



Master cloud complexity with AI-powered observability

INTRODUCTION

Complexity stands in the way of IT innovation and success

Modern cloud technologies enable businesses to become more competitive, efficient, and innovative with increased agility, scalability, and cost-efficiency. However, modern dynamic application architectures have become increasingly complex—a situation exacerbated by the advent of generative and agentic AI workloads. Organizations increasingly face challenges in gaining visibility and control over their IT infrastructure, driven by years of tool sprawl and the explosion of data as technology becomes more intelligent.

The solution is not to add more tools to the stack but to evolve beyond traditional monitoring. The future lies in intelligent, automated analysis that provides clarity and control. By embracing AI-powered unified

observability, organizations can transform complexity into a competitive advantage, empowering teams to innovate faster while also protecting the security and reliability of their systems.

This eBook explores the essentials of a modern observability strategy designed for today's complex cloud environments and AI workloads. We will examine how AI-driven insights empower development, operations, and security teams to conquer complexity, improve software performance, and accelerate release cycles. Additionally, we'll explore how a unified approach, like the one offered by Dynatrace and DXC, turns vast amounts of data into precise answers and automated actions, paving the way for true digital transformation.

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What is AI-powered unified observability?

A traditional observability stack consists of multiple siloed monitoring tools, which require teams to preconfigure dashboards that notify them when a performance issue arises. This approach leads to operational inefficiencies, inflated budgets, slower response times, and ultimately, inconsistent and limited visibility.

By contrast, AI-powered unified observability integrates logs, metrics, events, and traces with AI-driven anomaly detection and root-cause analysis for real-time insights in context. By taking a unified approach to observability, teams can quickly identify and resolve issues, so systems remain efficient, reliable, and capable of delivering a seamless customer experience.

The building blocks of AI-powered unified observability



Context

With ever-increasing amounts of data generated by logs, metrics, and traces, IT operations, DevOps, and observability teams must glean actionable insights from large sets of information. To do that, they need access to the context of an event or an alert. This allows analysts to pinpoint root causes and filter out noise.



User experience

Additionally, these teams need to understand how application issues or inefficiencies affect the end user. By tracking real user sessions, analysts gain real-time insight into user experiences.



Logs

A log is a data file that contains a record of activity in an IT environment. Every entity in a data environment generates logs, including applications, services, containers, open source software, operating systems, and infrastructure.



Metrics

Metrics are the myriad measurable data points that IT nodes generate that enable teams to determine elements such as application performance, real user activity, and cloud platform statistics.



Traces

Traces provide the relationships of transactions and their dependencies among various services, apps, and infrastructure.

Full-stack observability requires a unified approach, powered by AI

The rise of microservices-based architectures, generative AI, and agentic systems introduces new layers of complexity. These modern workloads, which can execute tasks autonomously, create new challenges for monitoring and observability. Their dynamic and often unpredictable nature makes it nearly impossible for traditional tools to keep up.

This is where AI-powered observability becomes indispensable. By leveraging a unified platform, organizations can monitor these sophisticated architectures with the same rigor as their other applications.

- **Monitoring AI agents:** AI observability provides deep visibility into the behavior and performance of generative AI models and agentic workflows. It tracks interactions, analyzes resource consumption, and helps these systems operate securely and efficiently.

The Dynatrace Model Context Protocol (MCP) server provides a simple approach to integrate AI-powered observability insights into multi-vendor agentic automation workflows.

- **Empowering developers:** For developers building next-generation cloud-native applications, AI-powered observability is a game-changer. It provides the insights needed to optimize code, accelerate release cycles, and deploy new features with confidence. With automated root-cause analysis and real-time feedback, developers can spend less time debugging and more time innovating.
- **Ensuring reliability:** AI-powered observability helps teams proactively identify potential issues within cloud-native and AI-centric workloads before they escalate. Predictive AI can forecast the impact of changes, while causal AI pinpoints the exact root cause of anomalies, enabling rapid resolution and maintaining high levels of service reliability.

By turning the lens of AI into applications, organizations can effectively manage the complexity of modern workloads, transforming a potential operational nightmare into a well-orchestrated, high-performing system.

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When crafting a modern observability strategy, it is important to consider the following:

1

The makeup of your current—and future—technology estate

Organizations should review current tools and contracts to assess their value, helping eliminate tool sprawl, streamline workflows, and reduce costs. But consolidation must be strategic—planned for integration and automation while aligning with long-term goals. Leverage AI for deeper insights, better outcomes, and always consider how it will affect the overall user experience.

2

Taking a unified approach to observability

A true observability platform must unify monitoring and security, delivering an end-to-end view of the digital ecosystem with security embedded throughout the development lifecycle. AI-powered observability provides real-time, contextual data on demand—enabling automated responses and freeing teams to focus on innovation.

3

The importance of AI and automation

AI should be central to every modern observability strategy. Teams need three key AI types: causal for root-cause certainty, predictive for impact analysis, and generative for faster responses. Combined with automation and agentic AI, teams can auto-remediate issues, cut manual work, reduce alert noise, and improve user experience.

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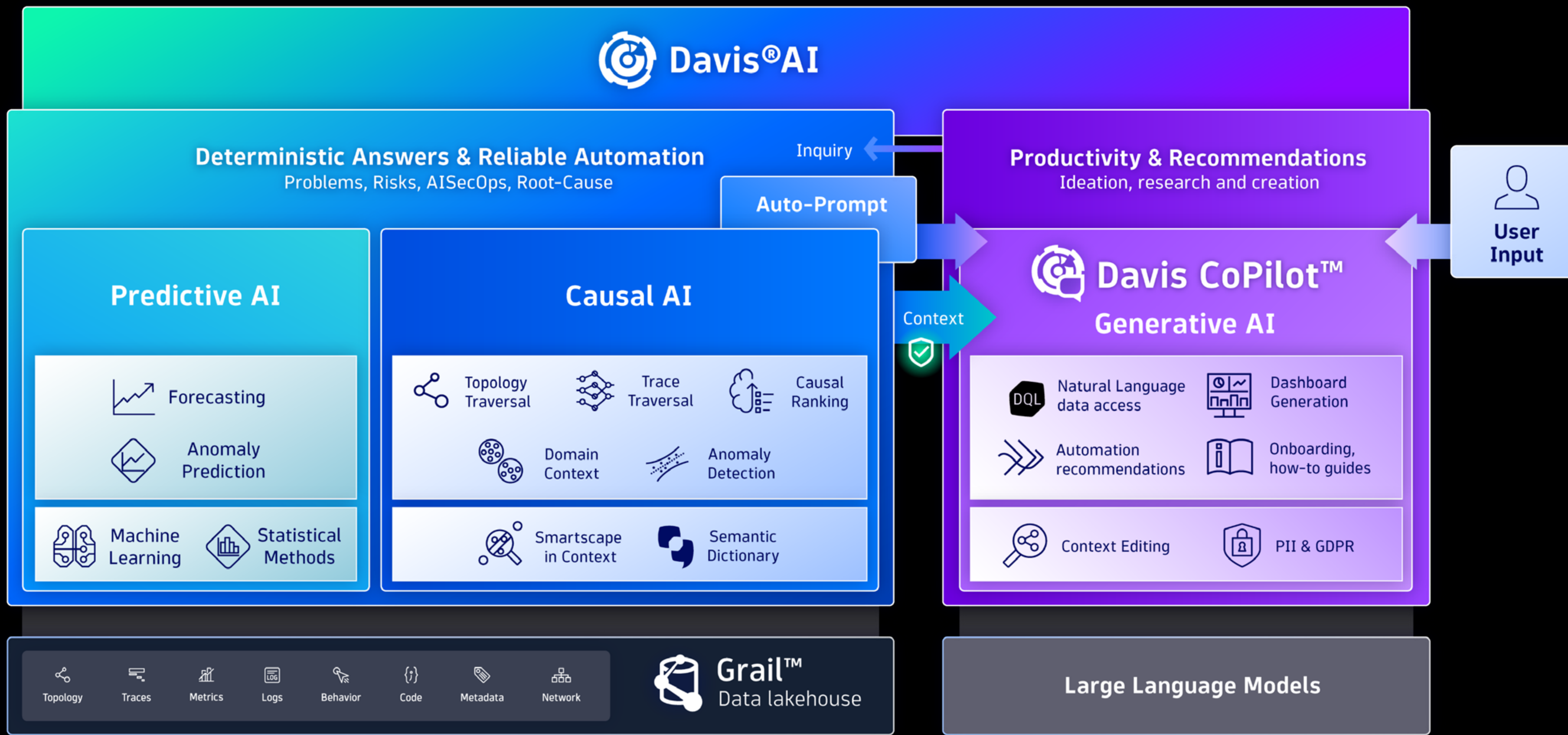
Focus on adoption and value realization

Accelerating adoption is key to unlocking the full value of technologies like Dynatrace. Many enterprises face underutilized tools due to internal resistance and slow adoption.

- Organizational Change Management (OCM) overcomes barriers by fostering buy-in and guiding teams through transitions.
- Enterprise Program Management (EPM) ensures structured, scalable deployment.

Together, OCM and EPM drive adoption, turning underutilization into measurable performance gains and competitive advantage.

Drive innovation and adaptability with causal, predictive, and generative AI



Crafting a winning formula for tackling cloud complexity

How complexity undermines business impact

Business results are directly affected by the complexity facing today's organizations. The business value of digital transformation is to create a foundation that supports speed-to-solution and agility. If teams are consumed with tactical issues generated by complexity, then the business will suffer negative effects.

These challenges include the following:

- Increasing volume, variety, and velocity of data has grown beyond the capabilities of dashboards alone.
- Frequency of change has accelerated, leaving traditional monitoring approaches ill-equipped to handle the strain.

- The importance of applications has grown, as every business is now a digital business, making apps more important than ever.
- Increasing complexity is accompanied by shrinking resources, which reduces the time teams can spend on valuable innovation.

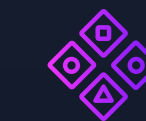
Digital transformation hinges on overcoming complexity. Without modern observability powered by AI and deep domain expertise, managing data velocity, volume, and variety—while proactively identifying and resolving issues—becomes an overwhelming challenge. Teams face obstacles like data silos, alert fatigue, and the relentless pace of change. AI-driven unified observability integrates and analyzes complex data, enabling faster issue resolution and fueling innovation.

The three Vs of data



Volume

With hundreds of services, users are generating more data than ever before. According to [Statista](#), in 2024, the global volume of data created, captured, copied, and consumed was 149 zettabytes. Further, the global volume of data is projected to rise to 181 zettabytes by the end of 2025.



Variety

Telemetry data varies widely both within clouds and between clouds. Teams need a way to embrace all data types, no matter where they come from, in a way that identifies causal relationships.



Velocity

With containers spinning up and down in milliseconds, modern systems generate data at an increasingly rapid pace. Teams need a way to capture and automatically analyze all that information so they can have visibility into issues.

The three stages of overcoming cloud complexity

Overcoming cloud complexity takes time, but DXC and Dynatrace simplify the journey with a three-stage, AI-driven approach.

STAGE ONE

Streamlining tools and unifying observability

Fragmented tools and siloed data slow analytics and response times, leading to inefficiencies, scaling issues, and bloated budgets. By unifying observability on a single platform, organizations gain complete visibility across Kubernetes, containers, microservices, and hybrid infrastructures—breaking down silos, reducing costs, and improving operational efficiency.

STAGE TWO

Automating insights and actions

A unified platform delivers actionable insights, enabling teams to proactively monitor and automate tasks that hinder innovation. With quality data driving decisions, teams can focus on critical priorities, improving operational health and accelerating outcomes.

STAGE THREE

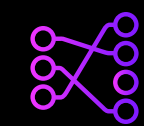
Scaling adoption with DXC expertise

DXC accelerates enterprise-wide adoption with proven expertise, deep industry knowledge, and Dynatrace-certified talent. By fast-tracking deployment, optimizing configurations, and embedding observability into modernization efforts, DXC ensures faster time to value and long-term success.

By unifying observability, automating intelligently, and aligning IT with business goals, DXC and Dynatrace transform complexity into clarity and deliver measurable value.

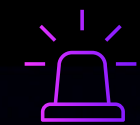
The benefits of a platform approach

The most effective approach to overcoming cloud complexity involves adopting a purpose-built, AI-powered unified observability platform that can handle the scale, complexity, and pace of these modern environments. This platform approach delivers several critical advantages:



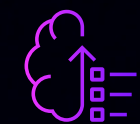
Automatic discovery and mapping

An AI-powered platform automatically discovers all components in the environment and maps their relationships without manual configuration.



Predictive insights

Machine learning models identify patterns that indicate potential future problems, enabling proactive resolution.



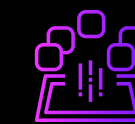
Intelligent alert reduction

Advanced algorithms suppress noise and focus attention on alerts that indicate true problems requiring action.



Unified data model

A single platform eliminates data silos and provides a comprehensive view across the entire technology stack.



Root-cause analysis

AI analyzes patterns and dependencies to automatically identify the root cause of issues, eliminating time-consuming manual investigation.



Automated tasks

Dynatrace AutomationEngine, for example, executes autonomous tasks based on AI-powered insights generated by the platform, and the Dynatrace MCP server integrates with both first- and third-party AI agents to further extend Dynatrace intelligence into other applications. This enables secure efficiency and adaptability for controlled agentic AI tasks.

AI-powered unified observability must-haves for digital transformation leaders

AI and observability now go hand-in-hand. In fact, every cloud-native enterprise project will also be an AI-native project. When evaluating unified observability solutions that are powered by AI, organizations should prioritize platforms that deliver specific capabilities essential for managing complex cloud environments effectively.

The critical role of automated root-cause analysis

One of the most valuable capabilities of unified observability is automated root-cause identification. It starts with dependency mapping—the automatic discovery and mapping of all relationships and dependencies across the technology stack. From there, the system uses intelligence to learn normal system behavior and identify deviations that indicate problems. Finally, an AI-powered observability platform performs causal analysis, using advanced analytics to trace problems back to their true root causes rather than just identifying symptoms. The result: preventing a crisis before it affects users.

Other essentials include intelligent alerting, end-to-end visibility, automated response capabilities, and user experience optimization.



Realizing the value of AI-powered unified observability

Organizations that adopt AI-powered unified observability achieve significant gains in efficiency, user experience, innovation, and overall business impact. Automation and intelligence deliver immediate operational benefits:

By providing visibility into the connection between infrastructure performance and user experience, AI-powered observability enables:



Reduced MTTR. Automated root-cause analysis and contextual insights dramatically reduce the time required to identify and resolve issues.



Proactive issue prevention. Teams can identify potential problems before they affect users.



Decreased manual effort. Automating routine monitoring and analysis tasks frees teams to focus on strategic initiatives and innovation.



Performance optimization. Data-driven insights guide performance improvements and capacity planning.



Improved resource utilization. Intelligent insights enable more effective capacity planning and resource allocation across cloud environments.



Service-level achievement. Better meet and exceed service-level agreements through predictive monitoring.

Turn complexity into a competitive advantage

The ultimate value of AI-powered unified observability lies in its business impact. The complexity challenges facing modern organizations will only continue to grow as cloud adoption accelerates, and AI becomes ubiquitous. Organizations that proactively adopt AI-powered unified observability will be better positioned to thrive in this increasingly complex landscape, while those that continue to rely on legacy approaches risk being overwhelmed by the very technologies they deploy to drive competitive advantage.

The future belongs to organizations that can harness the power of AI not just in their products and services, but in the fundamental operations that keep their digital infrastructure running smoothly. Unified observability powered by AI represents the critical foundation that enables this transformation, turning complexity into a competitive advantage.

DXC, in partnership with Dynatrace, empowers enterprises to:

- ✔ **Gain full-stack, real-time visibility** into their digital ecosystems—from infrastructure to user experience—eliminating tool sprawl and technical debt.
- ✔ **Accelerate transformation** with deep industry expertise and one of the largest pools of Dynatrace-certified talent.
- ✔ **Enable intelligent automation** through AI-powered root-cause analysis and self-healing capabilities, reducing downtime and improving performance.
- ✔ **Connect IT performance to business outcomes**, helping leaders make smarter decisions and optimize ROI.
- ✔ **De-risk and scale AI initiatives**, including generative and agentic AI, with comprehensive observability and compliance support.

How customers leverage AI observability with Dynatrace and DXC

PUBLIC SECTOR

Strengthening mission-critical operations

A European government agency partnered with DXC Technology and Dynatrace to unify monitoring and security.

Challenge: Fragmented tools caused visibility gaps and reactive troubleshooting.

Solution: Dynatrace AI-powered observability delivered full-stack insights and automated health checks.

Results: Faster issue resolution, improved reliability, and stronger security for mission-critical operations.

BANKING

Driving innovation and customer experience

A leading North American bank modernized monitoring with DXC Technology and Dynatrace.

Challenge: Slow diagnosis across 110+ systems affected efficiency and customer satisfaction.

Solution: Enterprise-wide AI-powered observability with root-cause analysis.

Results: 70% faster resolution, fewer incidents, and accelerated innovation for seamless digital experiences.

PUBLIC SECTOR

Reliable digital services for citizens

A major European municipality improved digital services with DXC Technology and Dynatrace SaaS.

Challenge: Limited visibility in a hybrid IT environment led to unnoticed outages.

Solution: Full-stack observability with automated mapping and real-user monitoring.

Results: Faster problem resolution, reliable citizen services, and a foundation for future security and analytics.

Dynatrace and DXC: Automatic and intelligent observability for hybrid multclouds

Dynatrace and DXC combine technology and human expertise to maximize the effectiveness of AI-powered unified observability. Together, they are ideally positioned to deliver this transformative solution by combining the Dynatrace market-leading AI-powered platform with DXC's award-winning expertise in deploying and scaling tailored solutions. The third-generation Dynatrace platform provides trusted knowledge, AI-driven reasoning, and goal-based actioning, complemented by DXC's deep industry knowledge, global delivery capabilities, and a proven track record of fostering intelligent operations through an integrated platform for measurable results.

Dynatrace Grail®, an AI-powered, causal data lakehouse, unifies observability, security and business data in real time. By eliminating silos and enabling instant, context-rich analysis across the full stack, Grail delivers precise insights and automation that help customers resolve issues faster, optimize performance, and drive measurable business value.

DXC has over 280 Dynatrace-certified engineers and more than 1,500 trained professionals. It also has a dedicated Global Dynatrace Strategic Business Group, which includes a Center of Excellence for Logs Management on Grail. In just 15 months, DXC has successfully supported over 200 complex enterprise adoptions of Dynatrace. This enables clients to accelerate transformation, resolve issues faster, and realize the full value of AI-powered understanding.

We hope this ebook has inspired you to take the next step in your digital journey.

Dynatrace and DXC are committed to empowering enterprises with the data, intelligence, and expertise needed to succeed in their enterprise cloud and digital transformation initiatives, no matter how complex.

[Learn more](#)

Contact DXC and Dynatrace experts to assess your observability maturity. Request a personalized demo.

Dynatrace (NYSE: DT) provides AI-powered observability for complex hybrid and multicloud environments. As a leading Dynatrace partner, DXC (NYSE: DXC) helps customers maximize the platform's benefits, enabling faster transformation, reduced risk, and optimized costs through accurate insights and quicker issue resolution across their IT infrastructure.