ESInet Building Blocks for NG9-1-1

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Agenda

Why NG9-1-1 is Important

ESInet Functional Benefits

Is the time right for ESInet?

Summary
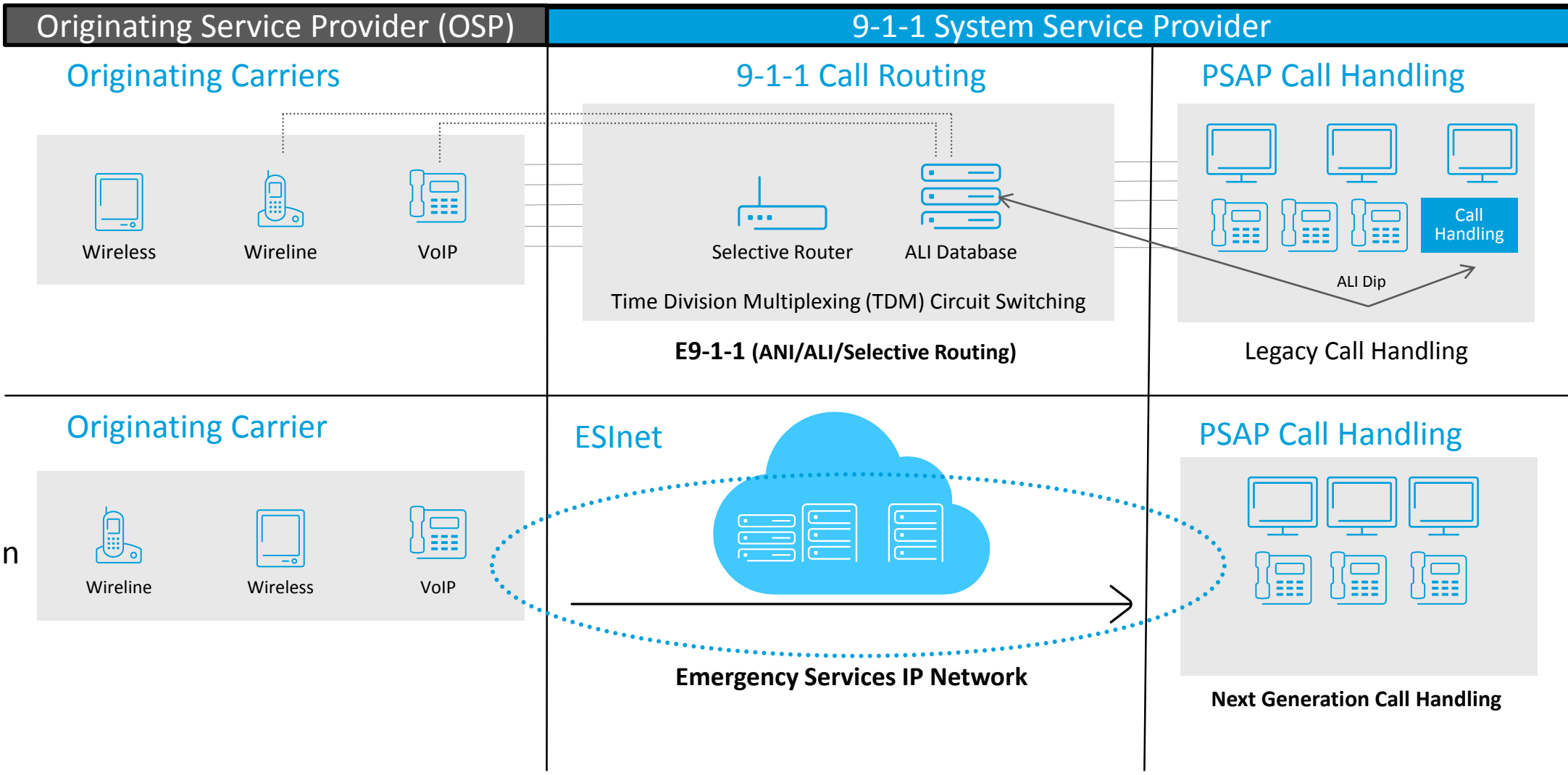
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Why NG9-1-1 is Important

Challenges with Nation's current 9-1-1 system

- Aging Legacy 9-1-1 Communications Infrastructure

- PSAPs challenged to keep pace with technology & customer expectations

- 70% -80% of 9-1-1 calls originate from mobile devices (Source: FCC & NG911.gov)

NG9-1-1 adoption helps improve reliability & modernizes PSAP technology
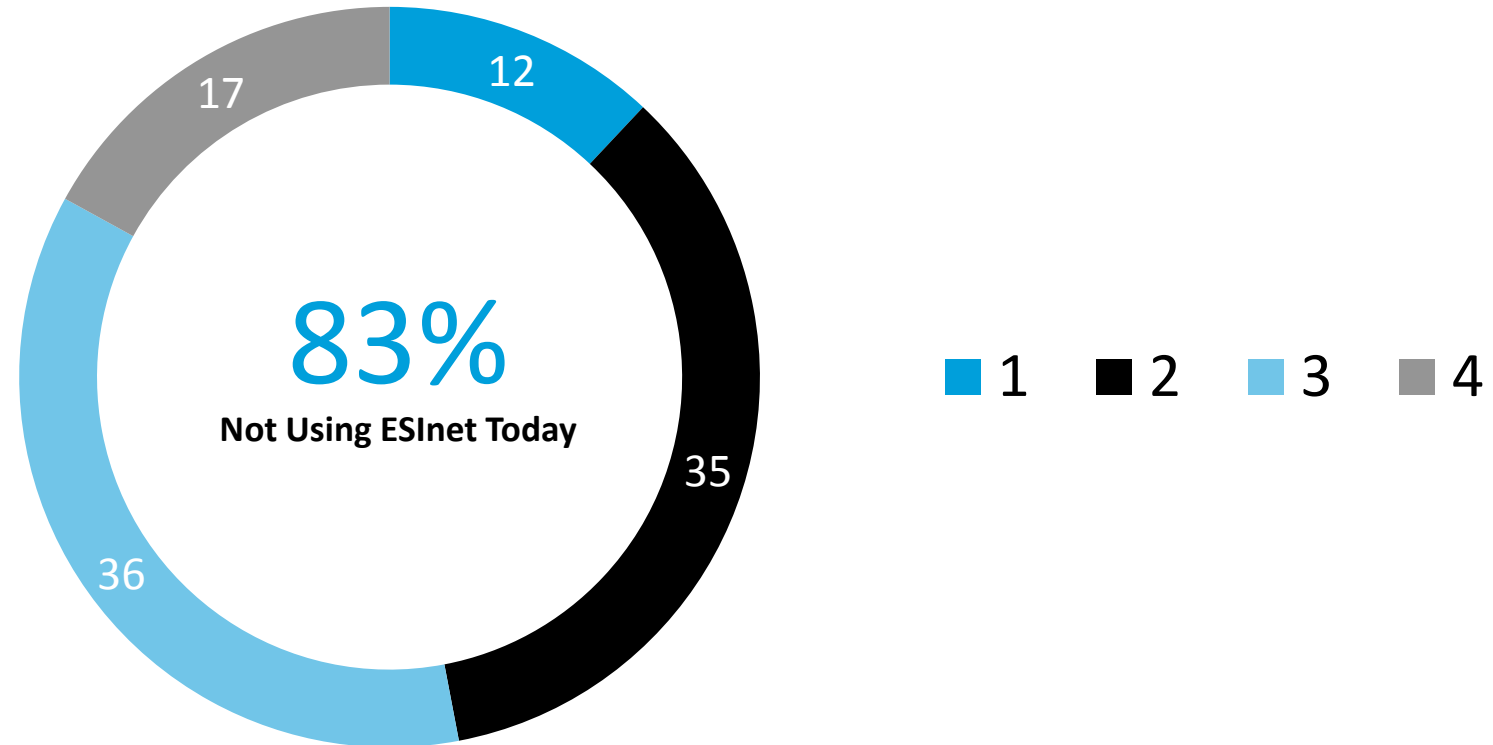
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9-1-1 Ecosystem: Transition to Next Generation

Originating Service Provider (OSP)	9-1-1 System Service Provider	

Legacy 9-1-1

Originating Carriers
Wireless   Wireline   VoIP

9-1-1 Call Routing
Selective Router   ALI Database

Time Division Multiplexing (TDM) Circuit Switching

E9-1-1 (ANI/ALI/Selective Routing)

PSAP Call Handling
Call Handling

ALI Dip

Legacy Call Handling

Next Generation 9-1-1

Originating Carrier
Wireline   Wireless   VoIP

ESInet

Emergency Services IP Network

PSAP Call Handling

Next Generation Call Handling

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Where are PSAPs Today in their ESInet journey?

83%

Not Using ESInet Today

12

35

36

17

■ 1 ■ 2 ■ 3 ■ 4

*Webinar poll results obtained from ESInet webinar conducted 9/2017, 110 responses

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Call Management
(a.k.a. Core Services)

IP Network &
Security

Advanced Services

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ESInet Functional Benefits: Call Management

Function	Benefit
TDM to IP and IP to TDM conversion	Enables migration to IP
Geo-Redundant Call Processing	Increases resiliency and survivability
IP Voice Transformation	Integrated voice & data with call transfer
Geographic Policy Routing	Establishes call treatment rules to enhance operational flexibility
Automatic Overflow and Alternate Routing	Enables operations continuity during natural or man-made disasters (e.g., TDOS)

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ESInet Functional Benefits: IP Network & Security

Function	Benefit
IP Transport	Supports any-to-any connectivity e.g., ability to quickly rehome traffic at network layer
Network Redundancy and Diversity	Increases 9-1-1 resiliency and PSAP survivability
Network Security	Helps protect PSAP networks from cyber threats and malicious activity (e.g., DDOS)
Network Management	Provides status and reporting data to help PSAPs manage system performance and operations

ESInet Functional Benefits: Advanced Services*

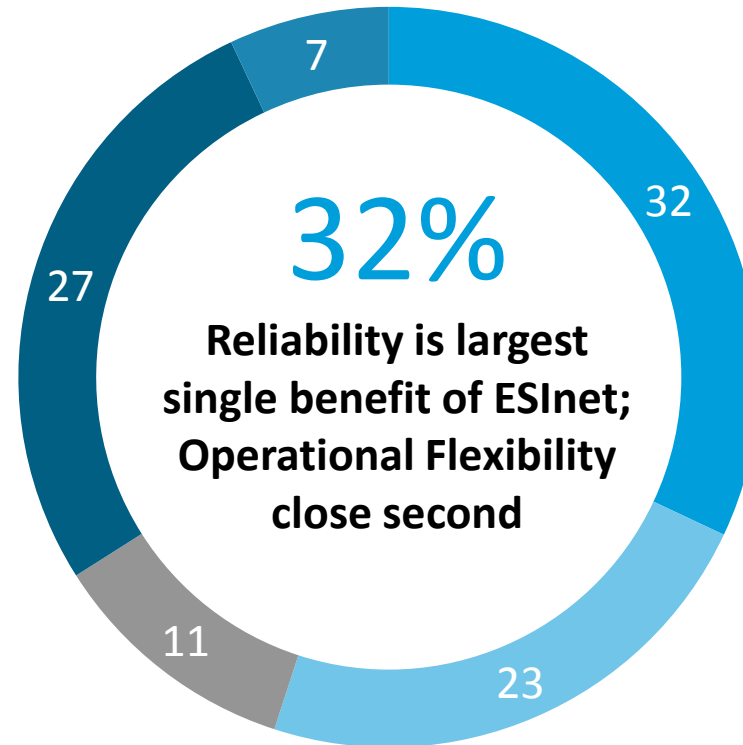| Function	Benefit
Multimedia Communications	Expands PSAP capabilities to receive text** and photos that enhance incident awareness
Network to Network Interoperability	Permits sharing of information with other agencies
Cloud Services	Enables access to cloud-based public safety apps and services to help improve operations
Internet of Things (IoT) Connectivity	Allows emergency services integration to support connected devices e.g., telematics

*Certain functionality will be supported in the future

**In locations where text to 9-1-1 is supported

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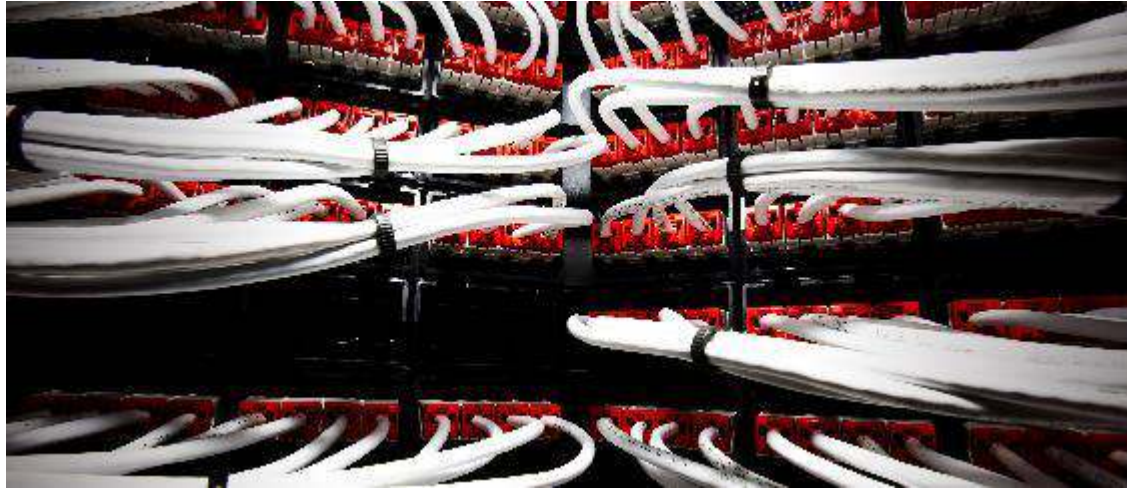# ESInet Functional Benefits: Poll Results*

What is the largest single benefit to your agency of migrating to an ESInet?

32%

Reliability is largest single benefit of ESInet; Operational Flexibility close second

7

32

27

11

23

Legend: 1 2 3 4 5

*Webinar poll results obtained from ESInet webinar conducted 9/2017, 110 responses

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TDM Sunset

Legacy TDM connections migrating to IP

ESInet supports the transition

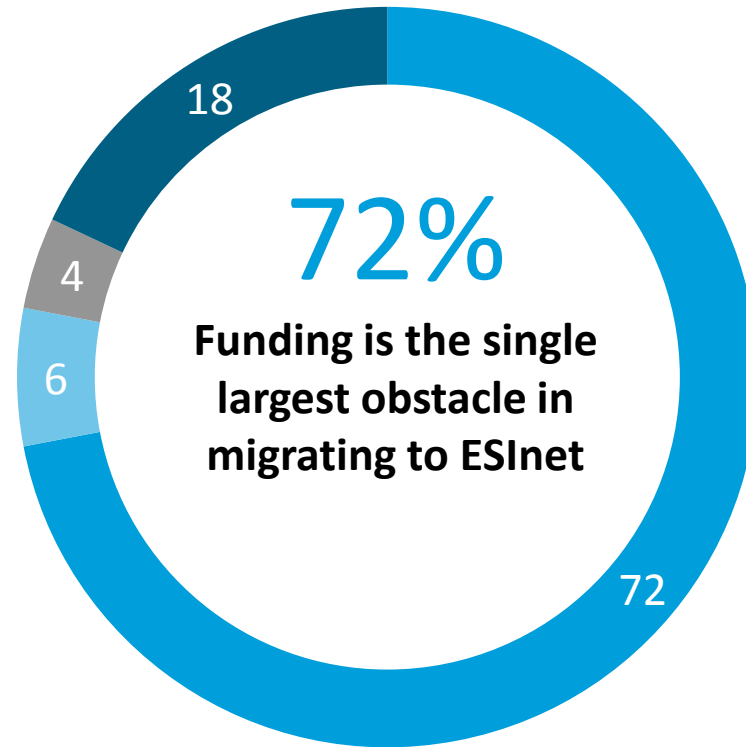Benefits of deploying ESInet before TDM Sunset

Better use of IP CPE investment

Increased Threats

Natural Disasters

Active Shooters

Extremists

Telephony Denial of Service (TDOS)

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What are the largest obstacles in migrating to an ESInet?

72%

Funding is the single largest obstacle in migrating to ESInet

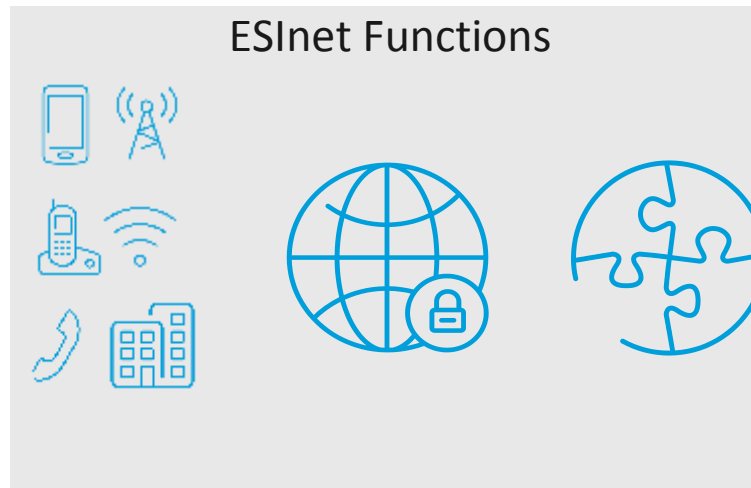18

4

6

72

Legend: ■ 1 ■ 2 ■ 3 ■ 4

*Webinar poll results obtained from ESInet webinar conducted 9/2017, 110 responses

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Summary

Why NG9-1-1 is important

- Increases 9-1-1 reliability

- Enables public safety to meet demands of today's mobile society

ESInet Functions

ESInet @ Center of NG9-1-1

- ✓ Call Management
- ✓ IP Network & Security
- ✓ Advanced Services

Is the Time Right for ESInet?

- PSAPs Face Mounting Pressures

- Need to Clear Funding Hurdles

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