



Enterprise Voice

Microsoft IT Showcase Course

Get ready to be what's next.

Agenda



Deployment overview
Enterprise Voice deployment
Best practices

Deployment overview



Microsoft Skype for Business
(SfB)/Lync environment

Deployment overview

MSIT production topology Lync 2013

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

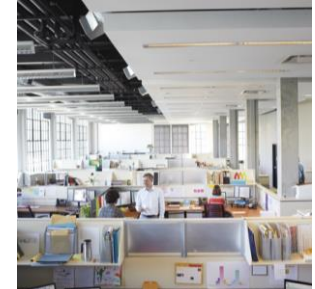
16,000+
federated
companies



120 Million
monthly
instant
messages



89%
meetings
using app
sharing



44,000
monthly
peer-to-peer
video calls

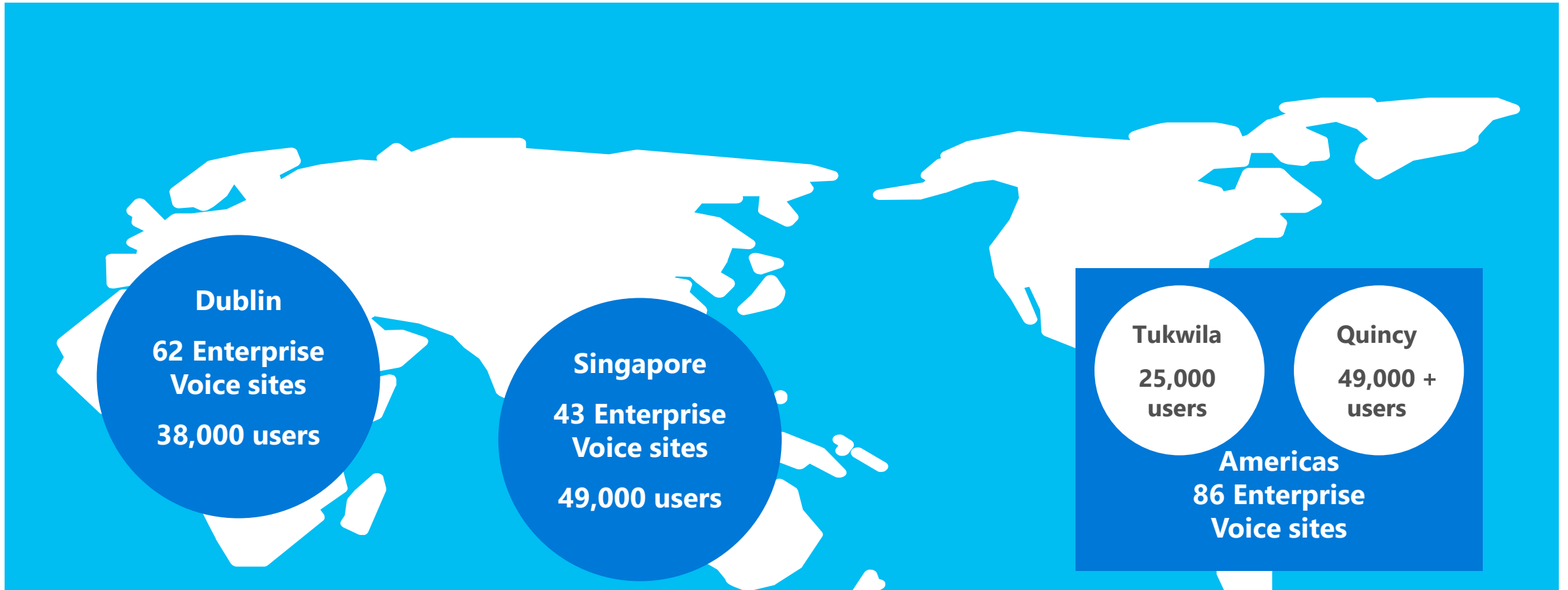
50%
remote
SfB/Lync
usage



90,000
unique active
SfB/Lync
mobile users

10,000 +
conference
rooms

SfB/Lync deployment overview

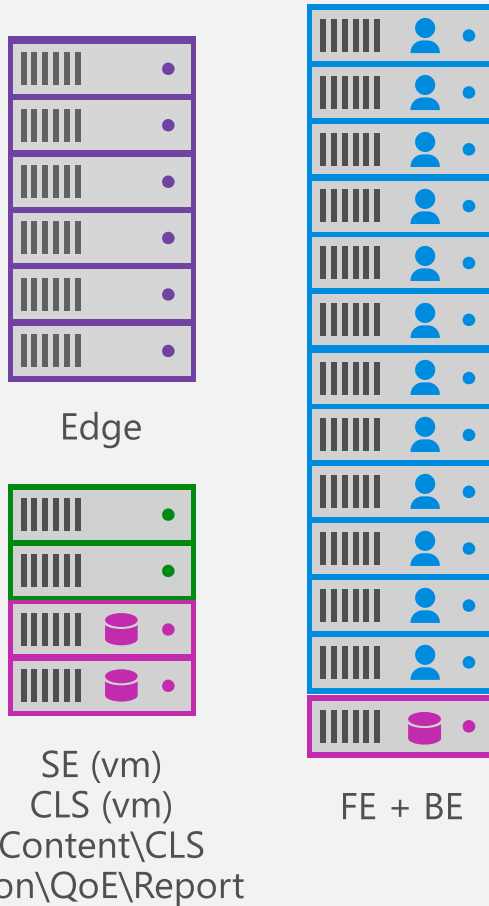


131,000+ users on Enterprise Voice across 191 sites
(95 percent of Microsoft Employees)

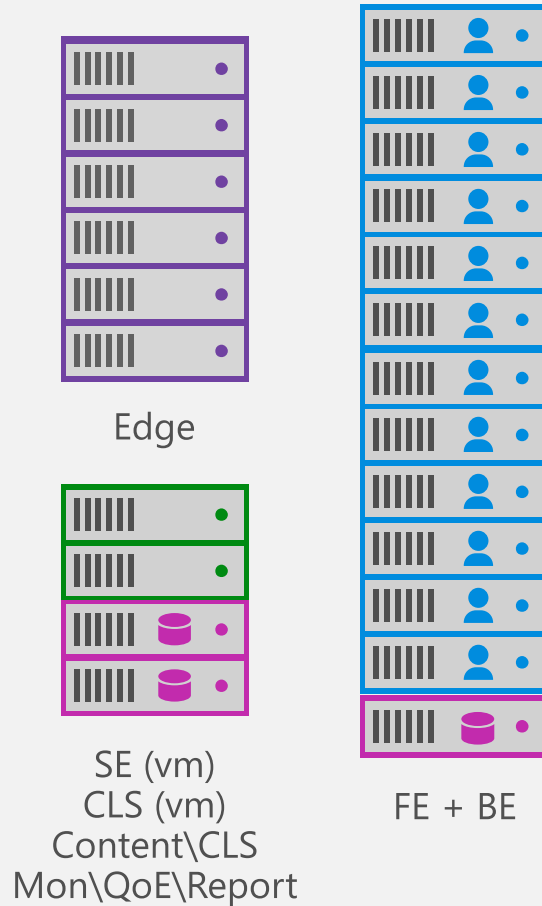
200,000 users enabled for SfB/Lync 2013; 165,000 unique users monthly;
650,000 daily login events

MSIT production topology 2013

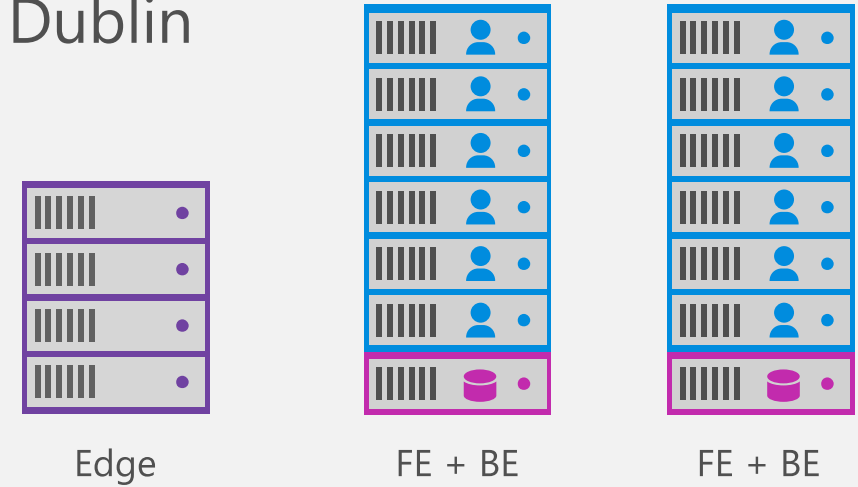
Tukwila



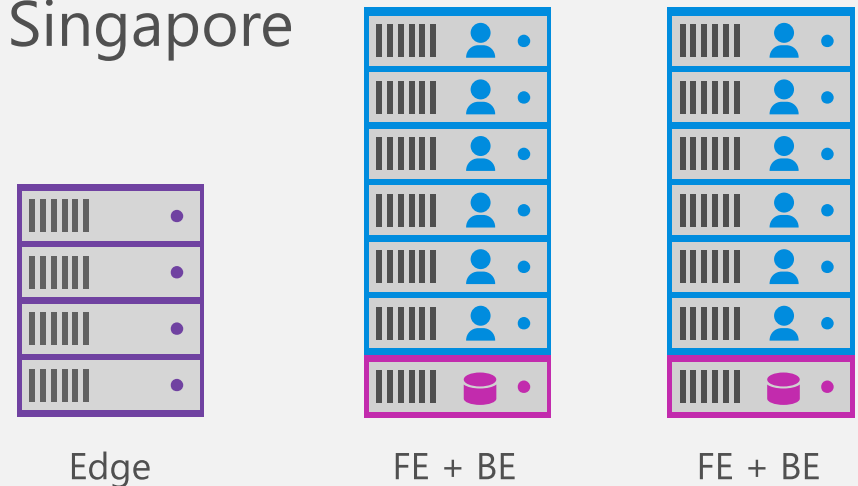
Quincy



Dublin



Singapore



Summary

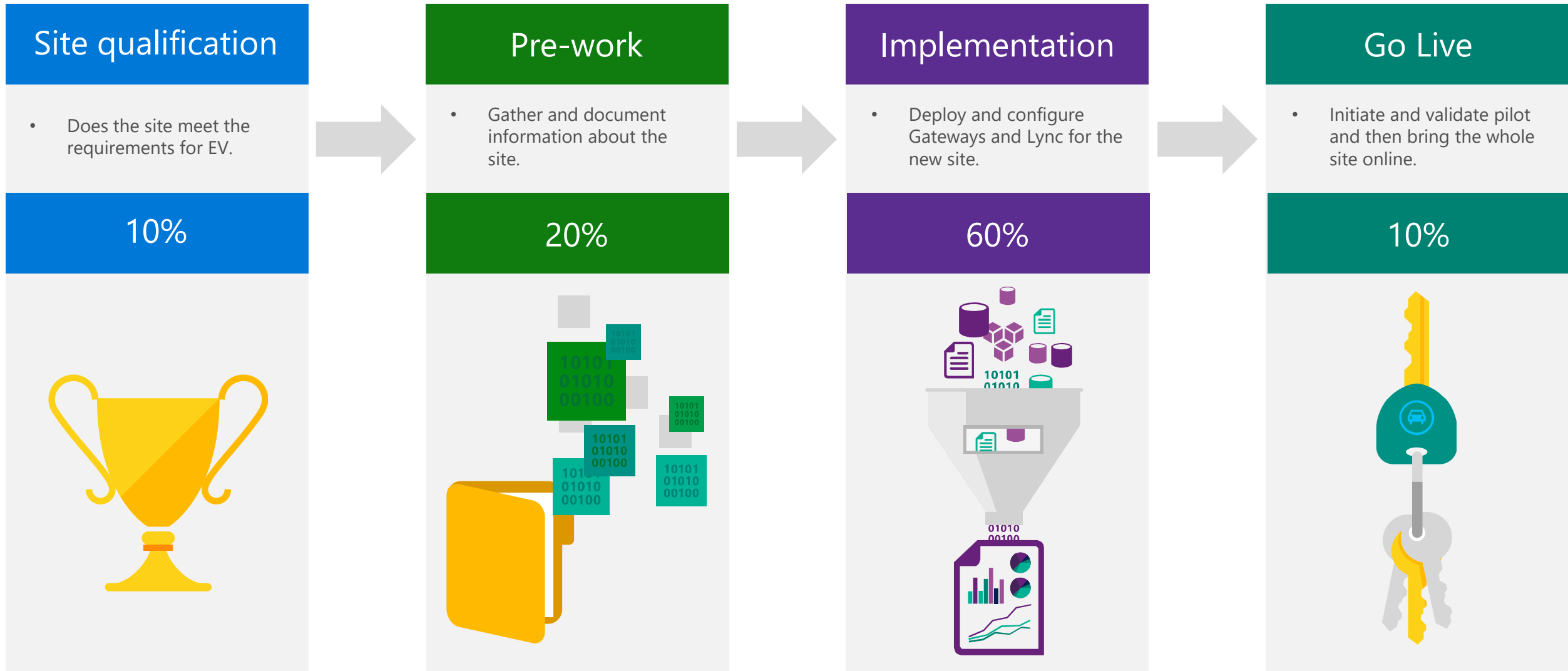
Deploying Enterprise Voice relies on multiple factors: infrastructure, demand, and network.

Enterprise Voice deployment

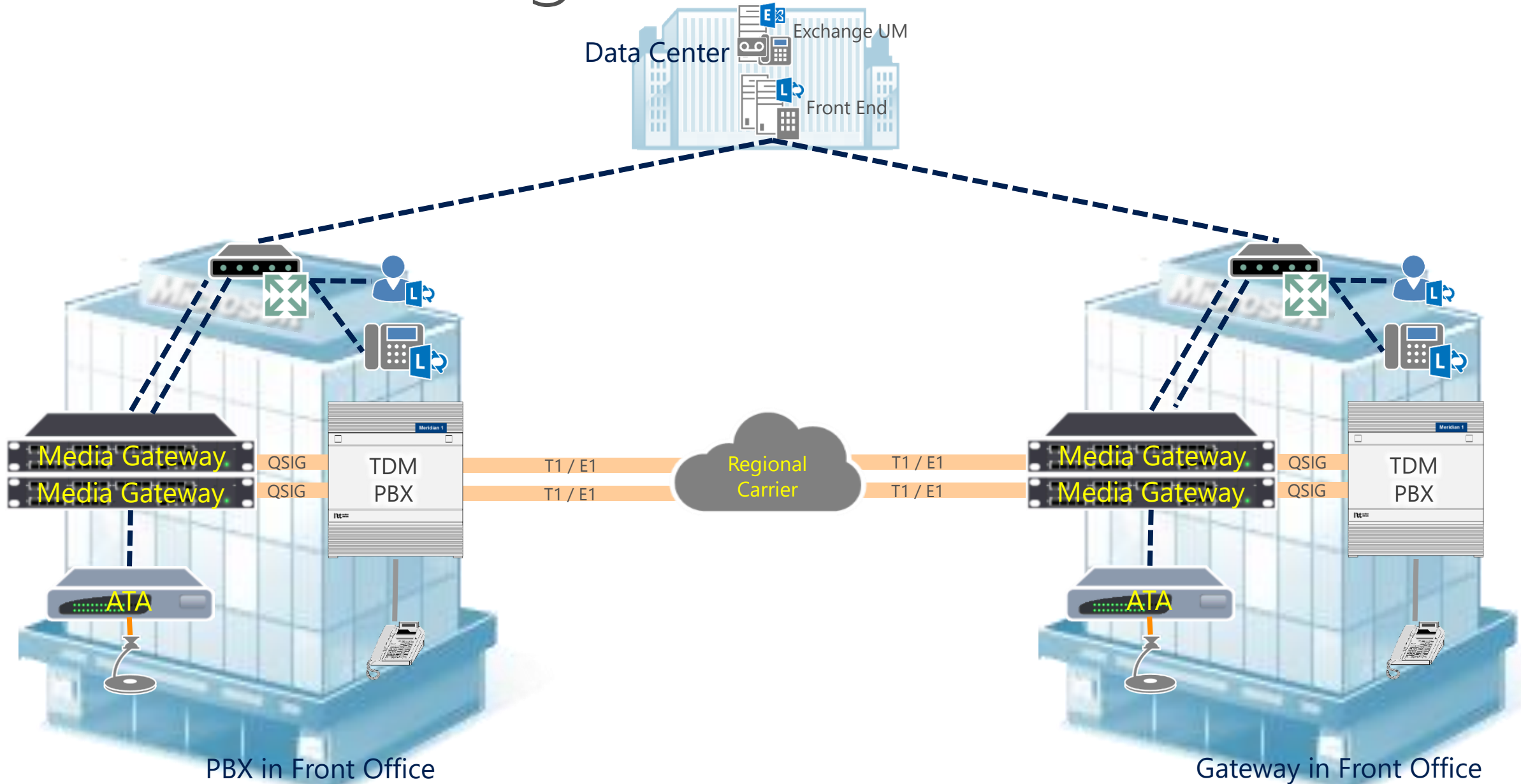


Deployment stage overview
Standard site design
SIP trunk site design

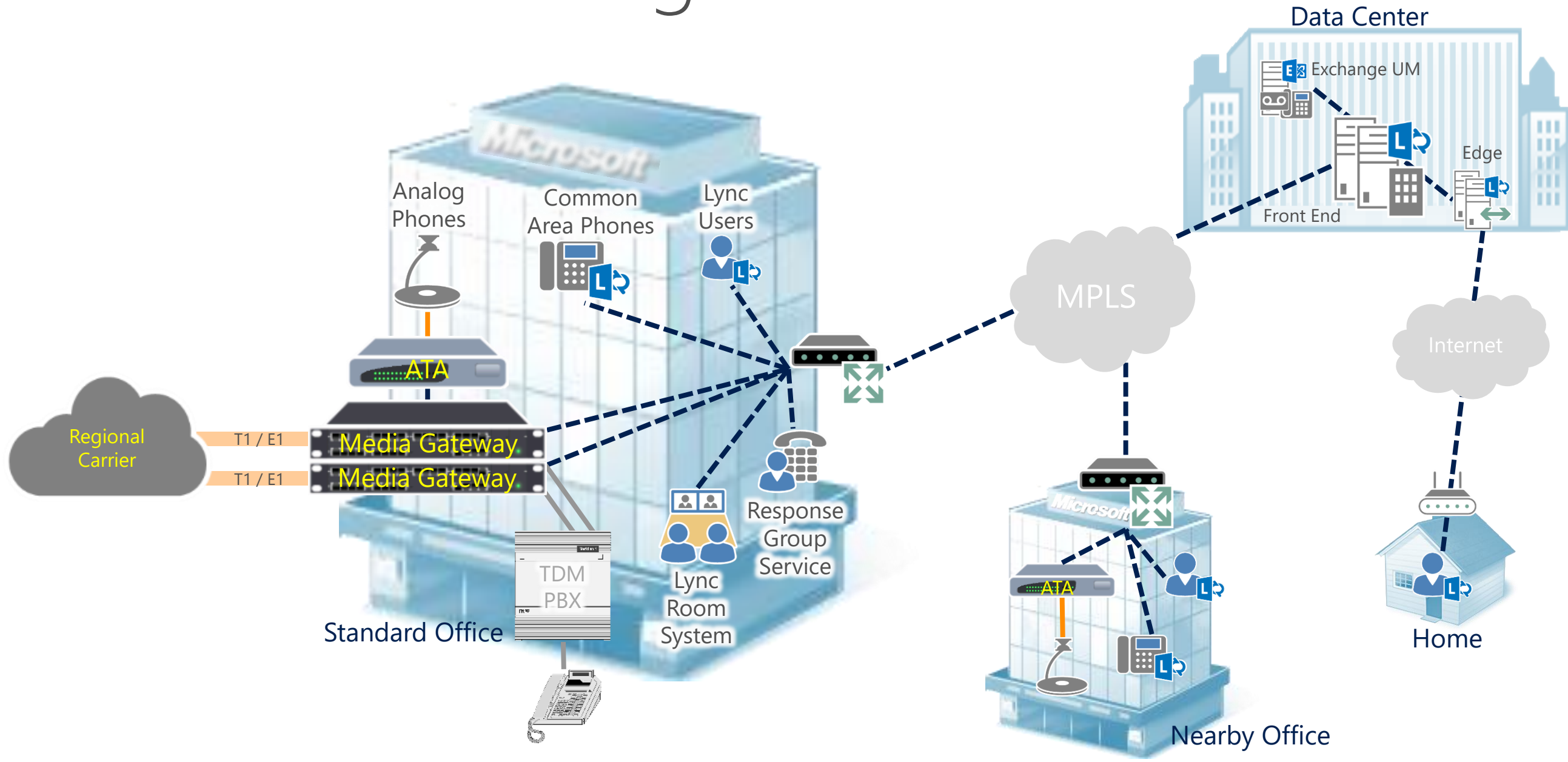
Overview of the deployment stages



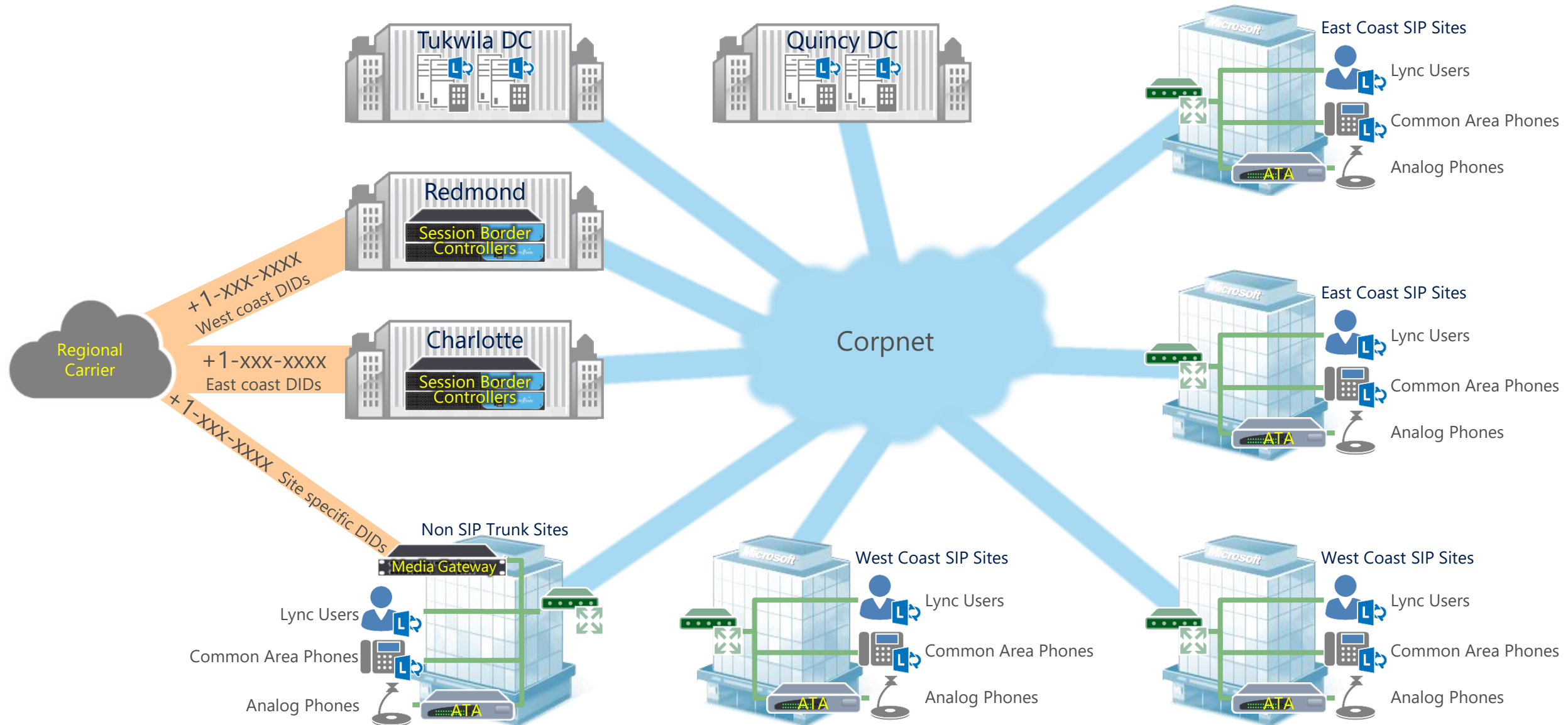
The diagram illustrates a Unified Communications Network Architecture. At the top, a **Data Center** contains **Exchange UM** and **Front End** components. Below the Data Center, two **Front Office** configurations are shown, connected to the Data Center via a dashed blue line. The left configuration is labeled **PBX in Front Office** and includes a **Media Gateway**, a **TDM PBX**, and an **ATA** (Analog Telephone Adapter). The right configuration is labeled **Gateway in Front Office** and includes a **Media Gateway**, a **TDM PBX**, and an **ATA**. Both configurations are connected to a central **Regional Carrier** cloud via **T1 / E1** lines. The **Media Gateway** components are connected to the **TDM PBX** components via **QSIG** lines. The **ATA** components are connected to the **Media Gateway** components via dashed blue lines. The **Media Gateway** components are also connected to the **Front Office** components via dashed blue lines.



Standard site design



US SIP trunk site design



Summary

In deploying Enterprise Voice, carefully design based on your goals, environment and regional regulatory conditions.

Enterprise Voice best practices



Microsoft IT best practices

Microsoft IT best practices

Install gateway in front for easy PBX decommission

Fax, modems → migrate to POTs line if possible

Network Considerations

- Greater than 30% spare capacity in WAN
- WAN/LAN must support and be configured for QoS
- Voice queue is set at 24% on all WAN links

	Green	Yellow	Red
AVG Packet Loss Rate	4%	> 4 to 5%	>5%
AVG Round Trip (ms) (Between end point to Datacenter)	<200	201 to 250	>251
AVG Jitter Inter Arrival (ms)	<4	> 4 to 5	>5



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