



NG9-1-1 PSAP Based Considerations

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Agenda

- **1. Overview**
- **2. The Decision**
- **3. NG9-1-1 Primer**
- **4. Operational Considerations**
- **5. Technical Considerations**
- **6. Future Considerations**

The Decision

- **CRTC retains full and direct oversight, by mandating the Incumbent Local Exchange Carriers (ILECs) to be NG9-1-1 network providers.**
- **Regional NG9-1-1 networks must be interconnected to form a national network across the country. That will enable the seamless transfer of calls and information, as well as increase the reliability and resiliency of the network.**
- **All reasonable measures must be taken to ensure that the networks are reliable, resilient and secured, and to protect the confidentiality of the information carried over them and stored, to the maximum extent feasible.**
- **NG9-1-1 network providers must take all reasonable measures to ensure that NG9-1-1 network components are located in Canada. The CRTC must be notified of any exception.**
- **Prepare for and run applicable trials (IP-Voice and Real-Time Text (RTT))**

The Decision - Timelines

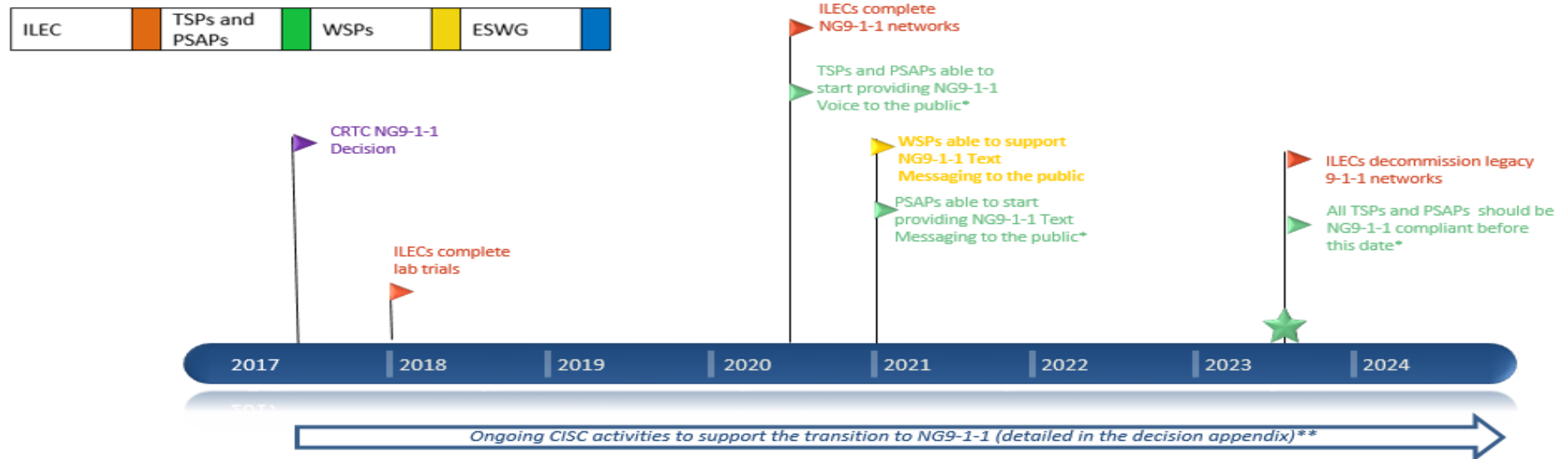


Canadian Radio-television and
Telecommunications Commission

Conseil de la radiodiffusion et des
télécommunications canadiennes



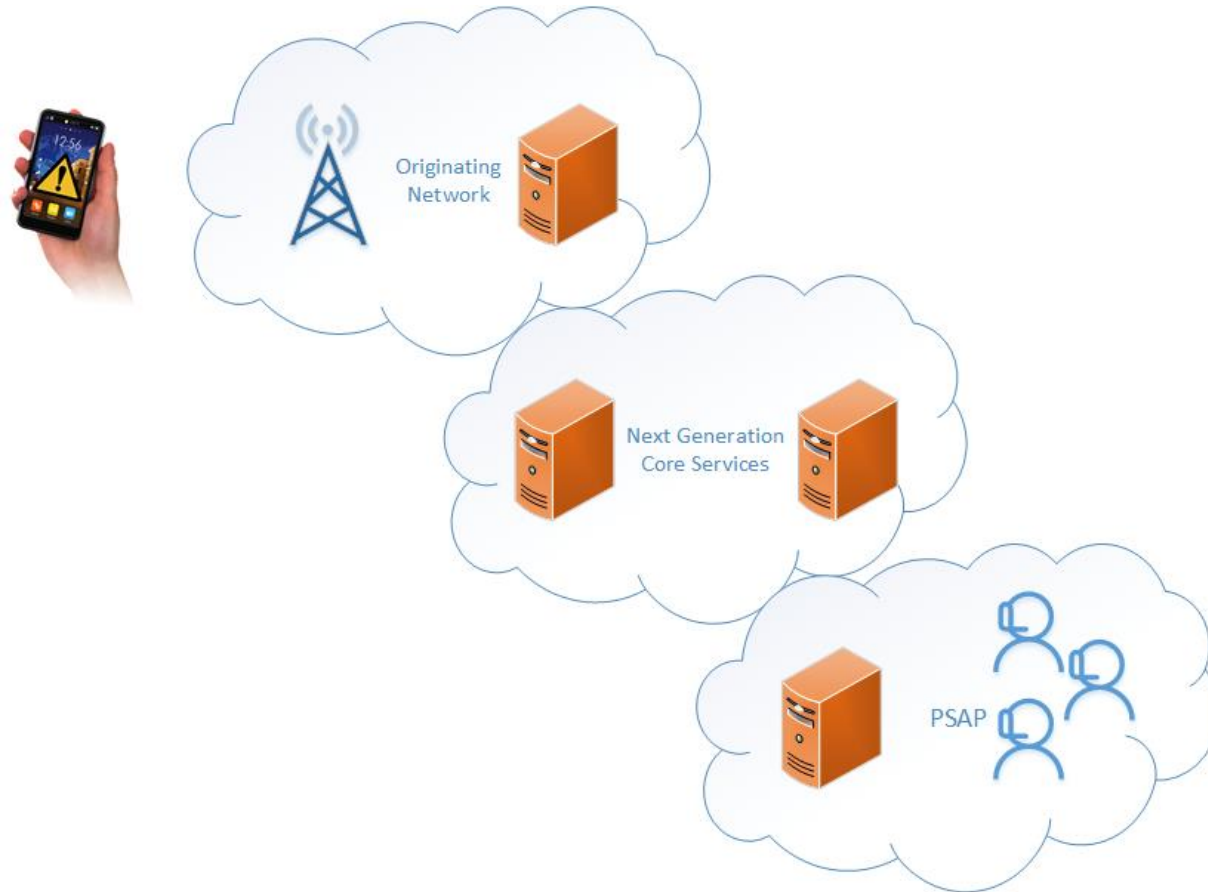
NG9-1-1 Roadmap



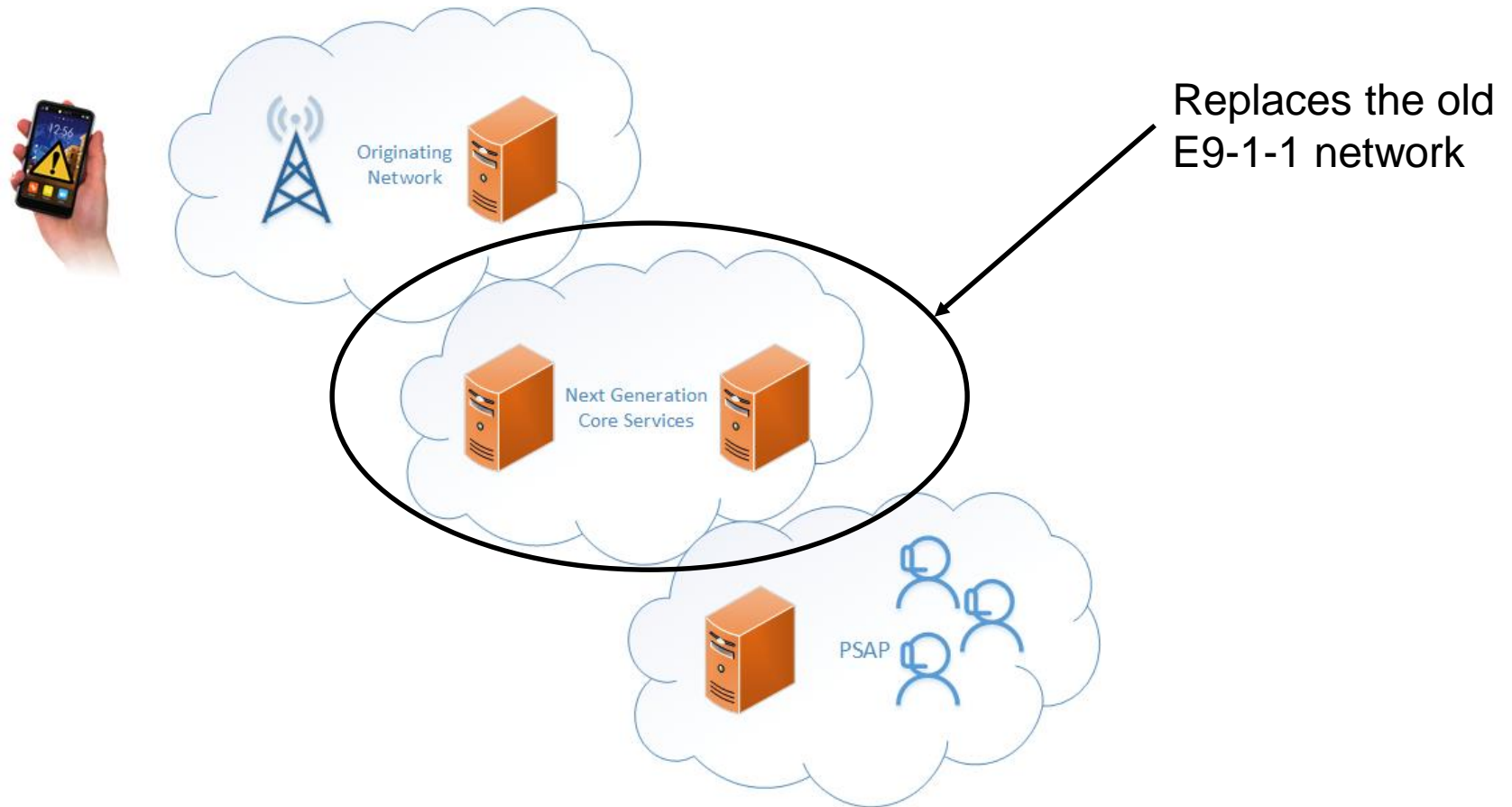
* Estimate only as PSAPs not under CRTC jurisdiction

**CISC also being requested to provide the CRTC with recommendations on topics such as: technical specs for RTT-based NG9-1-1 Text Messaging; industry best practices and standards related to the reliability, resiliency, and security of NG9-1-1 networks in Canada; the technical details of NG9-1-1 network interconnections; and NG9-1-1 public education campaigns.

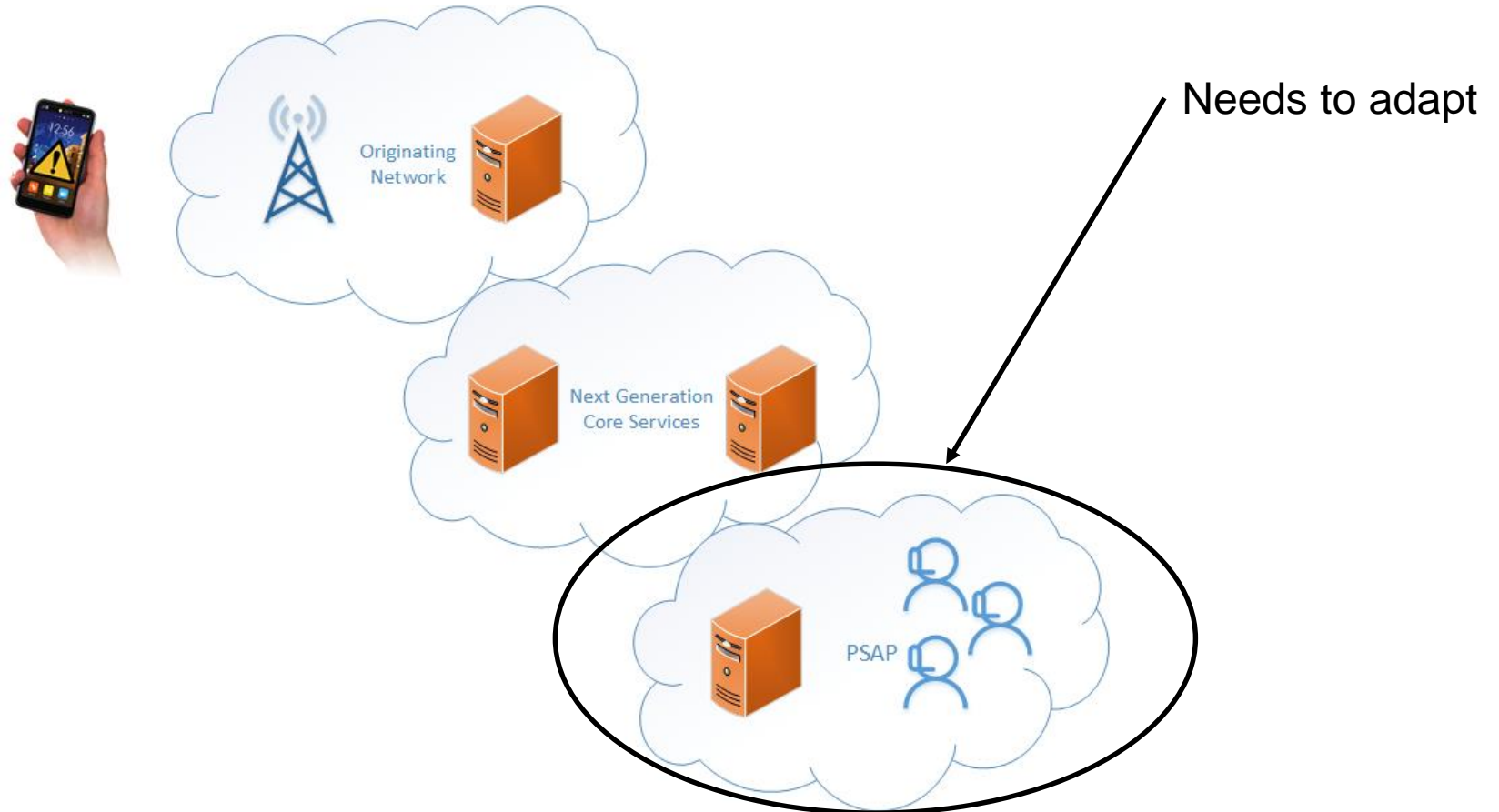
NG9-1-1 Primer



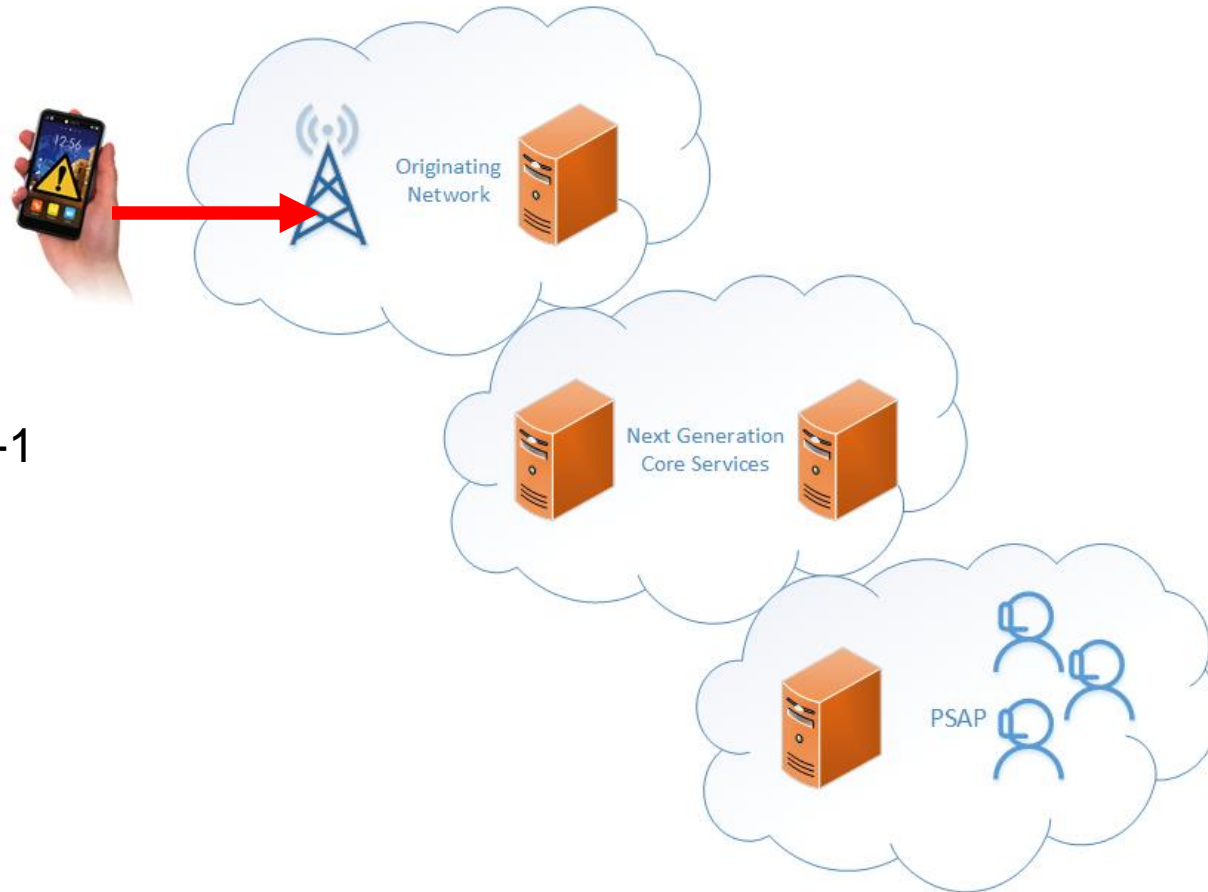
NG9-1-1 Primer



NG9-1-1 Primer

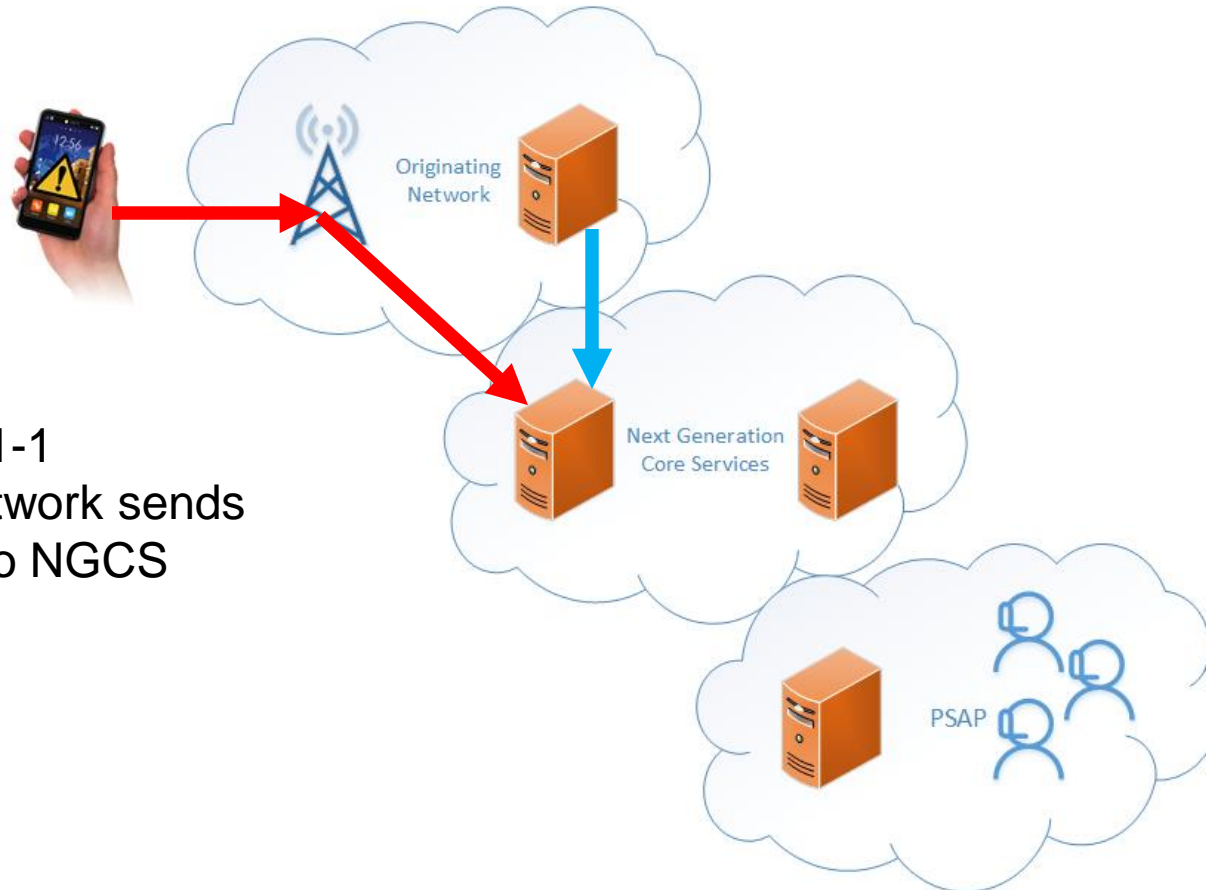


NG9-1-1 Primer



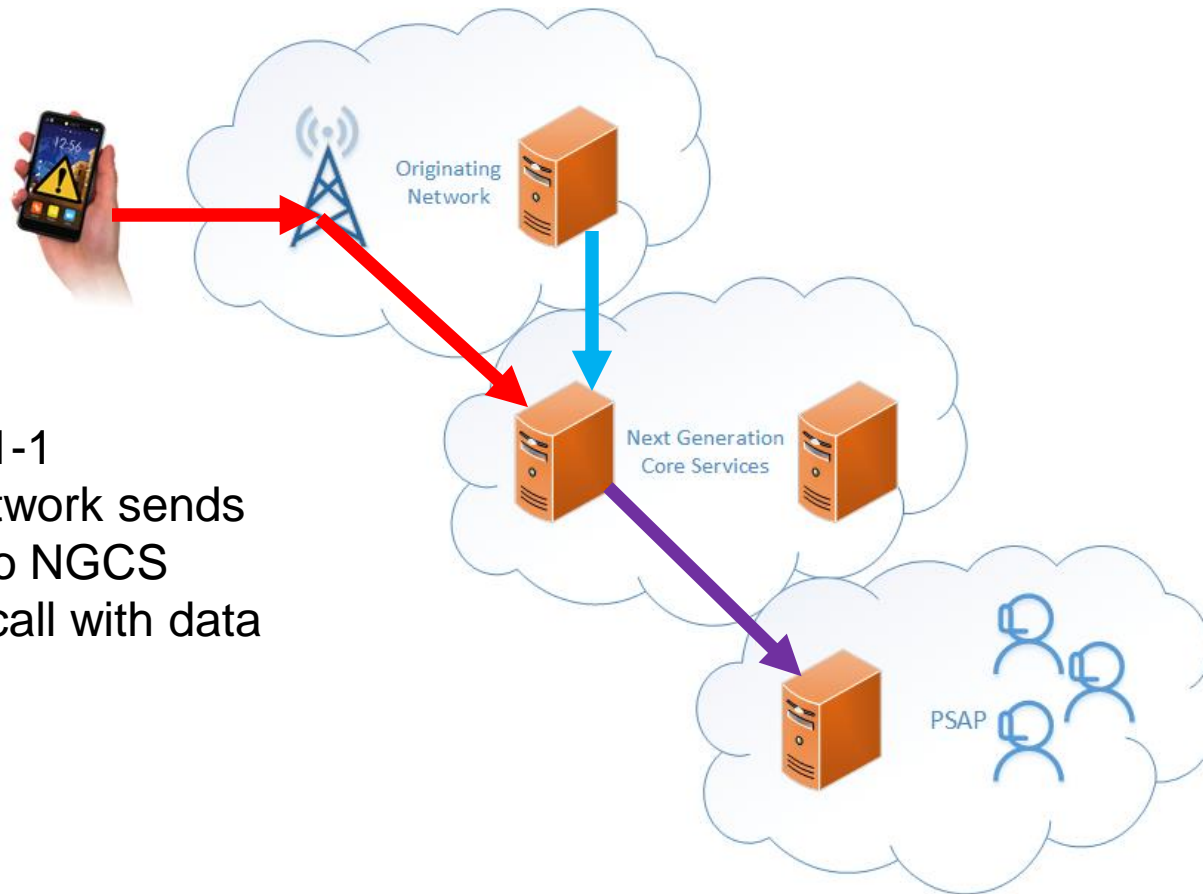
1. Caller dials 9-1-1

NG9-1-1 Primer



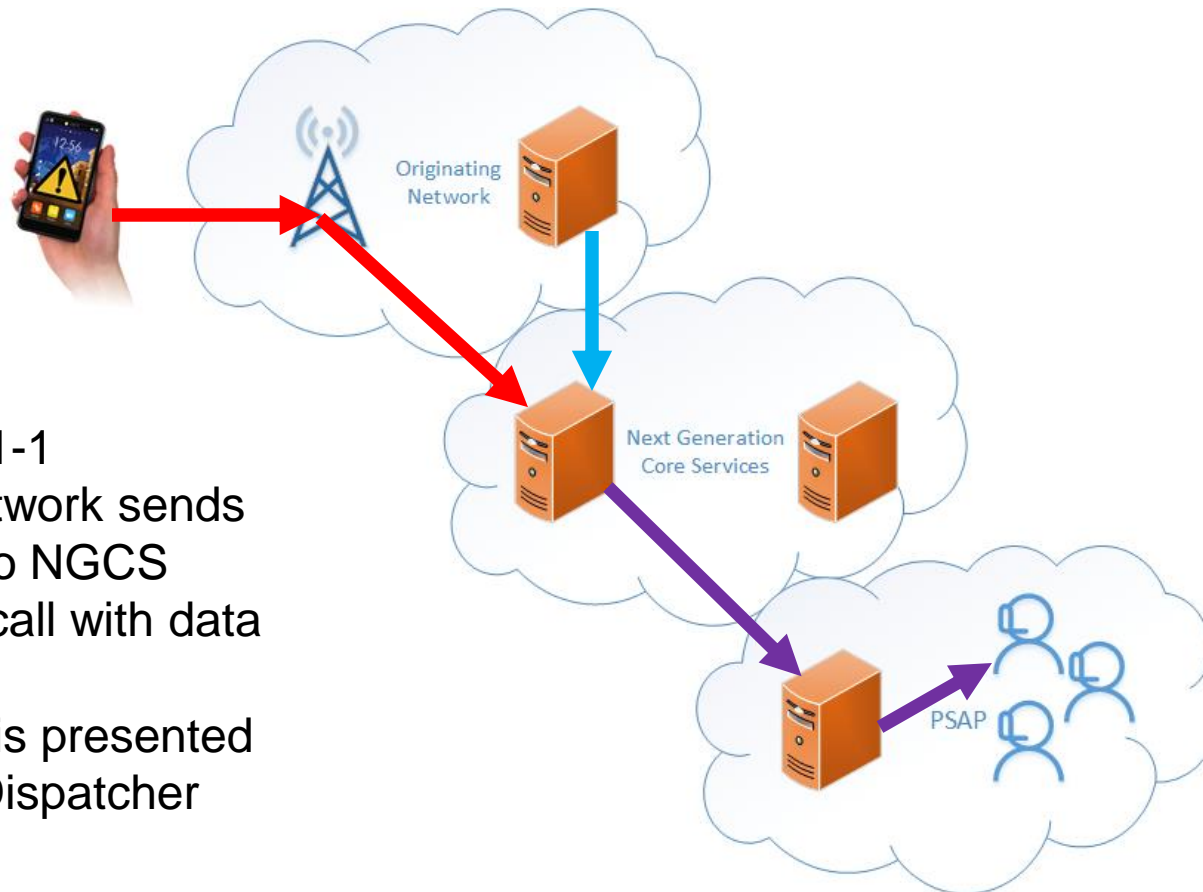
1. Caller dials 9-1-1
2. Originating network sends call and data to NGCS

NG9-1-1 Primer



1. Caller dials 9-1-1
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3. NGCS sends call with data to PSAP

NG9-1-1 Primer



1. Caller dials 9-1-1
2. Originating network sends call and data to NGCS
3. NGCS sends call with data to PSAP
4. Call with data is presented to Call Taker/Dispatcher

E9-1-1 Vs. NG9-1-1

E9-1-1	NG9-1-1
Voice and some text	Multimedia (voice, text and in future video)
Separate voice and data networks	Combined delivery of media and data (data comes with emergency call)
Limited data	Rich data: location, access network provider data, in the future medical, location-based data (floor plans, occupants, etc.), pictures and videos
No transfer of incident data between PSAPs	Data accumulated at one PSAP can be made available to transferred-to PSAP (Incident location and type, narrative, resources engaged, etc.)
Transfers limited to 9-1-1 SP network	Seamless transfer within AND between ESInets
PBX is sufficient	NG9-1-1 specific applications or a PBX enhanced for NG9-1-1

NG9-1-1 Will Not...

- **Solve the location accuracy and/or determination speed issues**
- **Necessarily be less expensive than E91-1**

Operational Considerations

- 1. Training**
- 2. SOPs**
- 3. Transition**
- 4. IT Expertise + Cybersecurity**

NENA PSAP Operations Committee

Management of Emergency Incident

Data Documents (EIDD)

PSAP Daily Operations

Contingency Planning

9-1-1 Call Processing

Management of Emergency Incident Data Documents (EIDD)

- The Management of EIDD Working Group will focus on developing an ANSI accredited NENA/APCO Standard to provide guidance to 9-1-1 Authorities, PSAP Managers, and application developers on how to manage data interoperability between NG9-1-1 functional elements, public safety applications within the PSAP, originating & assisting PSAPs, emergency responder applications and other law enforcement, fire and EMS entities.**

PSAP Daily Operations

- The PSAP Daily Operations Working Group will update NENA 54-001 (11/18/2004) to bring it in line with today's Communications Center/PSAP personnel operations needs and issue as an ANSI accredited NENA Standard.**

Contingency Planning

- **This committee is updating NENA's Contingency Planning Documents in the 53 series, including 53-001 "Communications Center/PSAP Disaster Contingency Plans Model Recommendations.**

9-1-1 Call Processing

- This Work Group is creating a NENA Standard for 9-1-1 Call Processing. This work will combine and update current NENA standards in the areas of Guidelines For Minimum Response To Wireless 9-1-1 Calls, Call Answering, Emergency Call Processing Protocols and Silent or Hang-Up 9-1-1 Calls for Service.**

Technical Considerations

- **Bell will issue a new BID document specifying details on how NG9-1-1 calls will be delivered to an i3 compliant PSAP**
- **All NG9-1-1 calls will delivered via SIP signalling, as specified by NENA i3**
 - **It is the same protocol used in NG9-1-1 deployments in the USA**
 - **While there is no i3 product certification, NENA regularly holds Industry Collaboration Events (ICE) for equipment vendors to test and validate end-to-end interoperability**

Technical Considerations

- **Because of the data component accompanying NG9-1-1 calls and call transfer protocols, PSAPs will need compatible equipment to answer and process NG9-1-1 calls:**
 - **A NENA i3 compatible call handling system**
 - **Once data is extracted, it can be sent to CAD as usual and possibly displayed on the call taking equipment's user interface**
 - **Could be an upgrade or addition to a suitable PBX**
 - **After 2023, a Legacy PSAP Gateway (LPG) could be used as a transitional element. However, that will mean NG9-1-1 features will not be available to the PSAP. Use is not recommended by the Commission and is not part of the ESInet (to be paid by the PSAP)**

Technical Considerations

- **Bell 9-1-1's IP VPN network deployed to deliver ALI is fully ready to deliver NG9-1-1 calls**
 - **Meets NENA definition of an Emergency Service IP Network (ESInet)**
- **PSAPs must verify and validate if their existing networking equipment is ready for NG9-1-1 and support its security**
 - **See NENA [Emergency Services IP Network Design for NG9-1-1](#) for guidance**
 - **Take special considerations to firewall(s) connected to Bell 9-1-1 network to ensure readiness for handling SIP calls**
 - **It is strongly recommended to deploy Quality of Service (QoS)**

Technical Considerations

- **Logging in NG9-1-1 is more than just voice recording**
 - **It includes media and event logging**
 - **The logger is the repository for historical data**
- **Logging service can be located in the PSAP or in the NGCS core network**

Technical Considerations

- **PSAPs may elect to evaluate obtaining NG9-1-1 call taking as a service**
 - **No capital expenditure required, only recurrent OpEx charges**
 - **No need to procure, host, upgrade and manage complex NG9-1-1 backroom equipment**

Future Considerations

(Evolution of NG9-1-1)

- **Real-Time Text (RTT) from the general public available December 2020 to PSAPs ready to accept**
- **Video available in emergency calls**
- **Media files from calling device (pictures, videos)**
- **Additional Data Repositories (ADR)**
 - **Billing information for wireless calls**
 - **Receive additional data from callers such as telematics, occupants, etc.**
 - **Leverage registration services for citizens identifying personal information such as medical condition(s)**

Future Considerations

- **Ensure your technology vendor will evolve your deployment as new NG9-1-1 features and capabilities become available**

Q & A

