Microsoft

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Modernize Communications with
Microsoft Teams Direct Routing

Brio Technologies Private Limited

Agenda

- ❑ What is it
- ❑ Overview
- ❑ Benefits
- ❑ Location-based routing
- ❑ Emergency calling in Direct Routing
- ❑ Planning
- ❑ Migrating from Legacy voice solution to Direct Routing
- ❑ Health dashboard
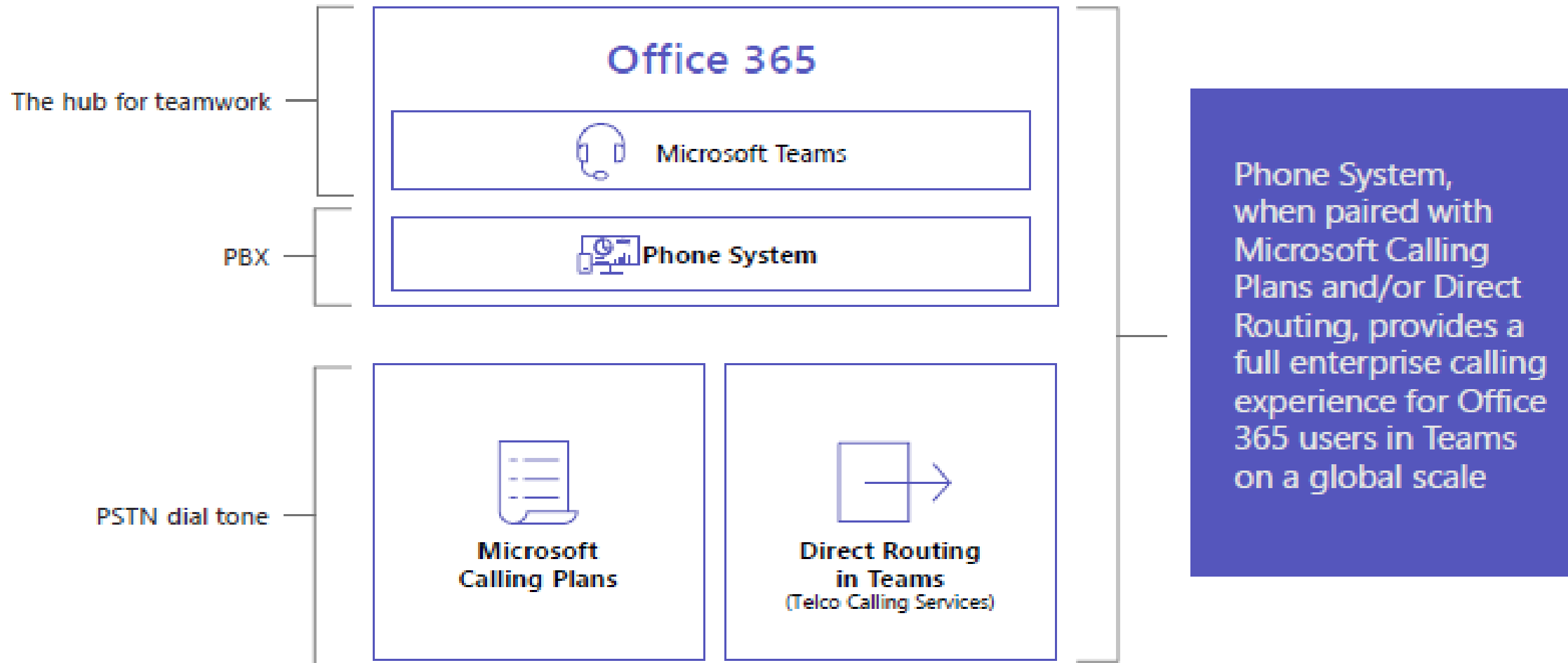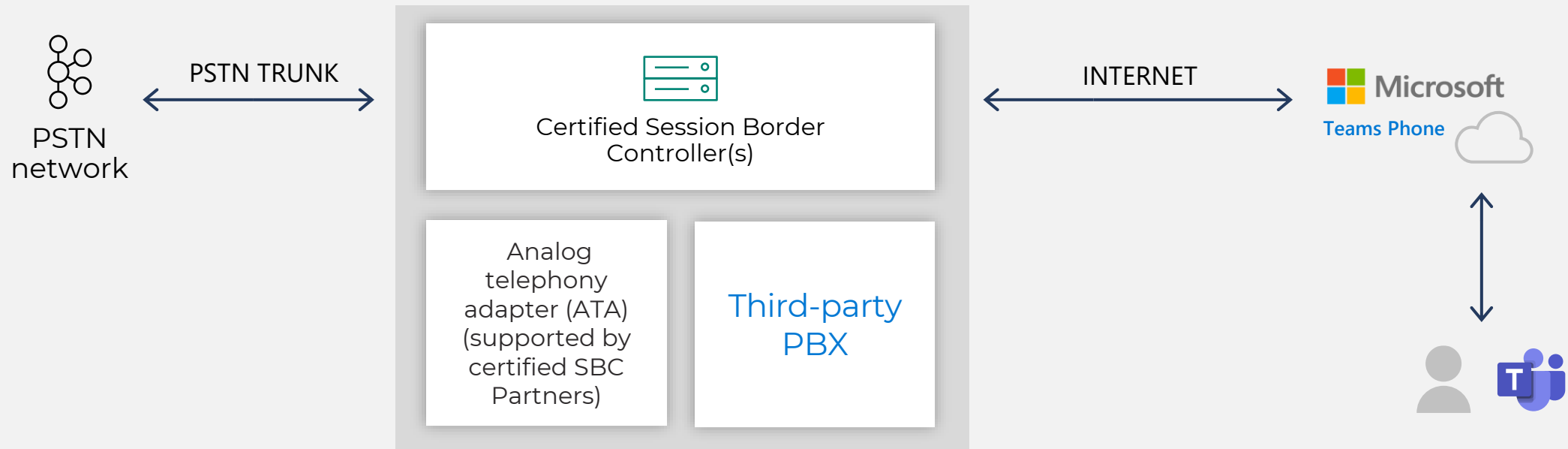- ❑ Microsoft Certified SBCs

Introduction to Direct Routing

What is Microsoft Teams Direct Routing

Microsoft phone system direct routing is **the service inside Teams that allows organizations to connect external phone lines and use Teams as an office phone system**. It gives businesses the ability to bring their existing Public Switched Telephone Network (PSTN) connection to Microsoft Teams users.

Microsoft Direct Routing Topology

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The hub for teamwork

Office 365

Microsoft Teams

PBX

Phone System

PSTN dial tone

Microsoft Calling Plans

Direct Routing in Teams
(Telco Calling Services)

Phone System, when paired with Microsoft Calling Plans and/or Direct Routing, provides a full enterprise calling experience for Office 365 users in Teams on a global scale

Overview of Direct Routing for Microsoft Teams

Connect own PSTN trunk

For countries where Microsoft Calling Plans are not available

Customers that want to keep existing telco contract

Interoperability with third-party systems

Mix two systems (for example, provide the option to connect analog devices)

Direct Routing benefits

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Interoperability with third-party systems	Leverage existing contracts with service providers	Single DID for every user
Where Calling Plans not available	Can be combined with Calling Plans	Less Hardware Footprint (compared to Skype for Business)

Location-based routing in **Teams Direct Routing**

In some countries and regions, it's illegal to bypass the Public Switched Telephone Network (PSTN) provider to decrease long-distance calling costs.

Location-based routing is a feature that lets you restrict toll bypass based on policy and the user's geographic location at the time of an inbound or outbound PSTN call.

Location-based routing is intended to provide a mechanism to prevent toll bypass.

It shouldn't be used as a mechanism to dynamically route PSTN calls based on the location of the user or unintended consequences may result.
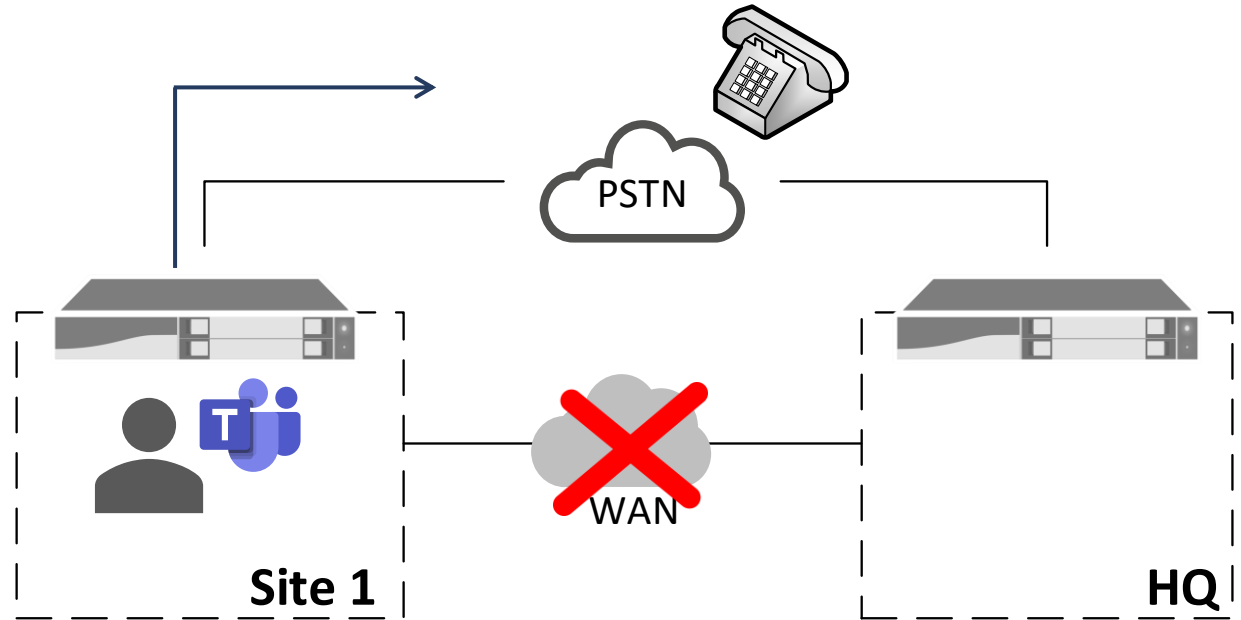
Emergency calling in Direct Routing

Route emergency calls based on the known location of the Microsoft Teams client

Call routing service included for Microsoft Calling Plan users

Direct Routing users must obtain additional service [emergency routing service providers]

Direct Routing can also leverage Emergency Location Identification Number [ELIN] gateways

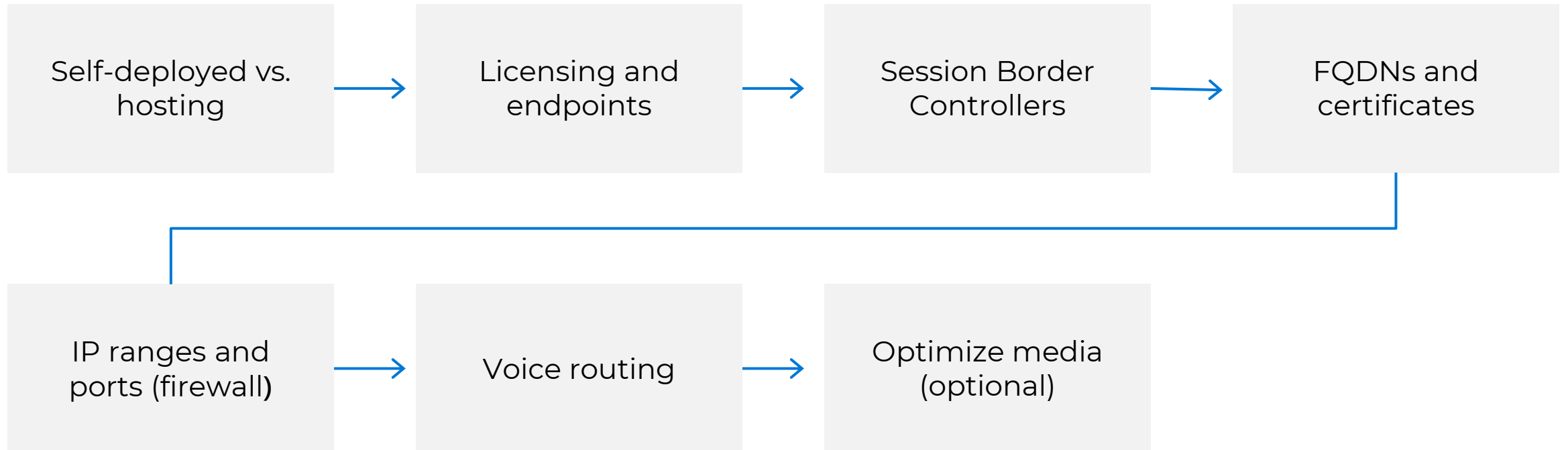**Optional:** Configure security desk notifications

Planning for Direct Routing

With Brio Solution Design Team

Planning steps

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┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ Self-deployed   │ ───► │ Licensing and   │ ───► │ Session Border  │ ───► │ FQDNs and       │
│ vs. hosting     │      │ endpoints       │      │ Controllers     │      │ certificates    │
└─────────────────┘      └─────────────────┘      └─────────────────┘      └─────────────────┘

┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ IP ranges and   │ ───► │ Voice routing   │ ───► │ Optimize media  │
│ ports (firewall)│      │                 │      │ (optional)      │
└─────────────────┘      └─────────────────┘      └─────────────────┘
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Direct Routing deployment options

Direct Routing allows for

Hosted SBC model

Multi-tenancy for scale

Customer premises model

The SBC is deployed at the customers premises

An SBC is connected only to one tenant

SBC hosting model

A carrier hosts an SBC in their datacenter / Azure

One SBC interconnected to one or many tenants

	Customer premises model	Service provider hosting model
SBC deployed	Customer premises	Carrier datacenter or Azure
SBC serves	One tenant	One tenant or multiple tenants
Certificate requirements per SBC	One	One
Number of IPs per SBC	One	One

Self-deployed vs. hosted SBC

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Direct routing allows for hosted SBC model

Allows partner to offer single or multiple SBCs with single certificate to multiple customers

Checklist for partners

Currently no certification program from Microsoft

Be sure you understand cost structure, support process, partner architecture and to test for quality

	Self deployed SBC	Partner hosted SBC
Benefits	Full control over SBC Connectivity to existing PBX	No need for purchasing, maintaining and hosting own SBC
Disadvantages	Customer responsible for SBC configuration Need to purchase, maintain and host SBC	No control over SBC configuration Support model more complex

Migrating to Direct Routing

assisted by Brio Deployment Team

Voice to Direct Routing - Migration Topology
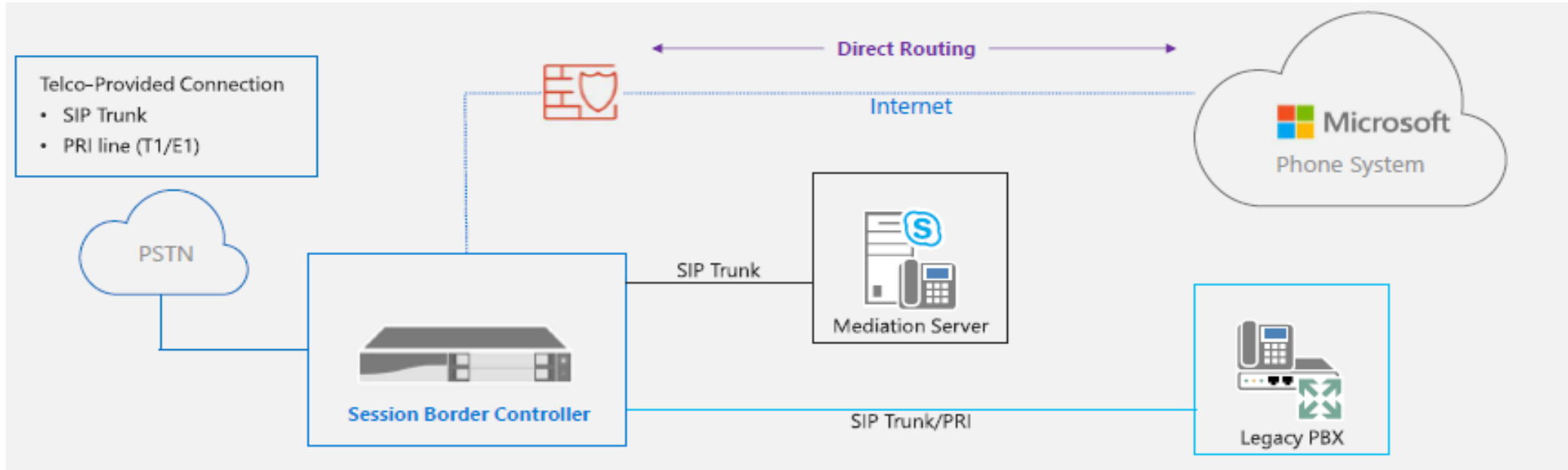
Placing the Session Border Controller (SBC) at the "front of the line"

Routing logic is anchored on the SBC

Key Requirements

Direct Routing requires the user to be Teams Only mode

A voice routing policy must be assigned to users

Allow private calling must be enabled at the tenant level for Microsoft Teams

"Telephone Number" attribute must be populated correctly in Active Directory (E164 format) when identities are synchronized

Provision user for Enterprise Voice and hosted voicemail

Direct Routing considerations

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Service numbers

Designed to handle high concurrency of calls

Call queues, auto attendant – supported through Direct Routing

Conferencing – not available through Direct Routing (except in GCC-H/DoD)

1. Dial in numbers are provided by the conferencing service (Microsoft numbers)

2. Dial back from a conference will be initiated from the conference bridge (not through Direct Routing)

Dynamic emergency calling

Available for Calling Plans and Direct Routing

Direct Routing requires additional emergency routing service provider: https://aka.ms/dr-sbc

See https://aka.ms/TeamsAcademy for deep-dive session

Direct Routing is supported in Microsoft Teams

Licensing and endpoints

Licensing

Microsoft Teams Phone

Microsoft Teams + Skype for Business Plan 2, if included in licensing

Microsoft Audio Conferencing*

1. Required for adding external participants to scheduled meetings (dial in/dial out)

2. Ad-hoc conferencing behavior dictated by this license

Endpoint support
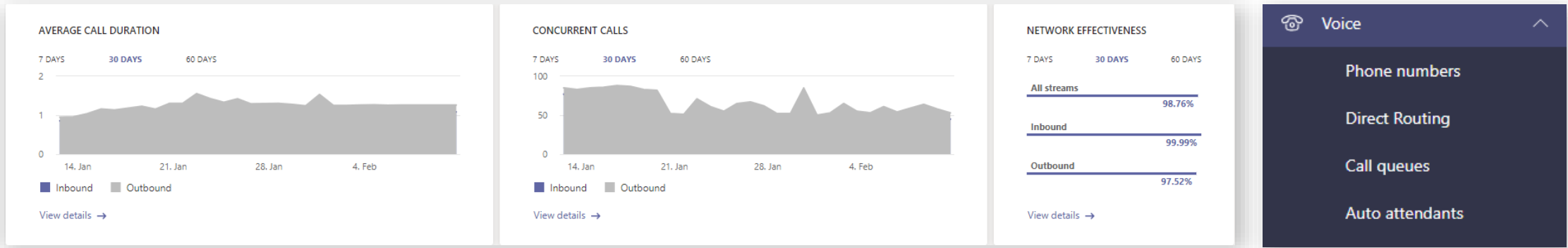
Any Teams client

Common area phones

Skype for Business 3PIP phones (https://aka.ms/3pip for limitations)

* GCC High or DoD - We recommend that you do not assign Audio Conferencing licences with Direct Routing to users until you set up dial-in phone numbers as outlined in this article. Audio Conferencing with Direct Routing, GCCH and DoD - Microsoft Teams | Microsoft Docs

Direct Routing: Health dashboard

Tenants that have Direct Routing configured have basic health parameters widgets on "Microsoft Teams dashboard"

Details can be accessed from the "View details" on widgets or in menu – "Voice" -> "Direct Routing"

Details page has overall status of all SBCs connected with option to drill down further on each SBC

Build Direct Routing with …

Microsoft certified SBCs from certain vendors that can be used for Direct Routing and its capabilities

Thank you.