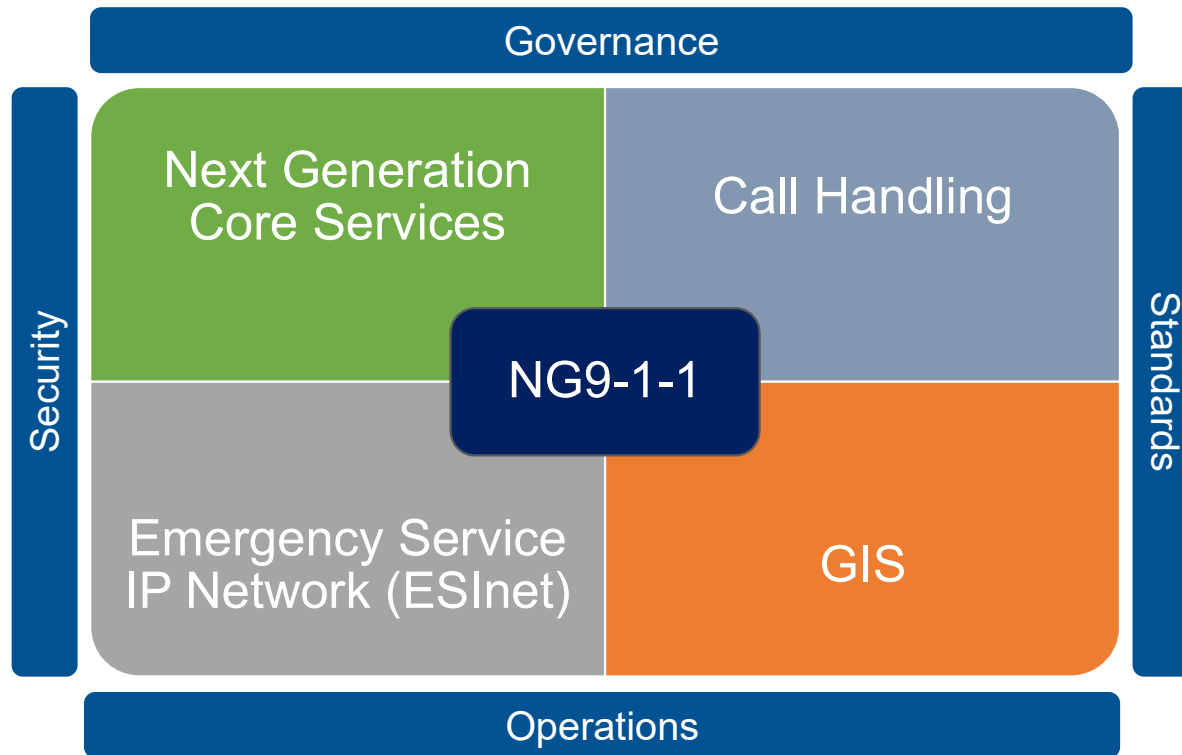


Lessons Learned in NG9-1-1 | 2.15.2017  
911 Technology Showcase



# Core Components of NG9-1-1

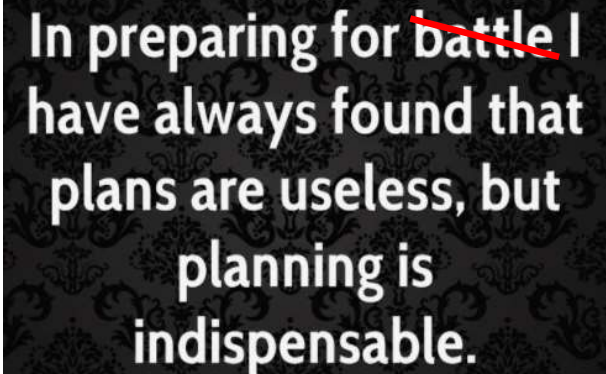


# Pre-Migration

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- Every deployment is different and issues will arise
  - Varying requirements, results in varying challenges
  - Nothing (yet) is cookie cutter
  - Over time experience allows for better responses to challenges
- Organizational Authority
  - Chain of command is established AND known to all organizations at every level
  - Understand regulatory responsibilities and implications
  - Project team requires full-time commitment from all parties
  - Ensure that “Generals” of the various organizations are in constant communication – Steering Committee
- The more information/data that can be provided on the front-end, the more likelihood of detecting and avoiding issues during implementation (scope creep)

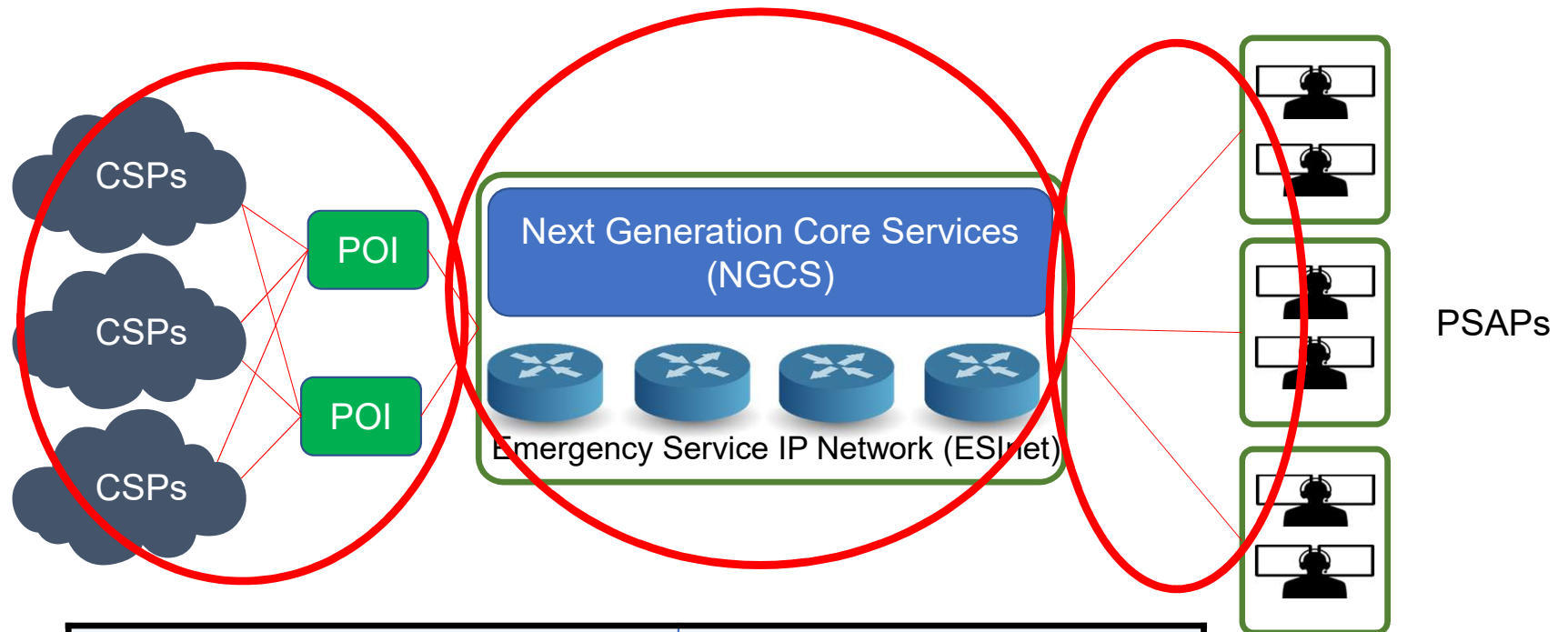
**NG9-1-1**



In preparing for ~~battle~~ I have always found that plans are useless, but planning is indispensable.

Source: ~~Dwight Eisenhower~~  
**Doug Kesser**

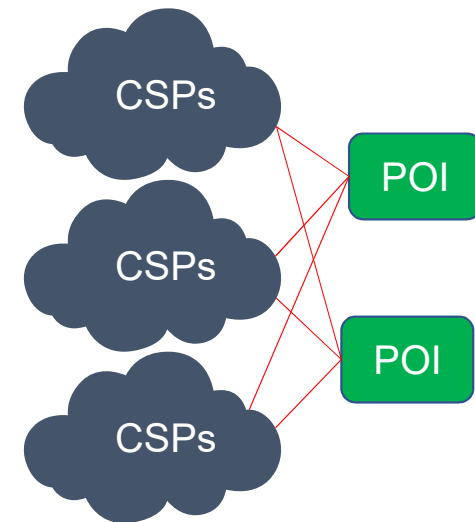
# High Level NG9-1-1 Network Architecture



1. Communication Service Providers	3. NGCS Applications
2. ESInet Transport	4. PSAP Connections

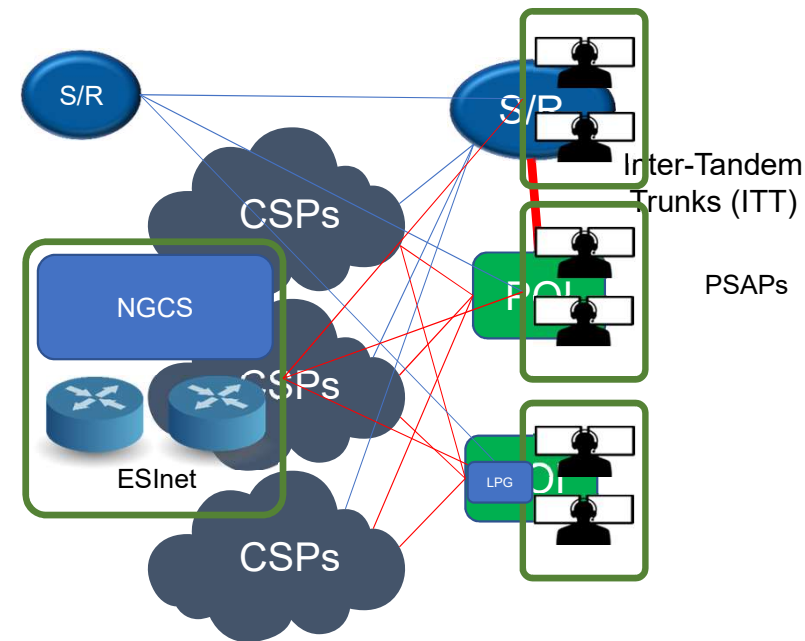
# Migration – Carrier Ingress and Aggregation

- Carrier Ingress
  - Must work with ALL carriers to ingress traffic into NG911 network (10s of carriers, sometimes >100)
  - Who pays for what today and how is it changing with NG911?
- Design agreement
  - Coming to an agreed upon design for each carrier is challenging and time consuming
  - E.g., Two POIs, crossing LATA boundaries, redundancy models, etc.
- 911 connections, in many cases, have not be touched for 20, 30, 40 years (50 years!!)
  - Some CSPs may have lost their SMEs for such service
  - Others may not know the proper provisioning/billing/operational codes for moving the circuits



# Migration – NGCS/ESInet

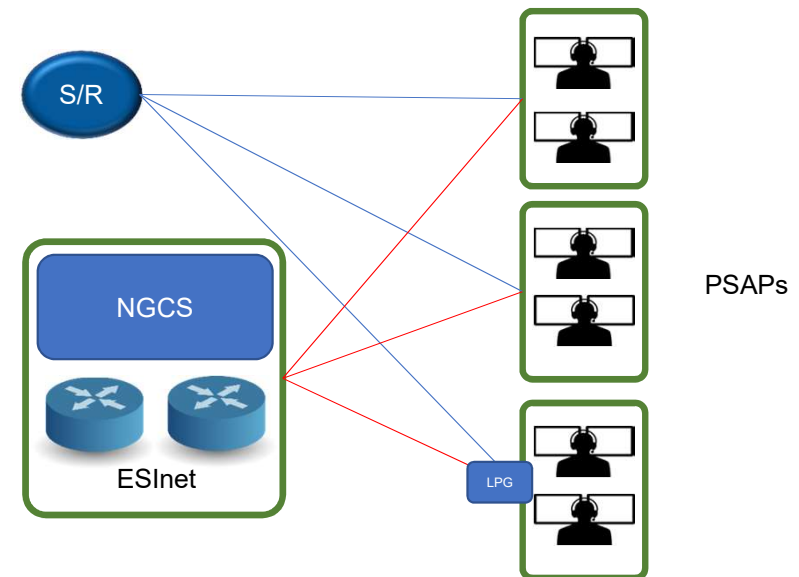
- During the transition to NG9-1-1, both the legacy and NG9-1-1 networks must be supported simultaneously
  - By the PSAPs
  - By the carriers
- An increased number of ITTs must be used to support the transition
- Migrations tend to take longer than expected
  - Comtech has found that this transition takes at least 6 months to get the FIRST carrier migrated
  - Legacy TDM environment must be in place until both the CSPs and the PSAPs have been migrated to the NG network
- Jurisdictions must plan for and understand the financial impacts.....transition costs and timing can have large impacts on deployments





# Migration – PSAP

- Network
  - Bandwidth
    - Size PSAPs correctly – a flat BW requirement is rarely the right answer.
    - May be less costly to “buy up” on a connection, e.g., a 10M Ethernet could be cheaper than two T1s.
  - Diversity
    - Carrier diversity does not mean last mile diversity
    - To obtain true diversity at all layers, ILEC involvement is necessary
  - Access options
    - May only be one carrier available, without dropping new fiber/copper
    - Consider using a wireless alternative
- Text connection
  - Ideally, is part of NGCS/ESInet via MSRP
  - However, if no i3 call handling, then must rely on web/TTY delivery



# Other NG9-1-1 Observations

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- **Tariff vs. RFP**
  - Some jurisdictions looking to implement tariffs vs. RFPs
  - Advantages/Disadvantages to each method
- **Beginning to observe some CSPs ingressing SIP vs. TDM**
  - Allows for use of IP-based circuit for traffic ingress
  - Ultimately will result in cost savings to CSPs – no need to support media GWs for SIP -> TDM conversion
  - Location with SIP signaling
- **Location**
  - NG9-1-1 does NOT mean better location, yet
  - Misconception found in many/most press releases discussing NG9-1-1, NG9-1-1 call handling, or text-to-911
- **Text Transferring**
  - Still waiting for standards
  - TCC vendors building proprietary methods



## Conclusion

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**The easy part is the RFP/Selection.....the hard part is the planning and implementation!**



**Thank You!!**

**Questions?**

# Safety & Security Technologies

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