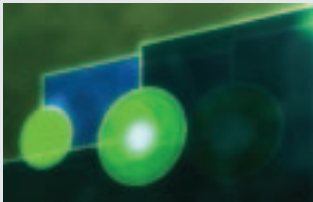


Wireless Message **Routing** Service

NeuStar's solution for routing **Multimedia Service (MMS)** traffic for wireless service providers



Quick and accurate message delivery increases customer satisfaction.

It's said that a picture is worth a thousand words. When wireless subscribers send pictures — or other multimedia content — by phone, they have a lot to say. They've embraced a form of communication that enhances their lifestyles. Making that experience seamless, immediate, and consistent will create customer loyalty for wireless service providers.

To make MMS traffic delivery a reality, network intelligence must translate a telephone number (TN) or a mobile directory number (MDN) into a network destination. Additionally, service providers and content providers need to translate a TN or MDN into an IP address or Uniform Resource Locator (URL) for wireless text and multimedia messages. Routing can become complex with number pooling and portability.

Cost-effective solution for wireless service providers and content providers

NeuStar's Wireless Message Routing Service (WMRS) offers query-based access for real-time routing of MMS traffic. This service provides the TN-to-URL mapping required for reliable message termination among service providers. The subscriber's application generates a TN-based query to the WMRS, which responds with information about the terminating service provider.

Increase your MMS revenue by assuring accurate and timely delivery of messages:

- **Determine the service provider of a wireless number dynamically:** Immediate delivery of content for a seamless end-user experience.
- **Real-time database updates:** Accurate message delivery.
- **Daily customer reports:** Traffic statistics, queries per hour, and traffic analysis to understand consumer up-take.

Features and Benefits

Dynamic translation of a wireless TN into a URL on a terminating service provider's network: Immediate delivery of content

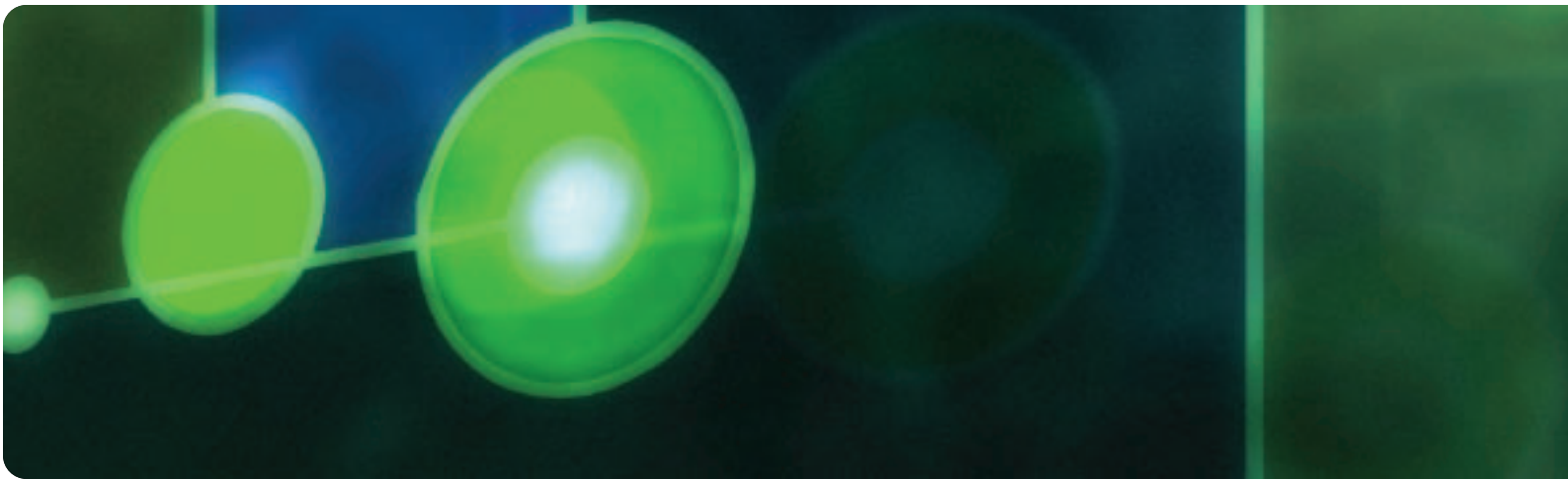
DNS (domain name service)-based query interface compliant with the Internet Engineering Task Force (IETF) ENUM Standard: Ubiquitous access

Full redundancy: No service interruption

Secure access to a master database: Protection of service provider-specific data

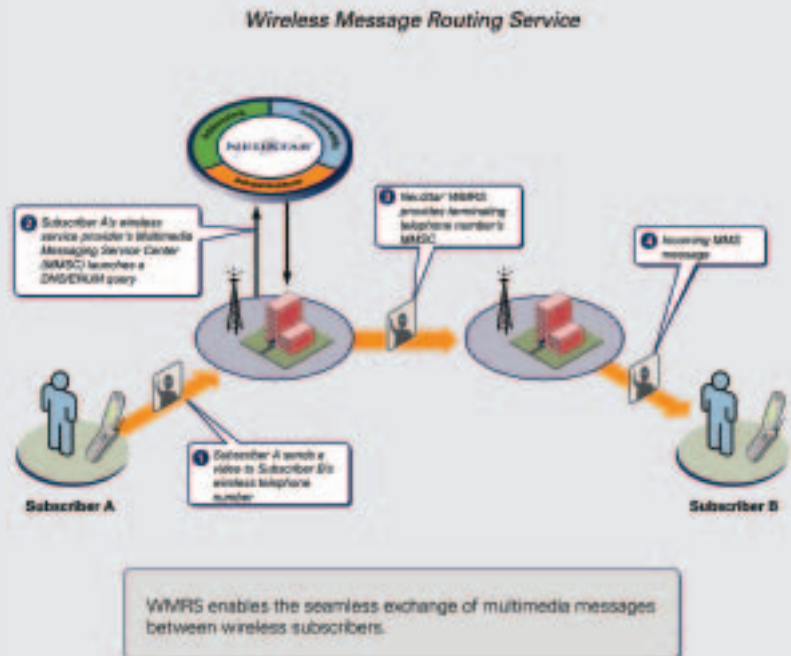
Rapid response time during peak hours: Improves value proposition for premium subscriber service

Application software and server and database hardware included:
Turn-key solution



Customer application: Send and receive a multimedia message

When Mom wants to share the latest antics of the kids washing the family dog in the bathtub to Dad while he's on business travel, she can – in real time via her cell phone. She takes the video and enters Dad's telephone number. Her wireless service provider's Multimedia Messaging Service Center (MMSC) receives her MMS message. The service provider's MMSC launches a DNS/ENUM query to NeuStar's WMRS to identify the MMSC that serves Dad's TN. NeuStar's WMRS provides the hosting MMSC for Dad's TN. Mom's service provider's MMSC forwards the video of the kids getting drenched during the attempt to bathe the dog. Dad's service provider's MMSC sends a notice to his cell phone about an incoming multimedia message, and Dad gets to see the very wet but hilarious mess that's taking place at home.



Send it **now!** Pictures, text, or video

Advanced technologies are about more than protocols and network architectures. They permit people to exchange communications that add value to their lives. NeuStar's WMRS provides the means for enhanced communications between wireless subscribers across networks. NeuStar applies the power of DNS and ENUM protocols to allow wireless service providers to offer premium multimedia services to subscribers who are eager to use them.

The NeuStar Clearinghouse: The sum of *our* parts — *your* cost savings and revenue acceleration

Your operations staff may be engaged in any of the following number porting activities upon receipt of a request for service activation of a new wireless account:

- Validate the port *before* initiating a local service request (LSR) via a Pre-Port Validation (PPV) function to determine if a specific number exchange may be ported, identify the current service provider, and confirm if you have an inter-connection agreement with the provider.
- Submit an LSR to a wireline service provider to port your new customer's number.
- Submit a Wireless Inter-Carrier Communications Process (ICP) request to another wireless provider to port the customer's wireless number.
- Complete the number porting process using the "last link" — Service Order Administration or SOA — to ensure that the Number Portability Administration Center (NPAC), the repository of network routing information for single 10-digit telephone numbers, is updated with your company as the new service provider of record.

All four provisioning activities can be managed through the NeuStar Clearinghouse via one interface. NeuStar's unique workflow and transaction processing databases and systems enable service providers to exchange essential operational data in a secured manner. In addition to Wireless ICP, we provide a standard interface to all services in the clearinghouse, including:

- Local Service Request (LSR)
- Access Service Request (ASR)
- Enhanced Service Request (ESR)
- Service Order Administration (SOA)
- Line Information Database (LIDB)
- Calling Name (CNAM) database
- Enhanced 911 (E911)
- Customer Account Record Exchange (CARE)
- Pre-Port Validation (PPV)

The result of using multiple services from our clearinghouse? Efficient order processing. Easy order tracking. You move accounts from set-up to revenue generation in an orderly flow without the burdensome capital outlay to implement multiple interfaces. That's the value of the NeuStar Clearinghouse.

What does NeuStar do?

NeuStar is a provider of essential clearinghouse services to the North American communications industry and Internet service providers around the world. NeuStar operates directories that manage virtually all telephone area codes and numbers in North America, and enables the dynamic routing of calls among thousands of competing communications service providers. In North America, the network of every telecommunications service provider is either directly or indirectly connected to NeuStar's centralized clearinghouse, nearly every telephone call placed is routed using NeuStar's system, and every telecommunications service provider is one of NeuStar's customers. Visit NeuStar online at www.neustar.biz.

NeuStar Worldwide

Change is a reality within communications — wherever you are. Where there is a need to mitigate dramatic change within competitive environments, our international experience and industry knowledge uniquely position NeuStar to manage the transactional exchanges that drive market growth.