Local Session Controller (LSC) Overview

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LSC – Overview

- Introduction
- Defense Market Transition to IP – Background
- Unified Capabilities Architecture
- Cisco Offerings
- Deployment Options
- Summary and Questions

LSC – Introduction

- “LSC” – just one aspect of a new DISA architecture
- DISA terminology:
  - Unified Capabilities
  - Assured Real Time Services (ARTS, RTS)
  - Assured Services SIP (AS-SIP)
  - DSN
  - DISN
  - GIG
  - VVoIP

LSC – Overview

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- **Defense Market Transition to IP – Background**
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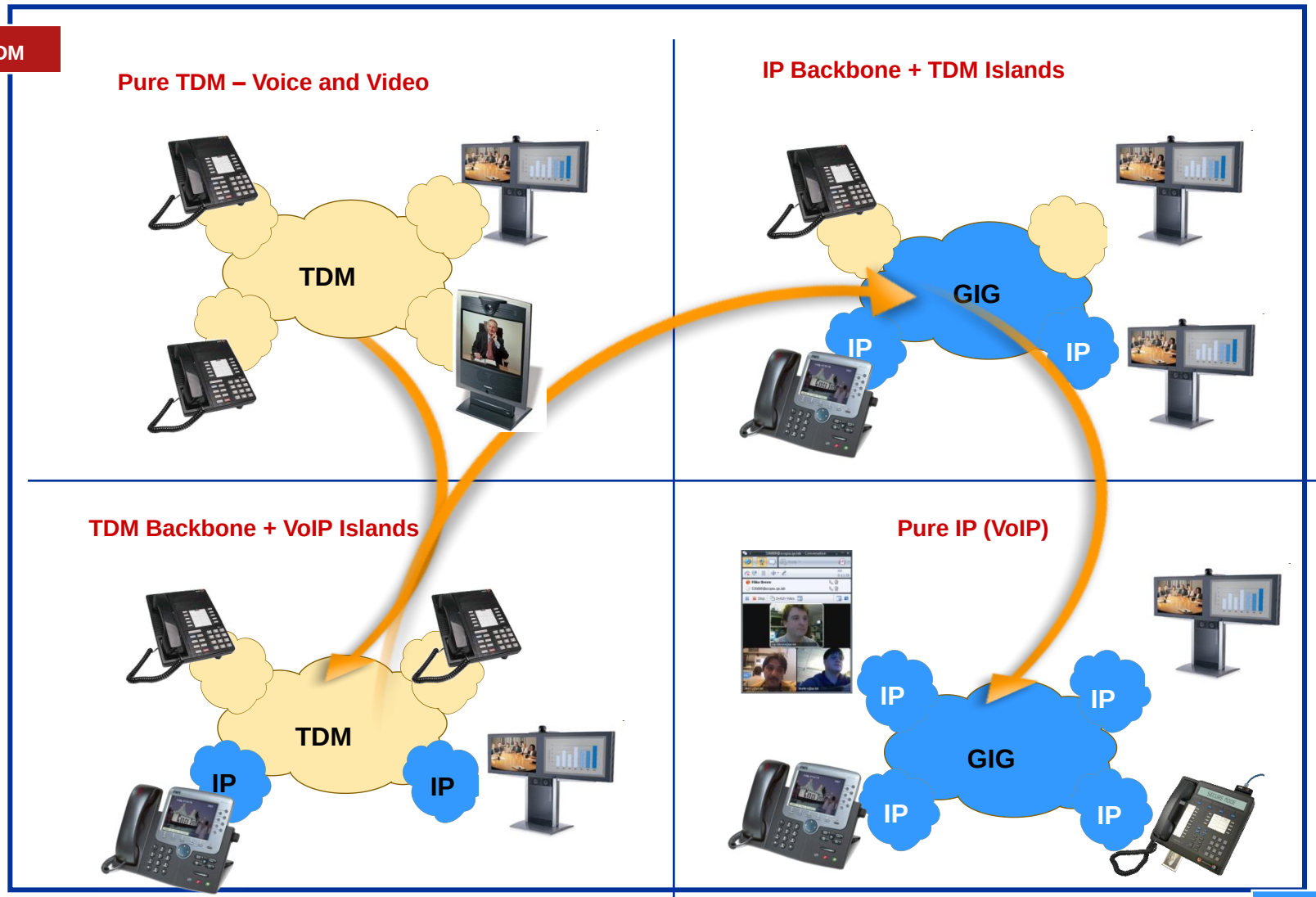
Defense Market Transition to IP

- Defense Switch Network (DSN)
- Generic Switching Center Requirements (GSCR)
  - Rules to connect to DSN
  - Military Unique Features
- Unified Capabilities Requirements (UCR)
  - DoD transition to UC
  - http://www.disa.mil/ucco/apl_process.html
- UCR 2008 (published Jan 2009)
- UCR 2008, Change 1 (published Jan 2010)
- UCR 2008, Change 2 (published Jan 2011)

DISA migration to IP end-to-end

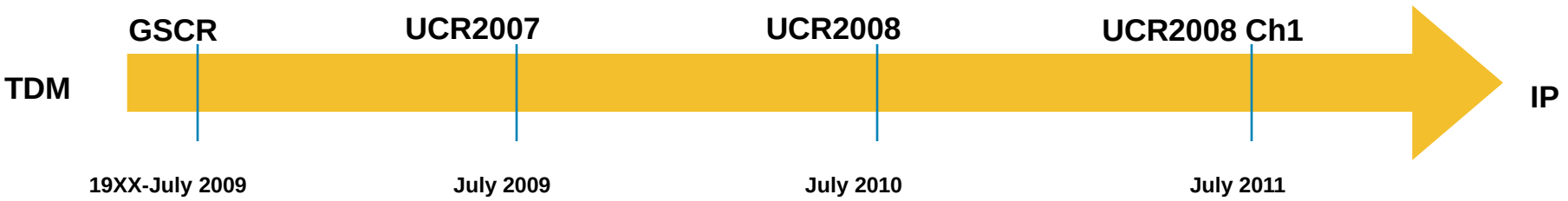


UC Policy and Certification Transition – UCR 2008

- Tandem Switch
- Multi-Function Switch

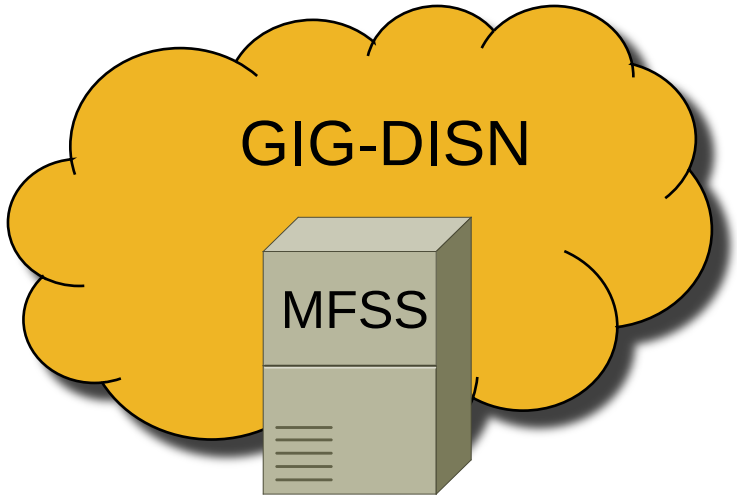
- End Office Switch
- Small End Office Switch
- Remote Switching Unit
- PBX1
- Deployable Voice Exchange

- **Multi-Function Soft Switch**
- **WAN Soft Switch**
- **Local Session Controller**
- **Deployable Voice Exchange**



Multi-Function Softswitch (MFSS)

- Two components – Multifunction Switch (legacy) + WAN Soft Switch (IP)
- Primarily a tandem switch
- Global Location Service
- Enforces Call Admission Control
  - Separate budget for voice vs. video
- Provides service to many LSCs
- Interfaces with core Media Gateways

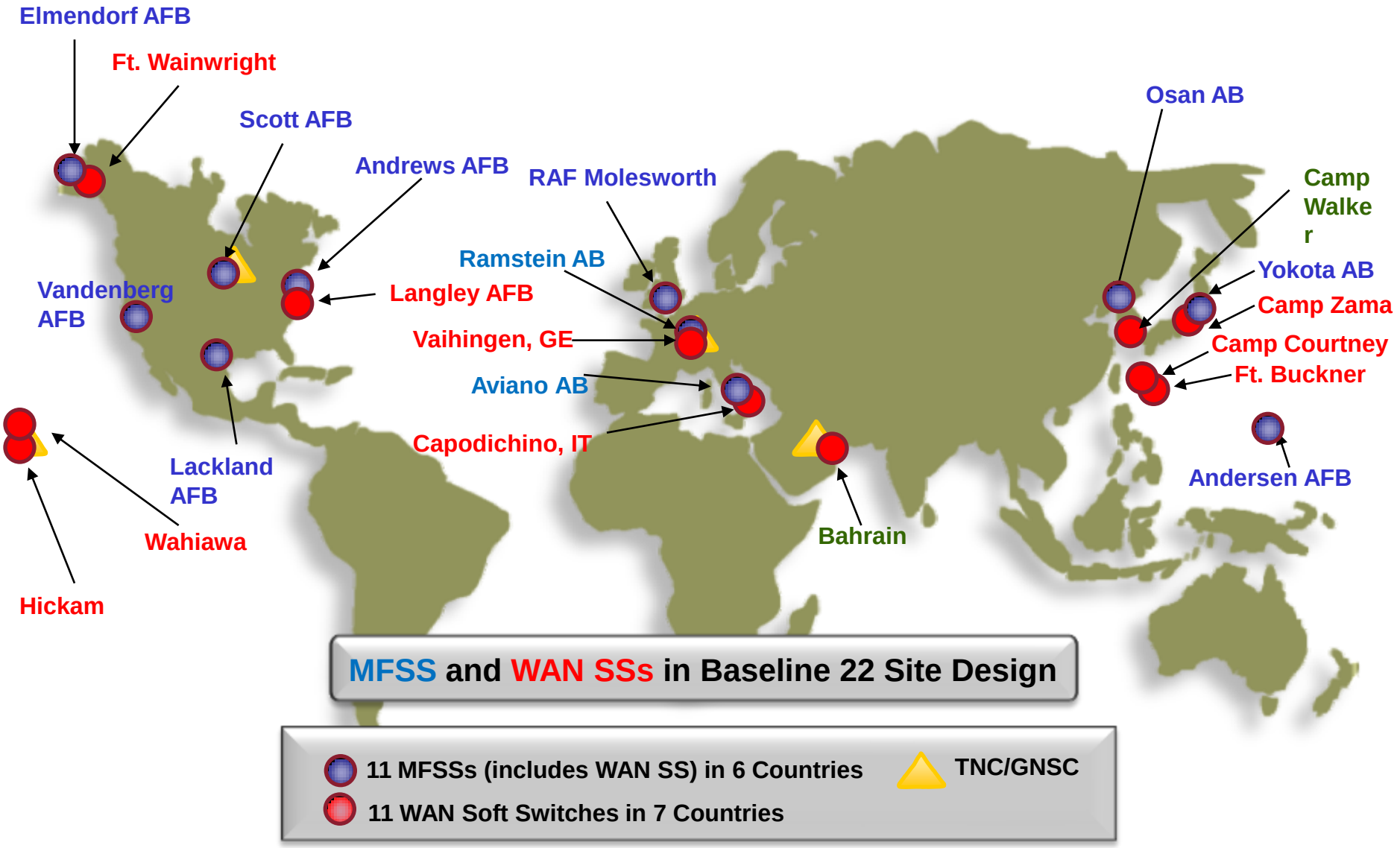


B/C/P/S

DISA
A Combat Support Agency

Planned WAN SS Locations

Technology Insertion to Replace DISN MFSs



Local Session Controller (LSC)

- Directly serves end instruments
- Deployed in a B/P/C/S
- Supports AS-SIP on the trunk side to the WAN

  Also supports traditional ISDN interfaces (PRI, etc.)
- Each LSC assigned to one primary & one backup MFSS
- Basically an EO/SMEO/PBX1/PBX2 configuration that supports AS-SIP on the trunk side

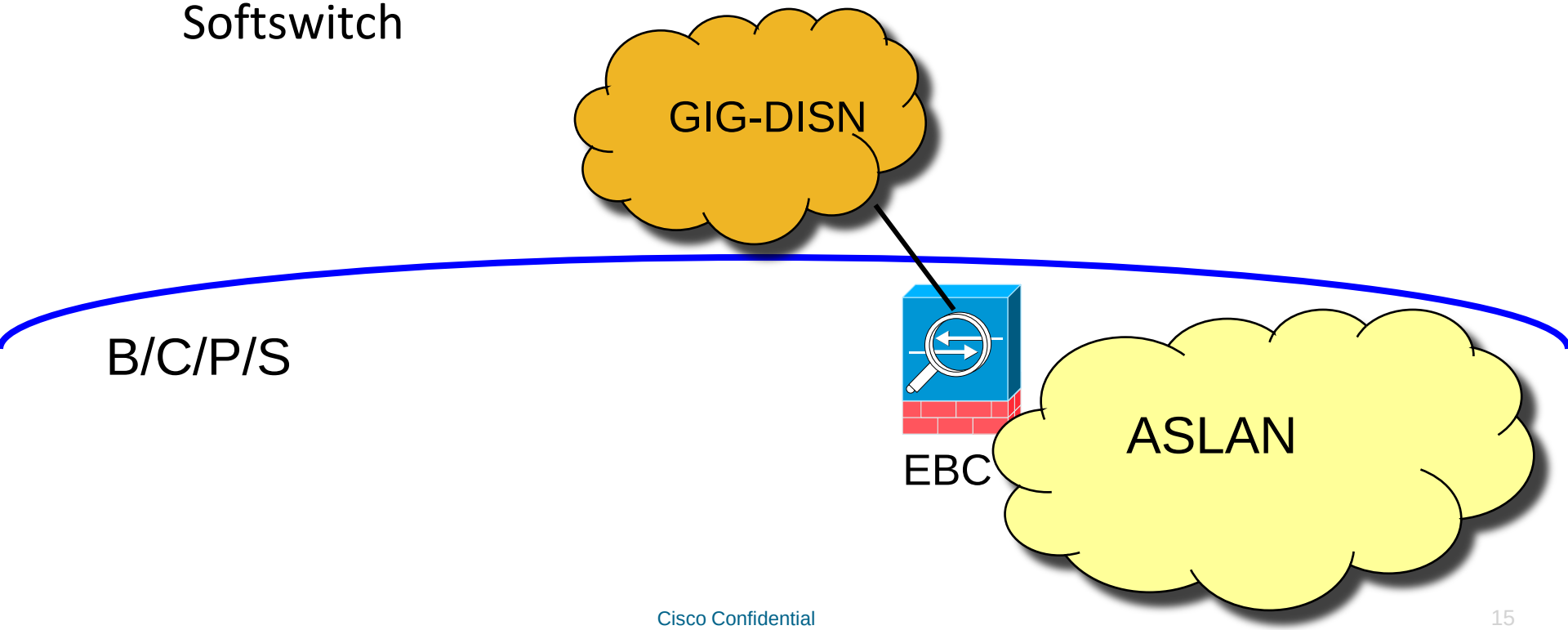
B/C/P/S

Cisco LSC

Edge Boundary Controller (EBC)

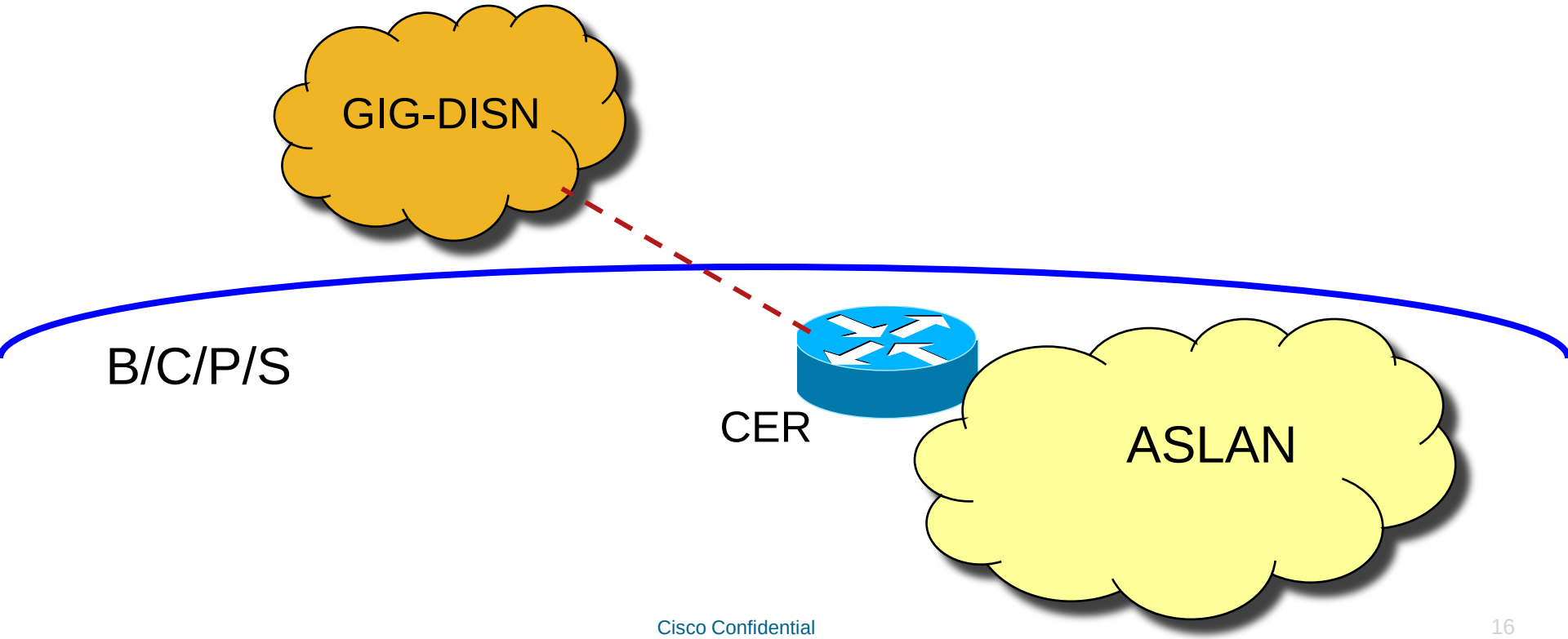
- VoIP Firewall
- Same as a Session Border Controller

  http://en.wikipedia.org/wiki/Session_border_controller
- Mediates AS-SIP signaling between the LSC and the Softswitch

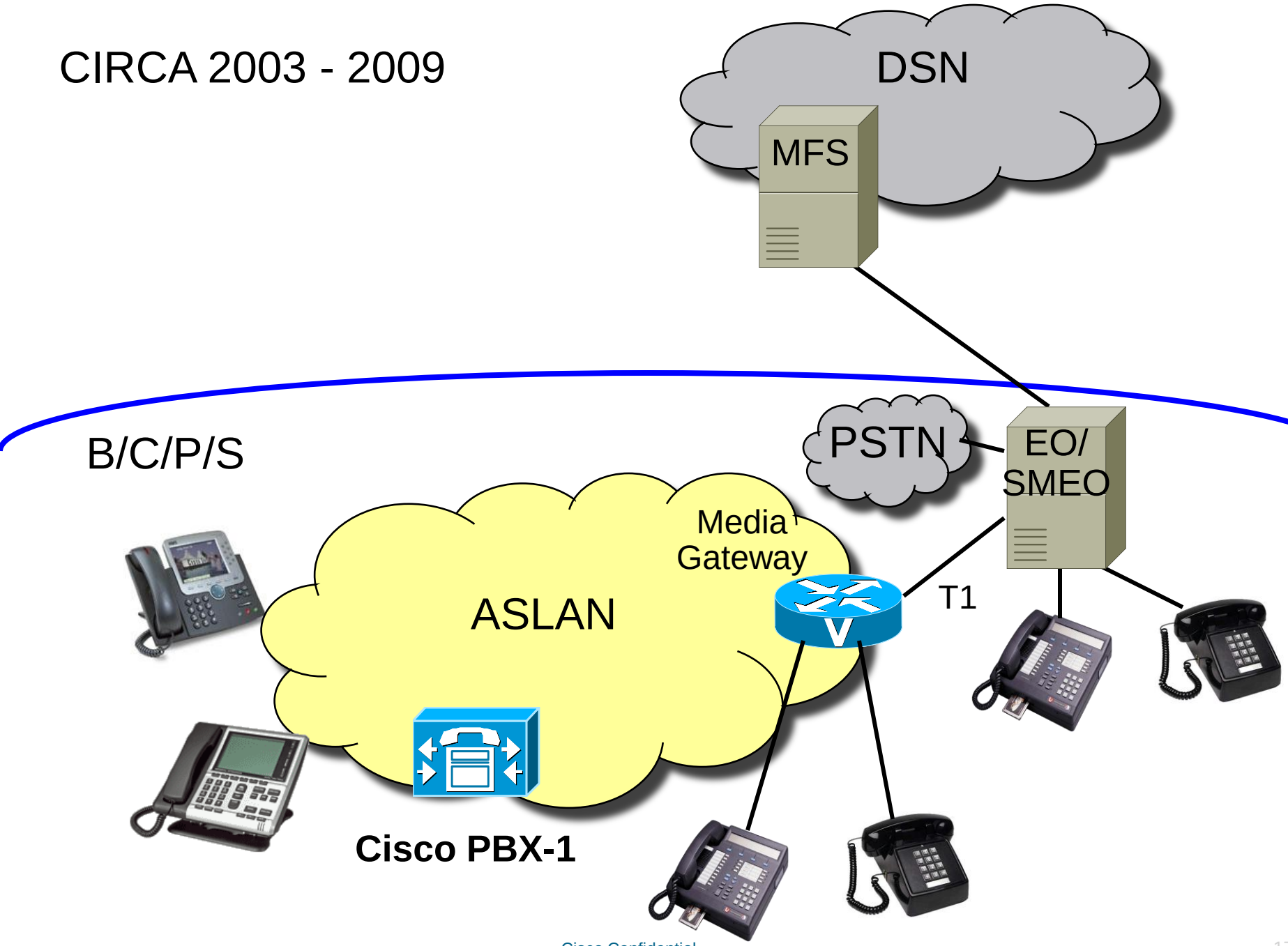


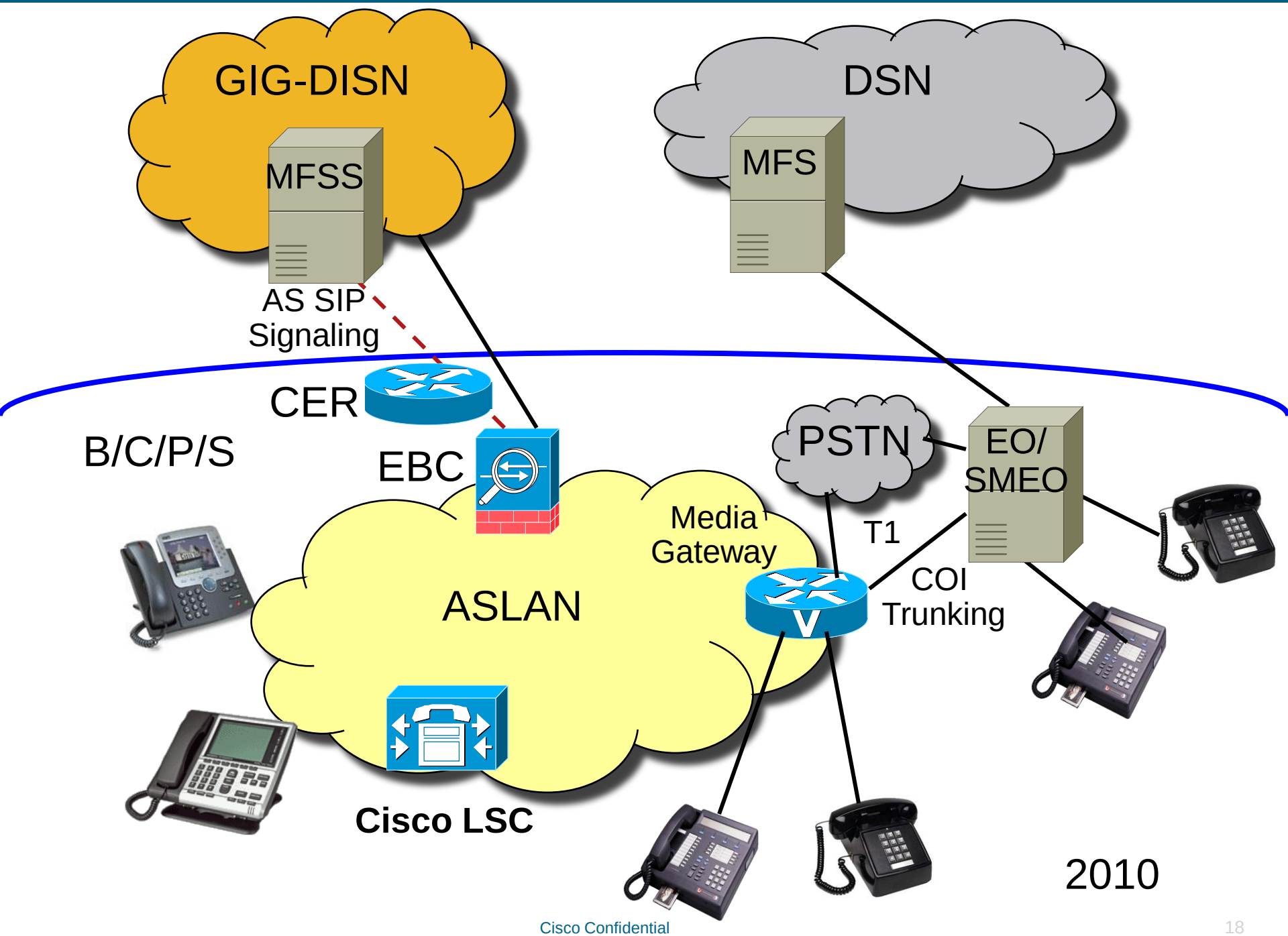
Customer Edge Router (CER)

- It's really just a router
- Primary function is QoS and Perimeter defense
- Traffic conditioning (policing and shaping)

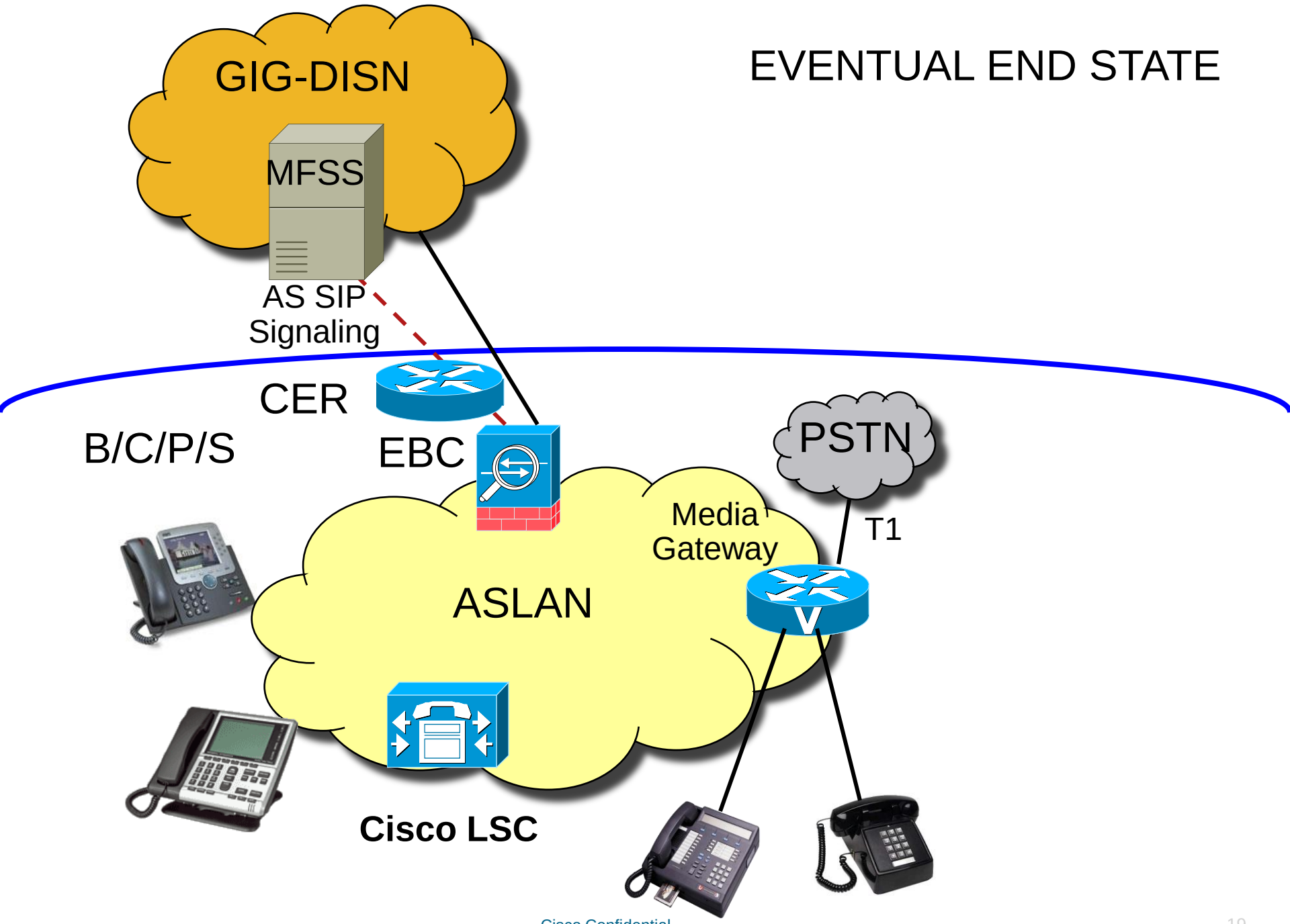


CIRCA 2003 - 2009

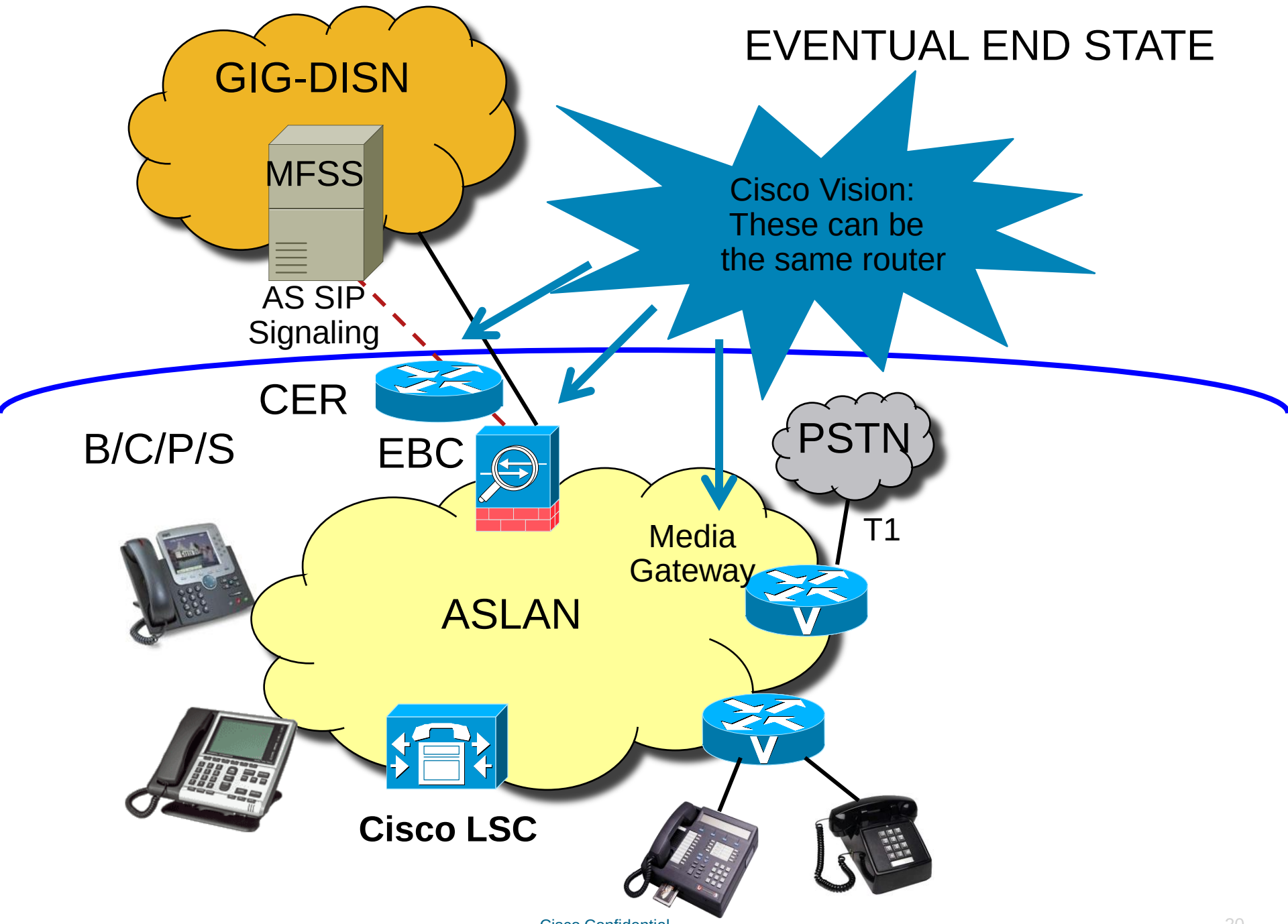



GIG-DISN
MFSS
DSN
MFS
AS SIP
Signaling
CER
B/C/P/S
EBC
PSTN
EO/
SMEO
Media
Gateway
T1
COI
Trunking
ASLAN
Cisco LSC
2010

EVENTUAL END STATE



EVENTUAL END STATE



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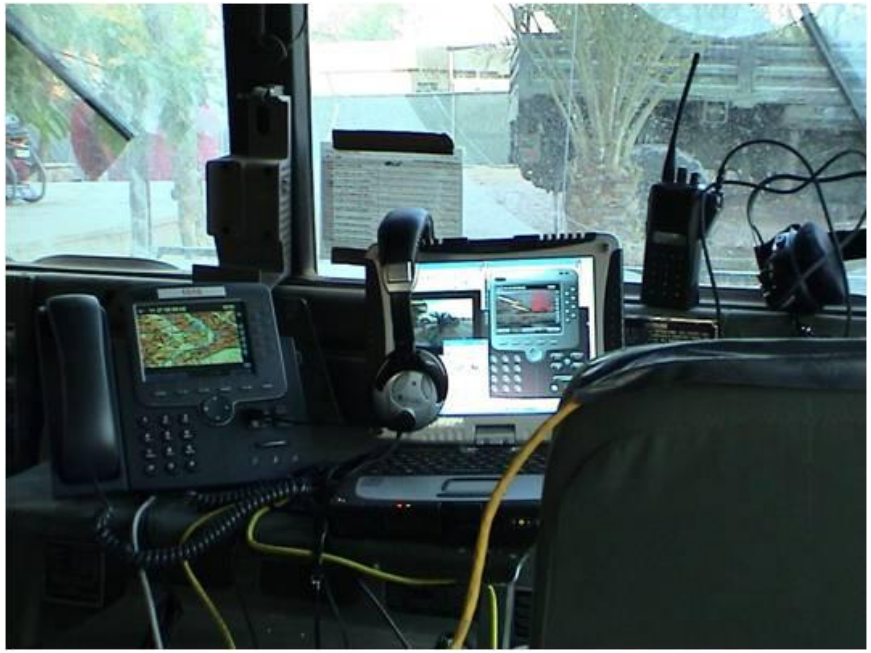
- Defense Market Transition to IP – Background
- Real Time Services (RTS) Architecture
- **Cisco Offerings**
- Deployment Options
- Summary and Questions



Cisco Offerings

- Local Session Controller (LSC)
- Edge Boundary Controller (EBC)
- Customer Edge Router (CER)

Cisco Offerings

- **Local Session Controller (LSC)**
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CUCM 8.0(2) Now JITC Certified

Cisco Unified Communications Manager v8.0(2) received JITC Certification on August 31, 2010

Why is this significant?

- Cisco's first UC platform approved for Local Session Controller (LSC)
- All equipment that attaches to the DSN (*Defense Switched Network*), DISN (*Defense Information Systems Network*) and DRSN (*Defense Red Switch Network*) requires Joint Interoperability Test Command (JITC) Certification
- This includes interoperability testing and IA (security) accreditation

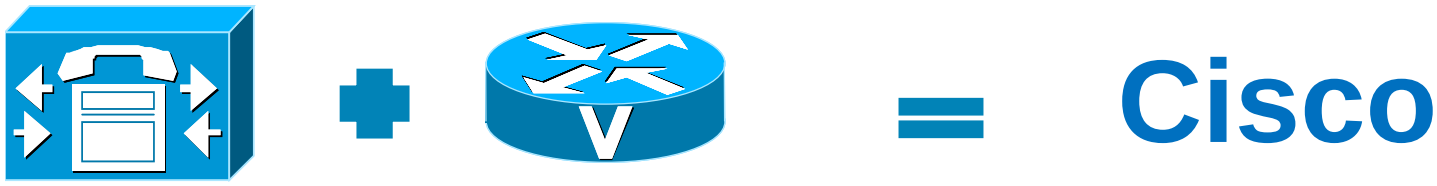
Cisco Unified Communications Manager 8.0(2) also …

- Meets UCR requirements
- Meets IPv6 Compliance mandates
- Certified as both an appliance and a virtual platform
- Certified with new ISR G2s (both 29XX and 39XX)

Cisco Local Session Controller (LSC)

- Cisco LSC solution consists of two products:
  - CUCM 8.0(2)
  - Interworking Gateway (IWG) - Cisco 3945 (CUBE)

- Two products are needed to meet all of the UCR 2008 requirements (at this time)



Cisco Offerings

- Local Session Controller (LSC)
- **Edge Boundary Controller (EBC)**
- Customer Edge Router (CER)

Cisco Edge Boundary Controller (EBC)

- ISR G2 39xx and 39xxE (CUBE feature set)

- 38xx (CUBE feature set)

- ASR 1006 (future)

Cisco Edge Boundary Controller (EBC)

- What is CUBE? Cisco Unified Border Element
- A component of IOS
- CUBE ensures network interconnections by performing the following key services between different enterprises and service provider networks:
  - **Session Management:** Call Admissions Control, QoS, Statistics & Billing and Redundancy/Scalability
  - **Security:** Encryption, Authentication, Registration, SIP Protection, Firewall Placement, and Toll Fraud
  - **Interworking:** H.323 and SIP, SIP Normalization, DTMF Interworking, Transcoding and Codec Filtering
  - **Demarcation:** Fault Isolation, Topology Hiding, Network Borders and L5/L7 Protocol Demarcation

Cisco Offerings

- Local Session Controller (LSC)
- Edge Boundary Controller (EBC)
- **Customer Edge Router (CER)**

Cisco Customer Edge Router (CER)

- Certified: 3845, 7206, 6509-E



- Future: 39xx, 39xxE (desktop review)

- Future: ASR 1002, 1004, 1006

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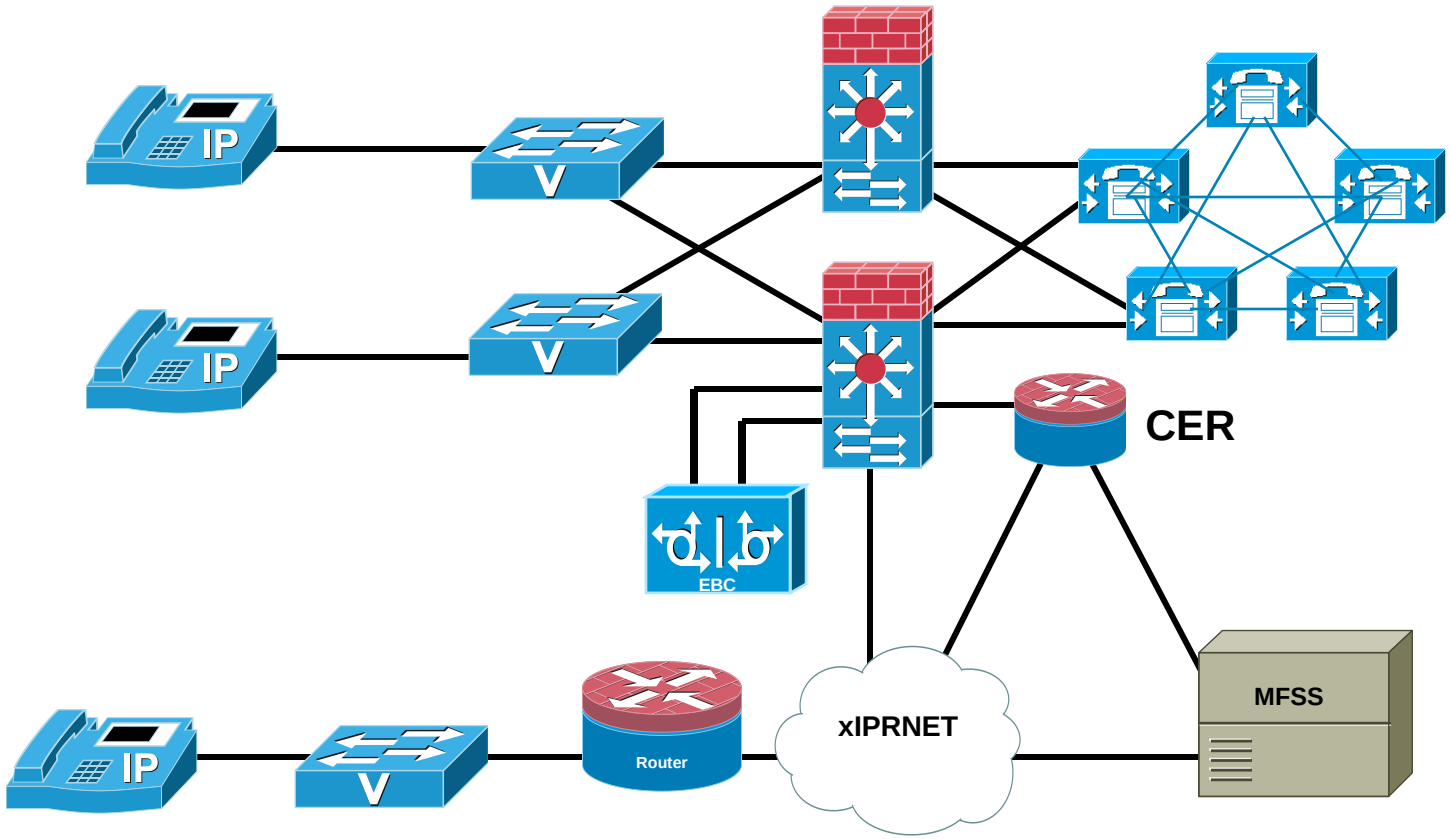
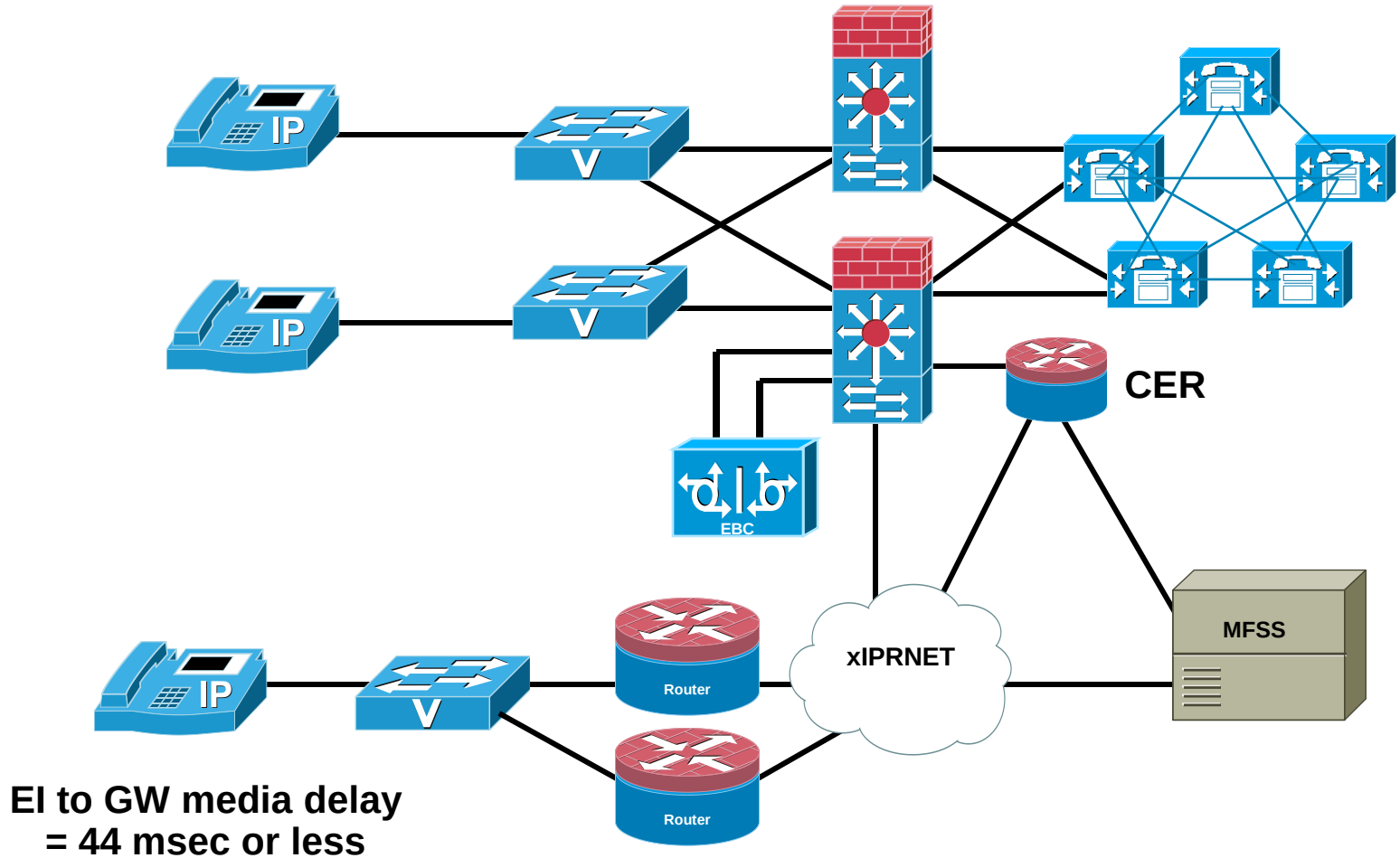
Option 1
Long Local



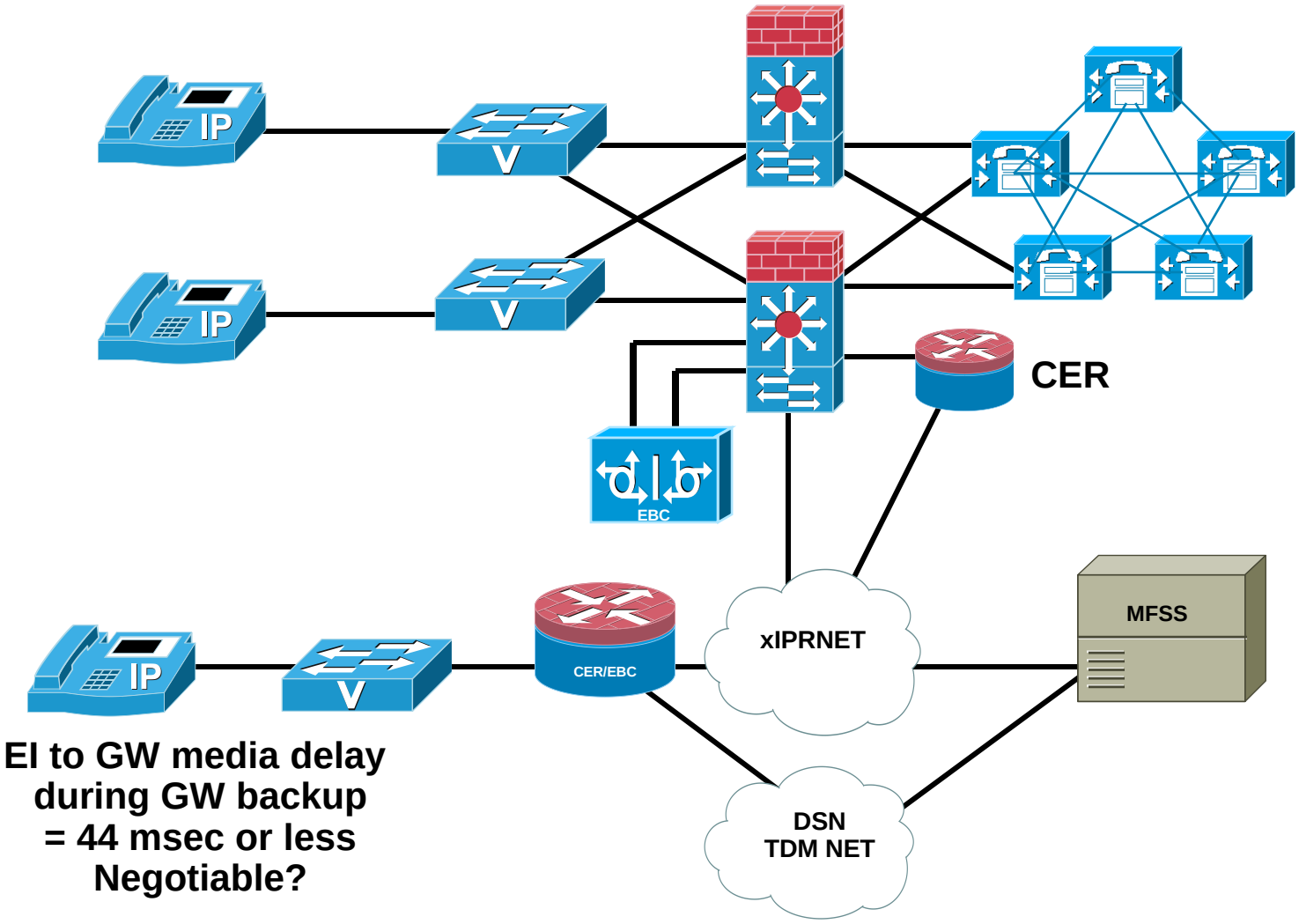
EI to GW media delay
= 44 msec or less
Negotiable?

Option 2
Long Local with HA WAN



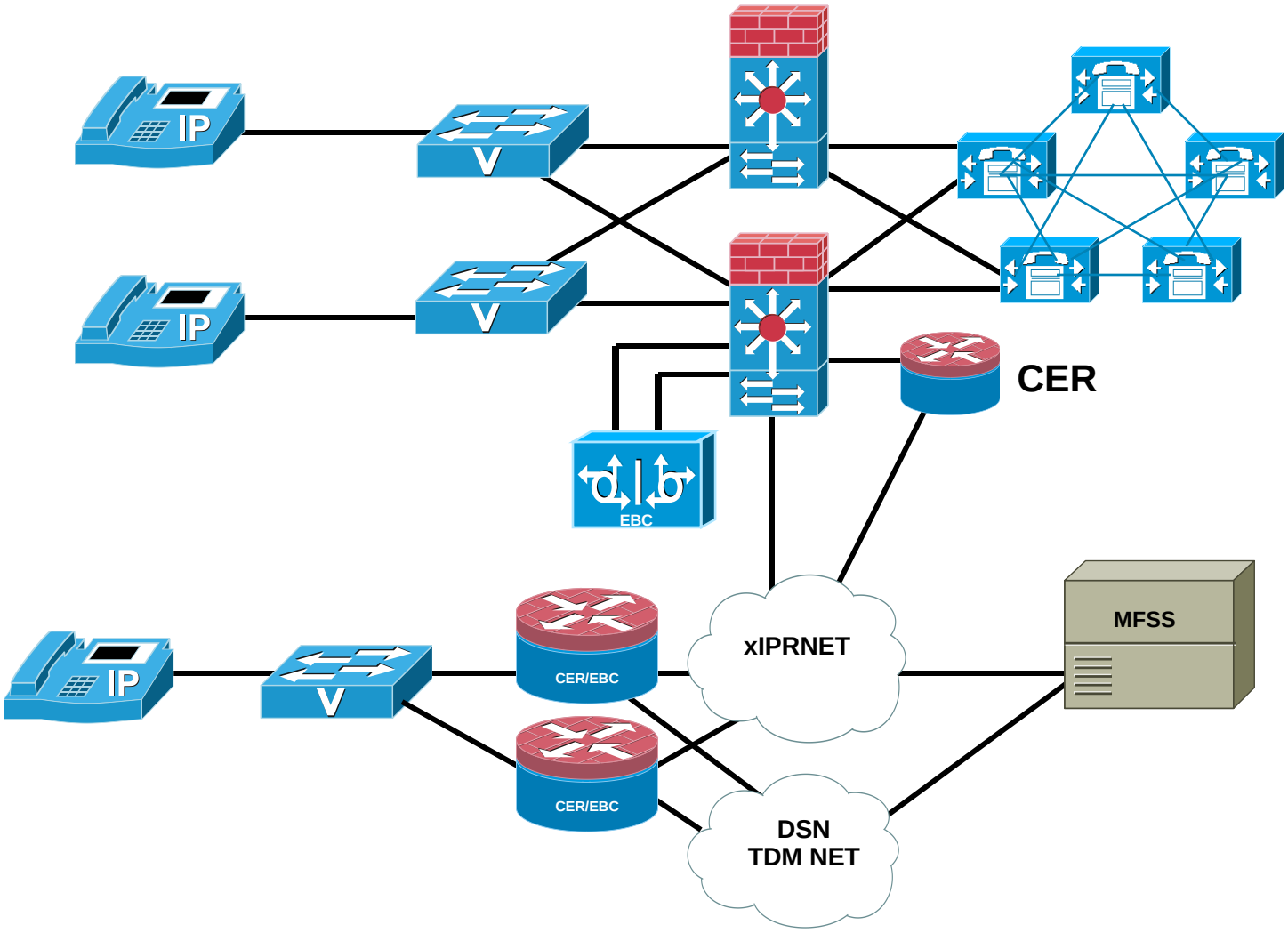
EI to GW media delay
= 44 msec or less
Negotiable?

Option 3
Long Local with Dist GW (TDM or IP)

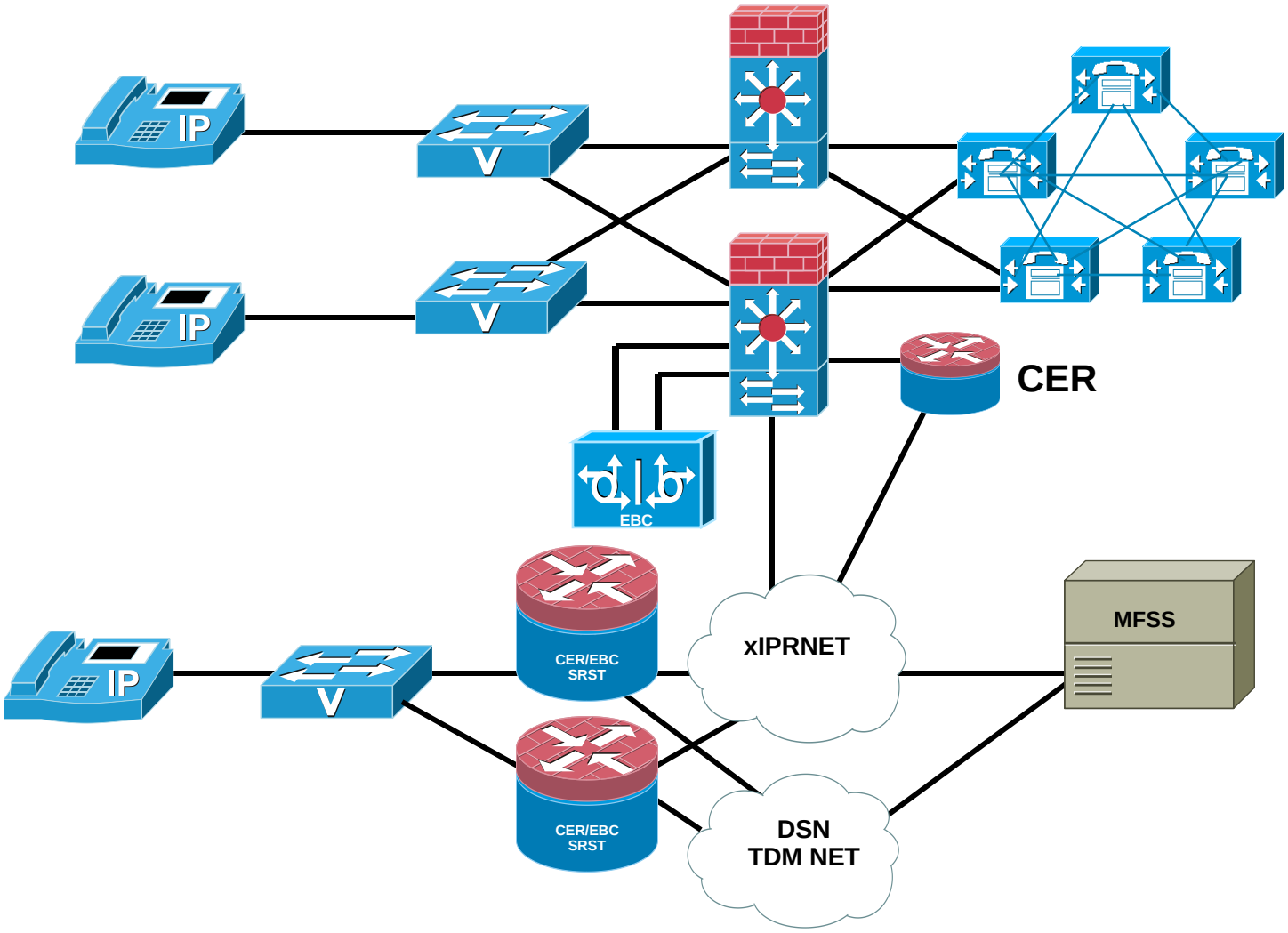


EI to GW media delay during GW backup = 44 msec or less Negotiable?

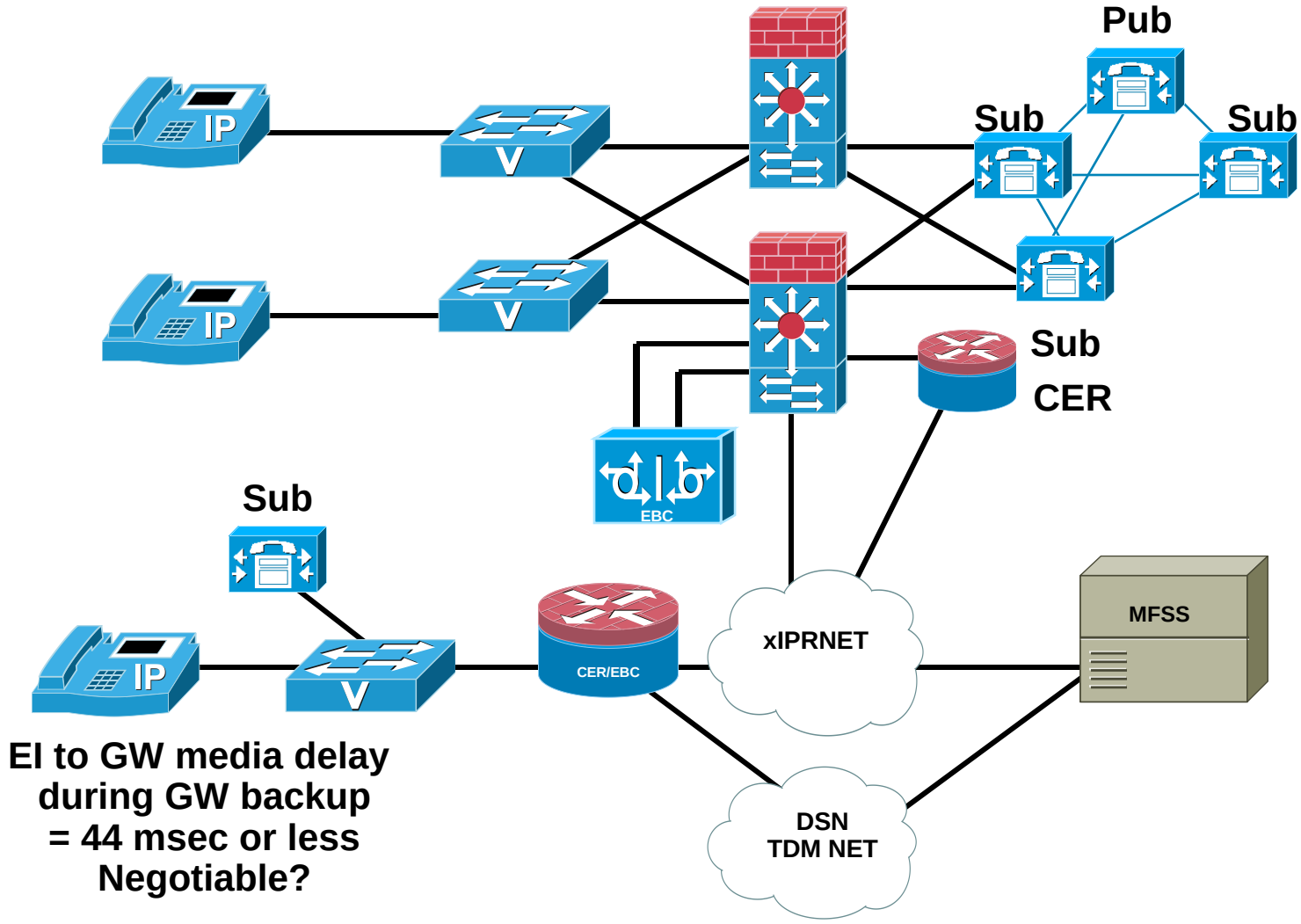
Option 4
Long Local with Dist GWs (TDM or IP)



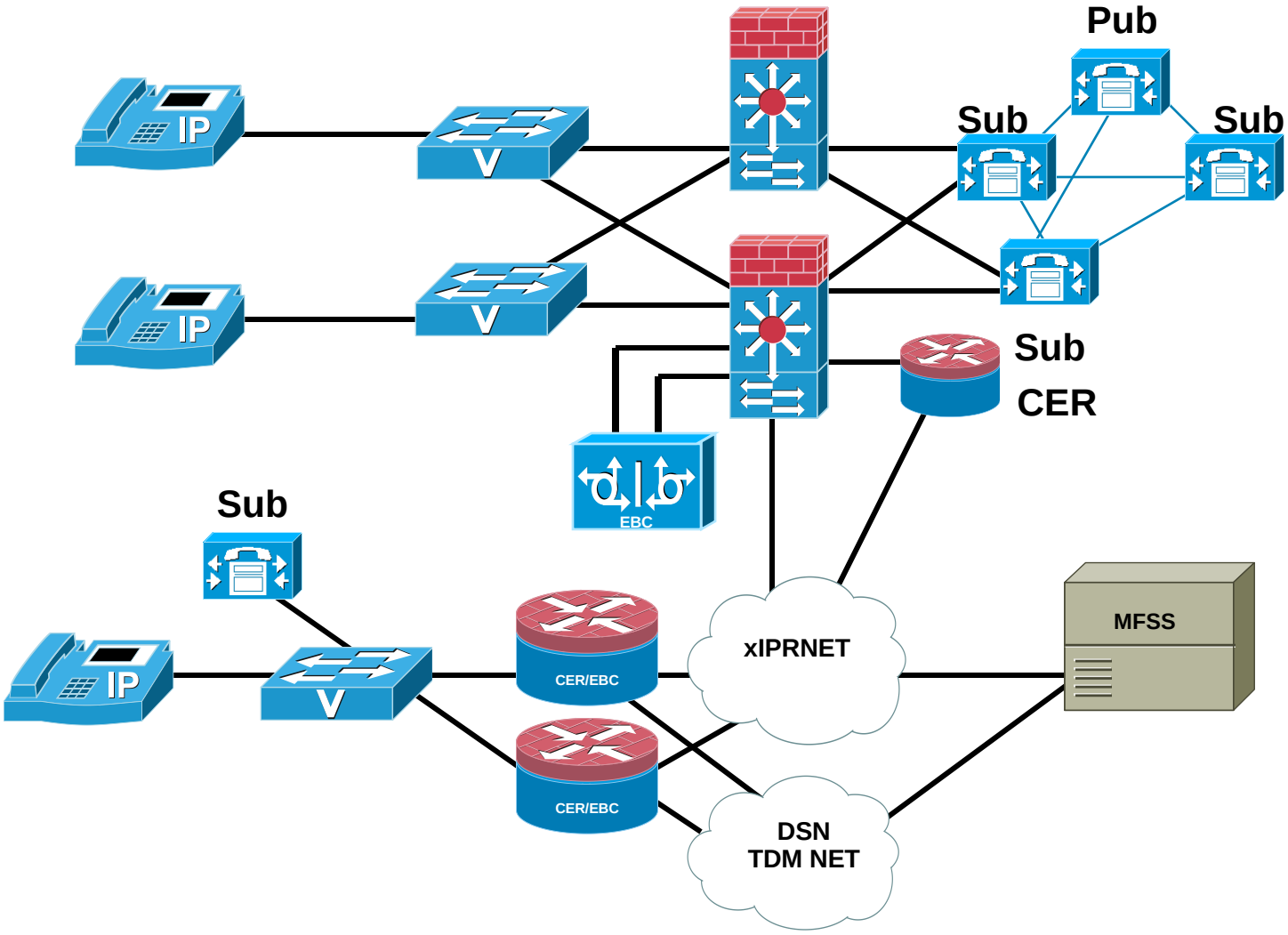
Option 5
Options 1 through 4 with an SRST option



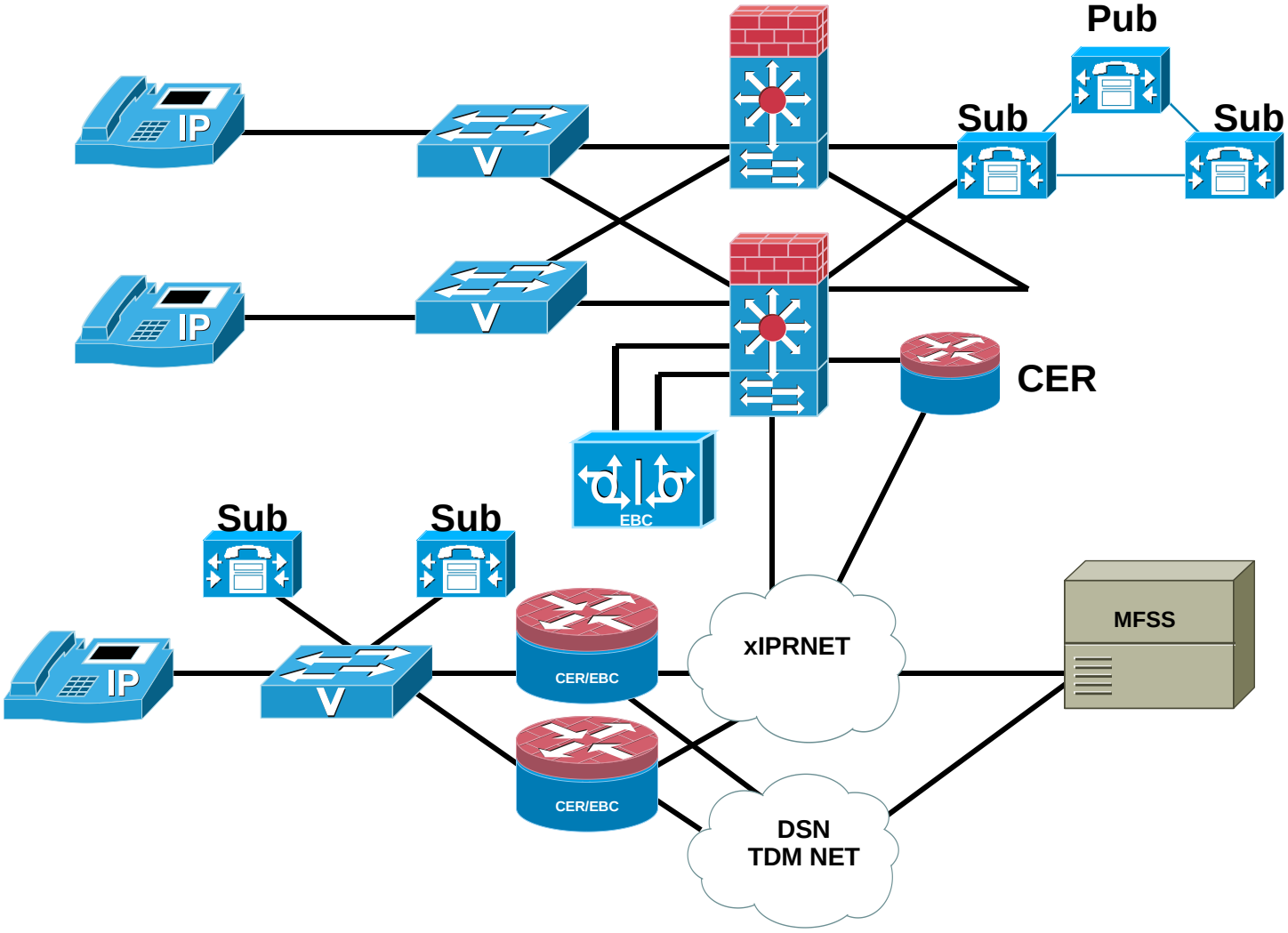
Option 6
Local Subscriber 1 GW



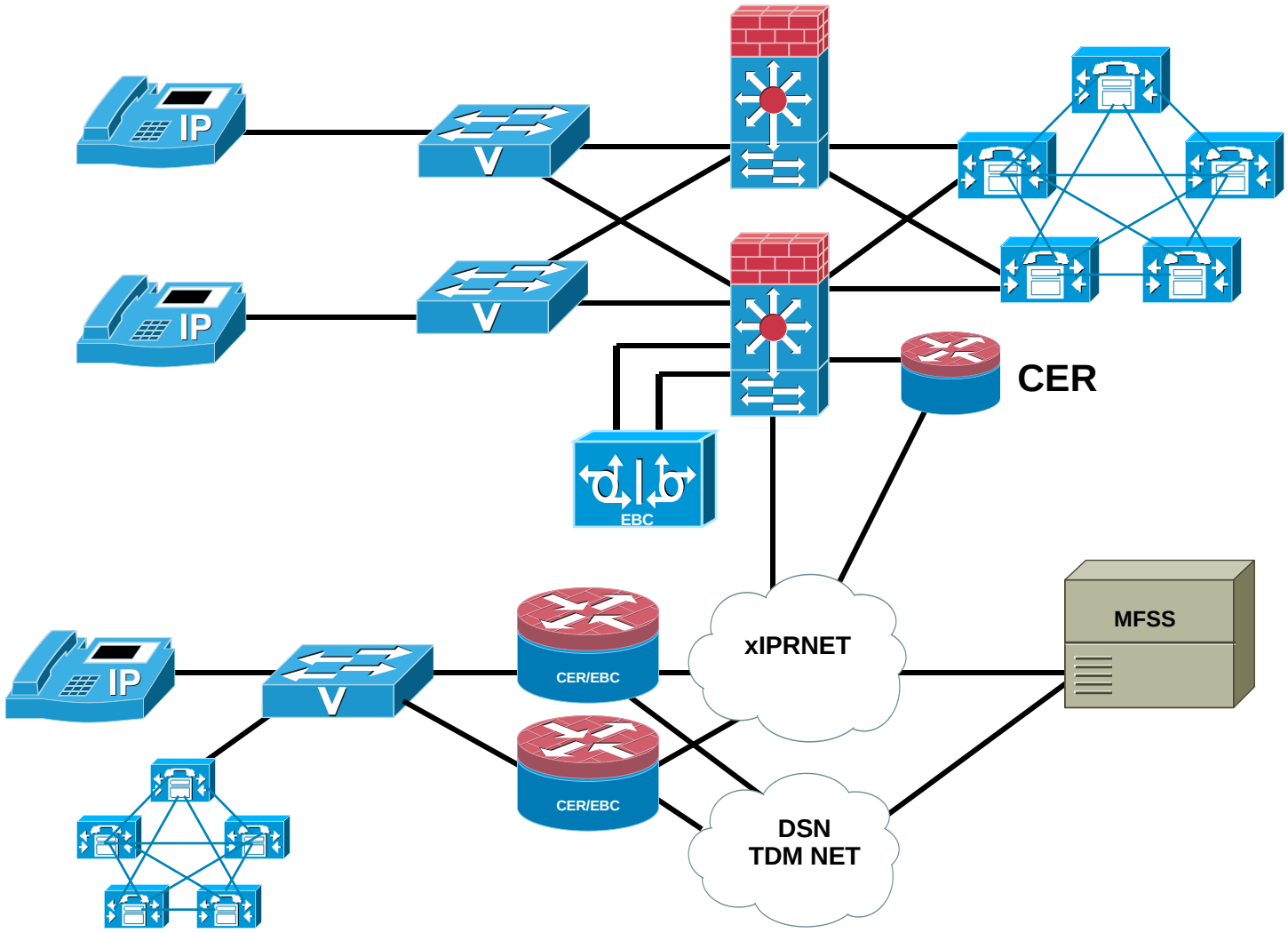
Option 7
Local Subscriber 2 GWs



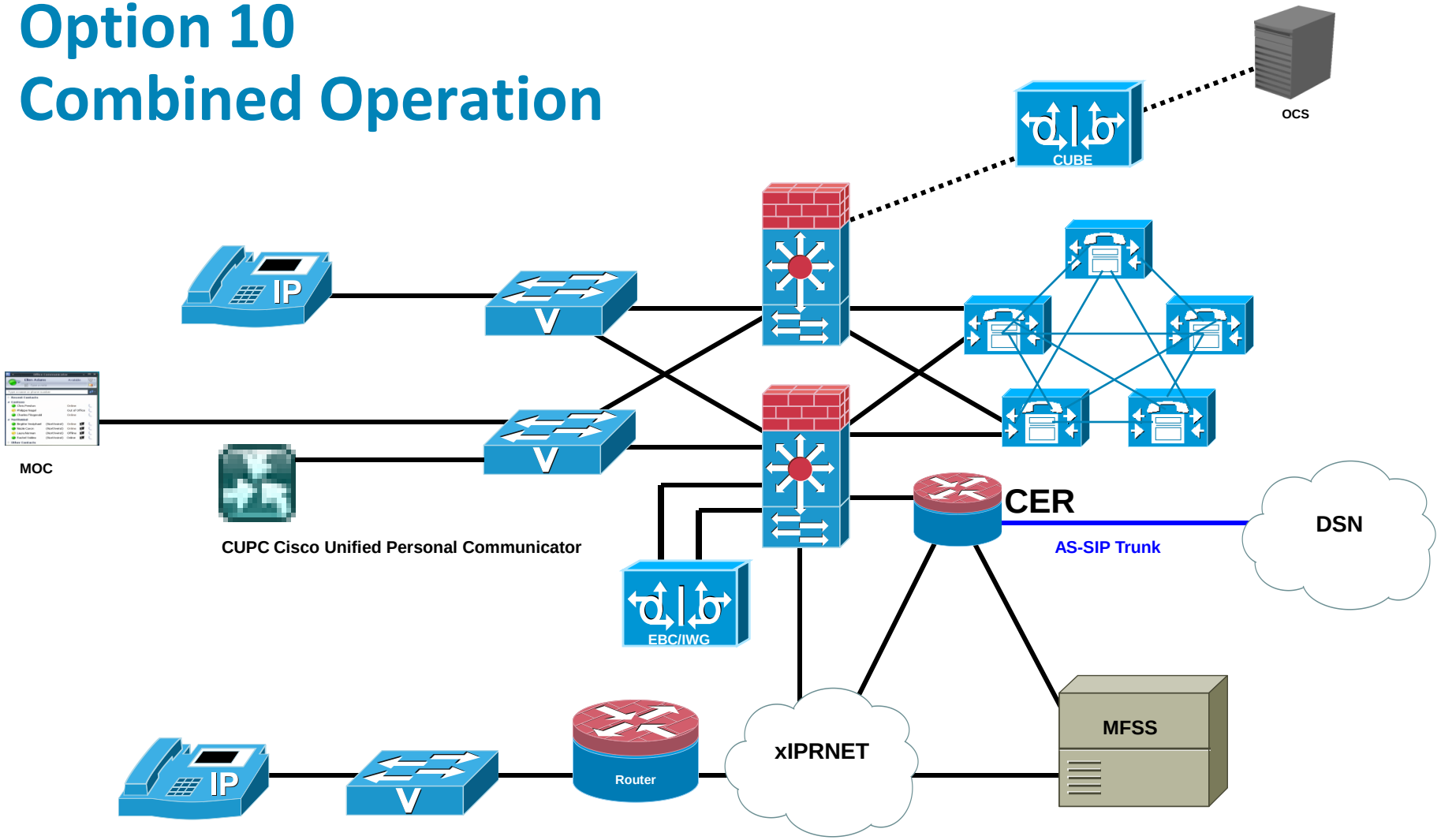
Option 8
Local Subscribers



Option 9
Independent clusters



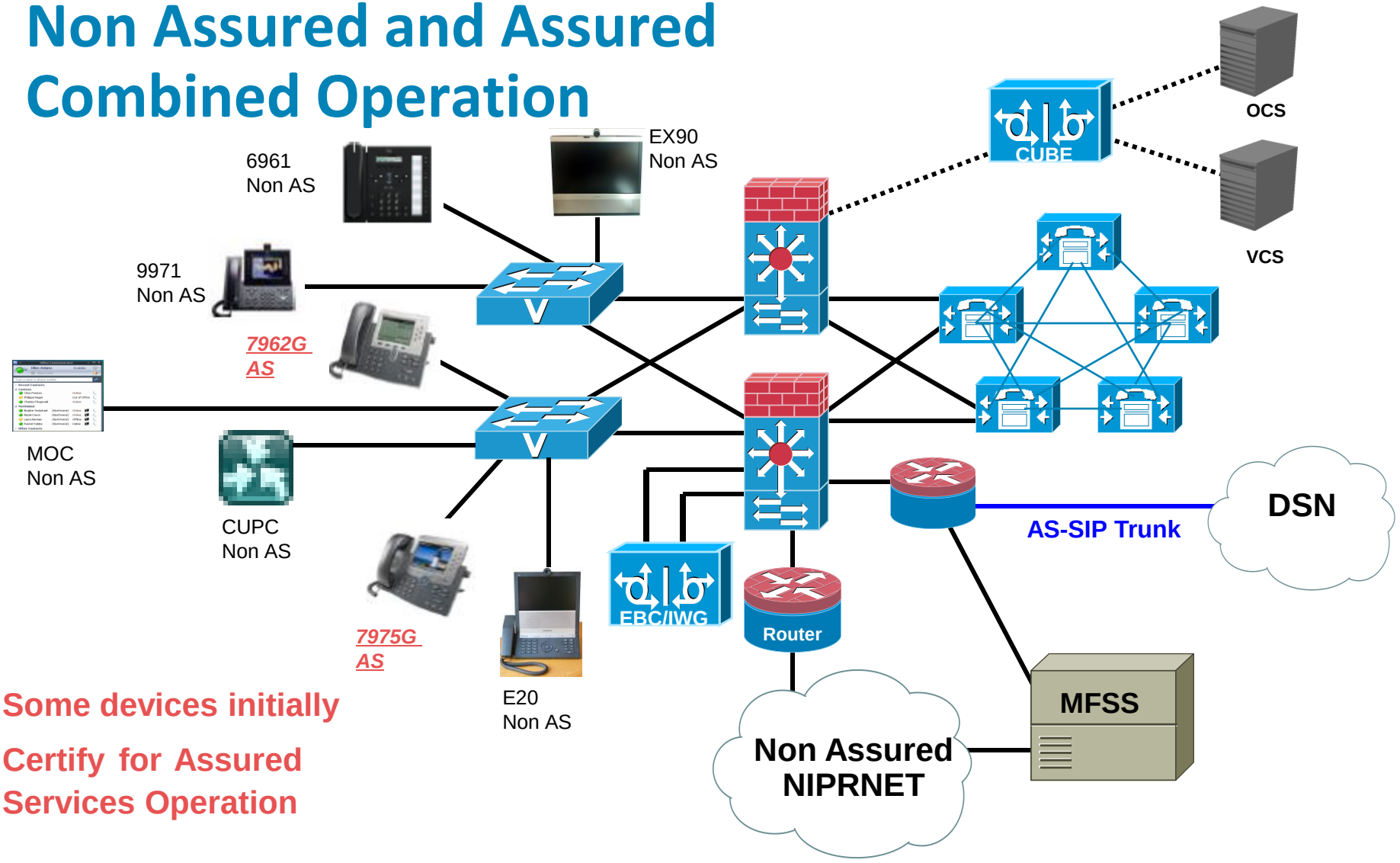
Option 10
Combined Operation



EI to GW media delay
= 44 msec or less
Negotiable?

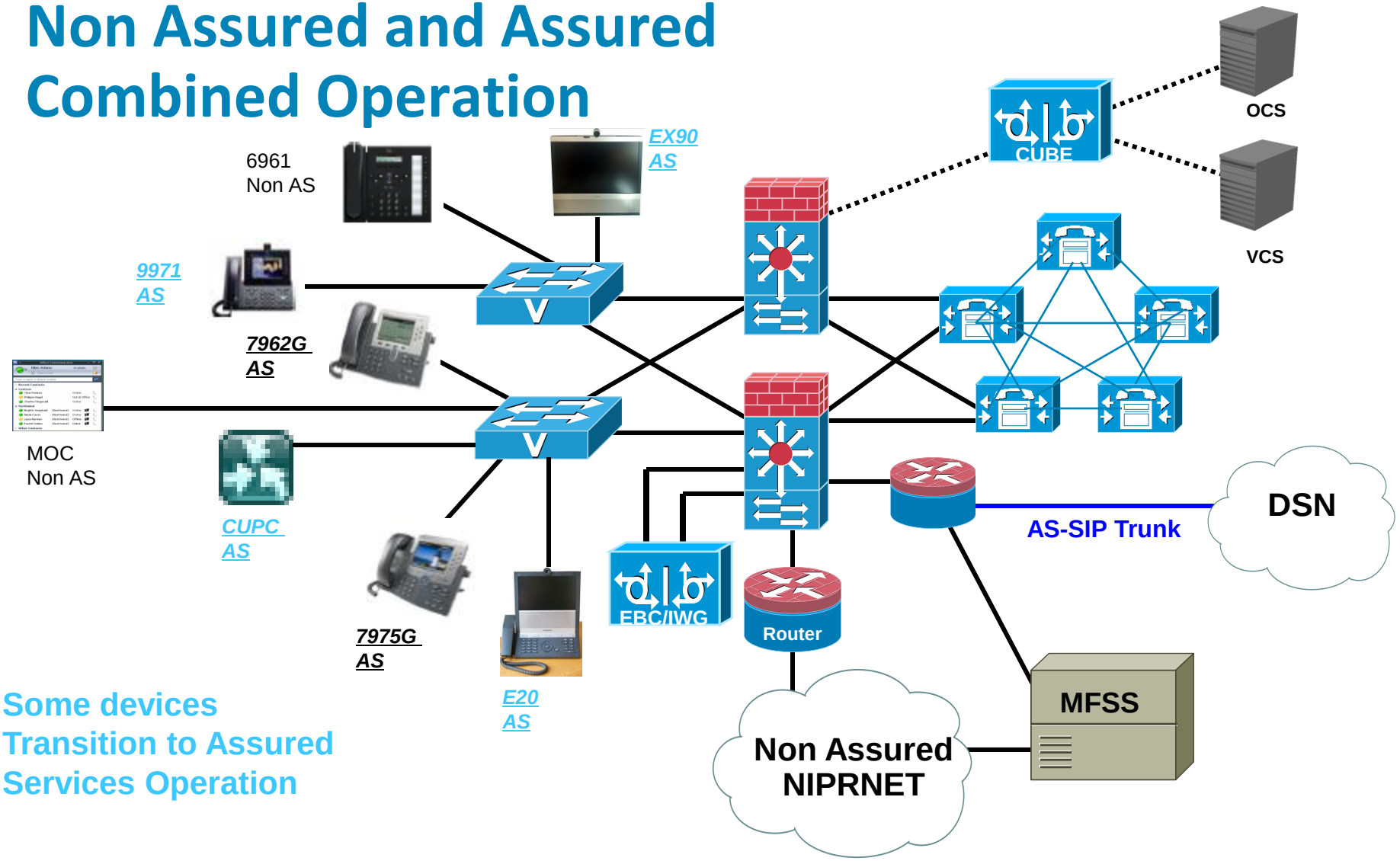
Questions?

Non Assured and Assured Combined Operation



Some devices initially Certify for Assured Services Operation

Non Assured and Assured Combined Operation



Some devices Transition to Assured Services Operation