

IP Short Message Gateway

Product Brief

Overview

Short message service (SMS) and multimedia messaging service (MMS) dominate the mobile messaging services market as the top two revenue generators. The nearly 5.5 trillion SMS messages sent globally in 2009 translated into a staggering \$102.3 billion in revenues for global operators. By year-end 2010, MMS revenues are predicted to hit \$31.5 billion (Portio Research, January 2010).

With so much at stake, it is critical for operators to protect those revenues as they transition to all Internet protocol (IP) networks based on long term evolution (LTE) and Internet protocol multimedia subsystem (IMS) to support data-enabled applications. The transition will take some time and likely involve a long period of migrating subscribers to IP handsets. The ability to interwork existing, circuit-switched and new, packet-based networks is essential to ensure seamless messaging between IP-enabled, dual-mode devices and 2G/3G handsets.

Product Description

NewNet's IP Short Message Gateway (IP-SM-GW), which is in line with relevant 3GPP specifications, acts as a bridge, managing the origination and termination of SMS messages between circuit-switched and IP-based networks. With the solution, mobile operators can use existing messaging platforms such as short message service centers (SMSCs) and multimedia message service centers (MMSCs) to deliver IP-based messaging. The system determines in which domain recipients reside through home location register (HLR) or home subscriber server (HSS) queries and delivers the messages accordingly. If the message cannot be delivered on the first attempt, it is sent to a storage facility such as an SMSC or MMSC for retry later.

The IP-SM-GW enables IP-based broadband access to interwork with the existing SMS and MMS messaging services. The IP-SM-GW is also essential for rolling out rich communication services (RCS), which enable operators to deliver sticky messaging services like presence-enabled address book, SIP-based chat services and mobile instant messaging.

The IP Short Message Gateway is part of NewNet's Mobile Messaging Network, a set of modular components that can be used to create a complete end-to-end messaging network or deployed in the existing SMS infrastructure to grow capacity and capabilities incrementally.

Features

- Interworks circuit-switched and IP networks
 - Determines on which network the end subscriber is located – circuit or packet - and terminates the message to the correct network
 - Transports IP-based messages to the appropriate SMSC or MMSC platform
 - Transports circuit-switched messages to the correct call session control function (CSCF)
 - Supports SMS and MMS interworking with IP-based messaging on a single platform
- ### Benefits
- Protects SMS and MMS revenues
 - Supports cost-effective growth by enabling the reuse of circuit-switched messaging resources
 - Simplifies network migration

Use Case: Supporting SMS in LTE/IMS Networks

Challenge

A mobile operator is experiencing a surge in mobile data traffic, which is straining the capacity of its existing network. The operator has decided to deploy an all-IP network based on LTE and IMS to support growing subscriber data needs and reduce transport costs. The provider is ready to start migrating subscribers onto the new network, but has encountered challenges. SMS, a major revenue stream, is based on circuit-switched technology. Because the new network is packet-based, the existing SMS infrastructure cannot be used to provide messaging service in the IP domain. The operator could replicate SMS service in the IP network, but that is a risky and costly approach.

Solution

With NewNet's IP Short Message Gateway, the mobile operator can leverage its existing 2G/3G messaging infrastructure to provide SMS service to its IP-based subscribers. The IP-SM-GW interworks the circuit and packet networks, enabling the origination and termination of SMS messages between the two domains. The IP-SM-GW also supports MMS interfaces, which enables the operator to manage both services with a single interworking platform. And, since the solution uses the existing SMSCs and MMSCs to provide store-and-forward capability, no new application servers are required in the IP network.

Benefits

- Ensures service continuity in LTE environments
- Minimizes the capital expenditures required to provide SMS and MMS services over IP
- Offloads the circuit-switched layer of SMS traffic to the LTE/IMS network

About NewNet Communication Technologies, LLC

NewNet Communication Technologies, LLC is a leading provider of innovative solutions for next generation mobile and fixed line networks. NewNet enables global telecom operators and equipment manufacturers to rapidly develop and deploy cutting edge, revenue-generating applications that deliver feature-rich, value added services. Recognized as a trusted leader in the carrier applications market for over 20 years, NewNet has been synonymous with telecom product excellence and development expertise. The company is committed to providing unparalleled service to its customers. With installations in major carrier networks in over 70 countries, NewNet's product offerings include: The WiMAX end to end wireless broadband product portfolio; TraxcomSecure electronic transaction processing solutions, which deliver services such as mobile payments, e-banking, and e-commerce; Mercury, the industry's most complete purpose-built, mobile multimedia content delivery platform; and the Total Control PDSN platform, which provides economic delivery of premium mobile data services in CDMA networks. Other products include Distributed7, the world's first standards-based signalling platform, and a short message service center (SMSC), which has been deployed in more than 200 wireless networks worldwide. The company is headquartered in the USA, with sales and support teams located around the world. For more information, visit www.newnet.com

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