

What is Direct Routing



Microsoft Teams PSTN connectivity using Direct Routing

What is Direct Routing?

A capability of Phone System to connect Microsoft Teams to PSTN or 3rd party on-prem infrastructure



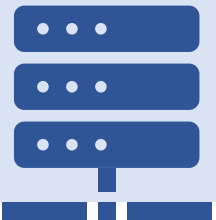
單純使用Teams
只要放置gateway來連接
雲端的O365 Teams server
和地端的交換機即可

Connect to local PSTN trunk

For countries where Microsoft Calling plans are not available
Customers that want to keep existing telco contract

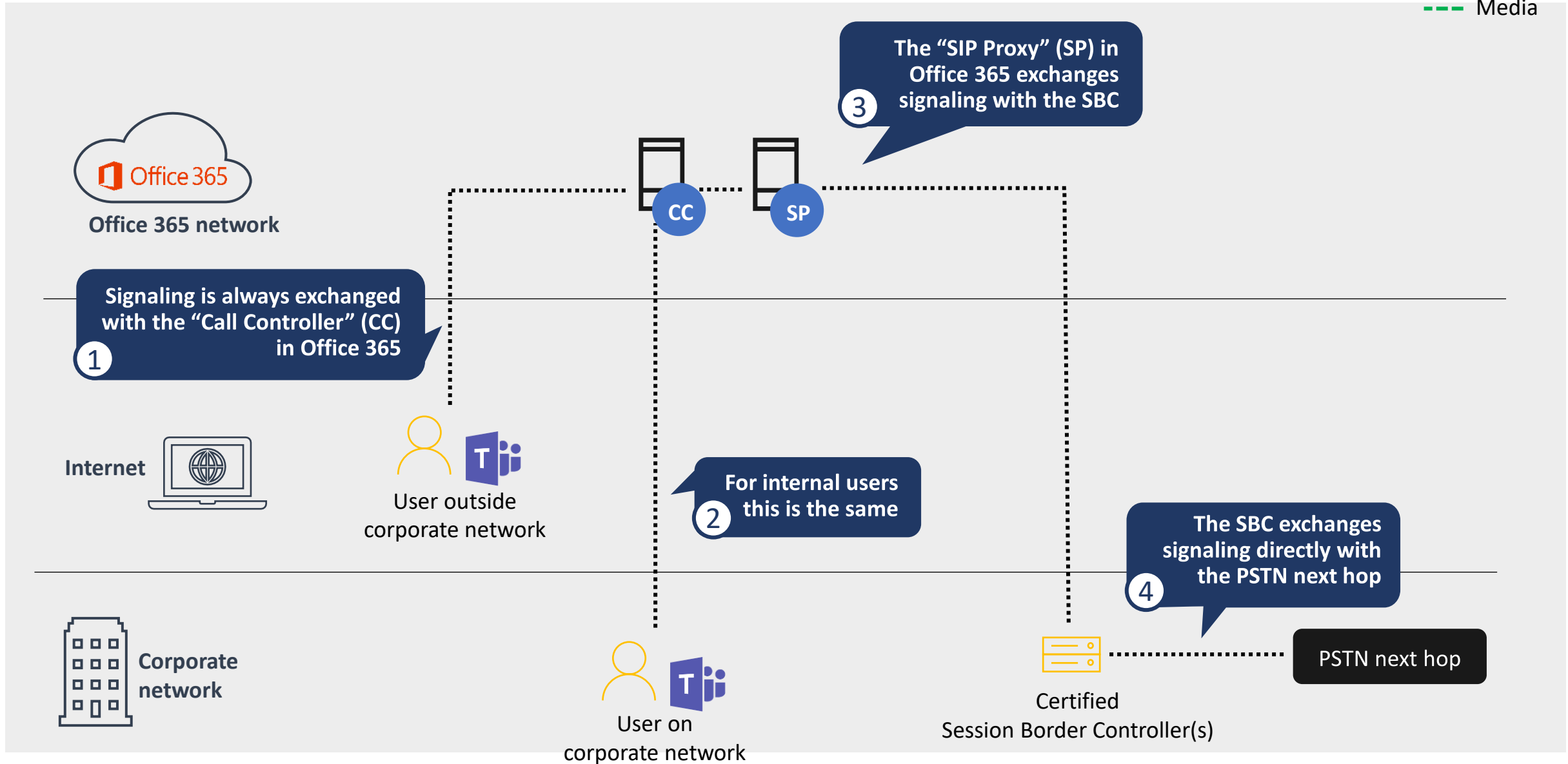
Interoperability with third-party systems

Mix two systems (for example, provide the option to connect analog devices), legacy PBX / IP PBX



Signaling

..... Signaling
- - - - Media



Media Components

..... Signaling
- - - - Media



The Transport Relay (TR) relays real time media if a direct connection is not possible. TRs are deployed worldwide not only in main datacenters.

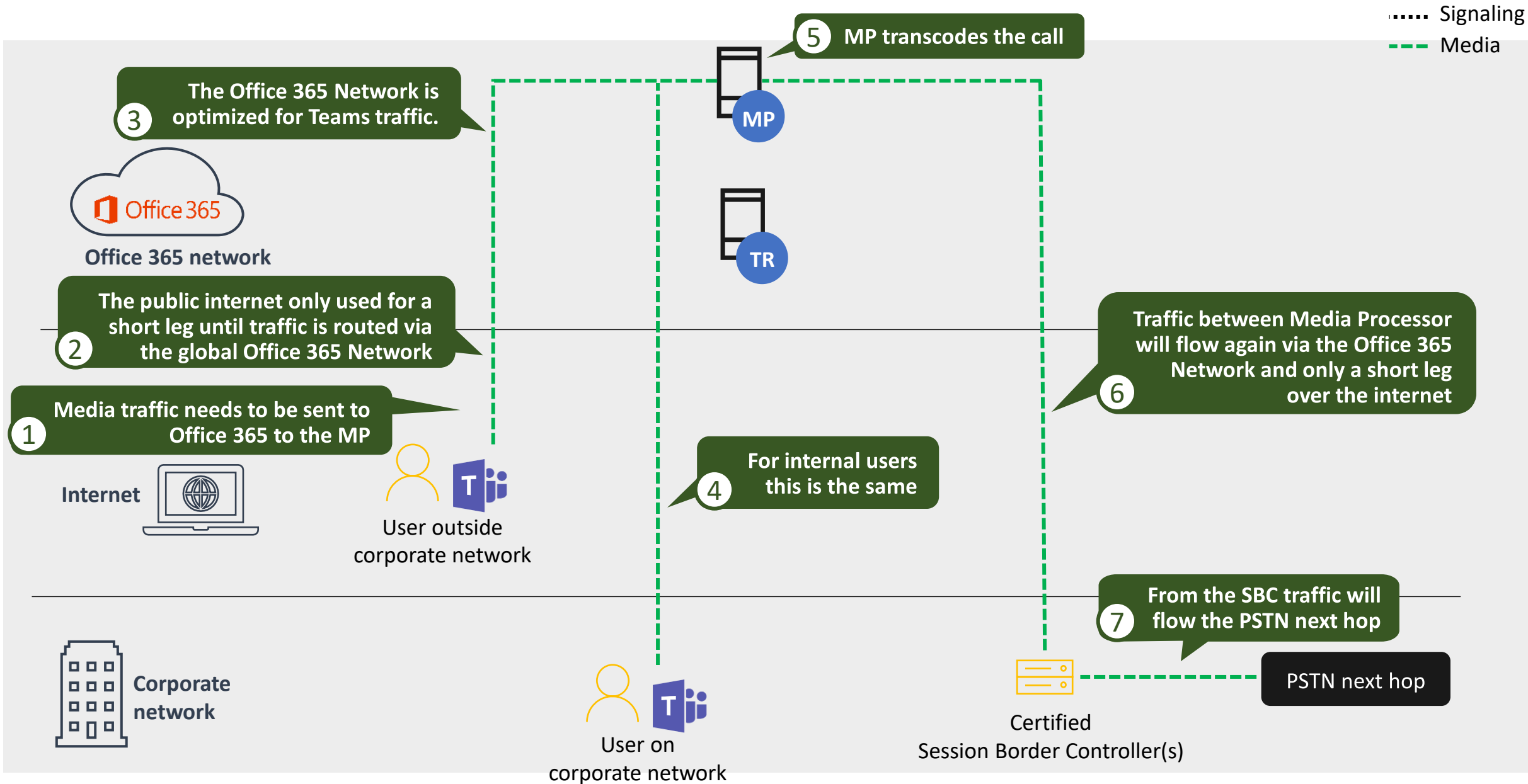


The Media Processor (MP) transcodes media from one codec to another. MPs are located in North America, Europe and APAC and Japan datacenters.



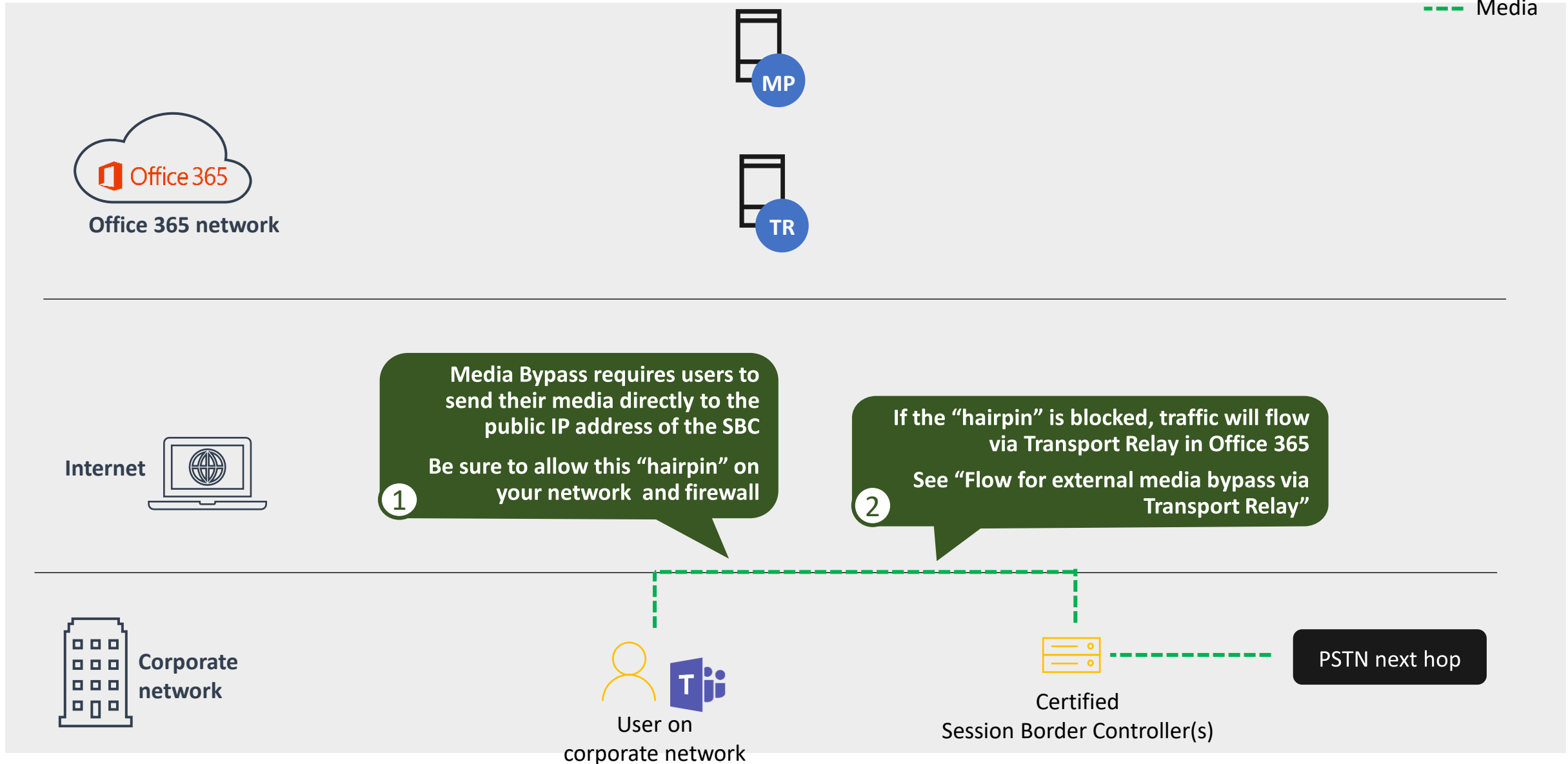
PSTN next hop

Media (no media bypass)



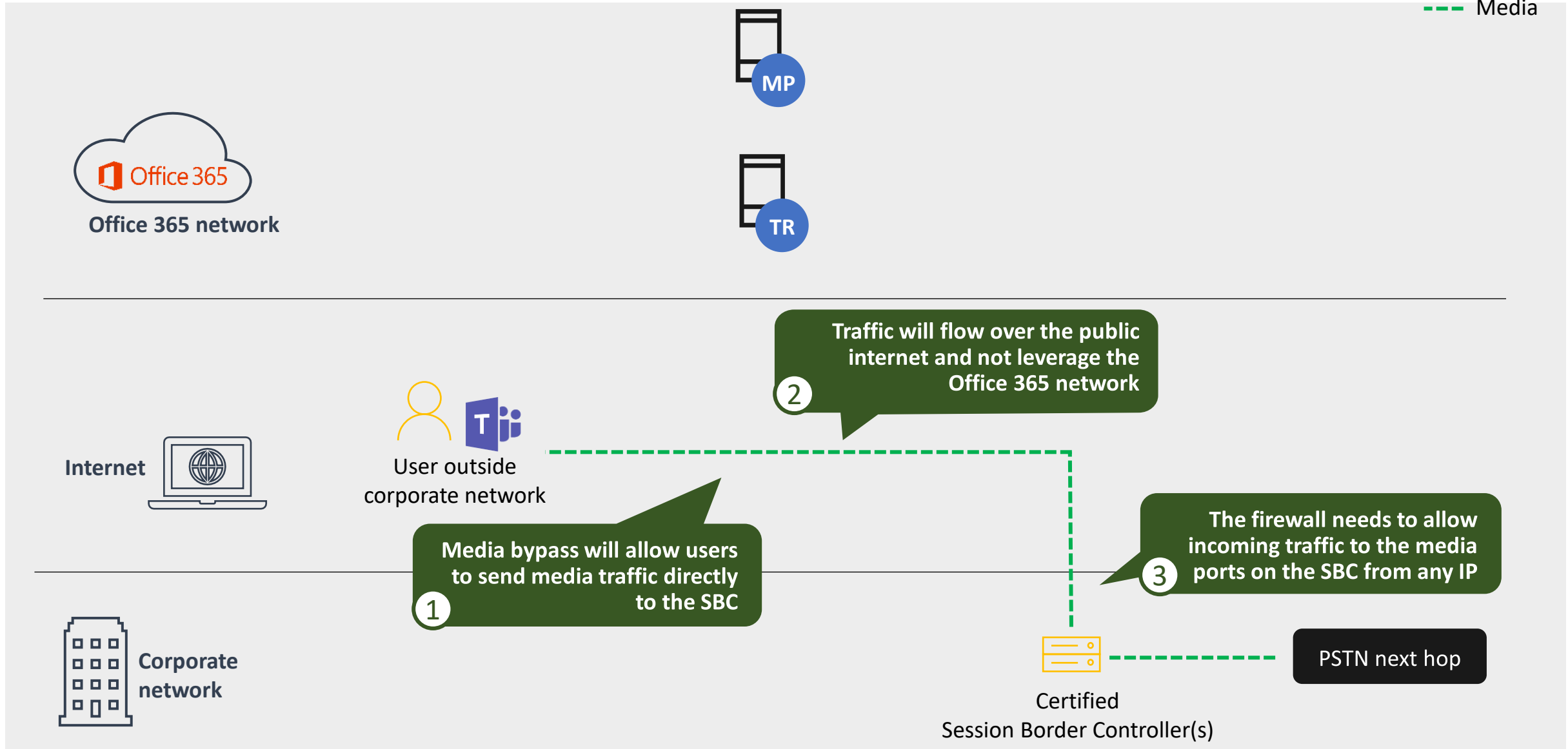
Internal Media Bypass

..... Signaling
- - - - Media



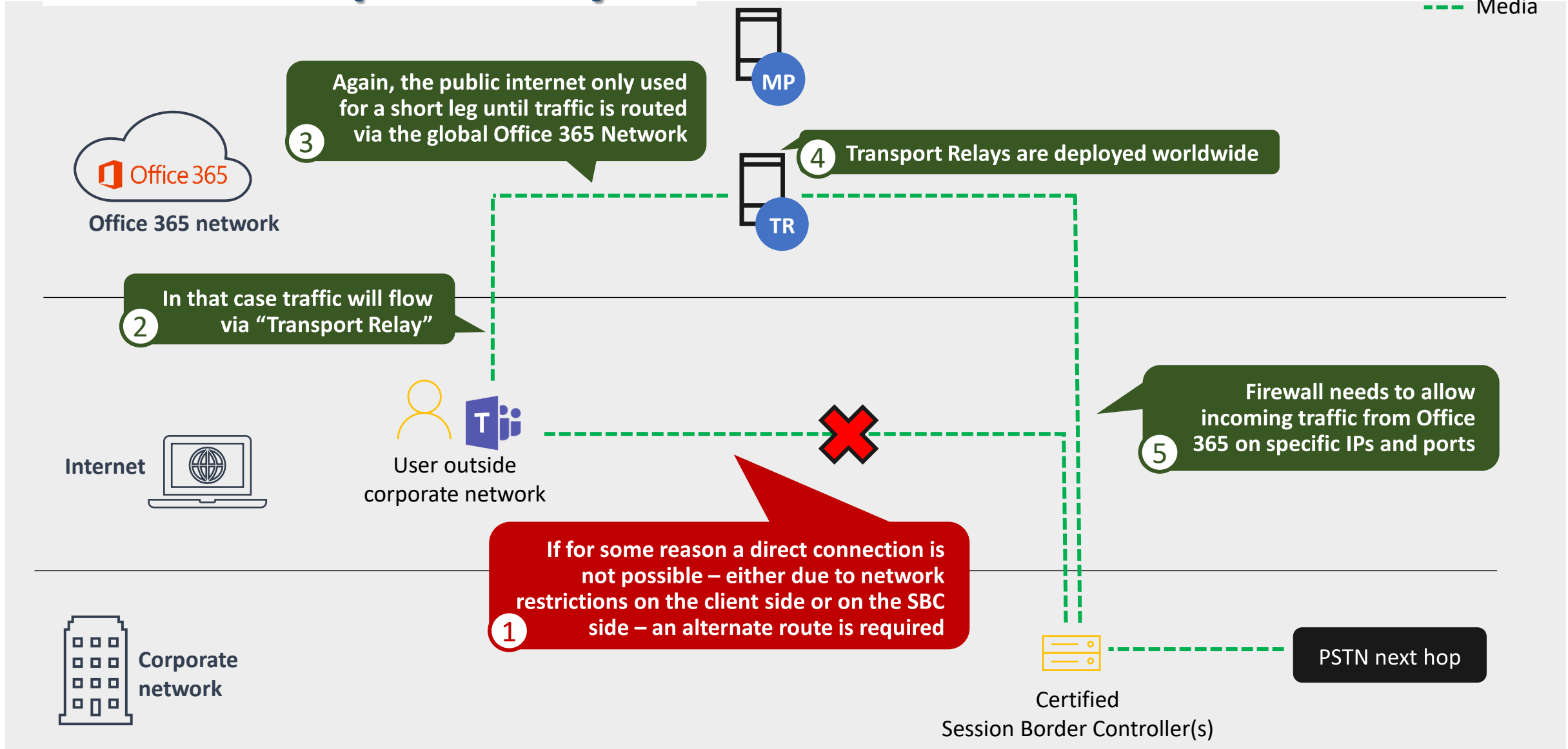
External Media Bypass Directly

..... Signaling
- - - - Media



External Media Bypass via Transport Relay

..... Signaling
- - - - Media



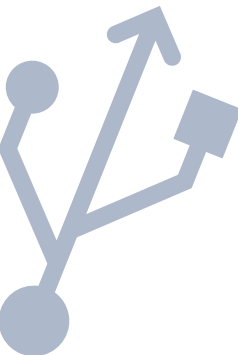
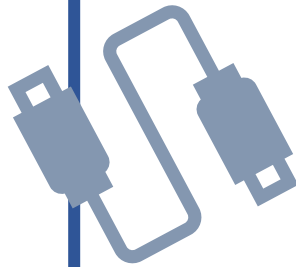
Media Bypass Summary

Media Processor

- ❑ Calls without Media Bypass will always travel via Media Processor
- ❑ Media Bypass enabled calls will never travel via Media Processor
- ❑ Media Processor is deployed in main datacenters

Transport Relays

- ❑ Media Bypass enabled calls might travel via Transport Relay
- ❑ Transport Relay are deployed much closer to end users
- ❑ Direct traffic between end points and SBC will never use the Office 365 network
- ❑ Traffic between end points and Transport Relay will benefit from Office 365 network



Media Bypass Recommendations

Actual mileage will depend on multiple factors

- ❑ Location of end points and SBCs
- ❑ Proximity to next transport relay

Rule of thumb for internal endpoints

- ❑ Allow to connect directly to the SBC
 - Keep traffic on internal network
 - Avoid detour via Office 365 Network

Rule of thumb for external endpoints

- ❑ Block direct connection
 - To force traffic over Office 365 Network
 - Minimize public Internet

Voice Routing



Dial plans

Normalize phone numbers

PSTN network might expect different phone number than user wants to dial

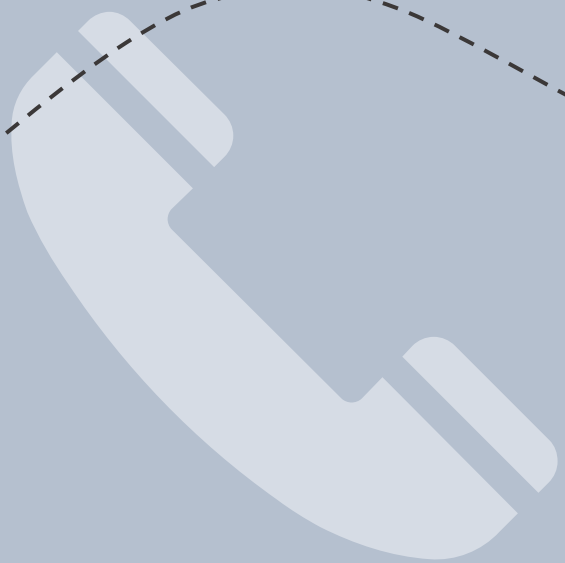
Teams has built-in rules for the most common normalization rules

Custom rules can be built to allow short digit calling

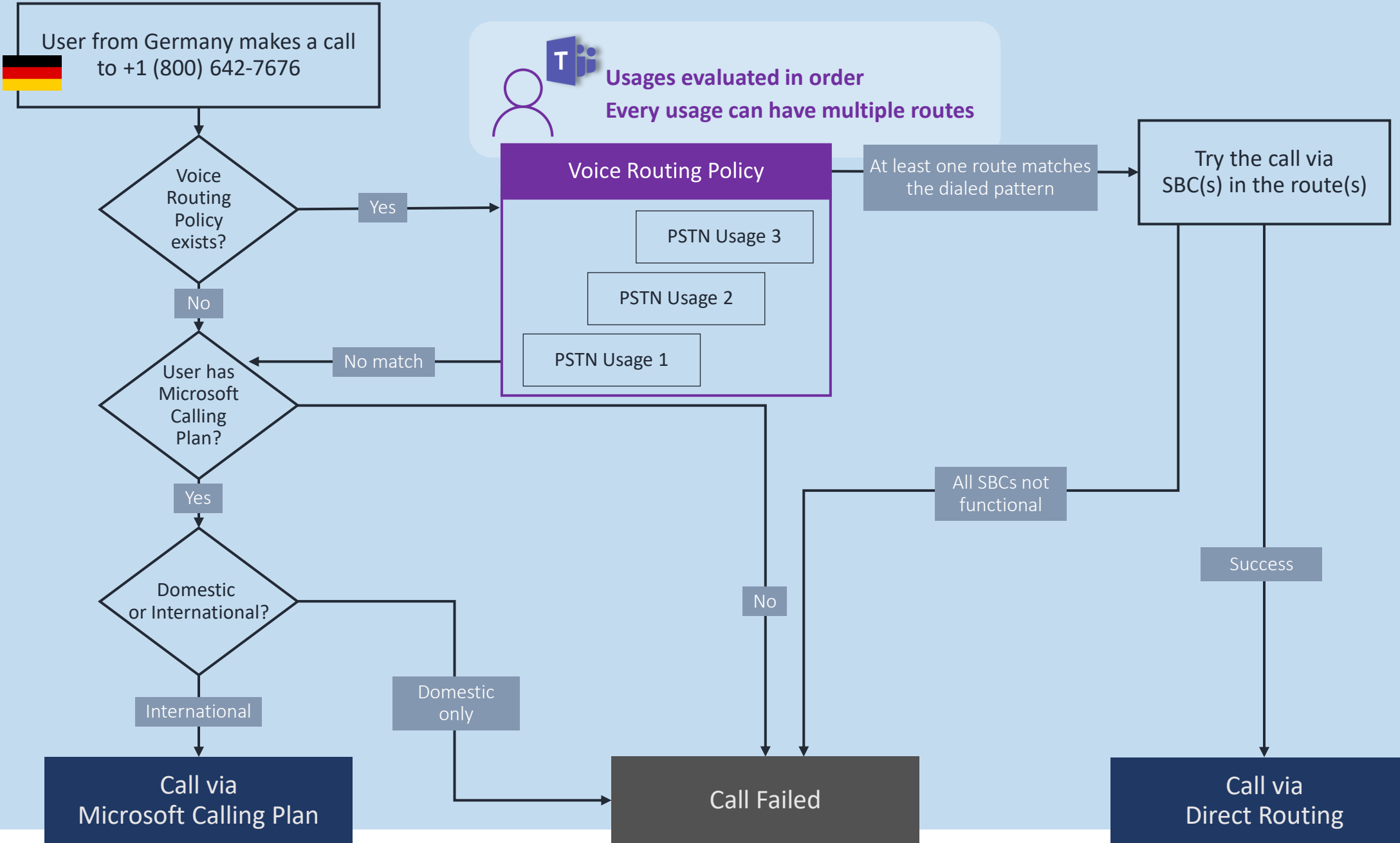
Normalize all phone numbers to E.164 format

e.g. to allow users to dial extensions directly

e.g. User dials 555 123 456
Normalized number is +1 555 123 456
Dial plan has set of rules to normalize numbers



Voice routing basics





Together



Extend



AI



Multi Device



Security



Together

ESI

AudioCodes

Microsoft

So-good