



# Emergency Services IP Network (ESInet) Functional Capabilities

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# Emergency Services IP network (ESInet)

- Broadband IP network
- Utilized to converge technology
- ESInets are **NOT** NG9-1-1 but are the foundation on which NG9-1-1 will be built
- Provides or support for
  - call routing, transport, interoperability, security, and related services

# Description

Technically an ESInet is an IP-based system comprised of:

- Managed networks
- Shared applications
- Ability to replicate E9-1-1 features and functions

Practically an ESInet will

- Improve access to emergency services for callers
- Improve the effectiveness and efficiency of emergency communications and response

## Description (cont.)

- ESInet's may be County, Region or State-wide and:
  - Interconnect to neighbors
  - Helps expand mutual aid
  - Allow “any to any” communications
  - Encourage sharing of applications and systems
  - Can create cost efficiencies
  - Can increase response effectiveness

# ESInet configuration

- Evolution into a broadband based infrastructure
- Enable centralized applications with redundant access
- Host (or provide access to) numerous shared services between PSAPs
- Support interoperability among the diverse, but standardized networks and applications.
- Enable wide information dissemination and queries for emergency incident information
- Bandwidth insensitive

# ESInet Capabilities

- True redundancy
- Direct control of alternate routing for continuity of operations
- Pre-definition of disaster routing
- Inter-network access to other PSAPs
- Inter-network access to other databases  
Example: HAZMAT Information

# 9-1-1 Technology Landscape

<b>Today's Systems</b>	<b>Tomorrow's Systems</b>
40 year old legacy technology Difficult to adapt to change Proprietary	Future oriented Plug and play Based on open standards
Analog Fixed - dedicated	Digital Dynamic - interoperable
Primarily voice Limited data capability	Advanced data capability Text, images, crash notification
Local access Limited transfer and backup	Long distance access Expanded transfer and backup

# The core purposes of NG9-1-1

ESInets support the entry into NG9-1-1:

- 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

# Fully replace Enhanced 9-1-1

- Replicate all features of E9-1-1 with IP-based, software and database versions
- Seamlessly support all existing calling types
- No service disruption during transition

# ▶ Add capabilities to support changes for Service Providers

- New wireless based services
- Additional messaging services
- Direct handling of telematics
- Special needs community applications and tools to aid in reaching assistance
- Common interface for developers
- Access to information available in external databases

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

- Transfer calls and data between PSAPs and other entities within the NG9-1-1 system
- Direct control of system functions and dynamic routing
- Share applications and costs
- Disaster related call control
- Malicious call control
- Programming of the NG9-1-1 system to operate the way 9-1-1 governing authorities desire

# Add capabilities beyond the PSAP

- Immediate connection to other emergency response entities
- Interaction with 211, 311, N11s
- Sharing of infrastructure with non-PSAP entities

# Public Safety ESI net Broadband

## Supporting Emergency Services Statewide

