



Expo Macedonia 2008

Service Provider Voice Solutions

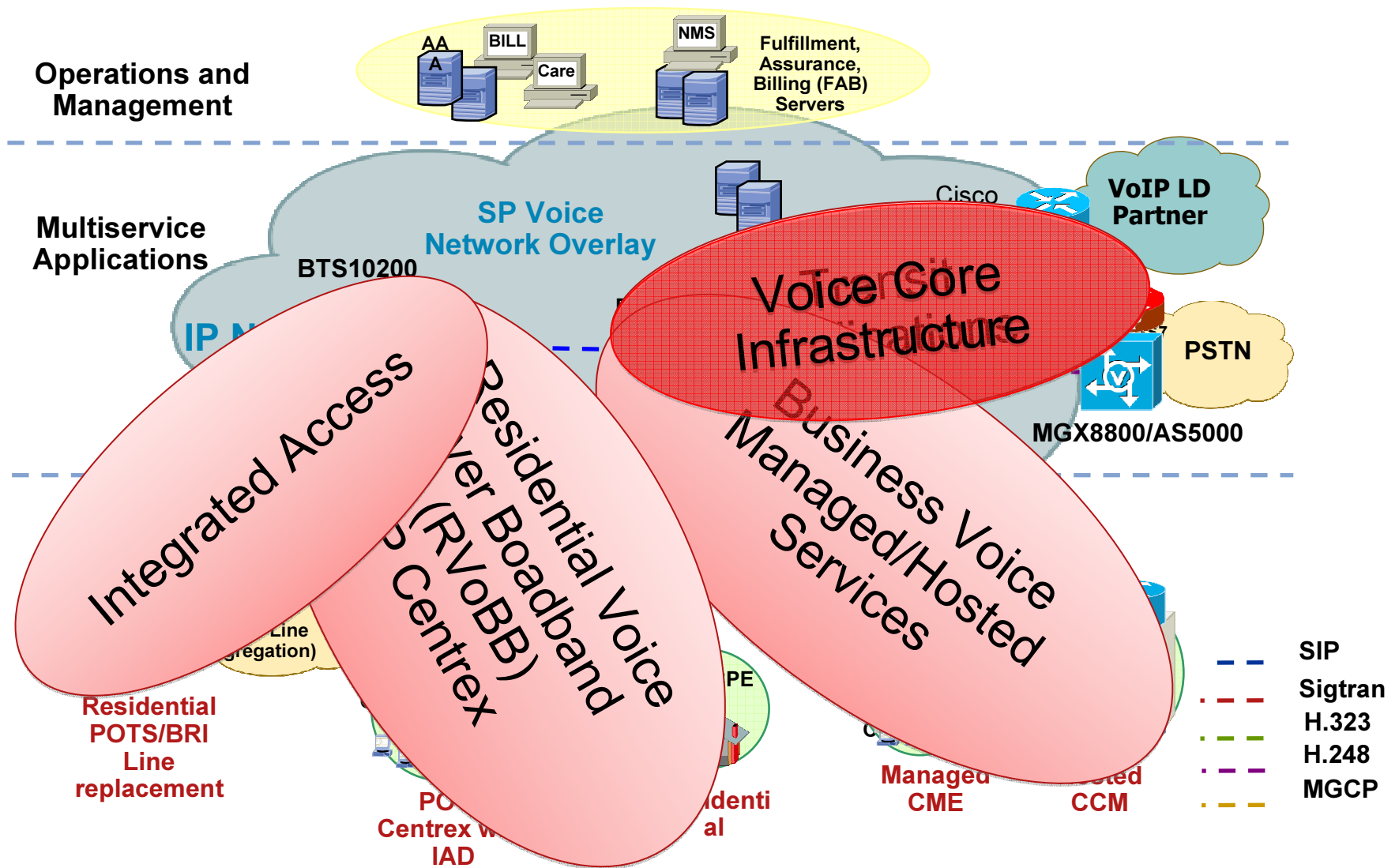


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**Enable Your Network
Empower Your Business**

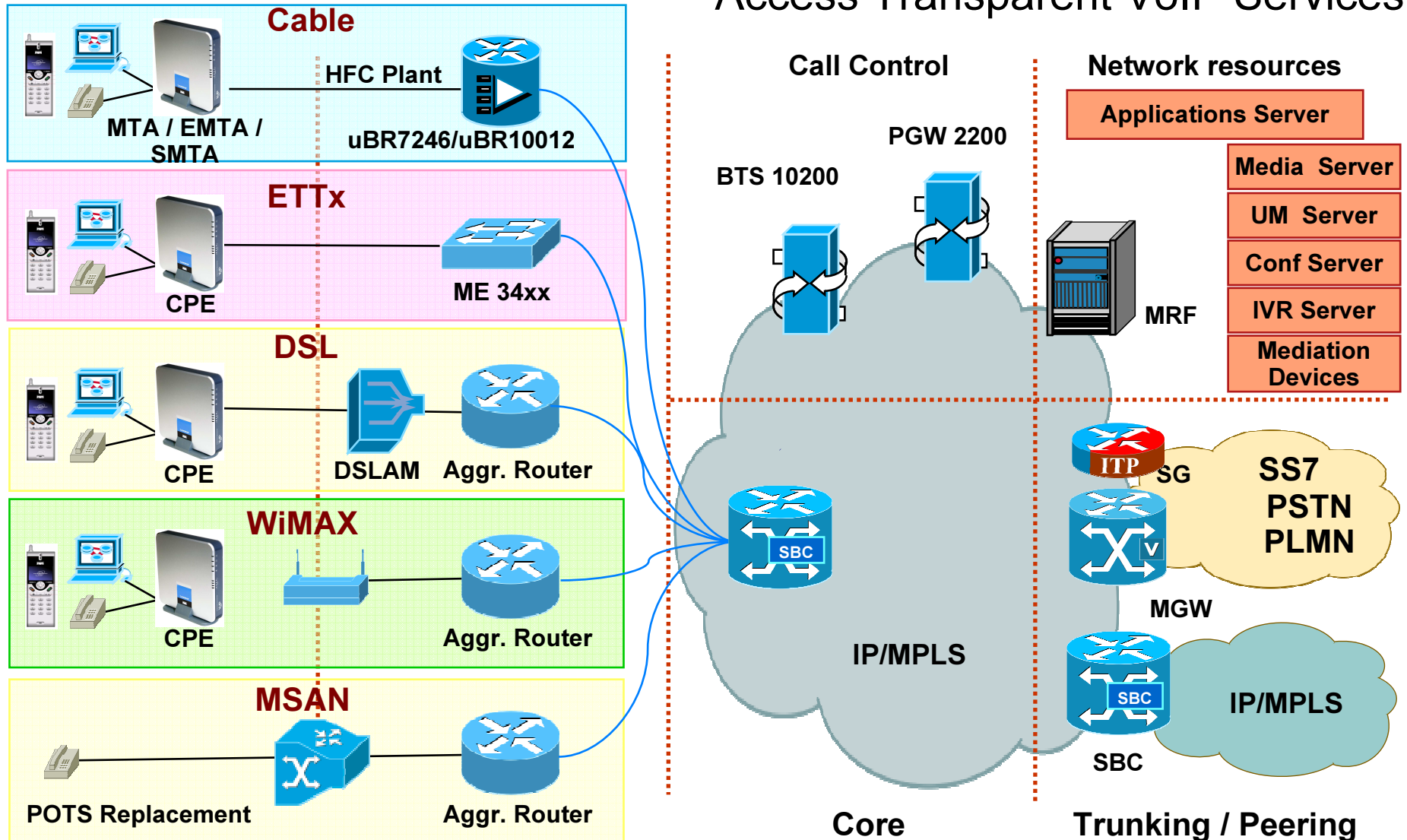
Cisco SP Voice Services & Applications



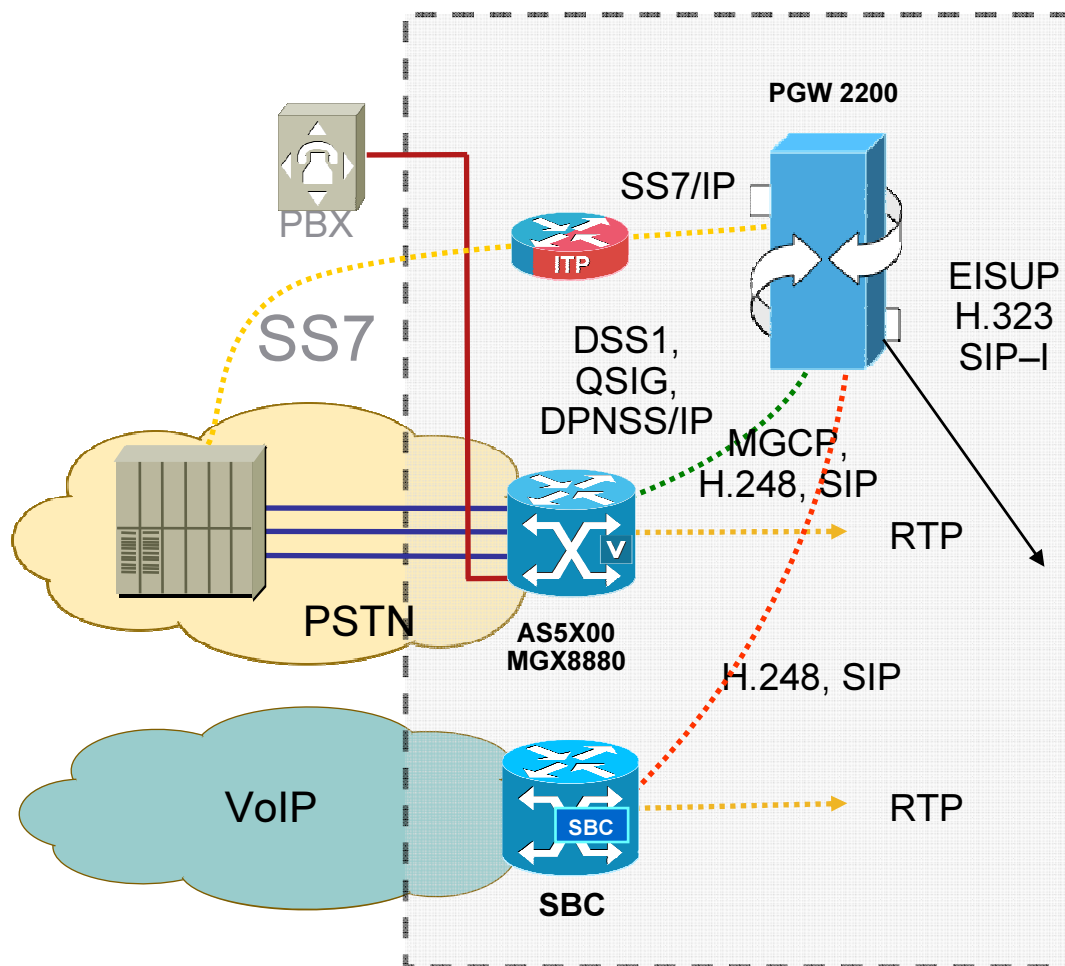
Cisco SP Voice Transport Infrastructure

Versatile Access Technologies

Access Transparent VoIP Services



SP Core Elements



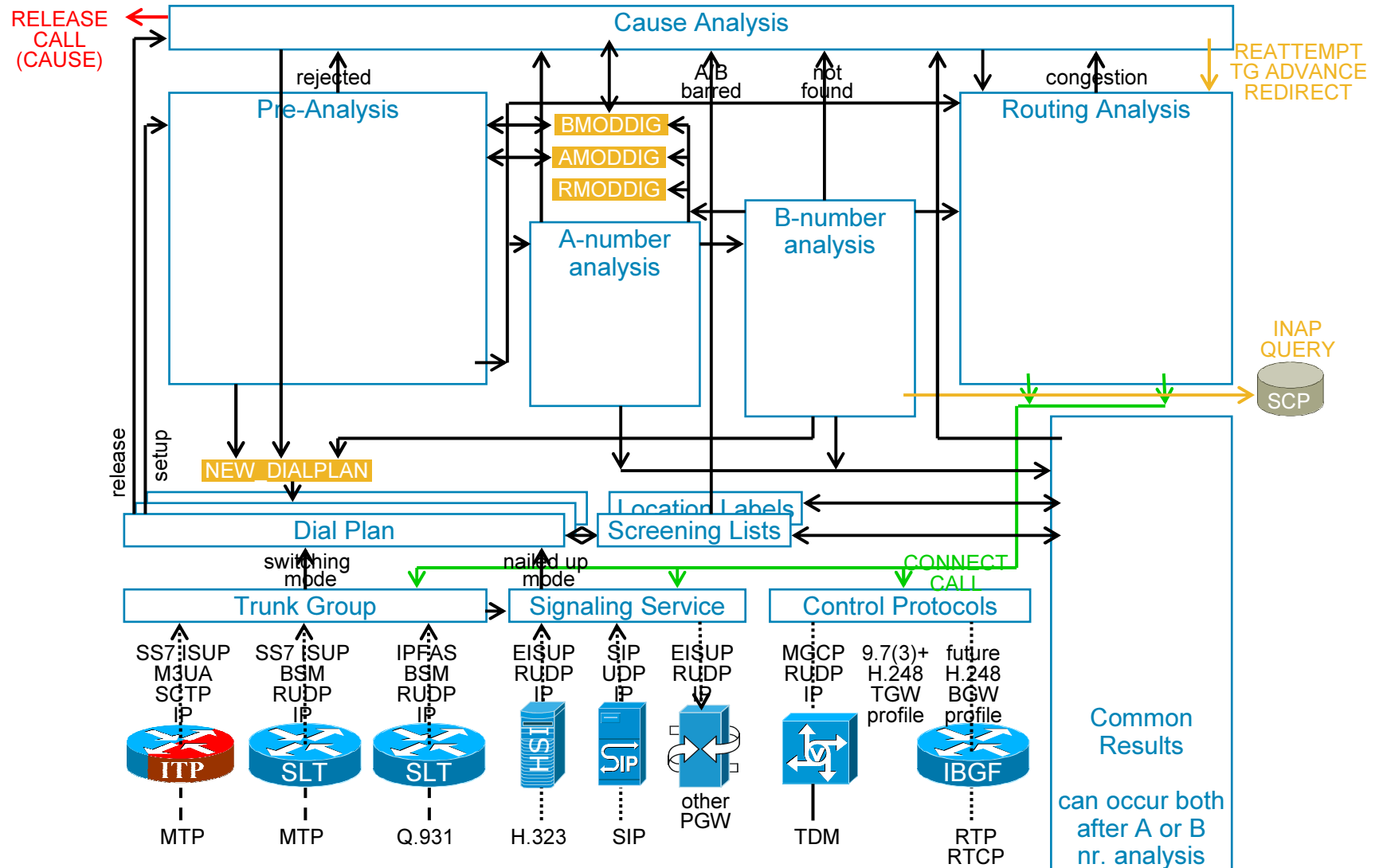
- C4, PSTN Gateway
- IMS:
 - BGCF, MGCF, I-BCF, SGF, MGF, I/C-BGF
- Redundant Architecture
- Variety support of
 - protocols (incl. diff SS7)
 - platforms for performance scaling
 - applications/services
 - pre/post-paid CC,
 - carrier pre-select,
 - MSC trunking,
 - SIP trunking
 - ...
 - regulatory features
LNP, LI, ...
 - billing interfaces

Some PGW references

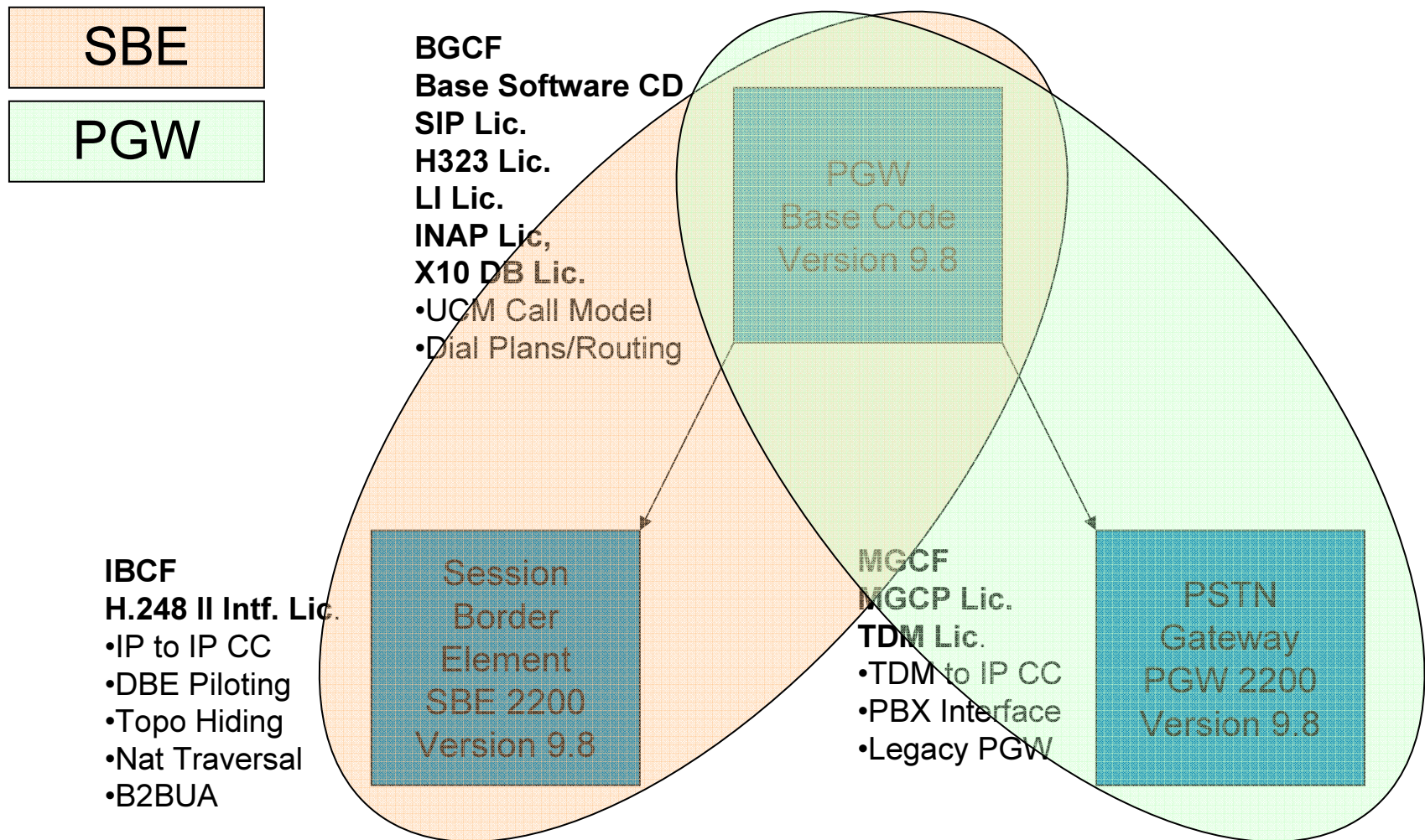
600+ worldwide as of 1/1/2008

- **PSTN/ISDN Service Provider (Internet dial-up & VoIP)**
Oi/Telemar Brasil, France Telecom, TDC Denmark, Telenor, KPN, Belgacom, Telefonica, Telstra, BT ...
- **VoIP over Broadband SP (VoBB)**
COLT, Kabel Deutschland, Karupa, TAGTelecom, Eutelia, ...
- **VoIP Transit Carrier**
Telefonica Germany, iBasis, Vonage...
- **Mobile SP**
Sprint, AT&T Cingular, Telemar Brasil, MTS Russia, Vodafone Spain/Greece/..., Orange UK/Poland/..., Polkomtel, TeliaSonera, Vimpelcom, 3 Group, ...
- **All-IP Voice Mail Systems and VAS platforms**
Unisys, Acision (ex LogicaCMG), Mobeon (Ericsson), eServGlobal
- **Enterprise**
British Airports Authority, British Rail, GlaxoSmithKline, Sitel, SVN Sachsen...
- **Hosted Unified Communication Services (HUCS)**
BT, Lloyds TSB Bank, ...
- **Managed Business (SIP) Trunking**
Lyse Tele Norway, Fujitsu Services Finland, ...

Call Analysis & Routing overview



Distributed Model – SBE Leveraging PGW Base



Signaling Gateway

Cisco ITP Platforms Positioning

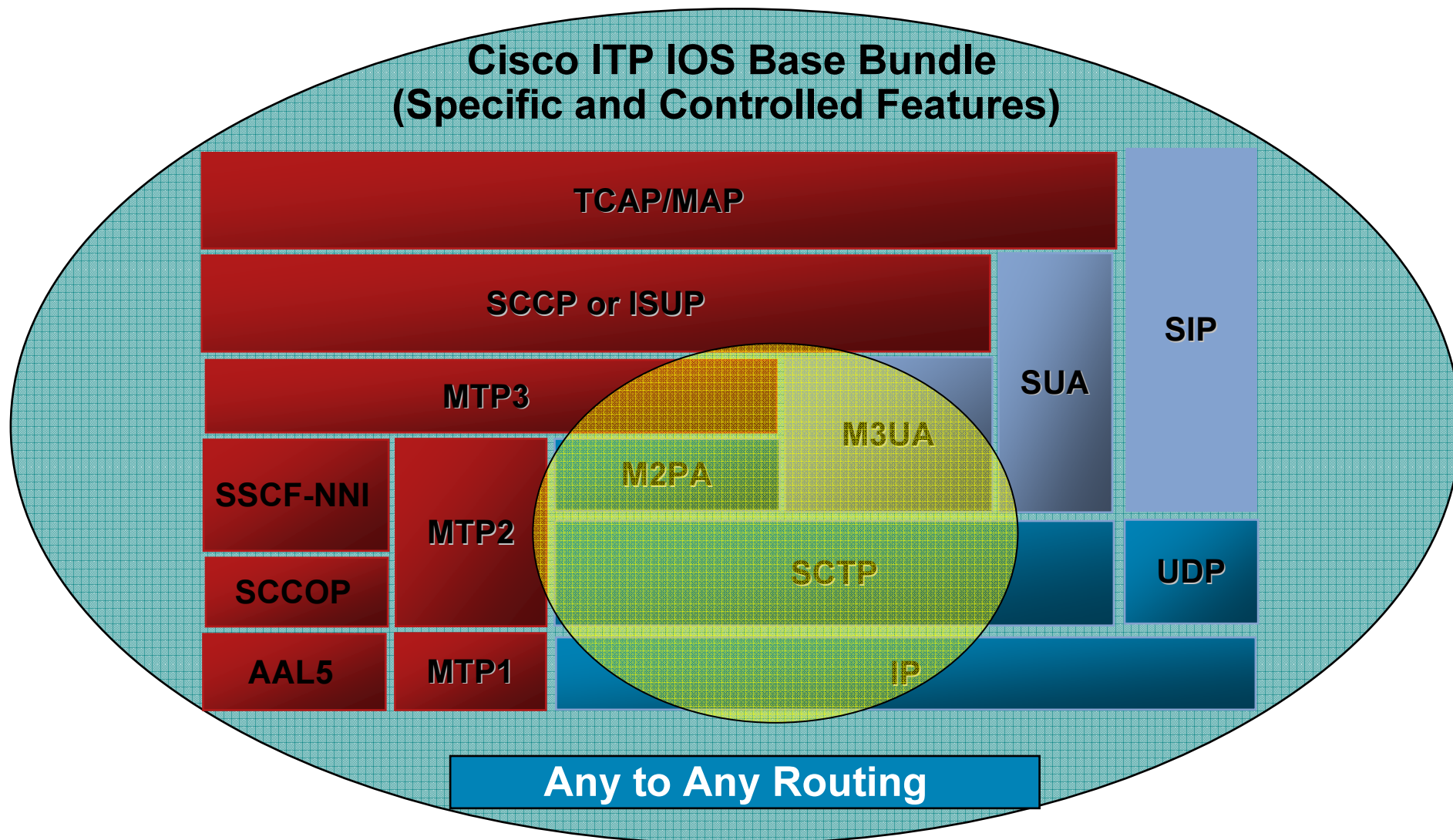


	2811	7204/6	7301	7600
Core STP				✓
Signaling Gateway (+MLR)	✓	✓	✓	✓
Applications (WLAN and/or MO-Proxy)		✓	✓	

Cisco ITP Protocol Architecture



Cisco ITP IOS Base Bundle (Specific and Controlled Features)



Cisco Media Gateways

Unmatched Density, Scale & Performance

- Highest VoIP density, scalability and performance
 - Up to 120,000 Redundant DS0s in a 7' Rack with ECAN
 - Backplane Capacity of 45 Gbps
 - Over 2000 Calls/Sec per 7'Rack
- Broad range of Network Interfaces
 - FE, GE, POS OC-12, T1, E1, T3, E3, OC-3c/STM1-OC48c/STM16
- Optimized for Service Provider Voice Applications
 - Broad Application Support for Wireless, Wireline, and PacketCable compliant applications
 - No single point of failure. Active calls preservation
- Investment Protection
 - Evolutionary, Pay-as-you-grow Design

MGX 8880 Media Gateway

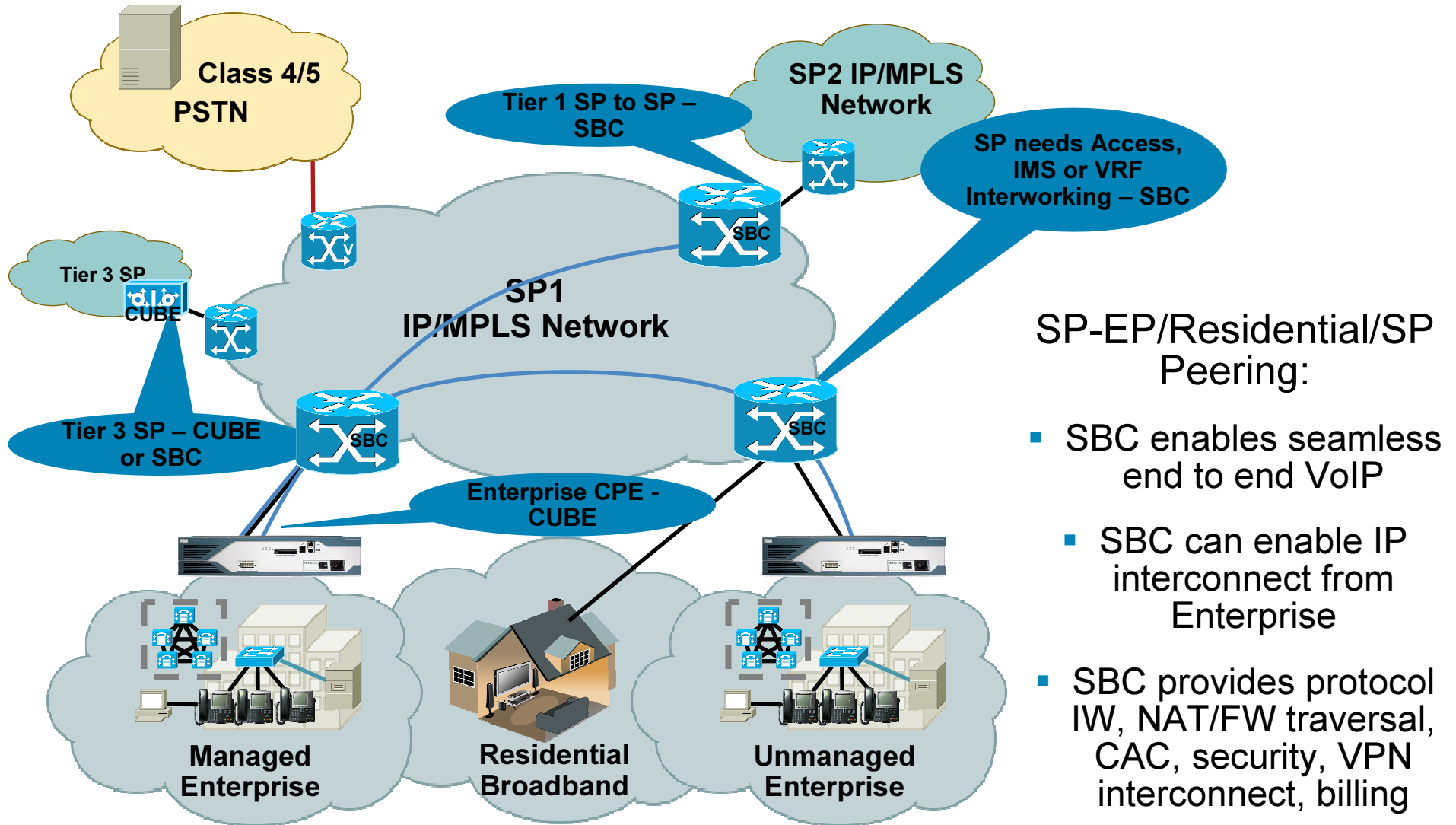


AS5350, 5400 Media Gateways



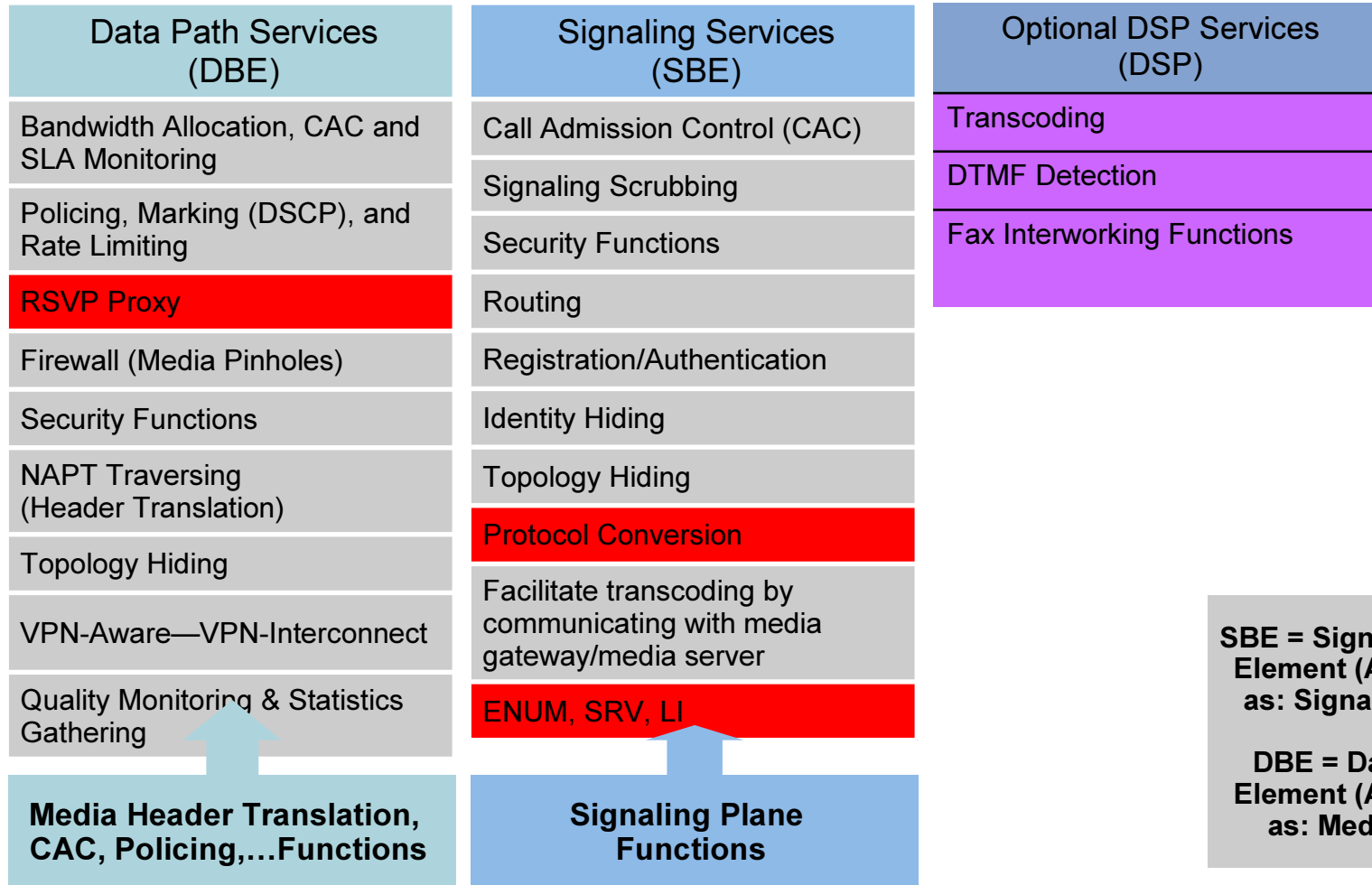
- Rich SIP Feature Set, also H.323, MGCP
- Rich set of Codec support
- packet interfaces 2xGE
- TDM interfaces from 2-8 T1/E1 and 2-20 T1/E1
- TDM protocols SS7, DSS1, R2, CAS, ...

Where Networks connect



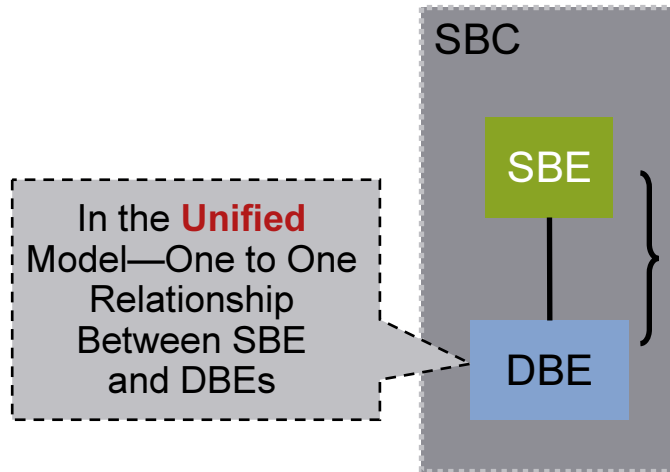
Functions of an SBC

Session Border Controllers = DBE + SBE



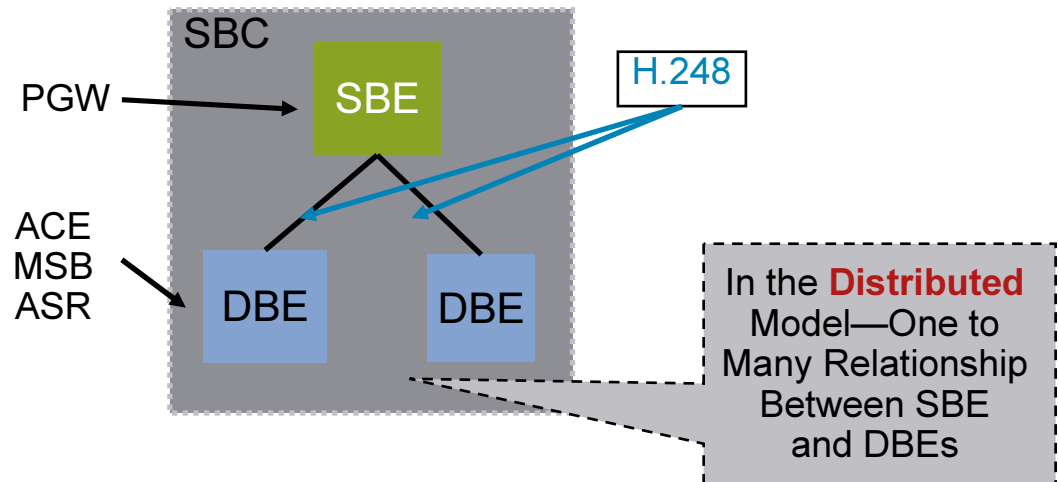
Deployment: Unified or Distributed

Unified Model



Service Access Control Is Local to the Box and Can Be Message Based

Distributed Model



The Interface Between the SBE and DBE is H.248

SBC Deployment Today

Likely SBC Evolution

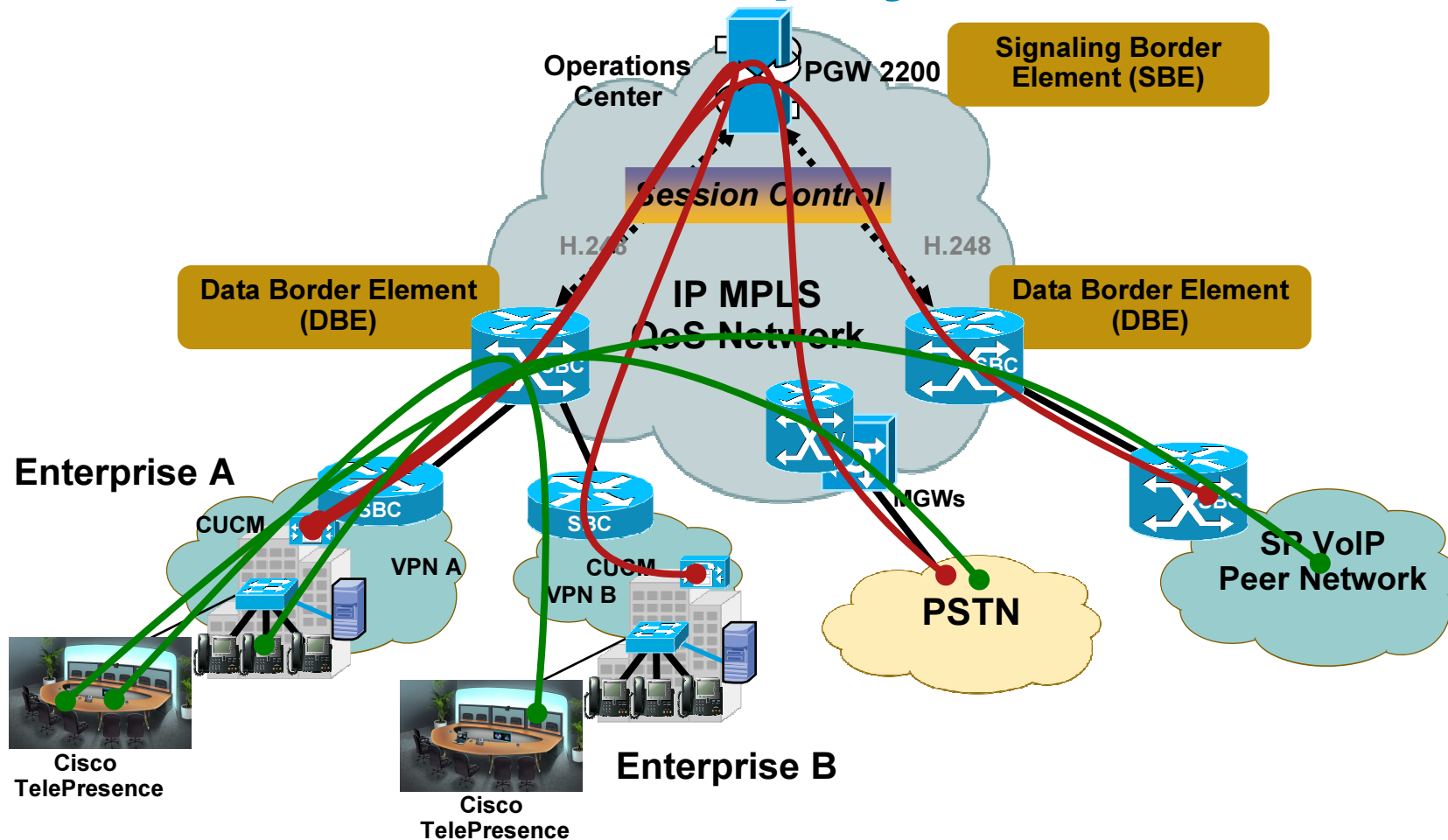
SBE: Signaling Path Session **B**order **E**lement Function

Sample tasks: **Signaling** IW (SIP–H.323), NAT/FW Traversal, Topology hiding (SIP/SDP mgs), CAC

DBE: Data Path Session **B**order **E**lement Function

Sample tasks: **Media** Relay, FW, Dynamic pinhole, Quality demarcation, transcoding (G.711–G.729)

Distributed SBC Deployment Model

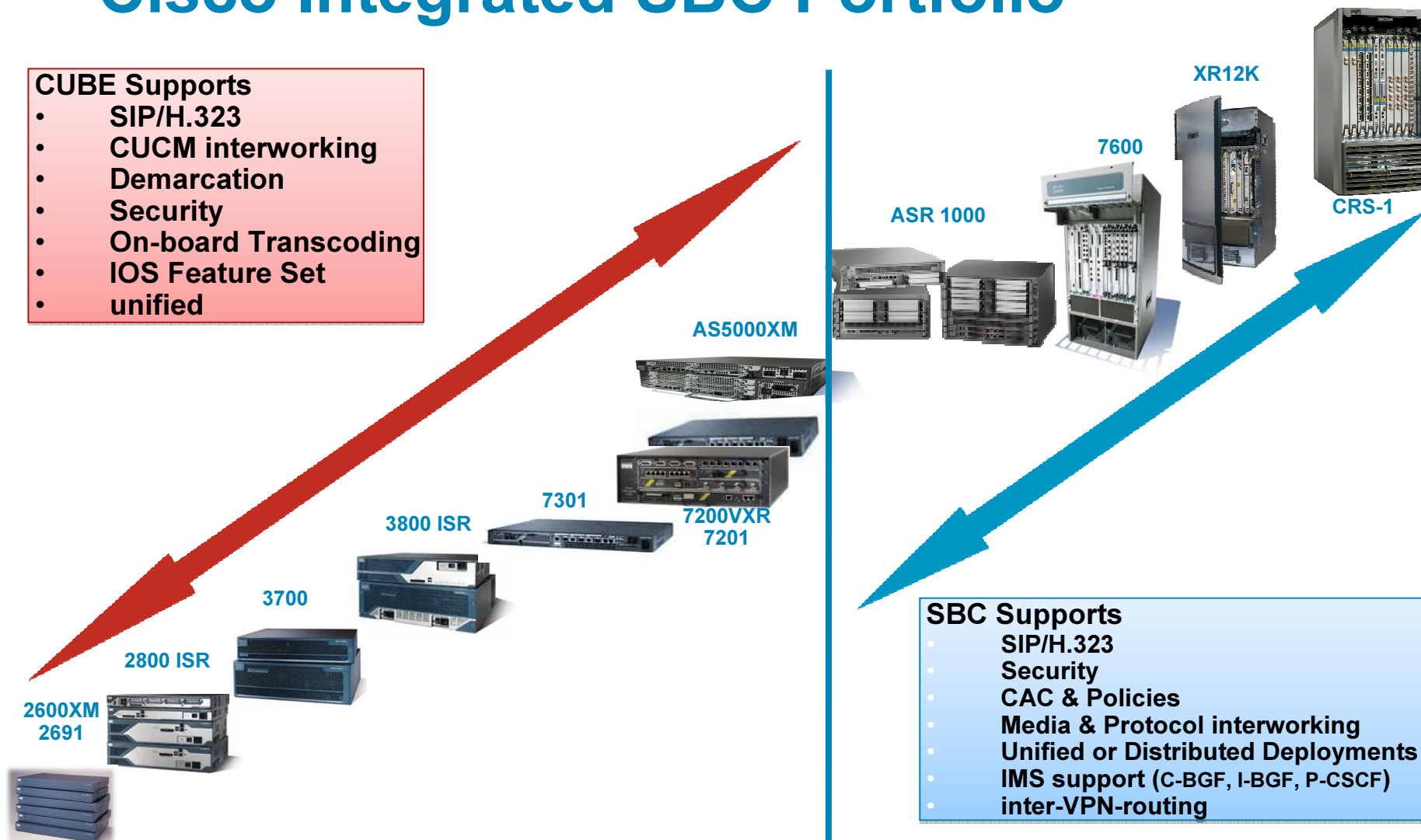


- Distributes DBE functions separately from SBE function
 - Aligns with approach of IMS, TISpan, ITU

Cisco Integrated SBC Portfolio

CUBE Supports

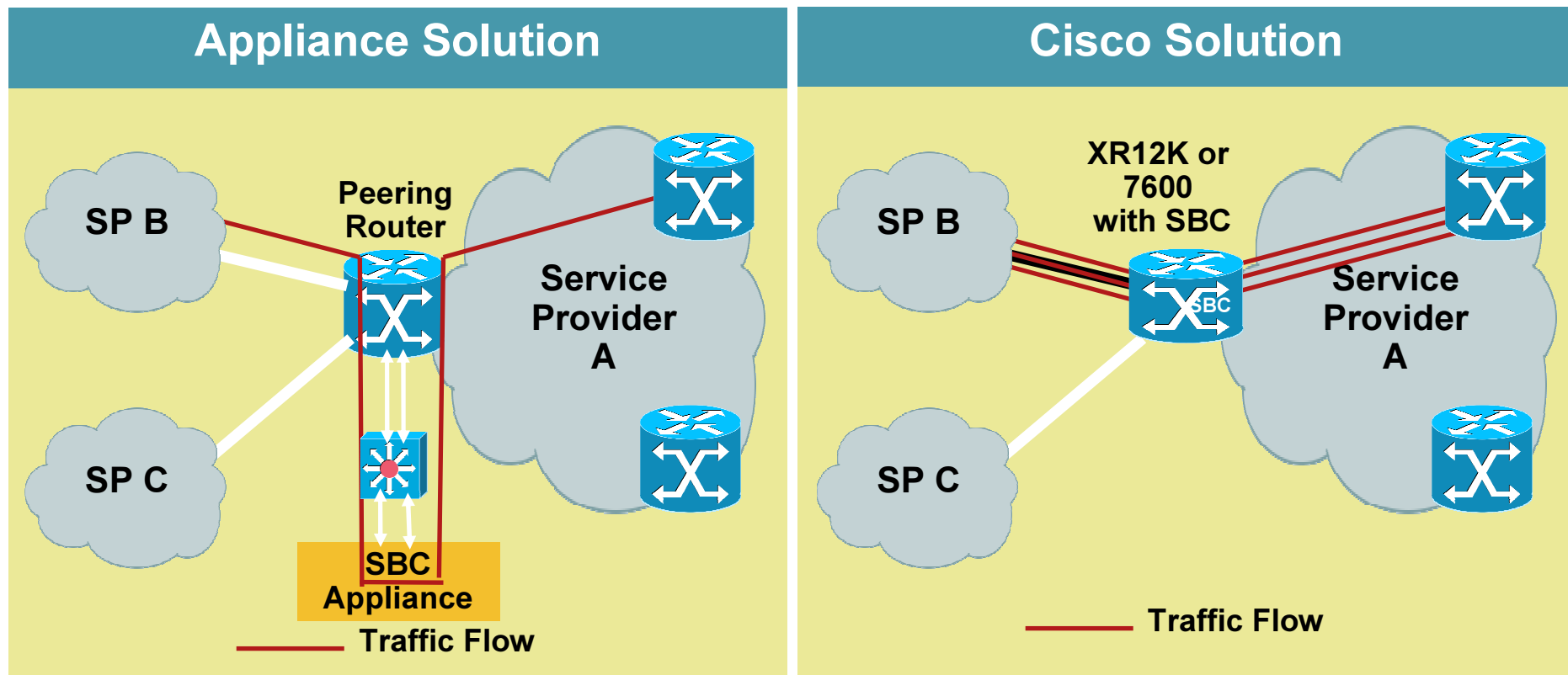
- SIP/H.323
- CUCM interworking
- Demarcation
- Security
- On-board Transcoding
- IOS Feature Set unified



SBC Supports

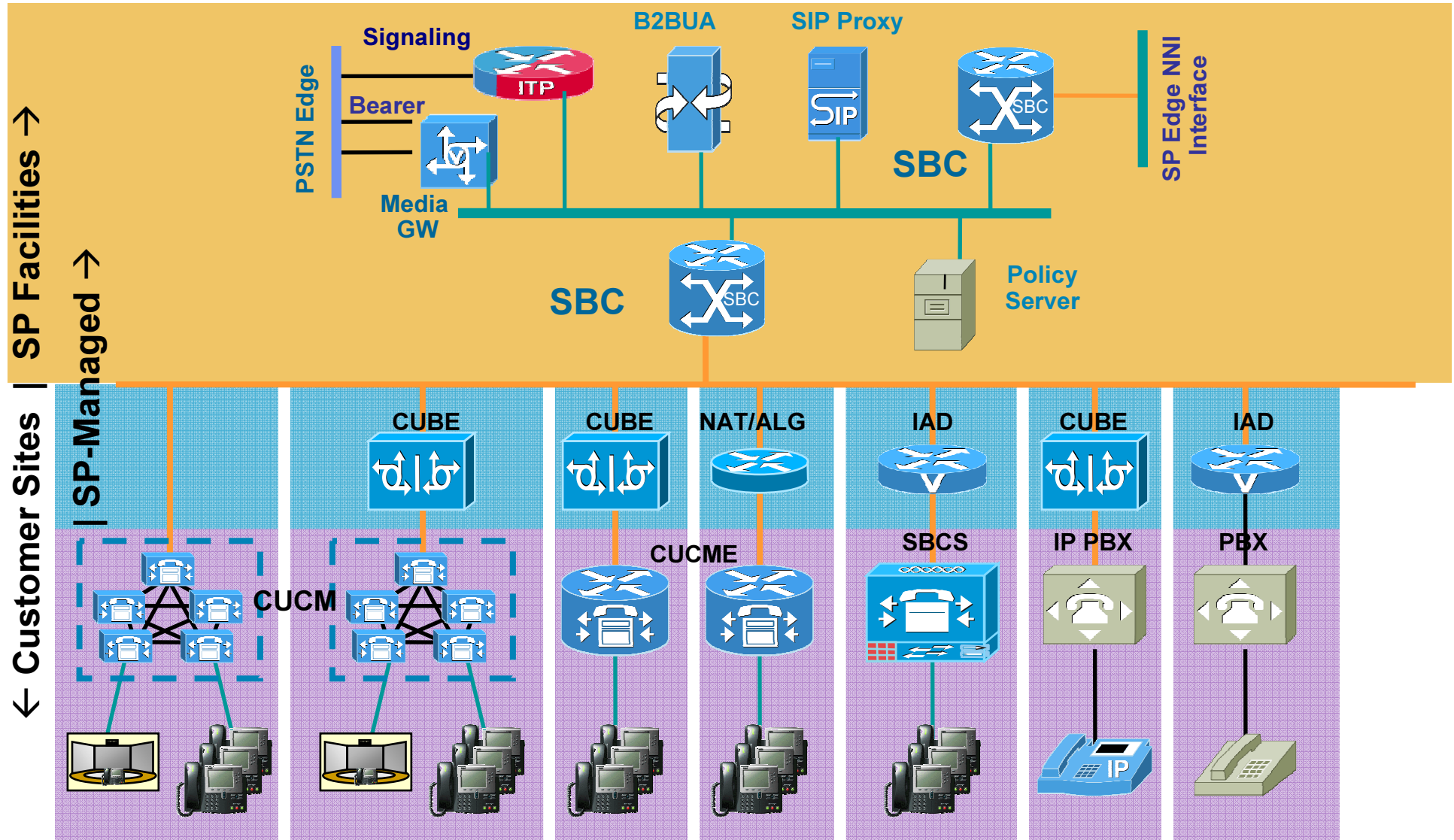
- SIP/H.323
- Security
- CAC & Policies
- Media & Protocol interworking
- Unified or Distributed Deployments
- IMS support (C-BGF, I-BGF, P-CSCF)
- inter-VPN-routing

Integrated vs. Appliance



- Seamless integration
- Eliminate overlay networks
- Array of QoS and security features on ingress/egress interfaces
- Integration with other L2/L3 services (eg: MPLS PE + SBC)

SIP Trunking Architectural



Cisco SP Voice Services & Applications

