

# **Emergency Services Update Future PSAP Interfaces**

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# Overview

- ATIS ESIF Task Force 34
- 9-1-1 Legacy Architecture
  - Public Safety Answering Point (PSAP)
  - Selective Router
  - Automatic Location Information
- Future 9-1-1 Architecture Drivers
  - Emergency Services Networks
- 9-1-1 Data Services Protocols



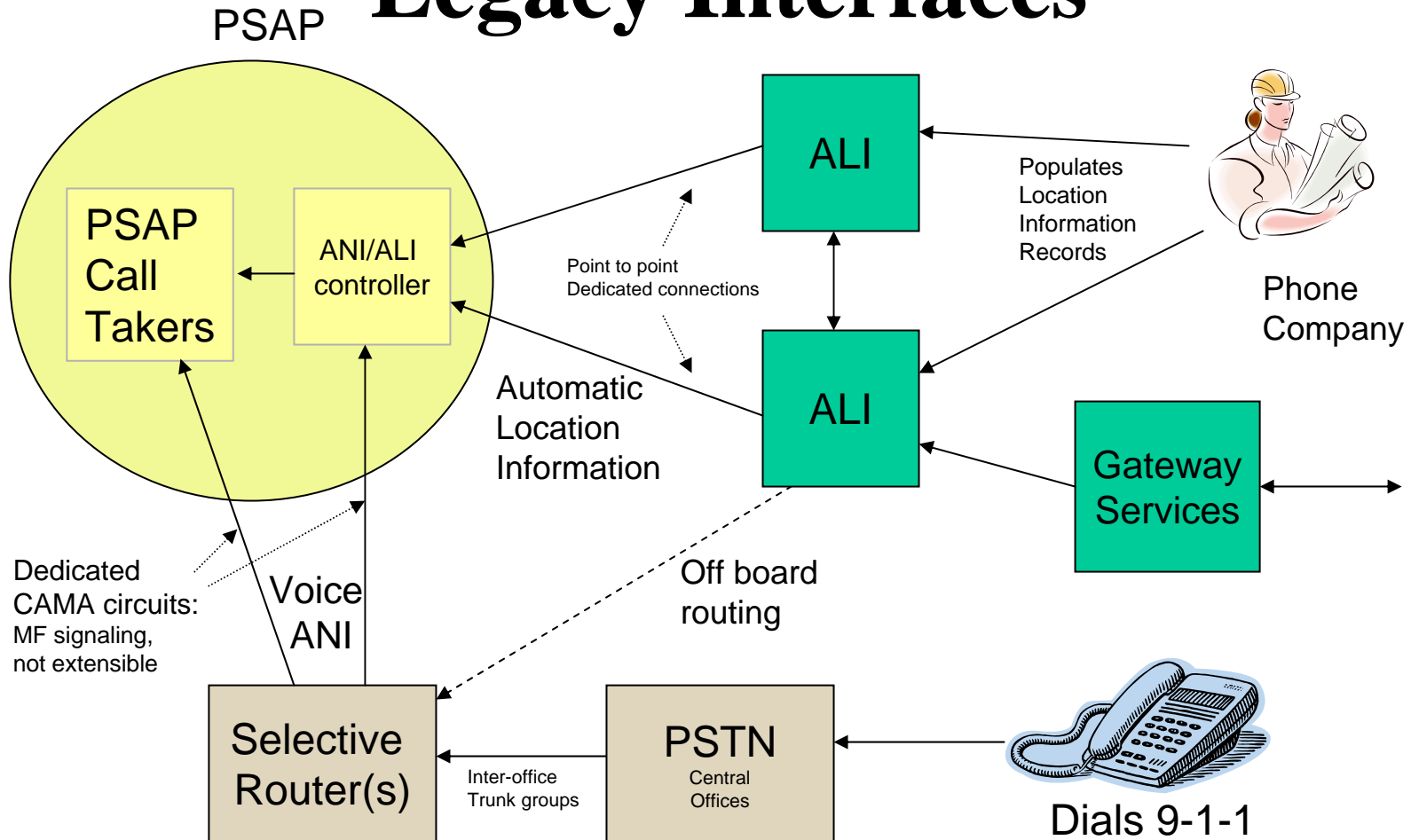
# ATIS Emergency Services Interconnection Forum (ESIF)

## Task Force 34 – Emergency Services Network Interfaces

- Next Generation PSAP ALI Interface (& more ...)
- Extends beyond delivering XML ALI (Automated Location Information),
  - provides flexible access to data sources and services
- TF34 has broad participation
  - 9-1-1 network service providers,
  - PSAP CPE providers,
  - 9-1-1 product and service providers, and
  - PSAP representatives



# Legacy Interfaces

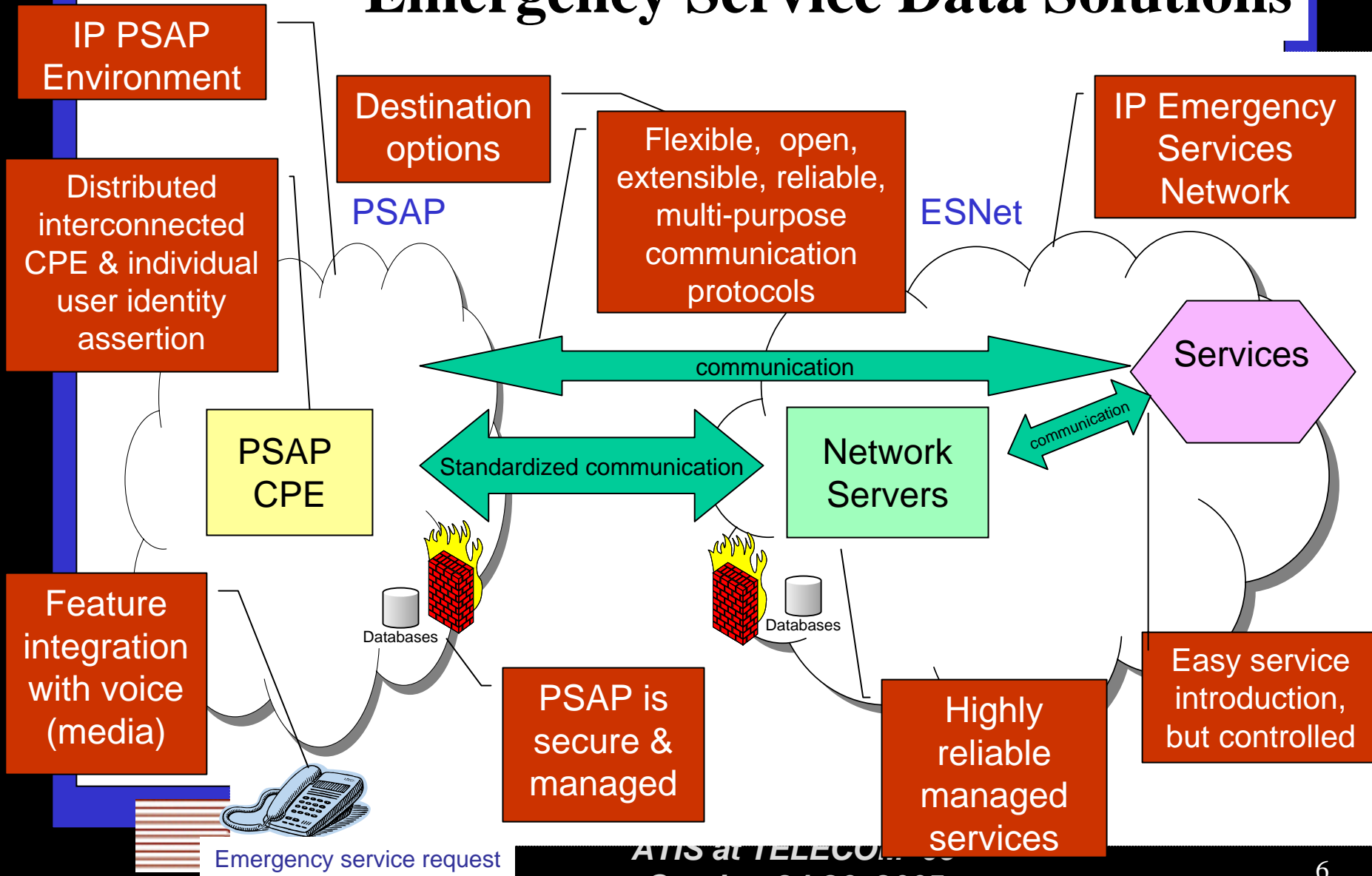


# Future Emergency Services Network

- E9-1-1 Call Taker (PSAPs) voice and data network services
  - Creates options for deployment configurations and service delivery
- Extend integration and collaboration to broader community
- Mediates or facilitates access to services
  - Opt-in subscription models
  - PSAPs pulls info and controls information that can be pushed
- Creates context for an emergency service request
  - Emergency context over request and service response
- A foundation for additional value-add services
  - Integrated voice and data via IP and VoIP technologies
  - Extensible to deliver various application services
  - Generic data payload delivery
  - Flexible service interaction models



# Attributes of Future Emergency Service Data Solutions



Emergency service request

ATIS at TELECOM

October 24-26, 2005

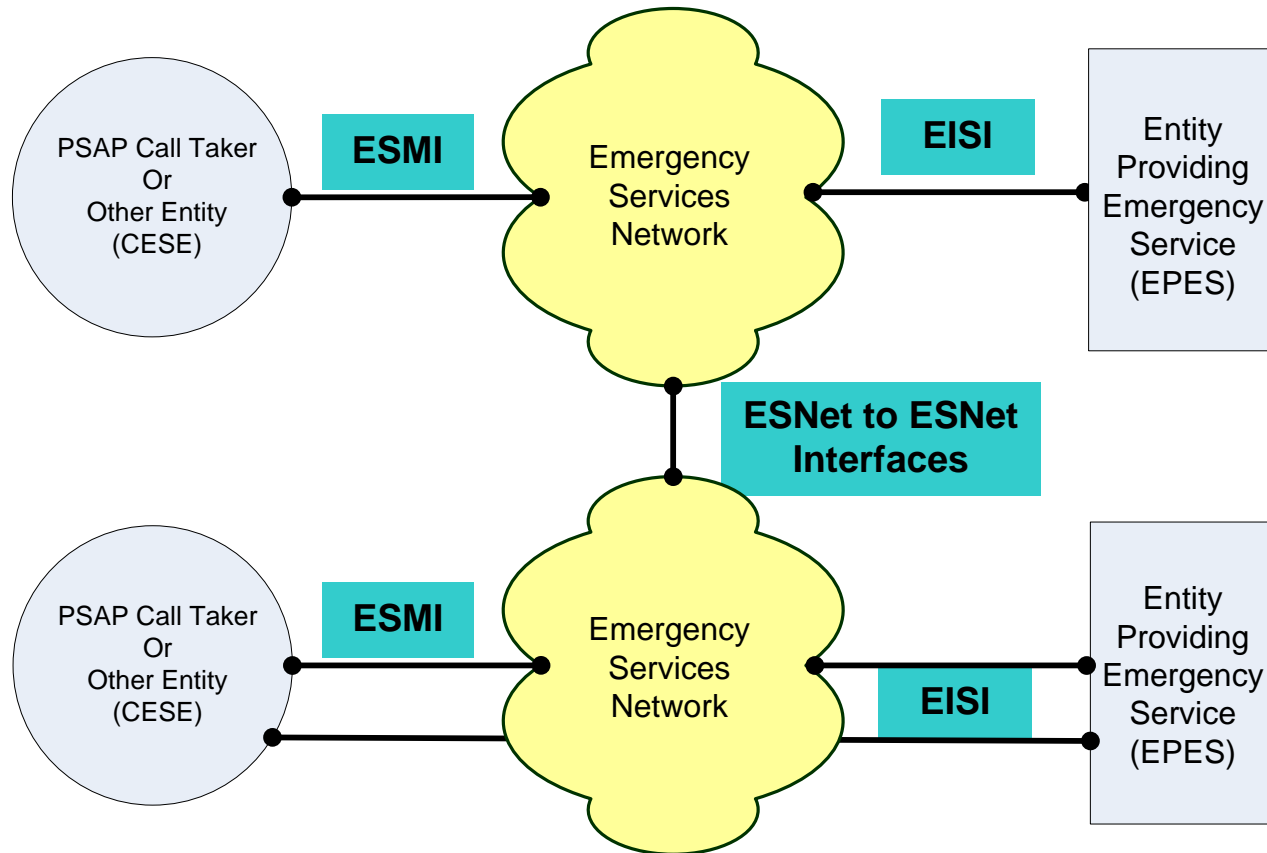
# Data Messaging Interfaces

## ATIS ESIF TF34

- **ESMI**    Emergency Services Messaging Interface
  - Between PSAP and Network Servers
- **EISI**    Emergency Information Services Interface
  - Between Network Servers/PSAPs and Application Services
- **ENEN**    ESNet to ESNet
  - Between instances of Emergency Services Networks



# Emergency Services Network Interfaces



Allows ESNet to mediate and present services for the PSAP.  
Services can be accessed directly as deemed appropriate.



# ESMI Messaging Interface

- **ESMI – Emergency Services Messaging Interface**
  - Bi-directional, managed connection between PSAP and ESNet
  - Allows PSAP to subscribe to and be offered services
  - Provides an envelope to transport service information with emergency context
  - Does not exclude other interfaces and protocols to the PSAP
  - Can be used for other application interfaces beyond PSAP call taker



# EISI Messaging Interface

- EISI – Emergency Information Services Interface
  - Dynamic connections between services and ESNet
  - Offers services to PSAPs through ESNet
  - Service instance management – allows multiple instances of a given service
  - Core services
    - service registration and directory
    - Invocation rules
  - Based on “Web Services”



# ENEN Messaging Interface

- ENEN – ESNet to ESNet
  - Conceptual model to be defined
  - Assumptions are that it will be based on extending EISI services across ESNet instances



# PSAP Interface Protocol

Data Packet

PSAP

Emergency Services Network

Jane Doe  
100 Main St.

ESMI

1. Bi-directional communication
2. Dialog
3. Context
4. Multiple Services
5. Managed Interface
6. Built-in reliability monitoring

ESMI

- 1) Standard envelope
- 2) Flexible payload
- 3) Reusable for many different applications
- 4) Includes security
- 5) Integrates services

ALI Response

ALI Response

Emergency Services Messaging Interface

Message Purpose Protocol info

Name=Jane Doe  
Addr = 123 Main St.  
Key= 101-123-4567

Emergency Event

ALI Response

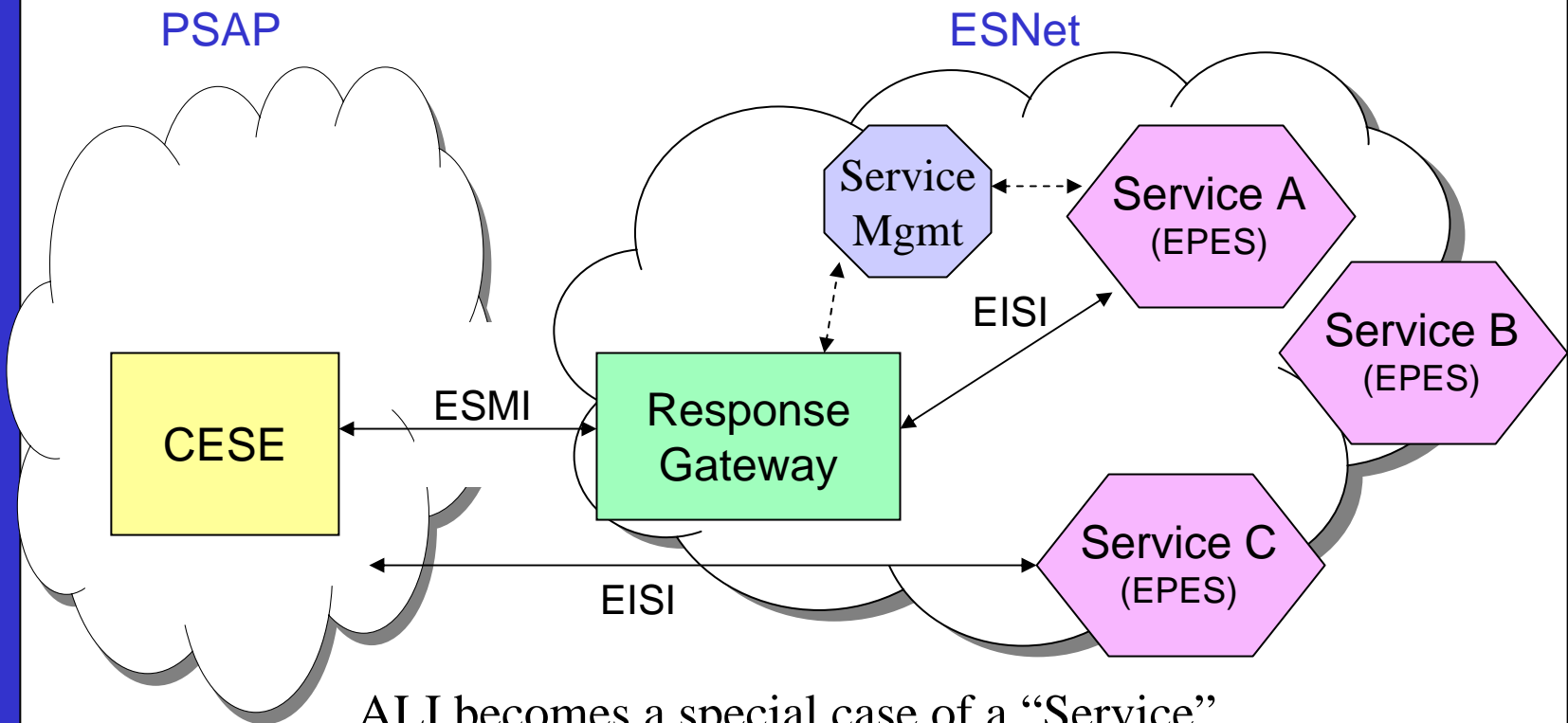
Addtl Info

Services

Emergency Event Complete

ATIS at TELECOM '05  
October 24-26, 2005

# ESMI and EISI Service Interaction

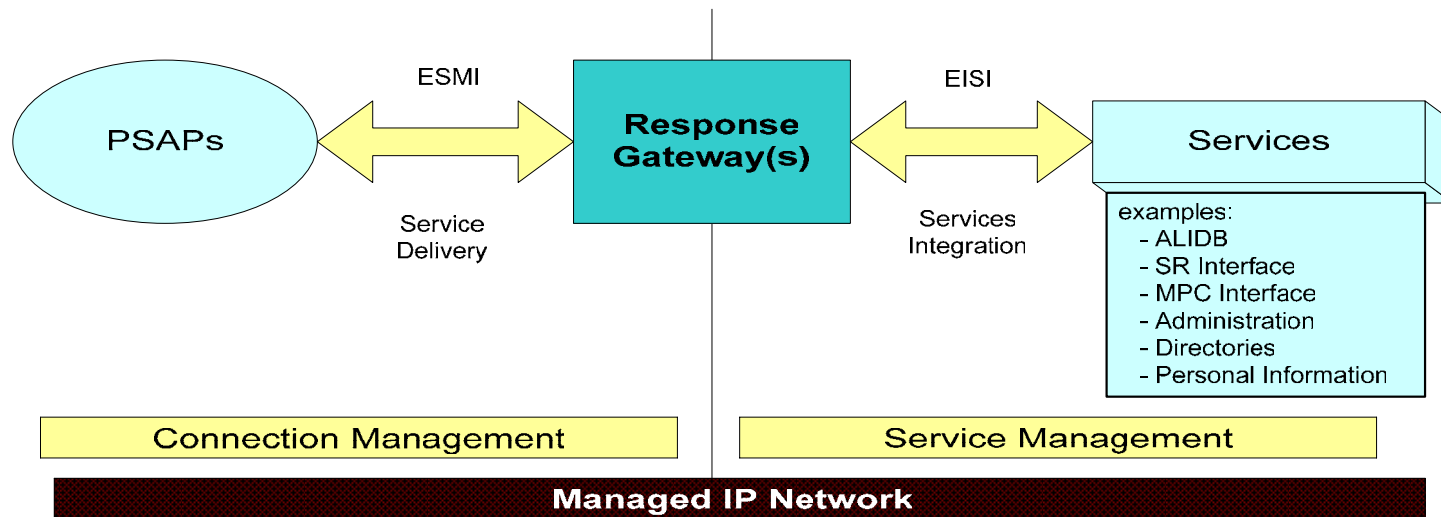


ALI becomes a special case of a “Service”.  
Communication to the PSAP is generalized.

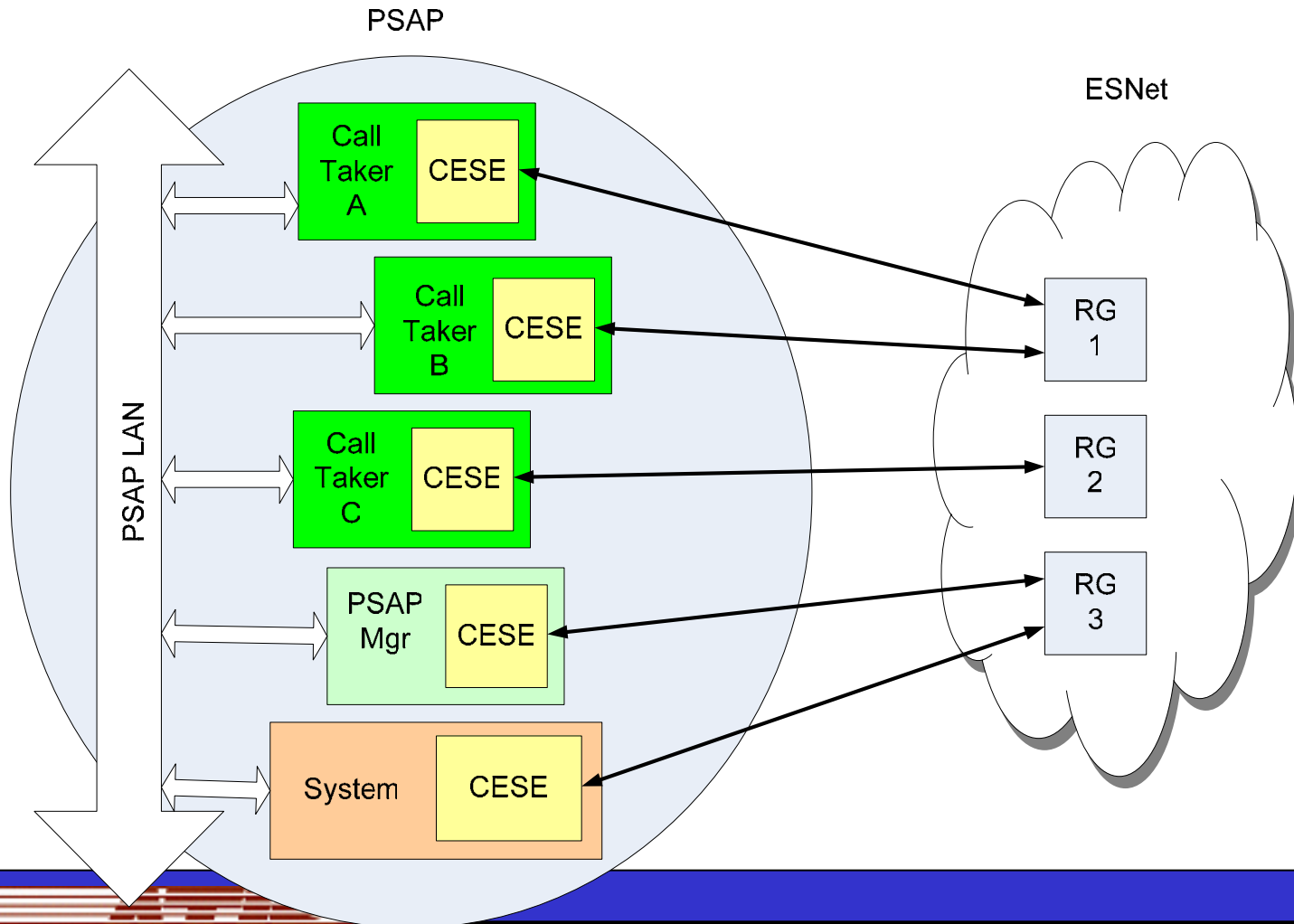


# ESMI - Response Gateway - EISI

## Data Services Mediator Function



# ESMI PSAP Interface Model



# Service Enhancement Drivers

- Emergency service requests (9-1-1 calls)
  - New methods of requesting emergency help (e.g. VoIP, SMS, Call Relay Centers, e-mail)
  - Enhanced capabilities of consumer devices (e.g. display phones, text messaging, mobility, video)
- Technology modernization
  - Existing aging infrastructure
  - Easier integration of new technologies
  - Enhanced communication capabilities
- Interoperability between service providing agencies
- Enhance service response capabilities
  - Information access and advanced services



# Service Enhancement Drivers (continued)

- Broader integration
  - Department of Homeland Security  
(National Response Plan, National Incident Management System)
  - Department of Transportation (USDOT) National Telecommunications and Information Administration (NTIA)
- Manageability, security, reliability, evolve-ability
- Cost, investment management, regulation



# TF34 Status

- ESMI protocol
  - Trial Use Standard completed Sep. 2005  
Pre-Publication Version of ESMI Standard Available:  
*ATIS-PP-0500002-200X: Emergency Services Messaging Interface*
- EISI protocol
  - Stage 1 (Reqs) and Stage 2 (Analysis) completed with some open issues; Stage 3 (Detailed Interface Spec) being worked. Targeted for completion in March 2006 (with Pre-Letter Ballot review in Nov/Dec. 2005 and Initial Letter Ballot in Jan. 2006).
- ESNet to ESNet capabilities to be researched
  - Work not started; no target date set.  
See Task Force 34 posted meeting notes for more detail; TF34 Web
- Further information:
  - TF34 Web Site <http://www.atis.org/esif/esmi.asp>

