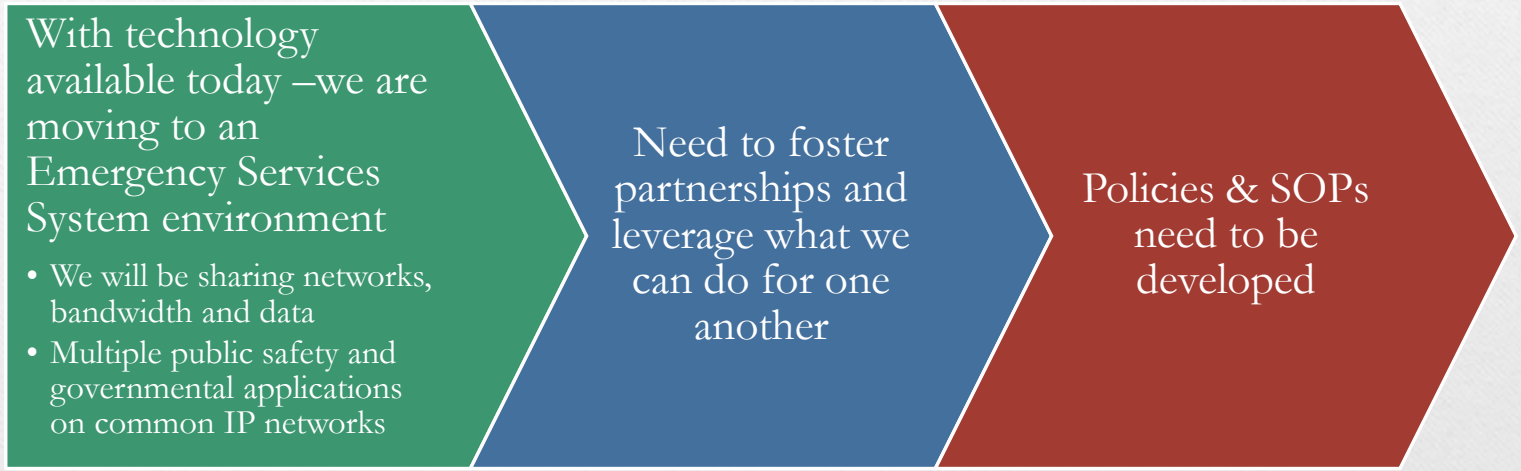
Next Generation 9-1-1 – The Future for Emergency Communications

It's Not Just 9-1-1 Anymore!



Variations in E9-1-1 Current Requirements

Wireline

- No federal requirements
- Some state and local requirements
- Voluntary industry implementation

Wireless

- Federal (FCC) requirements (Docket 94-102)

Multi-Line Telephones Systems (MLTS)

- No federal requirements
- some states have requirements

VoIP

- Federal (FCC) requirements (Docket 05-196, 04-36)

ADA requirements for TTY

- Currently no provisions for Video/IP relay services, text messaging

What We Have Now. . . Different Levels of Service

Wireline

Most Reliable Location Technology

Selectively Routed to Correct Answering Point

Provides Call Back Number and Address

Wireless Phase I

Provides Call Back Number

Provides Carrier Info and Tower Location

Wireless Phase II

Provides Call Back Number

Carrier Info & Tower Location

Approximate Location based on X & Y Coordinates

Accuracy Requirements vary by technology used, and are under review by the FCC

73% of Counties Covered – 91.5% of Population

VoIP

IP calls to geographically appropriate PSAP using existing

9-1-1 network

Provides Call Back Number and Registered Address

Today's 9-1-1 Challenges: Moving to Digital Broadband

- Over 6,000 Public Safety Answering Points (PSAPs)
- High costs associated with each PSAP
- Costly, aging equipment that needs replacement soon
- Need data bandwidth, modernized network → IP
- Caller location issues
- Need for Interoperability with other agencies (voice and data)
- Funding needed to sustain & advance system

Next Generation 9-1-1 Vision

An evolved, fully-functional, Next Generation 9-1-1 system that is accessible **anytime, anywhere, from any device**

Why do we need NG9-1-1?

Current and new `calling' devices

- Text – IM, SMS, PDAs, other non-voice devices
- Wireless – WiFi, WiMAX, improved cellular interface, hybrid (cellular/WiFi)
- Sensors – environmental, alarms, biometric
- Video, still and motion

Wide spectrum of users, emergency support needs

- Deaf and hard of hearing, speech impaired
- Non-english speaking callers
- Constantly increasing mobile users – location challenges

NG9-1-1 Purposes

Fully replace Enhanced 9-1-1, with all capabilities and functions in place today

Add capabilities to support changes for current and new types of Originating Service Providers

Add flexibility for the PSAPs and 9-1-1 Authorities

Add capabilities to integrate and interoperate with emergency entities beyond the PSAP

IP Networks Supporting NG9-1-1

Use IP networks as they develop (9-1-1 or other existing public safety network)

County, regional, state, national

Link together as a network of networks, nationally and beyond

NG9-1-1 functions run on the IP networks and must meet NG9-1-1 standards

Security issues must be addressed

Expanded data access with wide area/national emergency communications capabilities

3G

- 3G will be discontinued
  - won't be able to send texts
  - Make or Receive Calls
  - Use data services
  - No access to 9-1-1
- Shutdown Services
  - Jan 1, 2022: Sprint
  - February 2022: AT&T
  - Verizon: Dec 31, 2022

Roughly about 9% of US wireless utilize 3G