MANAGED CLOUD SBC

THE NEW OPERATING MODEL FOR ENTERPRISE SIP SECURITY

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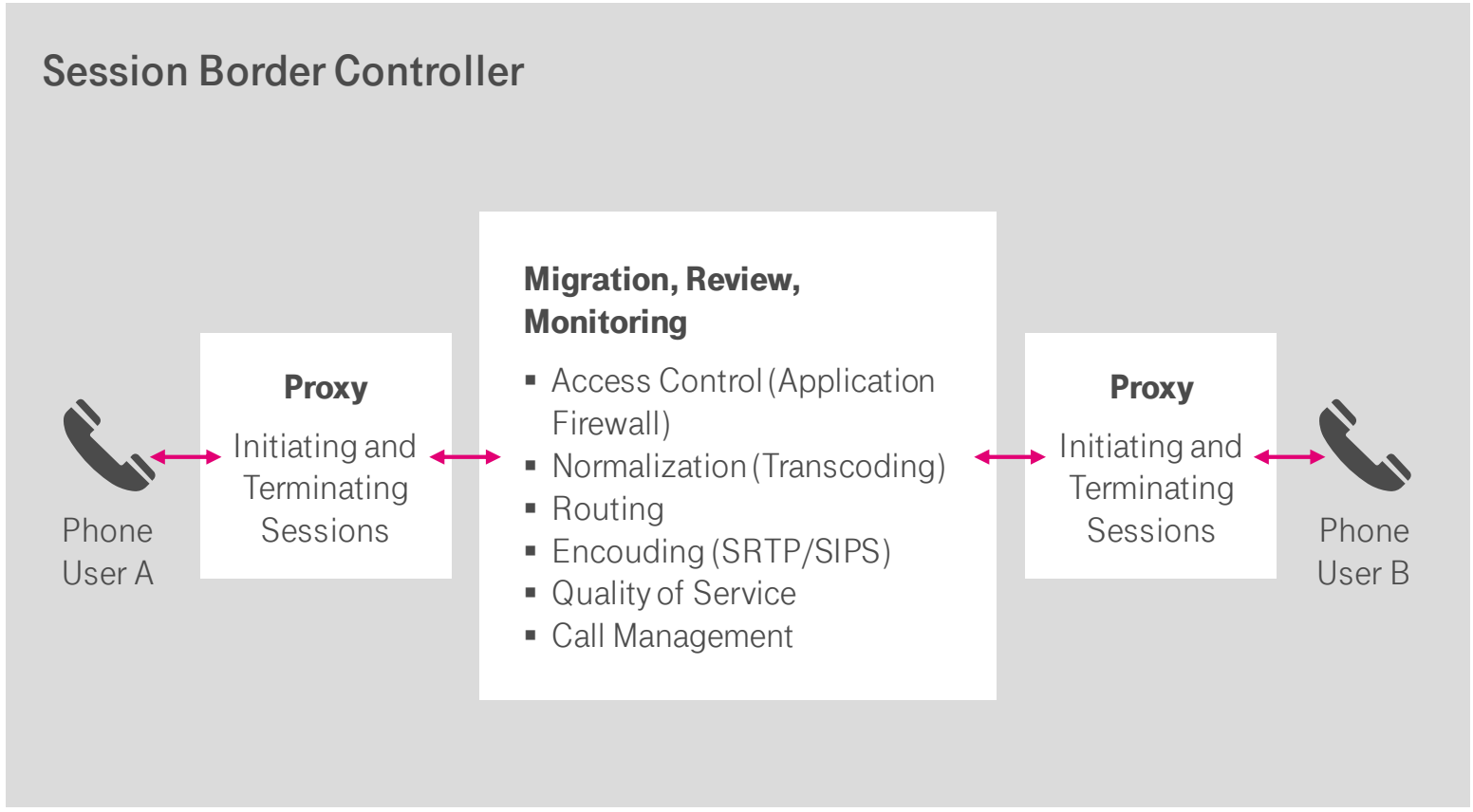
Cyber Security Tech Summit 2019

WHAT CHANGES WITH VOIP AND SIP?

OVERVIEW SESSION BORDER CONTROLLER



- A SBC is used to secure IP-based telephony networks at the border to external networks or other security zones.
- A SBC can be both a dedicated hardware device and a software application.
- SBC can make protocol adjustments between two different IP PBXs or to providers with special interfaces.
- Different SBC configurations are possible in terms of protection requirements and network designs

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GENERAL FUNCTIONS OF A SBC

A SBC consists of the session controller which monitors the signaling. The media controller, which establishes the voice connection or media streaming and the component for providing the quality of service, access control for resources, bandwidth and data security.

- SIP Interworking
- VLAN separation
- Message manipulation
- Adaptation of transport protocols
- URI and number manipulation
- Transcoding
- NAT local and far end NAT traversal

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SECURITY FUNCTIONS

Access Control

- DoS/DDoS line rate protection
- bandwidth throttling
- Dynamic Blacklisting

VoIP Firewall

- RTP pinhole management
- Rogue RTP detection and prevention
- SIP message policy

Encryption and Authentication

- TLS
- SRTP
- HTTPS
- SSH
- Client/Server SIP authentication
- RADIUS

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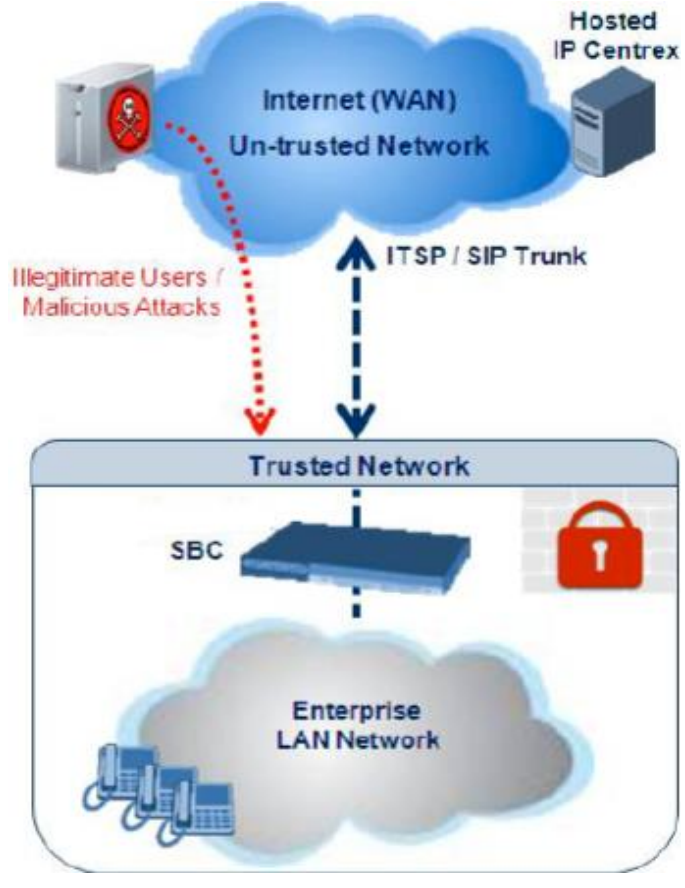

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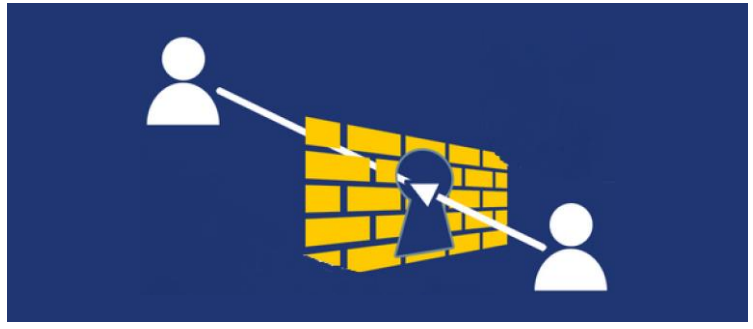
REQUEST TO AN SBC
SMALL SELECTION

Functional:

- A master for the routing options
- Central coupling of all communicating systems
- Billing and internal cost allocation
- Various extra functionalities

Security:

- Protection of the provider side (firewall and network termination)
- White/Blacklisting
- Block unregistered users
- DoS Protection
- Fraud Detection
- Number hiding



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SBC SECURITY AND IDENTITY

Customer says:

"Our company is well protected – we already have a firewall."

The problem with normal firewalls is that they operate by permanently opening or closing certain ports, but SIP traffic dynamically opens and closes ports each time a call is made and terminated.

A Session Border Controller can serve as a voice firewall for session traffic.

Furthermore, the SBC is able to detect incoming threats to the communication environment.

For security reasons, SBC's are often used on both the carrier and the company side of the connection.

A corporate SBC is generally referred to as an E-SBC.

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REASONS FOR YOUR OWN SBC

Customer asks:

"My SIP carrier has an SBC in its network. Do I even need an SBC?"

The simple answer is "yes" and here are a few reasons why:

- SBC is a SIP firewall
- SBC perform call admission control
- SIP is unfortunately not a uniform standard, but the SBC can the dialects manipulate and let devices from different vendors communicate.
- Transcoding and translation may be necessary for different communication elements to interact with each other, e.g. G.729 to G.711. or SRTP to RTP.

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VOICE SERVICE DEVELOPMENT

So far:

- Classic: Telephony
- Use of (system) telephone systems - coupling to the PSTN via ISDN

Today:

- Extension of classic telephony with newer solutions, such as Unified Communications
- Change of the connection technology from ISDN to SIP (All-IP migration)
- Bundling and connection of different communication channels, cost savings

Future:

- Voice is only a “self-evident” application in the company – like electricity from the socket
- Serves as a lubricant between different services, applications and people
- Further Development: IoT, Industry 4.0, Mobility, Virtual Reality and so on

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MANAGED SBC
WHAT‘S THAT?

SBC	managed
▪ Centralized or decentralized hardware ▪ Routing ▪ Network termination in the VoIP area ▪ Firewall ▪ and much more	▪ Active care and monitoring ▪ Proactive incident handling ▪ Change Management ▪ Quality and capacity management

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MANAGED SBC
IMPLEMENTATION STEPS

plan

- Preliminary Consideration
- Consulting
- Device Selection

build

- Procurement
- Installation
- Configuration

run

- Operation
- Service
- Change Management

Does your company or authority have the necessary operation units and know-how to operate SBC?

If not, T-Systems can help!

Together from the idea to the professional operation. Everything from one source!

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CENTRAL SBC MONITORING

SBC monitoring provides full coverage of the entire set of actions required to manage a voice network in a UC environment. The application provides a powerful network operation center, complete end-to-end voice network control, service assurance capabilities and comprehensive optimization and planning tools.

- Easy and secure transition to VoIP deployments including UC, hosted business services
- Efficiency and simplified device operation, administration and fault management
- Intuitive real time network view, capturing entire network status in real time
- Reduce MTTR with integrative detection and correction tools
- Powerful analytic reports for effective planning of future network expansion and optimization

Navigation

Alarm

Performance

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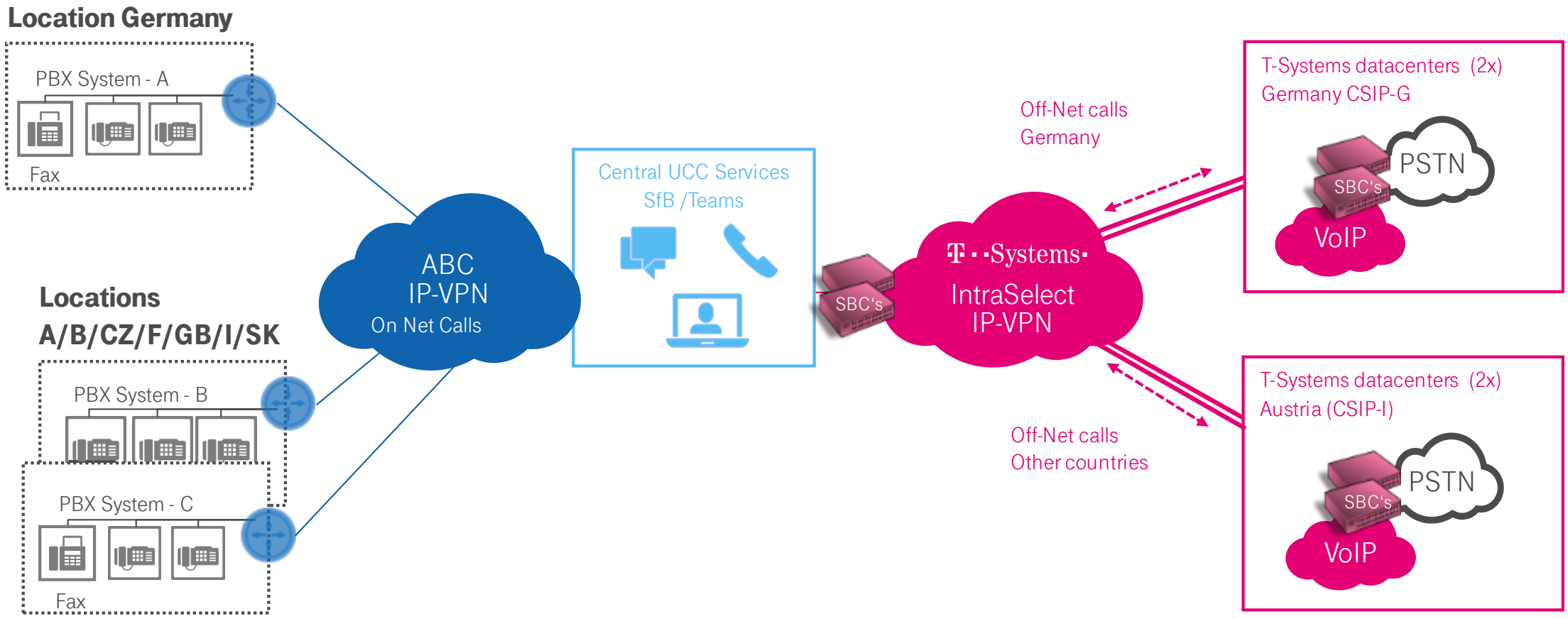
EXAMPLE



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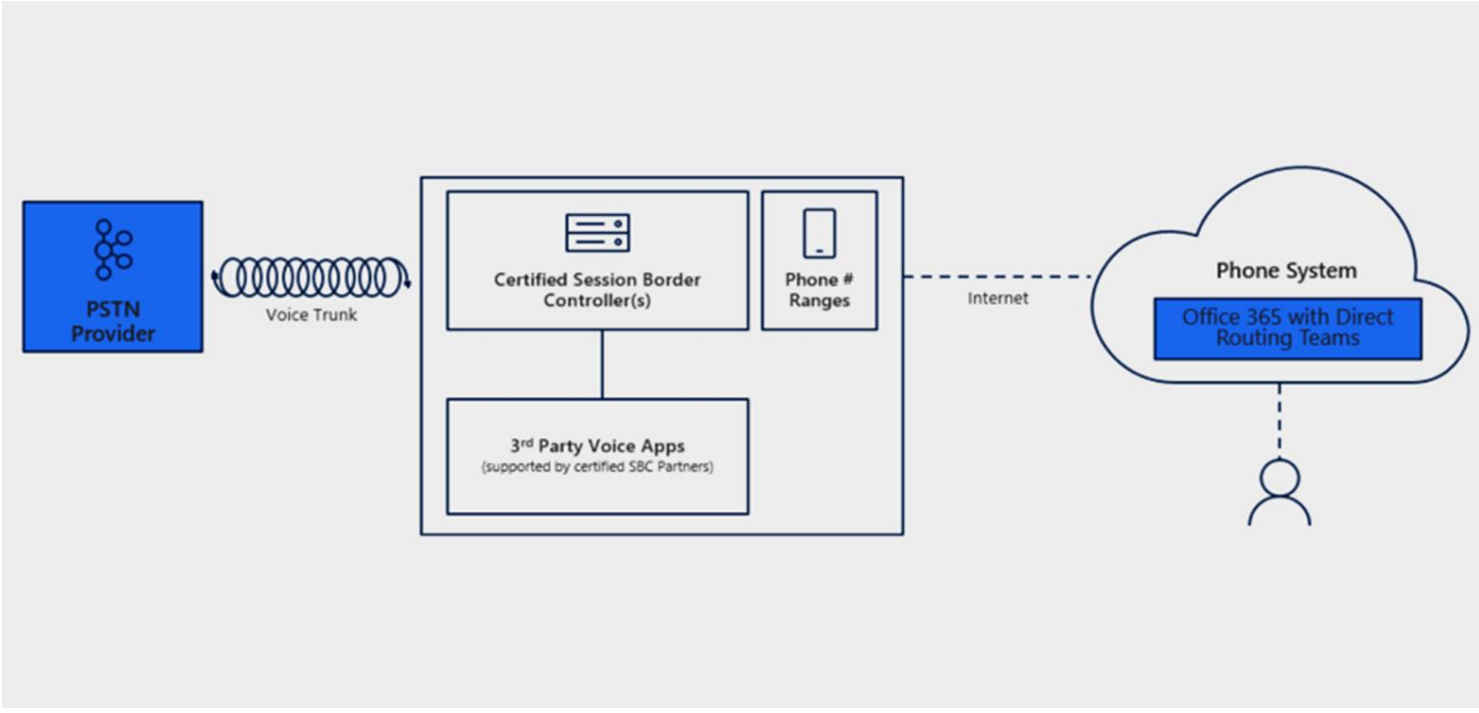
MICROSOFT TEAMS
DIRECT ROUTING

- With Direct Routing, the Teams client can be used for calls to the national and international telephone network. Coexistence with Skype for Business configurable.
- Customer can provide a supported SBC and connect to Office 365 Teams. This feature allows a customer to configure PSTN connectivity on site with the existing telephone numbers and without porting to another telephone provider.



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MICROSOFT TEAMS
OPTIONS FOR CONFIGURATION

	Customer self-deployed model ▪ Customer or a partner deploys and managed the SBC ▪ An SBC connected only to one tenant	**Carrier SBC hosting model** ▪ A carrier hosts an SBC in their datacenter ▪ One SBC interconnected to many tenants
SBC location	Customer premises or service provider datacenter	Carrier datacenter
SBC serves	One tenant	Multiple tenants
Certificates requirements per SBC	One	One
Number of FQDNs	One per SBC	One per connected tenant
Number of IPs per SBC	One	One
Configuration and Operation	Customer/managed SBC	Carrier with customer involvement (need special credentials in O365)

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DO YOU HAVE QUESTIONS?

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