



DoD Public Safety Communications PSC Ecosystem Introduction

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Intent

- Overview of DoD public safety ecosystem
- Breakdown of ecosystem sub-systems
- Future technology influencers

Mission

1. Incident Reporting and Requests for Assistance

Emergency calls and information are received by 9-1-1 Emergency Communications Centers/Public Safety Answering Points (ECCs/PSAPs) via telephone (landline and mobile), text to 9-1-1, emergency call boxes and tip lines, and mobile applications.

2. Dispatch

ECCs/PSAPs gather incident information and dispatch first responders (e.g., law enforcement, fire, emergency medical services) to the scene using Computer-Aided Dispatch (CAD), Land Mobile Radio (LMR), broadband cellular, and paging technologies.



4. Public Safety Operations/Command Centers

Emergency Operations Centers (EOCs), Command Centers, and other public safety entities communicate with first responders using LMR, commercial cellular, public safety LTE, fixed telephony, satellite communications, priority services, Geographic Information System (GIS), and private data networks as the command and control hub for emergency management functions.



5. Monitoring Devices and Sensors

Monitoring devices and sensors such as drones, CCTV, IP-enabled security cameras, and traffic and health sensors relay additional information to public safety personnel about an incident.



6. Notifications, Alerts, and Warnings

The public safety community disseminates information about the incident to the public via sirens, proprietary notification systems, Emergency Alert System (EAS), Integrated Public Alert and Warning System (IPAWS), news/media interaction, and web/social media updates.



3. Incident Response and Coordination

Public safety responders communicate across disciplines and jurisdictions using LMR, commercial cellular, public safety LTE, priority services (GETS/WPS), and private data networks.



7. Public Information Exchange

The general public communicates and shares information through commercial cellular voice and data, radio scanners, amateur radio, and social media.



PSCE: Required Capabilities

DoD Public Safety Communications

PSAP
911/E911
Upgrades
to
IP/NG911

Computer
Aided
Dispatch

Common
Operating
Picture

IP Enabled
Alarm
Panels &
Sensors
(IoT)

LMR/FirstNet™
Integration

Enterprise
EMWN
System

Telephony
TDM-to-
IP
Transition

988
Suicide
Hotline

DoD NG911 Infrastructure & Services

GIS Data Stores

ECRF
(SBCs & Policy Engines)

BCF
(MPGW, IAP, VCAP)

LVF

Cybersecurity
NetOps

Network Services &
Authentication (DNS, IdAM)

ESInet Transport

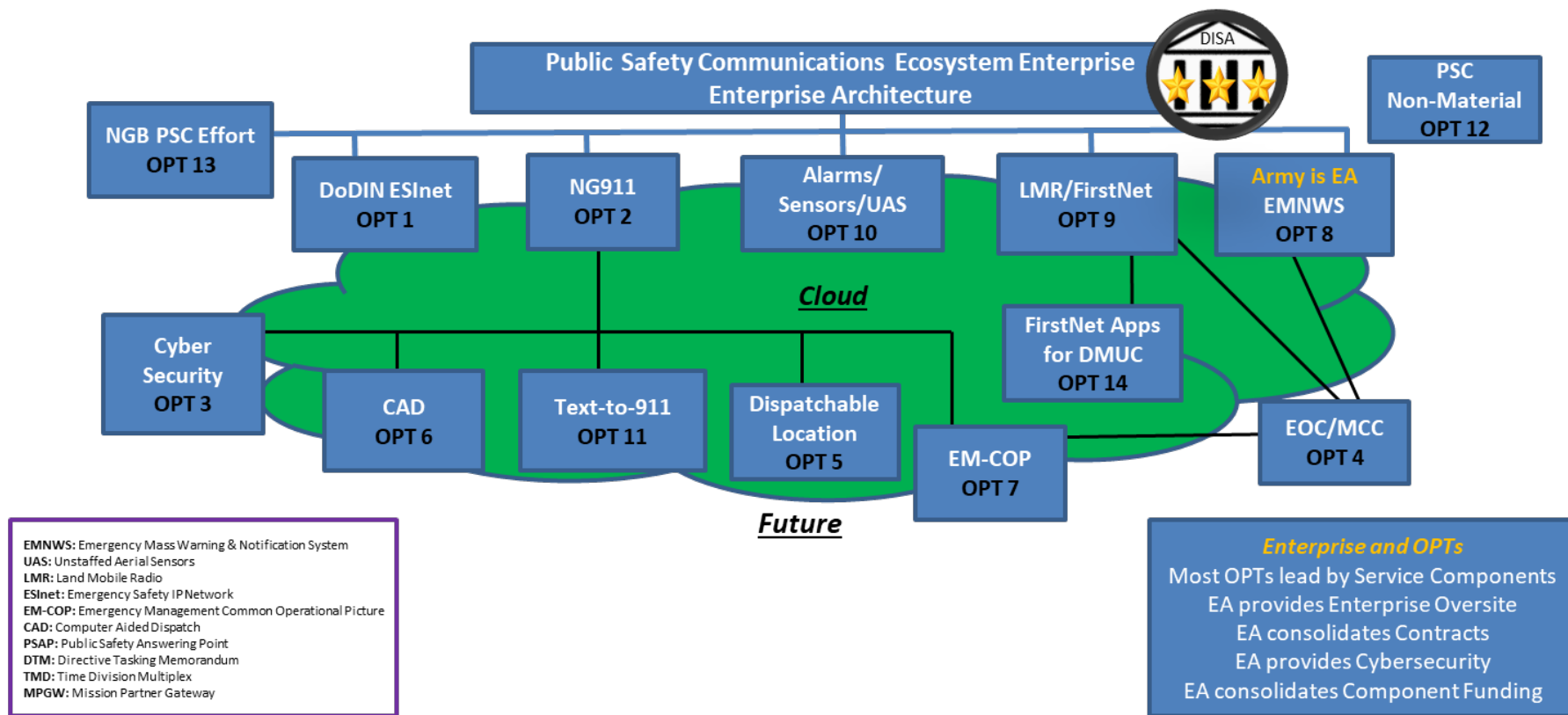
IL5 Cloud Hosting

ECRP
(SBCs)

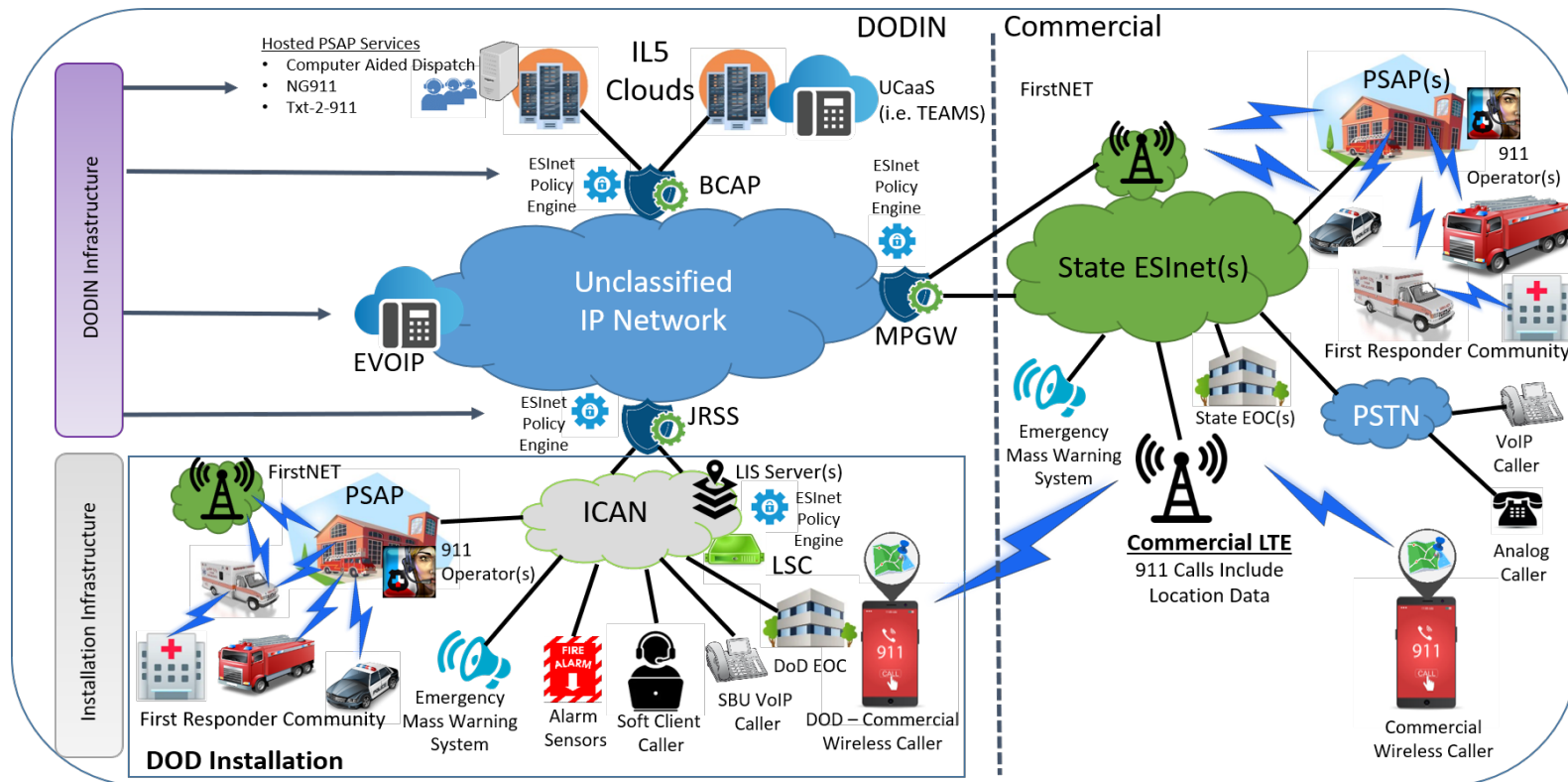
LIS



Organizational Framework by Sub-System



Operational View





Future Technology Influencers

- **Cybersecurity & ID Authentication**
 - Zero Trust Architecture (ZTA)
 - Policy-based authentication
- **Networking**
 - IPv6 Implementation – DNS
 - GIS location-based routing for ESInet
- **Soft phone adoption**
 - Remote/Office users employing UCaaS platforms (i.e. TEAMS, etc.)



Conclusion

- **The DoD PSC ecosystem encompasses more than 911**
 - **Emergency Mass Warning Notification System**
 - **Land Mobile Radio & FirstNet™ Integration**
 - **Legacy Alarm Panel & Sensor Upgrades**
 - **Emergency Operation Center(s) & Mobile Command Center(s)**
- **DoD identified Public Safety Communications to be a Command and Control (C2) mission critical requirement**
- **DoD CIO is providing oversight of defining the ecosystem and the underlying requirements**
- **DISA is performing as the Executive Architect to integrate the many sub-systems comprising the ecosystem into a DoD Enterprise**



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Acronym Dictionary

ASAC	Assured Service Admission Control
CAP	Cloud Access Point
C3LB	Command, Control, Communications Leadership Board
CDC	Core Data Center
CE	Customer Edge
CEDC	Component Edge Data Center
CSPR	Core Session Policy Router
DCR	DODIN Capabilities Requirements
DEOS	Defense Enterprise Office Suite
DISN	Defense Information Systems Network
DOD CIO	Department of Defense Chief Information Officer
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
DODIN	Department of Defense Information Network
DNS	Domain Name Service
DRSN	Defense Red Switch Network
DSN	Defense Switch Network
EA	Executive Agent
E911	Enhanced 911
ECAPS	Enterprise Collaboration and Productivity Suite
EMWNS	Emergency Mass Warning Notification System
ESINET	Emergency Service Intranet
EUES	End User Enterprise Services
GIS	Geographic Information System
HF	High Frequency
HTTPS	Hypertext Transfer Protocol Secure
IDAM	Identity and Access Management

IG	Installation Gateway
IDS	Intrusion Detection System
IPN	Installation Processing Node
IPS	Intrusion Prevention System
ISN	Installation Services Node
ISP	Internet Service Provider
IT	Information Technology
JITC	Joint Interoperability Test Command
JRSS	Joint Regional Security Stack
LIS	Location Information Service
LMR	Land Mobile Radio
LTE	Long Term Evolution
MILSAT	Military Satellite
MLPP	Multi-Level Precedent & Preemption
MLSV	Multi-Level Secure Voice
MPGW	Mission Partner Gateway
MPLS	Multi-Protocol Label Switching
NENA	National Emergency Number Association
PE	Provide Edge
PSAP	Public Safety Answering Point
PSC	Public Safety Communications
PSTN	Public Switch Telephone Network
RTS	Real Time Service
SBC	Session Border Controller
SIP	Session Initiation Protocol
SSA	Single Security Architecture
SSG	Senior Steering Group
STEP	Strategic Tactical Entry Point
TDM	Time Division Multiplex
TPN	Tactical Processing Node
TSN	Tactical Services Node
UC	Unified Capabilities
VISP	Voice Internet Service Provider
VoSIP	Voice over Secure Internet Protocol
VRF	Virtual Routing & Forwarding