

# AI-Canvas in Action: Rethinking Network Operations with AgenticOps (2026 Edition)

**CISCO** Live !

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# Webex App

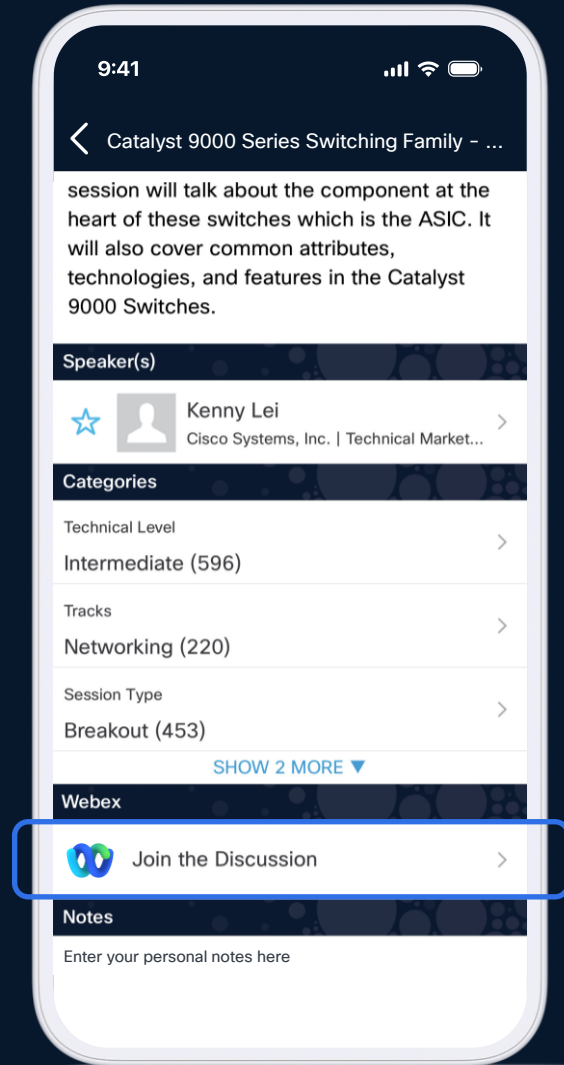
## Questions?

Use Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Events 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 February 27, 2026.**



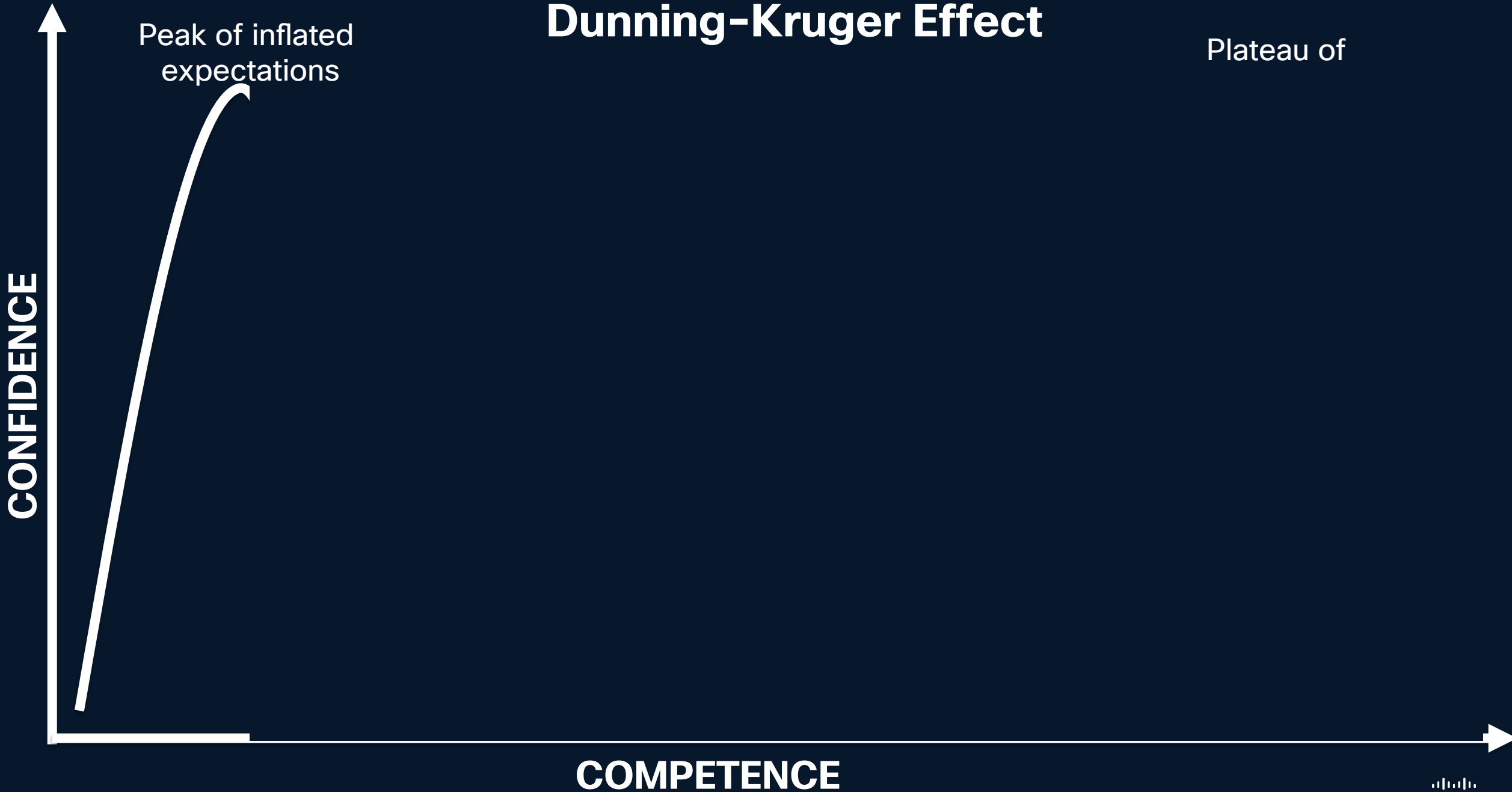
# Agenda

- 01 AgenticOps Foundations
- 02 AgenticOps in Practice: AI Assistants
- 03 AgenticOps in Practice: AI Canvas
- 04 Model Context Protocol

# AgenticOps Foundations

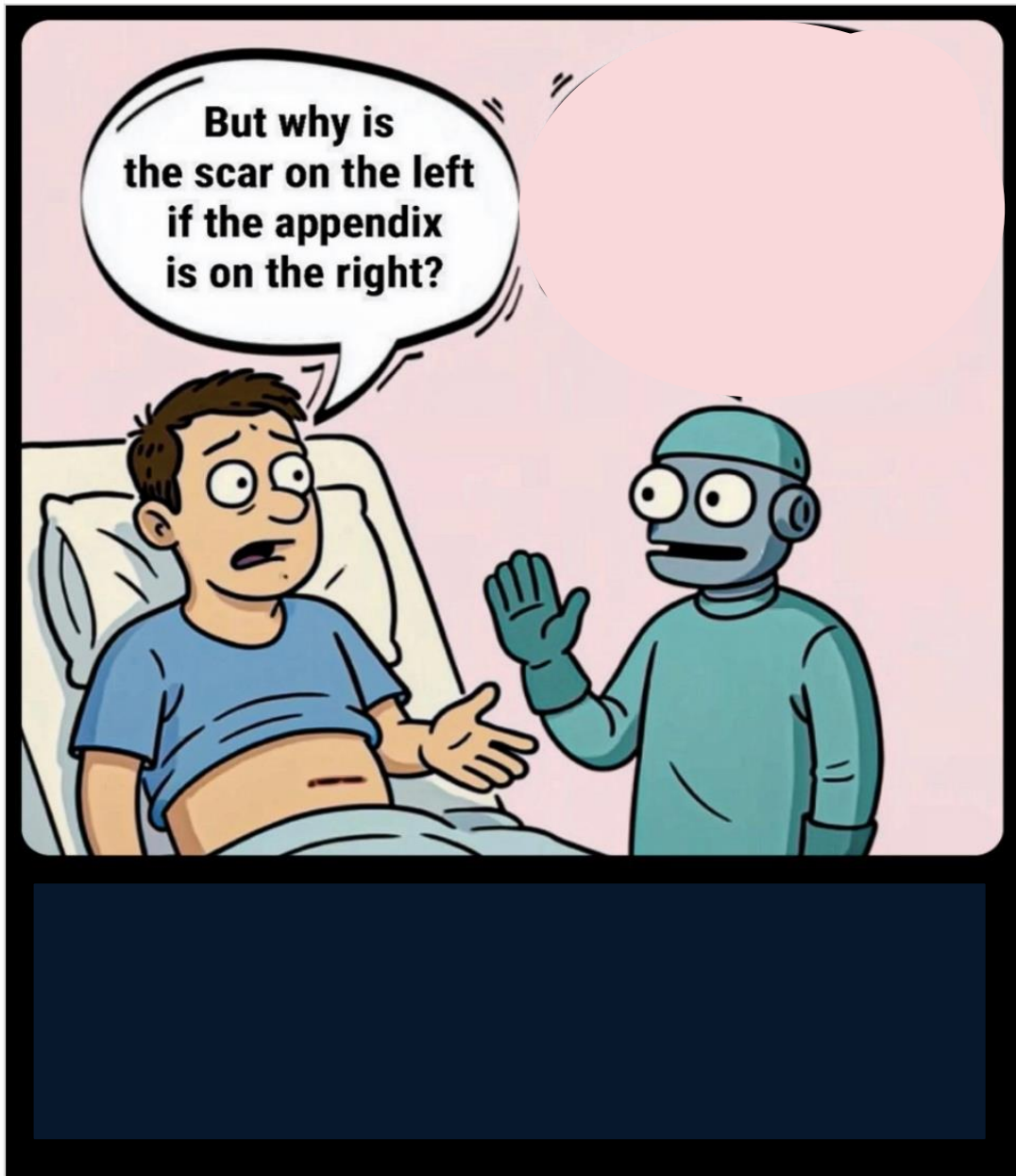
# Dunning-Kruger Effect

Plateau of



The image features the letters 'AI' in a bright, glowing cyan font, centered in the upper half. Below the letters, there are intricate, swirling particle trails in shades of cyan and magenta. The background is a dark, rich red and purple, filled with numerous small, colorful bokeh lights in blue, yellow, and pink. On the left and right sides, there are vertical lines of varying lengths, some ending in small circles, resembling a stylized circuit board or data stream. In the bottom right corner, there is a network diagram consisting of interconnected nodes and lines, with some nodes highlighted in bright colors. The overall aesthetic is futuristic and high-tech.

AI



generativeai\_official · Følg



**Adam:**

Hey, I'm seeing a **critical issue** on the device `very_important_switch_core#1`. How do I resolve it?

# Components

## Large Language Model (LLM)

- Pretrained on a vast and diverse data set, able to ~~understand~~ process and generate language (images)
- In AIOps, interpret complex human queries, "reason" and generate insights
- Cannot get access to live data, external datasets, only what it was trained on

## Agent (Model Context Protocol) MCP

- MCP is a "USB" like protocol to connect to agents to access external resources (e.g. network data)
- Agents expose tools to access live data or make configuration changes
- Usually expose a subset of capabilities of the underlying platform

## Tools

- Allow agents to interact with the outside world
- Typically make API calls or invoke other software
- Relatively small number of tools / agent (compared to API endpoints)

## Skills

- Shows the model how to use tools
- Sequence of steps, like a playbook
- No side-effects, tools do the work

# Skills vs Tools



## Skill

Cognitive behaviours  
the model exhibits

- Internal competencies
- Brain wiring
- No side effects
- Live inside the model



## Tool

External capabilities  
the model calls

- Action space
- Hands and sensors
- Side effects
- Executed outside the model

Example:

Tools: CLI, API, configuration change, ping etc

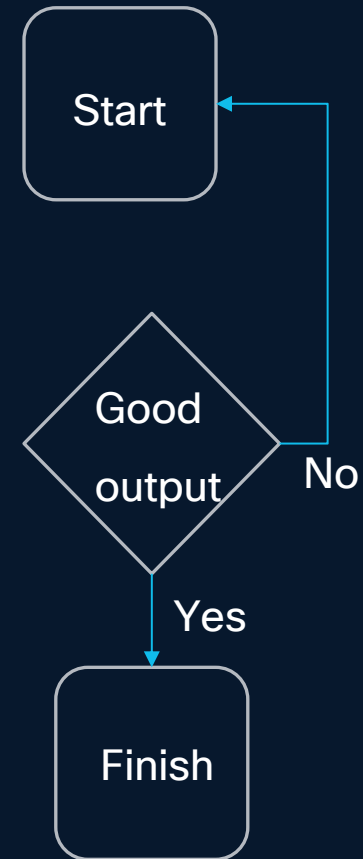
Skills: Troubleshooting reasoning

Skill: I need to check dhcp scope, then wireless client events. Find the clients impacted when scope exhausted

Tool: `get_dhcp_scope()`, `check_wireless_clients()`

# Determinism

"identical inputs always lead to identical outputs."



# The art of prompting (new human skill)

Naïve:

How is my network doing?

Compound, self correcting:

You are a Network Operations Copilot (Wi-Fi + LAN) helping an on-call engineer.

**Task:** Troubleshoot a suspected Wi-Fi performance degradation at the London office. Symptoms (from user reports): - Users report intermittent disconnects and high latency on the CORP-WIFI SSID. - Started “this morning” and is affecting multiple floors.

**Constraints:** - Do NOT recommend disruptive actions (channel plan changes, controller reboot, mass AP reboot) unless evidence strongly supports it. - If you need more info, ask up to 3 clarifying questions first.

**Work style:**

- 1) **State 2-4 hypotheses and the minimum evidence you need to confirm/deny each.**
- 2) Propose an investigation plan that pulls only the most relevant data first.
- 3) For each hypothesis, cite which observed metrics/events support it and which contradict it.
- 4) Identify 3-5 ways your reasoning could be wrong (misread KPI, missing time window, correlation vs causation, etc.).
- 5) **For each possible mistake: either show why it's unlikely given the evidence OR revise your hypothesis and update the plan.** 6) Output a short incident-ready summary: “Symptoms / Impact / Likely cause / Next actions / Risky actions to avoid”.

**Keep the response technical and specific to Wi-Fi operations.**

# AgenticOps in Practice: AI Assistants

# Today's IT environments are more complex, noisy, and fragmented than ever



70%

of IT pros say alert fatigue is a top challenge



85%

of IT outages caused by human error are procedure or process related



112

SaaS apps are used by the average enterprise, operating across the 2.2 public clouds



15+

hours of average mean time to resolution for critical incidents. MTTR is still too high

# However, this is not a new problem ...



## AgenticOps

AI agents reason, plan, and act across domains  
Humans set policies and guardrails



## AIOps

ML models correlate events, anomalies, and root causes  
Noise reduction and faster mean time to resolution



## Centralized & Intent-Based Operations

Controllers and centralized platforms manage network state  
Shift from device-by-device to policy-based configuration  
Improved visibility, but actions are still largely manual



## Scripted Automation

Use of scripts and point tools to automate repetitive tasks  
Faster changes, but logic is static and brittle  
Still requires human interpretation and decision-making



## Manual Operations

Device-centric, reactive, largely manual  
CLI-driven configuration and troubleshooting  
Siloed teams with limited shared context  
Reactive “break-fix” model based on tickets and alerts

# AI Assistant Value Prop



**AI Assistant brings conversational intelligence directly into the Platforms**

**It allows IT teams to ask questions in natural language, get actionable insights, and automate network operations all within a familiar, secure environment.**

# Examples of AI assistant across Cisco Portfolio



Cisco Meraki

Topology, client details, location, etc.



Duo

Authentication & compliance



Secure Access

Private & SAAS Resource Access



Catalyst Center \*

Topology, client details, location, etc.



SD-WAN

WAN Details



WAN, Internet, App Insights



Voice and video experience



Cisco and third-party insights

The screenshot shows the Cisco ThousandEyes Alerts interface. The main content area displays a table of active alerts:

Alert Rule	Start (GMT+5:30)	Scope
Default Network Alert Rule 2.0	Dec 2, 2025 21:50:00	2 agents

An AI Assistant chat window is open on the right, showing a user query: "show me alerts from this past week". The AI Assistant response reads: "We detected 1 alert in the last 7 days, 1 of which is minor. The latest minor alert was 'Default Network Alert Rule 2.0' applied on the target 'cea\_server'. The alert started at December 02, 2025 11:20:00 and is ongoing, impacting 1 test across 2 locations: C9K-STANDALONE-1.cisco.com and C9K-STANDALONE-2.cirrus.cloud. The alert triggered because the packet loss was 100%, which is above the threshold of 10%."

(\* Available soon

# Streamlining Network Operations with AI Assistant

Seamless monitoring, troubleshooting, and management across Cisco architectures

Instantly diagnose and resolve issues across Cisco platforms

Automate troubleshooting workflows for efficient, streamlined network management

Transform vast amounts of networking data into clear, concise, and actionable insights

The screenshot displays the AI Assistant interface. At the top, the user asks, "Show me VPN status and health for Meraki SFO22". The AI Assistant responds with the following information:

- Network Name:** 460 Townsend - SFO22
- Device Serial:** Q2PN-H7YS-7LQ2
- Device Status:** Online
- VPN Mode:** Spoke
- Uplinks:**
  - WAN1: Public IP - 157.131.60.36
  - WAN2: Public IP - 148.64.103.227

**Exported Subnets:**

Name	Subnet
Meraki Management	10.92.130.0/28
CAM-SRVR	10.92.130.64/26
SEC-CAMS	10.92.130.32/27

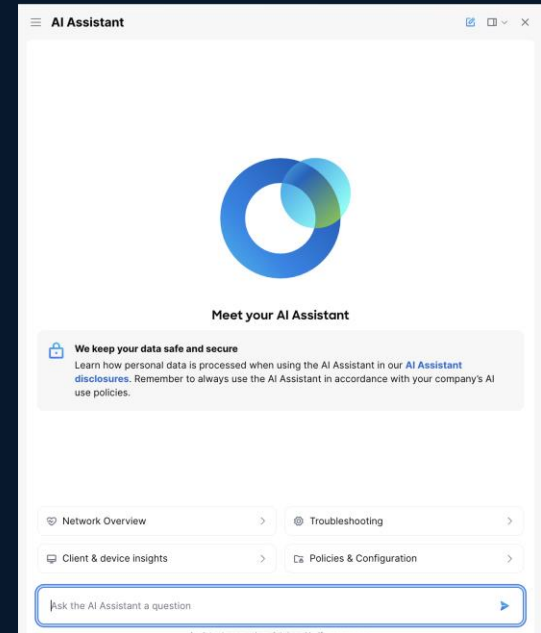
**Meraki VPN Peers:**

Network Name	Reachability
Meraki San Francisco SFO12	Reachable
Cloud Managed - San Francisco SFO12	Reachable

At the bottom, there is a text input field with the placeholder "Ask the AI Assistant a question" and a blue arrow button. Below the input field, a small disclaimer reads: "Assistant can make mistakes. Verify responses."

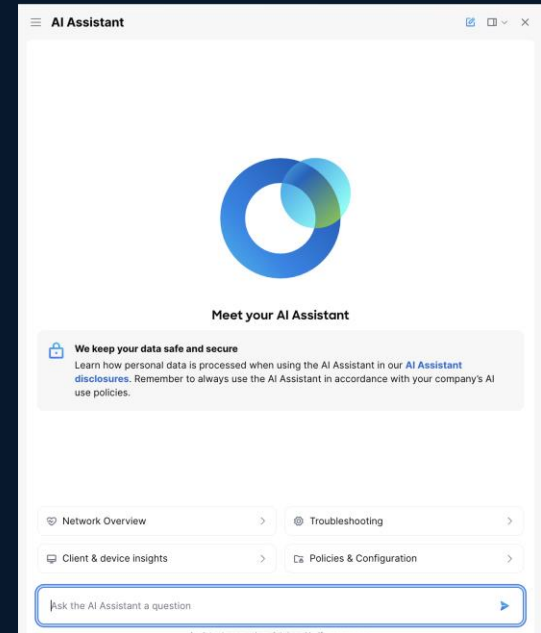
# AI Assistant Under the covers

**User Request:** User asks a question with context.



# AI Assistant Under the covers

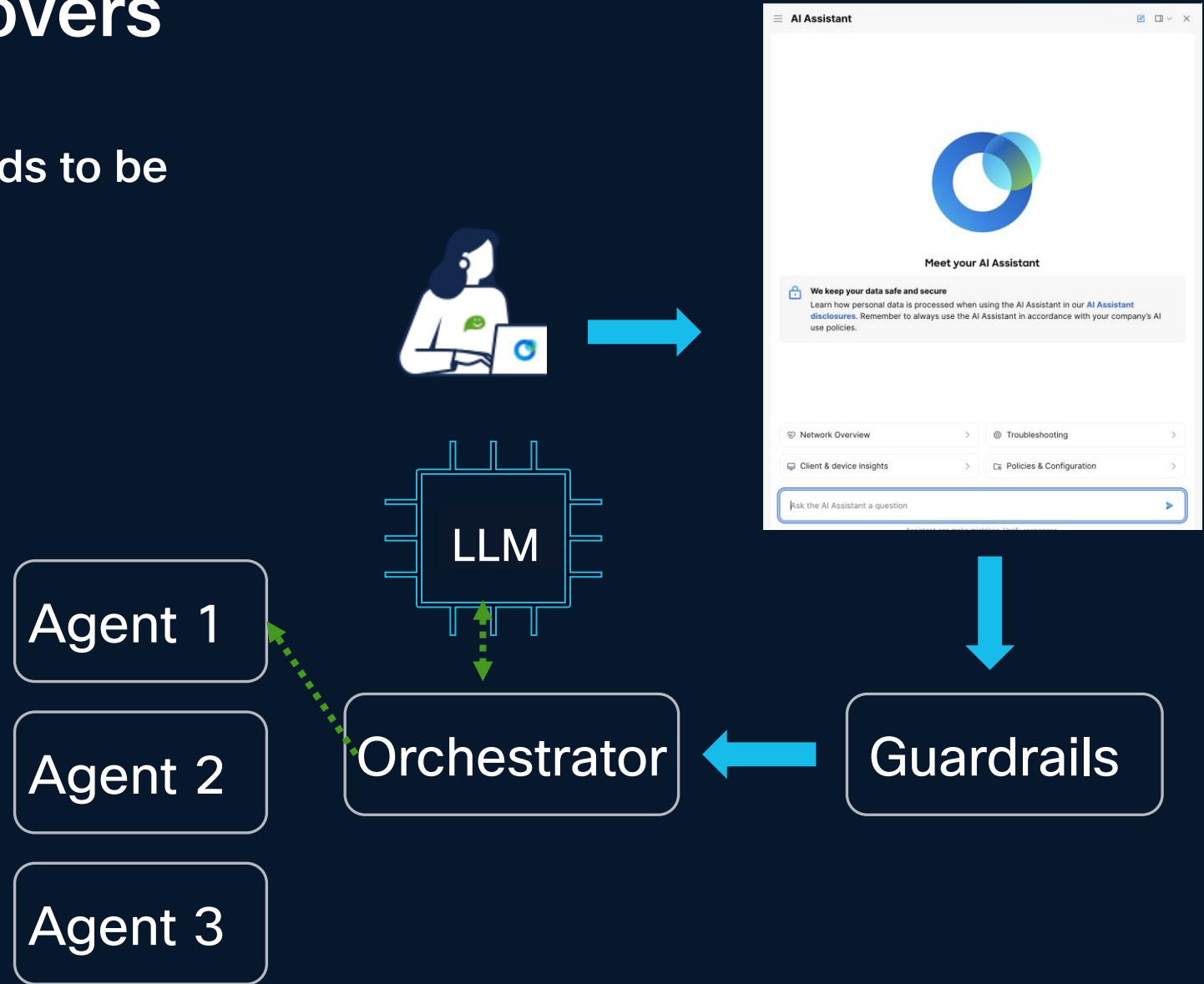
Guardrails: Request checked for security/malicious intent.



Guardrails

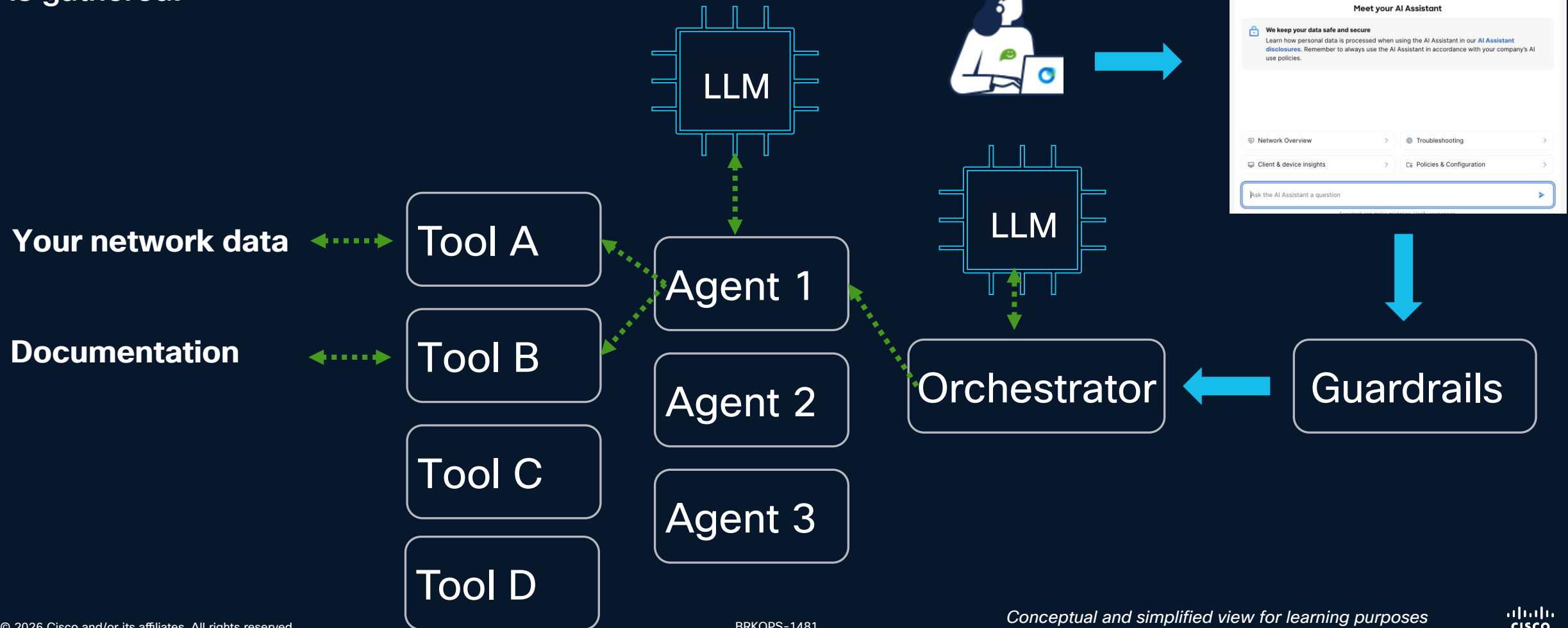
# AI Assistant Under the covers

Data Decision: AI determines what needs to be done & what data is needed



# AI Assistant Under the covers

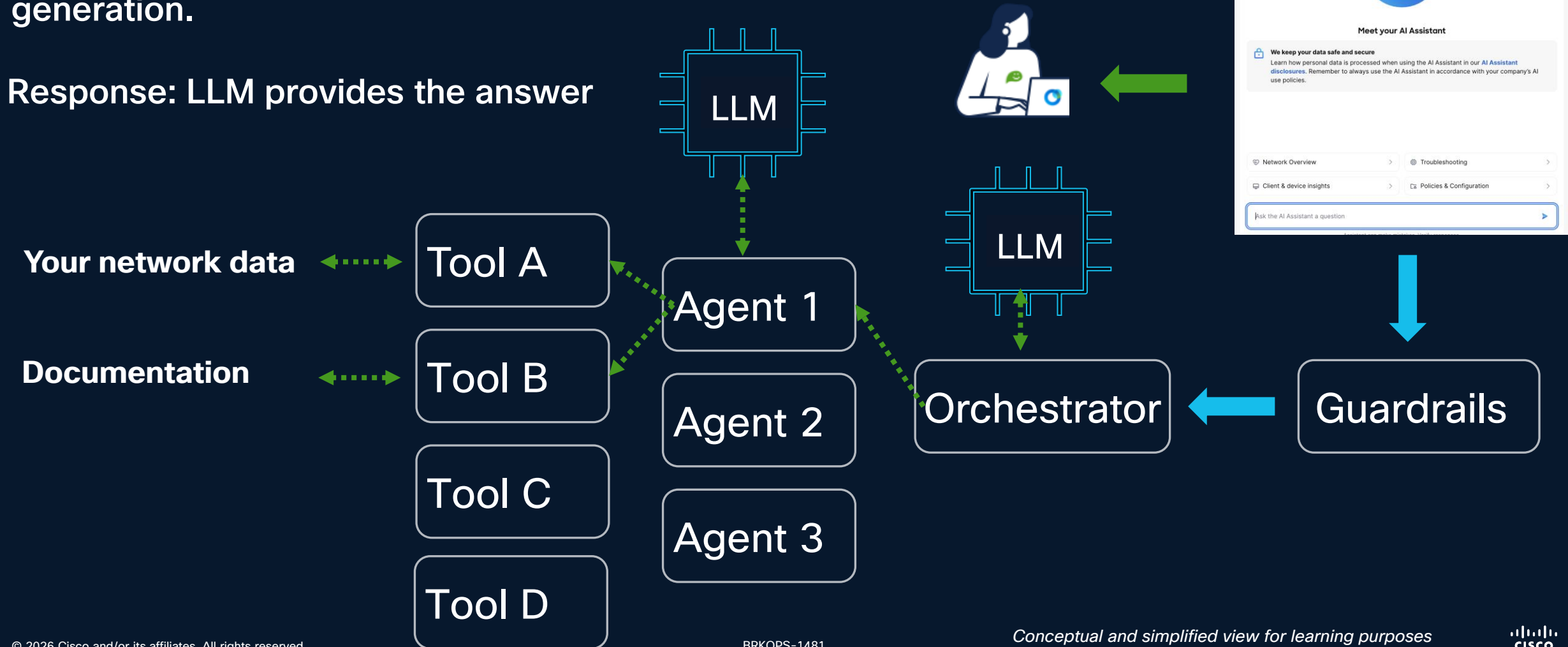
Data Collection: Agent selects the tool & relevant data is gathered.



# AI Assistant Under the covers

LLM Processing: Data fed to LLM for response generation.

Response: LLM provides the answer



AI Assistant

# Demo

# Security and Privacy

- | All interactions are encrypted.
- | No personally identifiable information is stored.
- | The AI Assistant adheres to Cisco's rigorous data protection standards.
- | Customer data remains within Cisco's secure environment and is not used to train the AI Assistant.

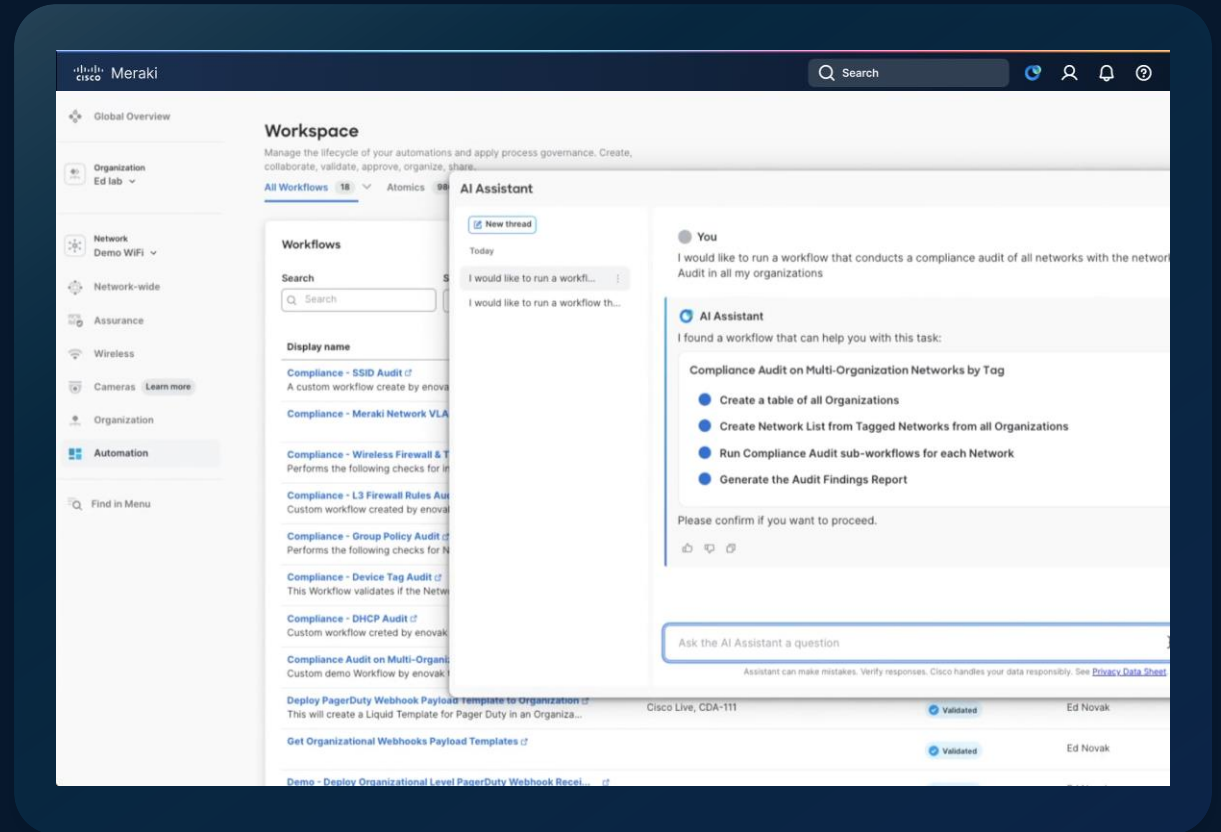
Cisco AI Assistant Offer Disclosure:

<https://trustportal.cisco.com/c/r/ctp/trust-portal.html#/19616397641515805>

# Agentic workflows

## Agentic automation across cloud and on-prem deployments

- AI powered automation natively in the Meraki dashboard
- Leverages built-in AI Assistant integration for agentic operations
- Automates workflows across Meraki, Catalyst Center, Catalyst SD-WAN Manager, ISE, Nexus, and more



AI Assistant Cisco  
Workflows

# Demo

**AgenticOps in Practice:**

**Cisco AI Canvas**

# AI Canvas

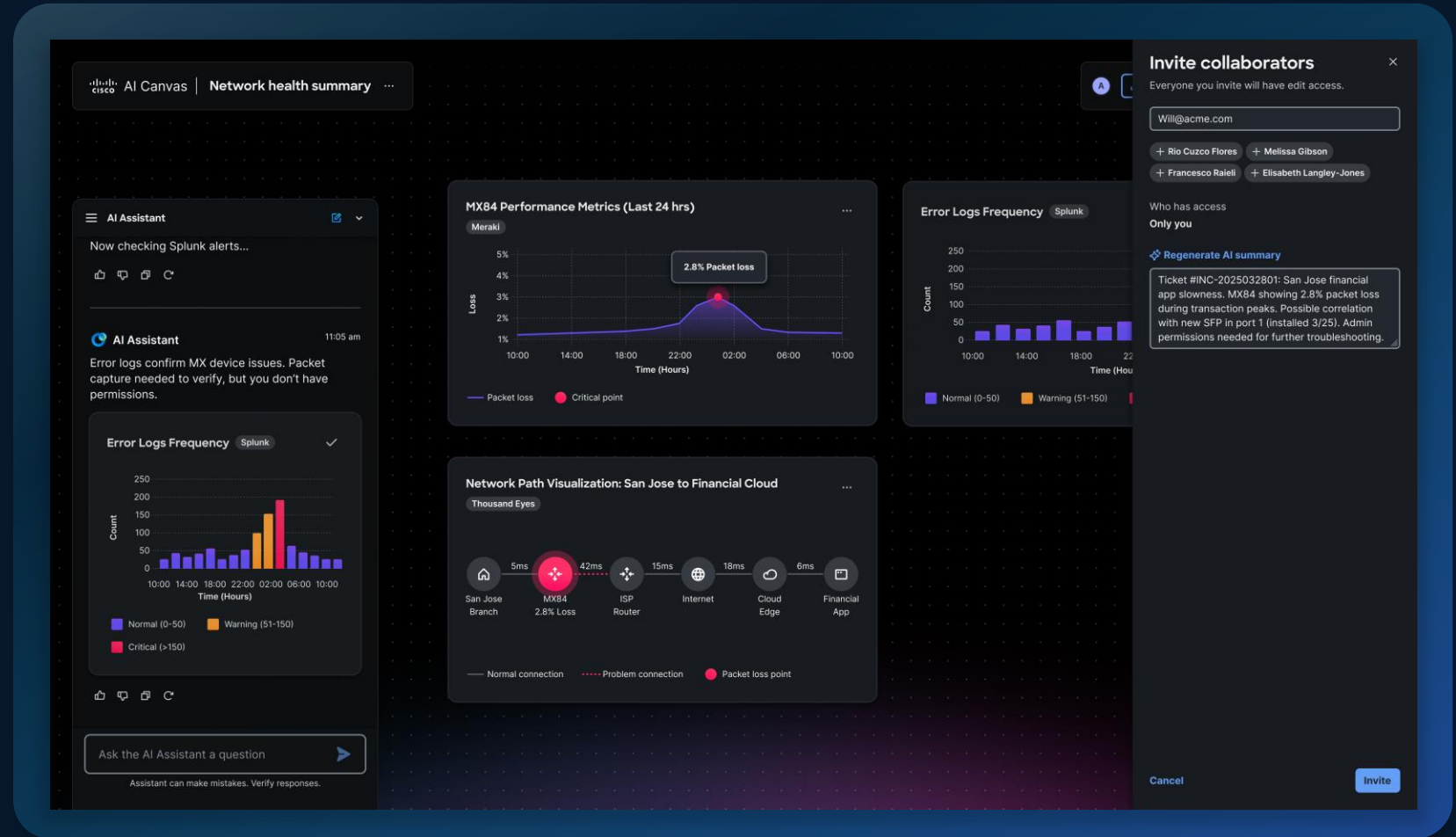
Reimagined user interface for human/agent interaction

Cross-domain

Multiplayer

Purpose-built models

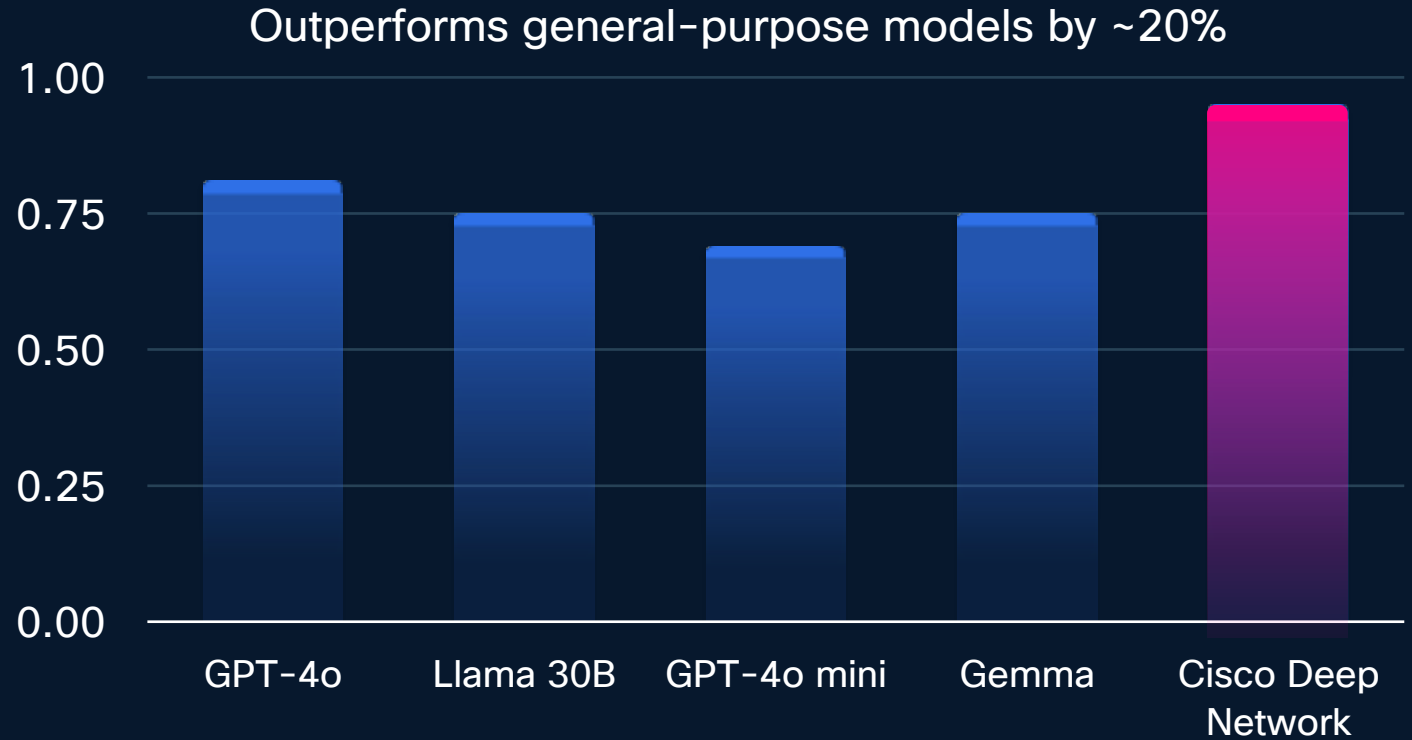
Generative UI



# Deep Network Model


Purpose-built for networking, expert accuracy

- More precise reasoning for troubleshooting, configuration, and automation
- Fine-tuned on 40+ years of expertise and expert-vetted for accuracy
- Evolves with live telemetry and real-world Cisco TAC and CX insights



Accuracy on CCIE-style multiple choice questions (590-question benchmark), May 2025

# Behind-the-scenes with AI Canvas



**Agentic AI gives models the ability  
to interact with systems and take  
actions**

# Capabilities

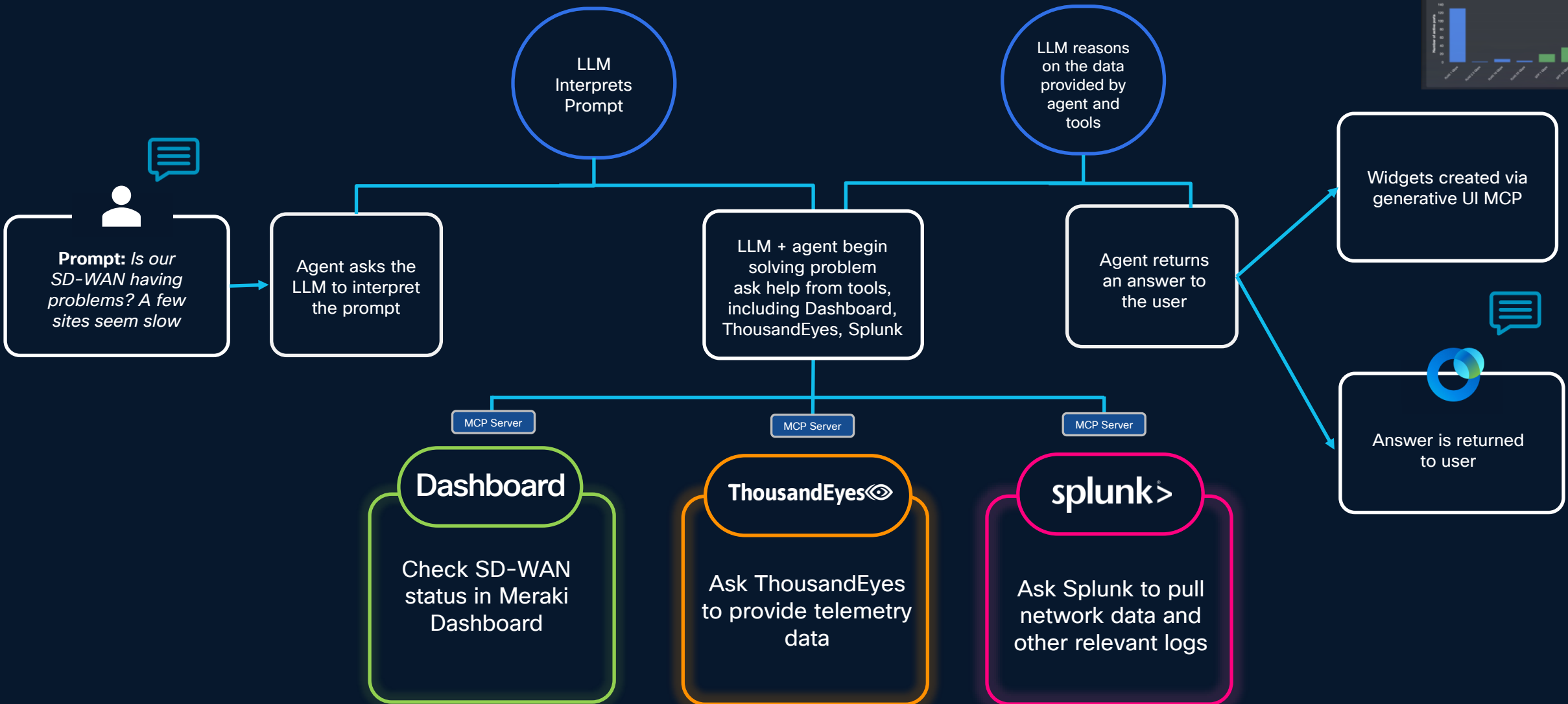
Reason & plan

Chooses  
Agents & Tools

Adapt &  
Recover

Execute  
Autonomously

# AI Canvas Behind the Scenes Example



Cisco AI Canvas

# Demo

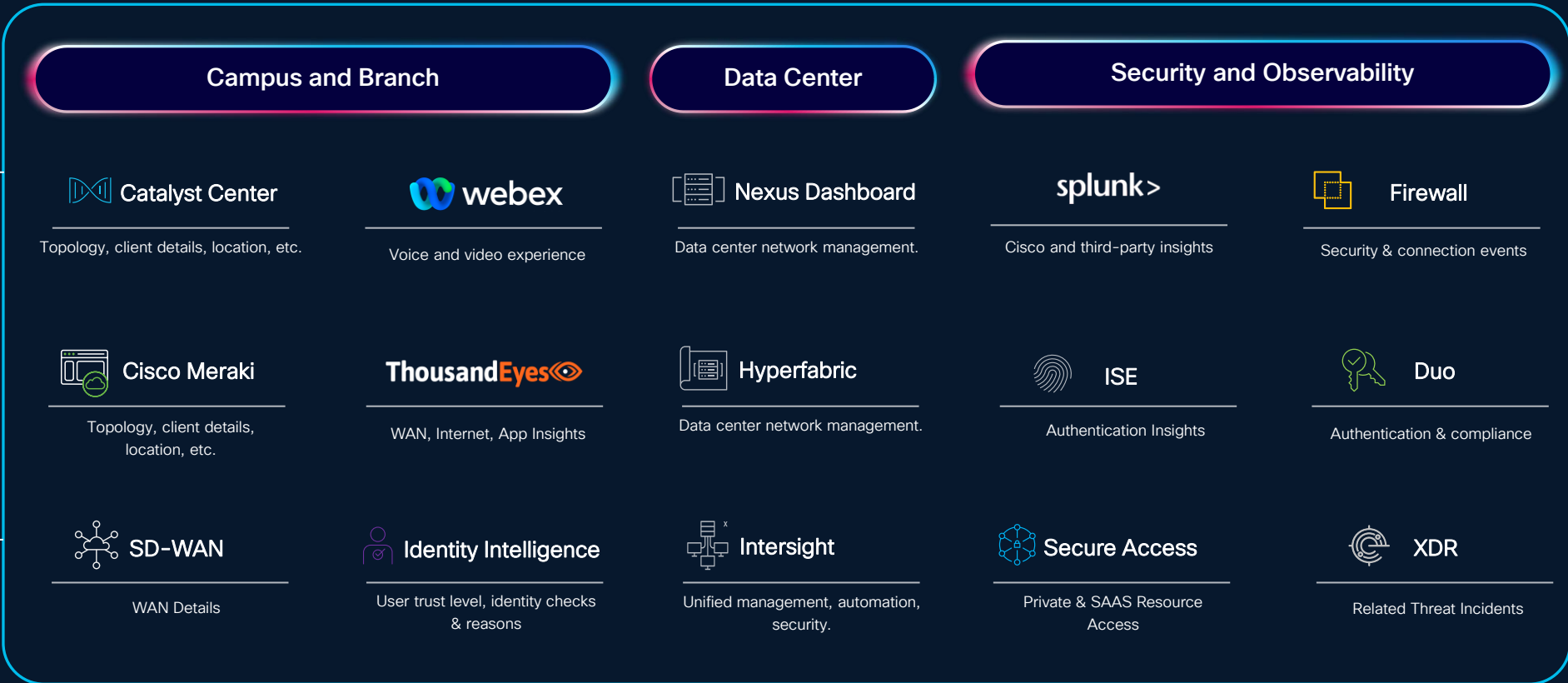
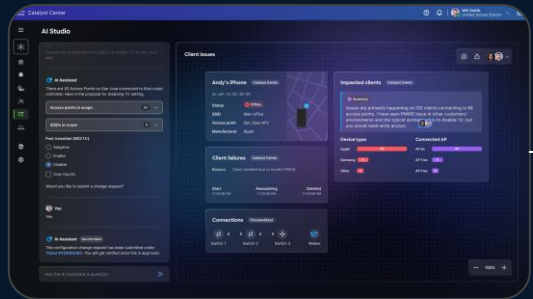
Dashboard +  
ThousandEyes

# Agentic Ops Across IT and SecOps

AI Assistant



AI Canvas



Putting it all together

# Demo

# Model Context Protocol



# Magic

## Context Protocol

# REST API

stateless

granular

composable

Resources

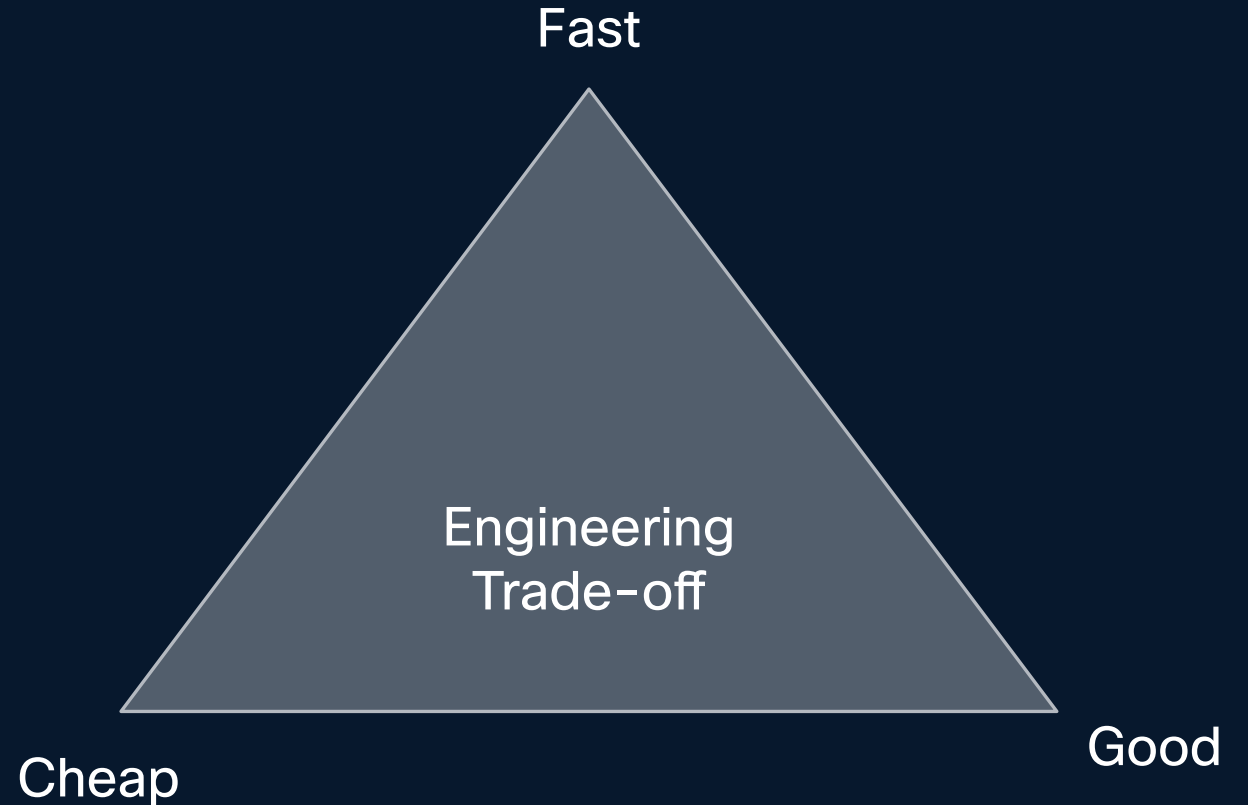
# Approaches for building MCP servers

Wrap the  
REST API

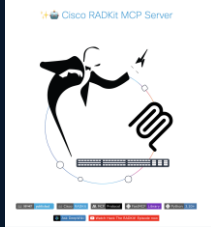
Conserve tokens  
"count number of devices"  
Tool to pre-process

Single tool (knowledge  
of how to call API)

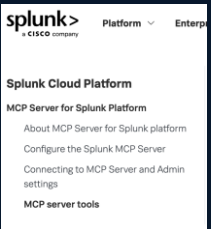
MCP  
memory



# Some example servers



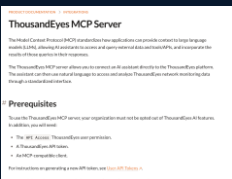
<https://developer.cisco.com/codeexchange/github/repo/CiscoDevNet/radkit-mcp-server-community>



<https://help.splunk.com/en/splunk-cloud-platform/mcp-server-for-splunk-platform/mcp-server-tools>

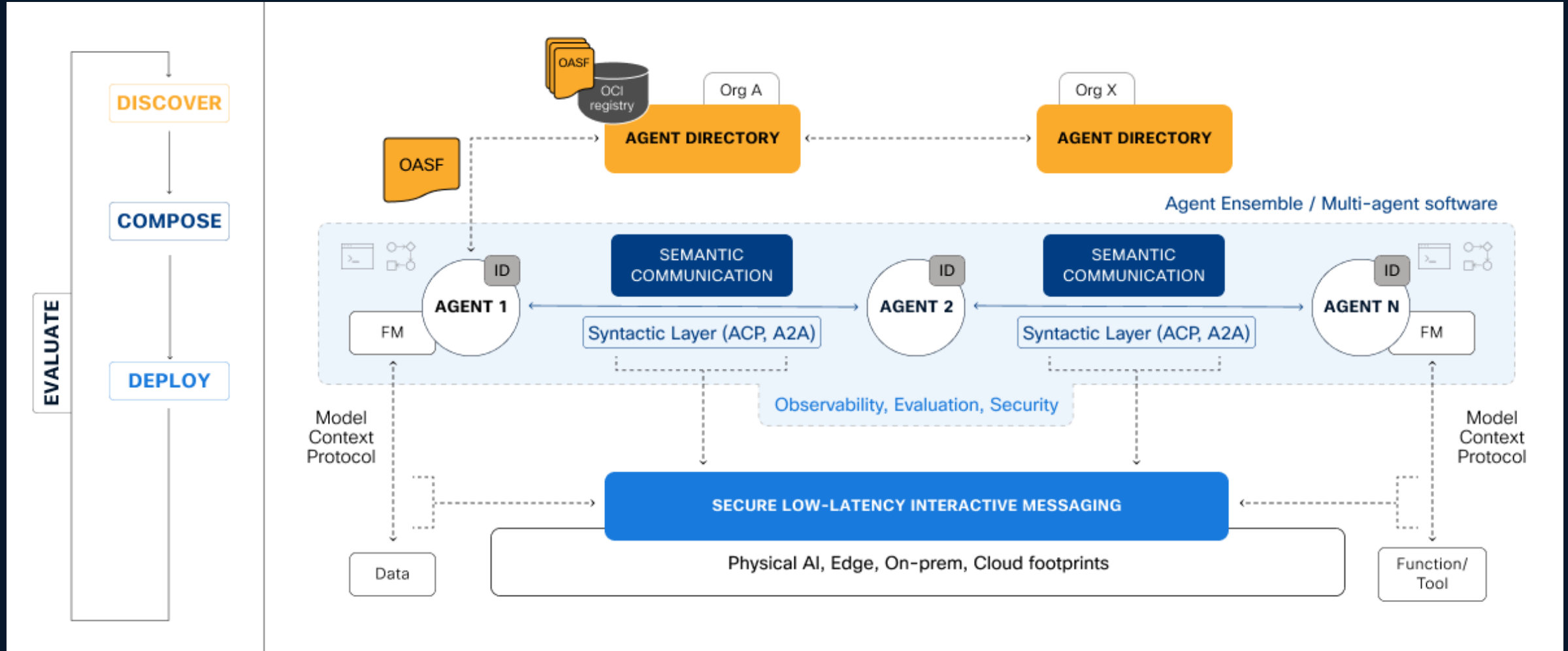


[https://github.com/zapodeanu/network\\_platforms\\_mcp\\_servers.git](https://github.com/zapodeanu/network_platforms_mcp_servers.git)



<https://docs.thousandeyes.com/product-documentation/integration-guides/thousandeyes-mcp-server>

# Internet of Agents Architecture





by Noelle Flint Published on 10/21/2025 Last updated on 10/21/2025

# Autonomous networks, fewer outages: How Swisscom and Outshift are rethinking network change management

Even the world's most advanced telecom networks can be brought to a standstill by a single misconfiguration.

According to [Gartner](#), 80% of mission-critical outages would stem from people and process issues—with over half tied to change and configuration missteps. Globally, [Splunk and Oxford Economics](#) estimate that downtime costs organizations over \$400B annually in lost productivity, revenue, and recovery efforts. The stakes for operational resilience have never been higher.

These challenges impact industry leaders like, Swisscom, Switzerland's largest telecom provider. When Swisscom experienced a significant incident, it became the catalyst to rethink network reliability.

Earlier this year, [Swisscom and Outshift by Cisco](#) announced a [strategic partnership](#) to explore [autonomous network operations](#). Today, we're proud to share the results of that collaboration.

Our shared goal was clear: shift network operations from reactive to predictive. By combining AI agents, [knowledge graphs](#), and network digital twins (NDTs), we demonstrated that a real-world outage can be proactively prevented, showcasing a smarter, more resilient future for telecom infrastructure.

## The vision: Toward a flawless, autonomous network

Swisscom has long been a pioneer in telecom innovation, launching one of Europe's first nationwide [5G networks](#). Their next goal is to move from manual, human-centric operations to an AI-assisted framework, ultimately aiming for full autonomy.

But modern networks are intricate. Even the most rigorous physical testing can miss subtle dependencies, leading to service disruptions. Swisscom needed an approach that could predict and prevent failures before they reached production.

## The catalyst: Learning from a real-world outage

Our partnership was born from a service outage triggered by a routine configuration change. Though the change passed all standard lab tests, it caused a disruption in production.

Post-mortem analysis revealed two root causes:

1. **Incomplete test coverage:** The lab missed a second-order effect on a dependent service.
2. **Misconfiguration:** A missing route metric created a forwarding loop.

This outage exposed the limitations of physical labs: slow, costly, and unable to fully replicate live environments. Swisscom teamed up with Outshift, as we were incubating an Agentic Network Validator, to develop a predictive, scalable solution.

*At first, I was skeptical about achieving tangible results due to the project's tight timeline and ambitious scope. However, my doubts were quickly dispelled. Outshift's Agentic Network Validator solution demonstrated its remarkable potential by analyzing real-world network changes, enabling it to predict and prevent errors before they occurred. This technology will change the way we operate networks, and the transformation will happen much more swiftly than I ever anticipated." –Martin Gysi, System Architect at Swisscom*



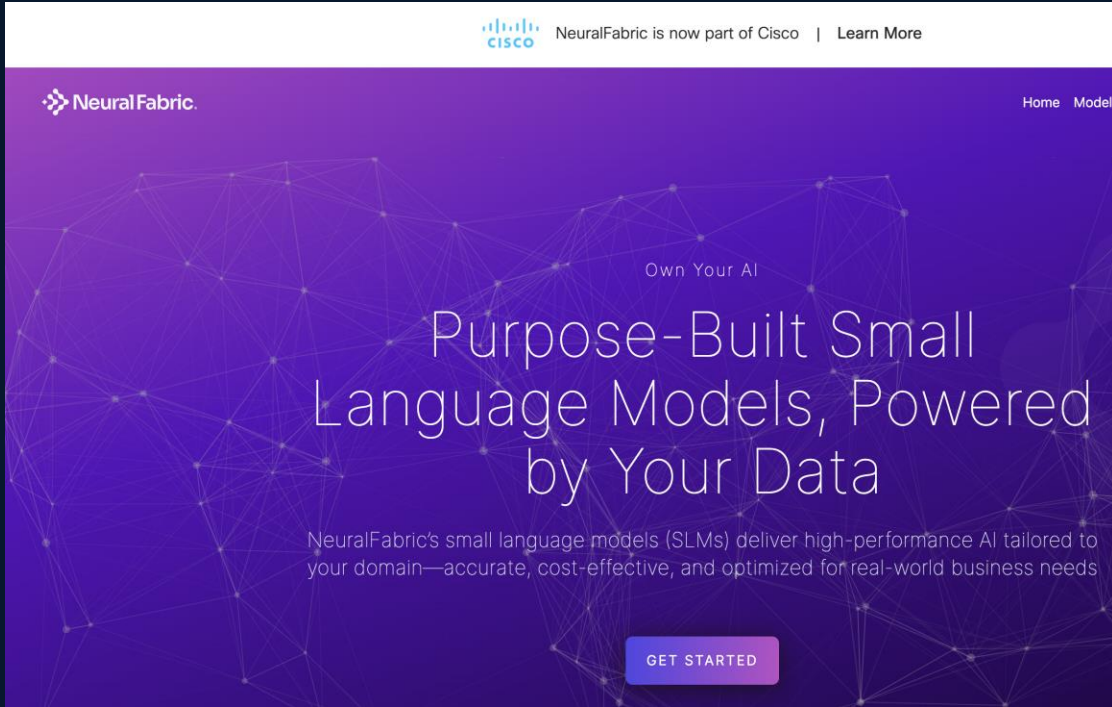
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<https://outshift.cisco.com/blog/swisscom-oushift-network-change-management>

# All sorts of models, large and small!



Multiple models

Multiple sizes – model to book an air ticket?

Resources and economics

Speed of change

# Demo

## Claude + RadKit MCP

please run a security review of the configuration

I'll perform a comprehensive security review of the perth-9k-edge configuration. Let me gather the necessary information.

Exec\_command >

Let me split this into smaller batches. I'll start with the most critical security configuration items.

Exec\_command >

Now let me gather additional security-related information:

Exec\_command >

Perfect! I now have comprehensive configuration data. Let me compile a detailed security review of the perth-9k-edge device.

### Security Review: perth-9k-edge (Cisco Catalyst 9300-48U)

Based on my analysis of the running configuration, here's a comprehensive security assessment:

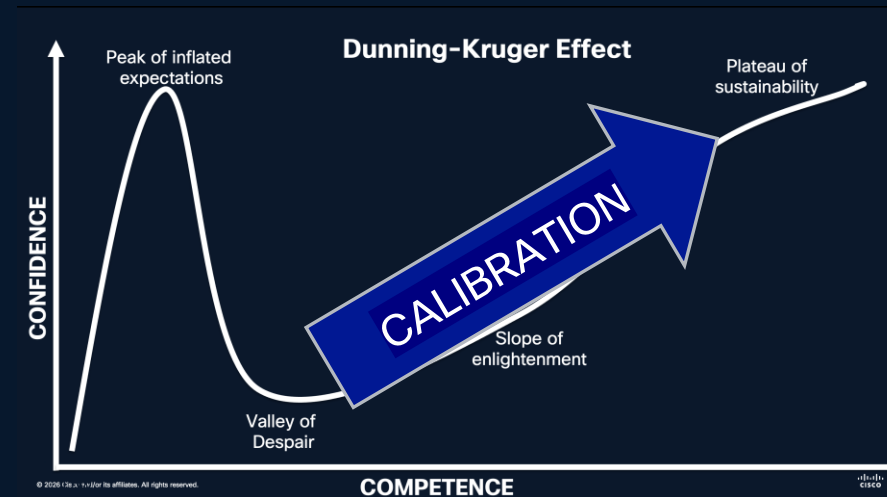
#### ✔ STRENGTHS

##### 1. Authentication & AAA

- Strong AAA implementation with RADIUS integration (DNAC)
- 802.1X authentication configured
- Encrypted passwords enabled ( `service password-encryption` )
- Enable secret uses strong encryption ( `tyr` ↓ )
- VTY lines require authentication and authorization

# Summary

- Speed of change – this is evolving rapidly
- Agents are just another technology to make people more productive (vs replacing them)
- Provides the most benefit to the expert – today like an enthusiastic intern (who can make mistakes)
- Super low barrier to entry – immerse, learn, understand



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(from 11:30 on Thursday, while supplies last)

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**Visit** the Technical Solutions Clinics to discuss your technical questions



**Attend** the interactive education with DevNet, Capture the Flag, and Walk-in Labs



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**Contact us at:** BRKOPS-1481 Webex Space

Thank you

**CISCO** Live !

