

The Guide to Next-generation Assurance



Seamless Connected Experiences Across Every Network

Today's users demand flawless digital experiences. Whether using their favorite banking application, streaming service, or collaboration platform, they expect zero interruptions, zero delays, and zero errors. Over the past decade, enterprises have shifted to embrace cloud platforms, software as a service (SaaS), and other Internet-enabled technologies to meet these high expectations.

This shift has expanded the scope of IT management beyond traditional boundaries, as users, applications, and networks have become increasingly distributed, spanning a mix of owned and unowned infrastructure. Gartner® predicts that “by 2027 Infrastructure & Operations (I&O) will spend more than half its budget working with technology the organization does not directly own.”¹

IT organizations now face the complex task of assuring digital experiences across every environment. While IT teams can monitor the devices, applications, and networks they directly manage, they often lack an end-to-end view of user experience—particularly when it comes to third-party services beyond the corporate perimeter. The cloud, SaaS, and the Internet introduce significant blind spots.

Addressing this complexity requires a comprehensive, forward-looking approach that moves beyond traditional monitoring. IT teams responsible for optimizing digital experience delivery need more than visibility—they require actionable insights derived from robust datasets. By harnessing the power of AI, these teams can surface critical issues in real time and drive automated workflows that resolve problems swiftly and proactively.

Assurance is a transformative IT management discipline that empowers organizations to move from reactive to proactive operations. It enables IT teams to detect, resolve, and even predict disruptions across both owned and unowned environments, ensuring resilient customer experiences and employee productivity.

¹ Gartner, The New I&O Opportunity — Managing the Digital Infrastructure Supply Chain, 2023. GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.



IT's New Frontier: External Dependencies

In today's digital-first world, user expectations and competitive pressures have driven organizations toward scalable, cost-effective solutions like cloud services and SaaS. This shift has extended the IT domain far beyond the direct control of traditional IT departments, creating a new reality where critical infrastructure resides outside their ownership.

Consider the following paradigm shifts:

Cloud Is the New Data Center

Traditional data centers have evolved into hybrid environments, blending on-premises infrastructure with cloud services. This offers greater agility and scalability but relies increasingly on co-location facilities and cloud solutions to meet business needs.

Anywhere Is the New Office

The office has become a digital space, requiring seamless, secure connectivity for employees to collaborate and work from anywhere, anytime.



SaaS and APIs Are the New App Stack

SaaS applications are now commonplace and increasingly interconnected via APIs, which are now also leveraged by many internal applications. This interconnected ecosystem boosts functionality but adds complexity and new points of failure.

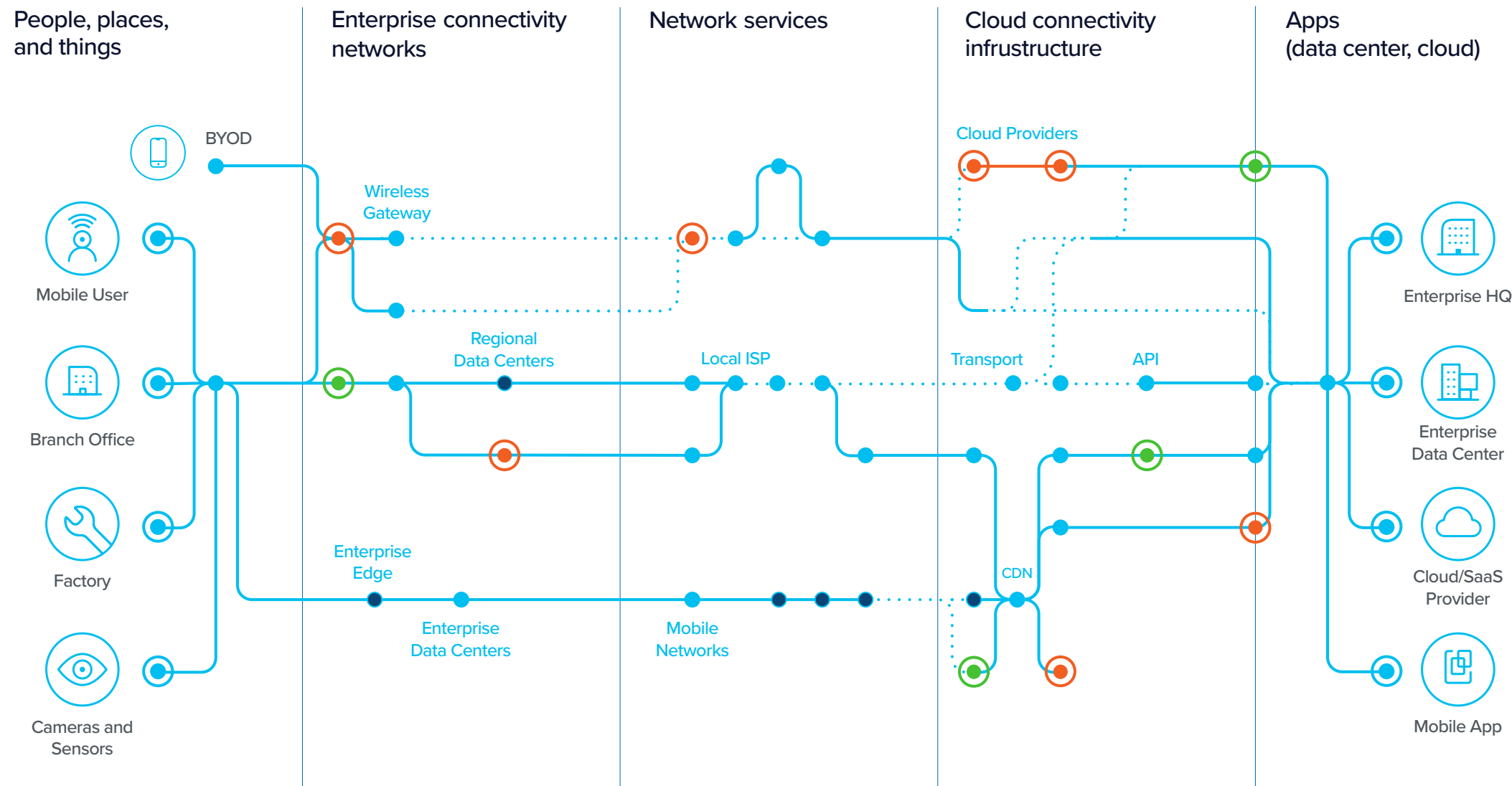
The Internet Is the New Network

The Internet is now the backbone of enterprise connectivity, but its unpredictability and opaque dependencies create challenges. Businesses must rely on providers to issue alerts, which can feel like a precarious position when entire operations are at risk.

Digital Experience Delivery Is More Complex Than Ever

As IT's center of gravity shifts outward, operational complexity intensifies. The paths from users to applications now navigate a vast, interconnected ecosystem of services, each representing a potential point of failure that demands vigilant monitoring. Blind spots and unknown dependencies span multiple domains—both owned and unowned—dependent on an extensive network of external technology partners.

The risk to business operations and the demand for digital resilience has never been greater. A single outage or performance degradation in the service chain can disrupt employee productivity, drive customers to competitors, and compromise mission-critical services. Even though IT teams don't "own" the entire environment, they are still accountable for the end-to-end experience. To address these challenges, they require full visibility across the entire digital supply chain—tracking every hop, understanding traffic routes, and identifying every service provider involved.



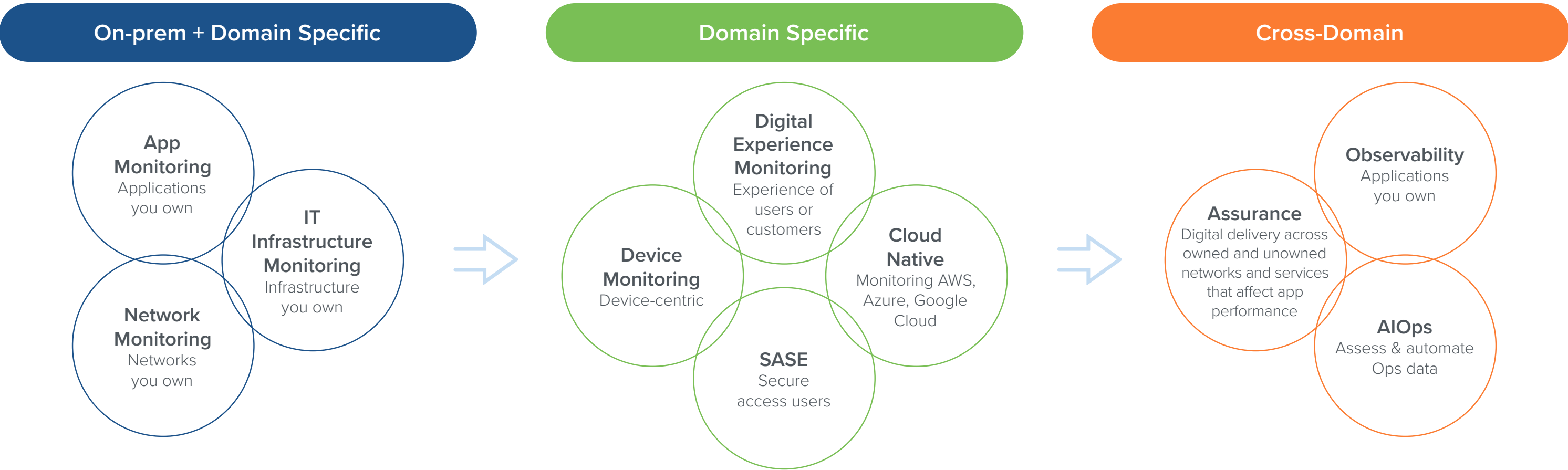
Digital Resilience Demands Assurance

From Siloed Visibility to a Proactive IT Approach

Siloed visibility is no longer good enough. Many organizations still struggle with a legacy operating stack built for infrastructure and applications they own, leaving gaps in visibility that make it difficult to piece together the complete end-to-end user experience. Even recent domain-specific solutions, such as cloud-native monitoring, device monitoring, and Digital Experience Monitoring (DEM), are being outpaced by the need for end-to-end Assurance. This approach leads to frustration for both IT teams and users alike.

Digital resilience requires comprehensive and correlated visibility across the cloud, SaaS, public Internet, as well as campus, branch, and data center networks. IT teams must now take control of digital experiences across both owned and unowned environments to ensure seamless performance.

Next-generation Assurance is a transformative IT management discipline that addresses the complexity of modern digital environments. Assurance shifts IT organizations from legacy on-premises stacks and domain-specific tools to a connected, intelligent, and automated solution, integrating broader capabilities like Observability and AIOps.



Critical Capabilities of Assurance

A successful Assurance approach places the end-user digital experience at the forefront, making it the ultimate measure of network performance. This experience-first model enables IT teams to move from reactive troubleshooting to proactive, automated actions.

A comprehensive Assurance solution delivers success across three critical areas:



End-to-end Visibility

By mapping traffic across internal and external networks, it visualizes digital experience delivery from users' home environments to enterprise data centers and public cloud networks.

This helps IT teams:

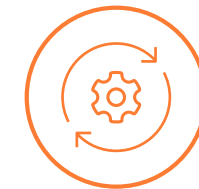
- See network conditions across the global area network
- Understand global Internet health
- Manage experience across any network their customers and employees rely on



AI-driven Intelligence

Applying AI and ML to a high-quality dataset drives proactive insights that focus on the user experience. This intelligence transforms raw data into actionable insights to:

- Highlight critical user experience issues while filtering out noise
- Reduce mean time to resolution (MTTR) by automatically identifying faults
- Predicting network performance based traffic patterns



Closed-loop Operations

Assurance goes beyond detection, enabling proactive and strategic operations to:

- Make informed decisions quickly with context-rich alerts
- Optimize network policies with AI-powered recommendations
- Automate workflows—both owned and unowned—through APIs, integrations, and webhooks

ThousandEyes: Powering Assurance Everywhere

ThousandEyes delivers the critical capabilities IT teams need to transition from reactive to proactive operations. With end-to-end visibility, AI-powered insights, and closed-loop operations, it enables teams to detect, diagnose, and resolve issues before they can impact user experience.

Assuring Every Environment

ThousandEyes integrates seamlessly into any IT environment, providing the visibility, insights, and actions needed to deliver seamless digital experiences. By leveraging open standards like OpenTelemetry (OTel), ThousandEyes enables flexible data integration into observability platforms such as Splunk. This facilitates powerful visualizations and correlations across diverse datasets, allowing more teams to benefit from ThousandEyes' intelligence.

Integrating Seamlessly Across Cisco

ThousandEyes and Splunk offer IT teams a complete view of application delivery and health. ThousandEyes provides deep insights to assure connectivity from the user to the application—and even from the application to back-end services, such as external APIs—while Splunk delivers detailed insights into application performance and service health, whether hosted in the data center or the cloud.

ThousandEyes is fully integrated across the Cisco portfolio, including Cisco Networking, Security, Collaboration, and beyond, enabling companies to deliver the highest-quality digital experiences across both owned and unowned networks. Integration into Cisco management dashboards further enhances visibility, providing crucial insights for operational teams and driving proactive operations and digital resilience.

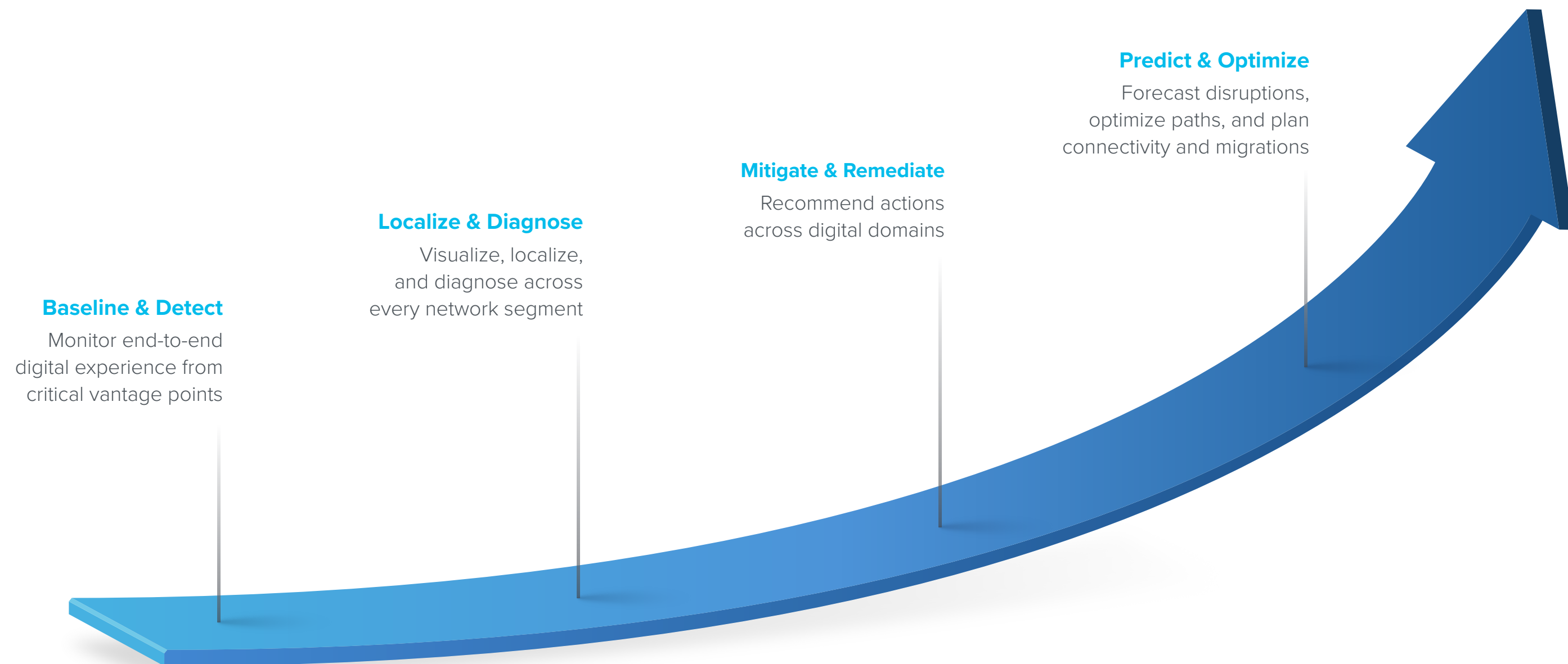


The outcome? A seamlessly integrated approach that continuously optimizes digital experiences and minimizes disruptions.

Advancing to Next-generation Assurance

As organizations evaluate their Assurance approach, they may start at various points along the maturity curve. For some, simply gaining visibility into digital experience across the public Internet or other unowned networks can be transformative. Others may already be correlating data across home Wi-Fi, last-mile networks, VPN gateways, and cloud infrastructure, with goals of initiating automated workflows or integrating the data into their AIOps platforms.

With ThousandEyes, organizations start with proactive visibility across owned and unowned networks, advancing to predicting and automating issue remediation. While every organization's path is unique, the adoption of Assurance generally follows a phased maturity model:



ThousandEyes' Assurance delivers value at every stage of this journey

Baseline and Detect

Organizations adopting new SaaS applications, moving branches to Internet-based SD-WAN, or migrating apps to the cloud often lack a clear sense of performance benchmarks. Assurance enables them to baseline performance before, during, and after transitions, detecting and alerting on issues beyond their environment—critical for successful digital transformation initiatives.

Localize and Diagnose

ThousandEyes correlates application performance with network metrics, including core Internet routing and device-level data. This reduces finger-pointing and speeds up response times by identifying whether issues stem from internal app teams, network teams, or external providers like ISPs, SaaS, CDN, or DNS providers.

Mitigate and Remediate

Once organizations use Assurance to accelerate response times and isolate root causes, they begin their automation journey by integrating ThousandEyes with systems like IT Service Management for ticketing, APM platforms (such as Splunk or Dynatrace), or data management tools to analyze and resolve areas of consistent poor performance.

Predict and Optimize

Many organizations increasingly leverage AI to predict network performance changes and enable proactive management. ThousandEyes applies AI and ML to surface meaningful events through tools like Event Detection and WAN Insights. This helps predict future performance and offers actionable recommendations that can be automatically applied.



Our Commitment to Assurance

The success of your business relies on consistently delivering exceptional digital experiences. At Cisco, we understand the weight of this responsibility. That's why we're not just evolving; we're revolutionizing how you manage IT operations and shape your digital strategy by:



Bridging Visibility Gaps

ThousandEyes closes visibility gaps across both owned and unowned environments, offering a comprehensive view of your entire digital ecosystem.



Automating Operations

ThousandEyes delivers automated insights and tailored recommendations, enabling smarter, faster decisions.



Driving Proactive IT Management

ThousandEyes accelerates the shift from reactive to proactive operations, empowering IT teams to anticipate and resolve issues before they impact users.

IT teams are at the forefront of digital transformation. With ThousandEyes' Assurance, they gain the essential tools, insights, and capabilities to ensure every digital experience is optimized, available, and resilient. In this rapidly evolving digital landscape, Cisco is your trusted guide in delivering seamless, connected experiences that are crucial to the success and resilience of your organization.

Reach out to us today and take the first step towards assuring your digital experiences. Because when you can see every network, you can assure every experience.

Contact us



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About ThousandEyes

Cisco ThousandEyes is an AI-powered Assurance platform that takes the complexity out of delivering flawless digital experiences, helping organizations that rely on the Internet, cloud, and SaaS to power their businesses maximize uptime to protect their brand reputation, revenue, and employee productivity. Leveraging the industry's largest and only collectively-powered network, cloud, and Internet health dataset, ThousandEyes empowers customers with AI-powered insights and turnkey operations to automatically detect, diagnose, remediate, predict, and optimize conditions impacting every connected experience.

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