

Transforming Network Operation with Agentic AI

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Solution Development Architect



July 15, 2026

Agenda

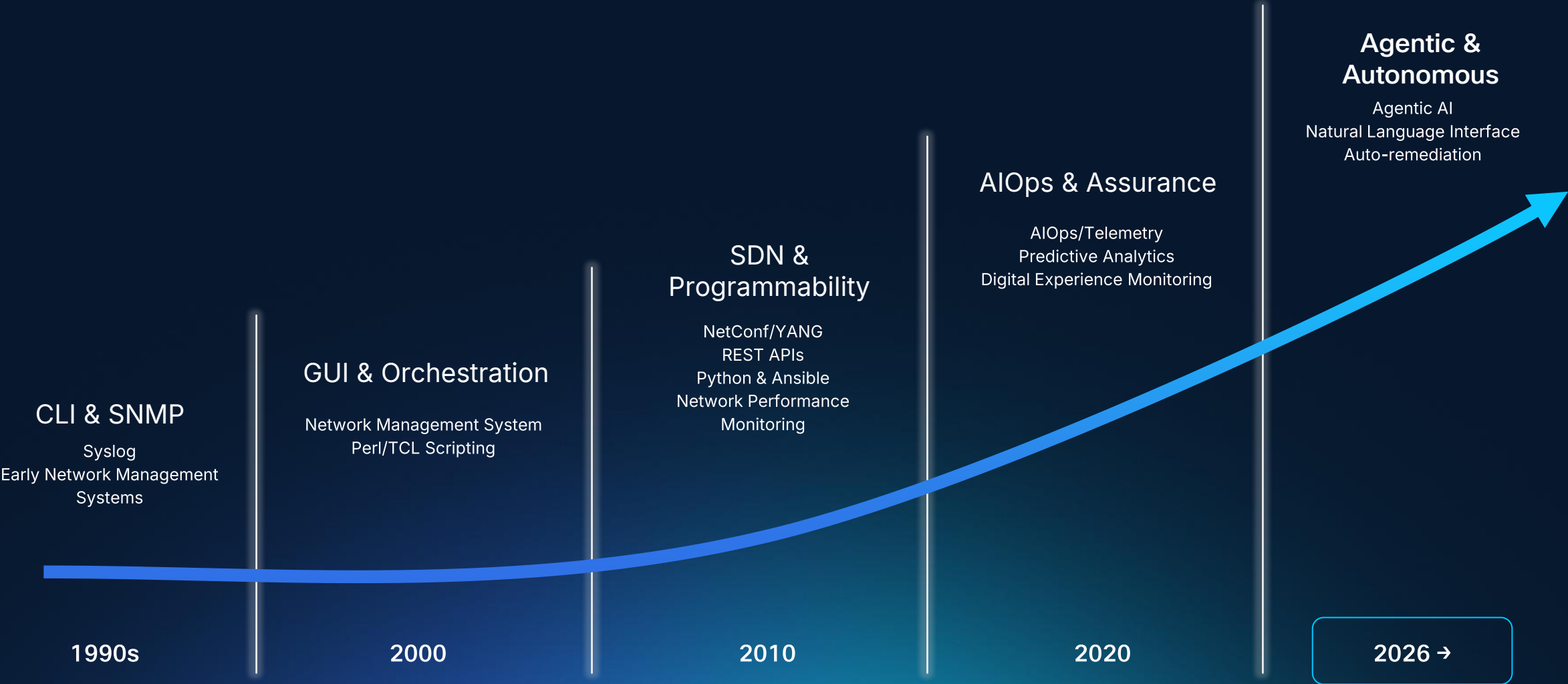
01 Why & How Agentic AI for IT Operation

02 Solutions & Use Case Demo

03 Reference Case

Why & How Agentic AI for IT Operation

Evolution of Network Operations



IT operations today

You see the symptom. The cause could be anywhere.



Networking



Security



Compute



Observability



Collaboration



Third-party
Ecosystem

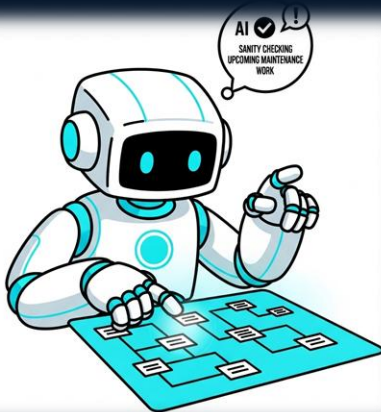


“Why is my application so slow?”

Multi-Agent System



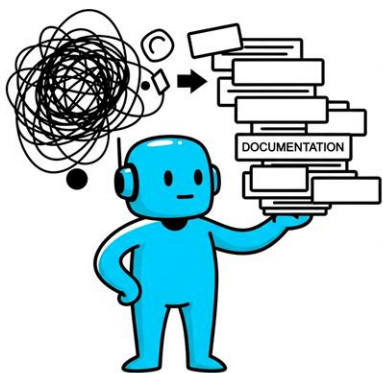
Troubleshooting Agent



Log RCA Agent



Assessment Agent



Knowledge Base Agent



Automation Agent



Capacity Planning Agent

- Shared

- Knowledge
- Resources
- Goals

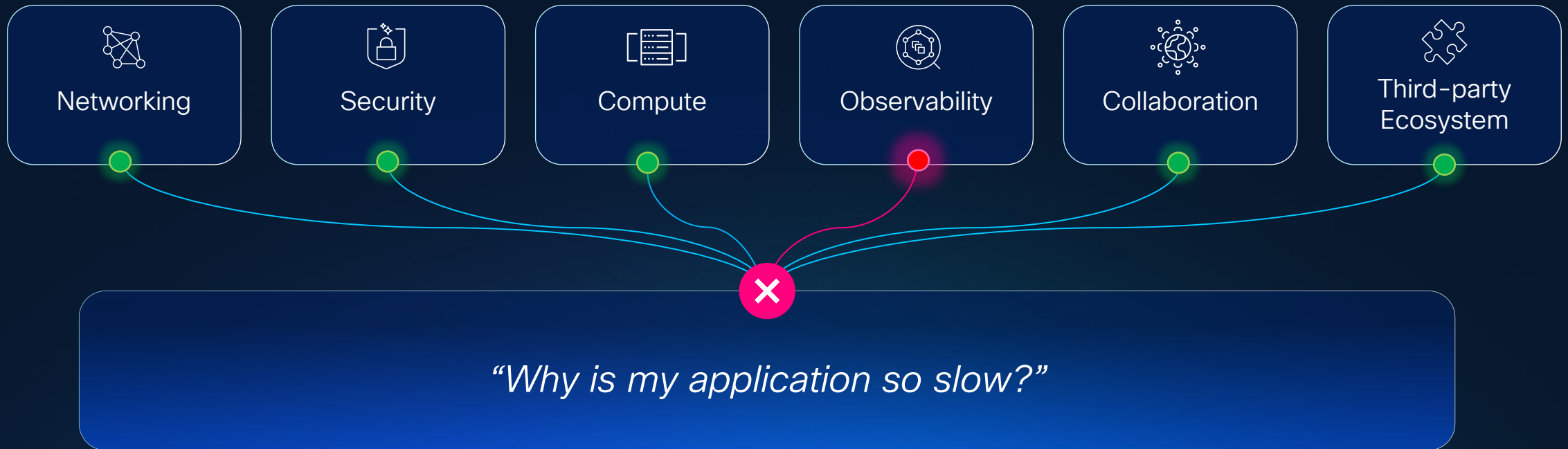
- Individual Agent Inputs

- Collaborative Outputs

- Coordinated Actions and Responses
- Unified Reporting
- Process Improvement Solutions

Every domain. One agentic workspace.

Describe the problem. Multi-Agent reasons across your entire environment to deliver the answer.



Agentic IT Operation Components & Function

LLM

(Large Language Model)

The LLM provides the reasoning

Agents & MCP

(Model Context Protocol)

Agents & MCP provide access to systems

Tools

Tools perform actions

Skills

Skills guide how those actions are combined to solve problems

Solutions & Use Case Demo

Cisco Agentic AI Solutions for IT Operation



Demo Video – Cisco IQ

Cisco CX AgenticAIOps Solution

Cisco Agentic AI Solutions for IT Operation

Customization

LLM, Agents & MCP, KB, Skill

KB – Knowledge Base

Integration

With Customer NOC

Multi Vendor

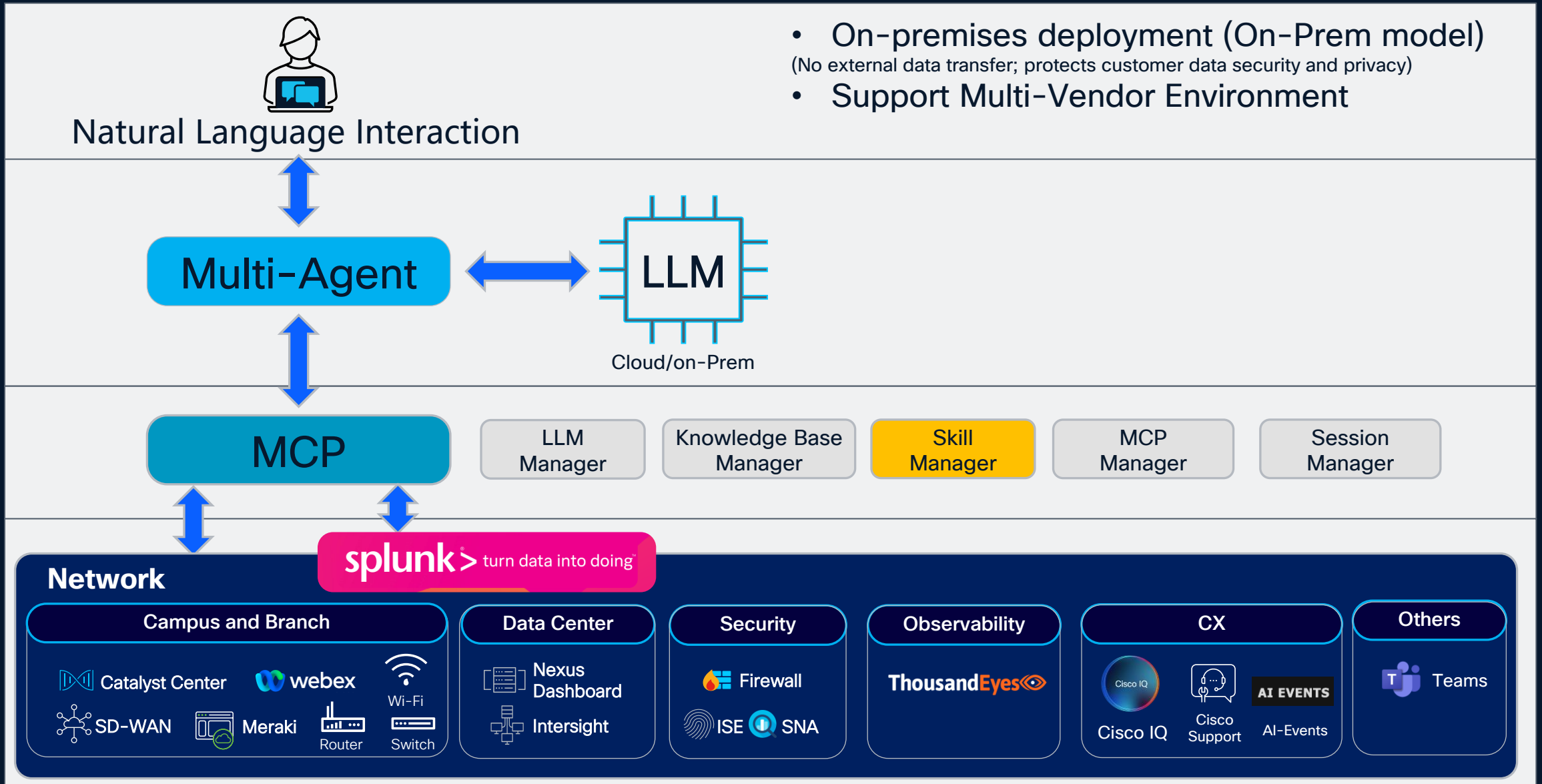
End to end

On-Prem

Data Privacy

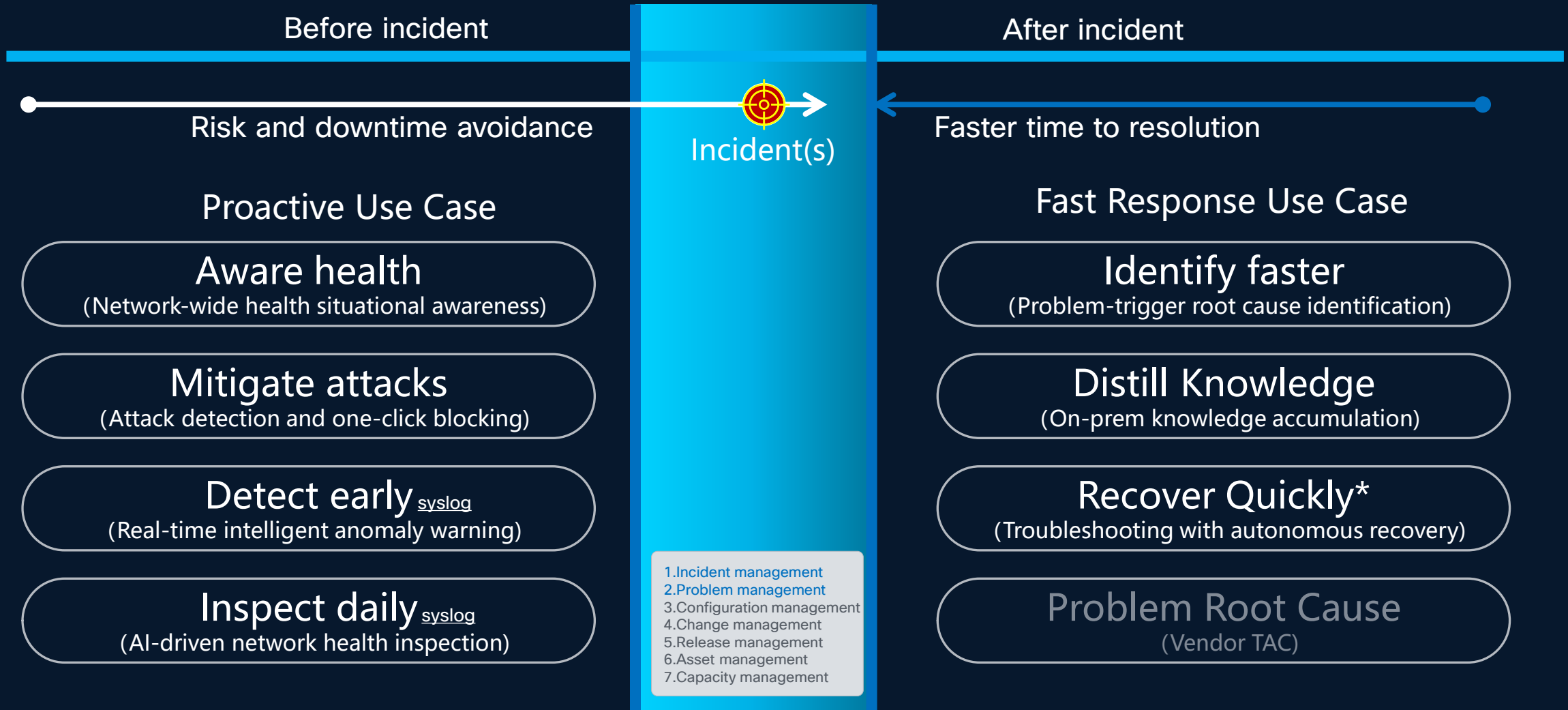
CX AgenticAIOps Multi-Agent Architecture

Describe the problem. Multi-Agent reasons across your entire environment to deliver the answer.



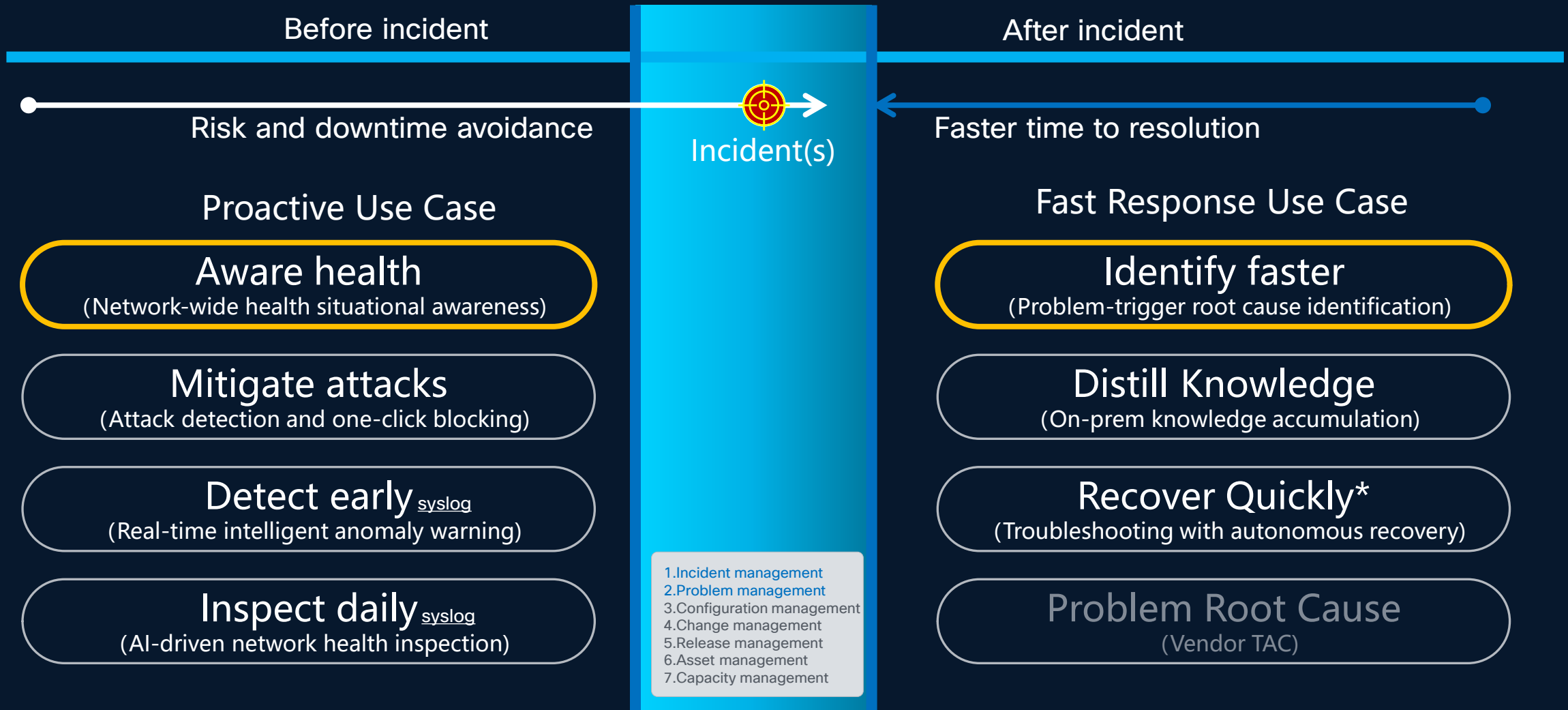
CX AgenticAIOps Use Case Demo

1. No network downtime; 2. Faster time to recover



CX AgenticAIOps Use Case Demo

1. No network downtime; 2. Faster time to recover



Demo Video - TS RCA Agent

Find where the problem is and where it isn't

CX AgenticAIOps reasons across every domain, isolates the cause, and suggests the next step.

1 Ask	2 Investigate	3 Pinpoint	4 Recommend Next Step
"Why is our website slow today?"	- Networking - Security - Data Center - Observability	ThousandEyes: SaaS BGP issue	Reroute to backup
"Why is our app slow for users at HQ?"	- Networking - Security - Data Center	Nexus: Fabric leaf congestion	Rebalance load across leaf
"Why is our executive seeing poor Webex quality?"	- Networking - Security - Data Center - Observability	Meraki: Wi-Fi interference	Enable AI-RRM
"Is there new PISRT impact our network?"	- Networking - Security - Data Center - Observability	Cisco IQ: PISRT report	Deploy Fix

Home

Dashboard

OPERATIONS

Topology Mgm

Asset Mgm

Log RCA

SecOps

AGENT PLATFORM

Agent Mgm

KB Mgm

Model Mgm

Skill Mgm

MCP Mgm

SYSTEM

User Mgm

License

Choose an agent category to start chatting

Choose a category first, then select a specific agent.

Troubleshooting RCA

Multi-agent collaborative root cause analysis for complex troubleshooting.

Log RCA

AI-driven log intelligence including log query, interpretation, and log-based root cause analysis.

Knowledge Base

Multi-vendor documentation search, command generation, and best practice recommendations.

SecOps

Closed-loop security incident handling powered by Sec-8B model.

Deep Observability

Coming Soon

ROCE network telemetry metrics query, analysis, and deep insights via natural language.

Network Health

Coming Soon

Daily network health inspection, trend analysis, and anomaly alerting.

About / Release v1.0.0 (2026-06-18) / A next-generation AIOps platform powered by Cisco knowledge and customer operations data, with on-prem deployment support.

LLM Management – Chose LLM align with Internal Policies & Use Case

The screenshot displays the 'Model Management' section of the CX AgenticAI Ops dashboard. The interface is dark-themed and includes a sidebar with navigation options: Home, Dashboard, OPERATIONS (Topology Mgm, Asset Mgm, Log RCA, SecOps), AGENT PLATFORM (Agent Mgm, KB Mgm, Model Mgm, Skill Mgm, MCP Mgm), and SYSTEM (User Mgm, License). The 'Model Mgm' option is highlighted. The main content area shows a summary of model statistics: Total Models (7), Active Models (7), Tokens / 24h (0), and Avg Error Rate (0.0%). Below this is a search bar and filters for Providers, Categories, and Status. A grid of model cards is displayed, each showing the model name, provider, capabilities, and creation date. The models listed are: gemini-3-flash-preview (Gemini, Text), gemma-4-26B(L4) (OpenAI, Text), MiniMax-M3 (OpenAI, Text), claude-4-6-sonnet (Anthropic, Text), MiniMax-M2.7-highspeed (OpenAI, Text), nvidia-zhutong (OpenAI, Text), and gemma-4-26b(RTX4090) (OpenAI, Text). The 'gemma-4-26b(RTX4090)' card includes a description in Chinese: 'gemma-4-26B-A4B-It-GGUF Q4量化 本地部署 (显卡 RTX4090)'.

CX AgenticAI Ops

Model Management
Manage LLM providers, local deployments, and inference policies

Summary:
Total Models: 7
Active Models: 7
Tokens / 24h: 0
Avg Error Rate: 0.0%

Search models... | All Providers | All Categories | All Status: Active, Inactive

Model Cards:

- gemini-3-flash-preview** (Gemini, Text)
Created 2026-06-12
- gemma-4-26B(L4)** (OpenAI, Text)
vision, tools, thinking
Created 2026-06-23
- MiniMax-M3** (OpenAI, Text)
vision, tools, thinking
High-Performance, Low-Cost, Multimodal (+1)
Created 2026-07-05
- claude-4-6-sonnet** (Anthropic, Text)
仅限Demo使用
Created 2026-05-20
- MiniMax-M2.7-highspeed** (OpenAI, Text)
High-Performance, Multimodal
Created 2026-07-05
- nvidia-zhutong** (OpenAI, Text)
英伟达云端模型服务。
Created 2026-05-20
- gemma-4-26b(RTX4090)** (OpenAI, Text)
gemma-4-26B-A4B-It-GGUF Q4量化 本地部署 (显卡 RTX4090)
vision, tools, thinking
Long-Context, Low-Cost, High-Performance (+2)
Created 2026-05-13

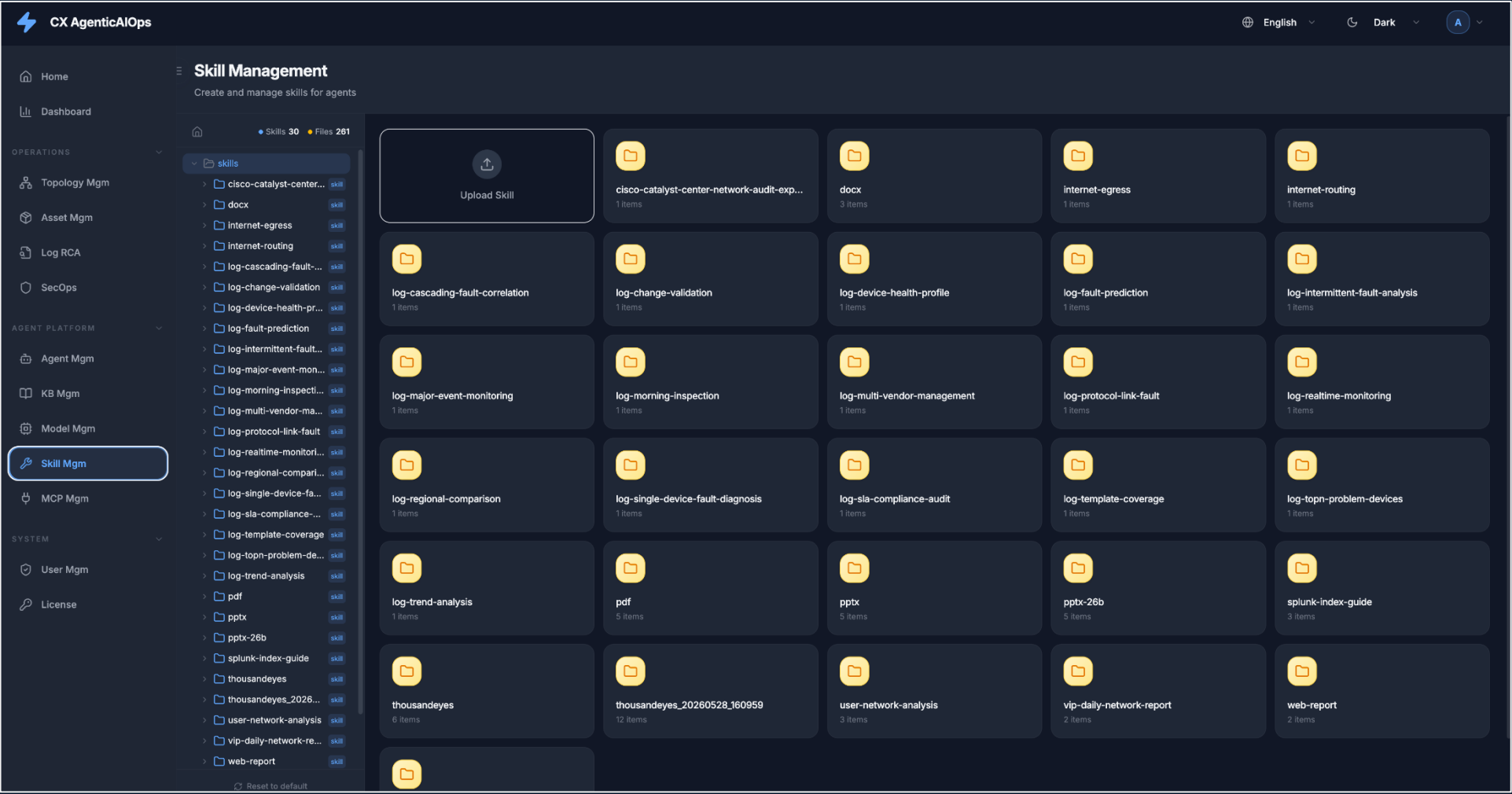
- On-prem LLM
 - Gemma-4
 - Ent LLM
 - etc
- Cloud LLM
 - Claude
 - Gemini
 - GPT
 - etc
- Deployment Model
 - Private
 - API Mode

Knowledge Base Management – Build-in + Customer own KB

The screenshot shows the CX AgenticAI Ops Knowledge Base Management interface. The sidebar on the left contains navigation links for Home, Dashboard, and various management tools under OPERATIONS, AGENT PLATFORM, and SYSTEM. The main content area is titled 'Knowledge Base Management' and includes a search bar and a list of knowledge bases. The 'Cisco NX-OS' knowledge base is expanded, showing a search bar and a list of documents with tags like 'Configuration Guide', 'System Messages Reference', and 'Nexus 2000'.

- Cisco Knowledge Base
 - Knowledge
 - Syslog/Error-Message
 - Configuration Guide
 - Release Notes
 - Design Guide
 - CX Best Practice
 - Etc.
 - OS
 - IOS-XE
 - NX-OS
 - IOS-XR
- Customer Knowledge Base
 - Network Design
 - Standards
 - Specifications
 - Other vendor doc

Skill Management – Build-in Atomic Skill + Customer own Skill



- Cisco CX Skill
 - CX Atomic Skill
 - CX Customized Skill
- Customer Skill
 - Customized Skill



MCP Management – On-Demand MCP Development

⚡ CX AgenticAIOps

English

Dark

A

Home

Dashboard

OPERATIONS

Topology Mgm

Asset Mgm

Log RCA

SecOps

AGENT PLATFORM

Agent Mgm

KB Mgm

Model Mgm

Skill Mgm

MCP Mgm

SYSTEM

User Mgm

License

MCP Management

Manage Model Context Protocol server connections

+ Create MCP

Total Servers 7

Active 7

Inactive 0

Error 0

Search by name, URL, description...

All Status

All Types

ALEVENT_MCP MCP

HTTP Active

http://10.75.44.41:7010/mcp

No Auth

Updated 2026-06-30

Catalyst_Center_MCP MCP

HTTP Active

http://10.75.44.41:7006/mcp

No Auth

Updated 2026-06-30

PSIRT_MCP MCP

HTTP Active

psirt-mcp

http://10.75.44.89:5557/mcp

Tools (10)

No Auth

Updated 2026-06-30

SE_NO_MCP MCP

HTTP Active

http://10.75.44.41:7008/mcp

Tools (638)

Bearer Token

Updated 2026-06-30

splunk MCP

HTTP Active

Splunk Cloud MCP Server — 日志检索、告警查询、SPL 搜索

http://10.124.205.30:8080/en-US/splunk/_raw/services/mcp

Tools (10)

Bearer Token

Updated 2026-06-30

teams-mcp MCP

HTTP Active

Teams MCP Server

http://10.124.205.30:5555/teams/mcp

Tools (5)

No Auth

Updated 2026-06-30

ThousandEyes MCP

HTTP Active

- On-demand Create MCP connection

Network

Campus and Branch

Data Center

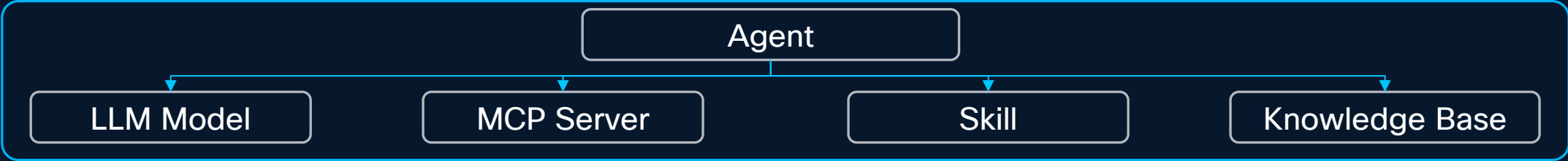
Security

Observability

CX

Others

Agent Management – On-demand build your own Agents



⚡

CX AgenticAIOps

🏠 Home

📊 Dashboard

OPERATIONS

🔗 Topology Mgm

📦 Asset Mgm

📄 Log RCA

🛡️ SecOps

AGENT PLATFORM

🔧 Agent Mgm

📁 KB Mgm

🔧 Model Mgm

🔧 Skill Mgm

🔧 MCP Mgm

SYSTEM

🛡️ User Mgm

🔑 License

Agent Management

Create and manage your AI agents

+ Create Agent

Total Agents

19

Favorited

0

Single Agent

18

Agent Team

1

🔍 Search agents...

All Types

All Categories

SOP-Executor

Single · Local

• Troubleshooting RCA

☆

SOP Executor — executes individual SOP steps in the RCA troubleshooting process step by step, without orchestration and without skipping or crossing steps.

Created 2026-06-29

▶️ 👁️ ✎️

SOP-Reporter

Single · Local

☆

SOP Reporter — generates the final troubleshooting report after the entire RCA troubleshooting chain has been validly completed.

Created 2026-06-29

▶️ 👁️ ✎️

KB Agent

Single · Local

• Knowledge Base

☆

KB Search Assistant

Created 2026-06-29

▶️ 👁️ ✎️

Security Agent

Single · Local

• SecOps

☆

SecOps Agent

Created 2026-06-29

▶️ 👁️ ✎️

Splunk Troubleshooting Agent

Single · Local

• Troubleshooting RCA

☆

Network Operations Assistant — Splunk queries, VIP health checks, shift handover reports, cybersecurity audits, IT asset inventory, Teams call/meeting quality, end-to-...

user-network-analysis splunk-index-guide vip-daily-network-report +1

Created 2026-07-02

▶️ 👁️ ✎️

ACI Operation Agent

Single · Local

• Troubleshooting RCA

☆

pdf pptx-26b aci-connectivity-check +25

Created 2026-07-09

▶️ 👁️ ✎️ 🗑️

CX-KB-Agent-example

Single · Local

• Knowledge Base

☆

CX-KB-Agent-example

Created 2026-06-29

▶️ 👁️ ✎️

Catalyst Center Agent

Single · Local

• Troubleshooting RCA

☆

cisco-catalyst-center-network-audit-expert pptx-26b

Created 2026-07-02

▶️ 👁️ ✎️

Jinghe

Single · Local

• Knowledge Base

☆

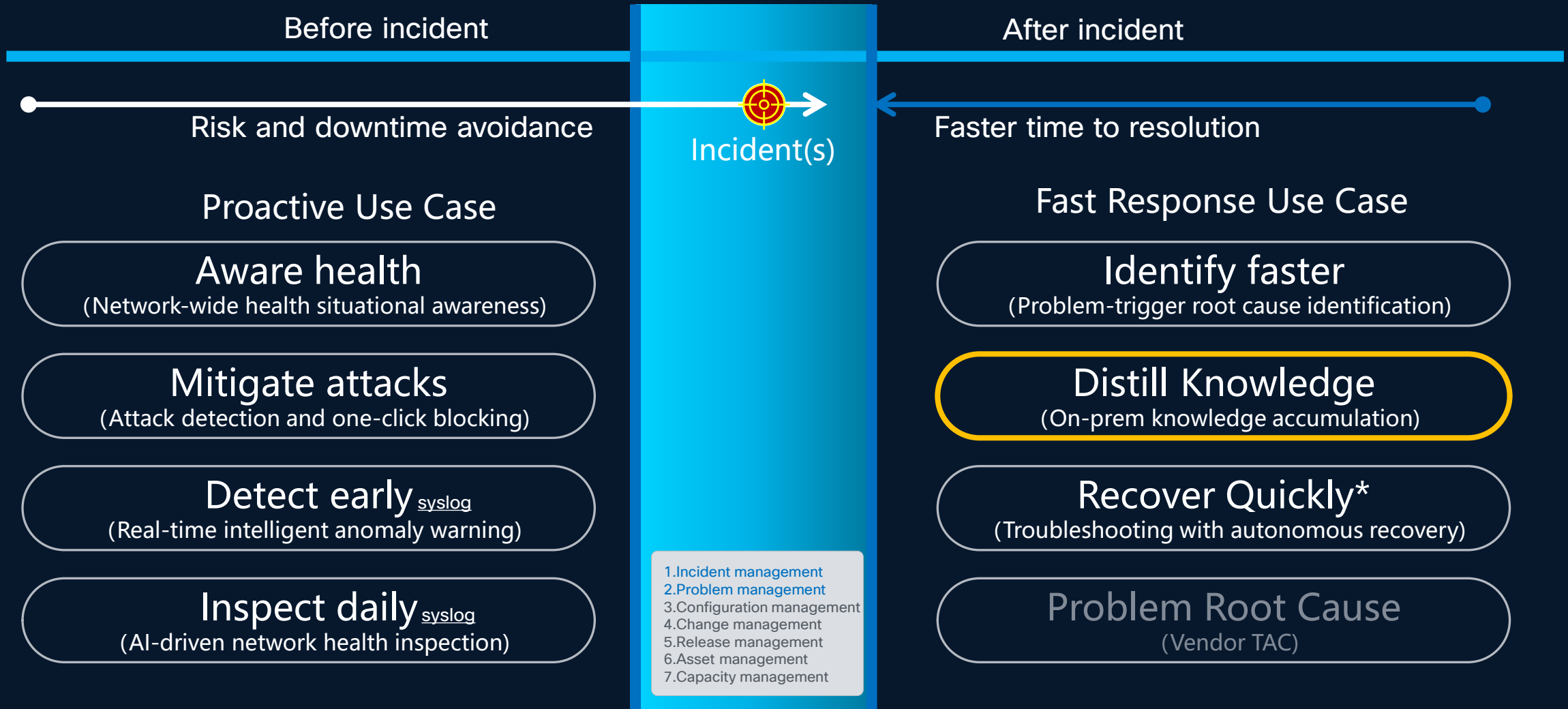
Created 2026-07-09

▶️ 👁️ ✎️

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CX AgenticAIOps Use Case Demo

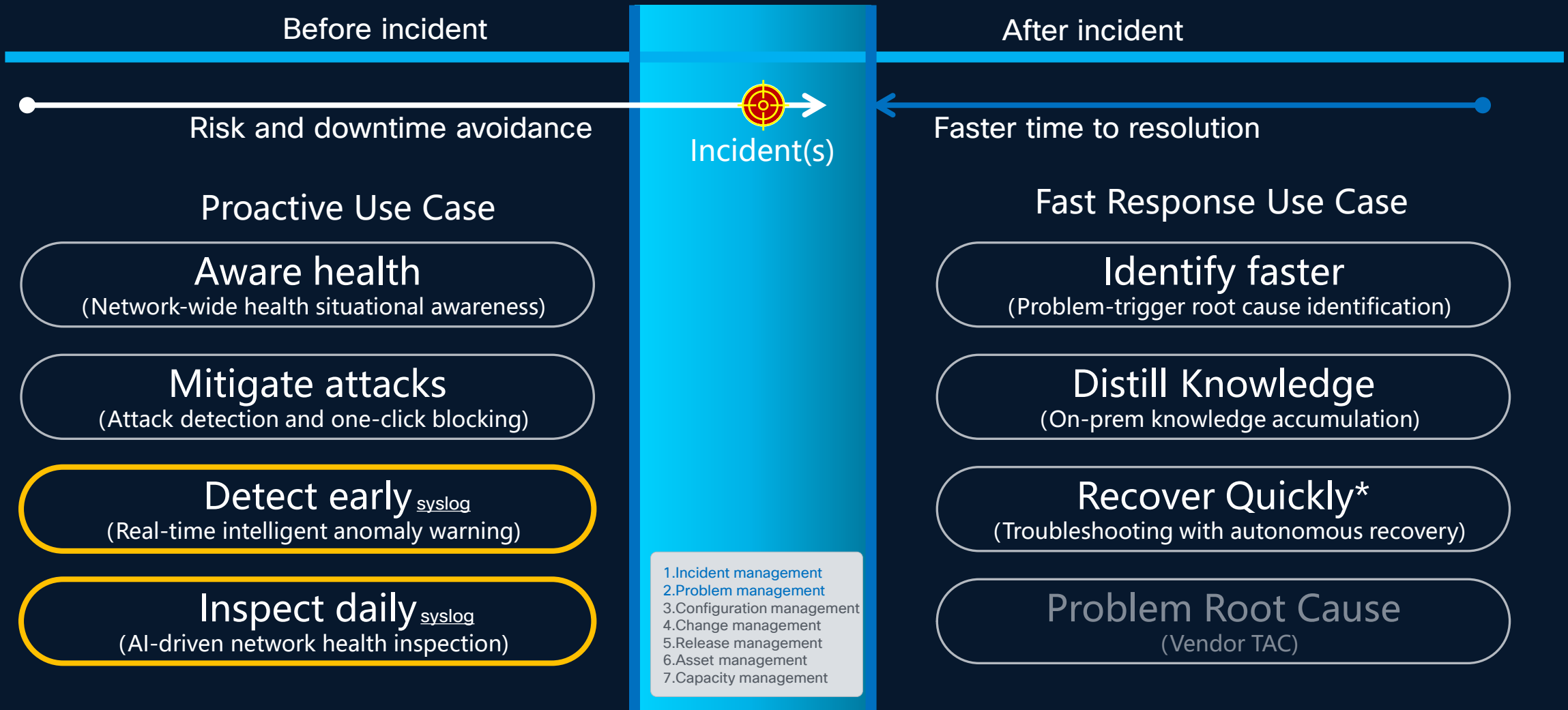
1. No network downtime; 2. Faster time to recover



Demo Video – KB Agent

CX AgenticAIOps Use Case Demo

1. No network downtime; 2. Faster time to recover



Demo Video – AI Events & Log RCA

CX AgenticAIOps Key Advantages

CX Knowledge Base
Build-in Best Practice

CX Build-in Knowledge Base

CX Skill Capability
Build-in & Deep Knowhow

CX Expert-level Skill capabilities

Enterprise Level
Security (AAA)

Identity Secure

Engineering Capability
Small LLM 26b MOE

Small Model Engineering Capability

Cisco IQ Integration
Asset & Assessment

Knowhow of Cisco IQ Integration

Multi-Vendor Support
DC+Campus+Branch+Security

Customization Capability

Reference Case

Reference Case

Manufacture

A Large EV Company
Equipment Scale: 2,000+

A Large Global Manufacture Company
Equipment Scale: 15,000+

A Large Global Technology Company
Equipment Scale: 2000+

A Listed Mining Company
Equipment Scale: 100+

FSI

A Large Bank
Equipment Scale: 13,000+

A Middle Size Bank
Equipment Scale: 2,000+

A Middle Size Bank
Equipment Scale: 3,000+

A Large Investment Company
Equipment Scale: +500

An Insurance Company
Equipment Scale: 2,000+

SP

An International SP
Equipment Scale: 500+

A Middle Size SP
Equipment Scale: 450+

A Large Global Manufacture Company

AgenticAIOps Case Sharing

One Global Network

Global WAN Network

- **9 Region**, 50 + Campus
- 2 Fabric: Mainland China & Global
- Cisco SD-WAN Solution

Global Campus Network

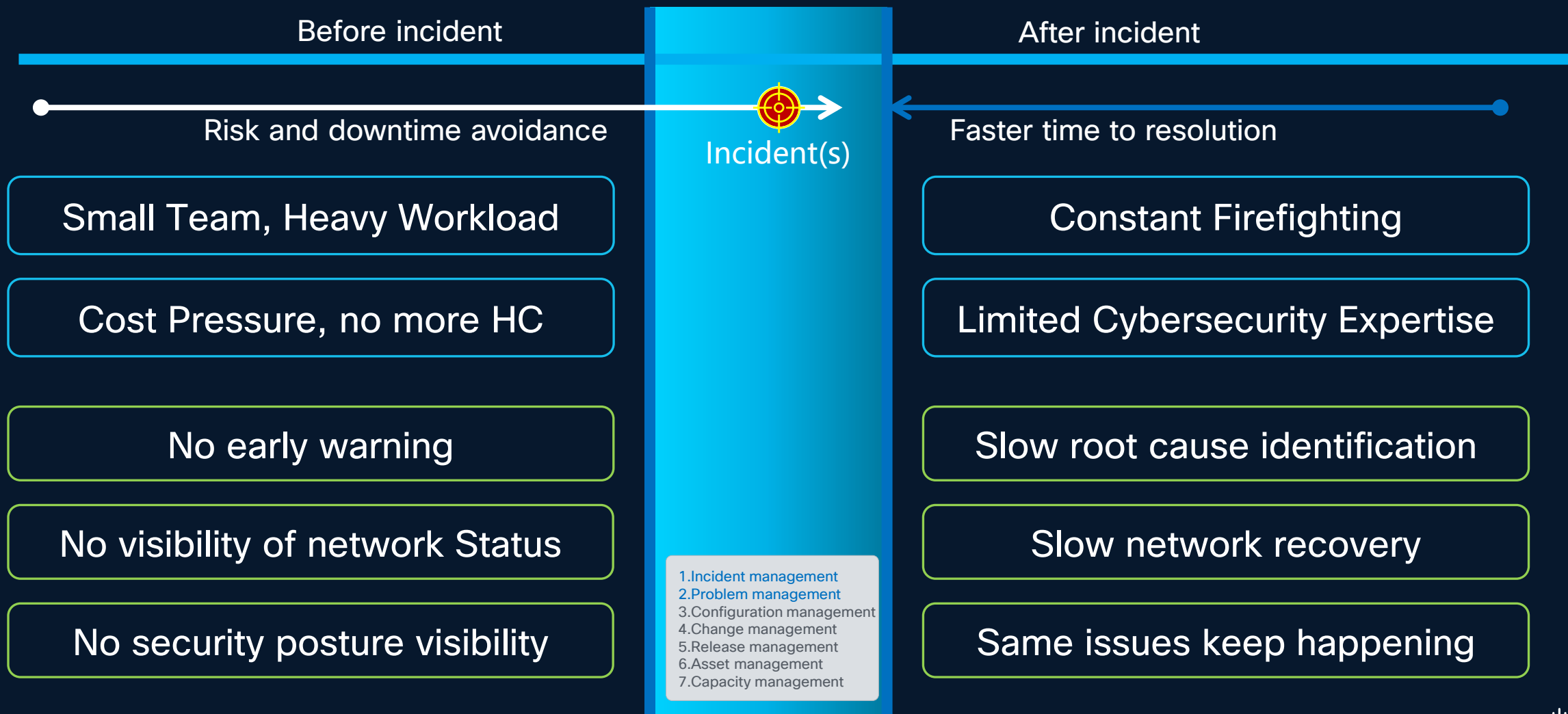
- 50 + Campus, 15K+ Network Device
- Typical: C9K 1xx, WiFi 2xx, DNAC 3, ISE 3
- Cisco DNAC SDA Solution

Network Operation Pain Points

1. No network downtime; 2. Faster time to recover

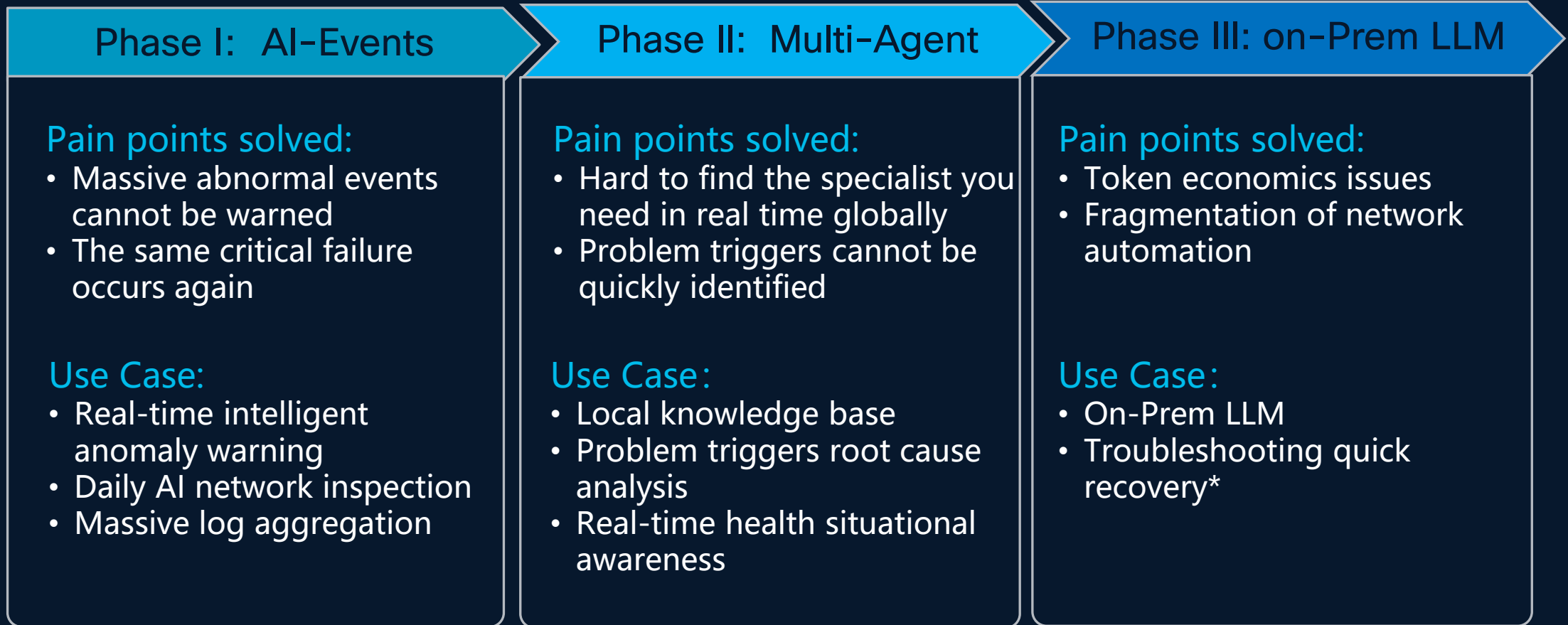
People

Tools



AgenticAIOps Roadmap

Upgrade in three steps:



* In roadmap

AgenticAIOps in Phase I – AI-Events

Phase I Outcome

Data Statistics:

- Daily Logs: **400 million** raw logs per day.
- Log Data Cleaning: **1.8 million** logs after cleansing.
- Automatic Log Pattern Learning: **5,000+** log templates
- Anomaly detection and aggregation: **200+** logs after AI-Events Aggregation
- Expert Optimization: **20+** logs require attention and actions
- Log Knowledge Base: Over 500 issue resolution recommendations
- Daily Inspection: Build a Log-centric daily inspection process

400 million raw logs



Data Cleaning

1.8 million logs



AI-Events Aggregation

200+ Logs



Expert Optimization

20+ Logs

Need attention and actions

Actual issues proactively handled:

- **Predicted equipment failure** at Vietnam GX, GX routing switchover, and optical attenuation on XX switches; handled in time to **prevent network outages**
- **Rapidly located network issues** across GX, GX, and XX factories
- **Detected network vulnerability scanning** in Kh and a security incident where the XX-firewall blocked malware; **proactive alerts helped prevent attacks**

AgenticAIOps in Phase II POC – Multi-Agent

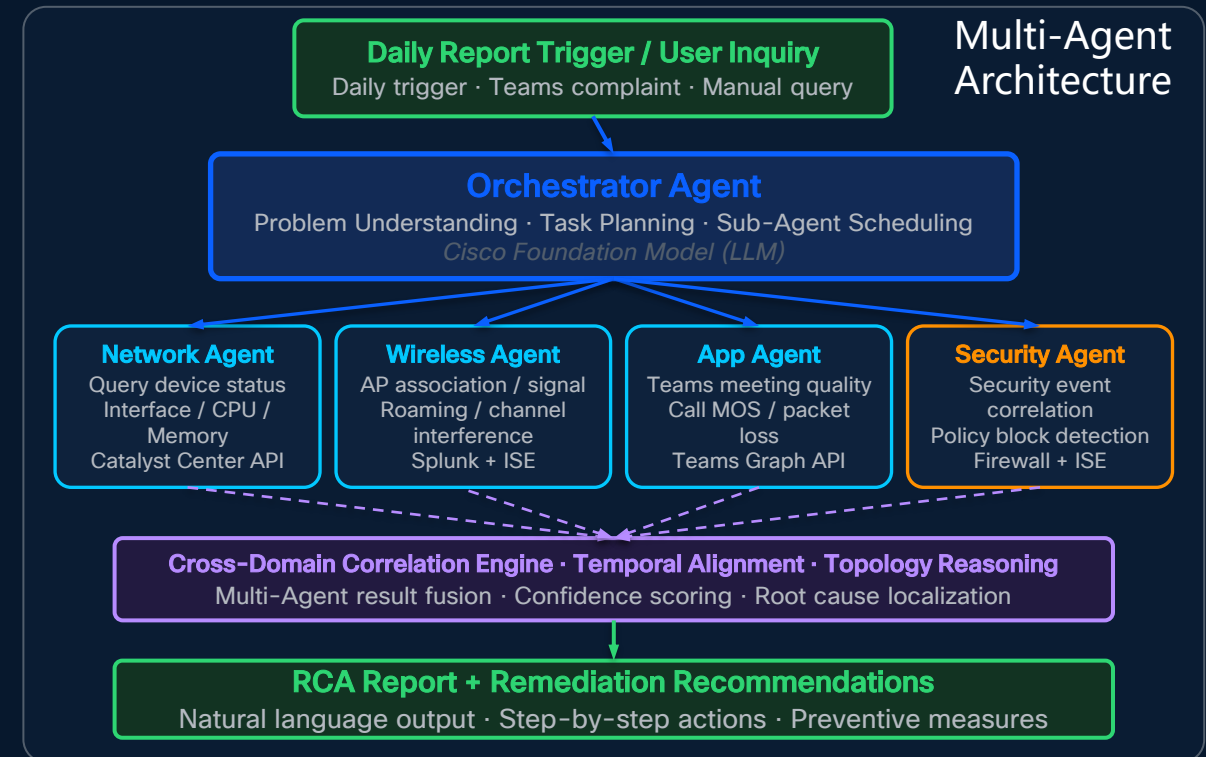
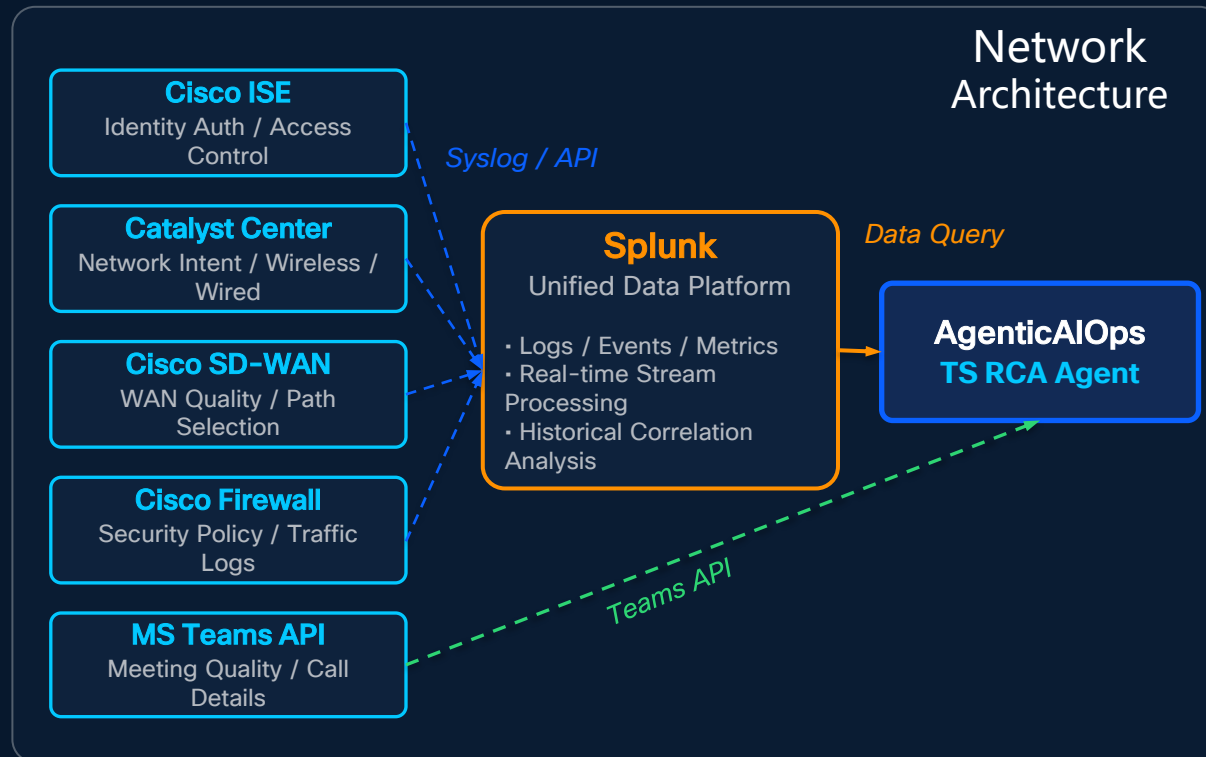
VIP Teams Experience

Pain Points:

1. Poor visibility into executive network experience, Issues go unnoticed
2. Ongoing WiFi complaints with no clear root cause
3. Teams calls lag or drop; troubleshooting is slow

AgenticAIOps Approach:

1. AI-generated daily executive experience reports — detect issues early
2. Automated cross-domain troubleshooting — cut resolution time from hours to minutes
3. Quantified network experience — clear insights with historical evidence



Outcome & Benefit

+ 2 Hours per day

Previously, Dedicated Persson



+ 2 min per day

Now, AgenticAIOps

Skills: Vip-daily-network-report

The skills have been distilled and can be reused anytime going forward.
Daily Automated Report Trigger at 15:00.

A FSI Customer

AgenticAIOps Case Sharing

Three-Step Implementation Approach

Network Scale:

- Device Count: ~500
- Device Types: 5 types (Routers, Switches, Firewalls, Load Balancers, and wireless controllers)
- Device Vendors: 5 vendors (including Cisco and four other network vendors)
- Daily Log Volume: 100,000+ entries

Project Highlights:

- Adopt a fast **three-step implementation approach** to progressively address network operations pain points
- **One-time procurement** for 3 Phase to ensure consistent implementation
- Multi-Agent architecture to address the global shortage of operations staff
- On-Prem deployment to avoid data leakage risks

Step 1: AI-Events

AI Use Case:

Detect early

(Real-time intelligent anomaly warning)

Inspect daily

(AI-driven network health inspection)

Step 2: AI-Agent

AI Use Case:

Distill Knowledge

(On-prem knowledge accumulation)

Step 3: Multi-Agent

AI Use Case:

Identify faster

(Problem-trigger root cause identification)

Aware health

(Network-wide health situational awareness)

Key Take Away

Trigger Root cause in minutes,
Not hours

Your agents, your logic,
Platform adopt to you

Cisco CX, We are Ready
Let's go

Thank you

