

The Cisco.com logo is located in the bottom right corner of the teal header. It consists of the text "Cisco.com" in a white, sans-serif font.

# VoIP Services

**Maurice Duault**

**[mduault@cisco.com](mailto:mduault@cisco.com)**

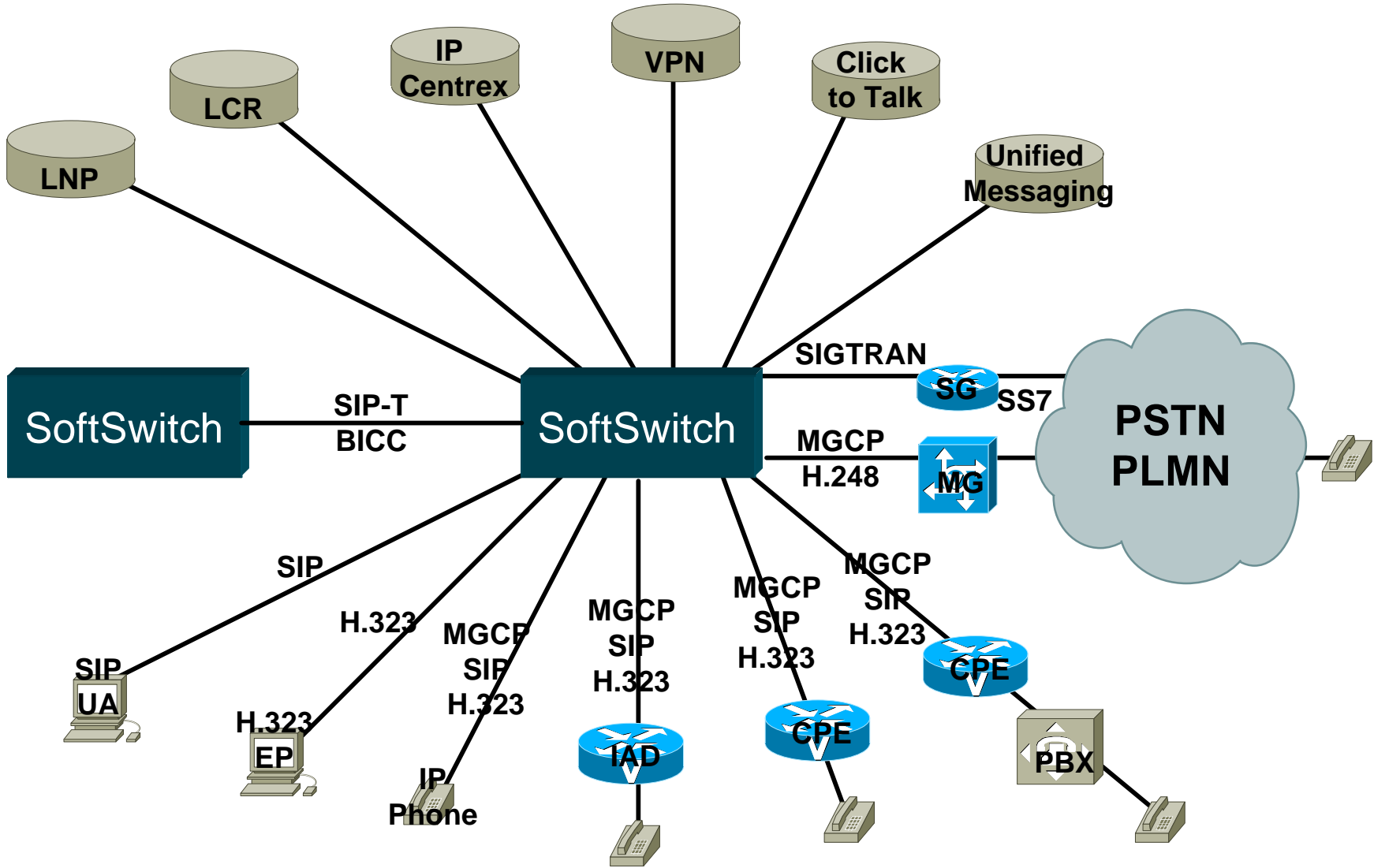
# Agenda

- **Distributed Softswitch**
- **Residential**
- **Business VoIP access**
- **Multiservice over VPN**
- **Managed IP Telephony**

# New VoIP paradigm

- **IP suppresses the distances**
- **Same VoIP protocol for Enterprise and Service Providers and for every access**
- **De-fragmentation of functions managed by different operators**

# The universal Softswitch

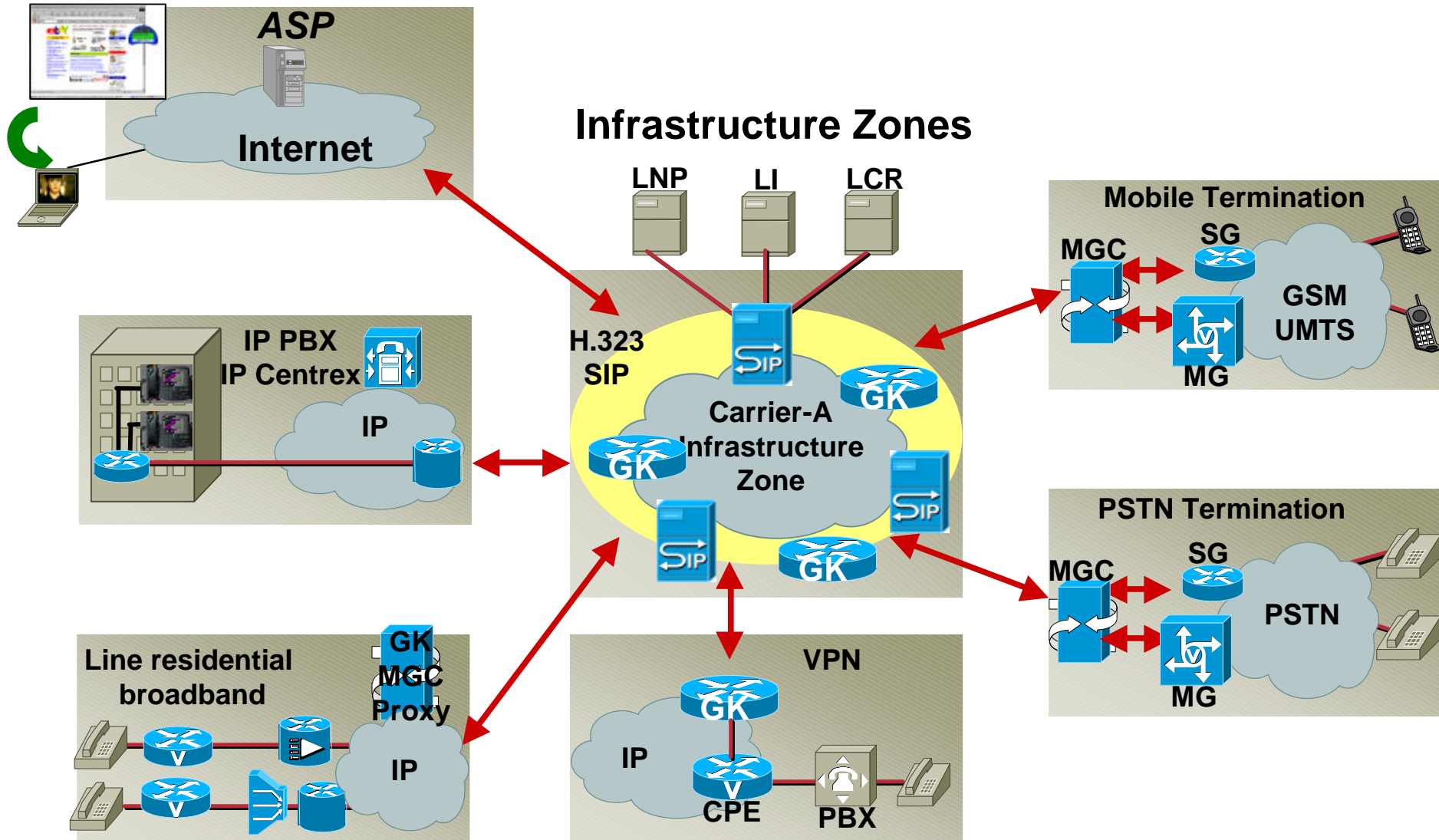


# VoIP market segments

Cisco.com

- Transit international
- Transit national
- Residential
- Business VoIP access
- Multiservice over VPN
- Hosted IP PBX
- IP Centrex

# Reference network architecture



# Distributed Softswitch benefits

Cisco.com

- **Simple and scalable infrastructure**
- **Simple and flexible applications**
- **Any to any interworking**
- **Leverage Cisco Ecosystem**
- **SP Investment protection**

# Key Cisco enabling technologies

Cisco.com

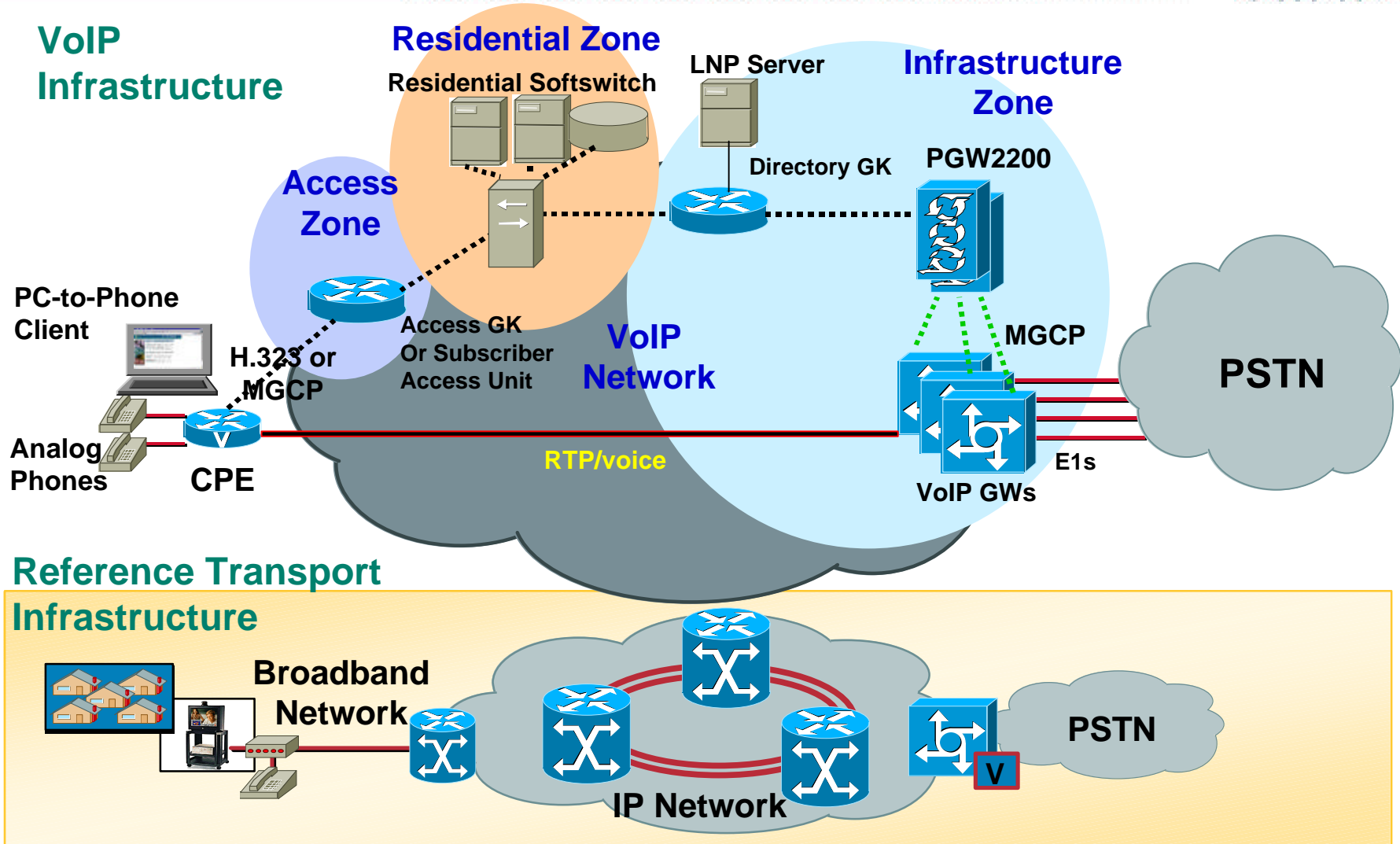
- **High Scalability**
- **Standard interworking among application zones**
- **Reliability**
- **GKTMP API on Cisco GKs**
- **Easy migration to SIP**



# Agenda

- **V5.2**
- **Distributed Softswitch**
- **Residential**
- **Business VoIP access**
- **Multiservice over VPN**
- **Managed IP Telephony**

# Cisco Residential VoIP over Broadband Architecture (e.g. ETTX, Cable, DSL)



# Example of VoIP Residential Services

## Basic Calling

- On-net to on-net
- On-net to off-net
- Off-net to on-net

## Line Features

- Call forward unconditional
- Call forward on busy
- Call forward on no answer
- Call blocking with announcement
- Call screening
- Find Me / Follow Me
- Emergency Call

- Local Number Portability
- Calling number delivery restriction
- Last number redial (\*66)
- Call return (\*69)
- Malicious call trace
- Call restriction to selected destinations
- Anonymous call rejection
- Premium and toll free number support
- Lawful Interception

# Residential VoIP value proposition for the Service Provider

- **Bundle voice with data or video services over broadband access.**
- **No need to deploy Class 5 TDM switches.**
- **Minimal call cost, and maximum revenue with SS7 interconnection.**
- **Integrate provisioning of voice, data or voice services.**
- **Provide the same voice services over any broadband access technologies.**
- **Distribute residential, and business services over a single VoIP infrastructure**
- **Distribute VoIP Point of Interconnection when the voice traffic justifies to decrease the cost of interconnection.**

# Residential VoIP value proposition for the customer

Cisco.com

- **Get secondary or primary voice service with broadband access.**
- **Have only one SP, and one bill to pay for data, video and voice services.**
- **Get substantial cost savings specifically for on-net calls.**

# Agenda

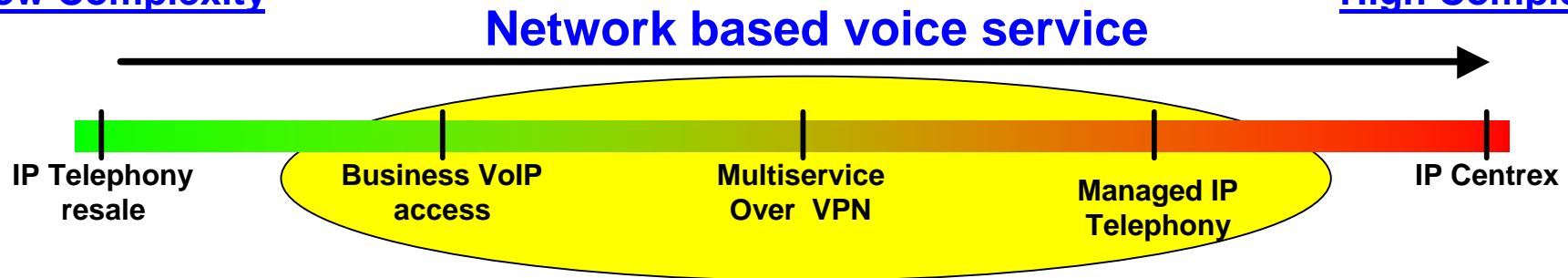
- **Distributed Softswitch**
- **Residential**
- **Business VoIP access**
- **Multiservice over VPN**
- **Managed IP Telephony**

# Business solutions positioning and Service Provider opportunity

Cisco.com

Low Complexity

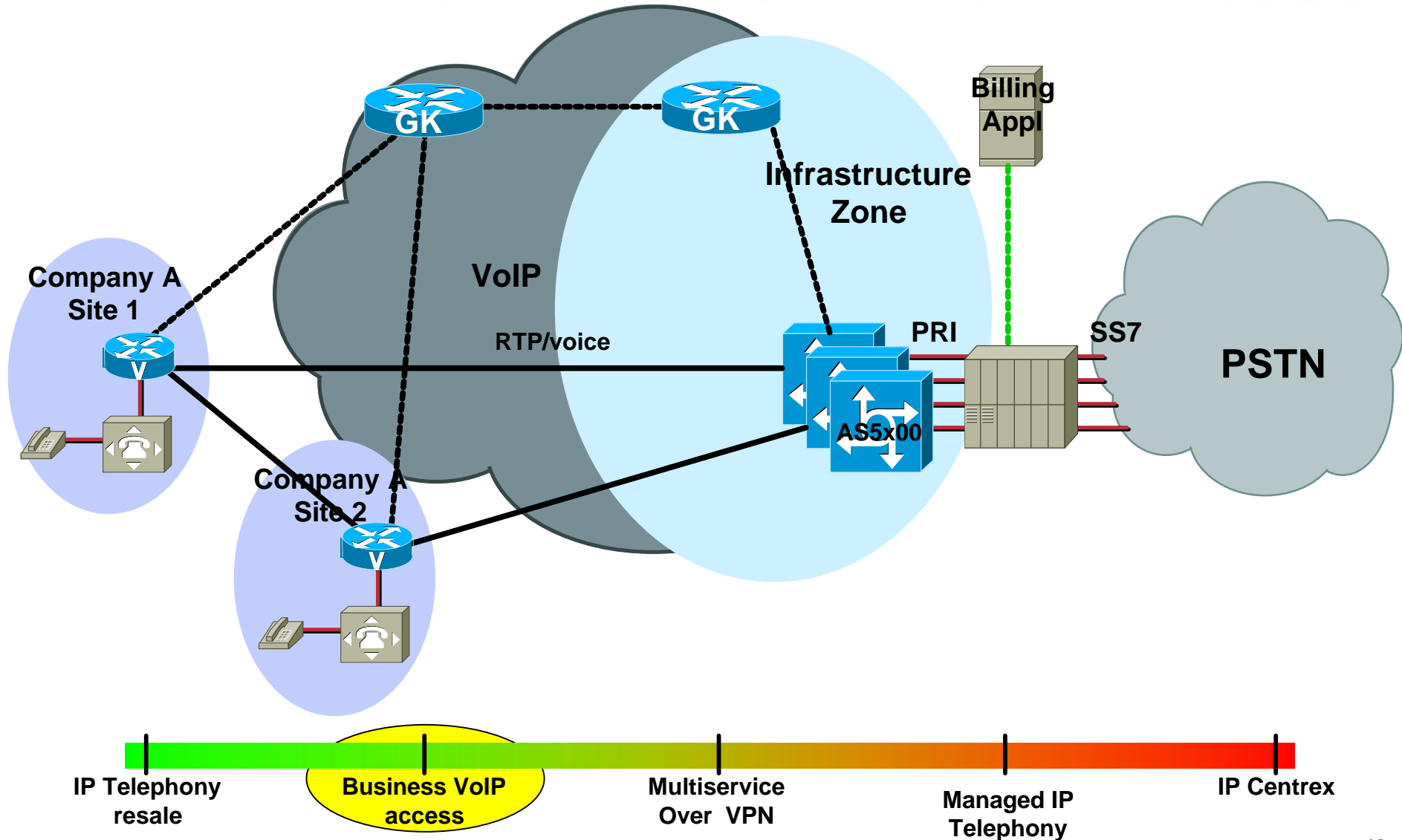
High Complexity



- Large range of solutions
- Ranging from simple Business VoIP access to outsourcing of IP telephony
- Leverage a common VoIP infrastructure
- Bundling of solutions to address multiple market segments

# Business VoIP access

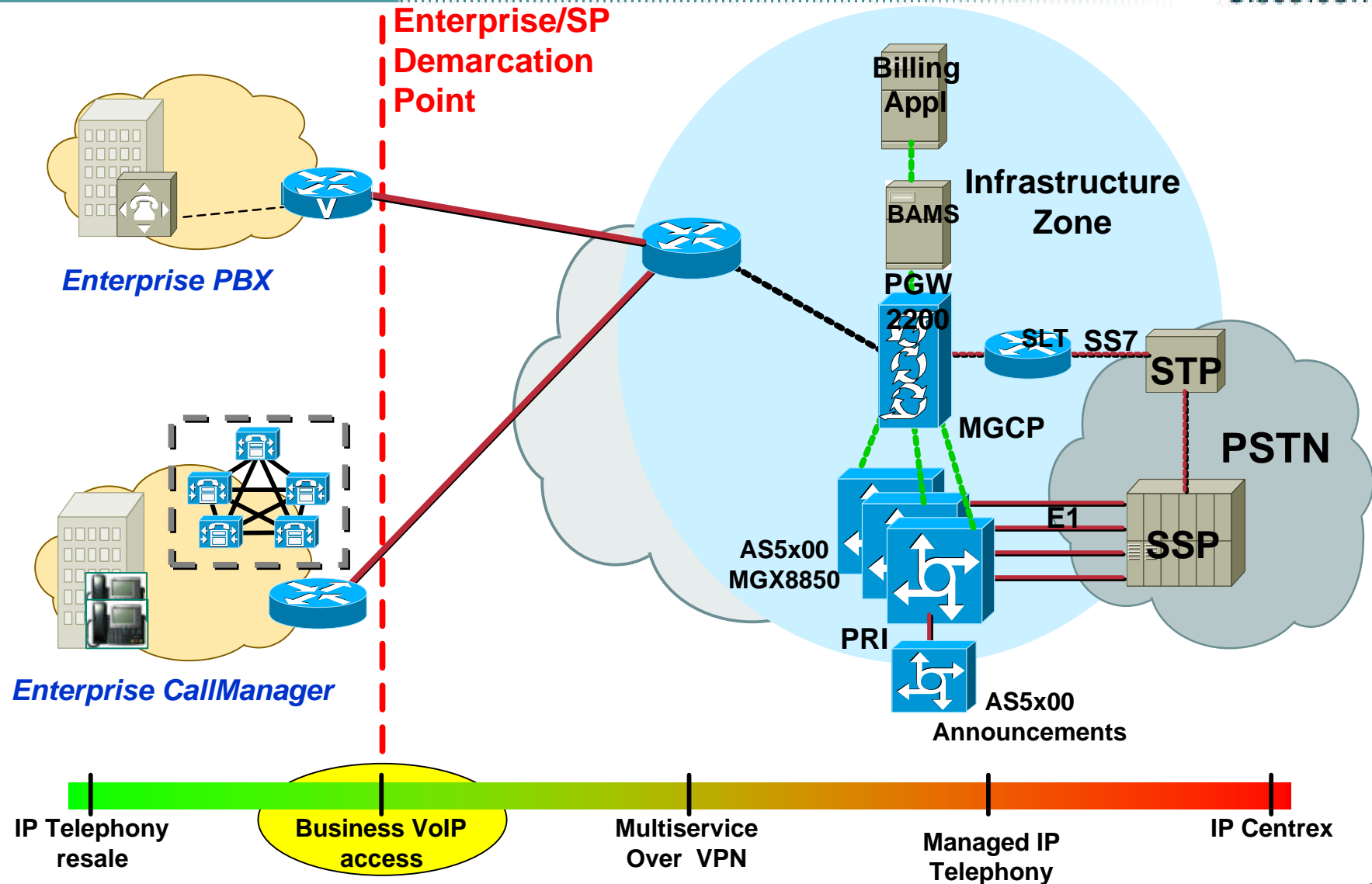
## Minimum H.323 infrastructure





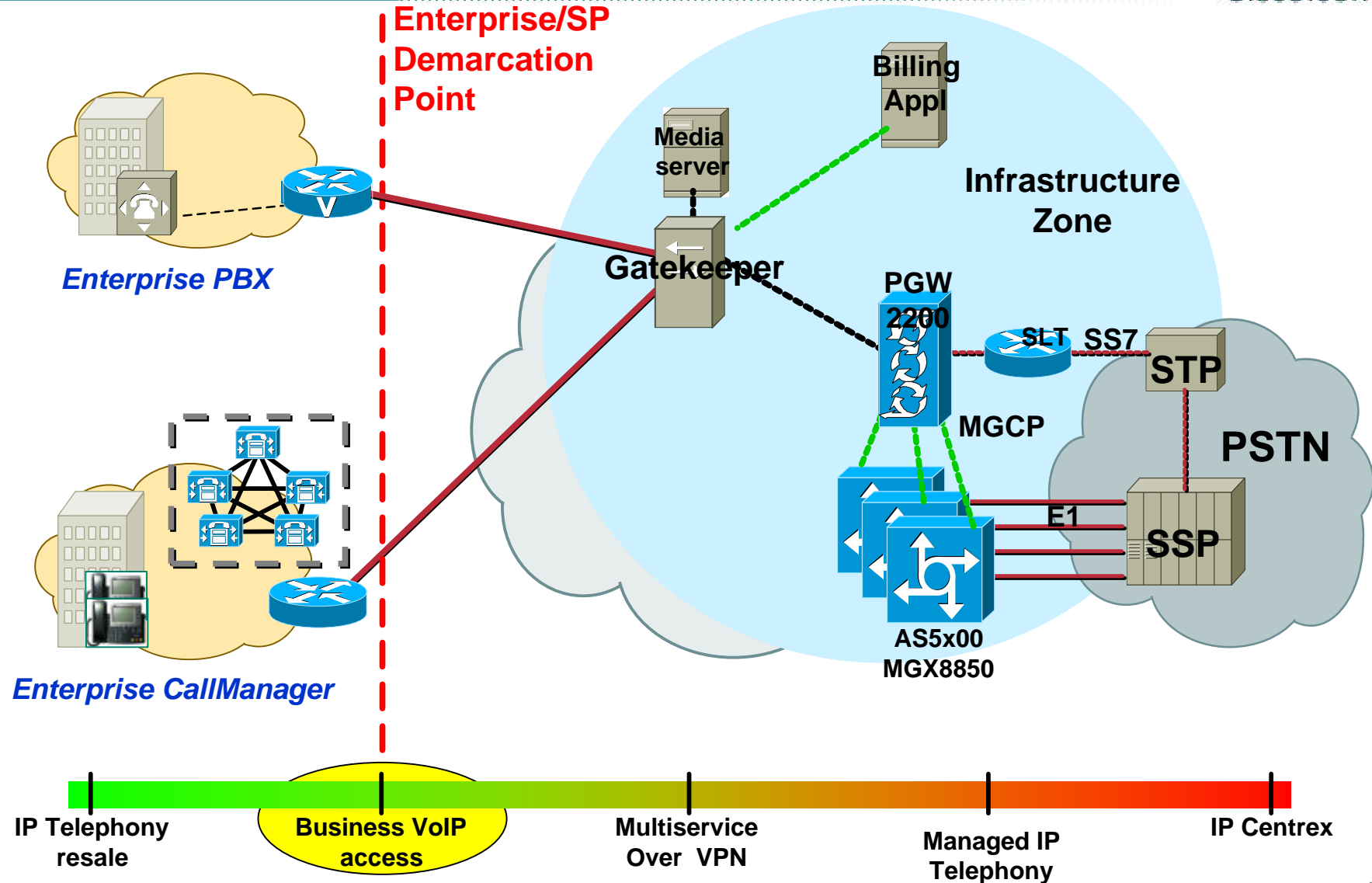
# Business VoIP access

## Direct mode gatekeeper and SS7 interco



# Business VoIP access

## Direct mode gatekeeper and SS7 interco



# Business VoIP access value proposition for the Service Provider

Cisco.com

- Capture all long distance voice traffic
- Optionally capture the local traffic
- Bypass the Local Exchange
- Minimal initial investment: Gatekeeper, PGW, Trunking Gateway, Billing system
- Leverage large VoIP infrastructure: More SS7 PoP, less voice cost
- Centralized billing

# Business VoIP access value proposition for the enterprise

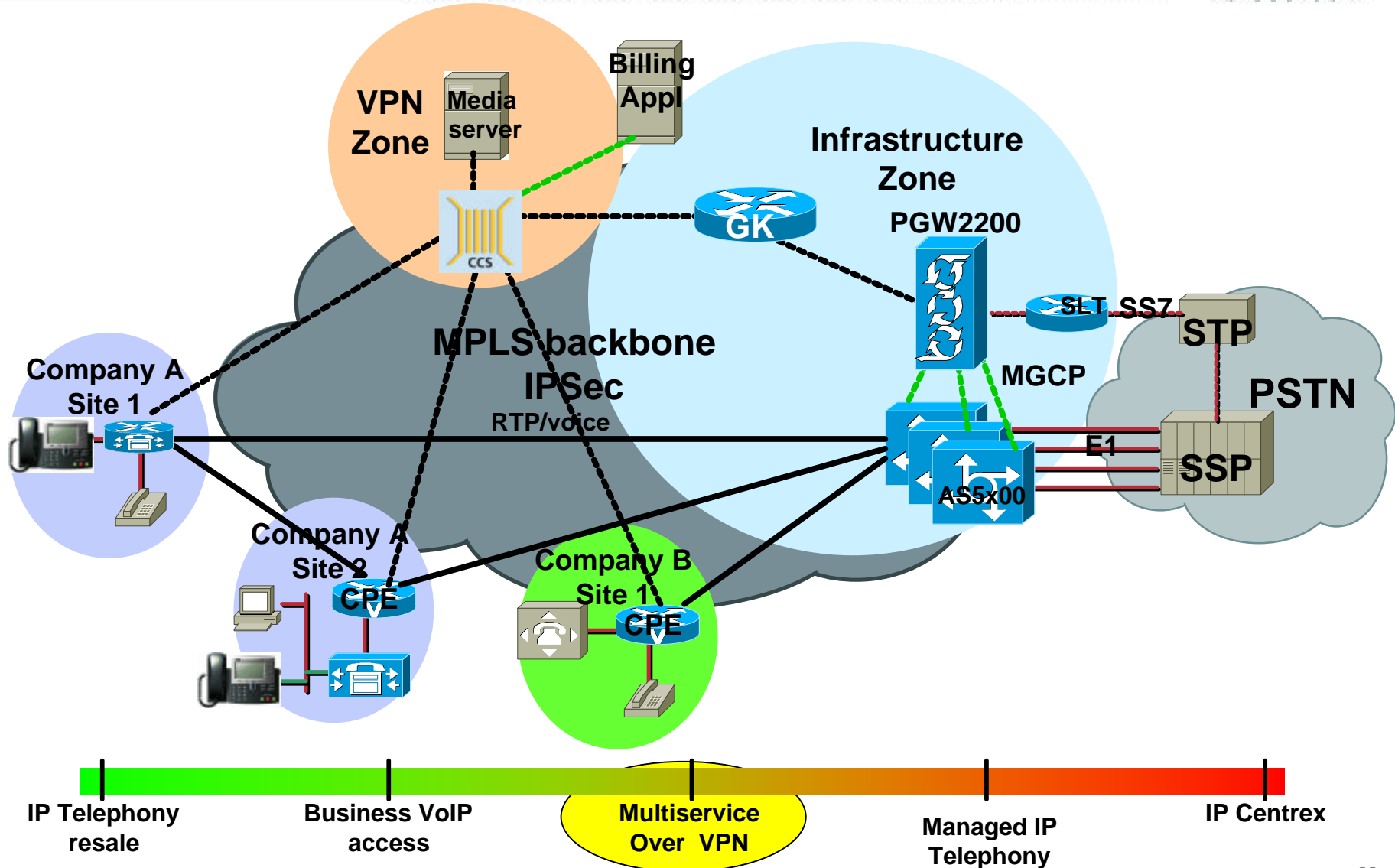
Cisco.com

- **End-To-End VoIP between enterprise and SP network**
- **Single line for data and voice services**
- **Location portability: keep the same enterprise number between sites**
- **Substantial cost savings for**
  - **On-net calls between sites**
  - **Off-net calls**
  - **No VoIP CPE with the Call Manager**
- **Easy migration to managed call manager service**

# Agenda

- **Distributed Softswitch**
- **Residential**
- **Business VoIP access**
- **Multiservice over VPN**
- **Managed IP Telephony**

# MultiService over VPN



# What is MultiService over VPN

- **PBX and Call Manager Virtual Private Network over IP**
- **Overlay voice VPN over a data VPN infrastructure**
- **Centralized dial plan for private and overlap dialling plans**
- **Centralized billing**
- **Number translation between private and public networks:**
  - Virtual on-net (private number for off-net call)
  - Forced on-net (public number for on-net call)
  - Off-net to on-net with calling card

# Multiservice over VPN value proposition for the Service Provider

- **Bundle data VPN with voice VPN services**
- **Integrate traditional IN VPN services inside the VoIP Softswitch**
- **Enable new IP Services going forward**
- **Allow smooth migration from TDM to IP**
- **Save substantial costs:**
  - For inter-site communications
  - And for off-net communications with distributed PSTN interconnection



# Multiservice over VPN value proposition for the enterprise

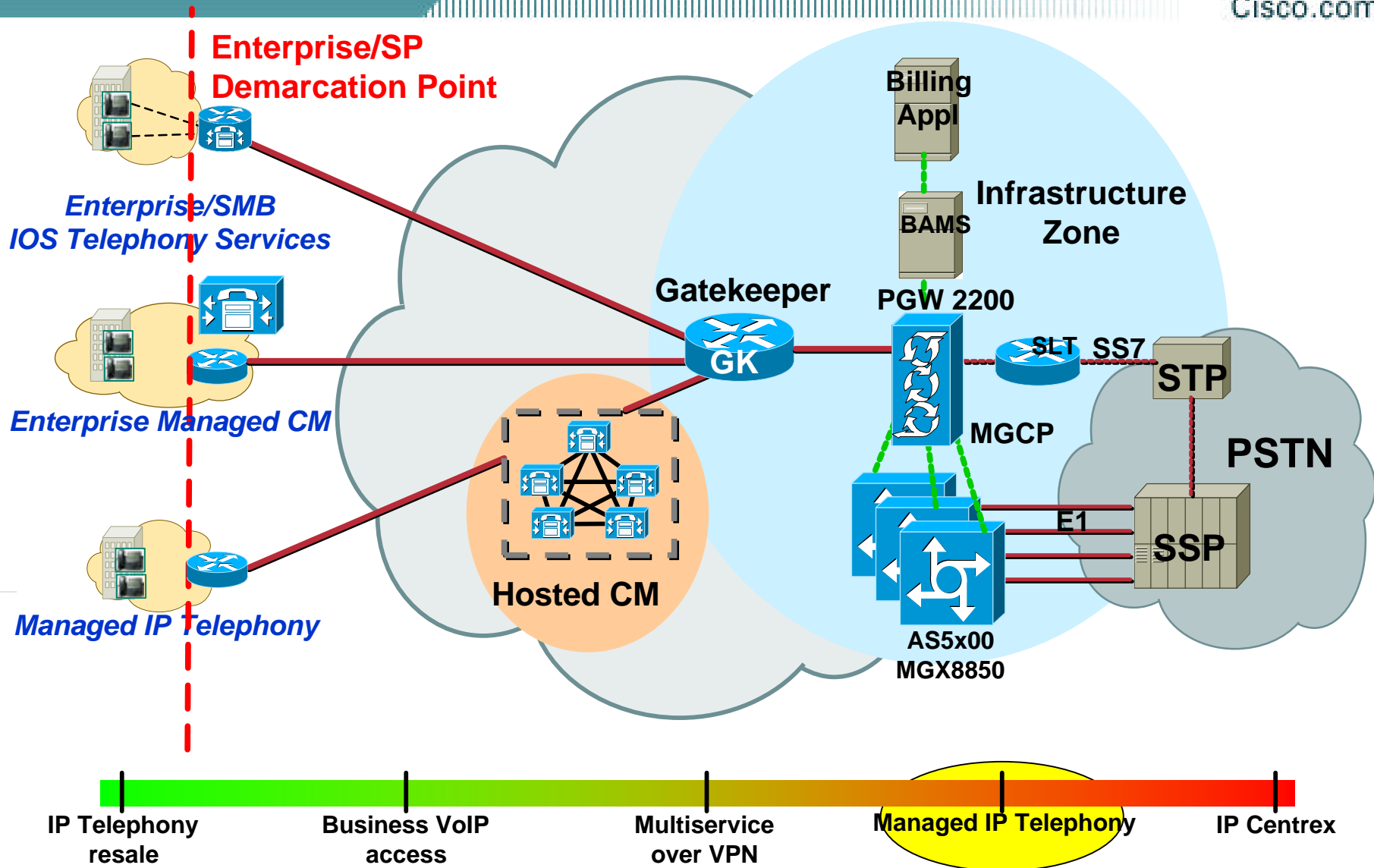
Cisco.com

- **Single IP access line for data and voice services**
- **Keep legacy PBX, meaning minimum investment**
- **Keep traditional IN VPN services for legacy PBX and Call Manager**
- **Enables new IP Services going forward**
- **Smooth migration from TDM to IP**
- **Substantial cost savings**

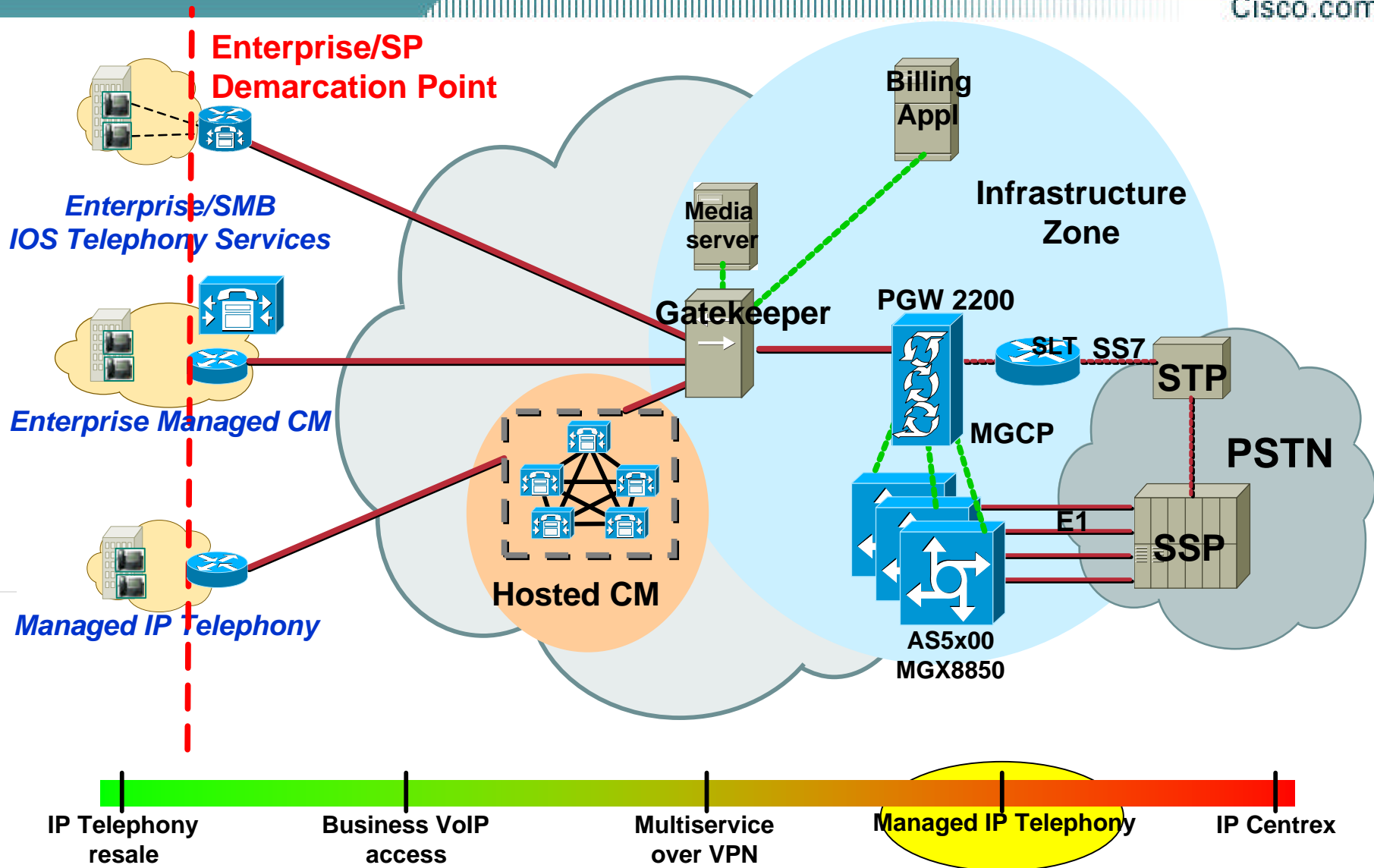
# Agenda

- **Distributed Softswitch**
- **Residential**
- **Business VoIP access**
- **Multiservice over VPN**
- **Managed IP Telephony**

# Managed IP Telephony with direct mode gatekeeper



# Managed IP Telephony architecture with routed mode gatekeeper



# Managed IP Telephony value proposition for the Service Provider

- **Leverage outsourcing model for enterprises. Grow up the value chain to increase the VoIP service offering and revenue.**
- **Sell end-to-end VoIP from the phone to SS7 interconnection.**
- **Capture all local and long distance traffic.**
- **Reduce churn.**

# Managed IP Telephony value proposition for the enterprise

Cisco.com

- **Lower total Cost Of Ownership compared to a customer owned solution (floor space, specialist, technical obsolescence, training...).**
- **Pay as you grow with minimal capital outlay (monthly fee vs. upfront investments)**
- **Implement totally converged CRM, ERP, messaging and collaboration applications (e.g. Hosted IP CC)**
- **Tele-workers get the same enterprise service in every location.**

# CISCO SYSTEMS



EMPOWERING THE  
INTERNET GENERATION<sup>SM</sup>