



DATA SHEET



KEY BENEFITS

Broadest Extensive Coverage

VeriSign is leading the industry in establishing peering agreements to provide expansive carrier connections.

Operational Excellence

VeriSign is a recognized leader in outsourced services for mission-critical carrier applications.

Seamless Service Integration

Supports advanced features such as wireless number portability (WNP), SS7 interfaces, and various billing and settlement solutions.

Carrier Control

Advanced provisioning capabilities provide carriers with complete control over Metcalf ICM functionality.

Reliable Infrastructure

Solution is deployed on state-of-the-art software and a fully redundant, fault-tolerant hardware platform.

Sophisticated Spam Detection

Monitors frequency, size, and type of messages to identify and stop spam from reaching carrier networks.

Wireless Number Portability

Integrated wireless number portability and pooling support.

Metcalf™ Inter-Carrier Messaging

Worldwide, two-way messaging traffic is growing at 47 percent annually, representing upwards of 10 percent of annual revenues for wireless carriers. Interoperability between carriers and devices, across disparate networks and technologies, is key to realizing the vast revenue potential of mobile-to-mobile text messaging. Metcalf™ Inter-Carrier Messaging (ICM), from VeriSign and Ztango, is the premier ICM solution. Wireless carriers in the Americas are providing innovative messaging services with cutting-edge marketing programs, but they still face the challenge of interoperability between networks. This means their wireless subscribers can only exchange messages with subscribers within their own network, significantly limiting the potential number of messaging participants and ultimately, carriers' revenues. Metcalf ICM provides fast, innovative, carrier-grade solutions to these problems.

+ Revenue Opportunity

Metcalf ICM offers tremendous revenue potential, as evidenced in the United Kingdom, where short messaging traffic increased more than 700 percent in the nine months after establishing interoperability among carriers. These results have recurred in other wireless markets where interoperability is introduced—including Australia, where it brought a 900 percent traffic increase in just eight months.

+ Experienced Providers

Metcalf ICM is an outsourced inter-carrier messaging solution for wireless carriers jointly provided by VeriSign and Ztango. VeriSign operates the world's largest independent Signaling System (SS7) network and provides the Intelligent Infrastructure Services essential to the communications industry. Ztango is a leading developer and provider of Inter-carrier messaging and wireless multimedia services. This partnership is unrivaled in experience and innovation demonstrated in network management and the development of messaging-related products and services.

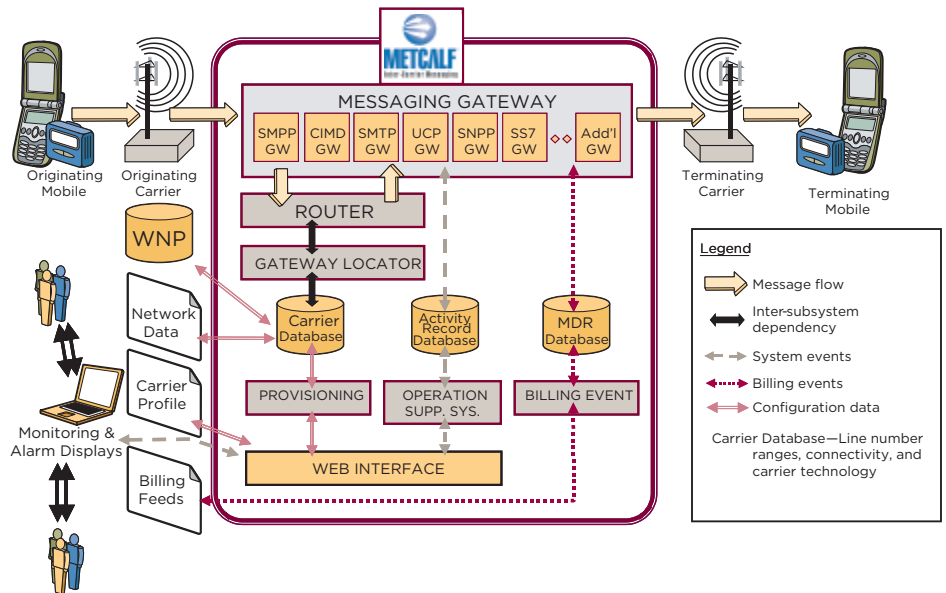
+ Metcalf ICM Solution

Metcalf ICM is provided on a service-bureau basis that connects to wireless carriers' messaging systems and routes messages between carriers. Messages are exchanged with Metcalf ICM via standard messaging protocols such as SMPP.



Where it all comes together.™

Metcalfe ICM Message Flow



Metcalfe ICM allows subscribers to easily send messages to more of their friends, family, and colleagues by providing the required network interoperability. When their network is connected to Metcalfe ICM, subscribers can send messages outside their network in the same easy way as within their network. Subscribers simply address these messages to the mobile number of the recipient—no complicated email addresses are necessary. Metcalfe ICM handles the routing, messaging protocol conversions, and reformatting necessary to complete the delivery between incompatible networks and provides billing information, reporting statistics, and other services to the participating carriers. Metcalfe ICM also supports advanced features such as wireless number portability (WNP), SS7 interfaces, and various billing and settlement solutions.

+ Network Reliability

VeriSign® Network Surveillance Control Center monitors network performance around the clock to protect against service-affecting situations and maintain network integrity. The state-of-the-art, network-wide troubleshooting system provides advanced warning in case of potential problems.

+ Metcalfe ICM Highlights

- **Billing Flexibility.** Metcalfe ICM supplies billing information back to the originating network for every message processed. This billing information is supplied in the operator's preferred format. Carriers are provided flexible provisioning capabilities for error messages, billing information, performance monitoring, and other functionality.
- **Scalability.** A distributed server solution, Metcalfe ICM provides a robust messaging platform that is quickly scalable to meet evolving carrier requirements. Adding server capacity easily accommodates wireless network operator expansions and growth in message traffic.



METCALF ICM SPECIFICATIONS

Text messaging protocols

- SMPP
- SNPP
- UCP
- SMTP
- CIMD
- HTTP
- WCTP
- SS7/C7

Connectivity

- TCP/IP over public Internet with firewalls
- TCP/IP over T1 PVC
- TCP/IP over frame relay
- TCP/IP over leased lines (T1, 56K)
- VPN over TCP/IP
- SS7
- SS7 over IP

Wireless network technologies

- GSM
- TDMA
- CDMA
- iDEN
- ReFLEX

Infrastructure

- Sun servers
- Sun Solaris OS
- Oracle 8i

- **Security.** Metcalf ICM is protected by carrier-grade measures to ensure the security of its network, as well as the networks to which it is connected. Secure connections, robust encryption methods, and firewalls are fundamental components of Metcalf ICM. Metcalf ICM also incorporates dynamic “spamming” filters that assist in providing protection to carriers’ networks and their subscribers. This unique filter is configurable by origin, destination, and frequency on both a group and individual subscriber level.

+ Managed Service Approach

Working with third-party solutions to deploy messaging services will help you conserve capital, gain speed-to-market, and operate more efficiently. Metcalf ICM quickly delivers network interoperability using an efficient and proven managed service approach. Metcalf ICM relieves carriers from the burdens of ensuring connectivity, maintaining subscriber databases, and avoids the need for multiple technical and commercial arrangements with other carriers.

+ Easy Implementation

Metcalf ICM requires no up-front capital costs to enable inter-carrier messaging.

Implementation involves three easy steps:

1. A direct IP connection is established to Metcalf ICM from carrier network
2. Message routing is configured from the network SMSC or message server
3. Carrier chooses the format and transfer method for the billing records

+ About Ztango

Ztango is a leading provider of enhanced wireless services. Ztango develops and manages a set of innovative wireless multimedia and messaging services that can be quickly and efficiently deployed. Ztango services are utilized by carriers representing over 70 percent of the U.S. wireless marketplace. At Ztango, please contact 212-391-6668, 571-521-1014, or visit www.ztango.com.

Visit us at www.Verisign.com for more information.