Resolve Data Center Issues Faster with Agentic AI Operations

Move from manual troubleshooting to operations by deep reasoning agents. Cisco Cloud Control uses cross-domain intelligence to rapidly pinpoint root causes, eliminate false alarms, and maintain secure control over your infrastructure.

Overview

Data-center environments operate at a scale and complexity that outpaces manual monitoring. When an application degrades, IT teams spend hours pulling telemetry from isolated dashboards, struggling to determine if the issue stems from the network, compute, or security domains. Traditional AI assistants provide basic queries, but they leave the burden of investigation and execution entirely on human operators.

Cisco Cloud Control transforms data-center management by shifting from AI that assists to AI that operates. Powered by AgenticOps and the Cisco Deep Network Model, this solution introduces a shared, generative workspace called AI Canvas. Instead of matching basic patterns, deep reasoning agents actively hypothesize, test, correlate, and self-correct across multiple domains simultaneously. By unifying visibility and action in a single pane of glass, we help you eliminate blind spots, streamline collaboration, and resolve complex performance issues before they impact your business.

Figure 1. Cisco Cloud Control brings agentic AI to complex data-center environments.

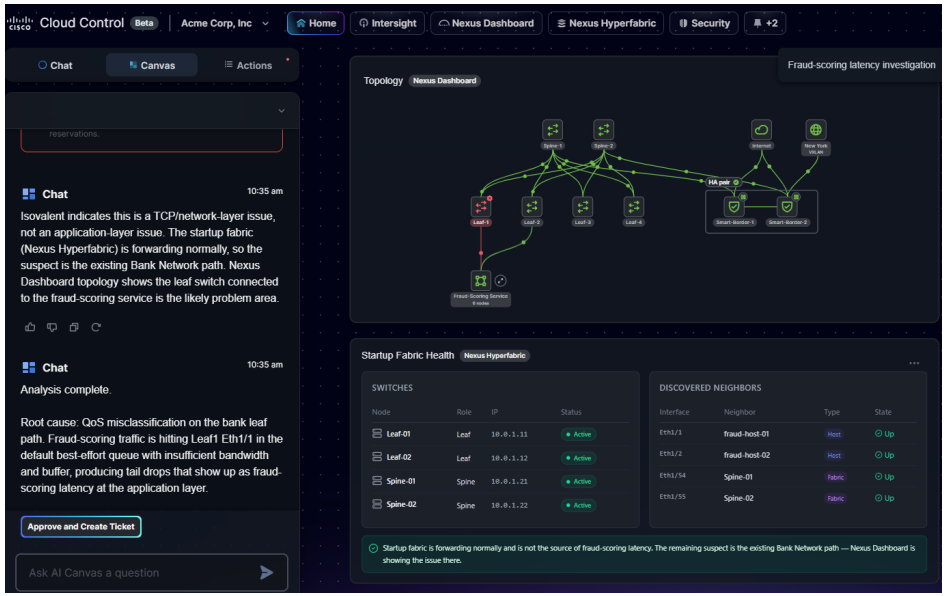

Figure 2. AI Canvas investigates across fault domains, preserving context at every step.

Benefits

- **Accelerate resolution times** with deep reasoning agents that automatically plan investigations, test hypotheses, and correlate data across network, compute, and security domains
- **Eliminate false alarms** by letting AI agents quickly reject healthy fault domains based on telemetry evidence, keeping your team focused on actual root causes
- **Enhance cross-team collaboration** using a multiplayer shared workspace where experts join ongoing investigations while preserving full context and history
- **Maintain strict operational governance** through human-in-the-loop design, ensuring that all agent-recommended remediation actions stay within defined guardrails before execution
- **Improve analytical precision** with the Cisco Deep Network Model, an AI foundation fine-tuned on decades of networking expertise that outperforms general-purpose models by up to 20 percent on networking task

Trends and challenges

The shift to agentic execution

Modern enterprise networks are struggling under the weight of exponential data growth. With the rise of generative AI and high-bandwidth applications, AI-driven traffic is expected to grow at a Compound Annual Growth Rate (CAGR) of over 30 percent through 2028, pushing traditional management tools to their breaking point. Current management practices rely heavily on human interpretation of manual dashboards. When a multidomain outage occurs, operators must parse through overlapping alerts, align schedules for emergency bridge calls, and manually cross-reference data between disparate systems.

This fragmented approach introduces significant delays. False alarms drain engineering resources, and generic LLM wrappers lack the specific networking intelligence needed to understand how policies propagate or how failures cascade. To minimize downtime and support high-performance workloads, IT teams require operations platforms that can reason through complex configurations and act securely on their behalf.

How it works

Unified operational model

Cisco Cloud Control unifies data-center management under a single operational model. It integrates seamlessly with Cisco Nexus® One with Cisco Nexus® on-premises management with Nexus Dashboard and cloud-managed fabrics with Nexus Hyperfabric™, alongside compute infrastructure via Intersight.

Key capabilities

- **Cisco® AI Canvas:** the industry's first agentic, generative workspace for cross-domain IT operations. When an incident occurs, the ticket lands in AI Canvas with full context intact. The system generates a causal reasoning plan and exposes its fault tree, explaining its logic in plain language.
- **Deep reasoning agents:** Rather than simple question-and-answer bots, these agents perform multistep investigations. They gather telemetry, eliminate clean domains, and build a causal chain of evidence connecting business symptoms to infrastructure findings.

- **Multiplayer workspace:** AI Canvas orchestrates cross-team collaboration. A network administrator and a server administrator can join the same workspace. The AI surfaces persona-specific telemetry—such as CPU utilization for compute or QoS drop metrics for the network—without losing the overarching context.
- **Human-in-the-loop remediation:** The agent recommends a remediation path, but the operator retains control to approve and apply the change. The system then automatically validates that the fix stabilized the environment.

Models and options

- **Cisco Deep Network Model:** the foundation of the agentic engine. Fine-tuned on expert data, it requires up to 5x fewer tool-calls for troubleshooting tasks and natively understands complex network behaviors.
- **Cisco Nexus One:** provides fabric discovery, topology mapping, health monitoring, and AI workload observability.
- **Cisco Intersight® integration:** delivers compute, networking, and storage inventory alongside change correlation.

Use cases

Table 1. Industry use cases

Industries	Use cases
Enterprises, Neoclouds, Sovereign Cloud, TelcoDCs	**Quality of experience/troubleshooting**: correlates fabric anomalies from Cisco Nexus One with server health from Cisco Intersight to pinpoint the root cause of slow applications, such as a congested spine link or a failing server NIC.
Enterprises, Neoclouds, Sovereign Cloud, TelcoDCs	**Fabric health and connectivity:** proactively monitors BGP sessions, VXLAN tunnels, and link utilization. AI agents detect drift and recommend remediation before users experience disruptions.
HPC	**Network performance correlation with AI jobs:** optimizes data-center network performance for peak hardware utilization, minimizing job completion times for AI workloads.

“70% of enterprises will deploy agentic AI for IT ops by 2029.”

– Gartner, 2025

“The enterprise is shifting from AI that assists to AI that operates — and infrastructure is ground zero.”

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Learn more

Start optimizing your data center operations today.

Let deep reasoning agents handle your complex investigations and eliminate operational blind spots. Discover how Cisco Cloud Control can transform your infrastructure management by visiting the Cisco Cloud Control product page, or contact your Cisco authorized channel partner to schedule a live Cisco AI Canvas demonstration.

Global bank resolves application degradation with Cisco AI Canvas

Challenge: A global bank acquired a fintech startup running customer-facing applications on a Cisco Nexus Hyperfabric–managed environment. The bank operated a fraud-scoring service on a Cisco Nexus Dashboard infrastructure. When transaction latency spiked, operators faced hours of manual triage across compute, network, and application teams to locate the fault.

Solution: The bank used Cisco AI Canvas to address these challenges. An incident ticket was imported automatically. The deep reasoning agent tested multiple fault domains in parallel. It quickly ruled out the startup's fabric and the compute environment based on telemetry. The agent then invited the network administrator into the workspace, presenting evidence of localized packet drops due to QoS misclassification on the leaf path.

Benefits:

- Eliminated 20–30 minutes of initial manual triage per incident
- Prevented engineers from wasting hours investigating healthy domains
- Reduced the mean time to resolution from hours to seconds through contextual handoffs
- Allowed operators to approve automated QoS remediation with full confidence and visibility

The Cisco Advantage

Cisco uniquely blends 40+ years of networking expertise with the industry's most advanced, purpose-built AI. Unlike generic LLM wrappers, the Cisco Deep Network Model natively understands how configurations interact and how failures cascade. By uniting network, compute, and security domains into a single generative workspace, Cisco enables you to visualize cross-product topologies and execute governed, automated operations securely.

C22-6238401-00 06/26