

AWS
re:Invent

TLC302

Securely scale your VoIP with Amazon Chime & Ribbon

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Agenda

Amazon Chime Voice Connector

Session border controller (SBC)

Ribbon SBC Software Edition (SWe) features and functionality

Demo – Chime to Teams call

Network deployment & architectures – Whiteboarding

Amazon Chime Voice Connector service

What customers tell us about their PSTN calling challenges



Rigid cost structure

Fixed costs & long-term contracts
Dedicated voice network access
Over-provisioning



Complexity

Multiple carrier relationships
Limited self-service monitoring
Swivel-chair operations



Difficult to extend

Can't easily adapt to business needs
Special use case integrations
Lack of APIs

Second-largest IT expense for many customers

Amazon Chime Voice Connector: SIP trunking from AWS



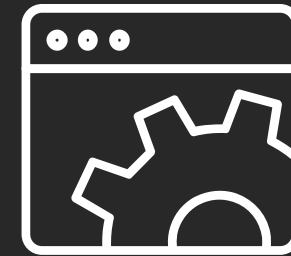
Cloud-centric cost model

- Low, utility-based pricing
- Reduced network costs
- Simple worldwide rate table



Simple to set up and maintain

- Consolidate your SIP trunking
- Out-of-the-box interoperability
- Self-service

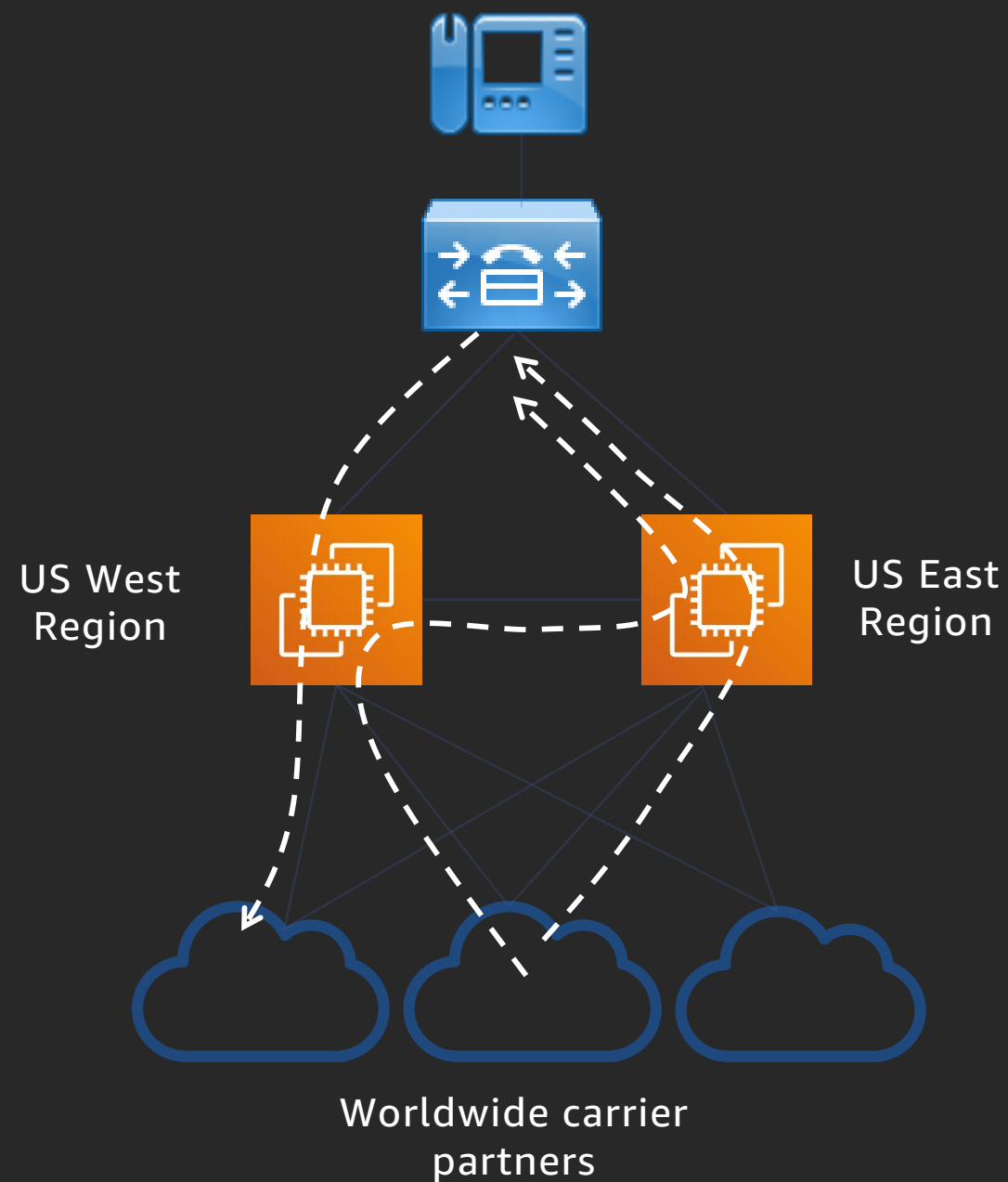


Extensible

- Programmatic tools
- API & SDK-based customizations
- Integration with AI/ML & analytics

Migrate your PSTN calling workload to AWS

High-availability call processing architecture



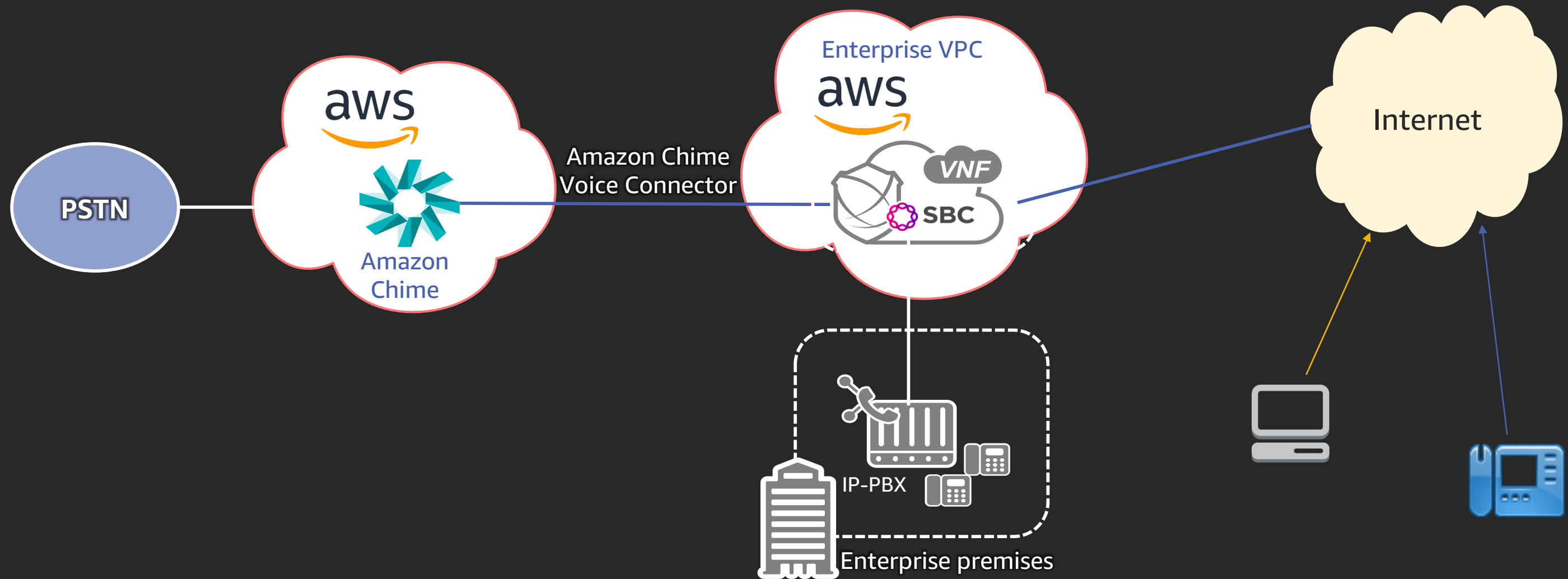
Multiple Regions with four Availability Zones each

Multiple carrier partners

Continuous monitoring

Automatic rerouting around network problems

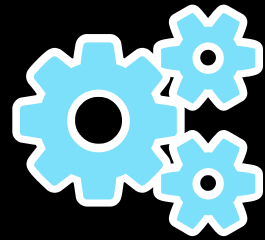
Amazon Chime Voice Connector & Ribbon SBC



Ribbon SBC SWe

Enterprise challenges = opportunity

Systems interoperability



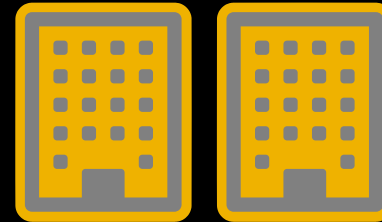
- PBXs of different vendors
- Dial plan limitations
- Integrating new technology
- Interworking of SIP and H.323
- Microsoft Teams/Skype roll-outs

UC/migration challenges



- From TDM to IP PBXs/PRIs to SIP trunking
- UC applications
- Mobile workforce
- Hosted voice services (conferencing)

Retail/branch locations



- Survivable branch office support
- Emergency services
- Interbranch communication

Contact centers



- Call volumes/cost/number of locations
- Compliance/privacy (recording and encryption)
- Tones & announcements + DTMF handling
- Outsourcing

What is session border control?

Security

Securing the network

Protecting assets

Privacy and compliance



Session control

Resource allocation

Overload and call admission controls

Redundancy

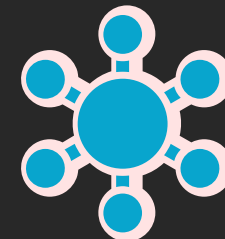


Media services

DTMF and Fax

Codec transcoding

Tones and announcements



Interworking

Multi-vendor consolidation

Media services

SIP migration



Ribbon SBC SWe performance dimensions

General computing

- Call control
- Policy management
- Message manipulation
- Signaling interworking
- TLS

Media services & transcoding

- DTMF, fax interworking
- Reduced latency for higher QoE
- Codec normalization/standardization (HD voice)

Network processing

- Wire speed throughput
- DoS/DDoS protection
- Encryption co-processor (SRTP)
- IPv4/IPv6 interworking



Ribbon SBCs are architected for security, performance, high availability, and scale

SBC SWe transcoding on GPUs



High-performance computing

Transcoding is a compute-intensive task, which is what GPUs are designed for. Ideal for high-scale performance



Efficiency in media transcoding

Leverages parallelism of GPU design to simultaneously process multiple channels and transcoding types

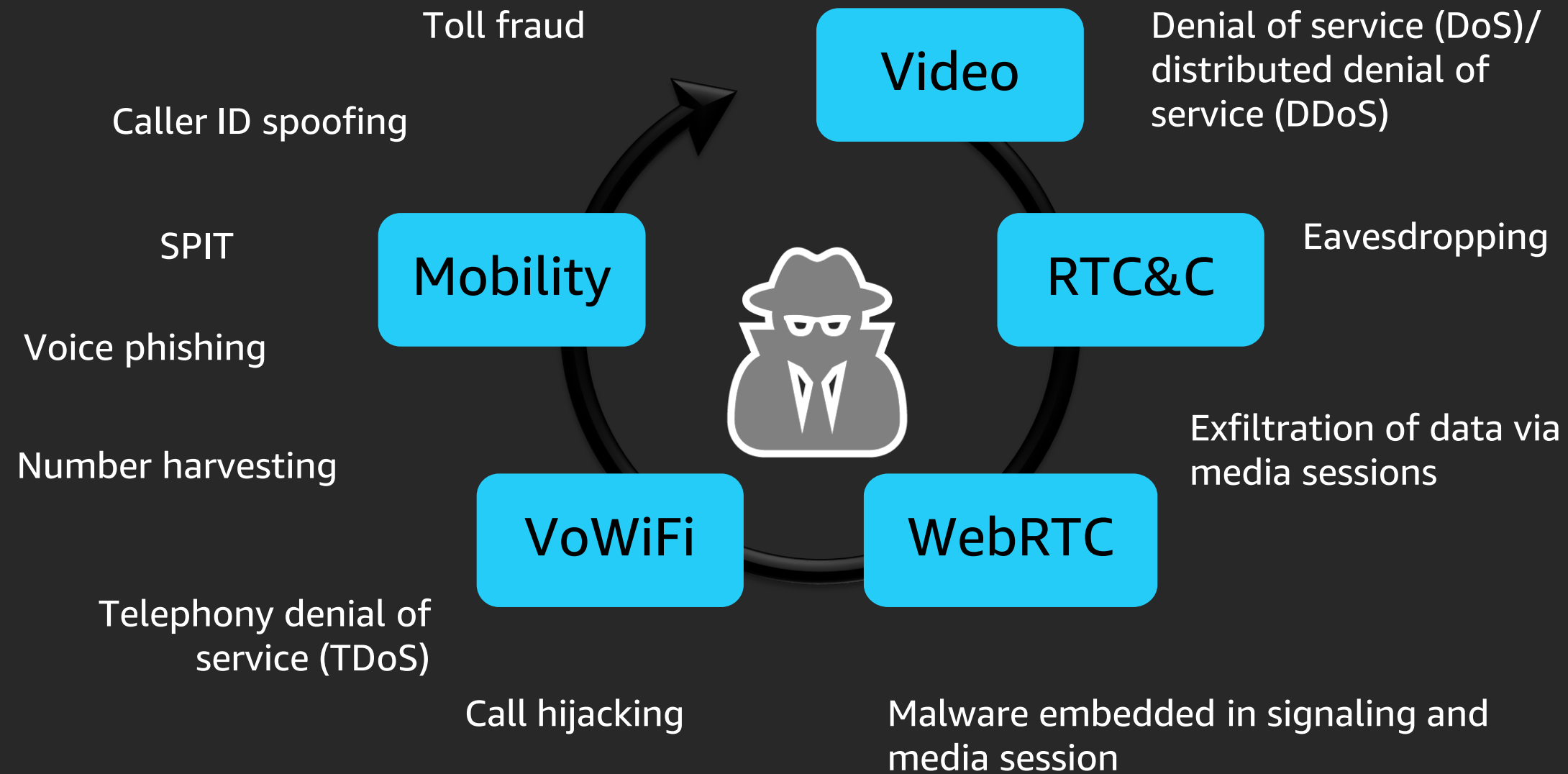


Reduced cost per transcoded session

Achieves demonstrable CapEx and OpEx savings for high-scale transcoding requirements

Using GPUs delivers disruptive performance gains


New security threats against unified communications



Ribbon Analytics: Deep learning, insights, and automation

AWS GPU acceleration
Tensor
Prophet
ARIMA

Analytics

 Fraud Protection  TDoS Protection  Continuous Monitoring  Threat Intel Sharing  Intelligent Operations

Big Data

 **Protect**  High-speed data ingestion  Hadoop  Data Enrichment  Behavior Analytics  Incident Management  Automated Mitigation

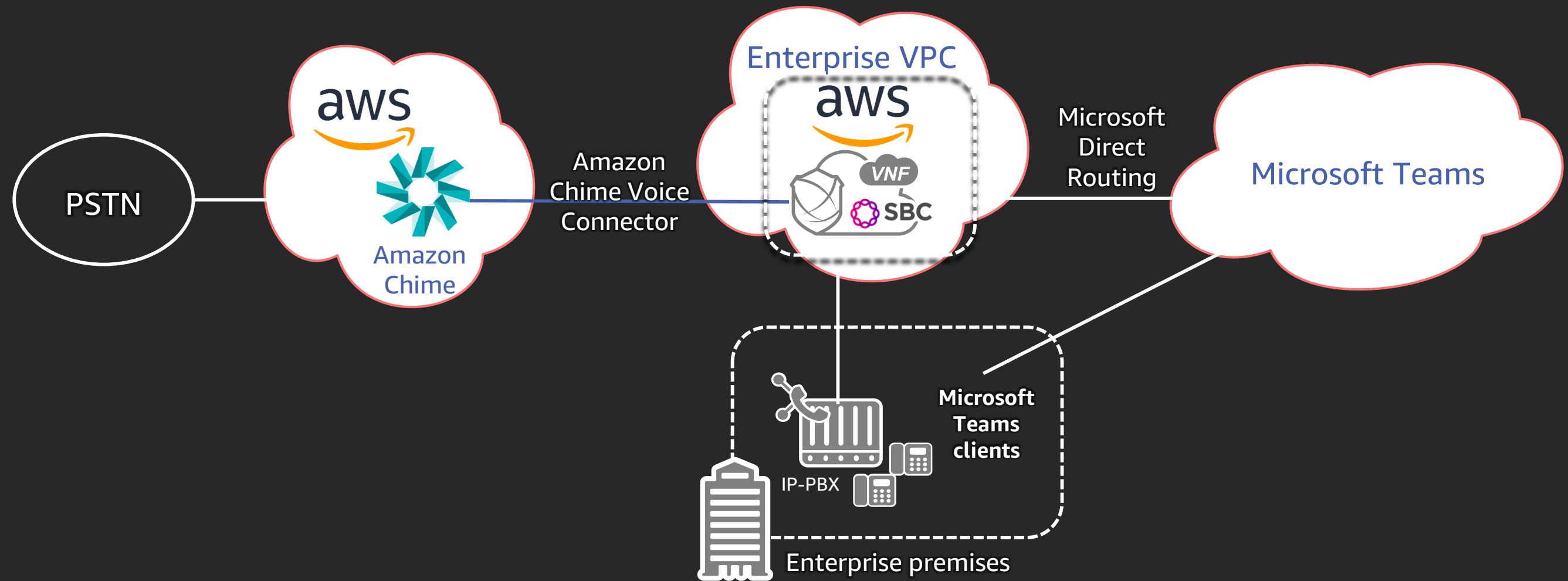
Sensors / Enforcers

Communications Network

 **C3**  **C20**  **G9**  **GSX9000**  Firewall  **SBC**  **PSX**  3rd Party devices  IP-PBX

Demo

Amazon Chime Voice Connector – Ribbon SBC on AWS with SIP trunking and Direct Routing

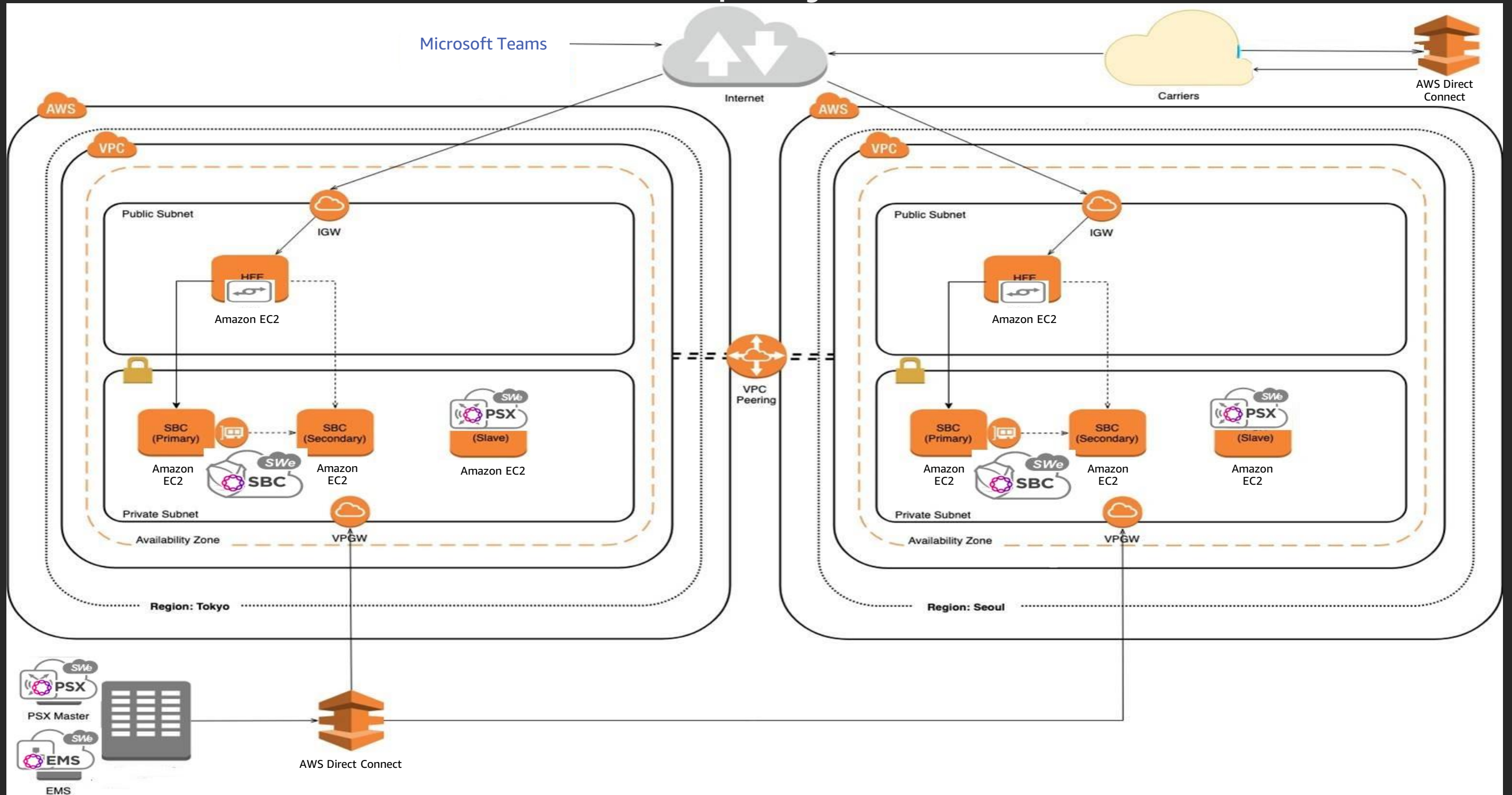


Muthusami, Sowmiya

Meeting start time: Friday, October 18, 2019 1:36:05 PM

Organizer: Muthusami, Sowmiya

SBC in AWS reference deployment



Try it out on AWS Quick Starts

<https://aws.amazon.com/quickstart/architecture/ribbon-sbc/>

<https://aws.amazon.com/marketplace/pp/Ribbon-Ribbon-Session-Border-Controller-Software-E/B07RG71MWX>

Thank you!

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