ICAO Seminar/workshop on the Implementation of ground/ground and air ground data link applications in the SAM region

An overview on Pan European Network Service - PENS

Lima , Peru 10 to 12 Septiembre de 2012

Mervyn Harris

Adriana Mattos

Outline

- SITA background
- Shaping the future
- PENS: the need for ground-to-ground commom service
- Scope, Applications, Users, Status, Key deliverables
- SESAR related activities
- Main charcteristics:
  - On Technical> design and service layers
  - On Operations> governance and service managment
- The future for communication services in Europe
- SITA Global ATM Vision for IP Services
- Conclusion

OUR BACKGROUND: INDUSTRY PARTNERS

Founded in 1949 by 11 airlines, SITA is owned by the air transport industry.
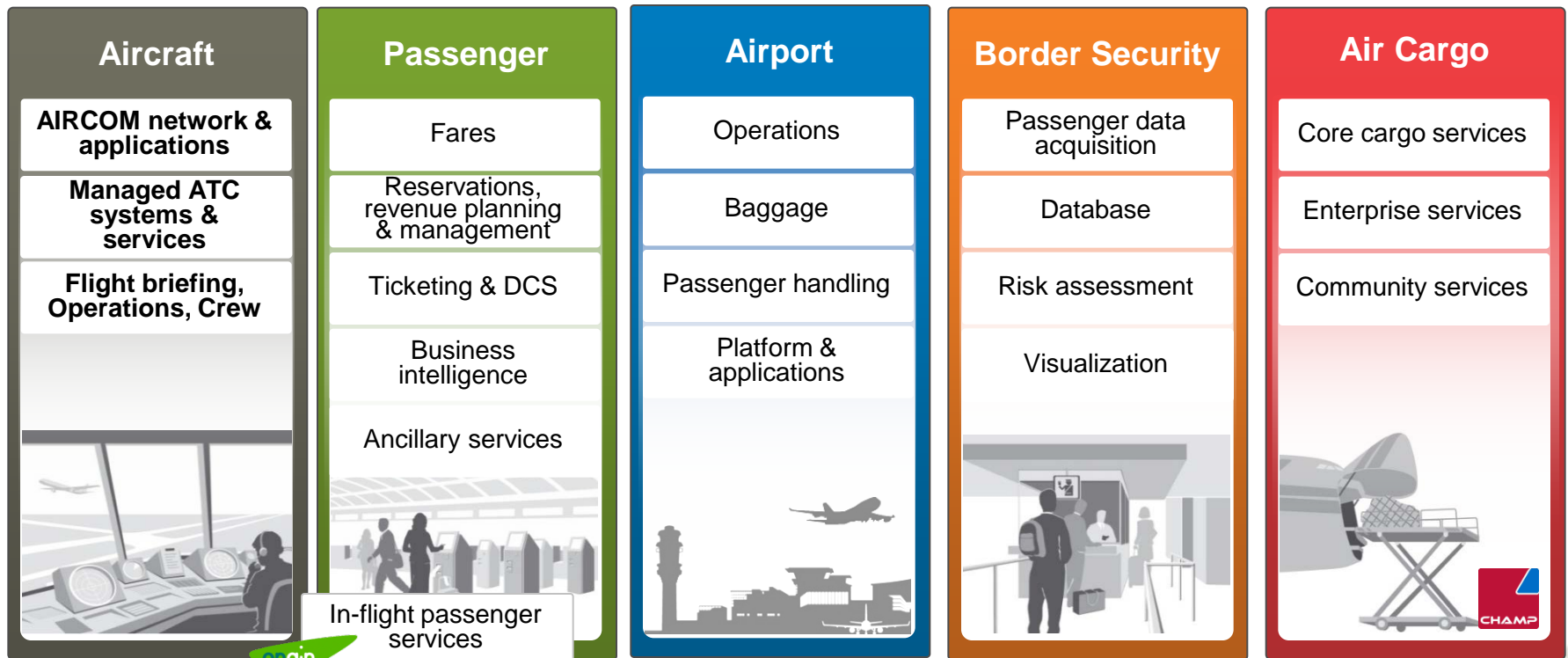
We work collaboratively across the entire industry, including:

- Airlines
- Airports
- Air navigation service providers
- Global distribution systems
- International organizations
- Governments
- Air cargo
- Aerospace
- Aircraft and airframe makers

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BROAD INDUSTRY PORTFOLIO

SITA manages the critical IT and communications need of the industry

Aircraft	Passenger	Airport	Border Security	Air Cargo
AIRCOM network & applications	Fares	Operations	Passenger data acquisition	Core cargo services
Managed ATC systems & services	Reservations, revenue planning & management	Baggage	Database	Enterprise services
Flight briefing, Operations, Crew	Ticketing & DCS	Passenger handling	Risk assessment	Community services
	Business intelligence	Platform & applications	Visualization	
	Ancillary services			

In-flight passenger services

onair

Managed Communications & Infrastructure

Industry messaging	Managed infrastructure incl. ATI Cloud	Voice & Data Communications	Mobile

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CONNECTING THE INDUSTRY

60+ YEARS OF AIR TRANSPORT EXPERIENCE

30+ YEARS DEVELOPING INDUSTRY-SPECIFIC APPLICATIONS

17,000 SITES WHERE SITA PROVIDES COMMUNICATION SERVICES

90% INDUSTRY PLAYERS INTERCONNECTED THROUGH OUR NETWORK

1.4BN PASSENGERS TRAVEL THROUGH THE 320 AIRPORTS WITH SITA INFRASTRUCTURE

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FOCUSED ON CONTINUITY OF SERVICE

97.9% of SITA customers were satisfied, very satisfied or absolutely satisfied in 2011

- Over 4,700 staff worldwide of 140 nationalities, speaking over 70 languages
- Around 2,000 dedicated customer service staff located onsite and remotely
- Support across the world, with staff present in 314 locations in 136 countries

Aiming for **zero** downtime
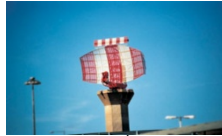
Our 2020 Vision on ANSP Business

Shaping the Future

ASAS

GNSS

Regional ATM Centres

ADS-B VHF Voice VHF Data Link A-SMGCS

Broadband Satellites

ANSP IP Networks

GES

Airline Ops Control

Common IP Backbone

Data & Voice over IP

AIRPORT IP Networks

ATC Tower

Regional Central Flow Management & Flight Plan Processing Systems

Regional Aeronautical Information Databases

CDM (Airport & En-Route)

Airport Airside Operations

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PENS: Need for G/G Network in Europe

**ANSP bi-lateral network**
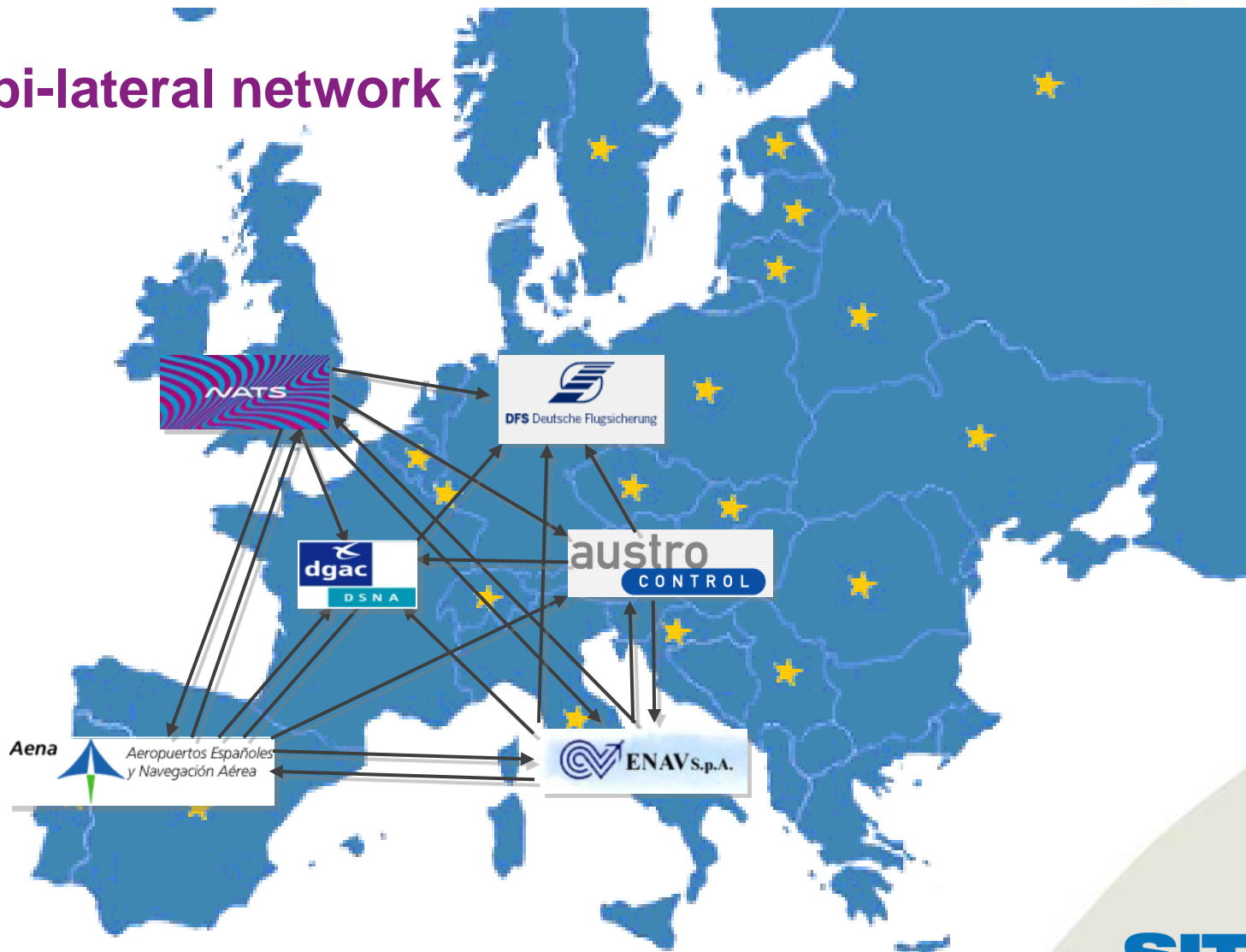
Impact of Bilateral connections - PENS delivered

What is PENS?

- A joint EUROCONTROL ANSP led initiative

- Provides a common **IP based** network service

- Provides efficient support to **existing** services and **new requirements** that are emerging from future Air Traffic Management (**ATM**) concepts

- Delivers **voice and data** communication

- Delivered by **SITA**

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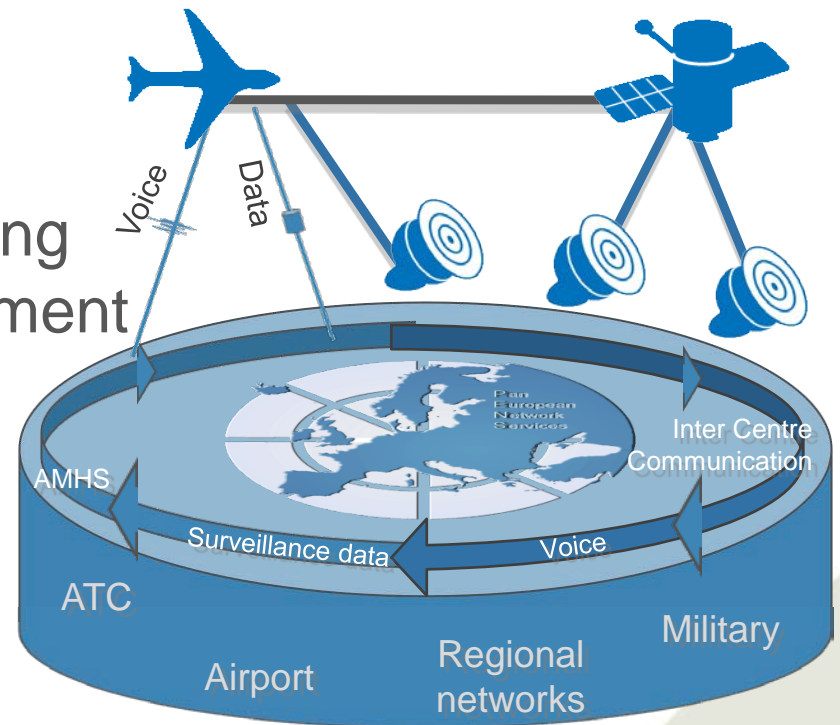
PENS Scope

Air Traffic Management Services

| AFTN/ AMHS | Inter Centre Voice | Inter Centre Data | Radar Data | Centralised Services CFMU/EAD | New Services |

Pan-European Network Service

Potential PENS Applications

Service Type	Applications	In scope of initial PENS ?
Messaging	AFTN/CIDIN	V
	AMHS	V
Surveillance Applications	Radar Data Exchange	V
	SSR Codes	
Navigation Applications	EGNOS	
Centralized Management	IFPS/ETFMS	V
Information Services	EAD/AIS	V
Ground Co-ordination	Flight Data Exchange	V
	Ground/Ground Voice - VoIP	V
	Ground/Ground Voice – Legacy MFC R2/ ATS Qsig	V
Meteorology	Met Messages	
	D-Volmet	
Air Ground services	A/G Voice	
	A/G Data	
New Operational Concepts	CDM/SWIM	
Security	CIMACT	

Potential PENS Users

EUROCONTROL:

Air Navigation Service Providers (ANSPs);

- As Operators of National Networks
- As individual sites

Any stakeholders needing to exchange information for ATM purposes.

- Military organisations
- Airlines
- Airport Operators
- ATM Industry

Potentially SITA Can connect any ANSP to PENS
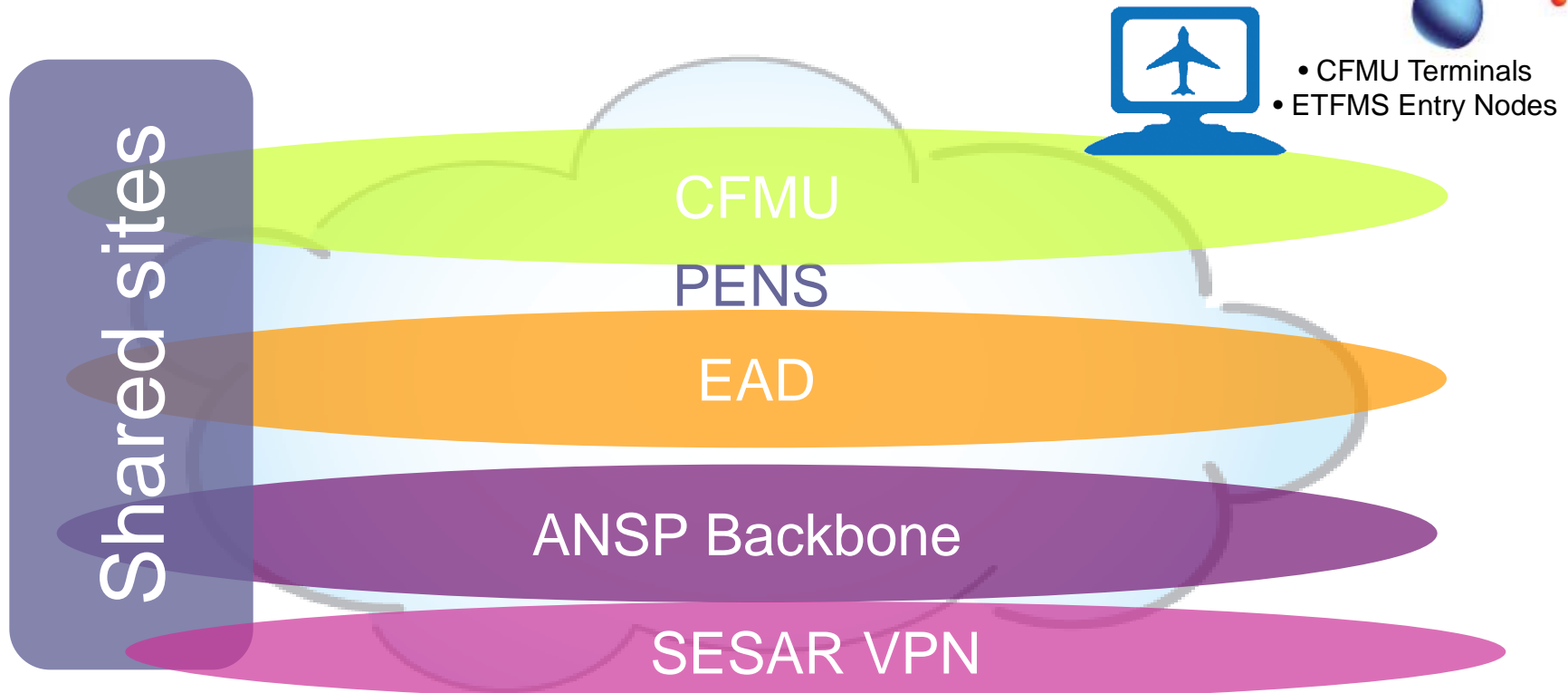
PENS User Status

Legend:
- PENS Contract signed
- PENS Amendment prepared
- Common Procurement Agreement (CPA) signed
- Other EUROCONTROL Member States

February 2012

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PENS Service Layers

CFMU

PENS

EAD

ANSP Backbone

SESAR VPN

Shared sites

- CFMU Terminals
- ETFMS Entry Nodes

Shared sites:
- PENS Users sharing the infrastructure
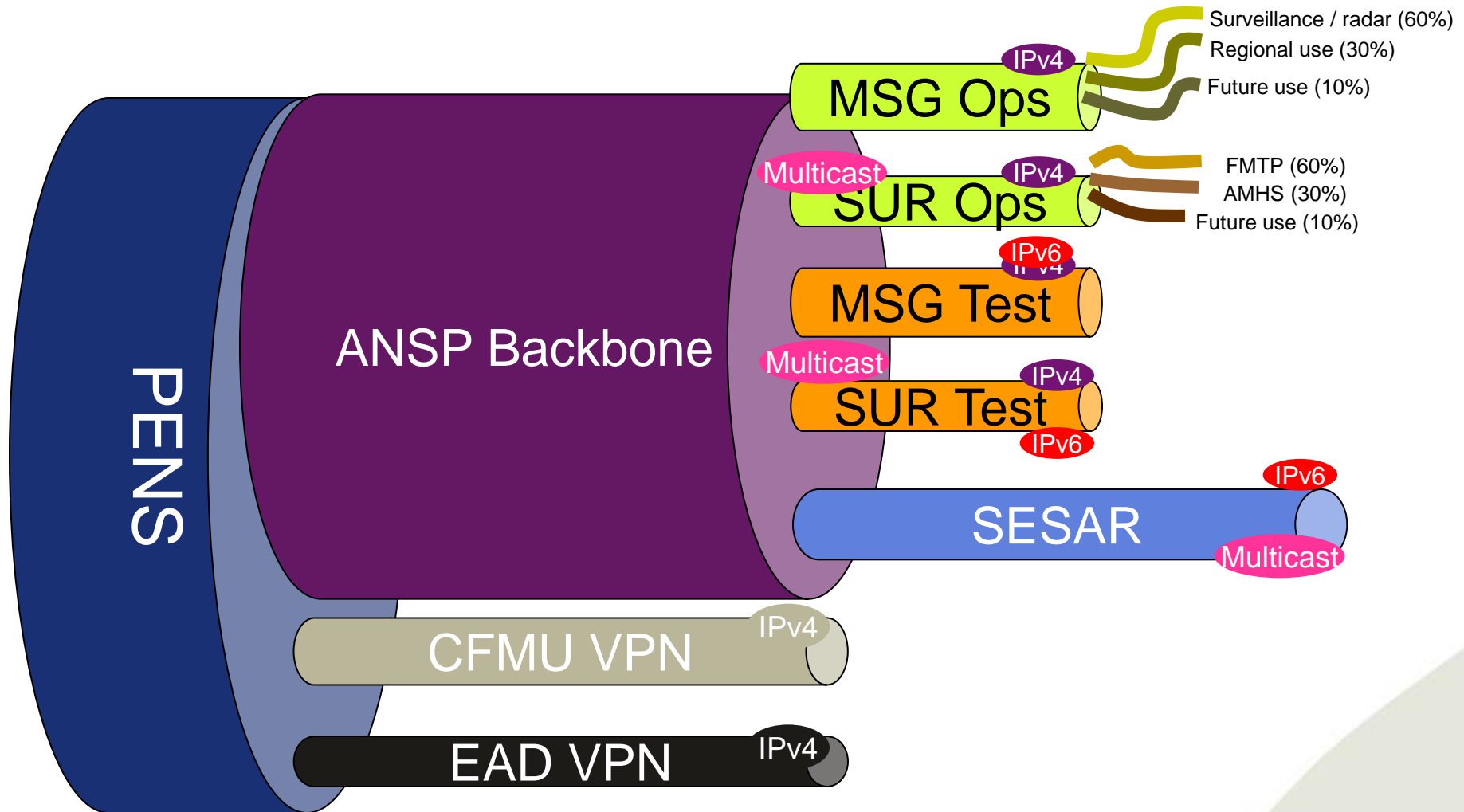- cost optimization, alignment on highest service level

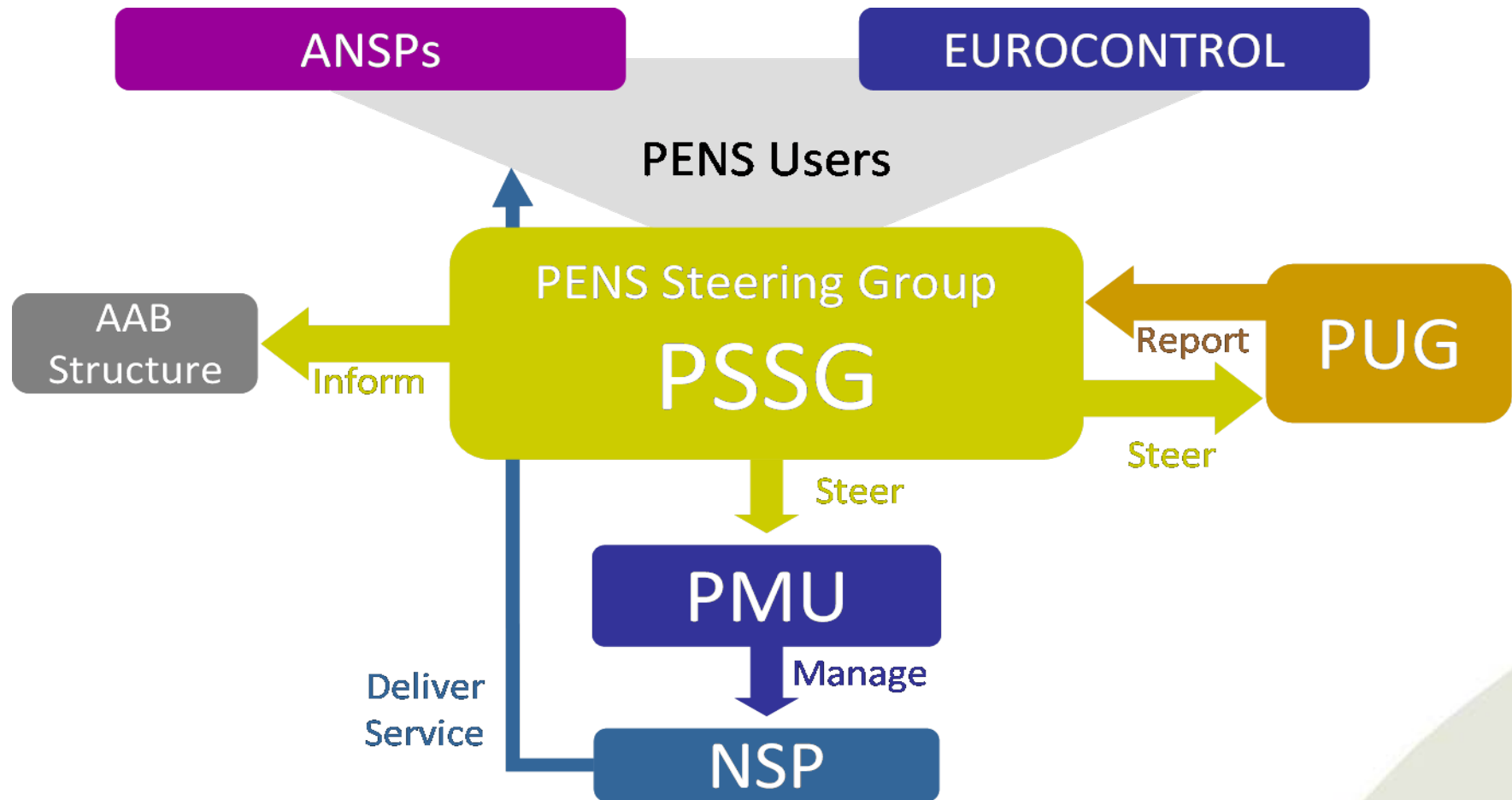**SITA**
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PENS Developments

SESAR related activities

- WP 15.2.10
  - Support validation activities (performance / multicast / VoIP / security)
- WP 14
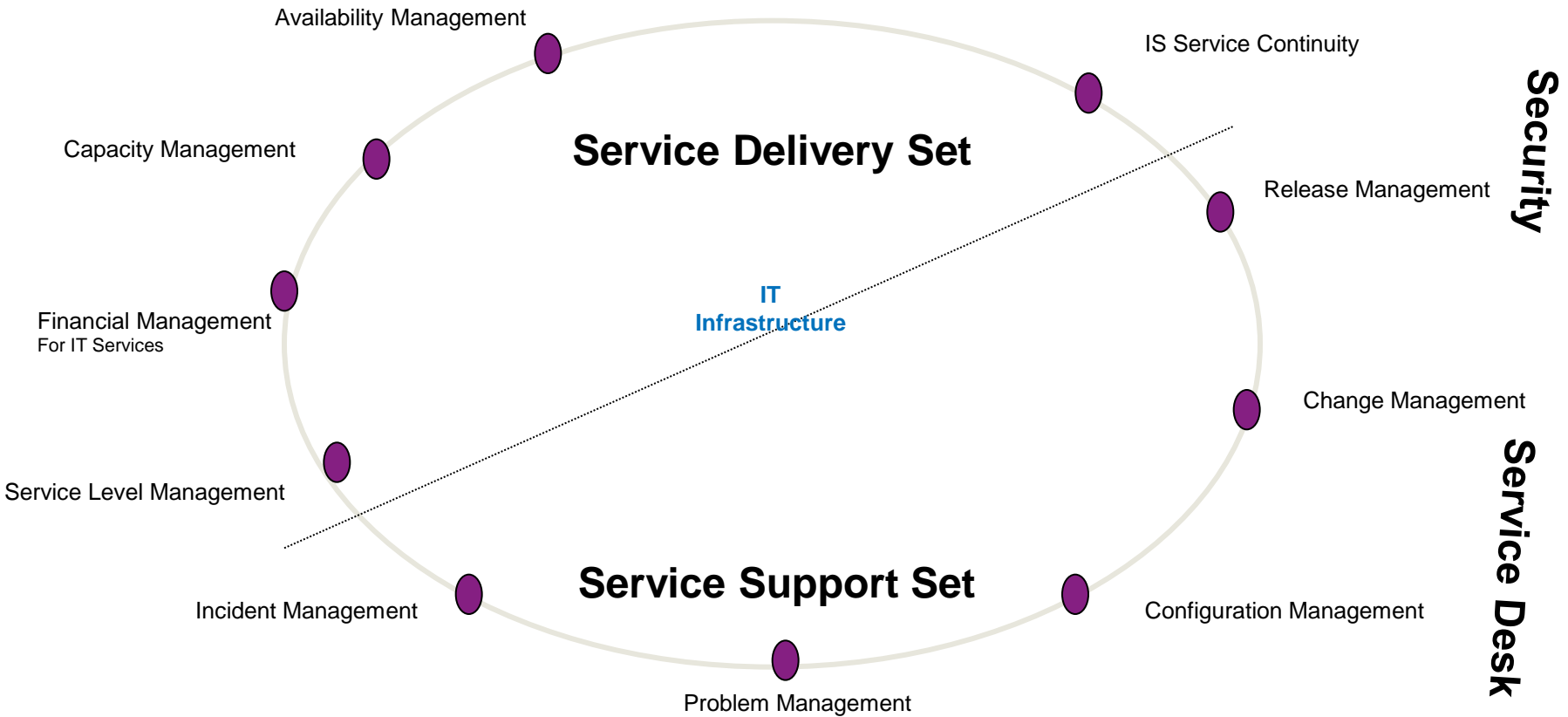 - Support validation and verification activities

PENS Design Overview

PENS Governance

SITA's Approach to Service Management

ITIL Service Management

Availability Management

IS Service Continuity

Service Delivery Set

Capacity Management

Release Management

IT Infrastructure

Financial Management
For IT Services

Change Management

Service Level Management

Service Support Set

Incident Management

Configuration Management

Problem Management

Security

Service Desk

Continuous Service Improvement based on customer input

PENS Current Status - Key Deliverables under contract

Oct 2009	Aug 2010	Dec 2010	Mar 2011	Jul 2011	Feb 2012	Jul 2012

Contract Signature

3 ANSPs signed up to PENS

17 ANSPs signed up to PENS

Migration of Service Desk to Delhi

Deploy ANSP Backbone

CFMU & EAD operational

Activate ANSP IP V6

Internet Upgrade

On time and Budget

PENS Current Status - Key Deliverables Additional Services Provided

Oct 2009	Aug 2010	Dec 2010	Mar 2011	Jul 2011	Feb 2012	Jul 2012

Corporate backbone for Eurocontrol

Extra ANSP & EAD sites

Additional Bandwidth for ANSPs

On time and Budget

SESAR VPN IPV6/V4 Platinum operational

SESAR Platinum Voice operational

SESAR Native Multicast V4 & Multicast 6

CFMU Legacy Voice operational

The structure & Governance of PENS enabled these services to be deployed at a small incremental cost
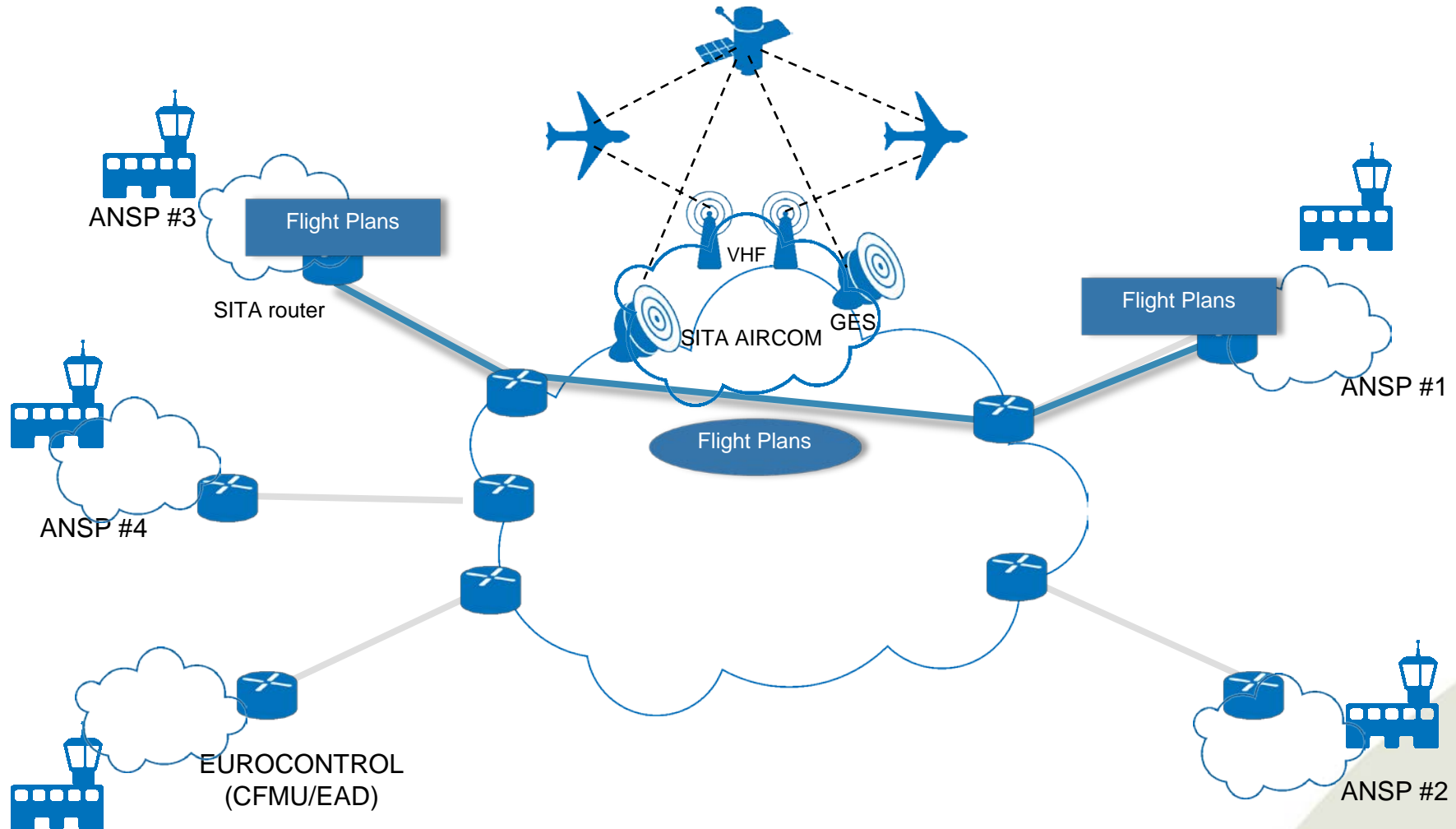
PENS – Leveraging a common infrastructure

Radar exchange between multiple ANSPs
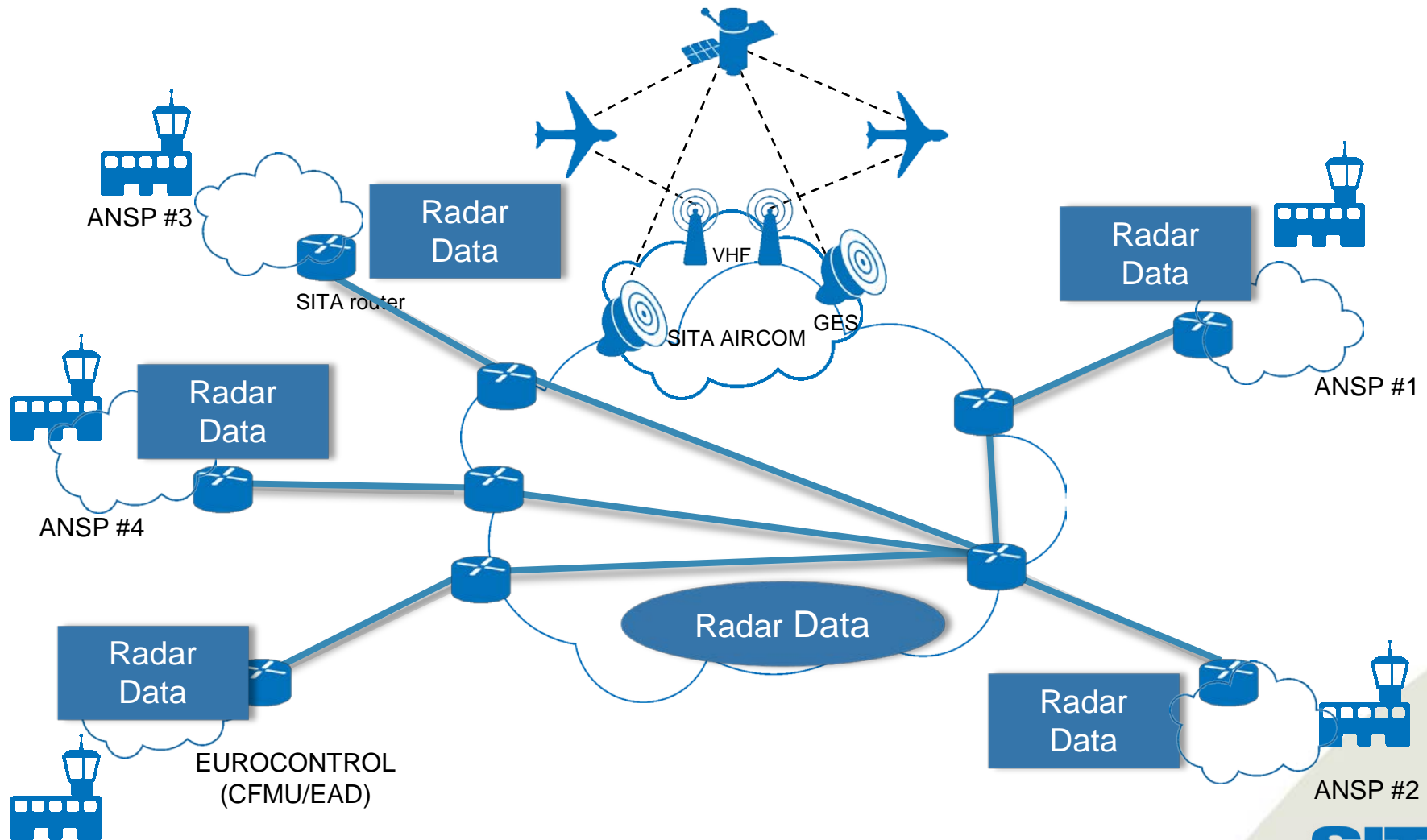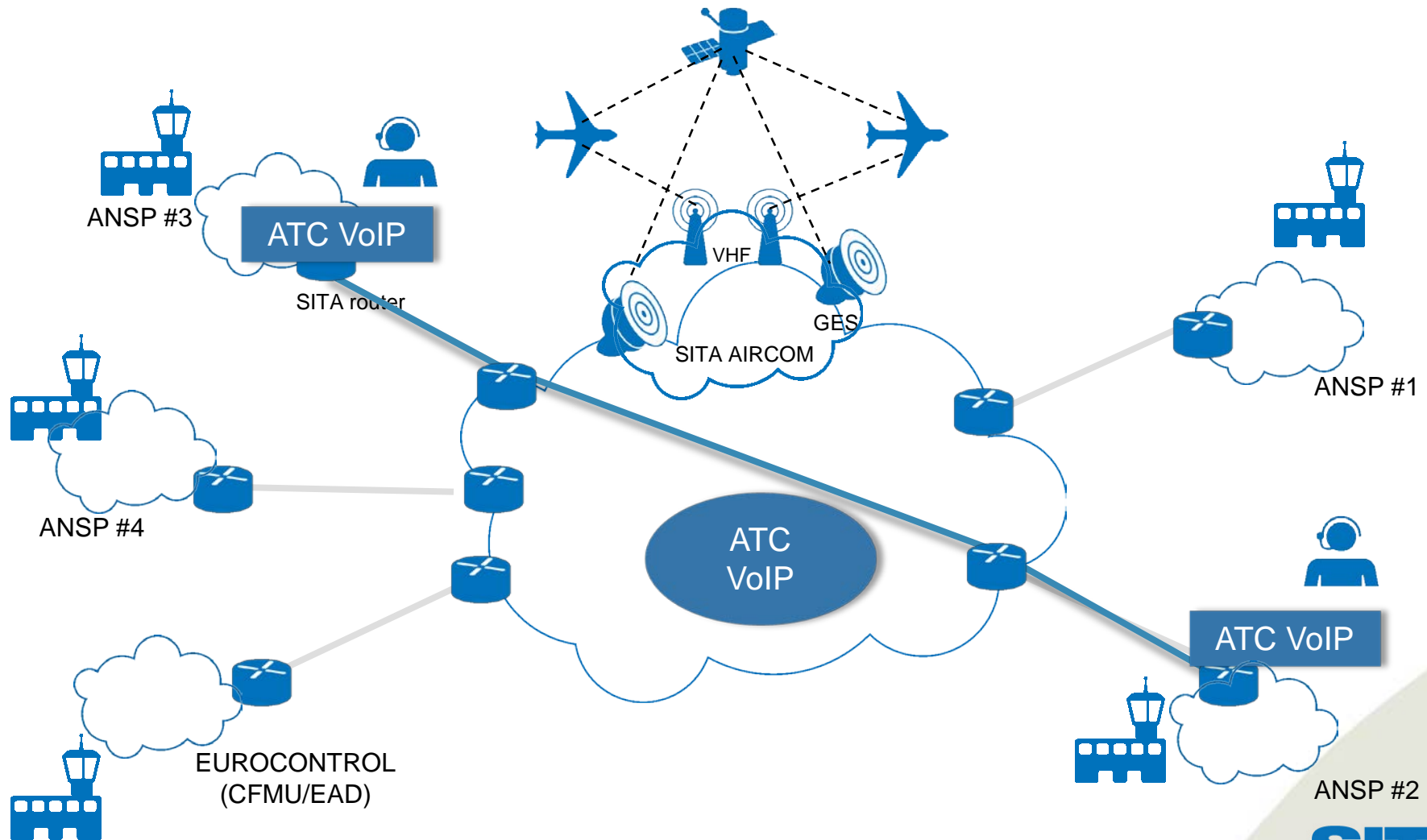
PENS – Leveraging a common infrastructure

Enabling flight plan data exchange between ANSPs

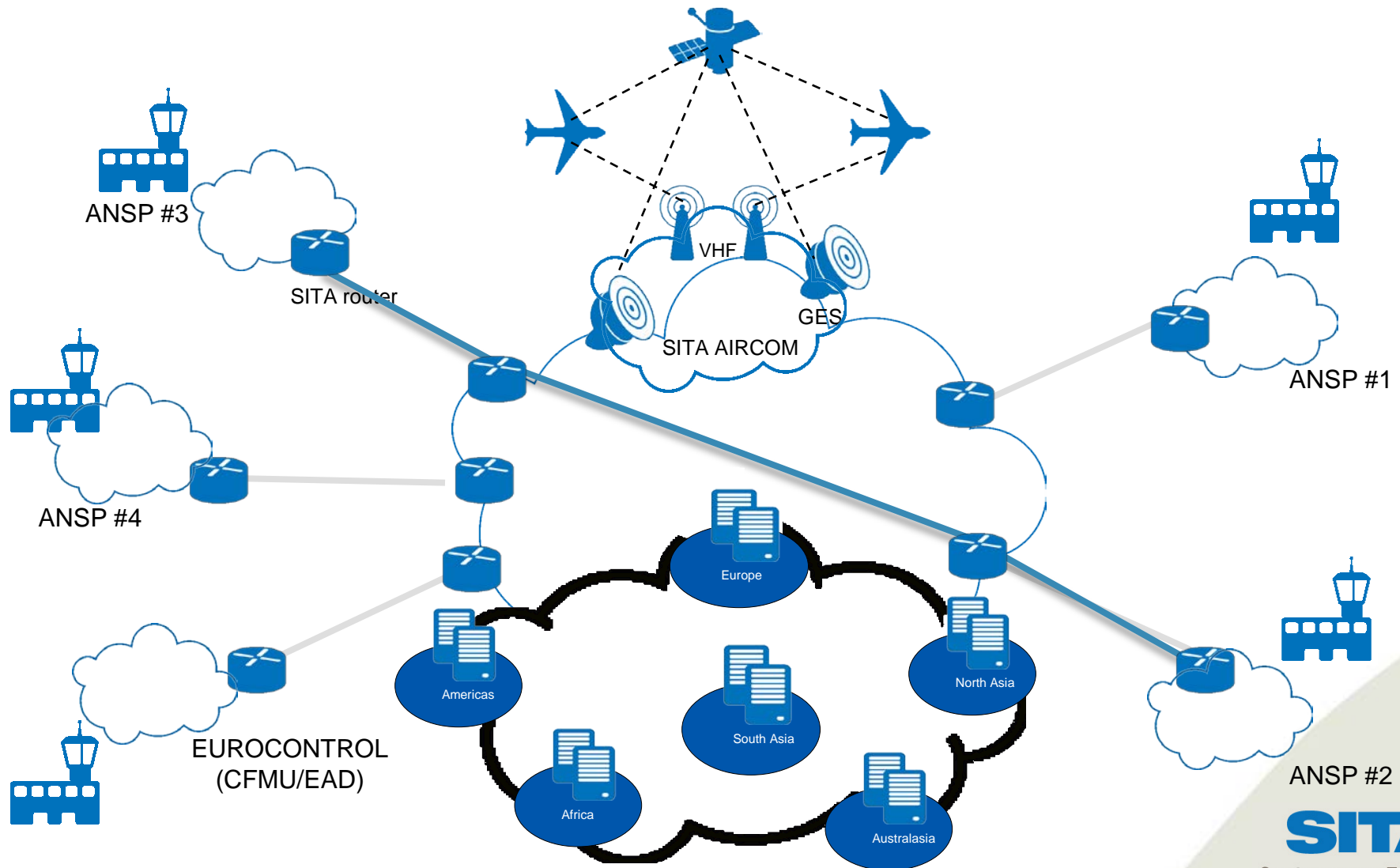# PENS – Leveraging a common infrastructure

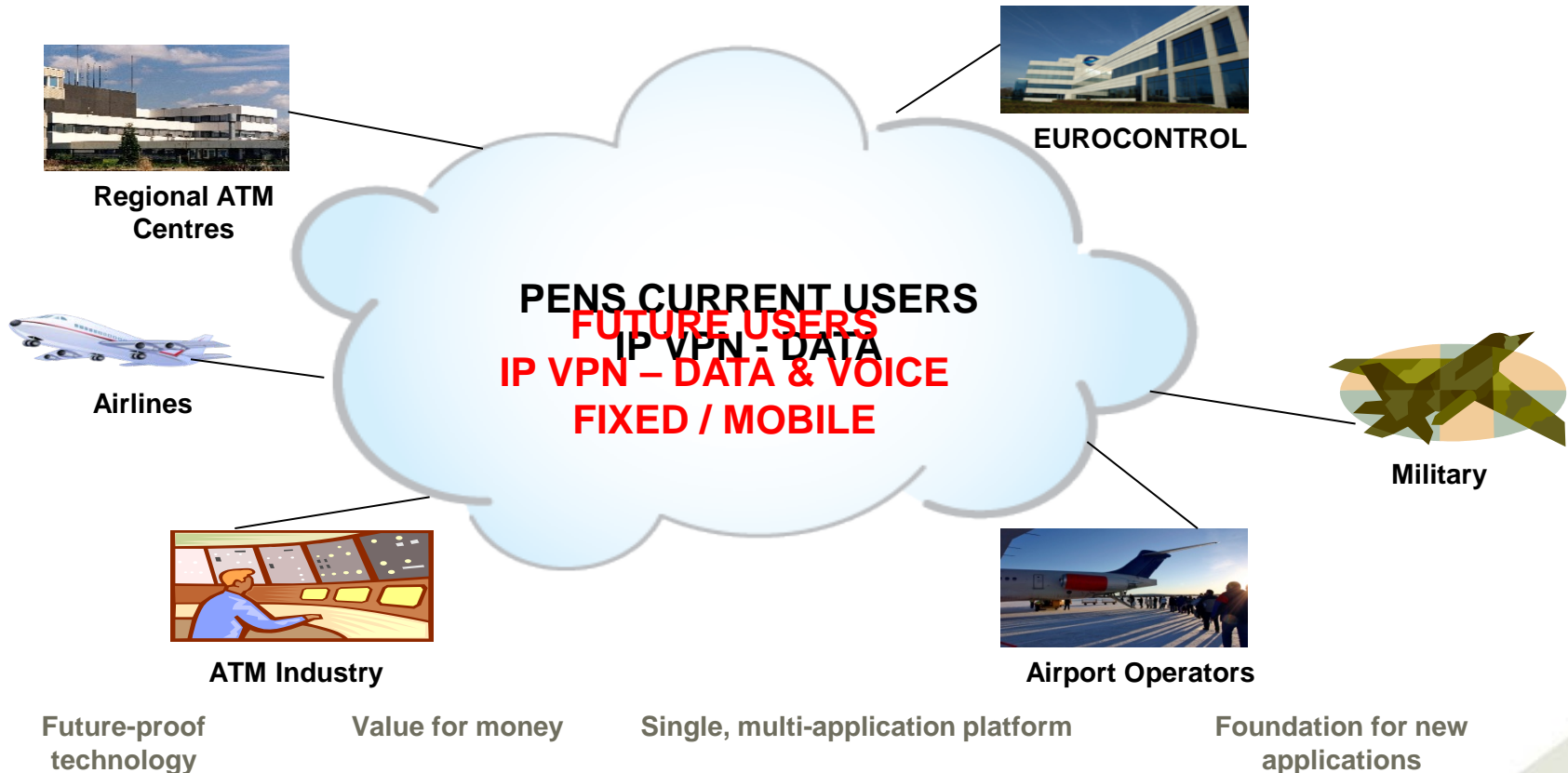Delivering cost savings through ATC VoIP

PENS – Leveraging a common infrastructure

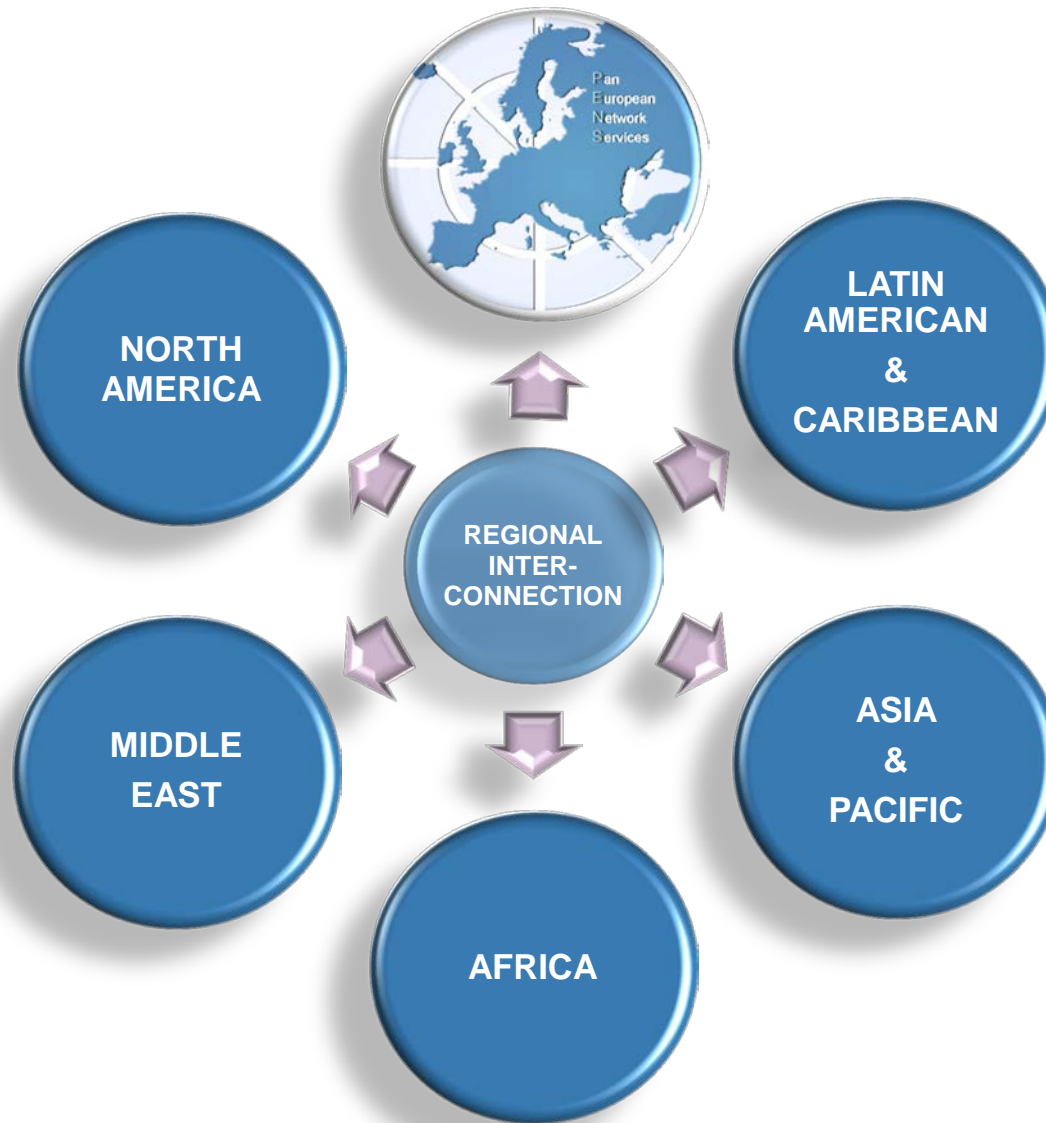Enabling Collaborative Applications Using the ATN Cloud

SITA's vision for future users of Communication Services In Europe

Regional ATM Centres

EUROCONTROL

Airlines

PENS CURRENT USERS
FUTURE USERS
IP VPN - DATA
IP VPN – DATA & VOICE
FIXED / MOBILE

Military

ATM Industry

Airport Operators

Future-proof technology

Value for money

Single, multi-application platform

Foundation for new applications

SUPPORTING SESAR INITIATIVES (SWIM & CDM)

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SITA - Global ATM Vision for IP Services

Conclusion

- Successful governance & Technical implementation & Operations of PENS

- Additional services rolled out

- Backbone for Voice, SWIM & ATM stakeholders

- SITA's Vision of Regional applications globally is achievable and beneficial

Thank you!
Gracias!

Mervyn.harris@sita.aero

Adriana.mattos@sita.aero

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