Enterprise Classified/Unclassified Voice and IP Video Pilot

7 May 2012

Version 3

Overview

- Classified Enterprise Voice
- SBU Enterprise Voice
- IP Video Pilot

What is VoSIP?

- VoSIP is a *"current"* accredited DISN secure voice service
  - It is included in the "*classified*" Unified Capabilities (UC)/DISN requirements definition initiatives
  - It is a SECRET voice capability
- VoSIP provides service to more than 70,000 users at approximately 116 user enclaves globally.

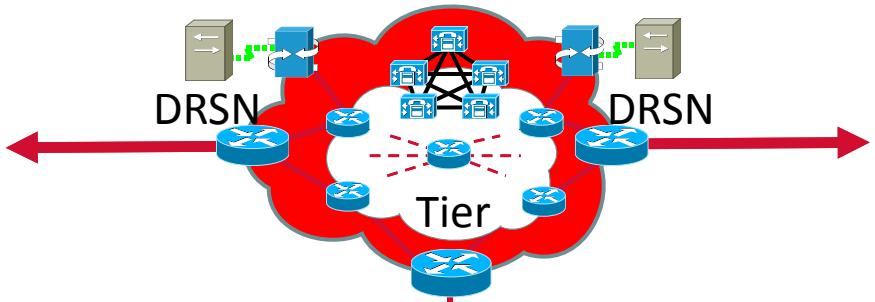
Current VoSIP Enclaves

	CENT	CONUS	PAC	EUR	Total	
Joint	12	20	5	6	43	
Army	4	24	5	2	35	
Navy	1	1	0	0	2	
Air Force	1	16	9	1	27	
USMC	3	4	2	0	9	
				Total Enclaves	116	

Tiered Architectural Approach

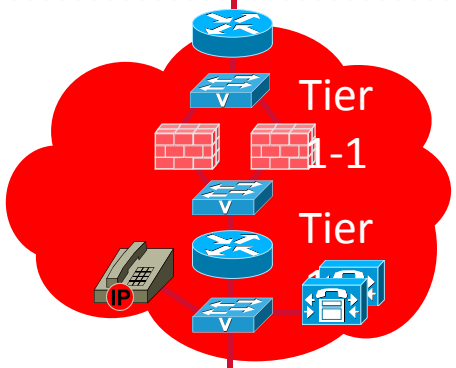
VoSIP DISA Administrative Domain

Geographic Region



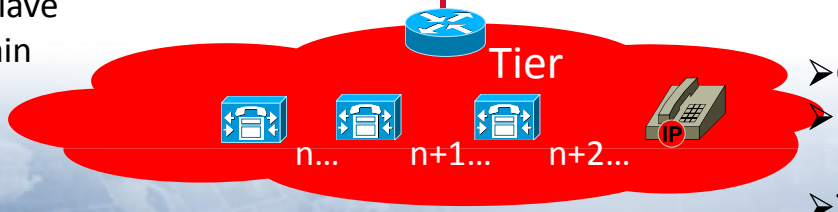
- Instantiated at SIPRNet Core Sites
- Directory Gatekeeper
- Controlled access to DRSN
- Provision for policy based Management controls

VoSIP Organizational Enclave Administrative Domain



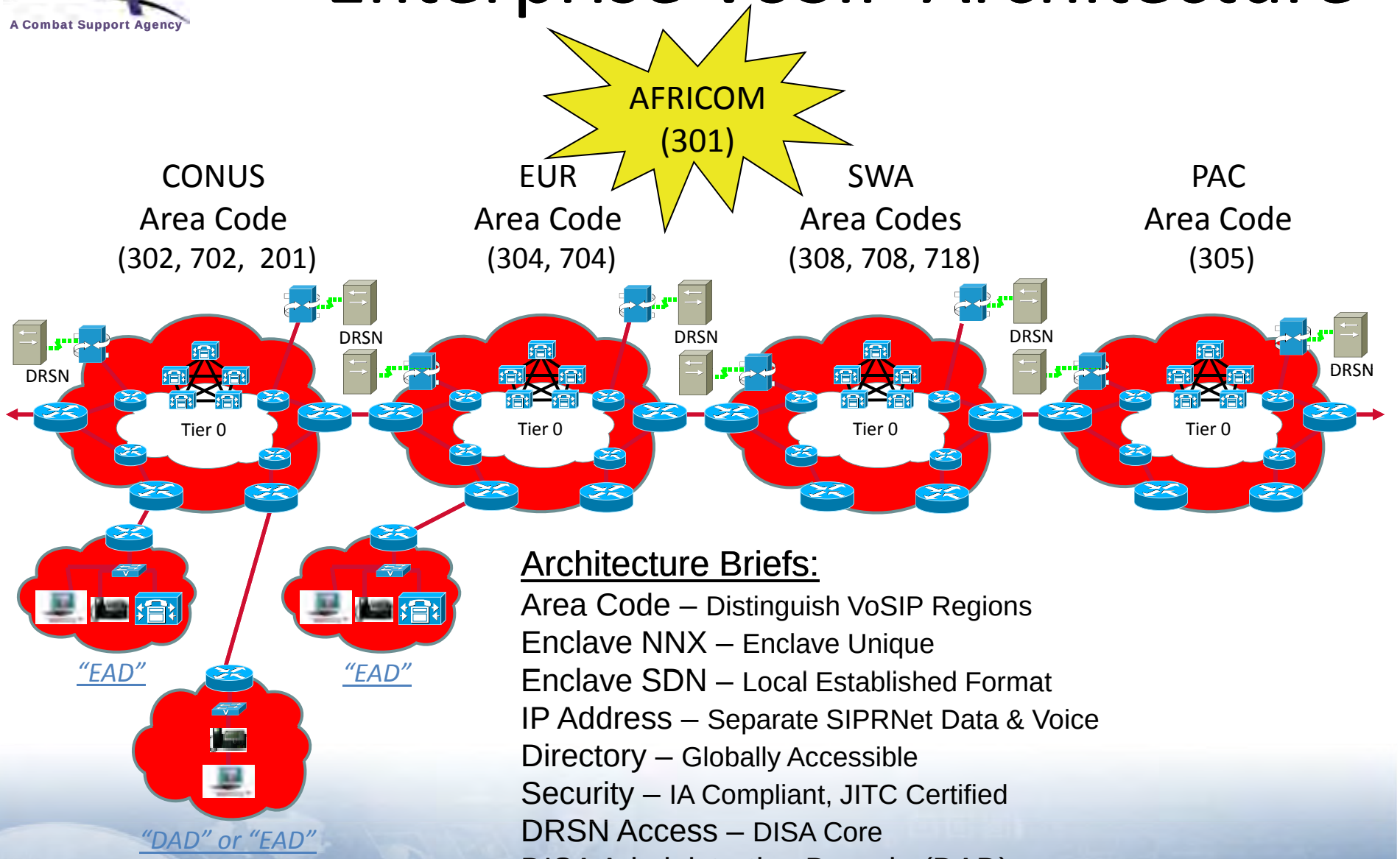
- Instantiated on Organizational C-LAN/SIPRNet enclave
- Organizational funding and O&M
- Provision for policy based Management controls

VoSIP Subordinate Enclave Administrative Domain



- Instantiated on Organizational C-LAN/SIPRNet enclave
- Organizational funding and O&M
- Provision for policy based Management controls
- Typically a Tactical environment Such as the Army WIN-T/JNN or a distributed community of interest

Enterprise VoSIP Architecture



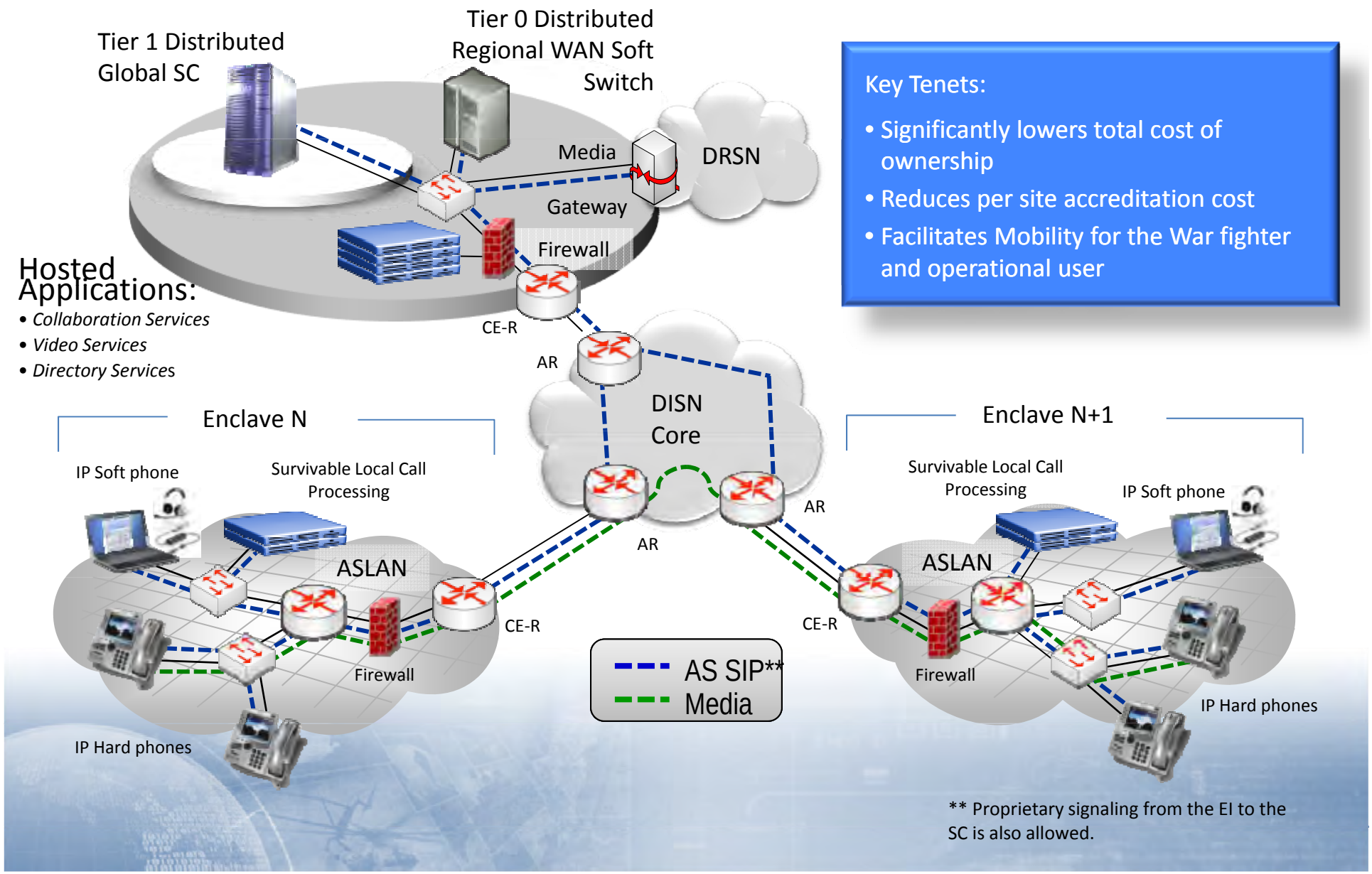
Architecture Briefs:

Area Code – Distinguish VoSIP Regions
Enclave NNX – Enclave Unique
Enclave SDN – Local Established Format
IP Address – Separate SIPRNet Data & Voice
Directory – Globally Accessible
Security – IA Compliant, JITC Certified
DRSN Access – DISA Core
DISA Administrative Domain (DAD) – DISA Managed
Enclave Administrative Domain (EAD) – Enclave Managed

Enterprise CVVoIP Capability

- Under the Unified Capabilities umbrella DISA implemented a DoD Enterprise VoSIP capability
  - Mid Dec 2011
- DISA provides managed services (centralized capability)
  - Cost avoidance – no longer a need for procurement, installation, operations and maintenance of equipment at the base, post, camp or station

Enterprise CVVoIP Service



Key Tenets:

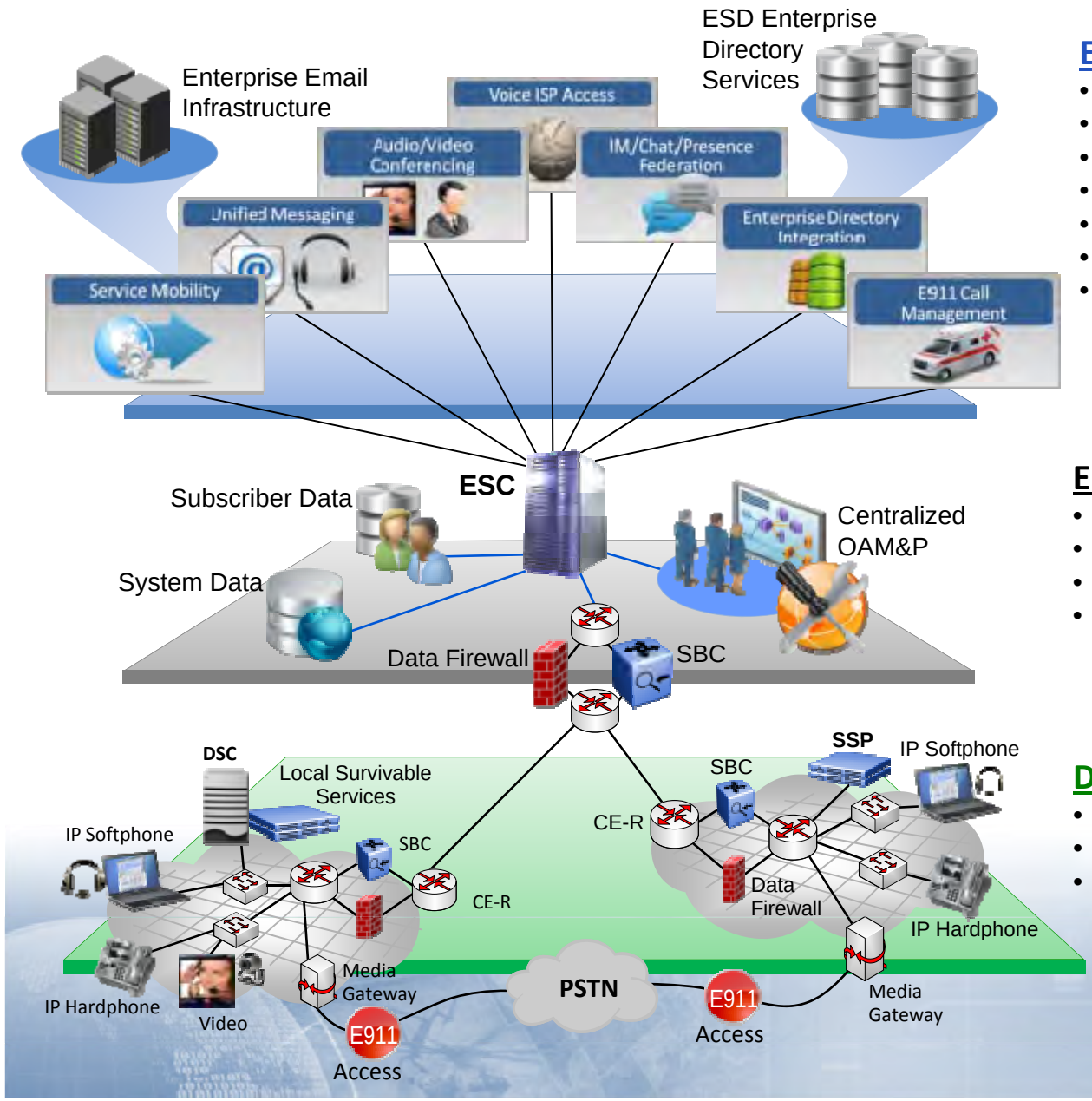
- Significantly lowers total cost of ownership
- Reduces per site accreditation cost
- Facilitates Mobility for the War fighter and operational user

Benefits of Enterprise VoSIP

- Cost avoidance to the DoD
  - No new enclaves are added to the network
  - Existing enclaves transition to DISA at the time when their tech refresh is needed over the three year technical refreshment cycle

- Centralized capability at less cost to DoD.
- DISA partnership with MilDeps for provisioning of the capability

Enterprise Unified Capabilities



Enterprise UC Services

- Centralized Audio/Video Conferencing
- Unified Messaging
- Service Mobility/Portability
- IM/Chat/Presence Federation
- Enterprise Directory Integration
- E911 Call Management
- Voice ISP Access

Enterprise Session Management

- Enterprise Session Controller (ESC)
- Centralized OAM&P
- System & Subscriber Data
- ESC-fronting SBC

DoD Components Edge

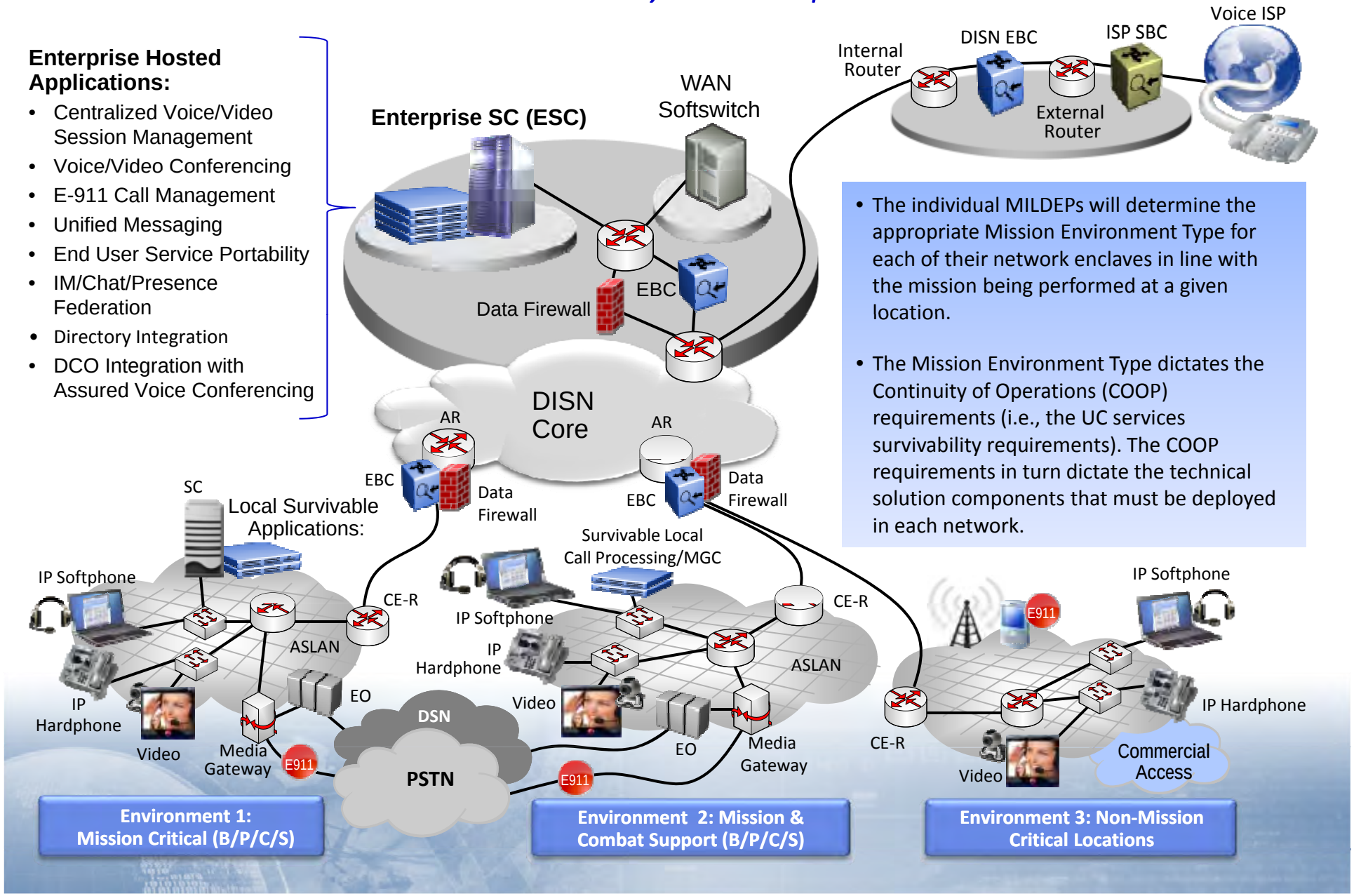
- End Instruments / Media Gateways
- Survivable Call Processing Capabilities
- Enclave-fronting SBC

Mission Environment Types

Served by the Enterprise Session Controller

Enterprise Hosted Applications:

- Centralized Voice/Video Session Management
- Voice/Video Conferencing
- E-911 Call Management
- Unified Messaging
- End User Service Portability
- IM/Chat/Presence Federation
- Directory Integration
- DCO Integration with Assured Voice Conferencing



- The individual MILDEPs will determine the appropriate Mission Environment Type for each of their network enclaves in line with the mission being performed at a given location.
- The Mission Environment Type dictates the Continuity of Operations (COOP) requirements (i.e., the UC services survivability requirements). The COOP requirements in turn dictate the technical solution components that must be deployed in each network.

Mission Environment Type 1

Mission Environment Type 1 "Mission Critical Environment"

(Examples: Operational Flying Wing or Combat Support Unit)

UC Requirements (During Normal Operating Conditions)

- **Access to all UC services via Enterprise LSC and Enterprise Hosted Applications:**
  - Precedence calling capability
  - Presence, IM and chat
  - Voice and video conferencing
  - Video point-to-point
  - Unified Messaging
  - Workspace Collaboration
  - PSTN/DSN/E911 access (sized per customer requirements)

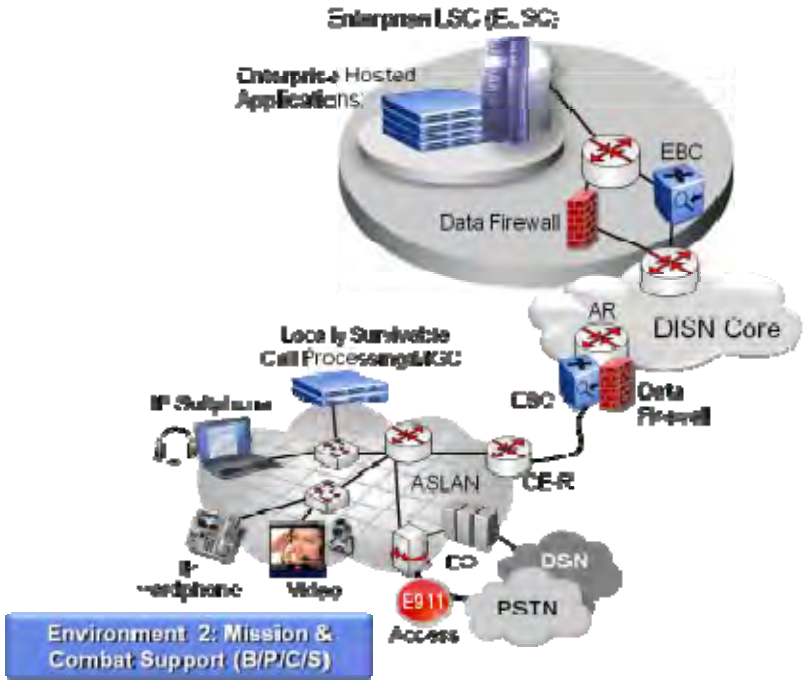
COOP Requirements in Survivable Mode (When Access to DISN/E-LSC Is Interrupted)

- **Access to a full complement of basic, locally-provided UC services** :
  - Intra-base precedence calling capability
  - Audio conferencing (sized per customer requirements)
  - Video point-to-point
  - Local-user presence, IM, and chat
  - E911 services
  - PSTN/DSN access via local media gateway (sized per customer requirements)

Mission Environment Type 2

Mission Environment Type 2
"Mission Support Environment"

(Examples: A Training Unit or an Administrative Center)



UC Requirements (During Normal Operating Conditions)

- **Access to all UC services via Enterprise LSC and Enterprise Hosted Applications:**
  - Precedence calling capability
  - Presence, IM and chat
  - Voice and video conferencing
  - Video point-to-point
  - Unified Messaging
  - Workspace Collaboration
  - PSTN/DSN/E911 access (sized per customer requirements)

COOP Requirements in Survivable Mode
(When Access to DISN/E-LSC Is Interrupted)

- **Access to survivable, locally-provided voice-only services**:
  - Intra-base calling capability (ROUTINE service only)
  - PSTN/DSN/E911 access via local media gateway (sized per customer requirements)

Mission Environment Type 3

Mission Environment Type 3
"Non-Mission Critical Environment"

(Example: A Recruiting Office)

UC Requirements (during Normal Operating Conditions)

- **Access to all UC services via Enterprise LSC and Enterprise Hosted Applications:**
  - Precedence calling capability
  - Presence, IM and chat
  - Voice and video conferencing
  - Video point-to-point
  - Unified Messaging
  - Workspace Collaboration
  - PSTN/DSN/E911 access (sized per customer requirements)

COOP Requirements in Survivable Mode
(When Access to DISN/E-LSC Is Interrupted)

- **Access to commercial services via a mobile device (e.g., cell phone/smart phone).**
  Note: Does not include support for any local, survivable call processing capability.

DISN Video Services

History:

- 1995 Outsourced Video
  - ✓ Managed Service Provider
- War fighter Requirements:
  - ✓ Classified IP Video Services
  - ✓ SWA IP Video (2005)
- Cross Domain Video Service
  - ✓ ATVB Afghanistan 2010
  - ✓ SIPR to NATO(s) & Afghan Mission Network (CENTRIXS-I)

Global Capacity:

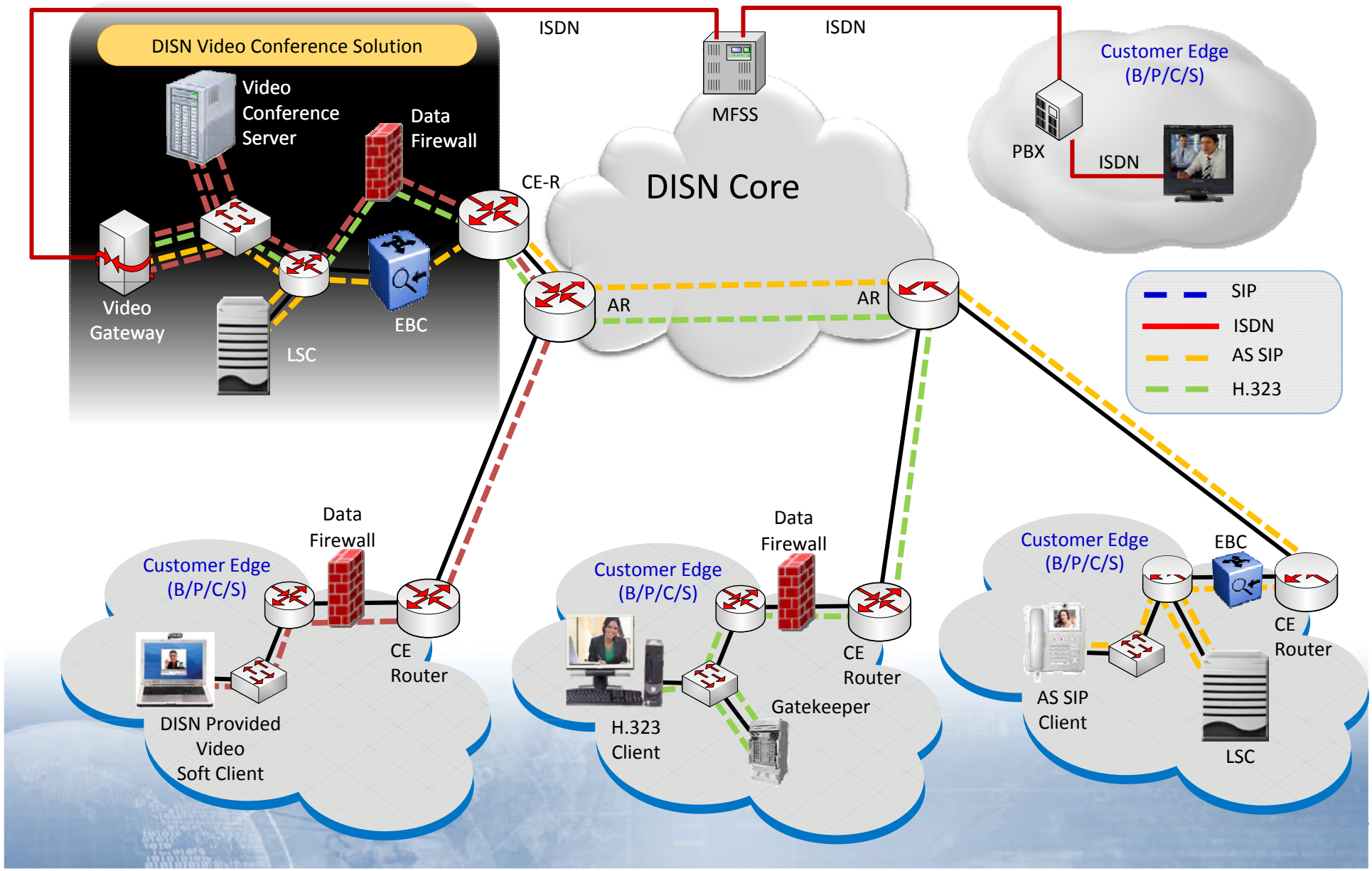
- Unclassified
  - ✓ 264 ISDN/T1 ports
- Classified Video Services
  - ✓ 136 IP Ports
  - ✓ 308 ISDN/T1 ports

Unclassified ISDN to IP Video Bridge System

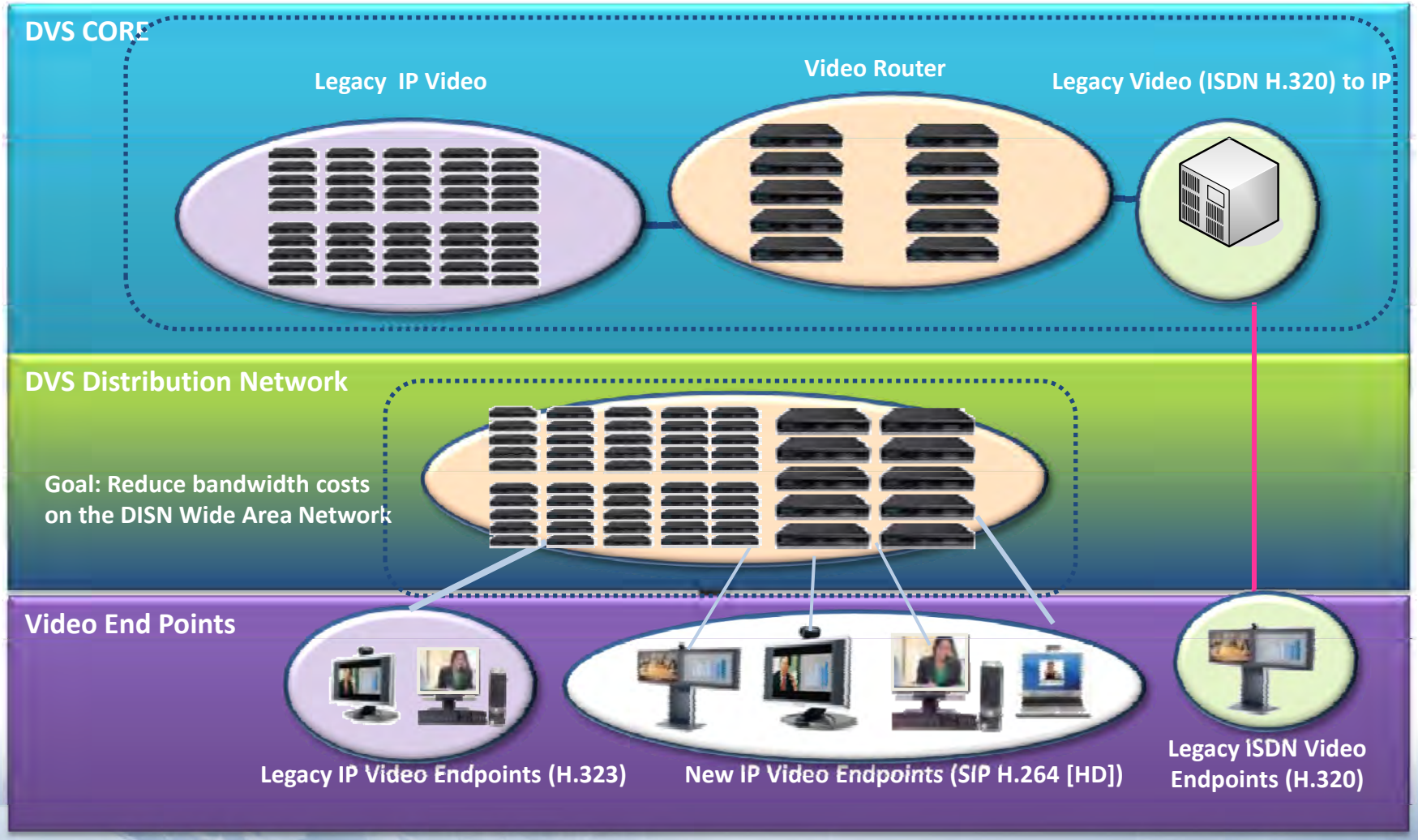
- **UIIVBS Pilot:**
  - **Engineering Proof of Concept Capacity:**
    - 40 H.320 Unclassified
    - 150 H.323 ports IP
    - 500 H.264 Desktop IP Video with 50 port license
  - **Spiral Testing**
    - 26 March – 9 April SP1 (DISA CONUS, NORTHCOM)
    - 9 April – 27 April SP2 (PACOM, EUCOM)
    - 7 May – 25 May SP3 (CENTCOM,SOCOM,)
    - Follow on Testing
      - SP4 – SP6 Operational Assessment
      - May - Sept

DISN Video Conferencing Interim Architecture

Signaling Conversions in DISN Core



Future DVS System Overview



DISN Video Services

Future Infrastructure Capability

Global System Capability:

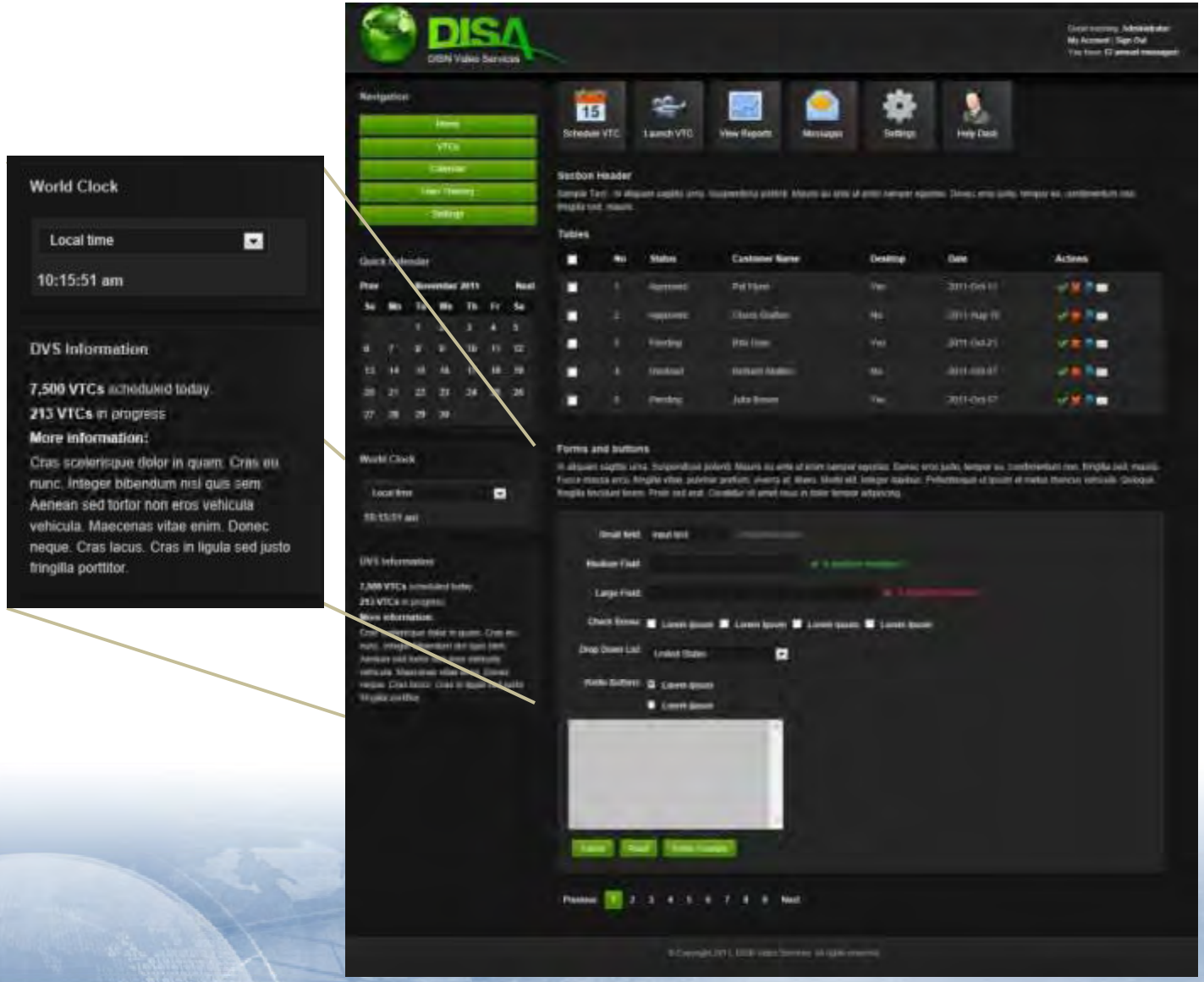
- Migration of all Unclassified ISDN to IP users
- Support legacy H.323 video calls
- Support Desktop Video calls
- Integration with Future Collaboration Services
  - ✓ (Flash Media Gateway)
  - ✓ Utilize Infrastructure (Active Directory, DNS, Management, Storage)
  - ✓ Unified Web portal – Single Sign On (CAC)
- Operational Support Model based on GO/NS/ESD
- Bandwidth Control – Desktop users and Endpoints
- Standard Definition Video Quality
- AS SIP Migration Path

High Level Requirements

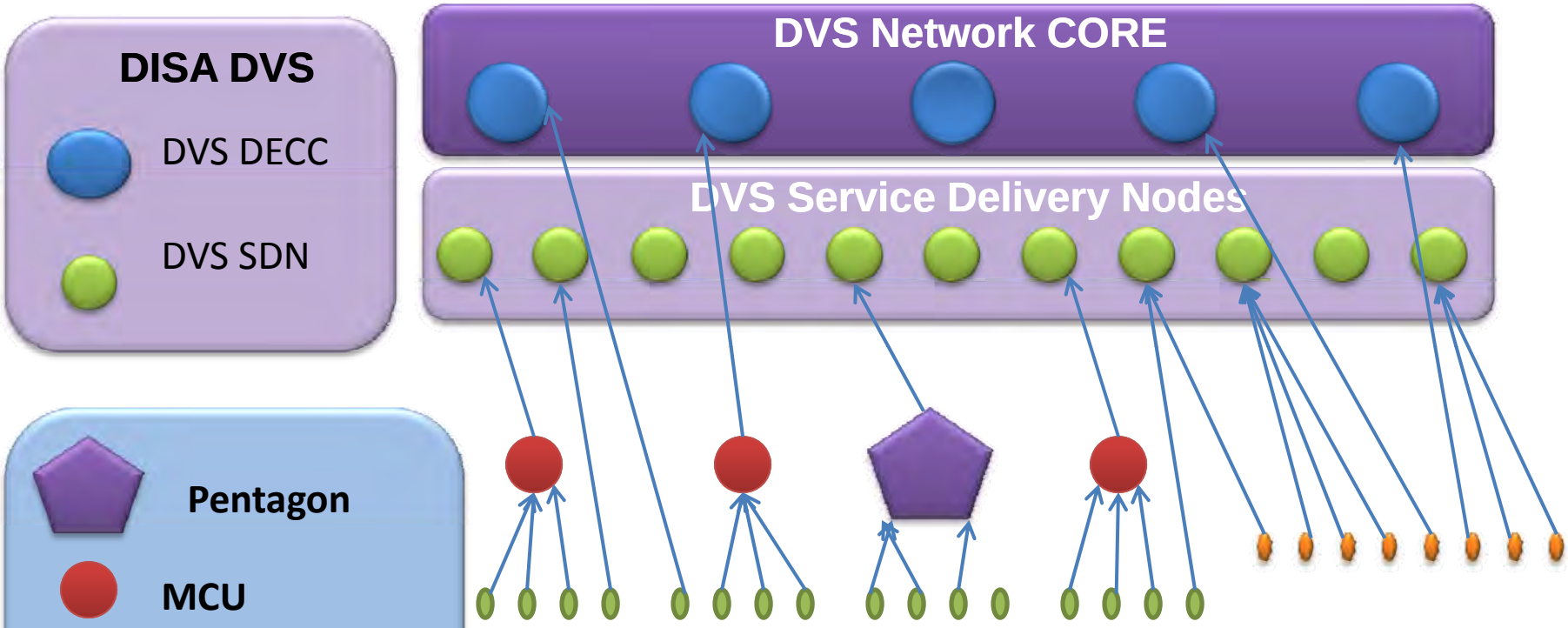
Functional	Non-Functional	Performance
Video and Audio Collaboration Services	Network Management (FCAPS)	Presence and Awareness
Ad-Hoc/Reservationless	Information Assurance	Audio
Scheduled	Desktop Clients	Video
H.320 Integration	Environment (Network, Hosting, etc)	Email Integration (Exchange)
Streaming/Recording	Continuity of Operation Support (COOP)	Session Management
Pt-to-Pt/Multipoint	Transition Support	System Availability
Extremely High Quality VTC (e.g., HD)		System Reliability
Registration/Reservation		System Scalability
Access/Authentication		
Endpoint Mgmt		
Audio Add-on		
Full vendor Interoperability		

Video Portal

NS 24 Video Services Division



Future DVS Architecture



DVS will support

- Less then one cascaded hop to DVS
- Bandwidth scaling from 256Kb Desktop to 1 Mb HD
- Allows for Endpoints to connect directly to DVS
- Reduce MCU requirements (1500 to 2000 ports available)
- Roadmap to AS SIP within DVS
- Planned to deploy with Service Delivery Nodes (Email, Voice Video) closer to customers
- Capabilities for Ad Hoc, scheduling, Audio Add-In, and dedicated ports.

A Combat Support Agency

QUESTIONS