Skype for Business Architecture

Microsoft IT Showcase Course

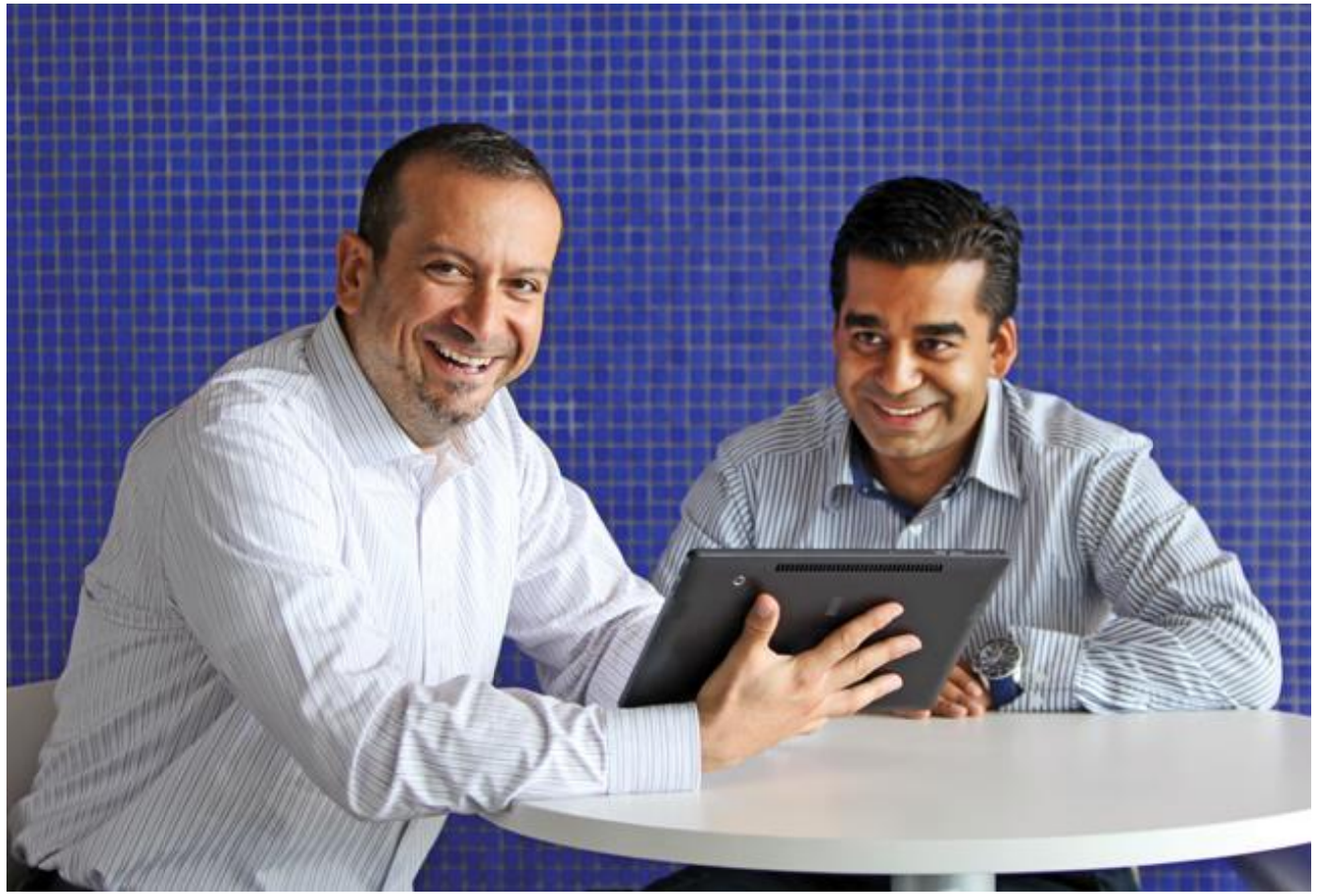
Get ready to be what's next.

Microsoft

Agenda

- Overview of Skype for Business (SfB)/Lync architecture
- Data flow and topologies
- Interdependencies and capacity planning
- Security
- Operations and support
- Best Practices

Overview of SfB/Lync architecture



Microsoft SfB/Lync environment

SfB/Lync deployment overview

Protocol soup

Microsoft SfB/Lync environment

200,000+ active SfB/Lync users

9 million+ audio sessions per month

4 data centers with SfB/Lync infrastructure

980,000 monthly SfB/Lync meetings

107 countries

568 buildings

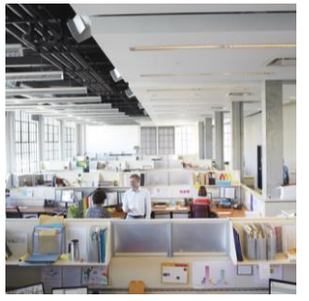
8 data centers

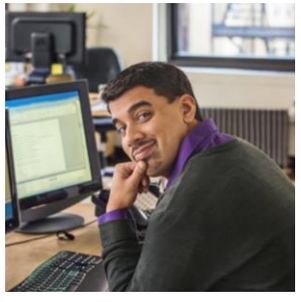
131,400 Enterprise Voice users

16,000+ federated companies

120 Million monthly instant messages

89% meetings using app sharing





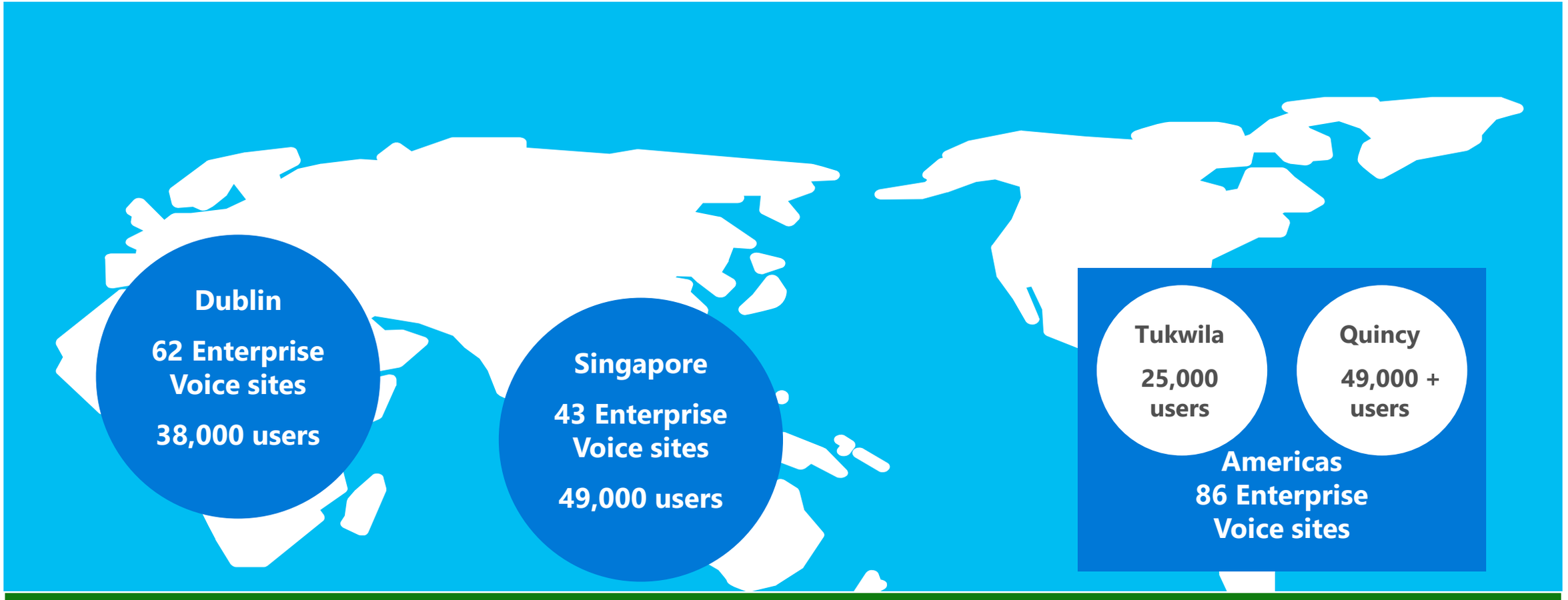
44,000 monthly peer-to-peer video calls

50% remote SfB/Lync usage

90,000 unique active SfB/Lync mobile users

10,000 + conference rooms

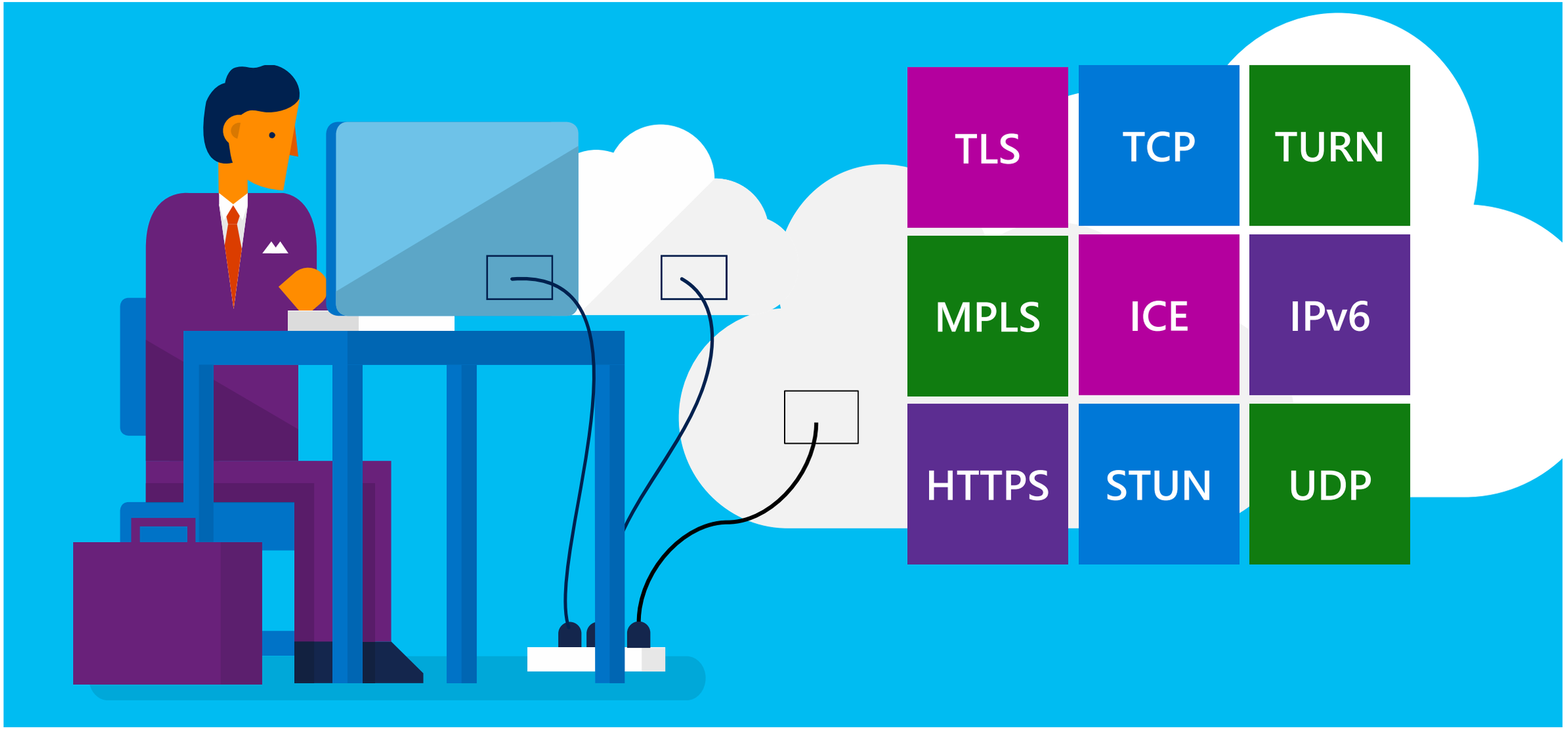
SfB/Lync deployment overview



131,000+ users on Enterprise Voice (Enterprise Voice) across 191 sites
(95 percent of Microsoft Employees)

200,000 users enabled for SfB/Lync 2013; 165,000 unique users monthly;
650,000 daily login events

Protocol soup



Summary

Microsoft SfB/Lync has a broad reach globally and a balanced distribution by region relying on multiple network protocols.

Data flow and topologies

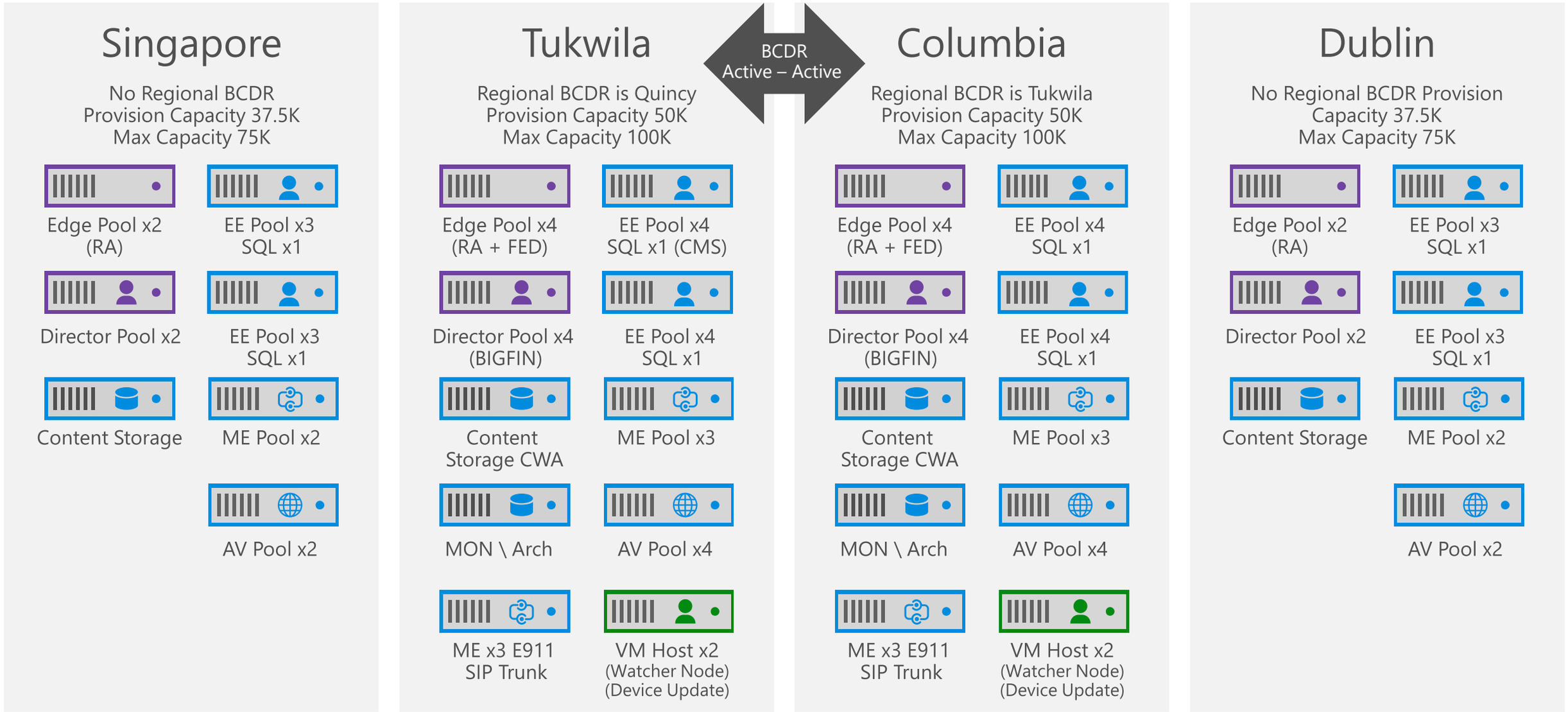
Microsoft IT production topology

- 2010
- Current

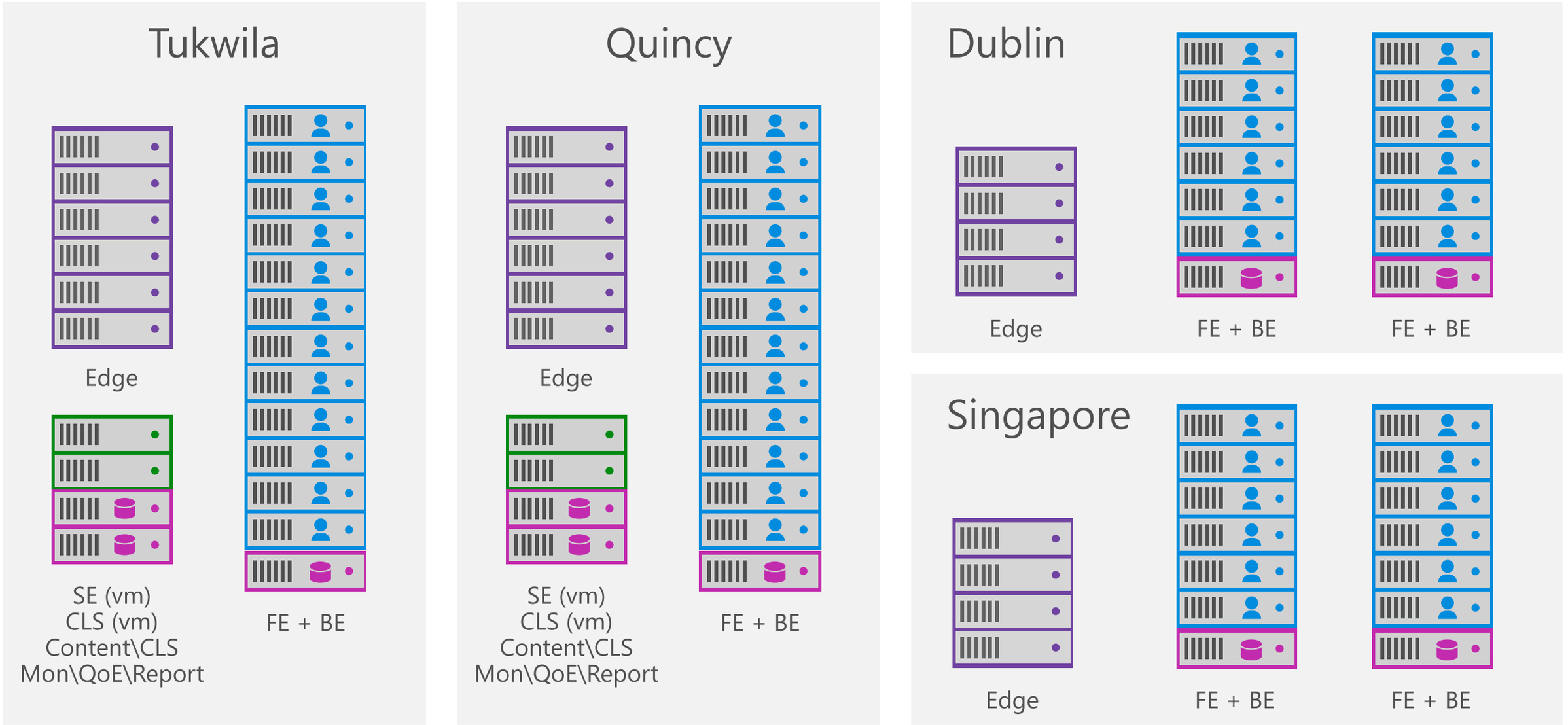
Skype for Business Server/hybrid topology

Skype for Business corp to cloud hybrid

Microsoft IT production topology Lync 2010



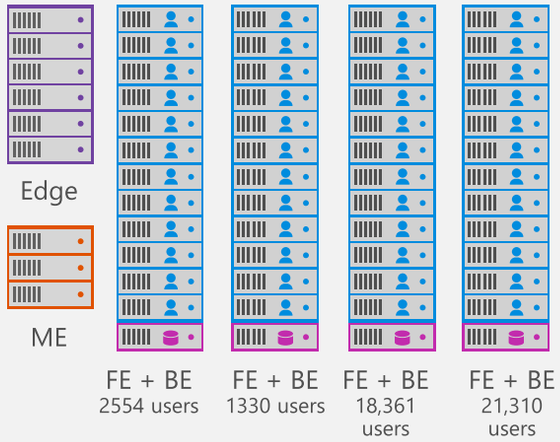
Microsoft IT production topology—Lync 2013



Skype for Business Server/hybrid topology

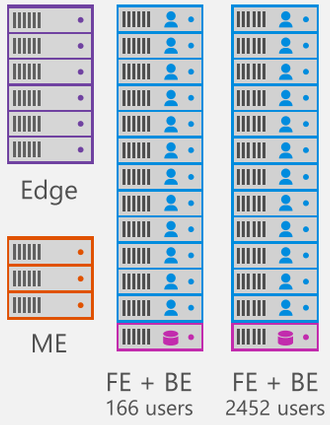
North America

Tukwila – 44k users

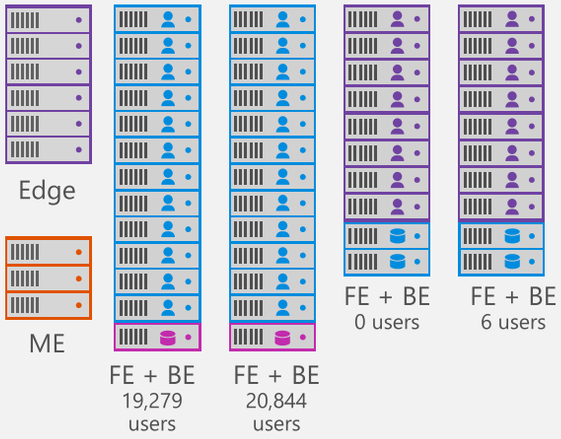


To be moved to CY1
with V-Next migration

Quincy (CO2) – 3k users

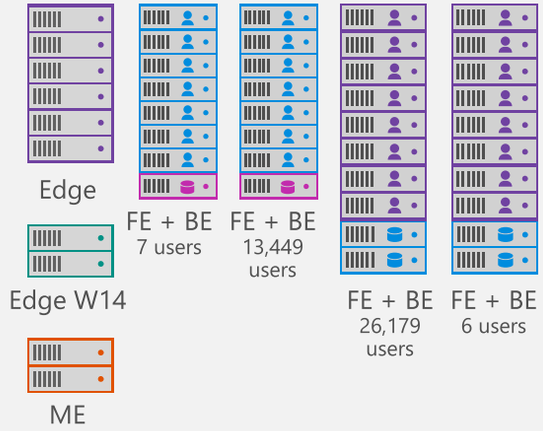


Quincy (CO2) – 40k users



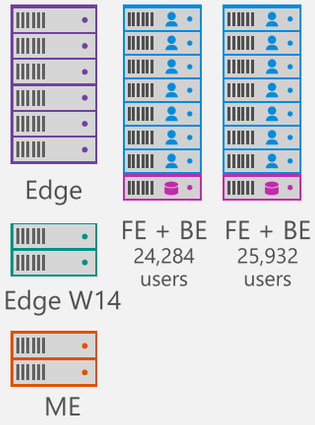
EMEA

Dublin (DB3) – 40k users



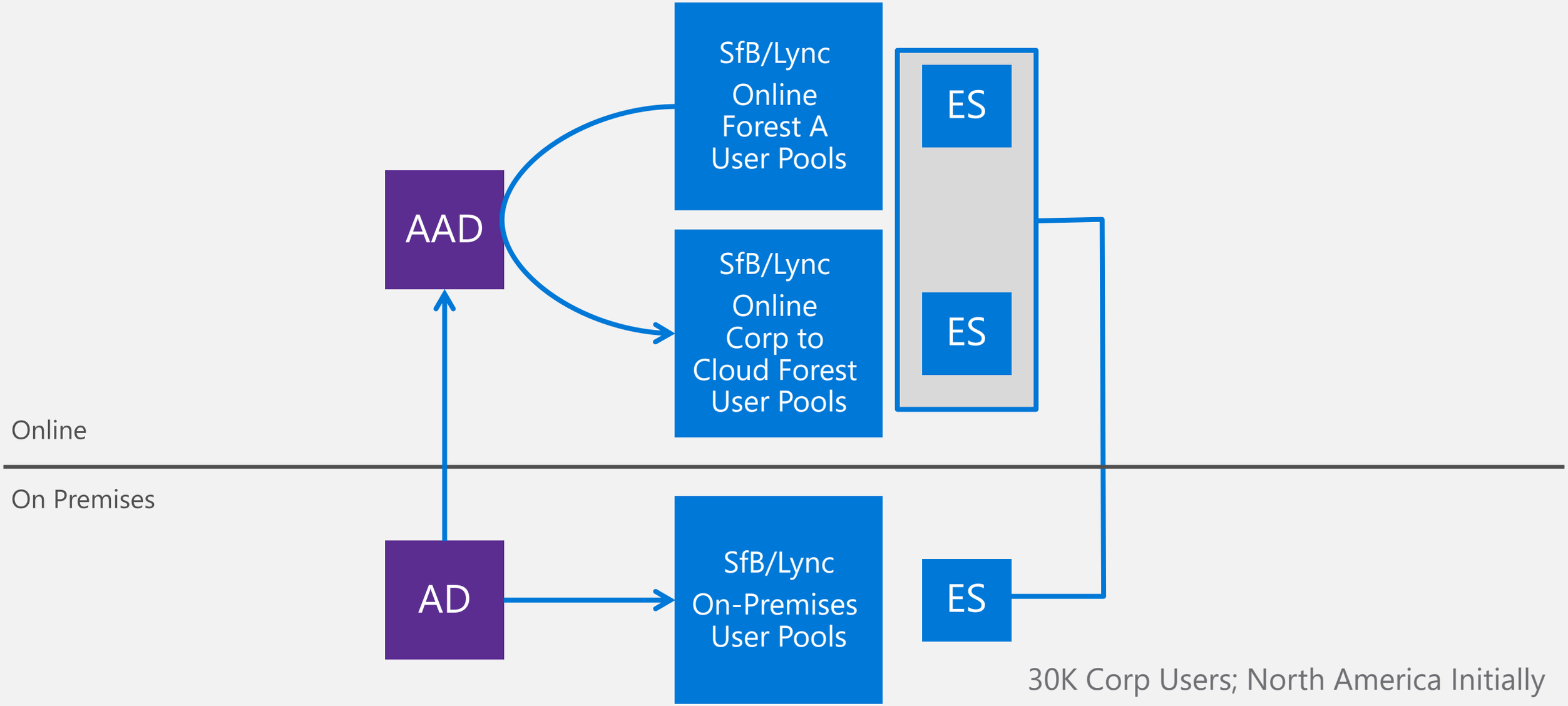
APAC

Singapore (SG1) – 50k users



To be moved to SG2
with V-Next migration

Skype for Business corp to cloud (hybrid)



30K Corp Users; North America Initially

Summary

There are a number of factors to consider in the data flow and topology for your Skype for Business architecture. These include:

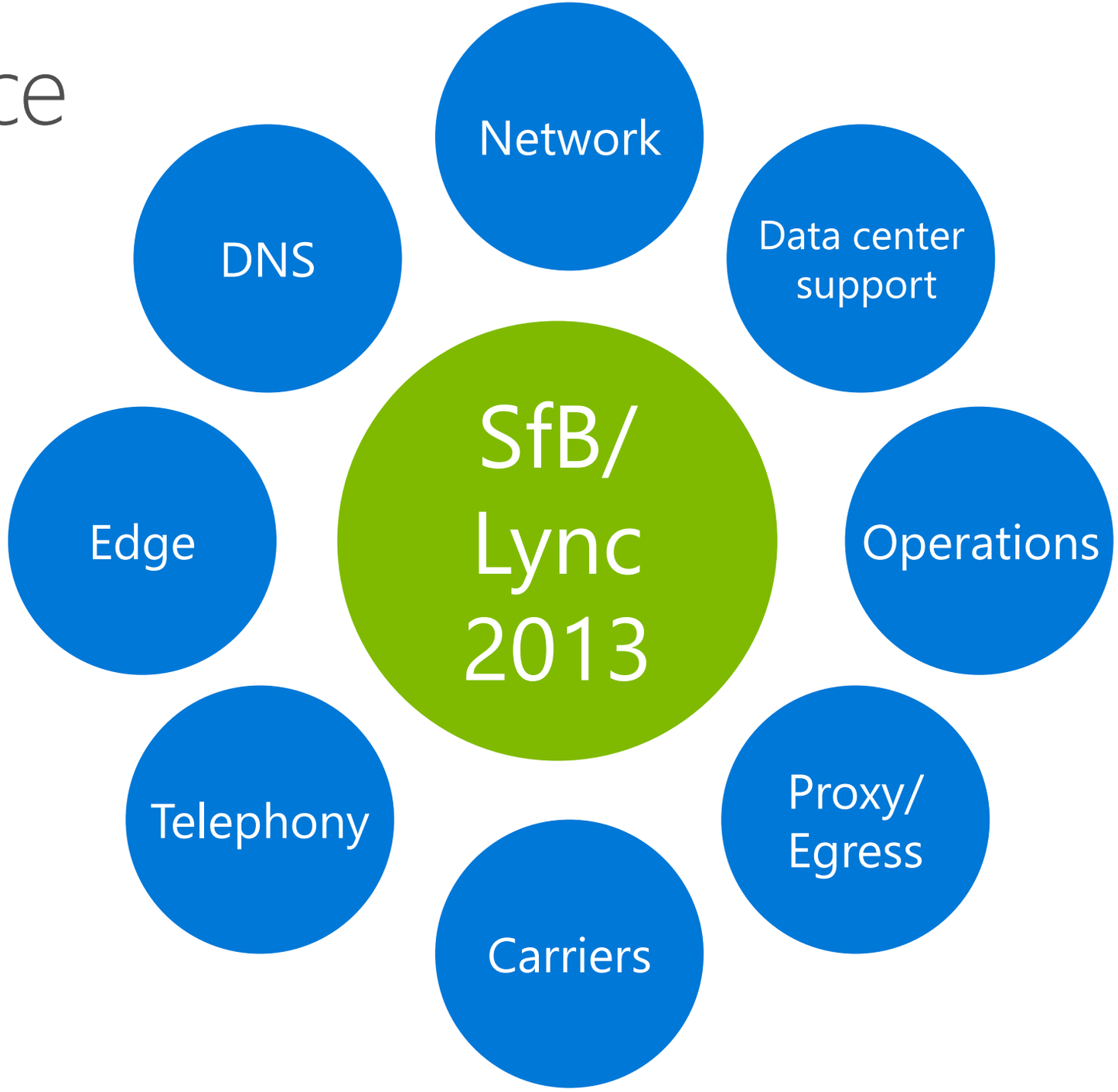
- DNS
- Proxy/Egress
- Network
- Hardware

Refer to the SfB/Lync deployment guide for more detailed information on these interdependencies.

Interdependencies and capacity planning

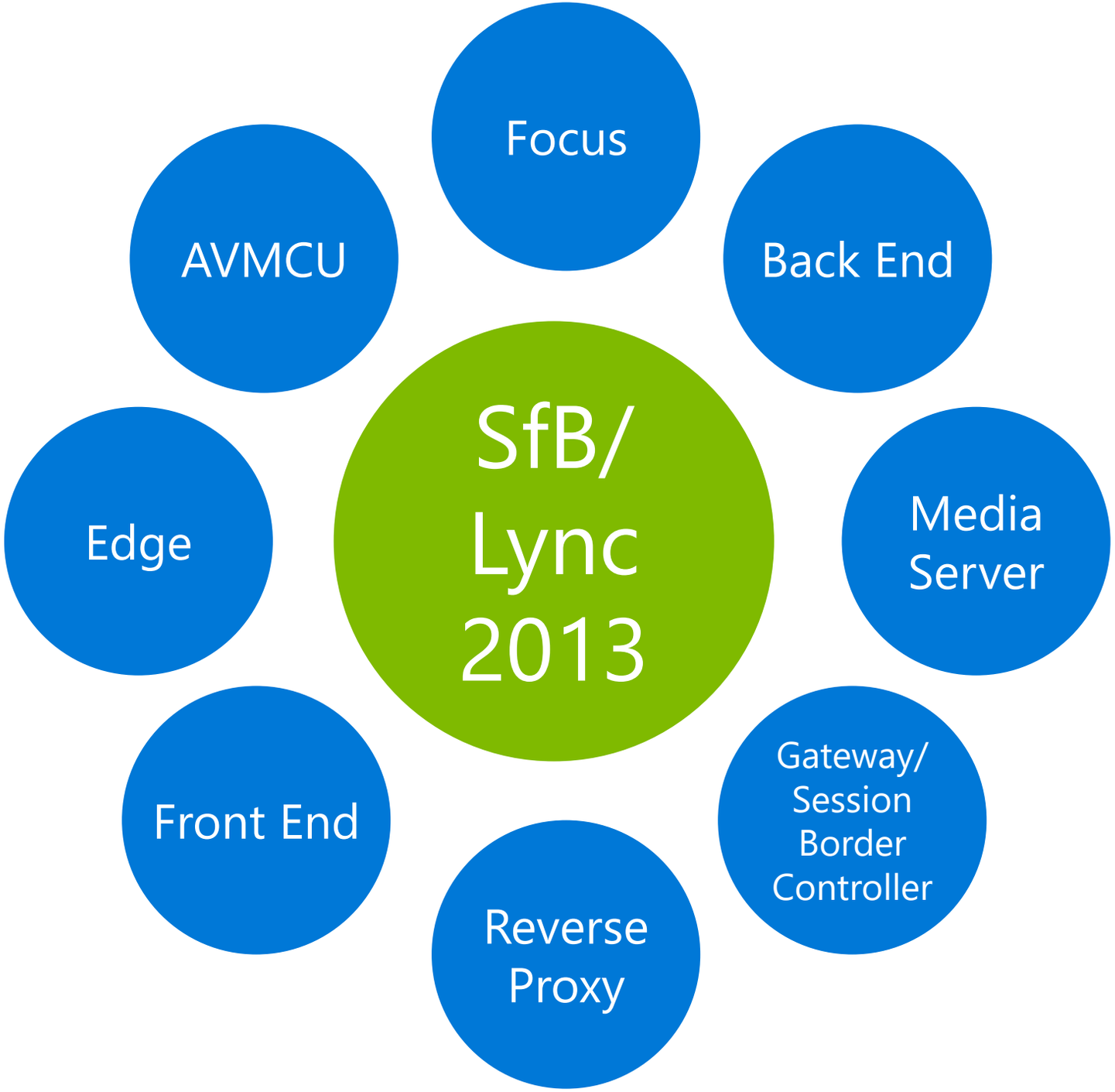
- Circle of influence
- Optimizing the corporate network
- Components of SfB/Lync infrastructure
- A/V and Web conferencing data flow

Circle of influence

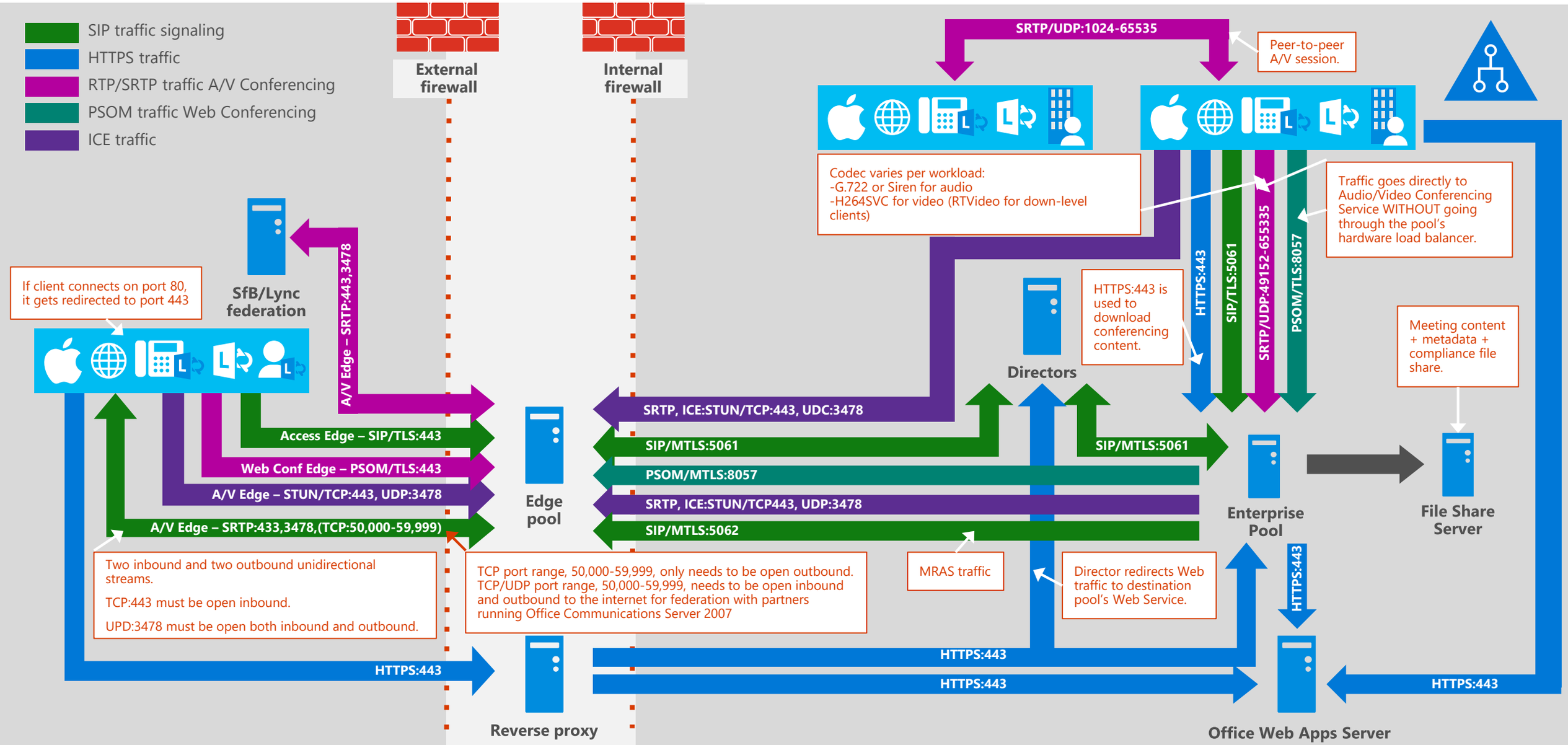


Optimizing the corporate network

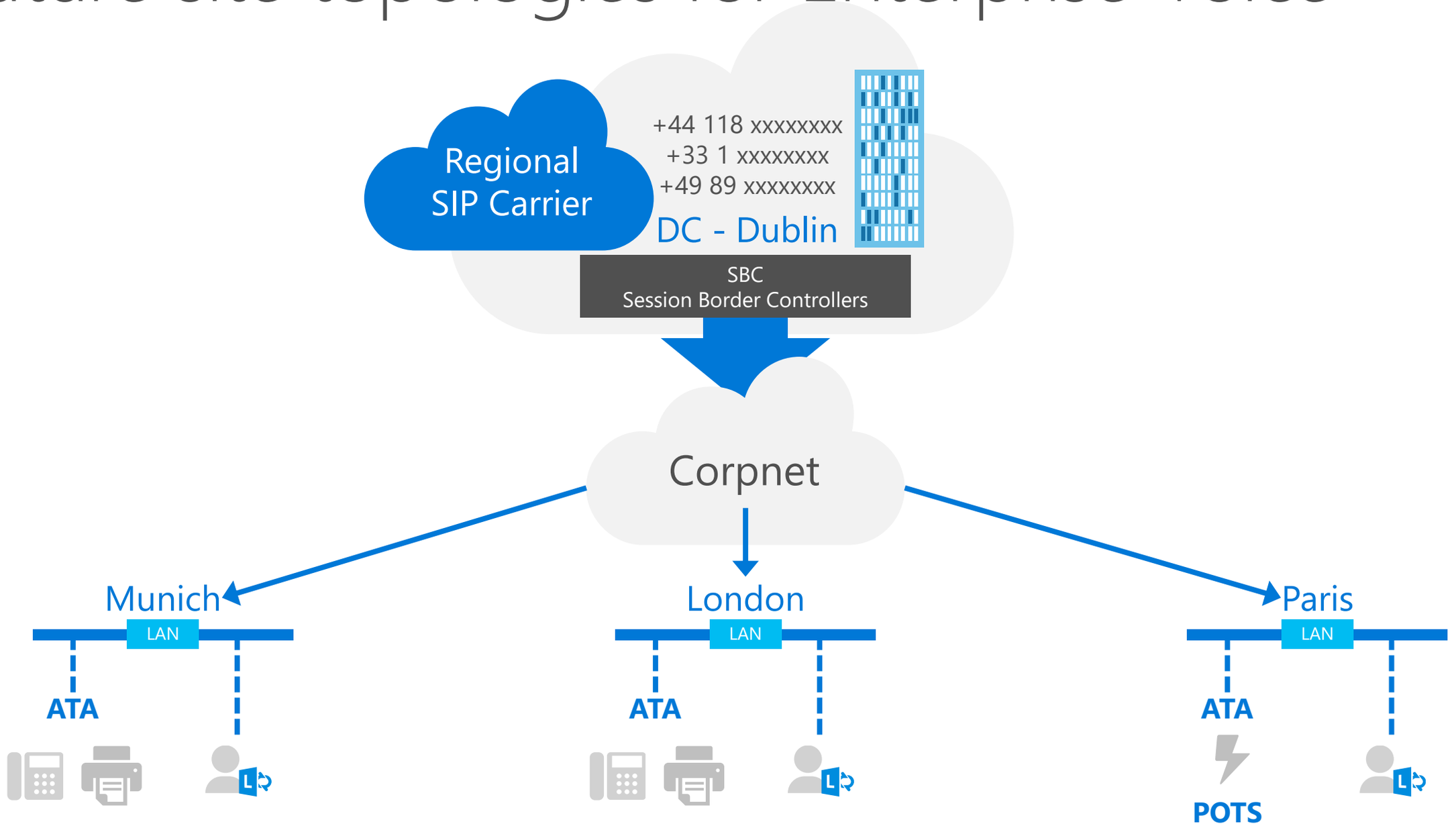
Components of SfB/Lync infrastructure



A/V and Web conferencing data flow



Future site topologies for Enterprise Voice



Summary

The planning process is used to identify interdependencies and capacity demand. This part of the process is critical to success of your deployment. During the planning phase, be sure to identify your circle of influence in order to plan effectively.

Security

Security at the edge

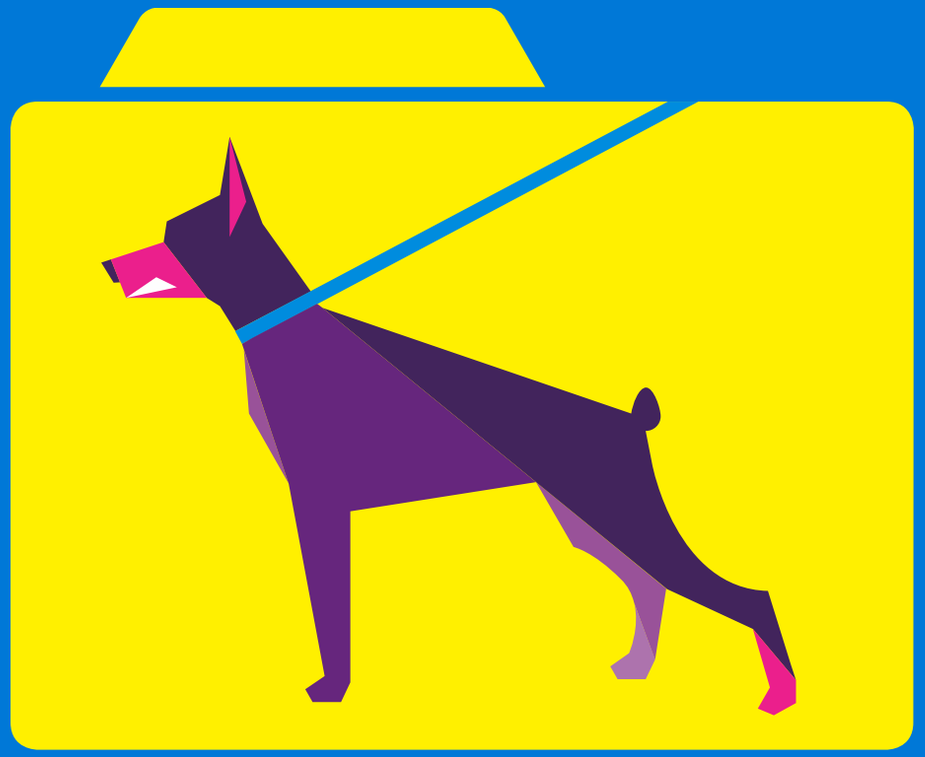
Security strategy

TLS/MTLS – traffic protection

Security strategy

Security strategy resolves around how to address:

- SPIM, viruses, worms, malware, and adware
- Disclosure of corporate directory
- PIC and federation trust
- Internal policy compliance
- Regulatory compliance
- Notifications/disclaimers
- Protecting PII, especially if archiving
- Intellectual property leaks
- Host intrusion attacks



TLS/MTLS – Traffic protection

Traffic type	Protected by
Server-to-server	MTLS
Client-to-server	TLS
Instant messaging and presence	TLS (if configured for TLS)
Audio and video, and desktop sharing of media	SRTP
Desktop sharing (signaling)	TLS
Web conferencing	TLS
Meeting content download, address book download, and distribution group expansion	HTTPS

Summary

As you build your Skype for Business infrastructure, you must take into account the security needs of your business. A solid security strategy is critical!

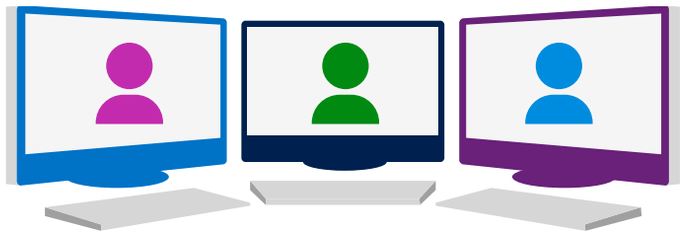
Operations and support

Microsoft support environment

Top architecture support challenges

Microsoft support environment

Client and User	Server and Core
IT Tier 1	Service Ops
IT Tier 2	Incident Management
IT Tier 3	Engineering Ops
IT Service Management	SSE Problem Management
IT Service Engineering	SSE Service Engineering



Underlying Support Teams – Help Desk, Telecom support, Network, DNS, Server Ops, Data Center

Top architecture support challenges

- Configuration drift
- Server-side service failures
- Firewall changes
- GPO changes
- Dogfood environments
- Client versioning
- Monitoring

Summary

In supporting your architecture, be sure that you know your dependencies and identify the support structure necessary for your service.

Microsoft IT best practices

Microsoft IT best practices

Microsoft IT best practices

What	Design/deploy the right architecture for your environment
Why	Provide dependable and reliable collaboration services
How	• Know your dependencies • Know your circle of influence • Capacity and Business Continuity Disaster Recovery (BCDR) Plan • Tools in your toolbox

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Appendix

Cost framework (FY10)

Enterprise voice data flow

Application sharing data flow

Current site topology for enterprise voice

Cost framework (FY10)

Deployment costs of Office Communications Server

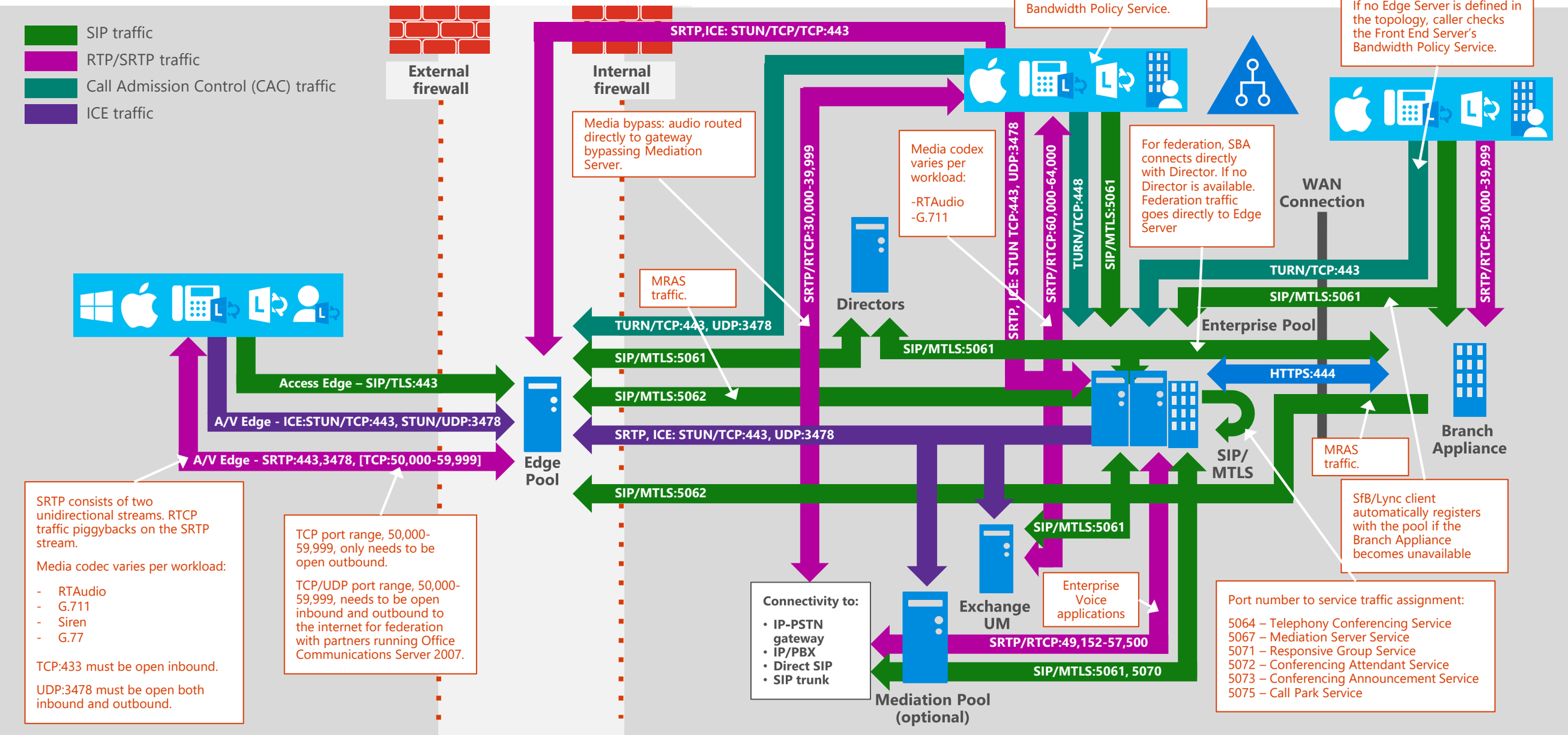
	Year one	Year two	Year three
Infrastructure hardware(server and gateway)	3,000,000	500,000	500,000
Phone devices	12,600,000	2,000,000	2,000,000
Software and services	14,150,000	14,150,000	14,150,000
Migration and deployment	900,000	100,000	100,000
Total cost	30,650,000	16,750,000	16,750,000

Deployment costs of Exchange Server Unified Messaging

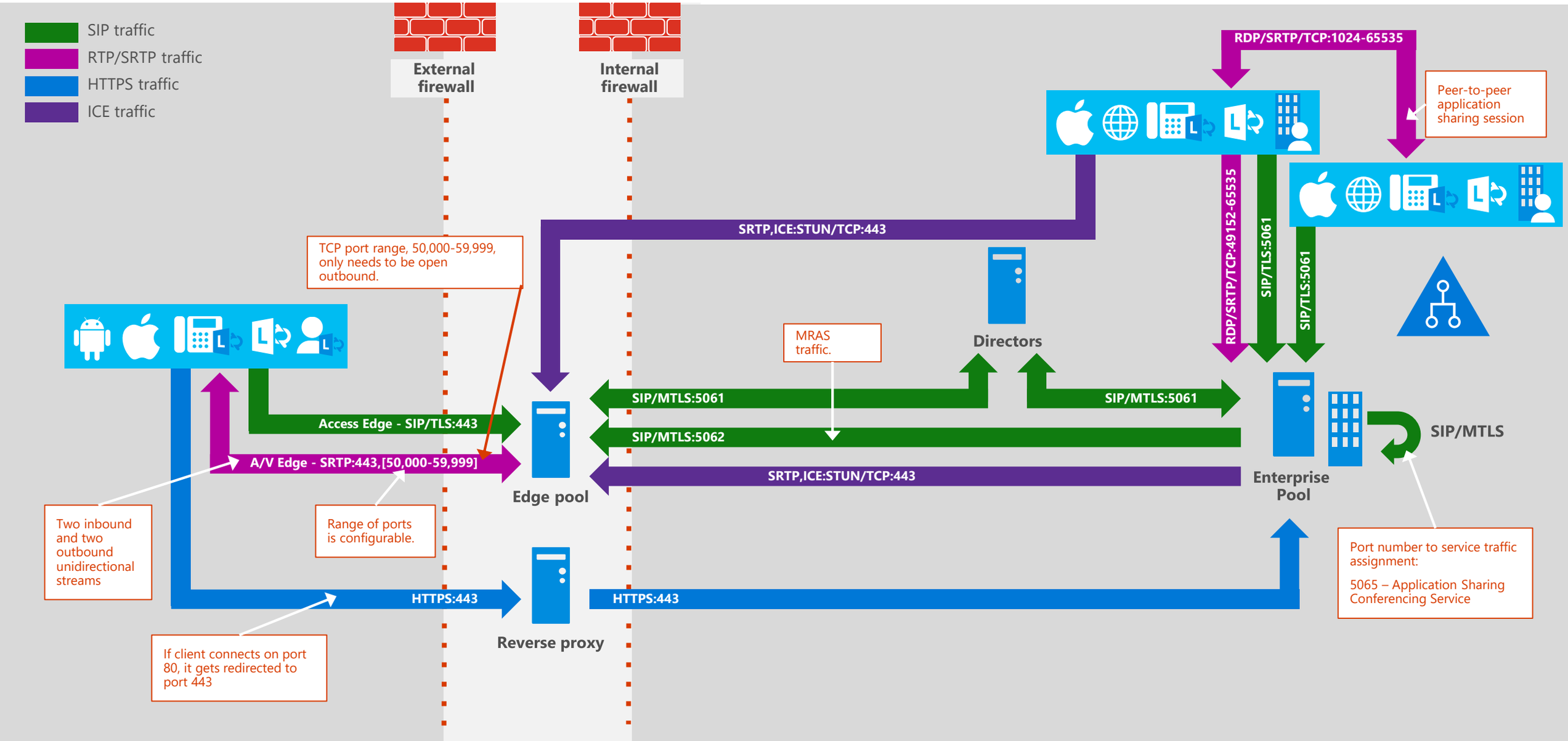
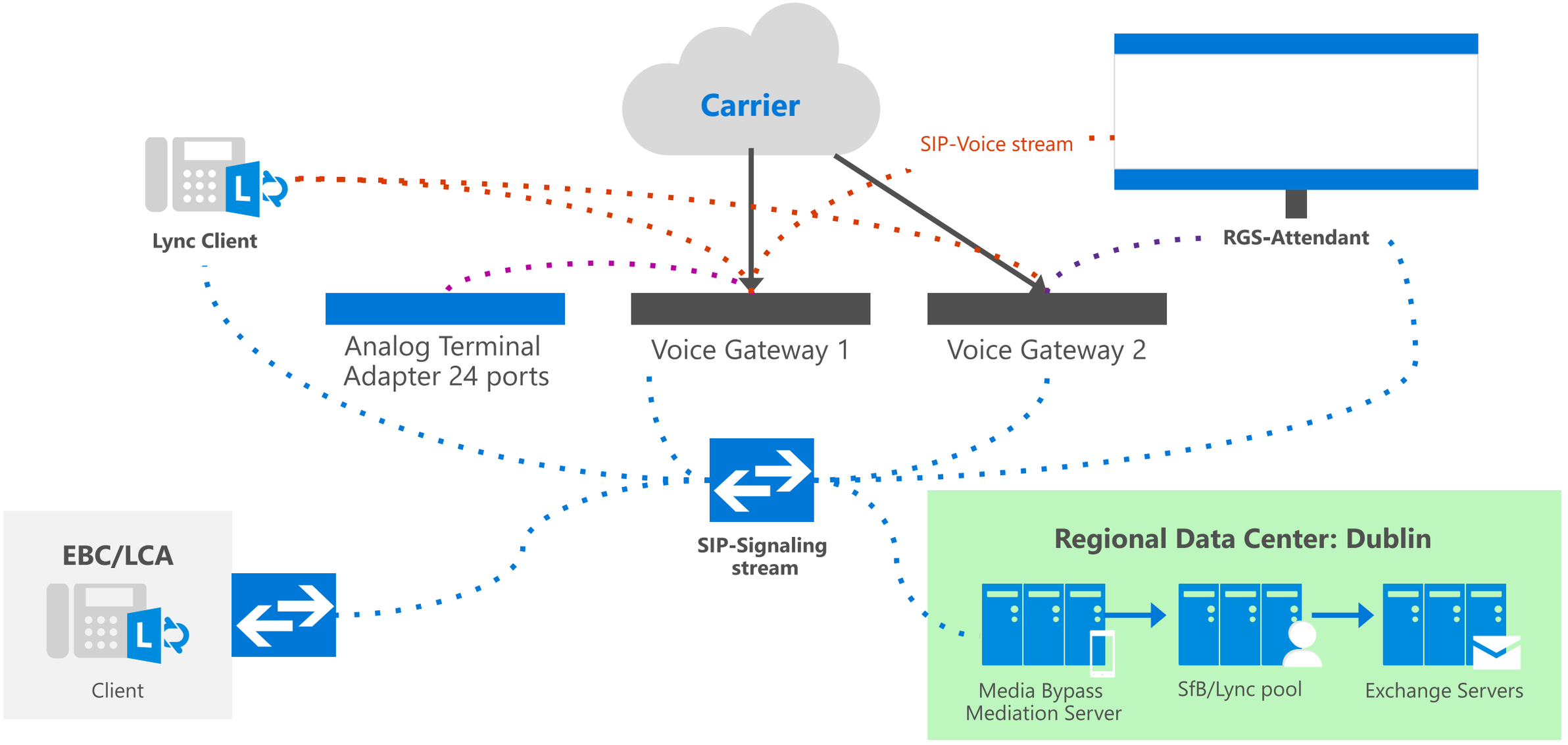
	Year one	Year two	Year three
Server hardware	520,800	Not applicable	Not applicable
Software and services	2,610,000	2,610,000	2,610,000
Migration and deployment	260,000	Not applicable	Not applicable
Total cost	3,390,800	2,610,000	2,610,000

* Microsoft IT estimated these costs specifically for the Office Communications Server 2007 R2 and Exchange Server 2010 Unified Messaging deployment.

Enterprise Voice data flow



Application sharing data flow



Current site topology for Enterprise Voice