

# Next Generation 9-1-1



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# Topics to Cover

- **NG9-1-1 – What it means may vary**
- **Technical Basics – New Terminology**
- **Issues that need to be on the radar**
- **Sensible decisions for your region**

# *How will NG9-1-1 Systems Be Different?*

- **IP-Based: components/personnel can be located anywhere**
- **Many new communications inputs**
- **Standard interfaces will make it possible for disparate systems, PSAPs and authorized agencies to interoperate**

# So...just what is “NG9-1-1?”

- Public Safety Communications is undergoing tremendous change.
- The transition from circuit switched technology to IP networks and Next Generation 9-1-1 has begun, leaving PSAP's and Telecommunicators to wonder, “What is NG9-1-1 and what does it mean to me?”

# So...just what is “NG9-1-1?”

- Next Generation systems will be a “network of networks” providing connectivity between PSAPs on a network within a specified geographic area to other networks both regionally and nationally.

# STANDING UP A SECURE BROADBAND IP NETWORK AND INTERCONNECTING PSAPS AND OTHER AGENCIES

# Agencies share resources such as CAD, RMS, email & Internet applications



# Building a Network

- ❖ Does your state currently operate a secure IP network that could be used for emergency services or for delivery of 9-1-1 calls?
- ❖ Have you assessed requirements for bandwidth to assure that the current network will handle future traffic?
- ❖ How will it be managed/governed in an environment with overlapping jurisdictions?

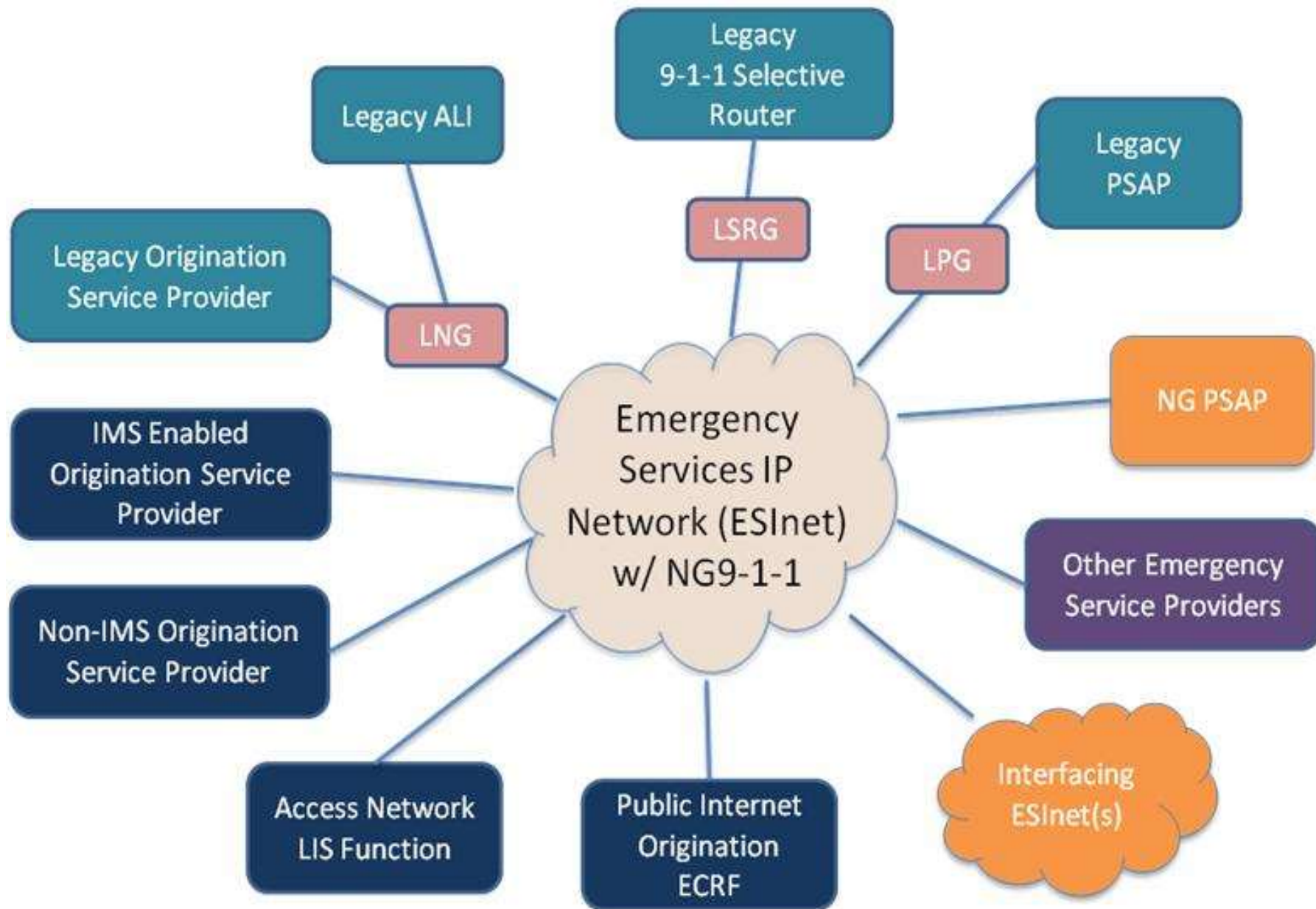


# *What Is **i3** Next Gen 9-1-1*

- **i3 is the NENA architecture for a system of 9-1-1 services, functional elements and databases that run on an Emergency Service IP Network (ESInet).**
- **9-1-1 calls will be routed via geospatial databases.**
- **ATIS is also working on an IMS based Architecture for ESInets.**
- **Eventually, these will replace E9-1-1 capabilities while retaining the functions in place today.**







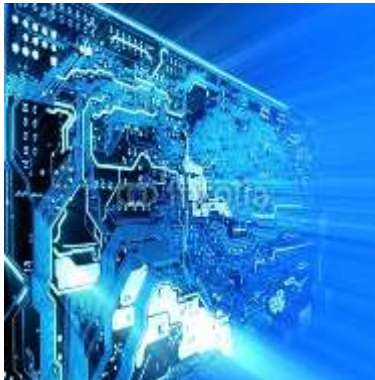
# ESInets

- Fundamental to the formation of NG systems is the creation and deployment of Emergency Services IP Networks, or ESInets.
- The ESInet is indeed a network of networks designed to achieve specific Quality of Service (QoS), Security and reliability levels while facilitating enhanced call routing and delivery.

# ESInets

- In addition the ability to reroute calls to, and share data with, any PSAP served by the ESInet is a benefit of the transition.
- In spite of the measurable benefit to making the transition, many PSAPs are finding that they are limited by equipment and networks incapable of providing a realistic evolution to NG9-1-1.

# NG9-1-1 Elements



# ***Systems & Functionality***

**NG9-1-1 Systems are made up of Functional Elements (FE) that will provide multiple features & capabilities.**

**An FE does not have to correspond to a specific product or position in a PSAP.**



# NG9-1-1 Functional Element Examples

Dispatch

ECRF

Call Handling

ESRP

Mobile Data

BCF

Incident Creation

PRF

Logging & Recording

LVF

GIS

***Beware of legacy 9-1-1 terms that are limited to only one function***



# ESRP & PRF

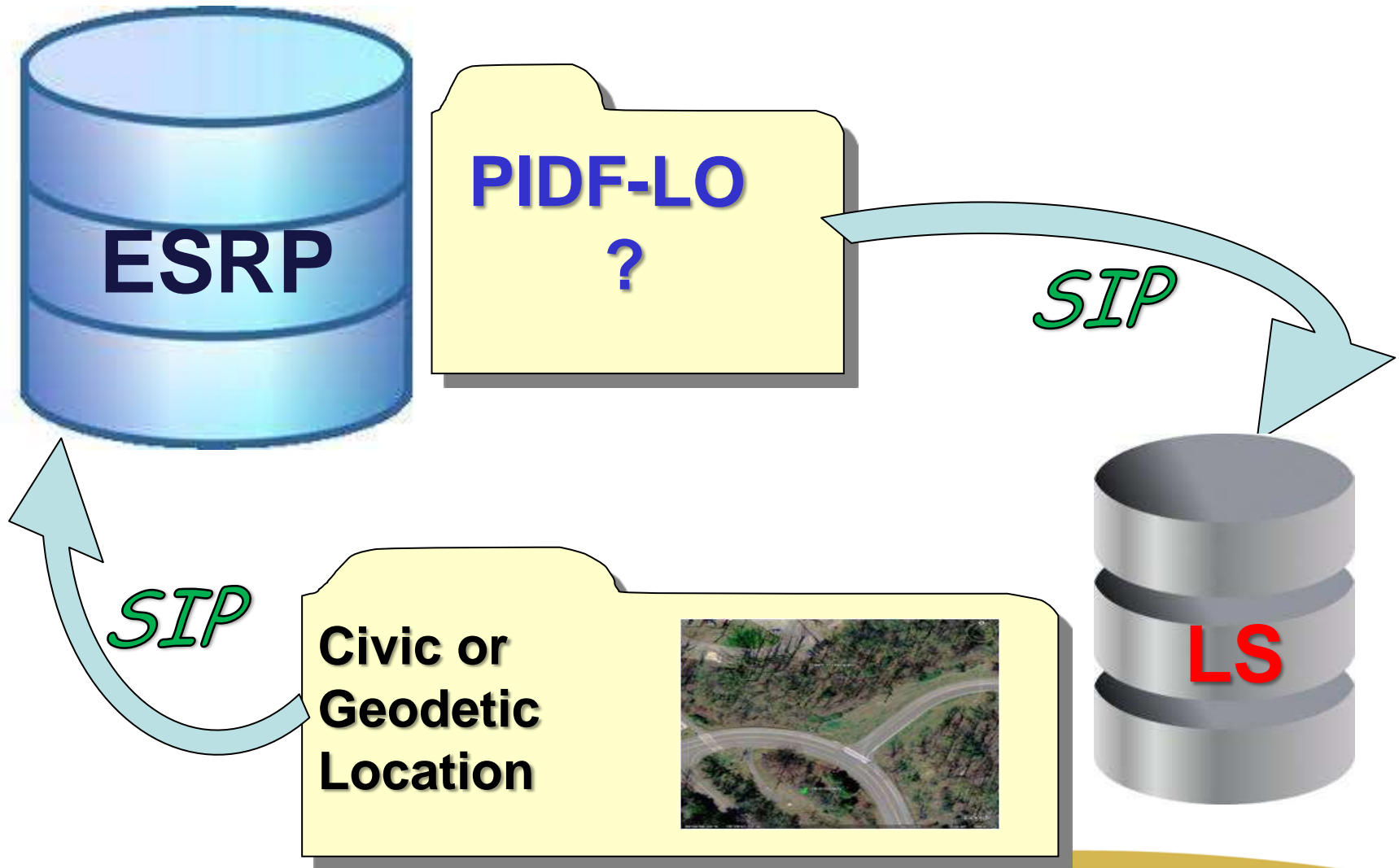
## Emergency Service Routing Proxy Policy Routing Function

*The  
Keys to  
the City*

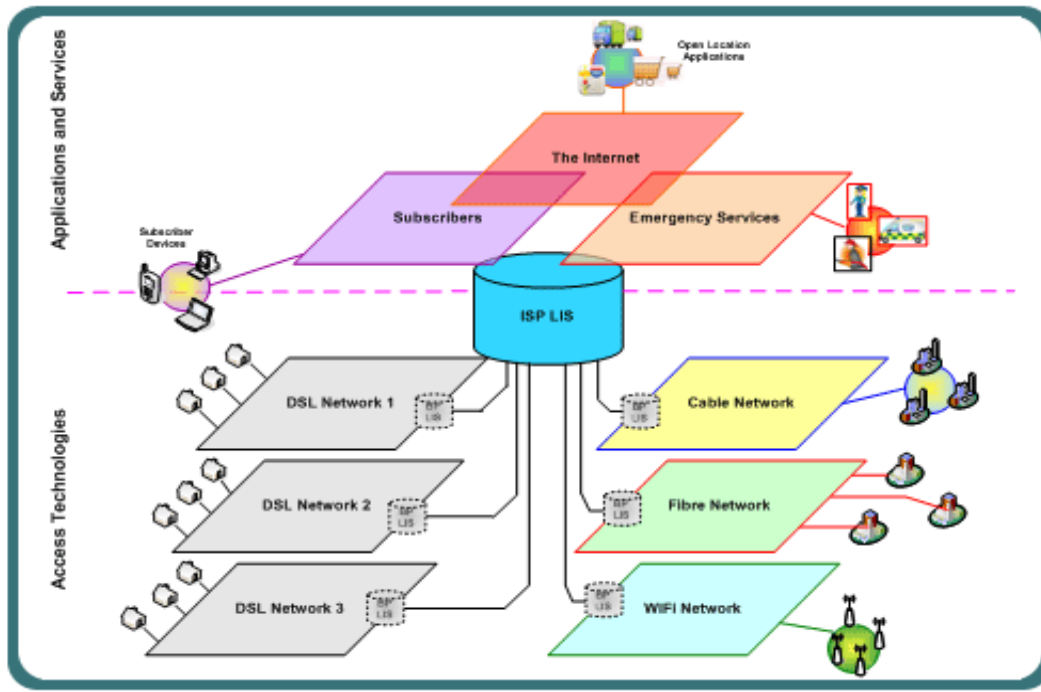




# ESRP queries the **LS** (Location Server)



# LS-Location Server



Everything Else

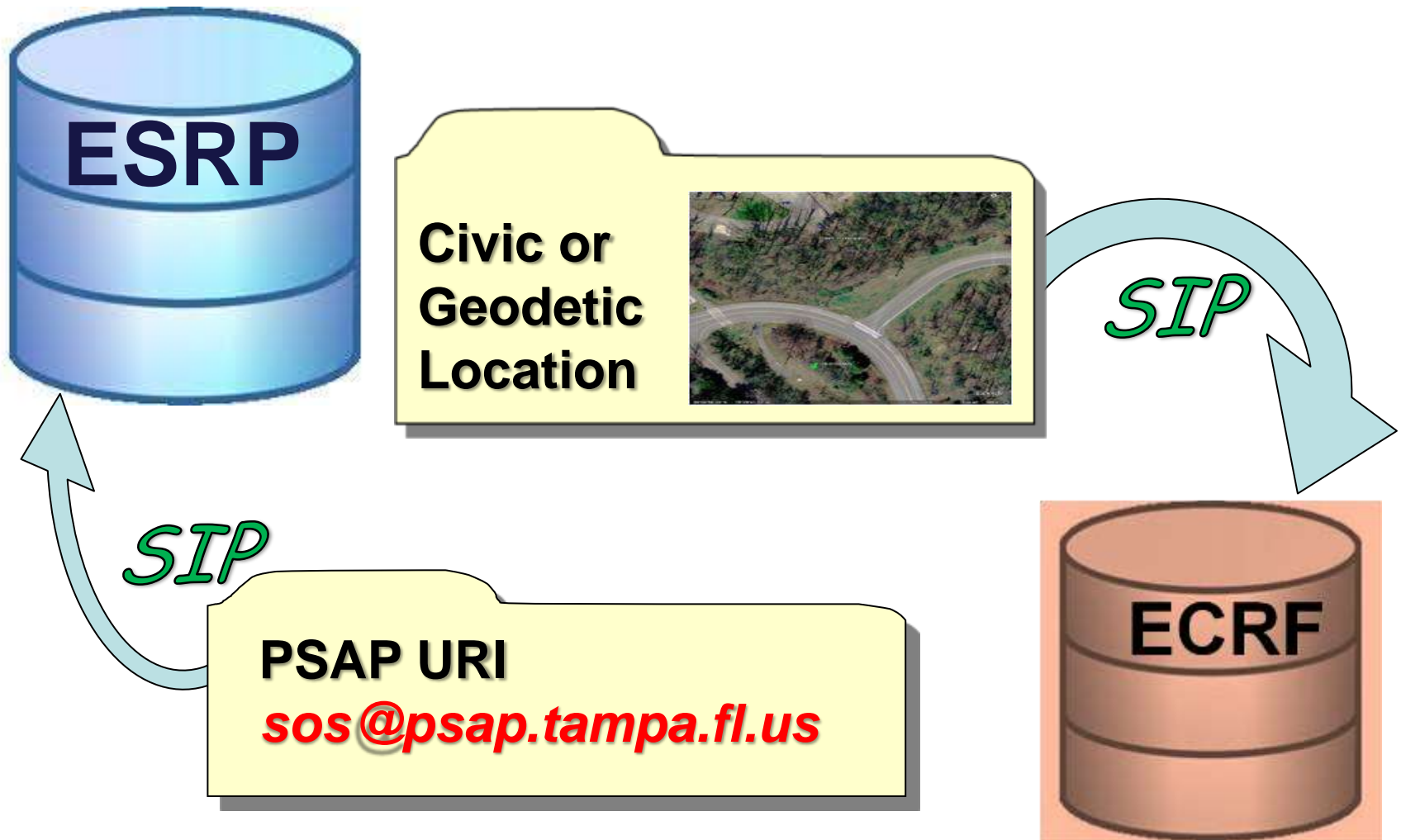
Left side

Apt A  
4th floor

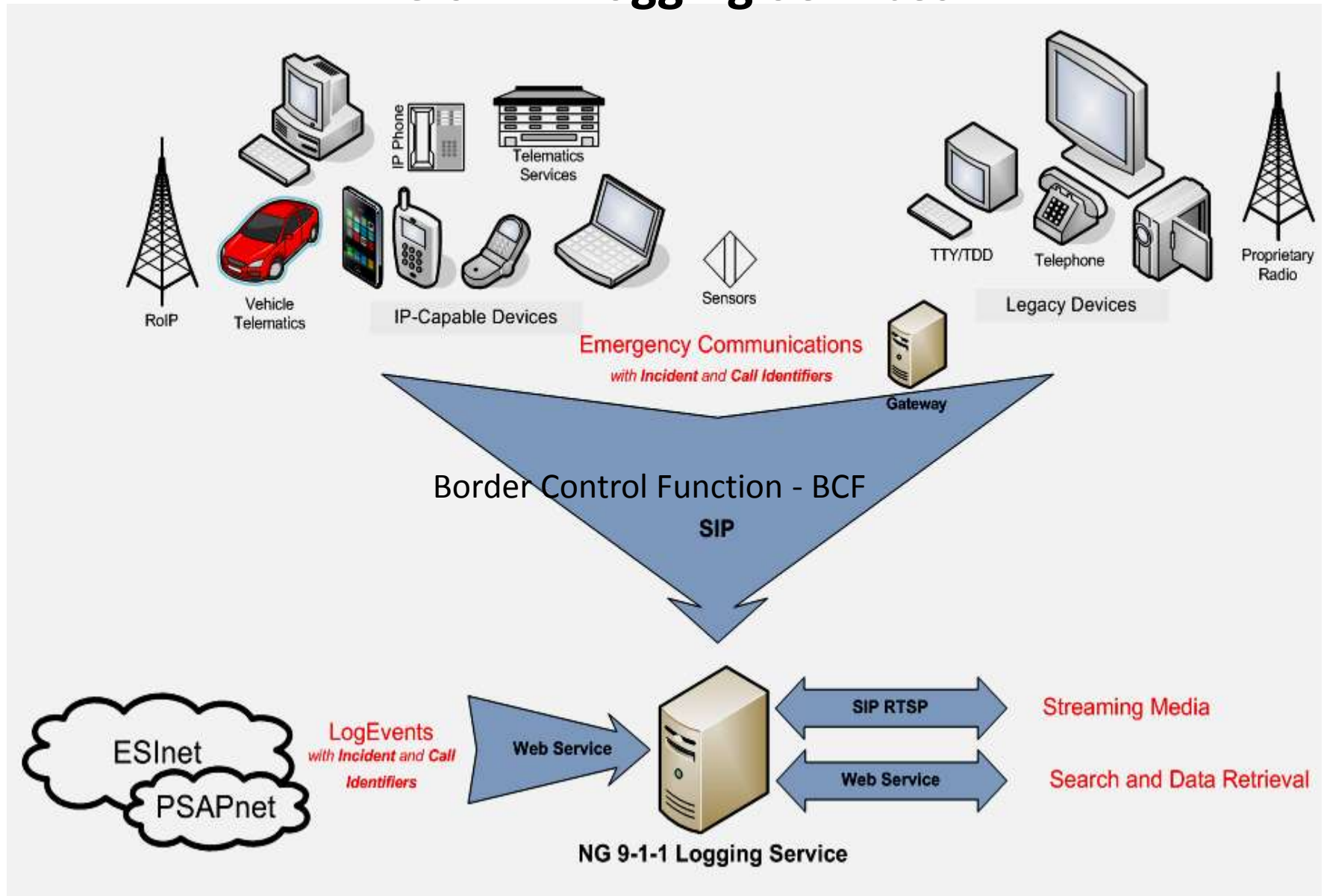
Suite 502  
5th floor

SE corner of Bldg  
Caution Hazardous materials

# ESRP queries the **ECRF** (Emergency Call Routing Function)



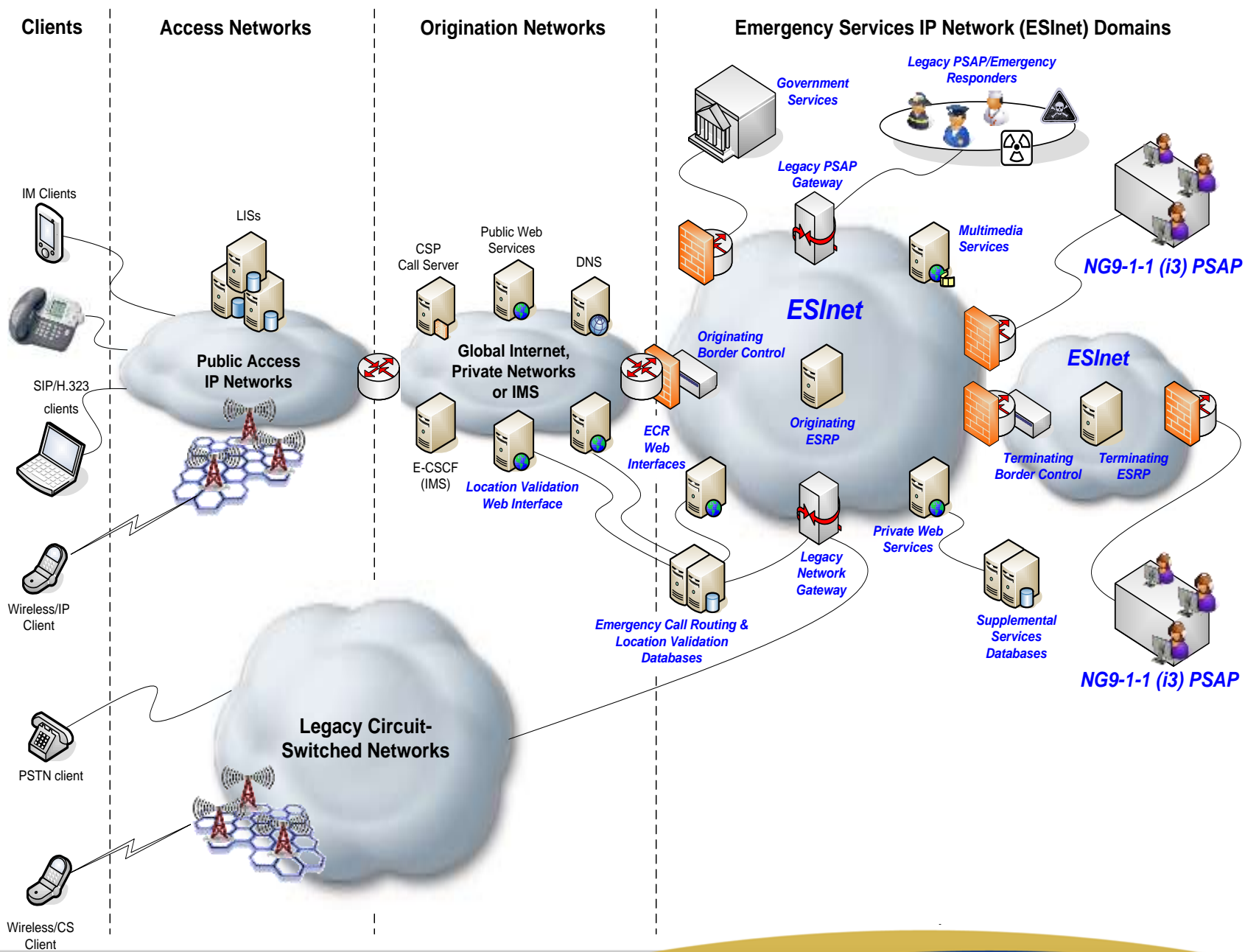
# NG 9-1-1 Logging Services



# Cybersecurity







How do you position your agencies to transition to a *fully featured* NG9-1-1 system?

The devil is in the details



**Emergency  
Communications  
Stakeholders & Partners**

**D.O.T.**

**N-1-1**

**PSAPs**

**Police, Fire,  
EMS  
Response  
Agencies**

**Hospitals,  
Poison  
Control**

**Media,  
Private  
Institutions**

**Emergency  
Management**

**NLETS,  
NOAA,  
FEMA, DHS**

**Fusion  
Centers**

# Service Provider Stakeholders

**Who are the origination & access network providers that will be involved?**

**Are they ready to move forward with NG9-1-1?**



# Governance Issues

## Funding



# **System Management**

**Who will be the designated 9-1-1  
system manager?**

**At what levels will contracted vendors  
be required?**

# Project Management Basics



# ***What is the Common Denominator During an Emergency?***

***ALL Emergencies are LOCAL.***

***Interoperability of both voice and data services is critical as incidents unfold and expand.***

***Next Generation services can provide that interoperability***



# Collaboration is Required

Managing data, coordinating services at all levels, and paying for them all require vision, leadership and a willingness to work collaboratively.



# NG9-1-1 Transition

*Evolution* not Revolution

