

Data Sheet

Service Controller (AAA)

The Bridgewater® Service Controller is the market leading network access control product that allows service providers to offer and control access to advanced and differentiated services across all network access technologies. The most scalable and robust solution of its kind, Service Controller is widely deployed and proven in service provider networks around the globe. The Service Controller provides core network access control services, including authentication, authorization and accounting (AAA), in 2G, 3G, 4G, wireline networks and inter-working deployments such as data offload and multi-access networks.

Network access control functions, such as authentication, authorization, and accounting services, are business-critical functions within service provider networks. These functions enable fast, efficient and secure access to data networks and services, including transparent access to WiFi and Femtocell networks in multi-access deployments, and are key to improving the subscriber experience and supporting data services growth. The Bridgewater Service Controller provides the flexible underlying access control infrastructure required to support carrier-grade performance and scalability of mobile data services.

The Service Controller is integrated into other Bridgewater offerings such as the Bridgewater® ServiceMAX 500, a pre-integrated system designed for small - to mid-sized WiMAX operators, and Bridgewater's Widespan® System. The Service Controller continually meets and exceeds deployment and operational challenges for small and large service providers across a variety of network technologies and applications:

- GSM/HSPA
- CDMA
- WiMAX
- DSL
- Multi-Access Support
- Data Offload
- Femtocell

▼ Features and Benefits

- **Functions as a 3GPP-AAA in GSM/HSPA networks** allowing service providers to support highly secure deployments.
- **Provides AAA functionality** in over 85% of North American CDMA/EVDO service provider networks allowing service providers to rest assured that Bridgewater can provide field-proven solutions for AAA services in CDMA/EVDO.
- **Supports stringent requirements** for fixed and mobile WiMAX, including automatic provisioning of new users over the air, as well as Lawful Intercept networks.
- **Proven support in femtocell deployment**, providing core AAA services to manage femtocell devices.
- **Transparent subscriber access** experience.
- **Multi-access solution** - for WLAN interworking, data offload.
- **Unparalleled scalability, extensibility, and redundancy** in DSL networks – flexible, policy-based network access control to authenticate both devices and subscribers
- **Proven performance in live deployments** ranging from 5,000 to more than 70 million provisioned users and transaction volumes of over 14 billion per month for a single customer
- **Fully functional Oracle database** – extensive API support reduces internal development time and costs, and enables faster deployment.
- **Pre-paid and post-paid charging functions** – eliminates the need for custom mediation solutions.
- **Real-time session management** – enables mobility, roaming, security, and usage tracking.
- **Support of multiple business models** – allows service providers to define and manage subscriber policies and profiles centrally while extending local control to business or retail customers.
- **Deployable in weeks, not months** – improves time to market.
- **Utilizes a common subscriber policy and profile repository through Bridgewater's Subscriber Data Broker™** serves multiple networks, eliminating the need to re-provision subscribers as new networks are introduced, and accelerates time to market for new services.

- **Single-platform support for 2G, 3G, 4G, and wireline networks** – with common policy and profile repository to control access to advanced services across multiple networks in fixed, mobile, and converged deployments.
- **Support for a wide range of network vendor equipment and access standards** – reduces integration time and costs.
- **Simultaneous support of supplementary authentication protocols** – including EAP-MD5, EAP-TLS, EAP-TTLS, EAP-AKA, EAP-SIM and EAP-PSK.
- **Adherence to standards** – IETF RADIUS industry standard and also supports the TIA 3GPP2 and TIA/IS-835-C standards, WiMAX Forum, and 3GPP TS29.061.
- **Multi-protocol support** – dual-stack RADIUS and Diameter support enables highly-secure FMC deployments in a 3G-AAA context and support for 4G deployments.
- **Dynamic home agent** – ensures that calls are routed via the optimal home agent, depending on the subscriber's location, home agent availability, using policy-based allocation of IP addresses.

▼ Technical Specification

Server Requirements

Requirement	Minimum Configuration	Recommended Configuration
CPU	1 x 1.0GHZ Sun UltraSPARC T1 Processor	1 x 1.0 GHz UltraSPARC T1 – 4 Core
Memory	8 GB RAM	8 GB RAM (16 x 512 MB DIMMs)
Internal Mass Storage	2 x 146 GB Hard Drives (Minimum sizes from Sun)	292 GB (2 x 146 GB) 10,000 rpm SAS Disks
System Type	Sun Server Model	Sun Netra T2000 Server (Configuration 1)
Operating System	Solaris 10	Solaris 10
Network	1 x 10 Mbps Ethernet	4 x 10/100/1000 Mbps Ethernet
Multimedia	1 x CD-ROM	1 x DVD-RW
Power / Cooling		100-240 V AC or -48 to -60 V DC
I/O		3 PCI-X, 1 PCI-E
Physical Specifications		2 Rack Units (2RU)

▼ Standards Support

Authentication and Authorization Accounting Administration

RADIUS - RFC 2866 (RADIUS)

RFC 2868 (RADIUS Attributes for Tunnel Protocol Support)

RFC 3576 (RADIUS Dynamic Authorization Extensions)

Draft RFC for PPTP/L2TP Tunneling via RADIUS

Multiple configurable virtual server architecture (VSA) definitions for simultaneous support in a multi-vendor architecture

Diameter - RFC 3588 (Diameter Base Protocol)

RFC 4005 (NASreq)

RFC 4072 (Diameter EAP Application)

RFC 4006 (Diameter Credit Control Application (DCCA))

Accounting

RFC 2866 (RADIUS Accounting)

RFC 2867 (RADIUS Accounting Modifications for Tunnel Protocol Support)

RFC 2868 (RADIUS Attributes for Tunnel Protocol Support)

RFC 2869 (RADIUS Extensions)

Administration

CLI. GUI for Windows 2000, XP, or better

Web-based corporate manager and user self administration

(IE 5.0 or Netscape Navigator 6.0 or higher)

APIs for OSS/BSS integration

3GPP/ETSI

TS 29.061 (PLMN–PDN Interworking)

TS 23.234 R7 (WLAN Interworking)

TS 32.299 (Diameter charging applications)

3GPP2

X.S0011-D v1.0 (CDMA2000 Wireless IP)

X.S0028-100-0 (WLAN Interworking)

IETF

RFC 821 (SMTP)
RFC 822 (ARPA text)
RFC 959 (FTP)
RFC 1939 (POP v3)
RFC 2068 (HTTP v1.1)
RFC 2251 (LDAP v3)
RFC 2548 (MS RADIUS Attributes)
RFC 2617 (HTTP Basic and Digest Access Authentication)

TIA/EIA

IS-835A (CDMA2000 Wireless IP Network Standard)
IS-835B (Wireless IP–Mobile IP)
IS-835C (3G Data prepaid support)
IS-835D (QoS and MobileIPv6)

EAP

EAP-MD5 (RFC 3748–Simple CHAP)
LEAP (Proprietary Cisco wireless support)
PEAP (PEAPv0/EAP–MSCHAPv2)
EAP-TLS (RFC 2716–Transport Layer Security)
EAP-TTLS (EAP–Tunneled Transport Layer Security)
EAP-SIM (RFC 4186-EAP Method for GSM for Mobile Communications Subscriber Identity Modules)
EAP-AKA (RFC 4187–3G Authentication and Key Agreement)

SNMP

RADIUS Authentication Client MIB (RFC 2618)
RADIUS Authentication Server MIB (RFC 2619)
RADIUS Accounting Client MIB (RFC 2620)
RADIUS Accounting Server MIB (RFC 2621)

WiMAX

WiMAX Forum NWG release 1.3

About Bridgewater Systems

Bridgewater Systems, the mobile personalization company, enables service providers to efficiently manage and profit from mobile data services, content and commerce. The company's market leading mobile personalization portfolio provides a real-time, unified view of subscribers including entitlements, devices, networks, billing profiles, preferences and context. Anchored by Bridgewater's Subscriber Data Broker™, the portfolio of carrier-grade and standards-based products includes the Bridgewater® Service Controller (AAA), the Bridgewater® Policy Controller (PCRF) and the Bridgewater® Home Subscriber Server (HSS). More than 120 leading service providers including America Movil, Bell Canada, Clearwire, Cox, Hutchison Telecom, Iusacell, Scartel, SmarTone-Vodafone, Sprint, Tata Teleservices, Tatum, Telmex, Telstra, and Verizon Wireless use Bridgewater's solutions to rapidly deliver innovative mobile services to over 150 million subscribers. For more information, visit us at www.bridgewater.com.