

## ServiceMAX 500

The Bridgewater® ServiceMAX 500 is an integrated system specifically designed to meet the service control and subscriber management needs of small- to mid-sized WiMAX operators. This integrated WiMAX system combines the feature-rich, policy-based Bridgewater® Service Controller for WiMAX authentication, authorization, and accounting (AAA); sophisticated subscriber data management enabled through Bridgewater’s Subscriber Data Broker; pre-paid and post-paid billing support; and IP address management. As a core element of the WiMAX Connectivity Service Network (CSN), ServiceMAX 500 interfaces to billing systems, ASN gateways, Mobile IP Home Agents (HA), and can be deployed in fixed (802.16d) or mobile (802.16e) networks. Chosen by more than 25 WiMAX operators, field-proven Bridgewater service controller solutions are now available as part of the ServiceMAX 500, and are interoperable with leading WiMAX equipment vendors.

### Why ServiceMAX 500?

The ServiceMAX 500 fully incorporates Bridgewater’s industry leading Service Controller and Subscriber Data Broker products. Widely deployed in both mobile (2G, 3G, and 4G) and fixed broadband networks, these products are field proven and reliable. WiMAX operators can increase subscriber satisfaction and ARPU with this platform. New applications, services, capabilities, and policies can be quickly launched – including the ability to implement flexible charging models such as pre-paid, post-paid, service based (e.g. VoIP), and volume based (e.g. data).

The ServiceMAX 500 conveniently packages this comprehensive WiMAX CSN functionality onto a SUN SPARC T5120 server – a compact one-rack unit high. This integrated offering is especially cost-effective for small- and mid-sized networks starting at 2,500 subscribers. As the subscriber base grows, platform upgrades are not required – server performance allows impressive scaling up to 100,000 subscribers. The hardware/software bundling not only saves valuable time and effort during installation and integration, but also simplifies maintenance and support with a single vendor point of contact.

Ultimately, it is Bridgewater’s ability to help service providers deliver highly differentiated, personalized services that sets us apart in the industry. Our products are in use around the world by Operators such as Sprint Nextel, Scartel and Tatung Infocomm for their WiMAX deployments.

### Features and Benefits

#### System-wide features

Interoperability	With leading WiMAX equipment vendors – Alvarion, Motorola, Samsung, Starent, WiChorus, Nokia-Siemens and others.
Redundancy	Hot standby configuration with two servers keeps network operations running 24/7.
Pre-integrated	Works out of the box, saving valuable time on installation, integration, and maintenance.

#### Service Controller

The leading AAA server for WiMAX, featuring full WiMAX support:

Authentication	User and device level authentication with full EAP support (MD5, TLS, TTLS, AKA, SIM, PSK).
Authorization	Service flow Quality of Service (QoS) parameters, network and vendor specific attributes are provided depending on the subscriber profile and subject to defined rules and user policies.
Accounting	Supports time and volume based billing, both at the subscriber and per service flow level. Different services (VoIP calls, video-conferencing, etc.) can be rated differently. Pre-paid and post-paid charging interfaces reduce the need for extensive billing mediation, and features such as hotlining prevents revenue leakage.
Policy Engine	This sophisticated condition/action pattern matching algorithm with custom rules governs how the AAA server behaves and responds – leveraging subscriber profile, usage, and dynamic state information.
RADIUS/Diameter	Dual protocol stack ensures multi-vendor, multi-network compatibility.

Mobile IP	RADIUS AAA proxy, Mobile IP key derivation, and other features support mobile roaming.
WiMAX standards	Support for WiMAX Forum Network Architecture Stage 3 Release 1.0 version 4. As a Principal Member of the WiMAX Forum, Bridgewater is the lead contributor to current and upcoming standards and architectures for AAA in WiMAX networks.
Pre-paid Integrator	Pre-paid Integrator integrates with pre-paid billing server to provide precise and accurate real-time control of subscriber usage In WiMAX Forum NWG standards-based and pre-standards deployments.

### Subscriber Data Broker

Bridgewater's Subscriber Data Broker is a subscriber data management system that enables a dynamic view of subscribers including profile (service package, user preferences), usage (history, downloads, etc.) and dynamic state information (location, device type, etc.). Using Subscriber Data Broker as part of ServiceMAX 500, WiMAX operators can:

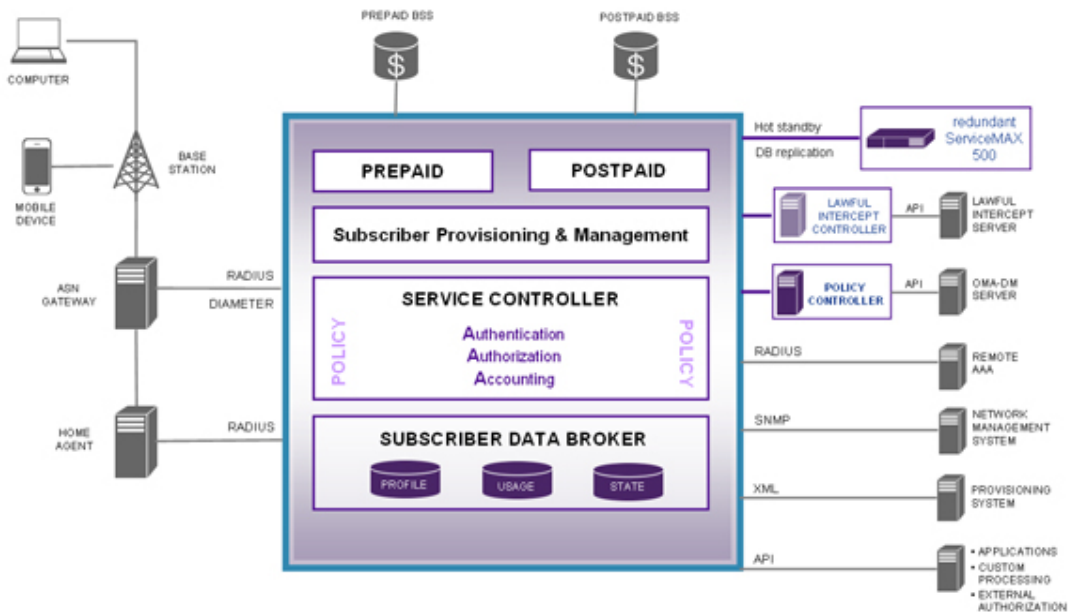
- Easily model and create new services using an extensible data schema model to manage all subscribers and services and launch new services quickly—in weeks versus months.
- Save time with a pre-integrated subscriber data management system that allows them to get up and running quickly, and provides a platform for service personalization and innovation into the future.
- 
- 

### Optional Support

ServiceMAX 500 supports the following additional options to extend system capabilities and functionality:

Lawful Intercept	Allows secure access to subscriber data and communications without affecting service or performance, in compliance with local law enforcement and telecoms regulations.
Revenue Collector and Formatter	Provides mediation support to correlate and aggregate event based accounting data into single session records. It then filters, formats, and streams these records to the billing system – thus reducing the load on backend billing systems, and alleviates the need for extensive custom mediation systems.
Policy Controller	Enables support of dynamic services that require network and application policy control, including casual user services and over the air provisioning of devices and subscribers.

### Product/Network Architecture



## Hardware Specification

### SUN SPARC T5120 server

Operating System	Solaris 10
CPU	UltraSPARC T2 quad-core processor
Memory	8 GB RAM (expandable to 128GB)
Hard Drives	2 x 146 GB, 10,000 rpm SAS disks. Expandable to 8 disks (hot pluggable)
Optical Drive	DVD+/-R/W , CD+/-R/W
Ethernet ports	4 x 10/100/1000 Mbps, RJ-45
USB ports	2 front, 2 rear
PCI Express	1 x PCIe 8-lane, 2 x PCIe 4-lane slots
Power	2 redundant power supplies, hot swappable, 110-240VAC
Dimensions	425mm x 44mm x 714mm (width x height x depth)

### 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 150 leading service providers including America Movil, Bell Canada, Clearwire, Cox, Hutchison Telecom, Iusacell, Scartel, SmarTone-Vodafone, Sprint, Tata Teleservices, Tatung, 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.bridgewatersystems.com](http://www.bridgewatersystems.com).

#### Company Headquarters

303 Terry Fox Drive Suite 500  
Ottawa, Ontario  
Canada K2K 3J1  
P: +1 613 591 6655  
F: +1 613 591 6656

#### European Office

Albany House  
324 / 326 Regent Street,  
Suite 404, London,  
United Kingdom W1B 3HH  
P: 44 (0) 118 925 3298  
F: 44 (0) 118 925 3299

#### Asia Pacific Office

Suite 211/250 Pitt Street  
Sydney, NSW, Australia 2000  
P: + 61 2 9283 2313  
F: + 61 2 9283 3738

#### U.S. Office

280 Madison Avenue, Suite 912  
New York, NY  
United States 10016  
P: +1 866 652 0471  
F: +1 613 591 6656