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Next Generation 9-1-1 Information & Collaboration

July, 2017

California 9-1-1 Emergency Communications Branch

Purposes

- Overview of California 9-1-1 System
- Answer question: Why Next Gen 9-1-1?
- Overview of Next Gen 9-1-1 Transition
- Role of Cal OES
- Role of PSAP
- Next Steps

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9-1-1 in California Today

2016 California 9-1-1 Call Statistics

Total 9-1-1 Calls: 28,507,534

- 80% Wireless
- 16% Wireline
- 3% Voice over IP
- 1% Other to include Telematics
- ~ 5k Text Messages

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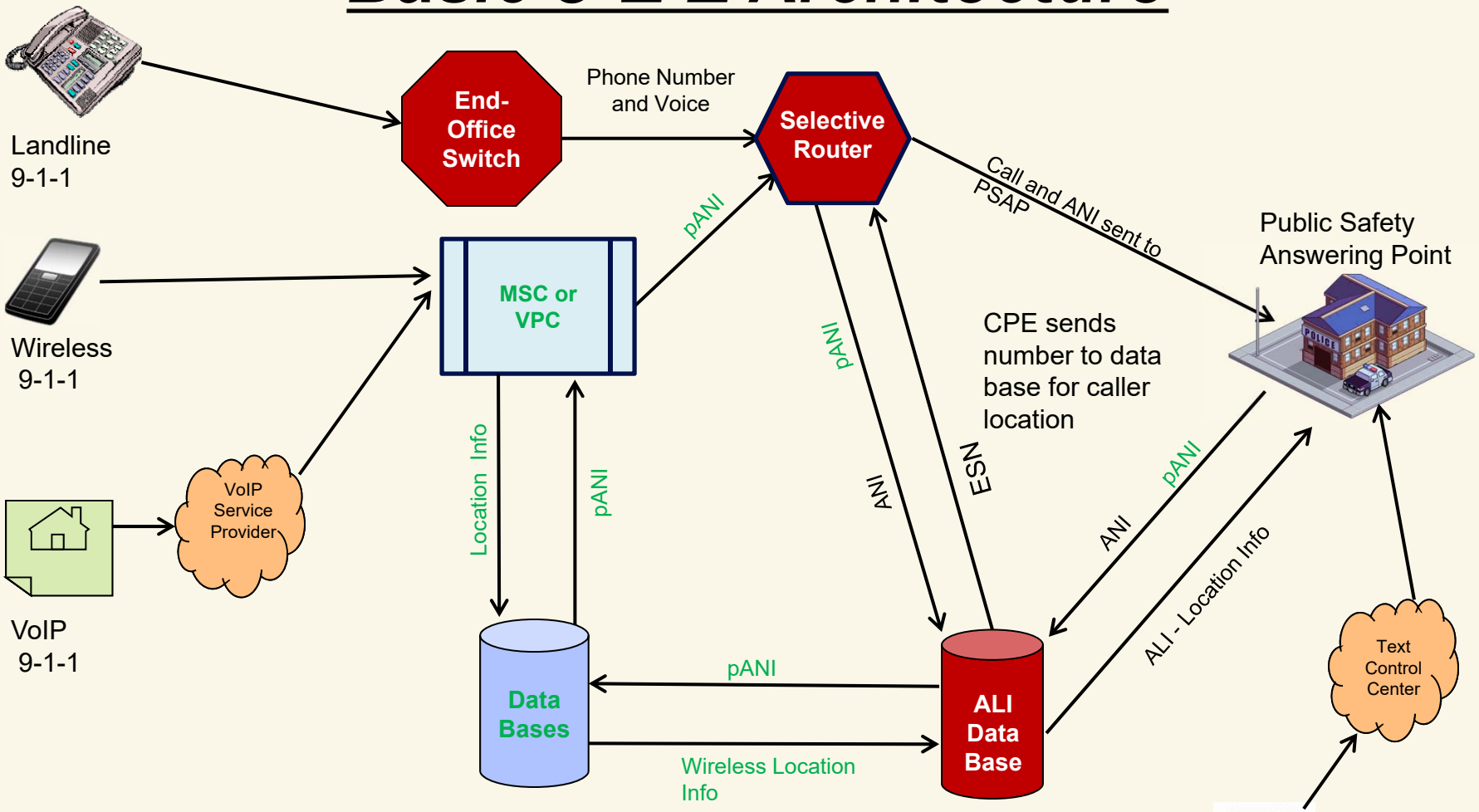
Basic 9-1-1 Architecture



- CPE – Customer Premise Equipment
- ESN - Emergency Service Number
- ALI – Automatic Location Information
- ANI – Automatic Number Identification
- pANI - Psuedo ANI
- VoIP – Voice over IP
- MSC – Mobile Switching Center
- VPC – VoIP Positioning Center

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Current 9-1-1 System

- Based on 1970's technology
- Supports voice and limited data
- Infrastructure beyond end of life
- Does not meet needs of current technology

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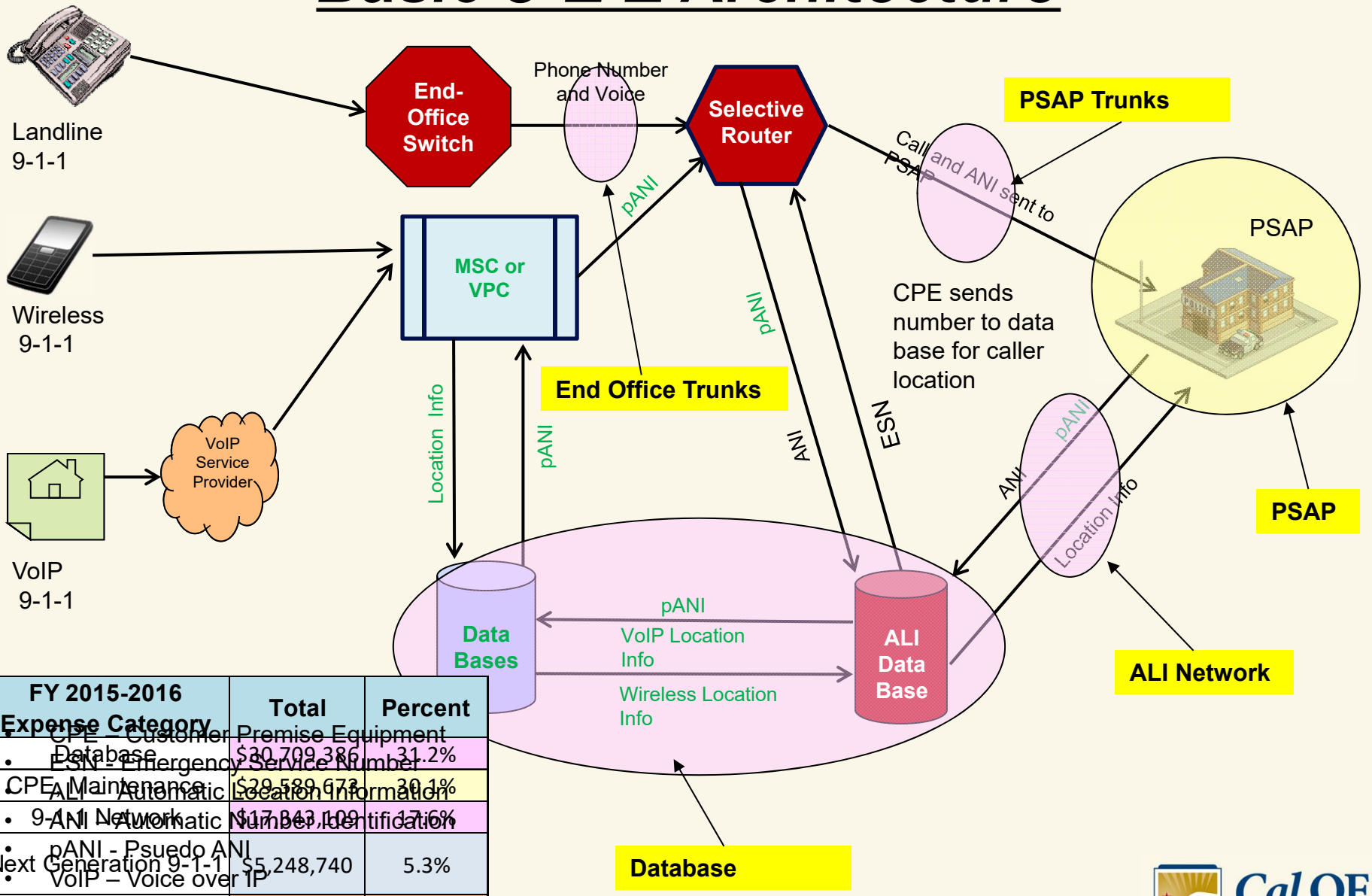
Basic 9-1-1 Architecture



FY 2015-2016 Expense Category	Total	Percent
Database	$30,709,386	31.2%
CPE Maintenance	$29,589,673	30.1%
9-1-1 Network	$17,843,109	17.6%
Next Generation 9-1-1	$5,248,740	5.3%
CAP-IRE	$4,053,000	4.1%
Network - Wireless	$2,940,969	3.0%

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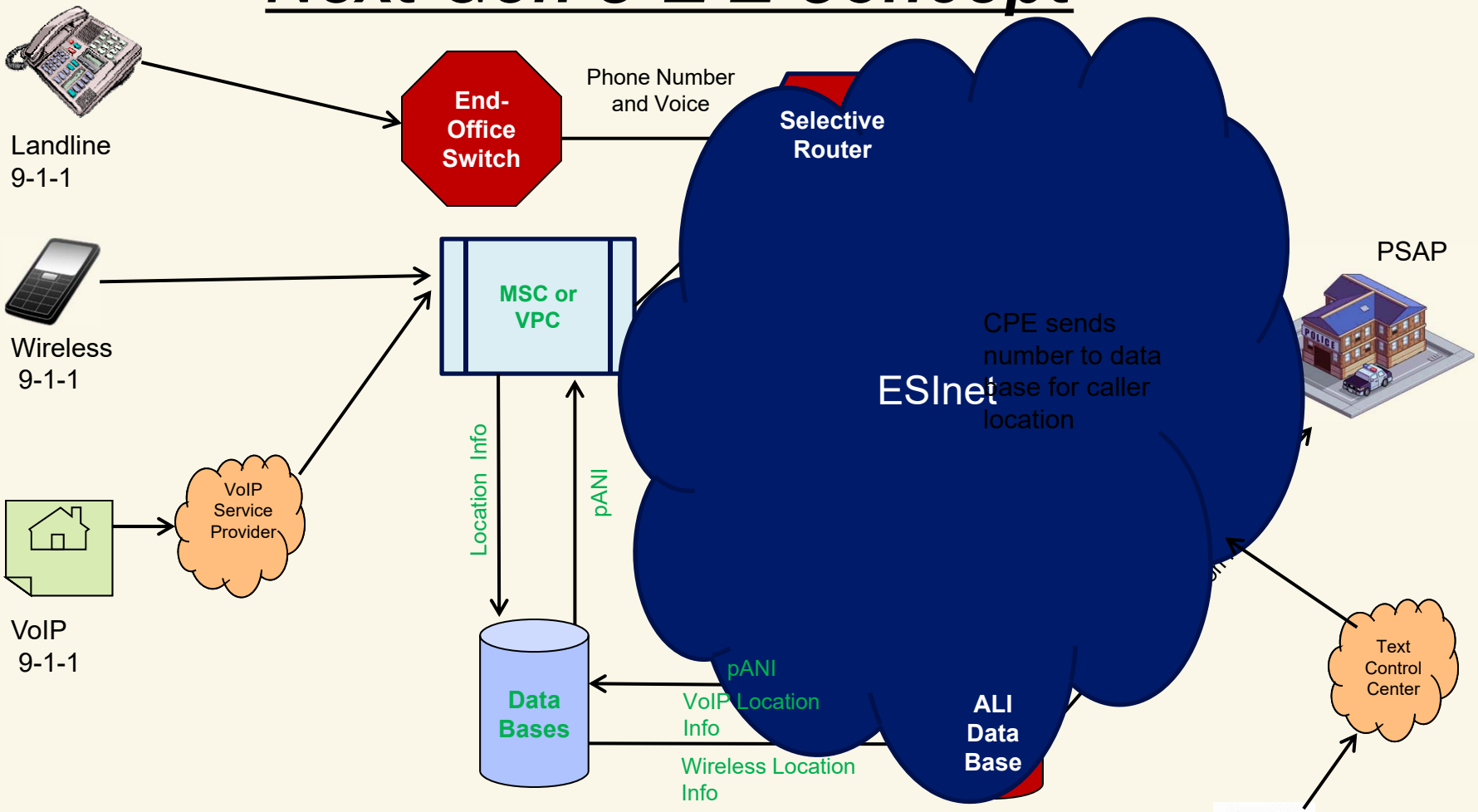
Next Gen 9-1-1 Concept



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Why Next Gen 9-1-1?

- Faster call delivery
- Increased routing accuracy
- Increased routing functionality
  - Call overflow and backup
- Updated Geographic Information System (GIS)
- Prepared for wireless location data
- Prepared for newer technologies
- Keeps California in driver's seat

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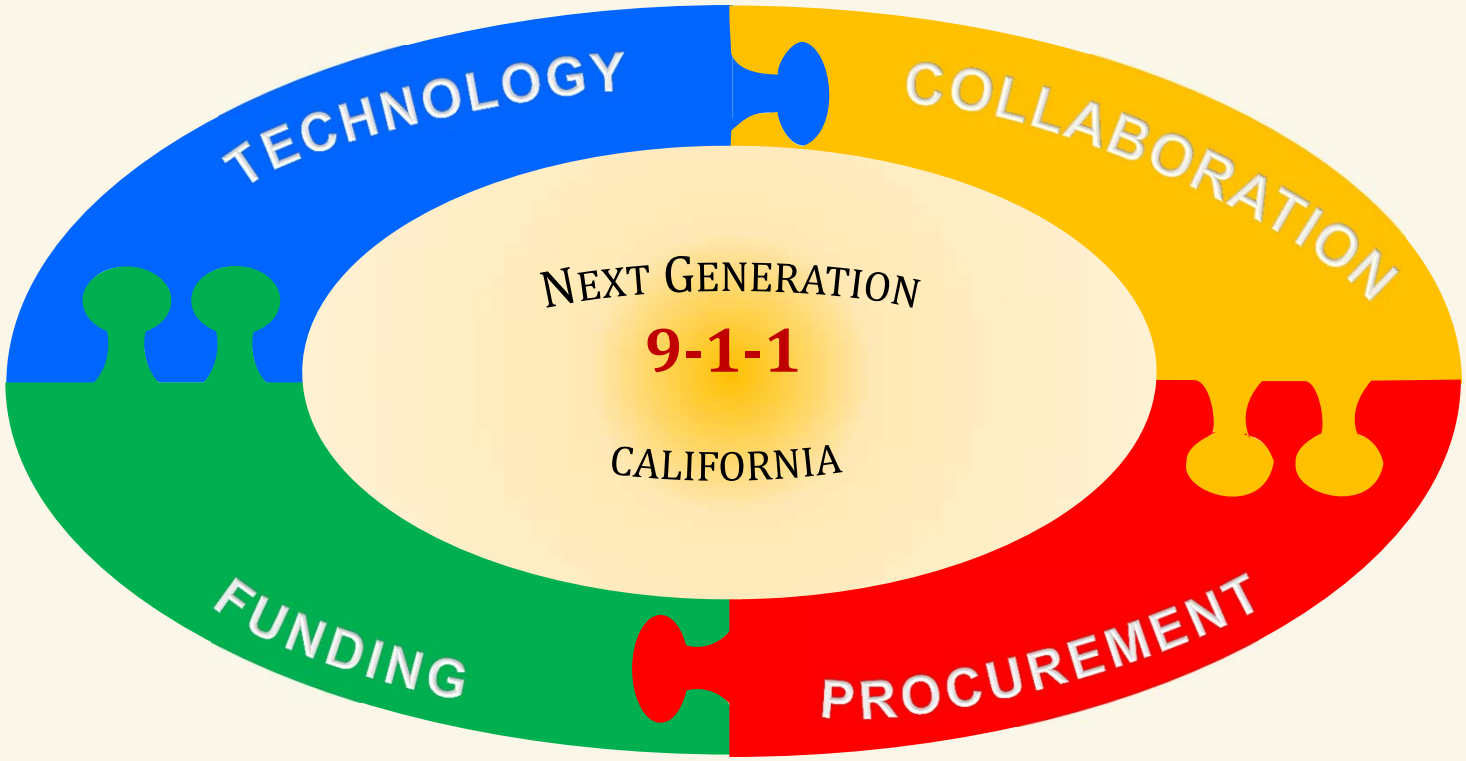
Next Gen 9-1-1 in California



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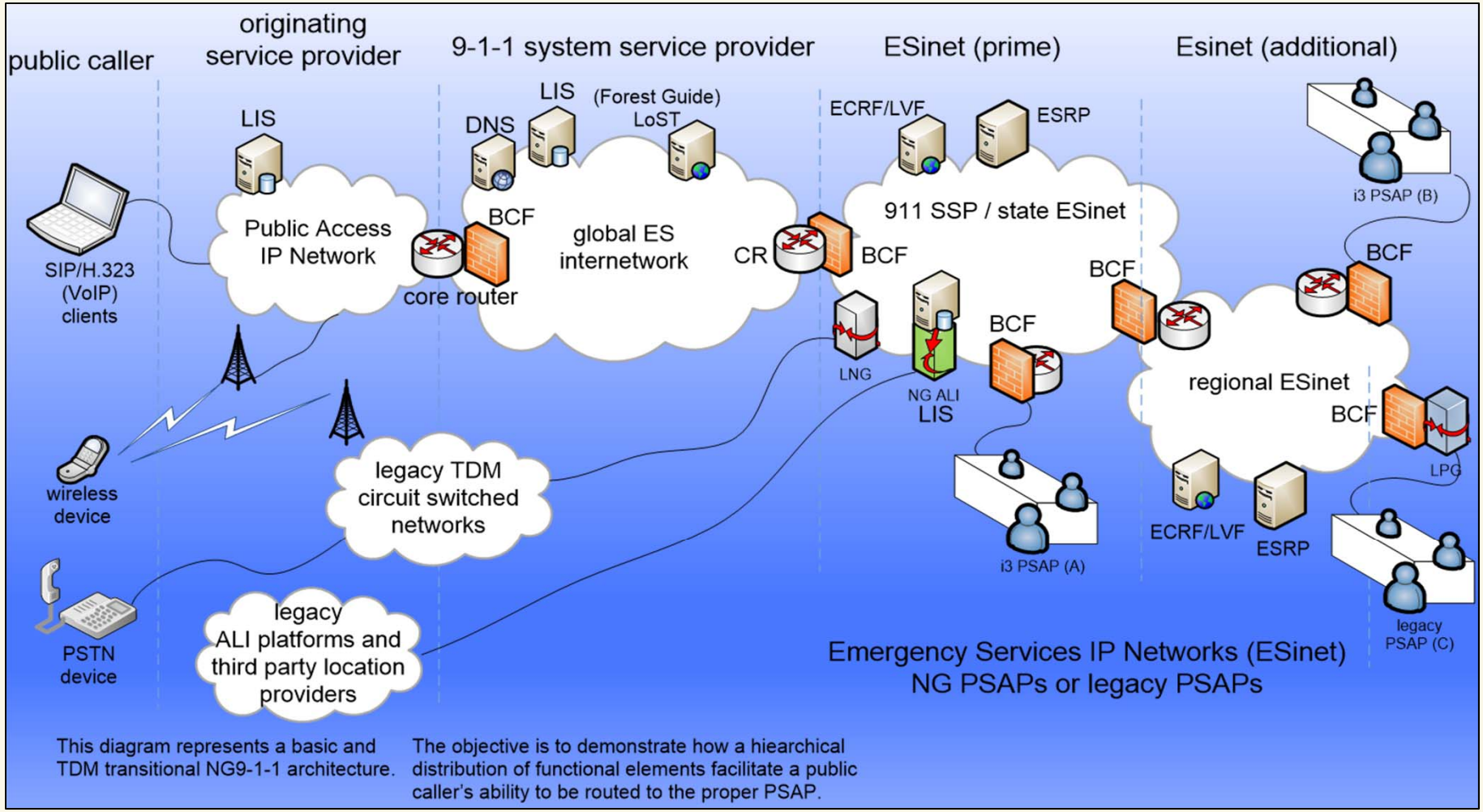
Next Gen 9-1-1 Design



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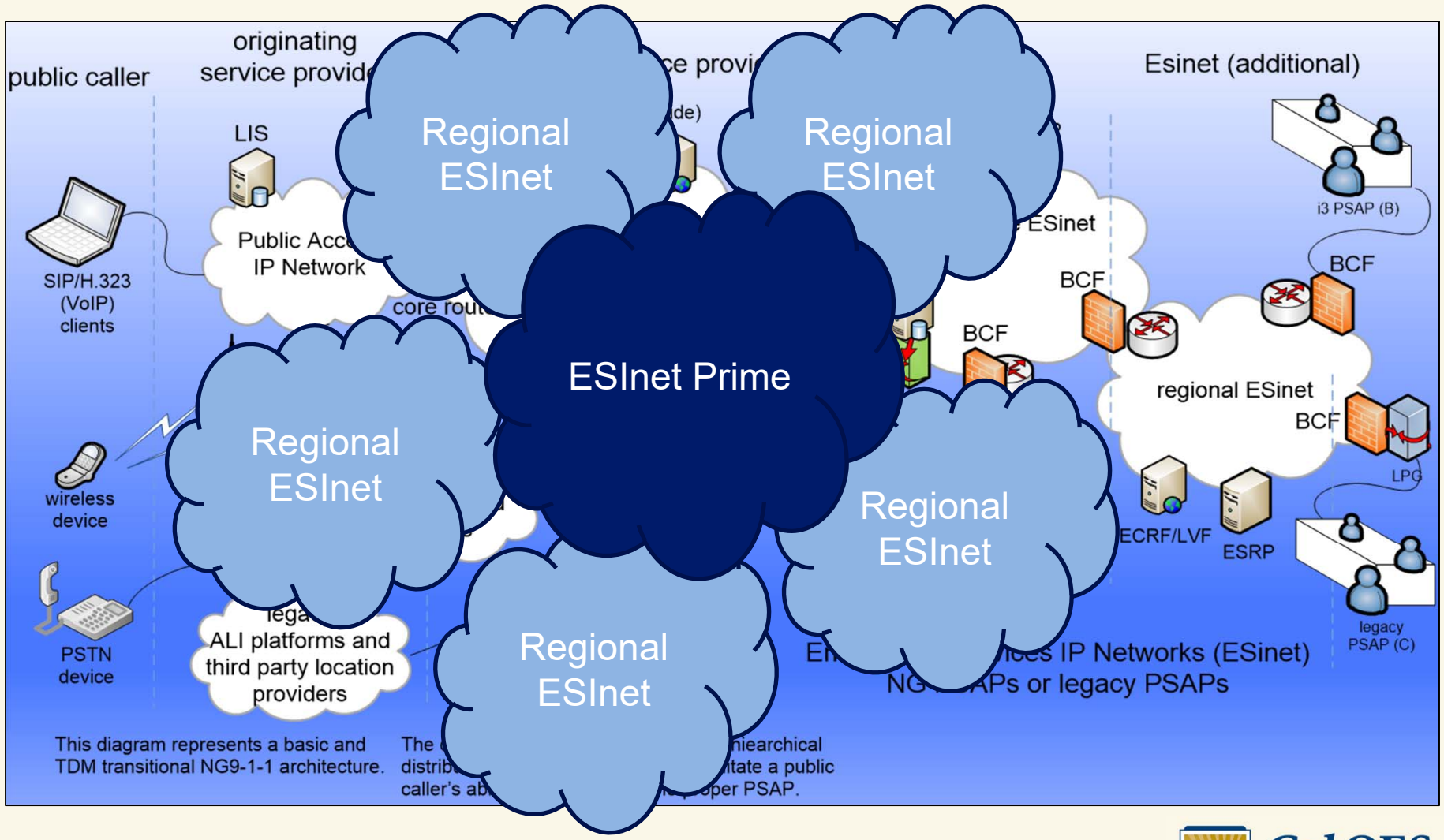
Next Gen 9-1-1 Design



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Next Gen 9-1-1 Components

- **ESRP** - Emergency Services Routing Proxy essentially replaces the selective routers in NG9-1-1.
- **ECRF** - Emergency Call Routing Function is the functional element where caller location and routing information for that call is stored.
- **PRF** – The Policy Routing Function is where default, alternate, contingent, and emergency routes are located. The PRF is the specific functionality regarding how those routes are changed.
- **ALI DB service** - The Automatic Location Information DataBase is being used to route calls in a legacy system
- **LIS** – Location Information Server will transition the ALI database transition into the ESInet / NG9-1-1 core
- **LVF** - The ECRF connects to the LIS to determine location and validates it through a Location Validation Function (LVF).
- **LSRG** – Legacy Selective Router Gateway
- **LNG** – Legacy Network Gateway
- **LPG** – Legacy PSAP Gateway

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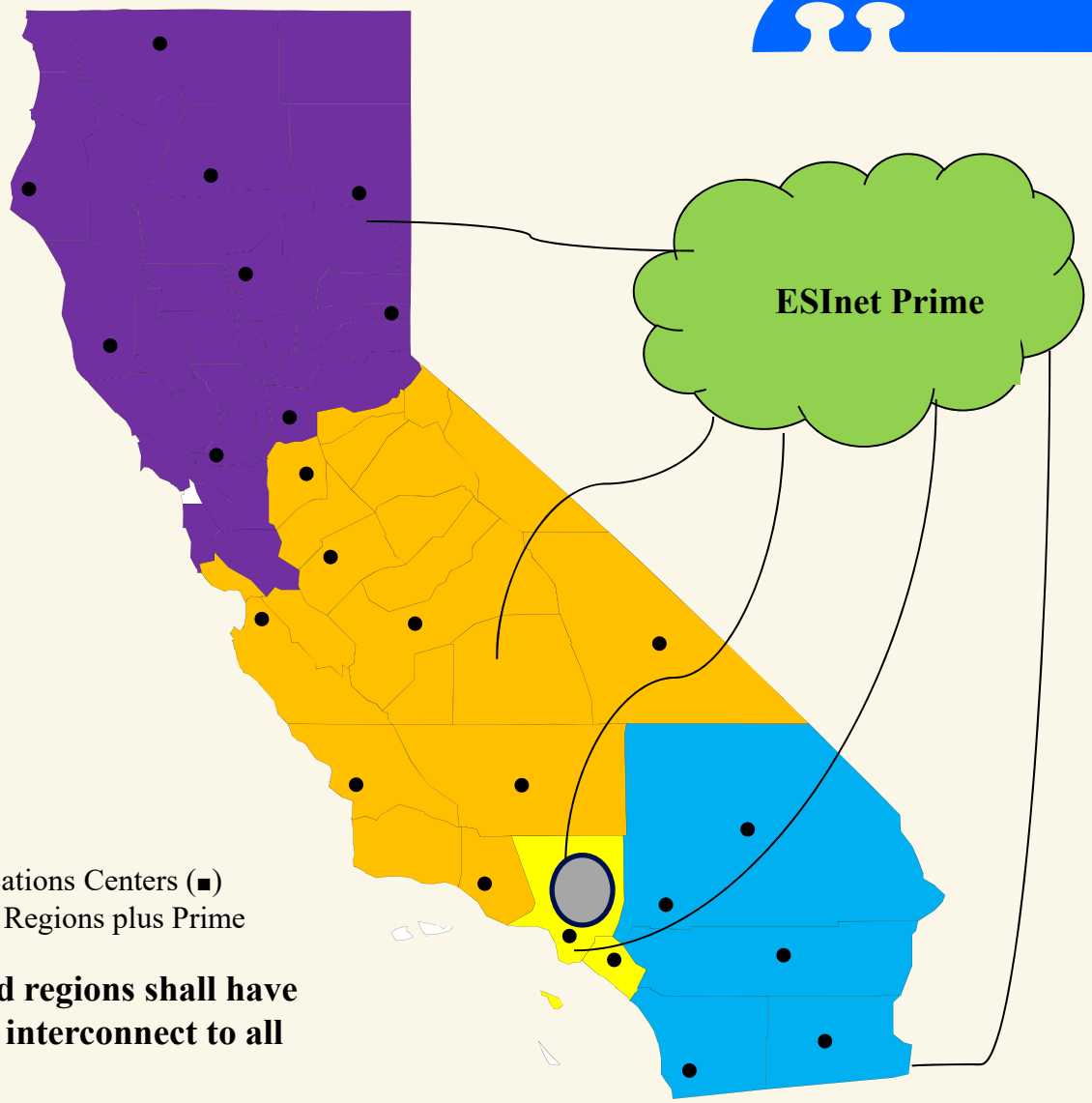
Next Gen 911 ESInet Statewide Regional Map



Northern Region

Central Region

Los Angeles City

Los Angeles County

Southern Region

Map Depicts:
-58 Counties
-24 CHP Communications Centers (■)
-5 Defined ESINET Regions plus Prime

All five identified regions shall have the capability to interconnect to all other regions.

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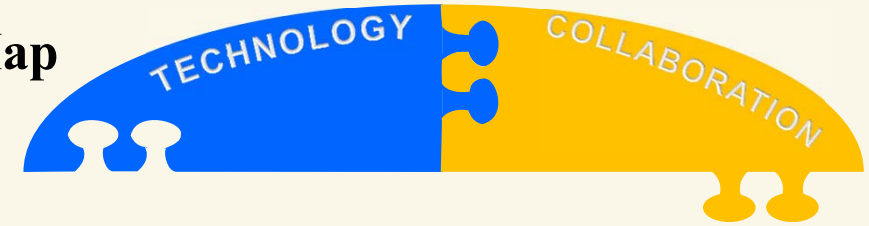
Next Gen 911 ESInet Statewide Regional Map



Region	Annual Call Volume
Northern:	7,196,063
Central:	5,225,059
LA/Orange County:	4,838,911
LA City:	5,467,062
Southern:	5,563,340

*Orange County and CHP Irvine included with LA County

*CHP LA included with LA City

*All figures are from 2016 calendar year

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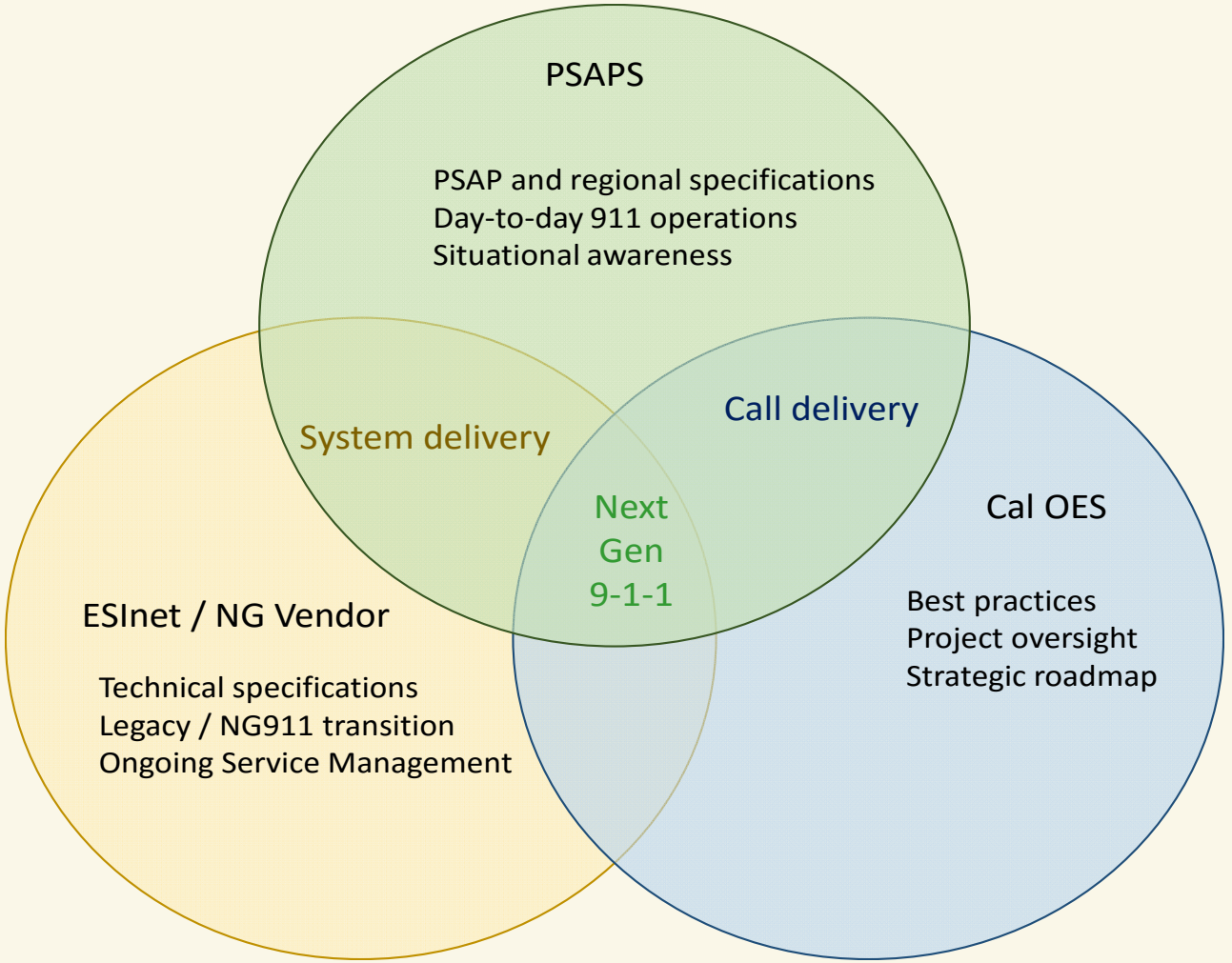
Next Gen 9-1-1 Overlap



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Role of Cal OES

- Responsibility for procurement, design, and implementation of all ESInets
- Develop policies and standards for the system based on PSAP service requirements
- Manage regional and prime ESInets
- Coordinate GIS data
- Align California NG9-1-1 program with national efforts and vision for a nationwide system.
- Establish policies and best practices for NG9-1-1 activities across the state including network operation, monitoring, and service management

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Role of PSAP

- Goal is to maintain current paradigm
- Procurement and installation of CPE
- Communication with CA 9-1-1 Branch
- Providing network performance feedback
- Trouble reporting to vendor and CA 9-1-1 Branch
- Have input into approach and strategy
- Locally implement system objectives

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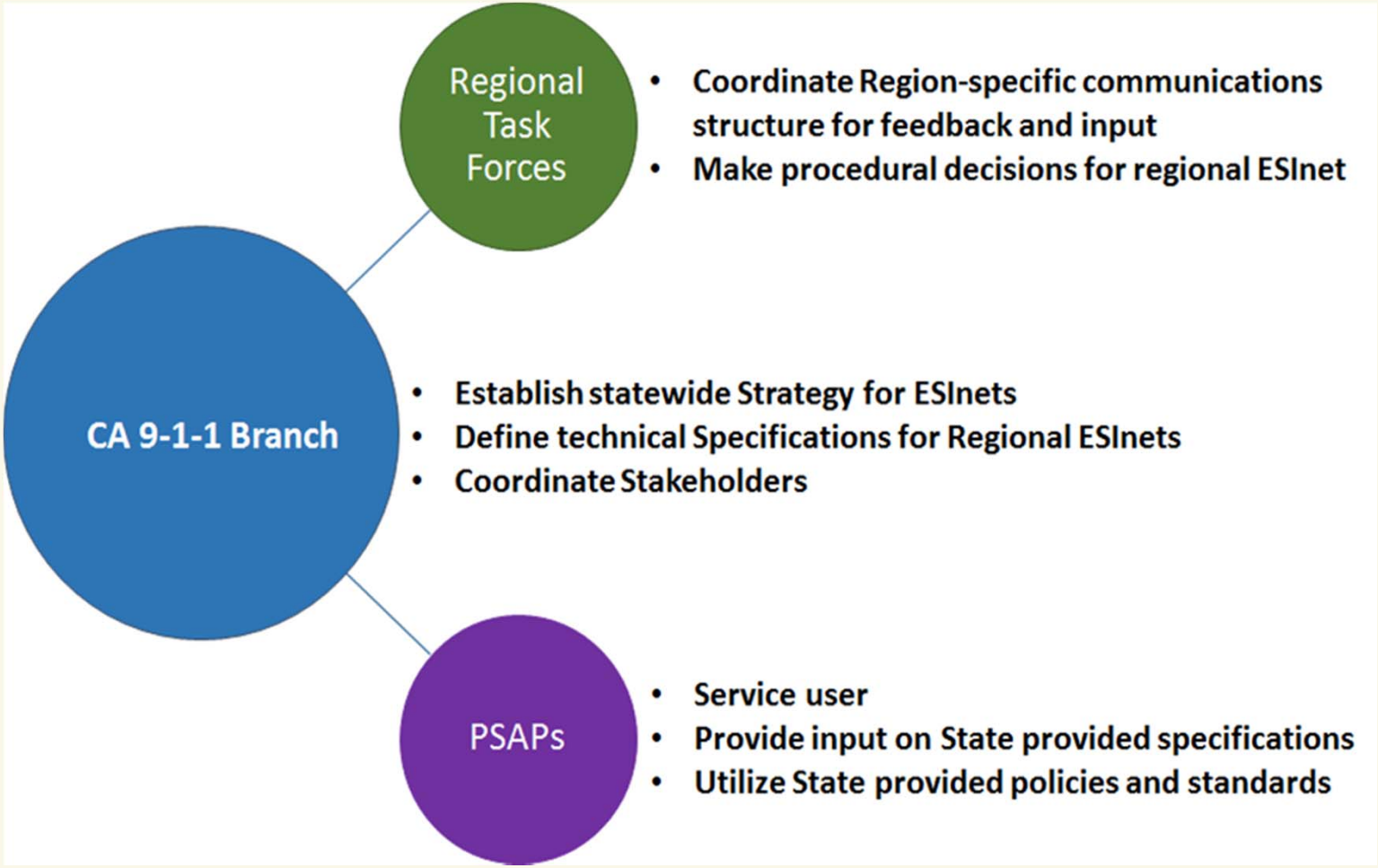
Regional Task Force



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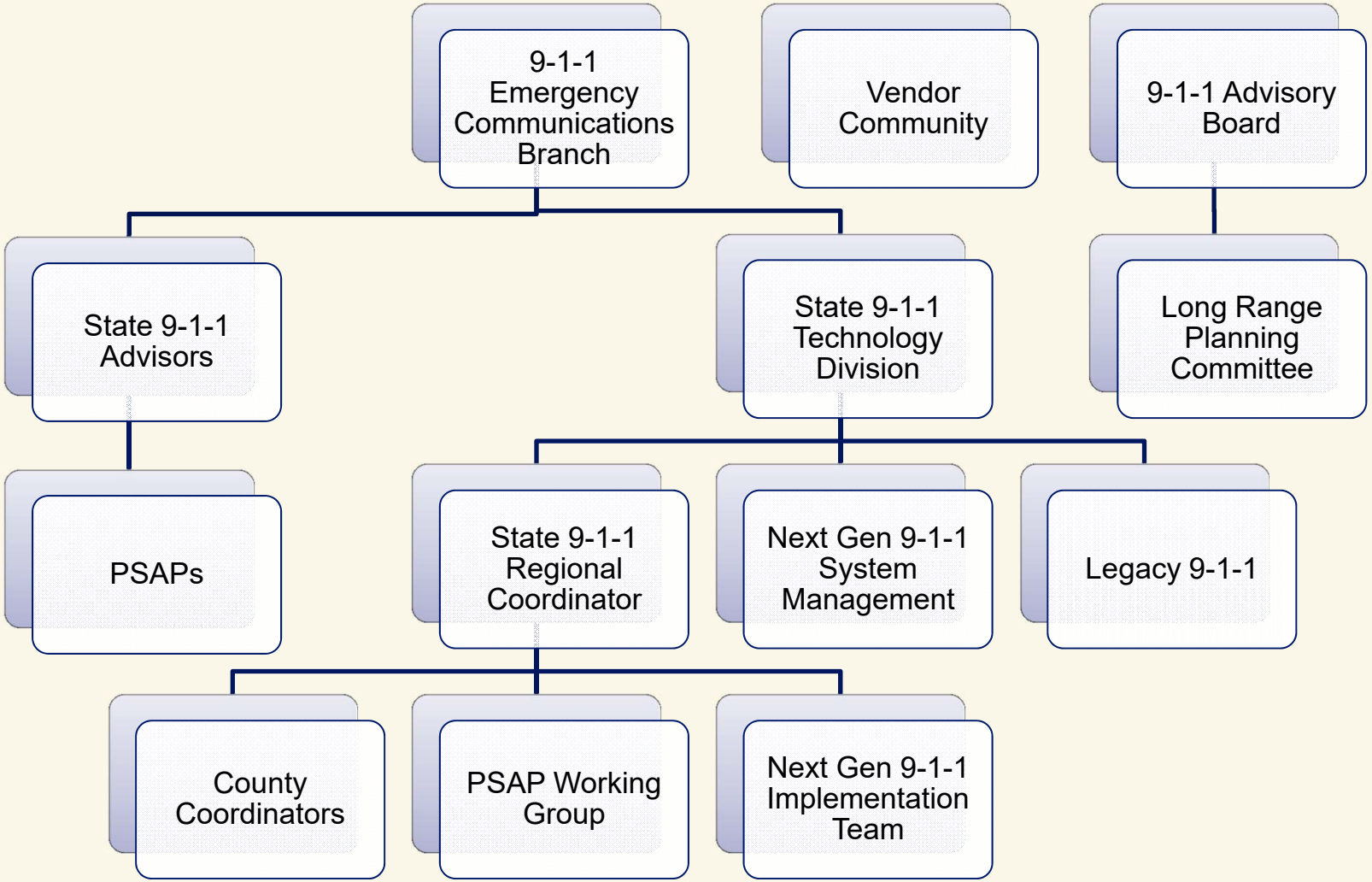
Governance Structure



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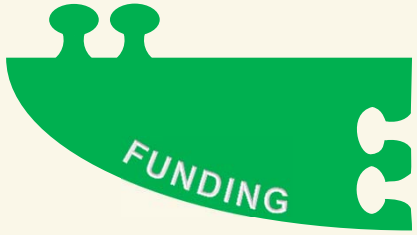
Funding Plan



- Near Term (FY 2017/2018)
  - Use fund balance to support Next Gen 9-1-1 deployment
- Long Term (FY 2018/2019)
  - Remove technology specific language from SETNA funding model

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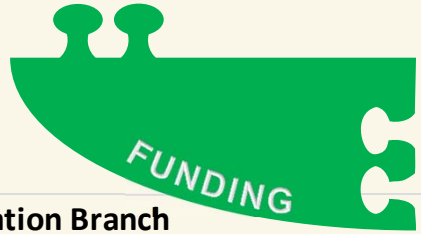
SETNA Fund Details



State Emergency Telephone Number Account - CA 9-1-1 Emergency Communication Branch				
	2015-16	2016-17*	2017-18*	2018-19*
0022 State Emergency Telephone Number Account				
BEGINNING BALANCE:	$72,374,000	$53,451,000	**$37,905,000**	**$2,926,000**
REVENUES, TRANSFERS, AND OTHER ADJUSTMENTS				
4140500 Emergency Telephone User's Surcharge	81,605,000	**$75,549,000**	**$69,573,000**	**$69,573,000**
Prepaid	-	**$11,181,000**	**$9,900,000**	**$9,900,000**
Total Revenues, Transfers, and Other Adjustments	$81,606,000	**$86,730,000**	**$79,473,000**	**$79,473,000**
Total Resources:	$153,980,000	**$140,181,000**	**$117,378,000**	**$82,399,000**
EXPENDITURE AND EXPENDITURE ADJUSTMENTS				
Expenditures:				
0690 Office of Emergency Services (State Operations)	$2,586,000	**$2,430,000**	**$2,430,000**	**$2,900,000**
0690 Office of Emergency Services (Local Assistance)	$87,727,260	**$88,700,000**	**$96,000,000**	**$94,000,000**
Next Generation 9-1-1	$5,248,740	**$5,300,000**	**$10,000,000**	**$25,000,000**
0860 State Board of Equalization (State Operations)	$1,125,000	**$1,759,000**	**$1,726,000**	**$1,726,000**
3540 Department of Forestry of Fire Protection (State Operations)	$3,827,000	**$3,815,000**	**$3,815,000**	**$3,815,000**
8880 Financial Information System for California (State Operations)	$15,000	**$12,000**	**$10,000**	**$10,000**
9900 Statewide General Administrative Expenditures	-	**$260,000**	**$471,000**	**$471,000**
Total Expenditures and Expenditure Adjustments	$100,529,000	**$102,276,000**	**$114,452,000**	**$127,752,000**
FUND BALANCE	$53,451,000	**$37,905,000**	**$2,926,000**	**($45,523,000)**
Key Note: Actual Revenues and Expenditures are not shaded.				
Projected Expenditures shaded in orange are based on DOF Fund Condition Statement				
Projected Revenues shaded in blue are based on historical data and predicted CPE replacements.				

What will it cost?

Year	Legacy 9-1-1 costs	NG9-1-1 costs	Estimated Total
FY 2017-18	$104,250,000	$10,000,000	$114,250,000
FY 2018-19	$102,250,000	$25,000,000	$127,250,000
FY 2019-20	$76,469,000	$44,000,000	$120,469,000
FY 2020-21	$65,569,000	$66,000,000	$131,569,000
FY 2021-22	$54,669,000	$88,000,000	$142,669,000
FY 2022-23	$50,200,000	$97,020,000	$147,220,000

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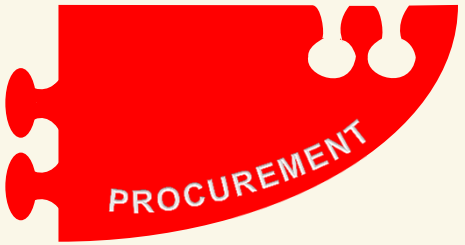
Procurement Options



- Typical for Regional ESInet Procurement
  - ~24 months to develop contract
  - ~18 months to deploy ESInet
  - Typically a 3-7 year contract term
- We will have six ESInets and one prime – the implication is perpetual procurement
- Other Options
  - Contract Vehicle that allows services to transition
  - National Association of State Procurement Officials (NASPO – Formerly WSCA)
  - Tariff
- Other Contracts

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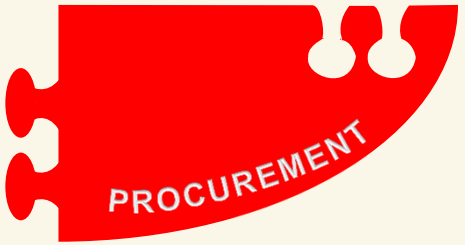
Procurement Plan



- Near Term (1-3 years)
  - Use the existing Next Gen IFB
  - Develop SOW
  - May need to amend IFB
- Long Term (3-5 years)
  - Develop contract similar to CalNet
  - Use for all 9-1-1 services

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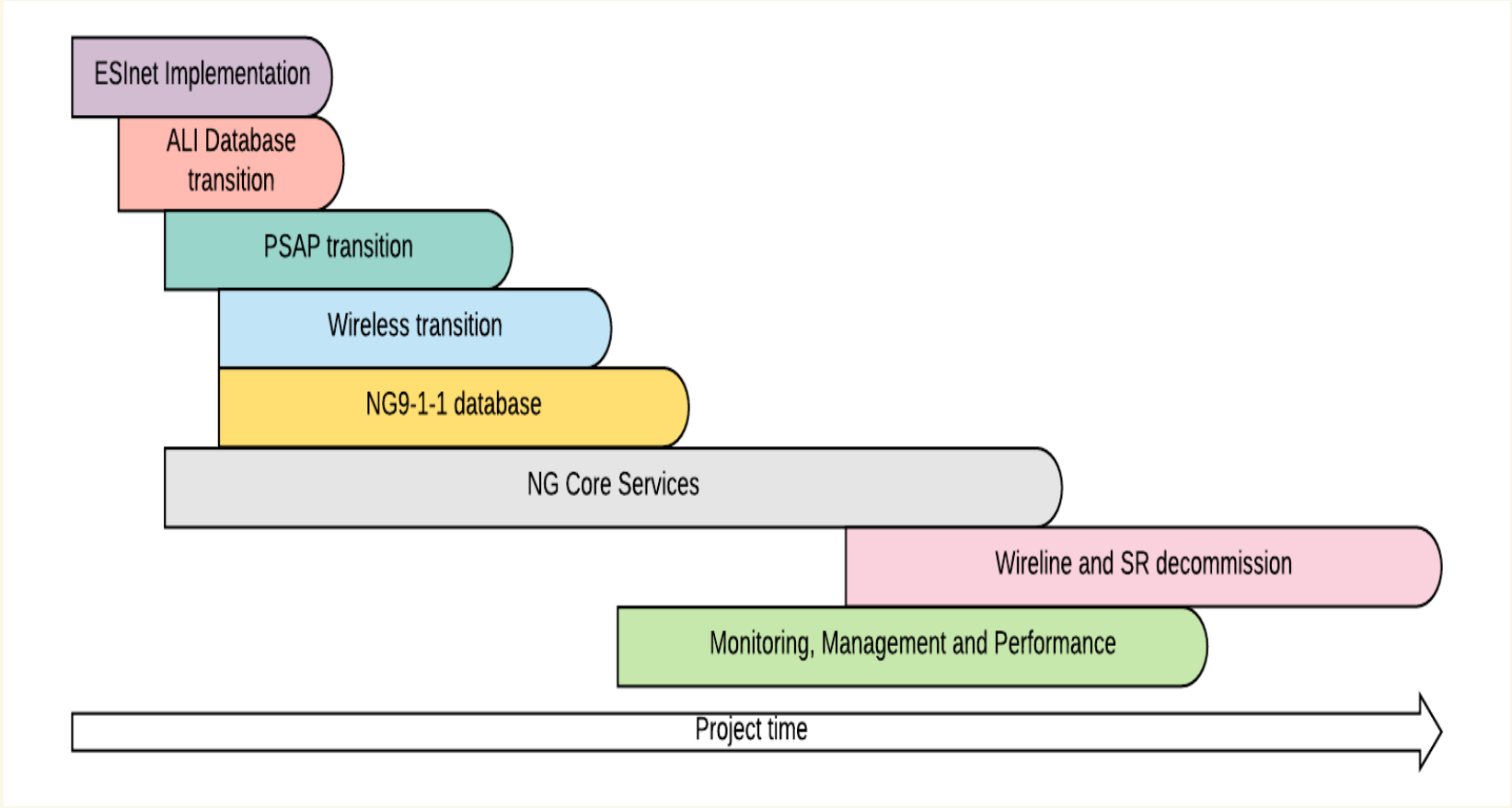
Transition Planning



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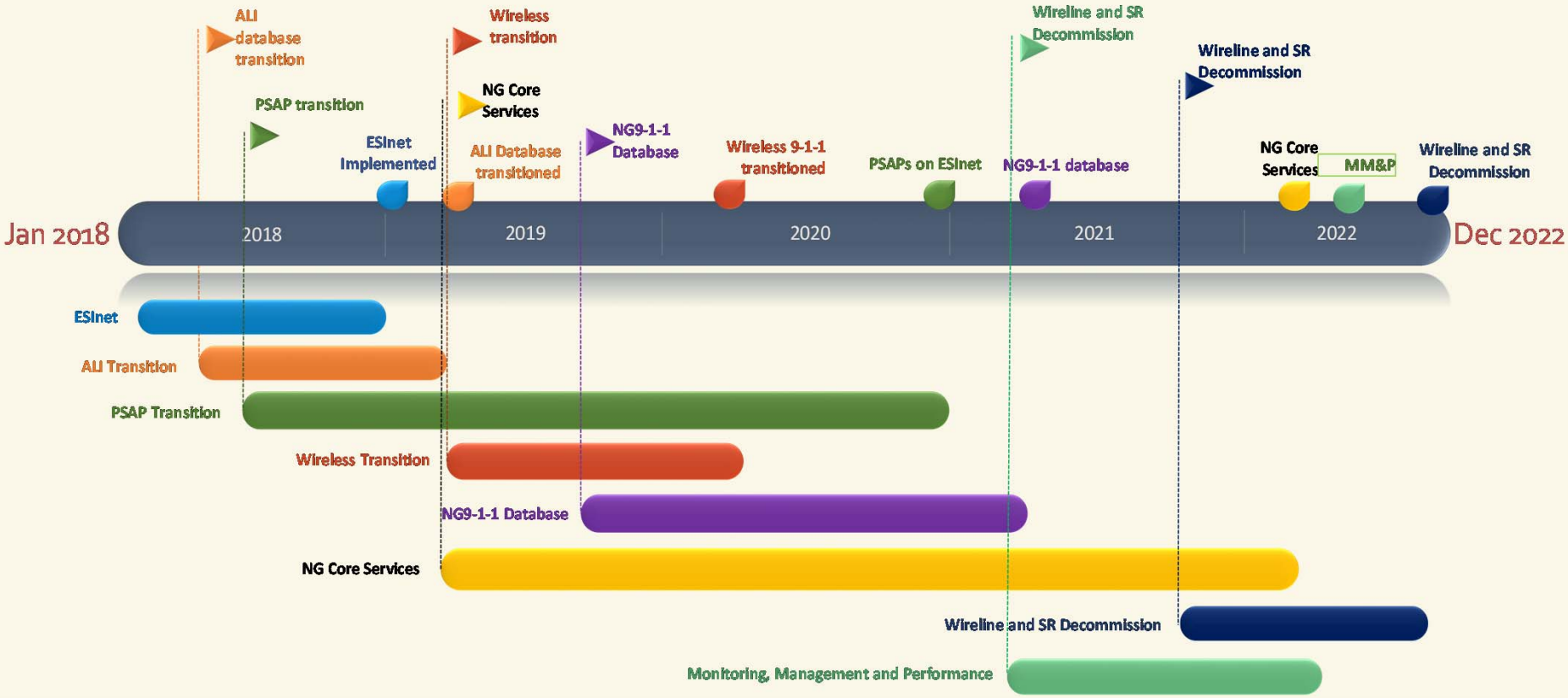
Timeline



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Deployment Timeline

- Northeast ESInet– Jun 2017-Dec 2018
- Pasadena ESInet – Jul 2017 – Jun 2018
- Prime ESInet – Jan 2018 – Jan 2020
- Southern ESInet – Mar 2018 - Sept 2019
- Central ESInet – Sept 2018 – Mar 2020
- Coastal ESInet – Jan 2019 – June 2020
- LA County – May 2019 – Oct 2020
- LA City – Sept 2019 – Mar 2021
- All selective routers decommissioned - 2022

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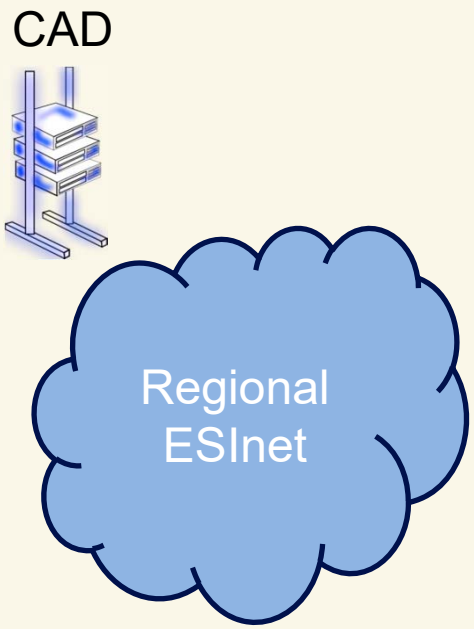
Prepare for Next Gen 911

- True ESInet and Next Generation
  - Computer Aided Dispatch (CAD)
  - Customer Premise Equipment (CPE)
  - Records Management System (RMS)
  - Radio console
- Maintain operational needs
- Update GIS data
- Procedures versus technology
- Working with CalOES review
  - Number of trunks
  - Number of positions
- How to ensure “local” look and feel
- Think regionally
  - Shared CAD, CPE, RMS, and radio



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Next Gen 9-1-1 PSAP Meetings

July 14 – Bay Area Region

10:00 – 13:30
Alameda County OES facilities
4985 Broder Blvd, Dublin, CA 94568

July 18 – Sacramento Region

09:00 – 12:00
Rocklin Police Department
4080 Rocklin Road, Rocklin, CA 95677

July 20 – Northern Region (w/FirstNet)

09:00 – 15:00
Redding City Council Chambers
777 Cypress Ave., Redding, CA 96001

July 21 – Coastal Region (w/FirstNet)

10:00-16:00
PG&E Kendall Rd Campus
1250 Kendall Rd
San Luis Obispo, CA 93401

July 25 – Los Angeles Region

10:00 – 13:00
USFS – Angeles National Forest HQ
701 N. Santa Anita Ave.
Arcadia, CA 91006

July 26 – Inland Region

09:00 – 12:00
San Bernardino Sheriff's Department
Aviation Division
199 N. Hangar Way
San Bernardino, CA 92415

July 27 – Southern Region

Escondido PD
1163 Centre City Parkway
Escondido, CA 92026
10:00 – 13:00

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QUESTIONS