice CSP 3000™ is the integrated platform for multi-profile subscriber management in mobile, VoIP, Fixed Mobile Convergence (FMC), and Machine-to-Machine (M2M) networks. The CSP 3000™ platform hosts the Blueslice Subscriber Data Server (SDS) 3000™, a scalable and flexible subscriber database (back-end), as well as a range of subscriber-centric applications (front-ends), all accessing the converged multi-profile subscriber information via the open-standard APIs of the SDS 3000™. Combining an ngHLR/AuC, HSS, SIP Server, and AAA Server, the CSP 3000™ delivers the convergence of subscriber profiles across 2G (GSM, GPRS, EDGE), 3G (UMTS, HSPA, IMS), 4G (LTE, WiMAX) and VoIP (Wireline, WiFi) domains, and enables centralization of cross-domain subscriber information as a single, logical entity.

## SIP-AS 3000™ Features

- Pre-IMS FMC solution, including ngHLR, SIP-AS (which consists of SIP Registrar, Redirection Server and User Agent Gateway) and Domain Selection Function (DSF)
- IMS FMC solution, including integrated SIP Application Server (SIP-AS) and Home Subscriber Server (HSS) capabilities
- Supports both SIP VCC and UMA Fixed Mobile Convergence approaches
- Built-in HSS and AAA capabilities (e.g. supports WiFi Authentication via Radius/EAP-SIM).
- Performs network authentication, tracks registration status, manages user and carrier preferences, and mediates calls to and from networks
- Supports SIP phones, terminal adapters, dual-mode handsets, or simple SIP software clients
- Gives SIP entities access to voice services through registration and authentication on the SIP-AS 3000™ SIP Registrar
- Converged HLR/SIP/HSS profiles per subscription
- RFC 3261 SIP methods (INVITE, REGISTER, OPTIONS)
- SIP Authentication (HTTP Digest)
- Pre-IMS SIP-anchored and GSM-anchored FMC models
- Control of end-user routing preferences
- SIP User Agent Gateway performs SIP Registration on behalf of non-SIP, non-IMS GSM devices
- Enhanced DSF rules and policies



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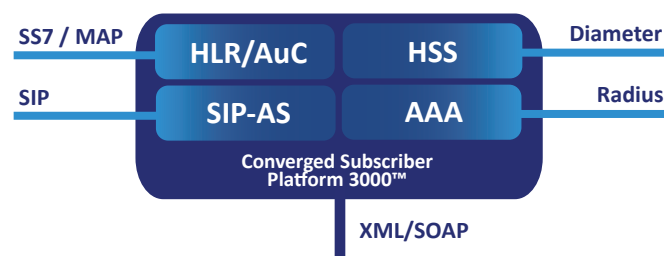
## About Blueslice Networks

Blueslice Networks is the leading provider of subscriber data management solutions for the mobile, VoIP, FMC, and M2M markets. Blueslice solutions allow mobile service providers to control their principal asset, their subscriber base, while delivering innovative and differentiated services and significantly reducing operational costs. Now, end-users can access coherent communication services seamlessly over any type of access with a single subscription and set of preferences.

The carrier-grade, open standard Converged Subscriber Platform 3000™ is the only converged HLR/AuC, HSS, SIP Server, and AAA Server, which, together, enable universal mobility across all access networks. Blueslice delivers solutions to the world's leading mobile service providers including wireless carriers, MVNOs, VoIP providers, and alternate carriers.

## CSP 3000™ Platform Features

- Open-standard hardware and OS
  - Advanced TCA PICMG3.0+ and IPMIv1.5 compliant
  - Linux RHEL 3.0 and 4.0
- Distributed software architecture: any process (front end and/or back end) can run on any blade
- Fault-tolerant platform achieved through High Availability end-to-end framework:
  - No Single-Point-Of-Failure (hardware and software)
  - Stateful hot-standby via real-time checkpointing and state journaling, database replication and integrity
  - Overload control, fault detection, and automatic switchover
  - Hitless patching and software upgrades, all components hot-swappable
  - Blade configuration in 1+1, n+n, and load sharing
  - Geo-redundancy (active/standby & active/active) and mated pair
- Hardware
  - 19" rack-mountable, 12U NEBS-compliant 14-slot ATCA chassis
  - Dual redundant 16-port GigE ATCA base fabric switches, with on-board IPMI controller
  - Dual AMD single board computer blades (48 processors per chassis)
  - Filtered dual hot swappable 48VDC power entry modules
  - Three front hot-swappable dual-fan trays
  - Dual redundant integrated shelf manager / fan controller boards
- Platform protocol stacks
  - SS7: MAP, TCAP, SCCP, MTP (ANSI & ITU)
  - SIGTRAN: M3UA, SUA, SCTP
  - SIP, DIAMETER, TCP/UDP, IP
  - RADIUS
- User-friendly web craft interface for remote system configuration, monitoring, and subscriber provisioning
- Bulk subscriber provisioning
- Maintenance and provisioning through XML/SOAP and SNMP interfaces
- Small footprint and high density minimizing operating costs
- In-memory relational database allows for rapid data access and supports ACID transactions (Atomicity, Consistency, Isolation, Durability)
- Active/provisioned subscriber management
- Platform segmentation (up to six nodes per chassis)
- Subscriber Data Server allows decoupling of applications and database



The multi-network, multi-protocol Converged Subscriber Platform 3000™

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