

Why Next Generation 9-1-1?

NG9-1-1 is a nationwide, standards-based, all-IP emergency communications infrastructure enabling voice and multimedia communications between a 9-1-1 caller and a 911 center, and on to responders in the field.

Citizens in need of emergency assistance will be able to transmit photos, videos and other existing and future forms of broadband data and applications, in addition to voice, to 911 professionals. This could include streaming video from an emergency incident, photos of accident damage or a fleeing suspect, or medical information, all of which would greatly aid 911 professionals in assisting the caller or communicating with field responders and incident commanders.

Moreover, when a highly reliable, secure, standards-based NG9-1-1 system is deployed nationwide, 911 centers (known as “Public Safety Answering Points” or PSAPs) will have enhanced tools at their disposal for more effective and efficient response, and increased ability to interoperate with other PSAPs or transfer all functionality in the event of a major disaster.

Increase compatibility with emerging communication trends
Consumers expect that calls to 911 will support commonly used modes of communications such as text, video and other multimedia applications. Accelerating implementation of NG9-1-1 services will increase compatibility with current and emerging communication technologies and increase confidence in the nation’s 911 system.

Fully IP-based and standards-based NG9-1-1 systems will be more nimble, survivable, and resilient during disasters, allowing for more flexible network routing options to mitigate outages and reduce vulnerabilities that all lead to improved outcomes for the public.

NG9-1-1 will improve the public’s access to emergency response services by allowing 911 centers to exchange additional data and information with responders, improve call processing times, enhance situational awareness, and increase responder safety.

Coordinated and accelerated deployment of NG9-1-1 services will reduce the long term cost burden of operating dual legacy and NG9-1-1 systems for a prolonged period. Available funding will be put towards new technology, not maintaining the old system.

Sources - <http://www.NG9-1-1now.org/about-NG9-1-1/> & Jeff Smith, Chair - ESINet Technical Standards Sub-Committee

PSAP Responsibilities

CPE
CAD
Map Display
Logging & Reporting
Redundant Circuits to ESINET POP
Training
Personnel
Building and facility infrastructure
PSAP Operations Rules compliance

Public Safety Grade Network (ESINET)

Hardened Data Centers
ESINET Points of Presence
ESINET Connections for PSAP Circuits
Network Management
Capacity Management
Change Management
Configuration Management
Alternate and Overflow Routing

Core NG Services

Border Control Function (BCF)
Policy Routing Function (PRF)
Emergency Services Routing Proxy (ESRP)
Legacy Network Gateway (LNG)
Emergency Call Routing Function (ECRF)
Location Validation Function (LVF)
Spatial Interface (SI)
GIS/ALI/MSAG Data Synchronization
Error Reporting
Data Normalization/Formatting
ETL/Provisioning
Location Database (LDB)
Legacy PSAP Gateway (LPG)
Discrepancy Reporting
Time Server
PSAP to ESINET Interfaces
Implementation Assistance
System Training

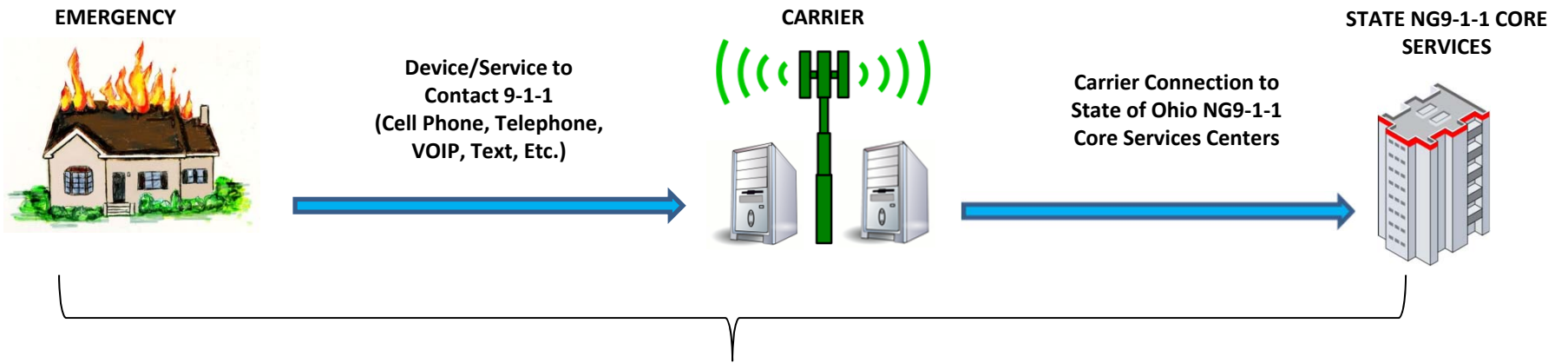
Rather than perpetuate a system of over 300 individual server farms housed and maintained by local government; State managed NG Core Services offer locals an opportunity to reduce overhead, increase efficiency, achieve redundancy, build resilience, and improve emergency service delivery for significantly less cost than building standalone 9-1-1 systems.

To make NG9-1-1 service a reality, the following areas need to be addressed:

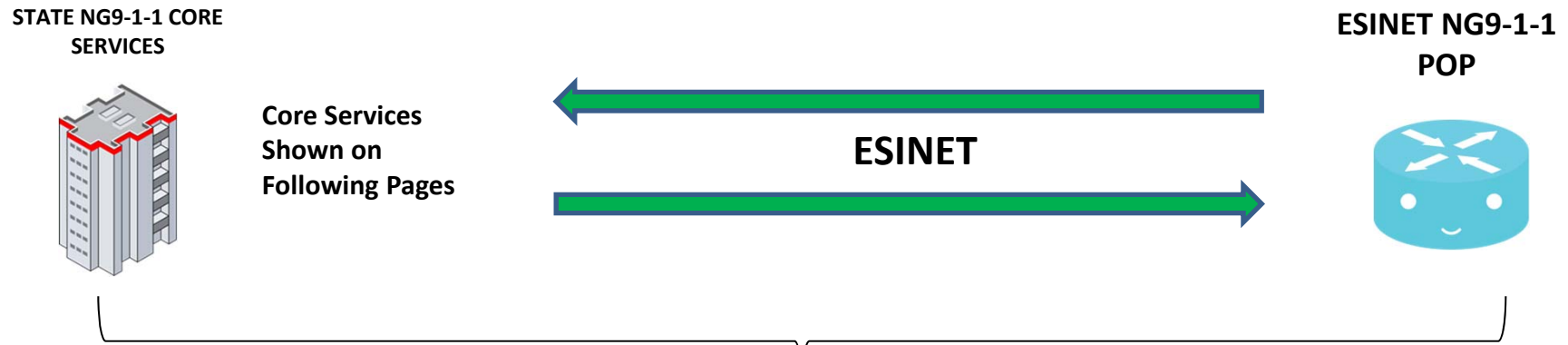
- Funding** – Particularly during the transition from legacy systems to NG9-1-1, a significant amount of targeted funding is necessary. Long-term ongoing costs must also be addressed, including new and/or refined funding mechanisms to ensure that NG9-1-1 funds are sufficient, available, cost effective, and sustainable.
- Governance** – Necessary governance structures, policies, and regulations should be developed at all levels of government to facilitate NG9-1-1 planning, deployment and operations.
- Technology** – Technical standards and best practices, including those designed to promote cybersecurity, need to be developed, completed, or refined via accredited standards development organizations.
- Operations** – NG9-1-1 operational standards and best practices, including those addressing regional deployments, interconnection, data/resource sharing, and network monitoring need to be developed, completed, or refined.
- Education** – A broader understanding of NG9-1-1 is needed, with a focus on its capabilities and benefits, as well as the limitations of current 911 services and the significant consequences of a delayed and/or uncoordinated deployment of NG9-1-1.

NG 9-1-1 Information

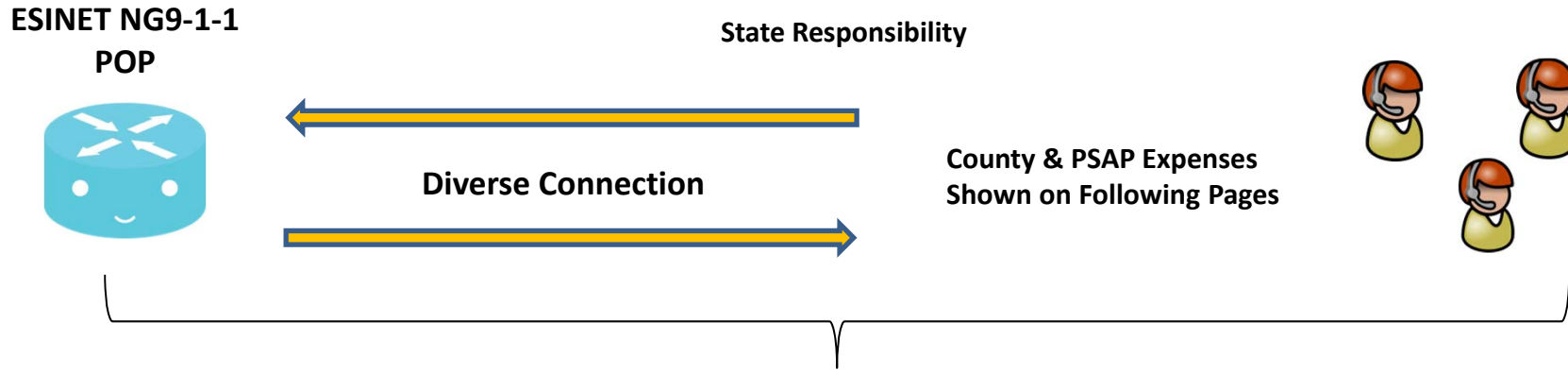
- The Current recommendation ORC Proposal draft has been developed by the ESINet Steering Committee, sub-committees and the Ohio 9-1-1 community at large.
- The ESINet Steering Committee voting members are the representatives that will make a recommendation to the Legislature on the NG9-1-1 pathway.
- DAS and the Ohio 9-1-1 Program Office will continue to serve as facilitator and coordinator of events/meetings to coordinate information sharing.
- The following slides outline the vision of the current proposed system.



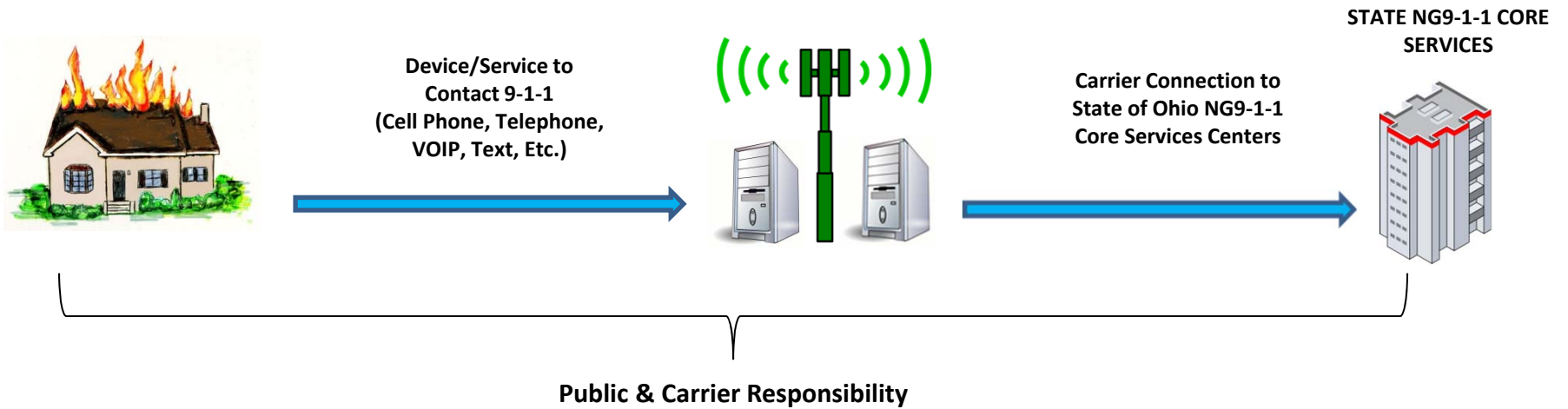
Public & Carrier Responsibility



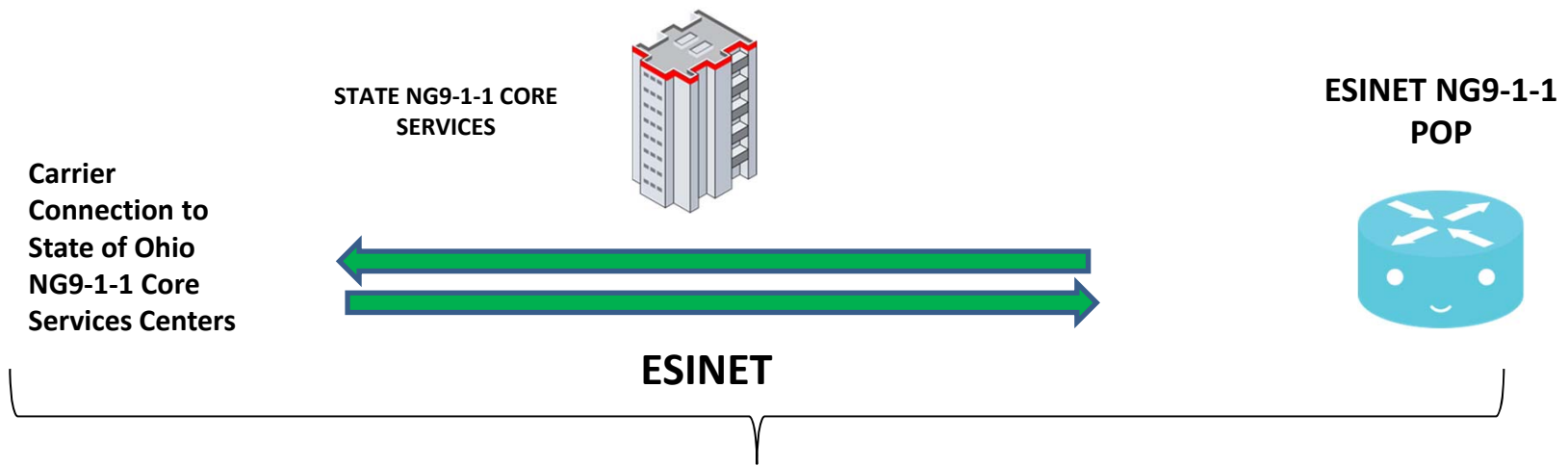
State Responsibility



County / Local Responsibility



- Devices and services used by the public through purchase from a vendor, carrier, etc.
- Includes wireless, landline, VOIP, text devices, etc.
- Carrier processes request for 9-1-1 through company owned equipment and systems and connects to NG9-1-1 core services facilities.
- This portion of the 9-1-1 request is the responsibility of the public and vendor/carriers.



ESINET

- Public Safety Grade Network
- 2 Hardened Data Centers
- 13 ESINET Points of Presence
- ESINET Connections for PSAP Circuits

Managed Services

- Network Management
- Capacity Management
- Change Management
- Configuration Management
- Alternate and Overflow Routing

Optional NG Services

- Hosted/Remote CPE
- Implementation Assistance
- System Training

Core NG Services

- Border Control Function (BCF)
- Policy Routing Function (PRF)
- Emergency Services Routing Proxy (ESRP)
- Legacy Network Gateway (LNG)
- Emergency Call Routing Function (ECRF)
- Location Validation Function (LVF)
- Spatial Interface (SI)
 - GIS/ALI/MSAG Data Synchronization
 - Error Reporting
 - Data Normalization/Formatting
 - ETL/Provisioning
- Location Database (LDB)
- Legacy PSAP Gateway (LPG)
- PSAP to ESINET Interfaces - Edge Router and BCF
- Discrepancy Reporting
- Time Server

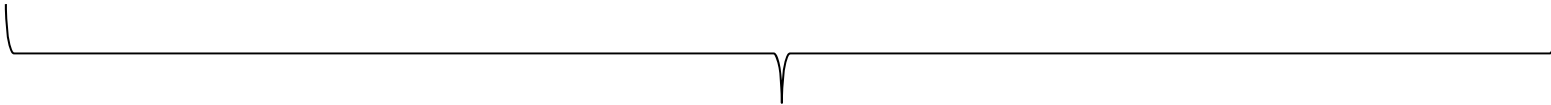
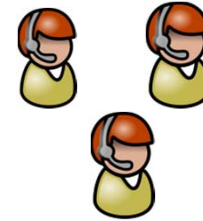
****Personnel from vendor and state would also factor into this section for Core Services system and database operations**

ESINET NG9-1-1
POP



Diverse Connection

County & PSAP Expenses
Shown on Following Pages



County / Local Responsibility

PSAP Responsibilities

- CPE (i3 compliant)
- CAD
- Map Display
- Logging & Reporting
- Redundant Circuits to ESINET POP
- Training
- Personnel
- Building and facility infrastructure
- PSAP Operations Rules compliance