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The bridge to possible

# The Future of SD-WAN

SD-WAN has been the agent of change  
for a decade—what about the next?

Steve Wood, Distinguished TME  
Steve Harrison, Senior TME Leader  
PSOENT-2002

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# Cisco Webex App

## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 9, 2023.



<https://ciscolive.ciscoevents.com/ciscolivebot/#PSOENT-2002>

# Introduction



Steve Wood  
Distinguished  
Technical Marketing  
Engineer



Steve Harrison  
Senior Leader  
Technical Marketing

# Agenda

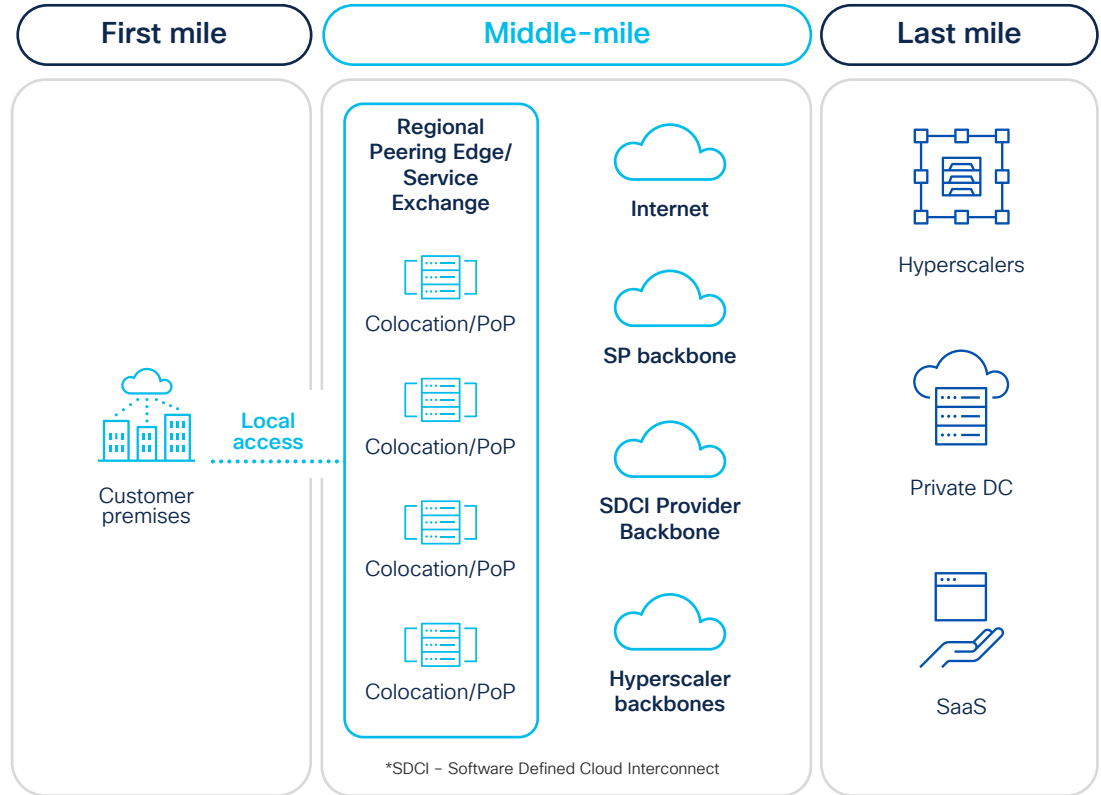
- Introduction
- SD-WAN now
- Interconnectivity
- Policy and control
- Security
- Reporting and automation
- Conclusion

# SDWAN: Past, present and future

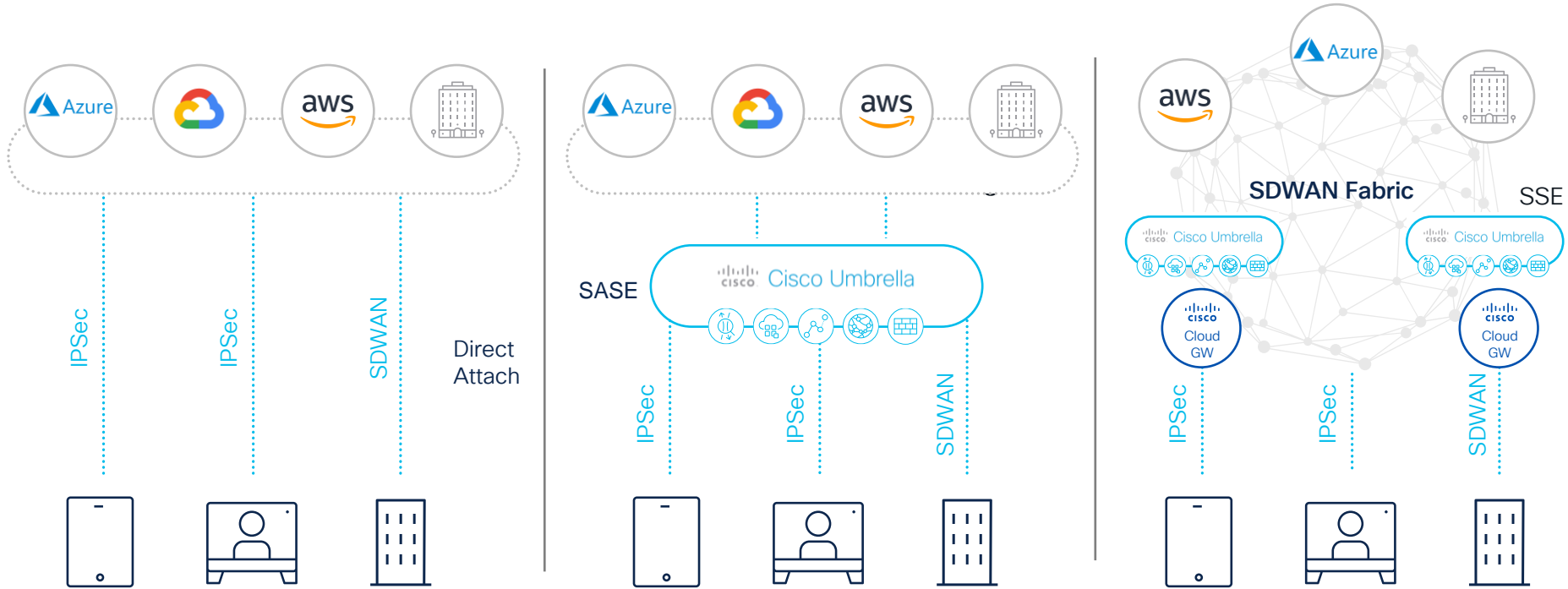


# The WAN disruption

- The WAN is evolving
- Large private POP and Colo footprints
- Multiple provider backbones
- Service Exchange Points
- Programmable Control, cloud on-ramps -> SDCI
- WAN moving to IaaS consumption
- PAYG contracts, Service agility
- Optimized for Cloud and SaaS access latency



# Three emerging patterns...

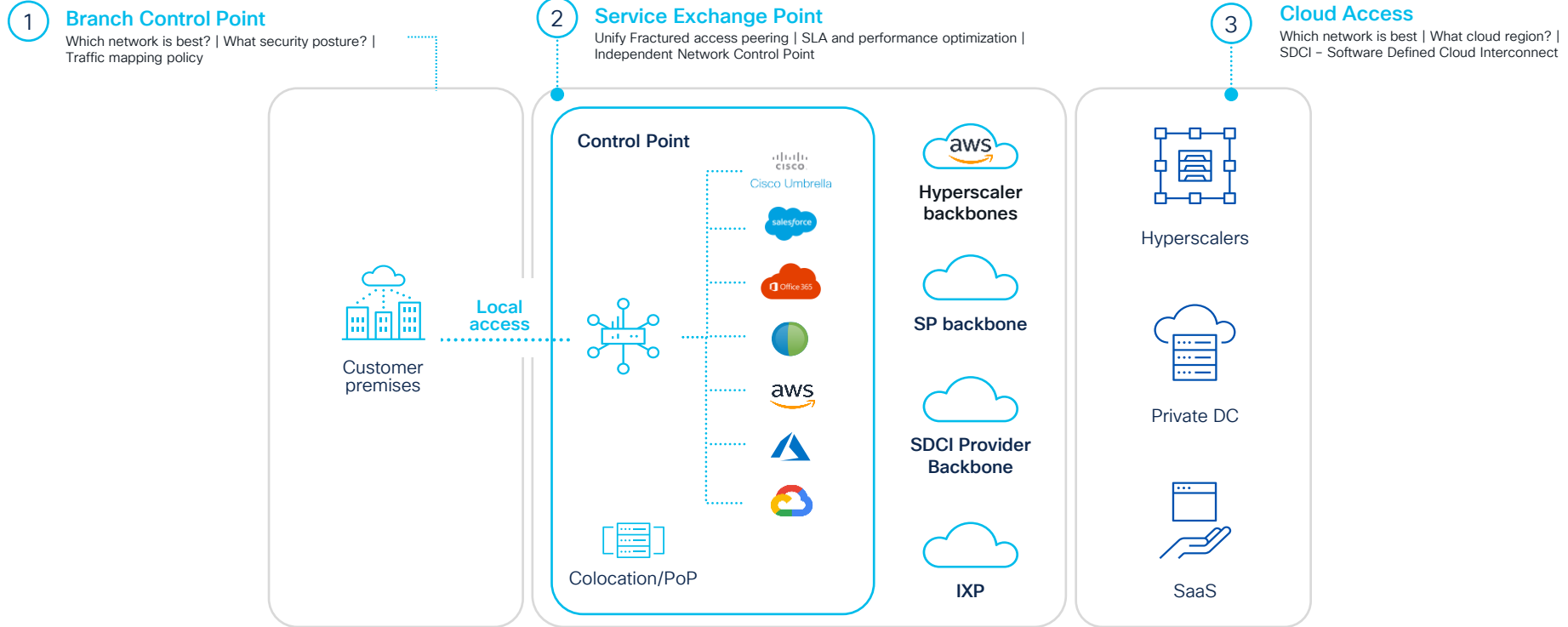


Least Control

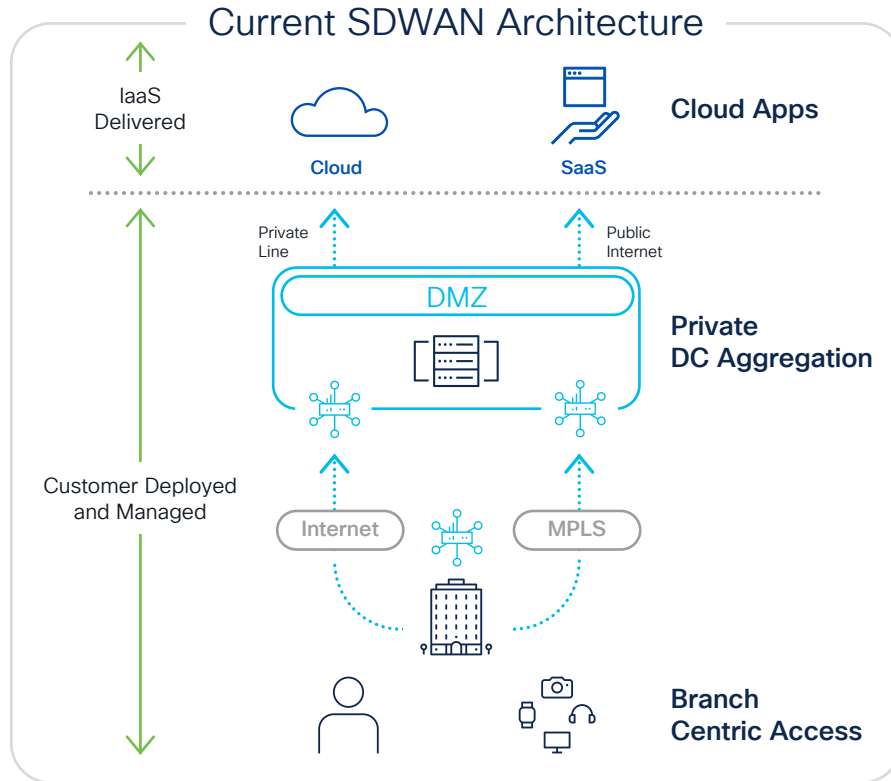
Most Control →



# SDWAN of the Future – Direct to Cloud & SaaS



# SDWAN Architecture: DC-Centric Backhaul



The DC  
“Home Run”

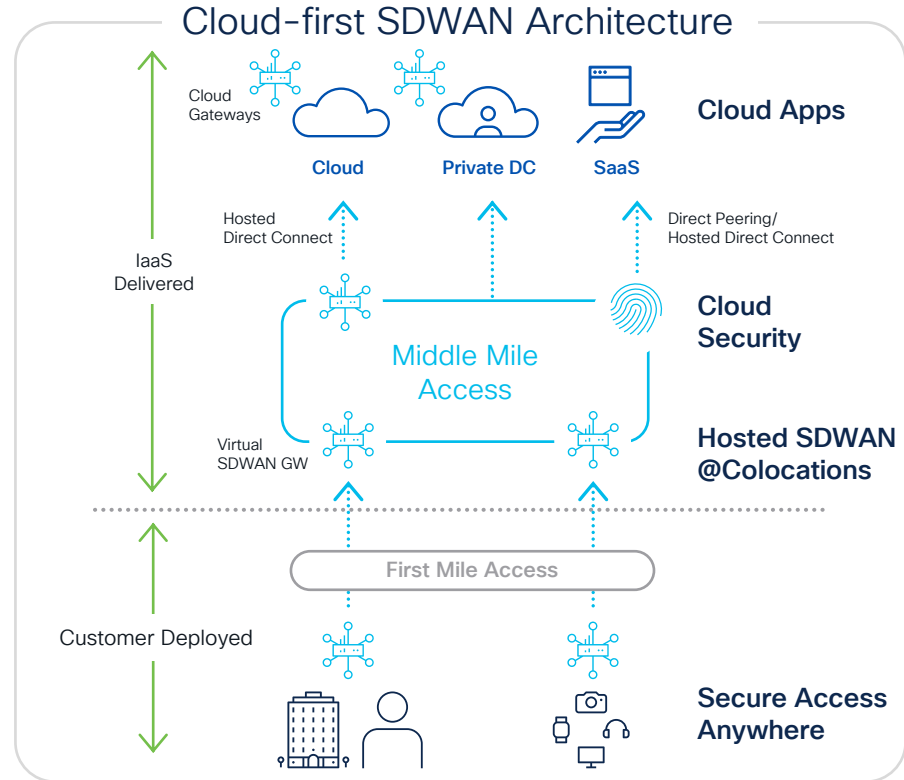
- 2-5 Cloud Access Points
- High latency backhaul
- Poor application performance
- Lacking IaaS opportunity

# SDWAN: Cloud First



Cloud  
Optimized

- 100's of Cloud Access Points
- Lowest Latency
- Cloud Security
- On-demand Network



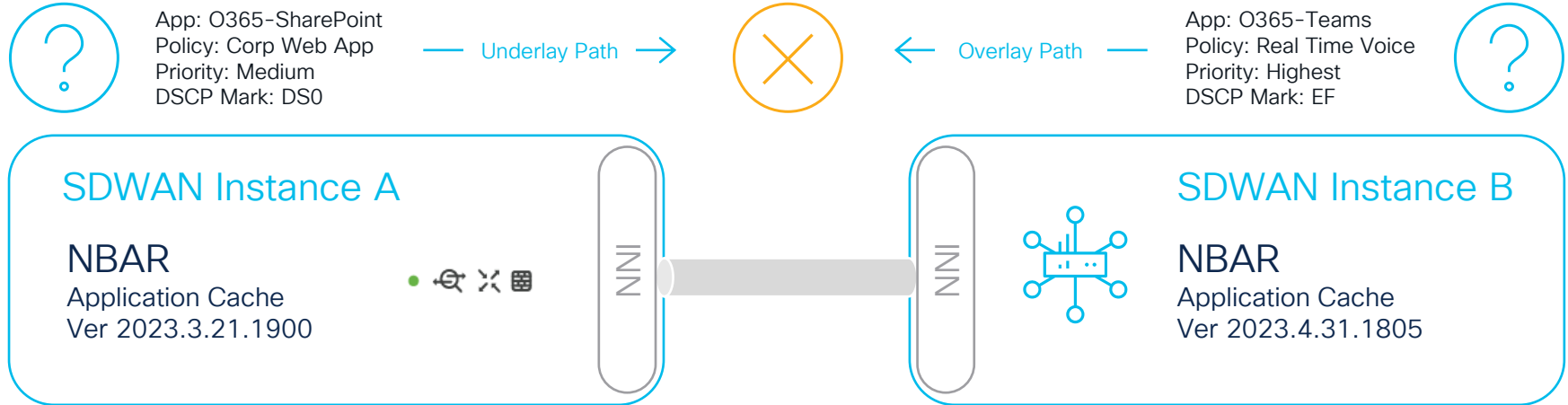
# Applications: From connectivity to experience



# Application consistency

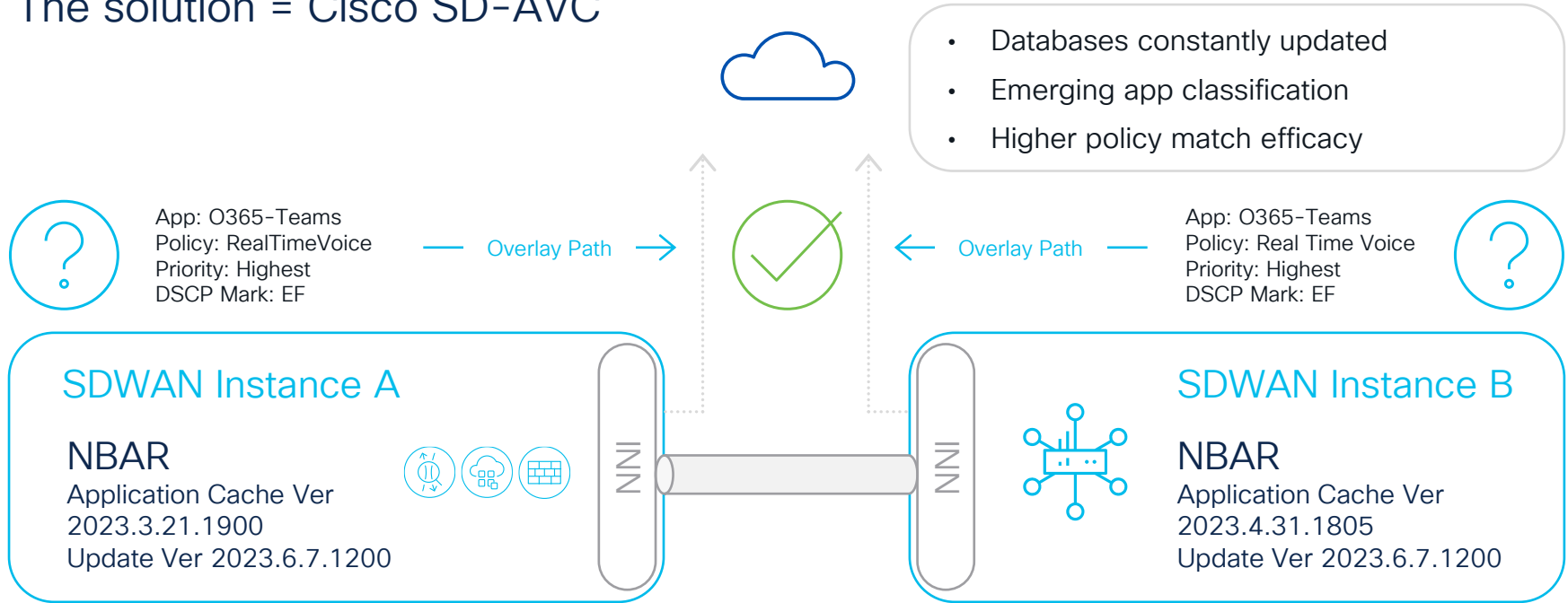
What is the problem?

- Database version mismatch
- Inconsistent app classification
- Policy breaking

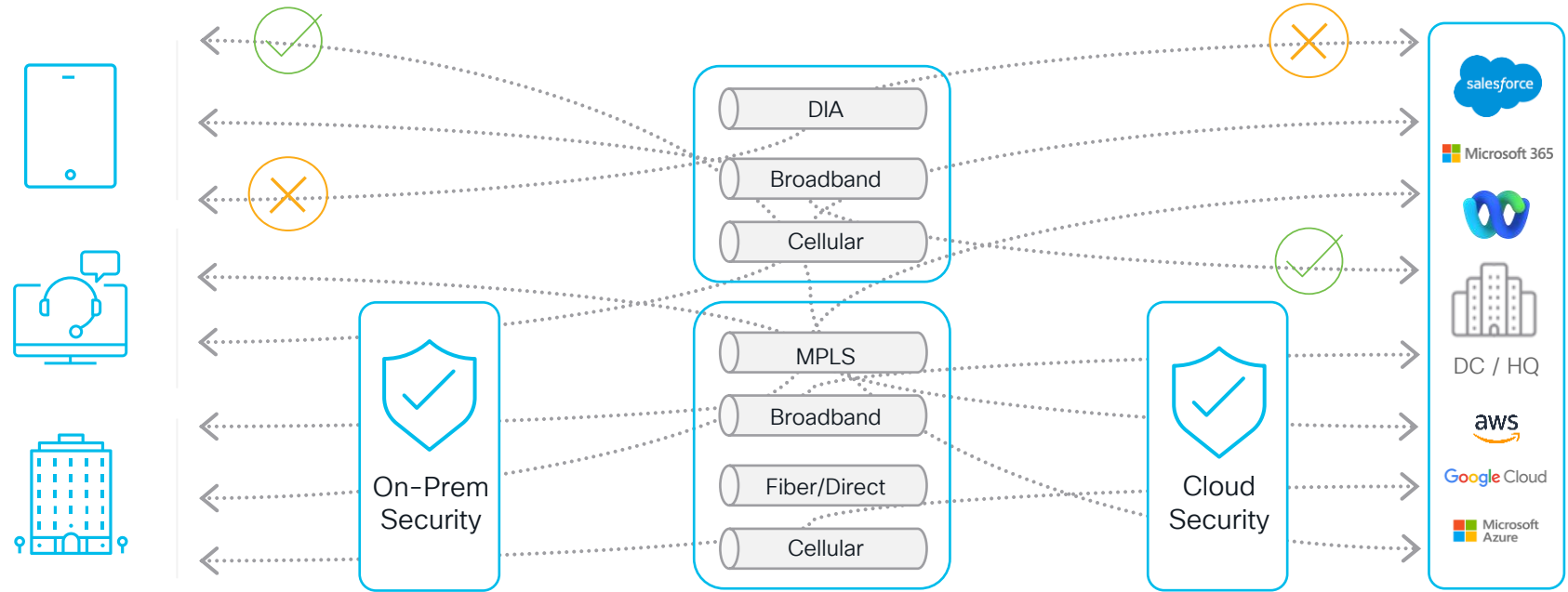


# Application consistency

The solution = Cisco SD-AVC



# User identity



Identity Informed Path and Policy

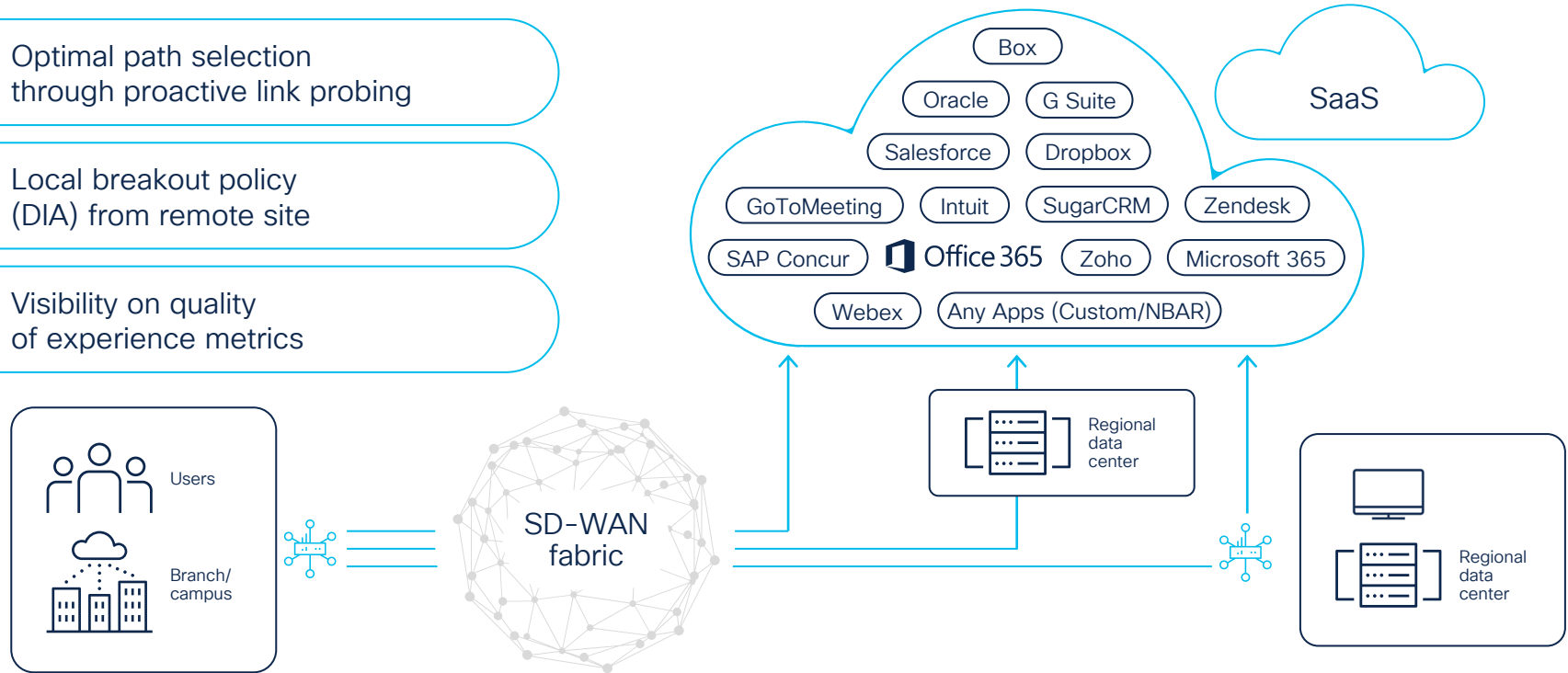
# SaaS optimization

## Optimized connectivity to cloud applications

Optimal path selection  
through proactive link probing

Local breakout policy  
(DIA) from remote site

Visibility on quality  
of experience metrics

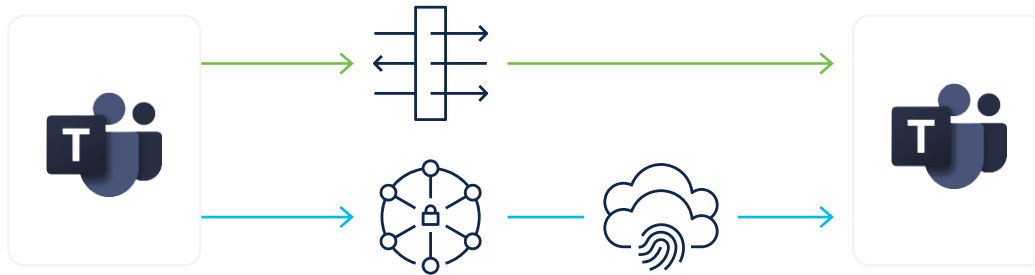
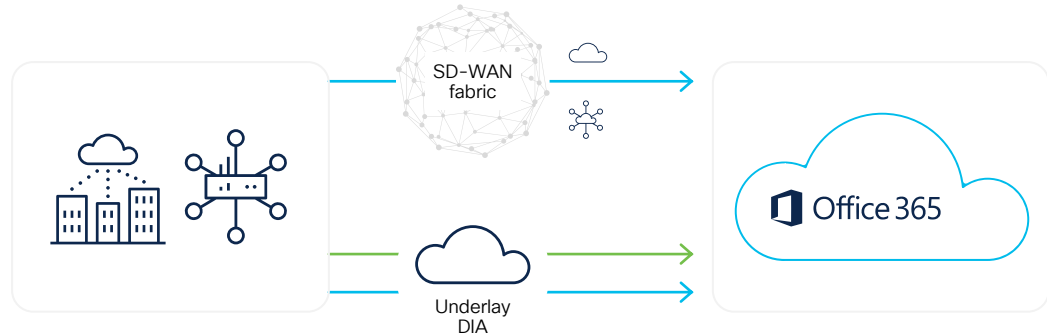




# Underlay or overlay automatically

Configured and successor paths proactively monitored

SDWAN can switch seamlessly to ensure policy adherence



Security compliance maintained through use of local security policy

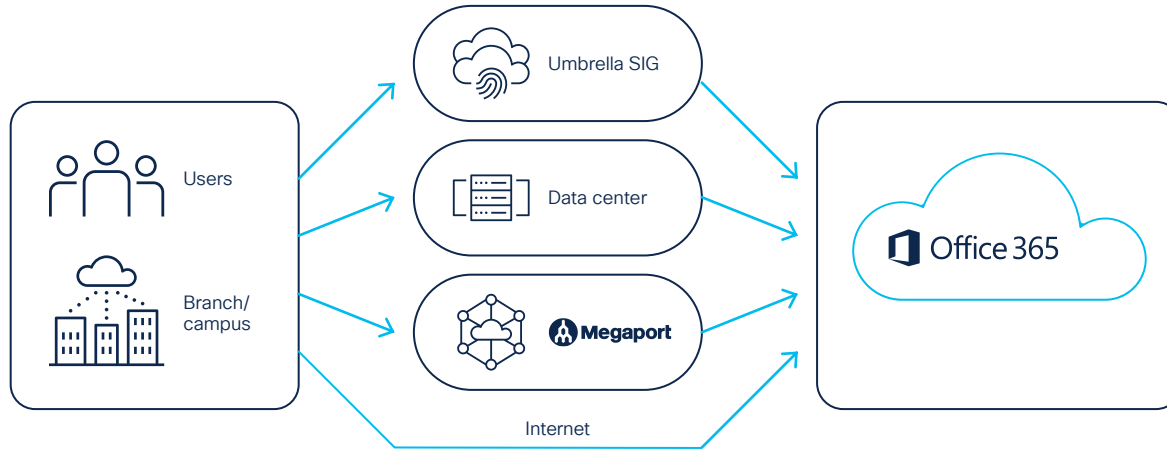
Increase in application QoE due to shorter path

# Application Telemetry Integration

## Example: Microsoft 365 deep-probing

### Cloud on ramp

Path	Network score	App score
DC	6	9, 10...
DIA	10	9, 10...



### MS telemetry

App	Score
Exchange	9
Teams	10

### Problem

- Traditional SD-WAN only probes the app front-end
- Performance measurement only covers part of the network path
- It does not take service performance into account

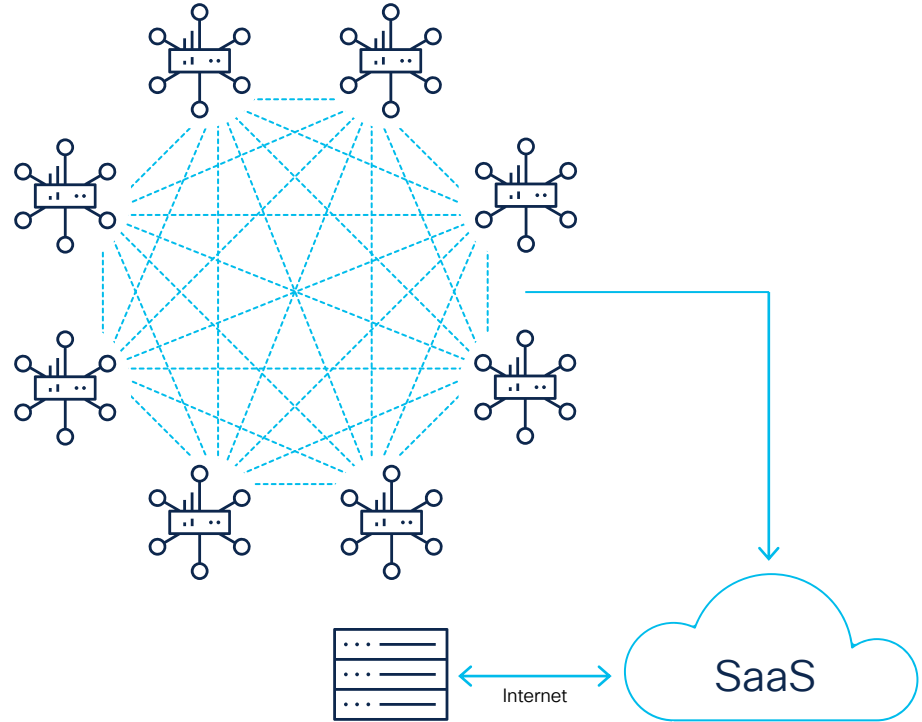
### Solution

- Cloud onRamp for SaaS probing is augmented by O365 SaaS telemetry
- Microsoft monitors performance of App service and computes a score
- Score is sent to SDWAN controller where it is used to augment probing data
- A combined path selection decision is made

# The death of VPN tunnels?

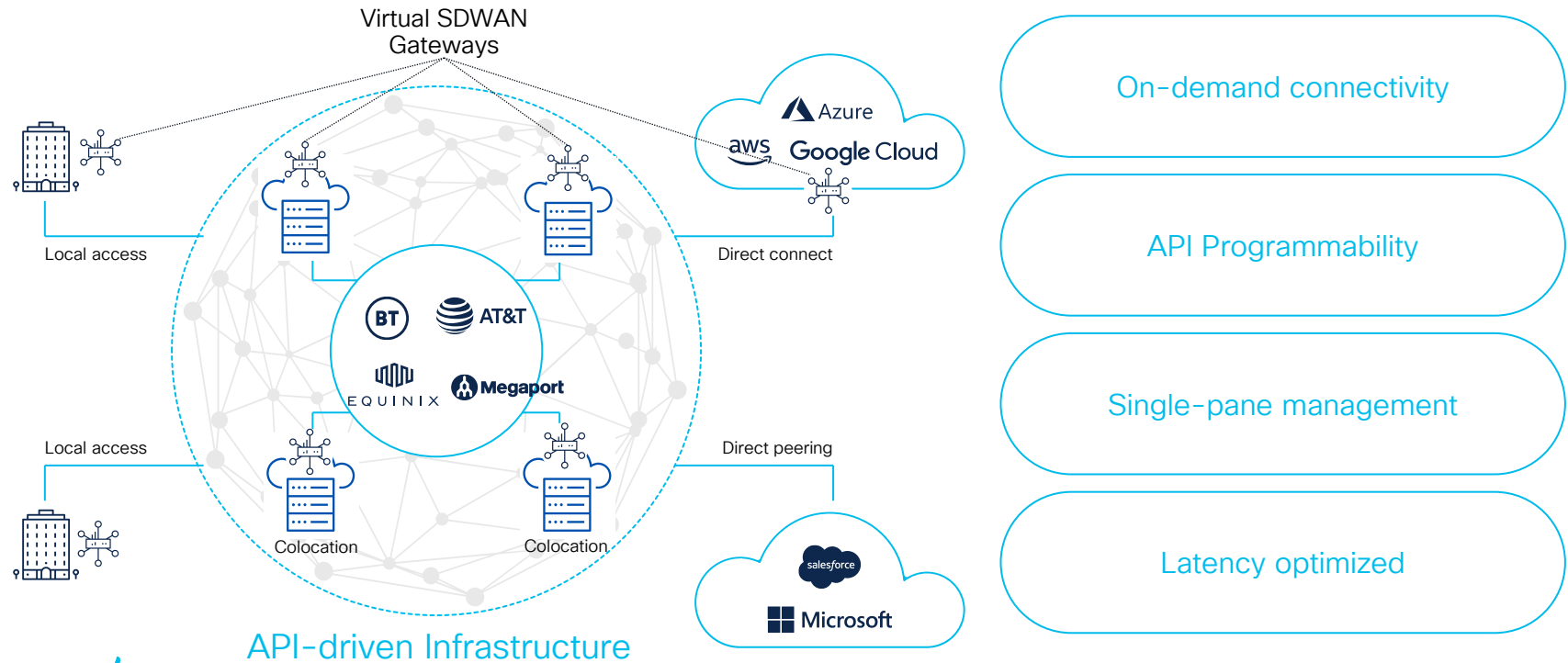
- Future is SaaS, not tunnels
- Align to SaaS QoE
- SD-Internet, Intelligent Internet, Enhanced Internet

Just an underlay decision then?



# The SDWAN of the Future

Software-defined underlay, Virtualized SDWAN, On-demand service...



# Pervasive security



# Why not just tunnel everything to SSE?

- Tunnelling everything to the cloud is not the solution
- The cloud does not infinitely scale
- SASE is the union of secure access and the service edge
- Not just a VPN to SSE

Question:

How do we make  $1 + 1 = 3$ ?

## Same Architecture Somewhere Else



Cloud GW



## Secure Access Service Edge



Best at Edge



# Cisco Advantage



Next gen  
firewall

IDS/IPS

Content  
filtering

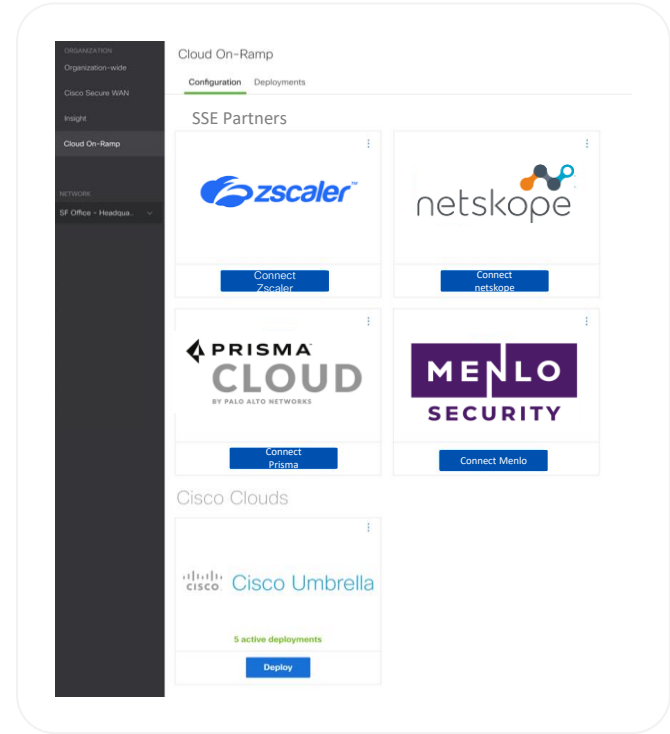
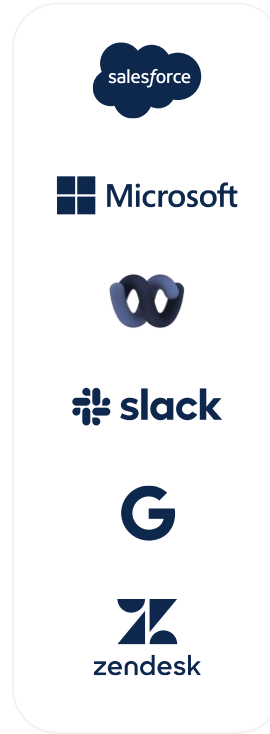
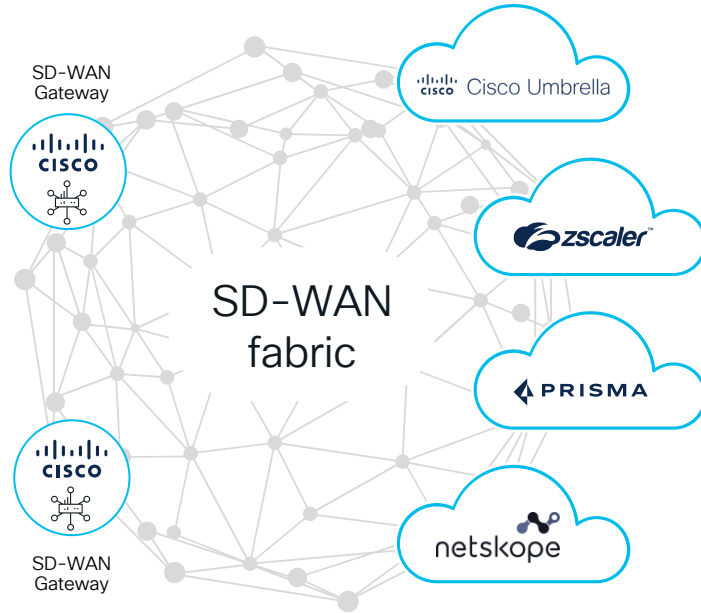
Advanced malware  
protection (AMP)

Cisco Secure malware  
analytics (ThreatGrid)

DNS layer protection  
(Cisco Umbrella)

**TALOS**

# Your SSE, your way, made easy

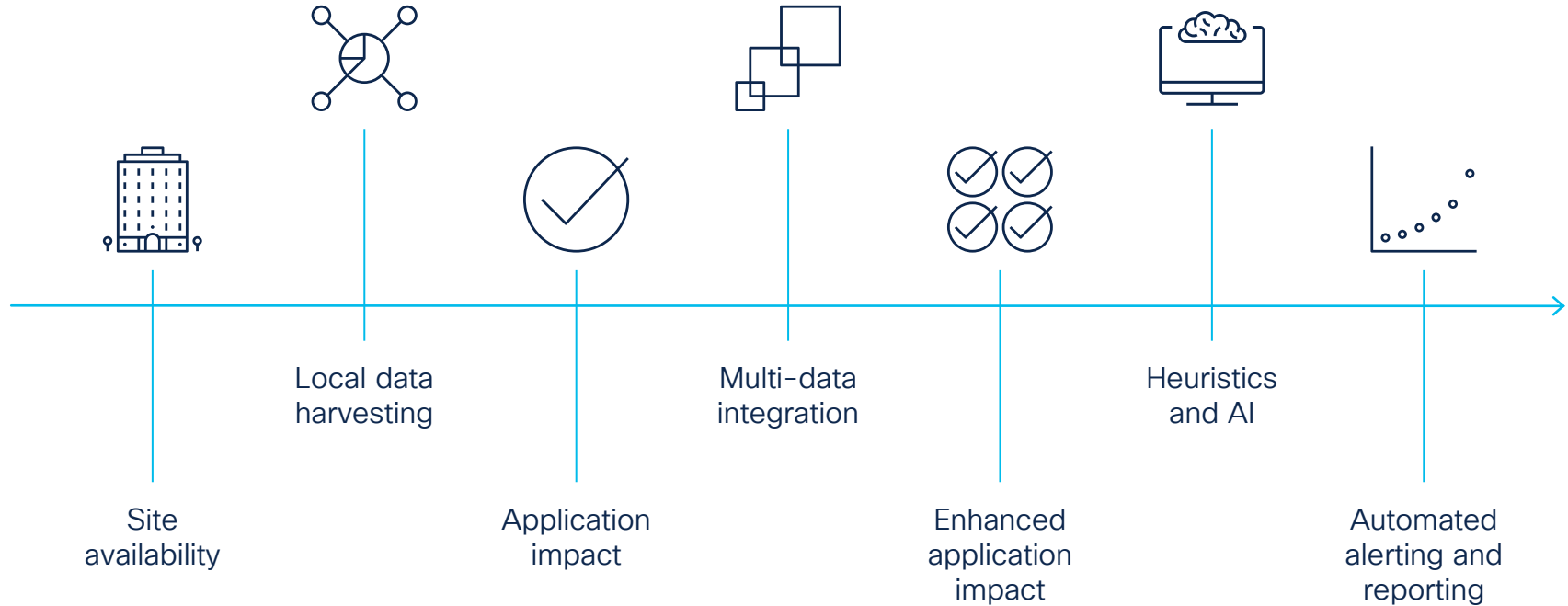




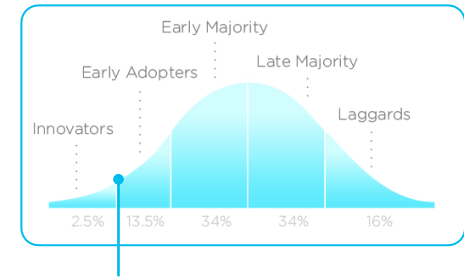
# Analytics: From data to insights



# Data driven reporting



# Analytics to automation



What are the adoption barriers?

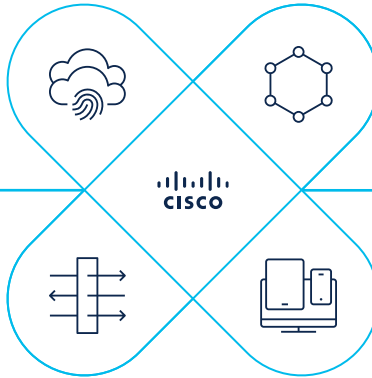
Totality of dataset

Insight relevance

Guidance efficacy

Cisco Advantage

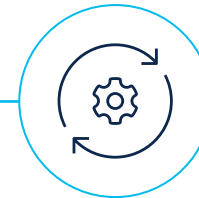
ThousandEyes



CISCO  
Meraki

Tools

WAN  
insights



Actionable  
insights



Predictive  
foresight



Automatic  
remediation

# Fill out your session surveys!



Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Challenge** for every survey completed.



**These points** help you get on the leaderboard and increase your chances of winning daily and grand prizes

# Continue your education



- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](https://www.CiscoLive.com/on-demand)



The bridge to possible

# Thank you

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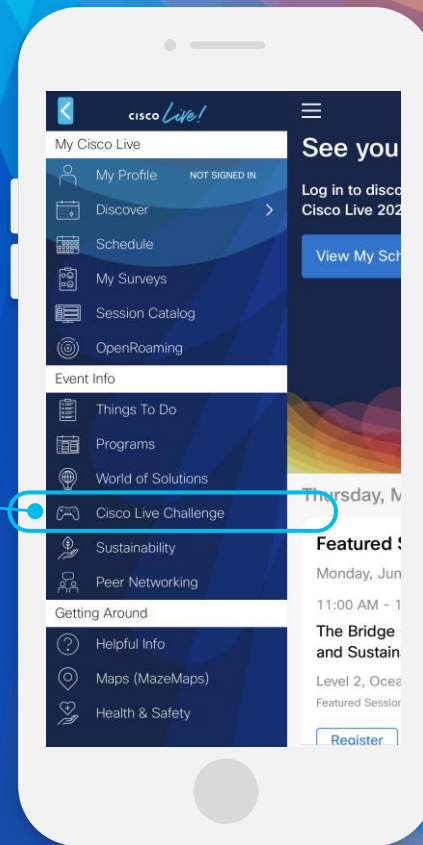
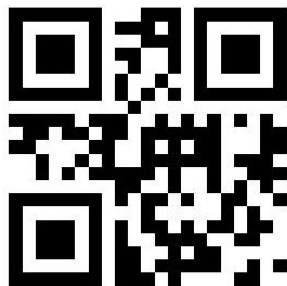
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Get points for attending this session!

## How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



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