

tsia

STAR Awards

2026

2026 TSIA STAR Awards
Featured Application

The Cisco AI Assistant for Support

Category: The Agentic Service Innovation of the Year

Overview

Cisco supports over 1.5 million highly technical support requests each year across hundreds of products and services, with millions of lines of code underpinning those environments. Scale and complexity of this magnitude challenge even expert support engineers, let alone AI systems. Across the industry, support automation has traditionally focused on simple tasks or one-time responses. Cisco's challenge was to move beyond basic automation and build an agentic system capable of independently progressing and resolving complex, multi-step customer issues while maintaining high customer satisfaction.

The first roadblock was technical complexity. Cisco support issues are rarely simple or transactional; they often require deep troubleshooting, iterative analysis, and domain-specific expertise to reach resolution. A single case can span multiple products, require analysis of device logs, live troubleshooting output, configuration files, and code-level debugging, and involve many back-and-forth steps before a fix is confirmed. Traditional support automation based on one-shot bot responses cannot handle this level of troubleshooting complexity.

The second roadblock was portfolio breadth. Cisco products and technologies span multiple domains, including routing and switching, wireless, security, data center, collaboration, and service provider. A single-domain support bot struggles with this level of breadth and depth. Cisco required a solution that would operate consistently across this large, cross-domain set of products and technologies without becoming fragmented or inconsistent.

The **Cisco AI Assistant for Support** addressed both roadblocks through a shared core platform combined with specialized AI agents built by subject-matter experts for specific technologies. A higher-level orchestration layer then applies the right expertise at the right time. From the outset, the system was designed to accept and progress a broad range of cases with human oversight and intervention. As performance matured, automated validation and risk assessment increasingly determined when AI agents could act autonomously on cases, reducing human review and intervention to the scenarios where it was still required. This created a governed pipeline from supervised automation to true agentic operations in production, enabling faster, more consistent support at scale.

What Cisco Solved

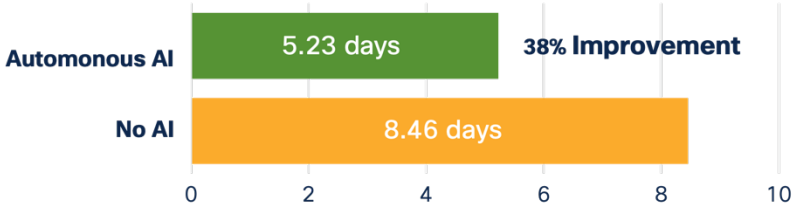
The Cisco AI Assistant for Support was built to move Cisco Support from **basic, deterministic automation to agentic operations**. AI agents independently determine the next best action, execute it, and advance a multi-step case toward resolution without requiring a human to direct each step. Without human intervention, the system can request diagnostics, correlate symptoms with known problems and vulnerabilities, recommend a configuration change, draft a customer-ready response, and confirm resolution with the customer. For example, when a network device issue is reported, agents can autonomously connect to the device, retrieve and analyze logs, isolate the likely cause, and recommend a fix.

Customer Impact

The Cisco AI Assistant for Support has measurably delivered on the outcomes customers care about most:

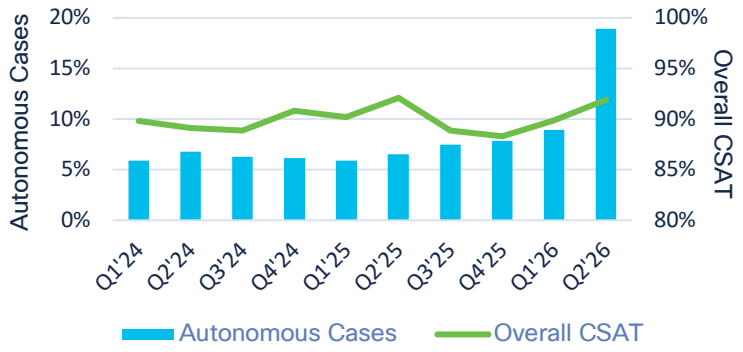
1) **Resolution speed.** Across more than 200K cases solved with autonomous AI over a two-year period, MTTR (Mean Time to Resolution) for cases handled by the Cisco AI Assistant for Support is 38% lower than for comparable human-handled cases (see Figure 1). This directly improves the factor customers consistently rank as the number one driver of support satisfaction.

Figure 1: MTTR for Cases with Autonomous AI Versus No AI (in days)



2) **Service experience.** Figure 2 shows the central proof point of the transition: **autonomous case handling, without human intervention, more than tripled over two years, from 6% to 19%, while overall CSAT remained around 90%**. This is the result of a deliberate rollout where oversight, validation, and risk controls determine when an agent is allowed to act autonomously on a task. Customers only experience autonomy on tasks where the system has demonstrated it can deliver an accurate, high-quality outcome.

Figure 2: Autonmous Cases as % of Total Support Cases & Overall CSAT (Q1 2024 - Q2 2026)



Business Impact

The business impact shows up in three reinforcing ways:

Autonomous resolution is scaling across the portfolio. Even with a broad, highly technical support case mix, the share of issues resolved without human intervention increased from 9% to 19% in the last quarter (Figure 2).

Autonomously handled cases are resolved significantly faster. Improved MTTR (see Figure 1) translates directly into reduced case dwell time, lower queue depth, and a more responsive support organization at Cisco's scale.

Operational capacity has expanded without compromising quality. By autonomously handling a growing share of cases end-to-end, the platform has freed Cisco's expert support engineers to focus on the most novel, highest-complexity, and highest-risk issues. This creates a force-multiplier effect: Cisco can support a broader portfolio, more customers, and more case volume while maintaining customer satisfaction.

Lessons Learned

Human oversight is not just a safeguard; it is the engine that accelerates autonomy. Cisco's experience showed that structured oversight at key stages, combined with automated validation and risk controls, was the mechanism that allowed the platform to safely expand into more case types, more technologies, and ultimately more autonomous handling. In hindsight, Cisco could have expanded into additional technology domains earlier because the governance model was already strong enough to support that pace.

A short-term CSAT dip is a normal and manageable part of the transition. When AI begins handling cases that previously went to human engineers, CSAT can dip briefly before recovering and subsequently exceeding prior levels. Two factors drive this. First, the AI is still maturing through real-world feedback, and second, a subset of customers are initially uncomfortable with AI handling their issue regardless of the quality of the response. Cisco learned that this dip is best addressed by providing an easy and visible opt-out path for any customer who prefers a human engineer. Pairing that with rigorous validation on the AI side allows CSAT to recover quickly to human-only baselines.

Issue resolution must be the success metric, not response generation. Many support automation programs declare success when an AI generates a plausible response. Cisco's experience reinforced that the only meaningful measure is **a customer-confirmed resolution at the end of a multi-step case**. Optimizing the platform around successful outcomes is what produced the simultaneous gains in MTTR, autonomous issue resolution, and sustained CSAT described in this submission.

As Cisco broadens and refines this solution, these lessons reinforce a single principle: **agentic service transformation is as much a governance challenge as a technology challenge.** Organizations that build strong oversight, validation, and risk controls early can expand autonomy more confidently, more quickly, and without compromising service quality or customer trust — turning agentic AI from a pilot capability into a durable operating model.


tsia
STAR Awards
2026