

The Revolutionary Impact of Next Generation 9-1-1



FIRSTNET IN CALIFORNIA 9-1-1 IN SACRAMENTO TOWN HALL
NOVEMBER 20, 2014 | SACRAMENTO, CA

About NENA: The 9-1-1 Association

- 30+ years as a non-profit association for 9-1-1
- 8,000+ members from public safety and the 9-1-1 industry
- Focused on 9-1-1 systems and service evolution
- The only professional organization solely focused on 9-1-1 policy, technology, operations, and education issues
- Standards developer since 1990 (ANSI-accredited)
- International Affiliate Chapters

Lay of the Land

- 1968 – First 9-1-1 call made in Haleyville, Alabama
- Late 1970's – “Enhanced 9-1-1” (ANI with selective routing) debuts
- March 1998 – First Phase I wireless call
- October 26, 1999 – “9-1-1” designated universal emergency number
- 2001 – NENA's 9-1-1 Future Path Plan is released

Lay of the Land (cont'd)

- 2003 – NENA begins NG9-1-1 architecture and project
- December 2004 – US DOT begins the NG9-1-1 Initiative
- Appx. 6,000 9-1-1 centers across the U.S.
- Appx. 240M 9-1-1 calls per year
 - 70-80% wireless in many areas

Why NG9-1-1?

- Changing consumer habits & expectations
- Eliminating limitations in today's 9-1-1
- Efficiencies in 9-1-1 technology, ops, & funding
- Migration away from TDM to IP networks
 - Eventual PSTN retirement

Why NG9-1-1? (cont'd)

- Ensuring equal access for all 9-1-1 callers
- Improving responder safety / access to data
- Enhancing resiliency, reliability, survivability, and flexibility for PSAPs

Evolving Communications Habits

- ~335m connected wireless devices in the US
 - Population is approximately 313 million
- By 2015, there will be 2b networked devices
 - Smart homes and offices; education applications
- Nearly 75% of mobile devices are smartphones
 - These generate 35 times more data traffic than basic cell phones

Evolving Communications Habits (cont'd)

- This year, most internet traffic will be via mobile devices
- Voice communications are on the decline, and account for less than 1/3 of mobile usage
 - By 2016, tablets alone will generate as much traffic as the entire global mobile network of 2012

Evolving Communications Habits (cont'd)

- Wireless-only households are on the rise
 - The CDC reports that nearly 40% of U.S. households are wireless-only households
- Exponential increases in text messaging
 - More than 8 trillion texts sent last year
 - Up 1.1 trillion from the previous year
 - Teens text ~5,500 messages per month
 - 41 million Americans who are deaf, hard of hearing, or speech impaired rely on texting

Beyond Just Voice

- Text-to-9-1-1
- Telematics / sensors
- State-level call routing
- Regional ESInets
- GIS technologies / data
- “i3-ready” components
- Data analytics
- NG9-1-1 planning / cost efficiencies

The Nature of NG9-1-1

- Designed to support enhanced interoperability of all 9-1-1 systems
- Designed with open standards
- Designed to enable open competition
- Designed for a transition to competitive service provider environment
- May require regulatory (and legislative) change

NG9-1-1 Concepts

- GIS-based routing control
- Location data can be transported with the call
- Additional types of calls and messaging:
Anytime, anywhere, any device
- Additional data

NG9-1-1 Concepts (cont'd)

- Virtual PSAP capabilities
- Added alternate routing options (ex: sensing PSAP status)
- Direct control of call management
- Direct control of system capabilities by 9-1-1 Authorities and PSAP management (ex: routing options)

Breaking Down Communications Silos

- Your NG9-1-1 system is one element of an widely interconnected public safety system (FirstNet)
- County–Regional–State–National–International
- Expansion of, and beyond the traditional PSAP
 - Fusion Centers
 - Virtual PSAPs
 - Trauma Centers
 - Poison Control
 - Emergency Operations Centers

NG9-1-1 Responder Benefits

- Text/IM-to-9-1-1
- Files-to-9-1-1, such as photos, video clips, or streaming video
- Telematics data
- Sensor data
- Nomadic and/or mobile call taker workstations
- PSAP “on-the fly” or Virtual PSAP

NG9-1-1 Responder Benefits

(cont'd)

- Policy-based alternate routing with new options
- Additional Policy-based routing for:
 - Language preference of caller
 - Type of technology
 - IM, Sensor, Satellite phone
- Informative data to dispatch and field responders
- Adaptable for future needs

NG9-1-1 Challenges

- Achieving economies of scale
 - Bigger geography equals better price performance
- Solving governance issues
 - Leadership at all levels
- Timely standards and technology development
- Resolving operational issues
- Addressing legislative and regulatory needs
- Education

Funding Challenges

- PSAP authorities must be allowed to accrue funds to build NG networks while still paying for and operating legacy networks
- Consider different funding sources:
 - IP access providers?
 - Pre-paid wireless?
- Consider new payment terms for 9-1-1 fees
 - More sources/lower fees?

Thank You!

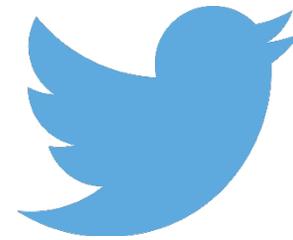
NENA

THE 9-1-1 ASSOCIATION

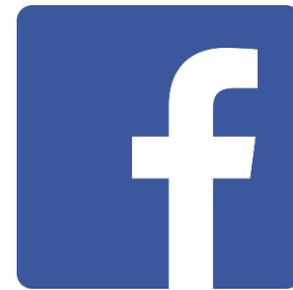
Brian Fontes, CEO

bfontes@nena.org

202.618.4405



[@911NENA911](https://twitter.com/@911NENA911)



[/911NENA911](https://www.facebook.com/911NENA911)