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E9-1-1 / VoIP Integration

May 9, 2005

>> BellSouth Supports Standards-Based NENA E9-1-1 Solutions

- BellSouth has been a member of the National Emergency Number Association (NENA) since its inception in 1982.
- BellSouth hosted the first NENA E9-1-1 / VoIP forum at its Atlanta headquarters in 2003.
- The NENA VoIP-Packet Committee and the NENA Working Groups that are tasked with developing I1, I2, and I3 solutions grew out of the 2003 NENA E9-1-1 / VoIP forum.

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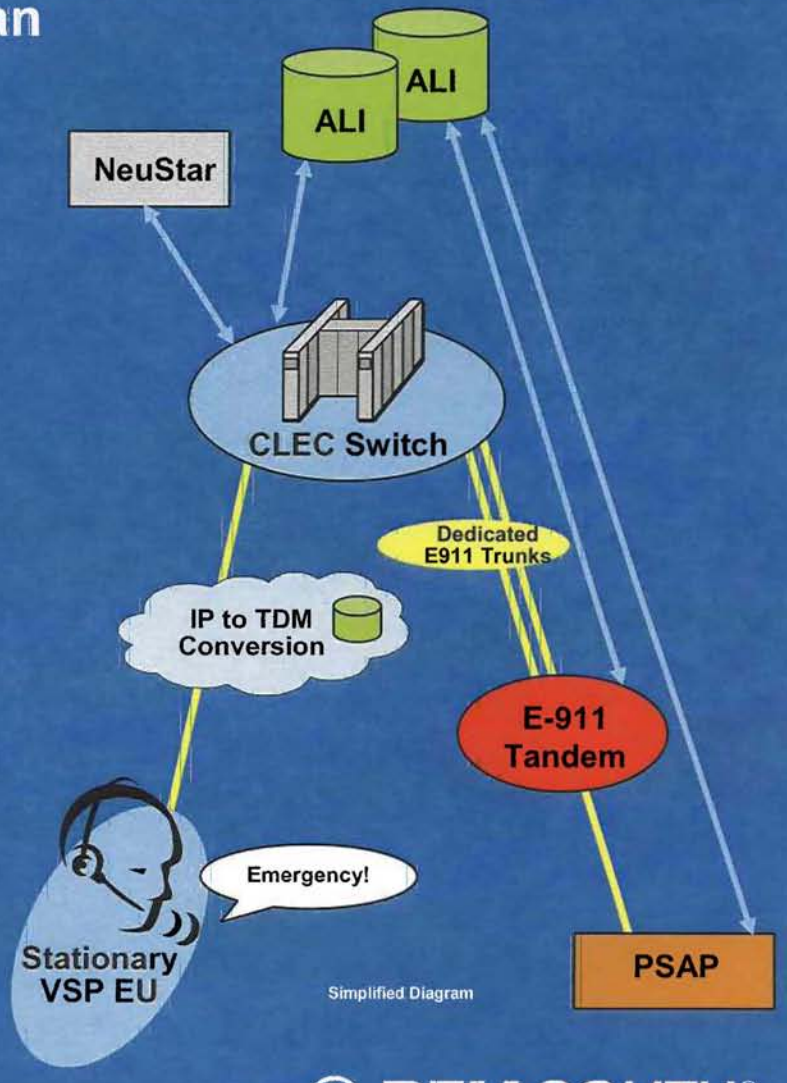
Current E9-1-1 Solution for VoIP Service Providers

Today, VoIP Service Providers (VSPs) can contract with interconnected CLECs to deliver emergency 911 calls.

- This option looks and feels like wireline E9-1-1 to stationary VSP end users with a local number. Stationary end users are at a greater risk of assuming that E9-1-1 capability comes standard with their with VoIP service because they tend to purchase VoIP as a replacement for their traditional fixed wireline service.
- Many VoIP providers are successfully contracting with CLECs today. In fact, 100% of the VON / NENA 9-1-1 Working Group survey respondents reported that they offer a 9-1-1 service that will route calls to a designated PSAP. Sixty percent of respondents are providing an E9-1-1 service comparable to that of wireline for their VoIP replacement residential offering.[1]
- This stationary VSP solution should be viewed as interim while NENA works towards a synergistic solution. NENA has a developed a phased approach, which will ultimately provide E9-1-1 services to nomadic, fully mobile VSP end users.



[1] VON / NENA White Paper, *"Answering the Call for 9-1-1 Emergency Services in an Internet World"*, January 2005, page 6.

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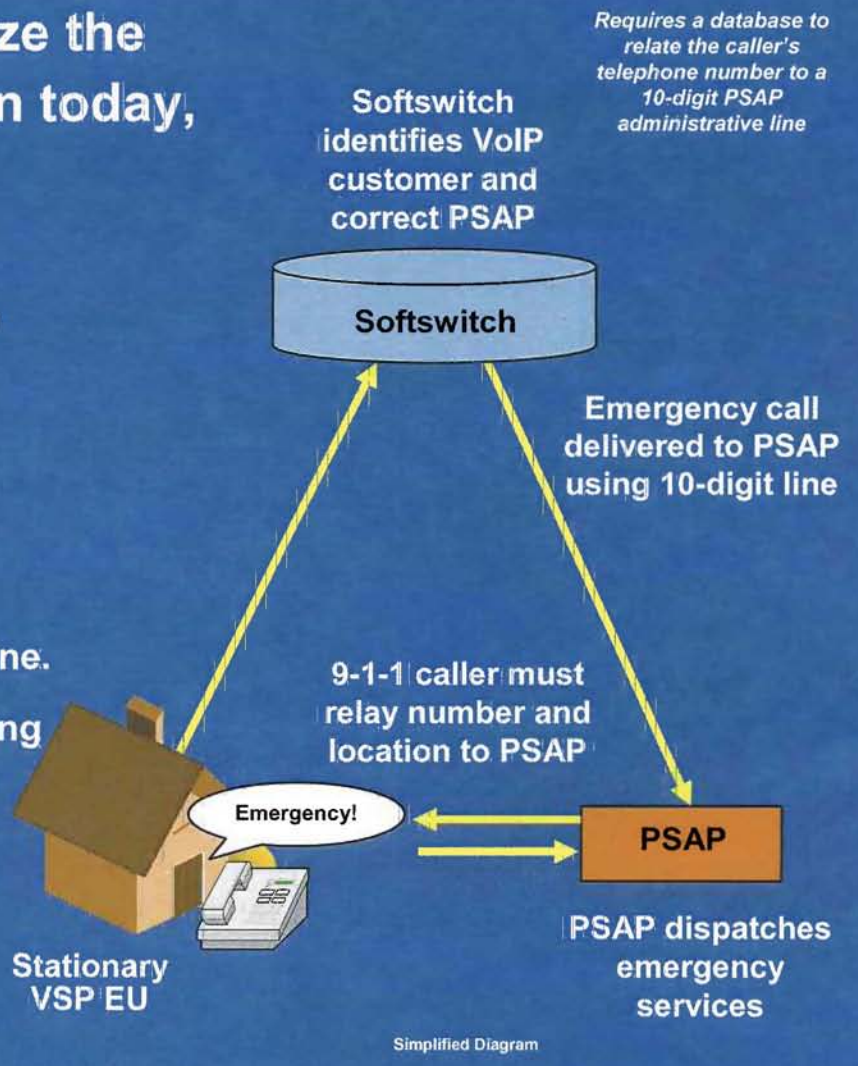
Additional E9-1-1 Solution for VSPs (NENA I1)

VoIP Service Providers can also utilize the NENA I1 non-enhanced 9-1-1 solution today, which routes calls to a 10-digit administrative PSAP line.

- Non-enhanced 9-1-1 option delivers an emergency call to the appropriate PSAP using a 10-digit administrative line over the PSTN.
- Non-enhanced 9-1-1 does not deliver the caller's location information (ALI) and may not deliver the caller's number (ANI).
- PSAP administrative line may not be a dedicated line.
- PSAP administrative line may not prioritize incoming 9-1-1 calls and may not be manned 24/7.



Simplified Diagram

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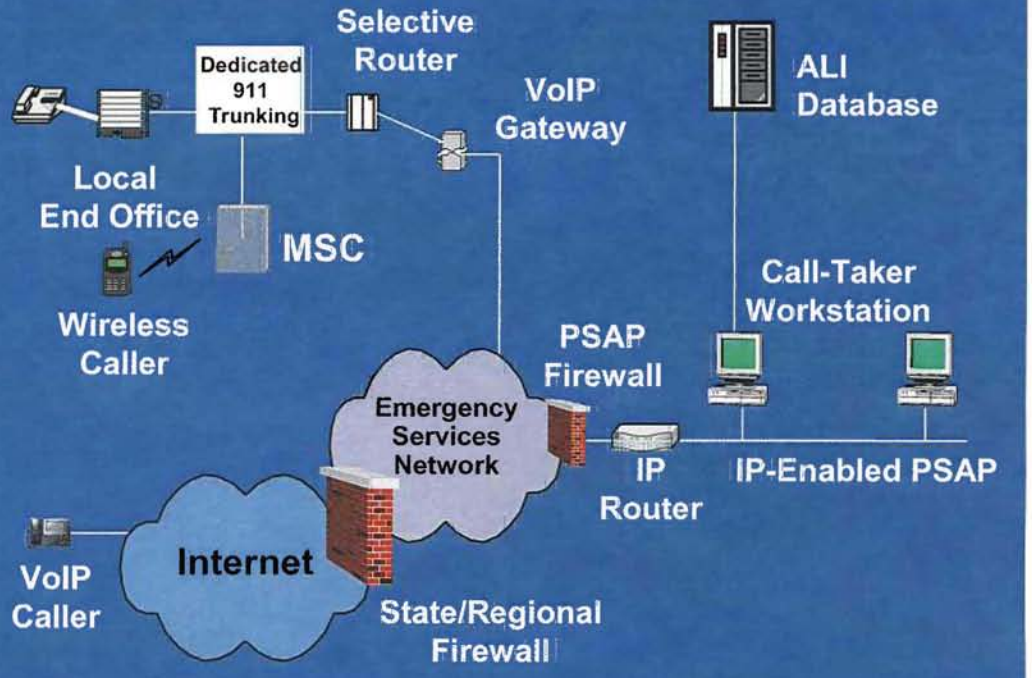
Ultimate E9-1-1 Solution for VSPs (NENA I3)

- NENA I3 supports nomadic, fully mobile VSP end users over an IP end-to-end network.
- NENA I3 standards are currently under development.
- Networks will evolve to a next generation level requiring the emergency services network to interact with a variety of devices all capable of transmitting emergency calls. NextGen devices may deliver innovative streams of data such as video, medical, records, text, or images.
- NENA I3 will allow call-takers to communicate with responders by voice, video, or text.
- IP-enabled E9-1-1 network will work in concert with legacy E9-1-1 in order to support PSTN end users.



KEY:

ALI - Automatic Location Information Database

ESGW - Emergency Services Gateway

MSC - Mobile Switching Center

PSAP - Public Service Answering Point

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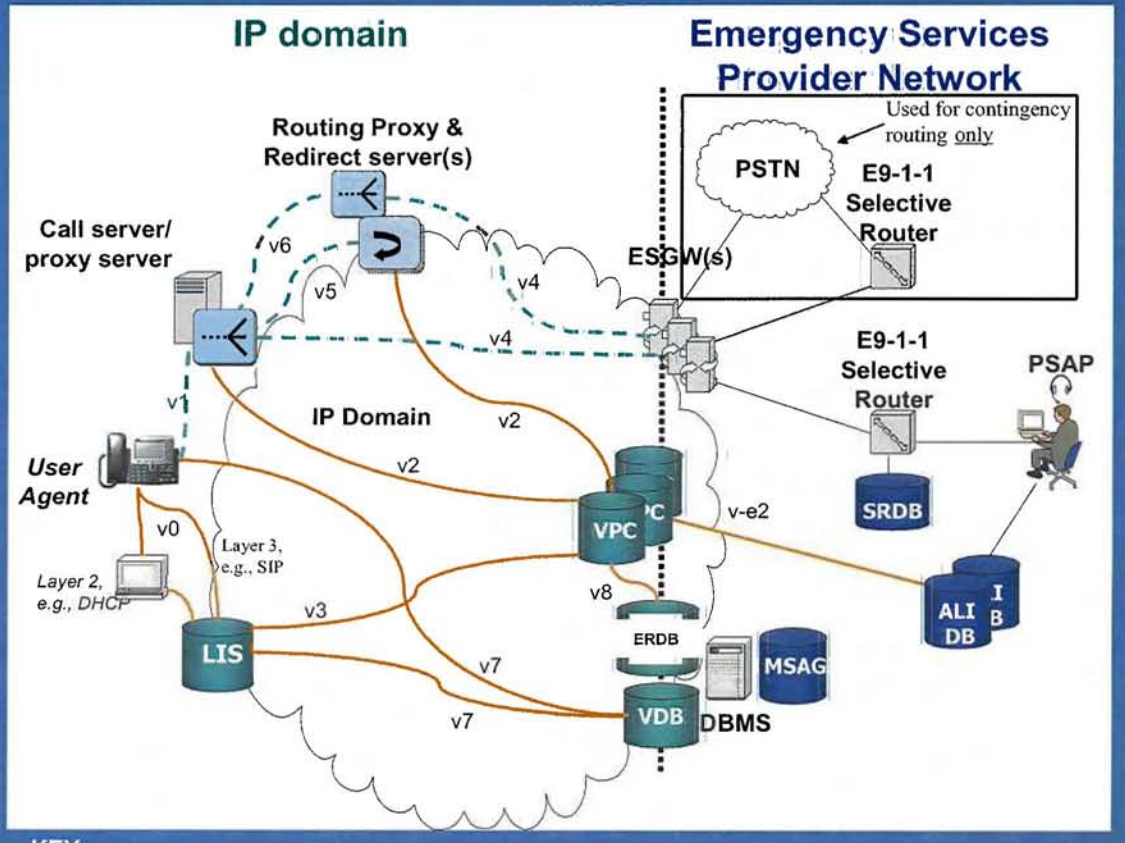
Interim E9-1-1 Solution for VSPs (NENA I2)

- NENA I2 introduces support for nomadic and fully mobile VSP end users via an IP-enabled network.[2]
- NENA I2 standards anticipated 2Q05.
- NENA I2 introduces support for foreign area codes.
- NENA I2 will introduce 4 new functional elements into the E9-1-1 infrastructure that are not there today. These four elements will provide the building blocks for the I3 network: LIS, VPC, ERDB, and VDB.



KEY:

ALI - Automatic Location Information Database
DBMS - Database Management System
ERDB - Emergency Services Routing Database
LIS - Location Information Server
MSAG - Master Street Address Guide
SRDB - Selective Routing Database
VDB - Validation Database
VPC - Voice Positioning Center

[2] "Fully mobile" is subject to implementation and design decisions.

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In Addition to Options Currently Available Today

- BellSouth announced on May 5, 2005, that it would offer VoIP providers the opportunity to purchase direct connection to each of BellSouth's sixty-four 9-1-1 selective routers to enable delivery of calls to PSAPs.
- Additional interim offering will provide emergency responders with the caller's callback number and the address associated with the VoIP customer's assigned number.[3]
- Additional interim offering may prove useful to some providers as industry groups work towards a standardized solution.

[3] Street address only provided in cases where VoIP provider furnishes location information. VoIP provider must update and provide current location information when making calls from other locations.

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Conclusion

- NENA Phase I2 standards are scheduled for 2Q05 release.
- As a member of NENA, ESIF, ATIS, and NRIC-7, BellSouth is working in partnership to enable a nationally standardized and seamless E9-1-1 system.
- In the interim, there are standard 9-1-1 solutions available to the VoIP community today, including NENA Phase I1.
- BellSouth is committed to ensuring that E9-1-1 services are reliable and available to deliver vital information in cases of emergency. BellSouth will continue to work closely with NENA and governmental authorities to support the standards-based NENA phased E9-1-1 solution.

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