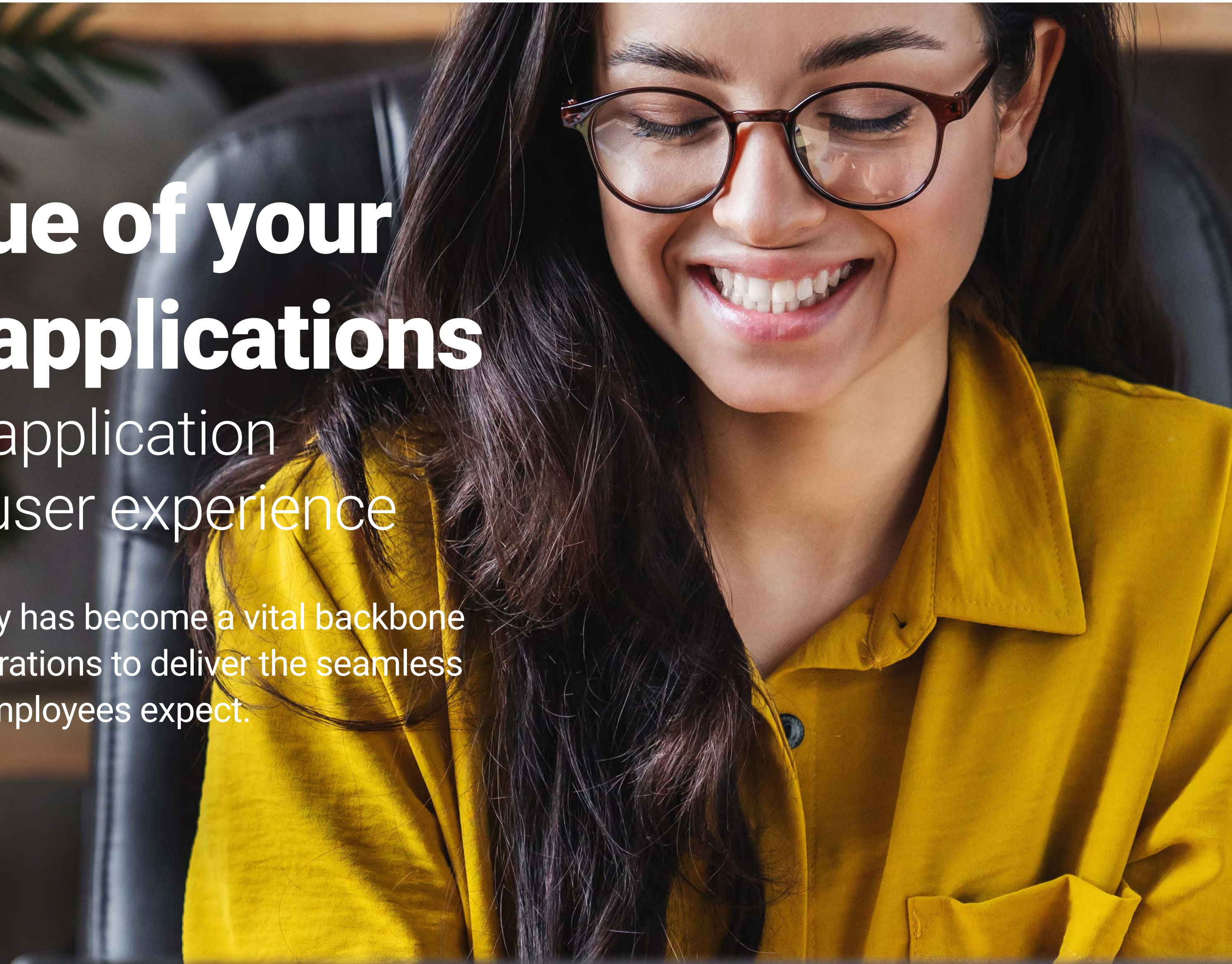




# Unlocking the value of your business-critical applications

How observability protects application integrity and enhances the user experience

This ebook explains why multicloud observability has become a vital backbone for managing complexity, enabling AI-driven operations to deliver the seamless user experience that customers, partners and employees expect.



# Full-stack observability



Full-stack observability

The power of observability

Application performance

Observability maturity

# Full-stack observability: the backbone of multicloud performance

Almost every company now relies on web and mobile applications to connect with customers and internal users. It's no surprise that expectations for always-on, secure and exceptional digital experiences have soared.

These demands are pushing hybrid cloud deployments to higher levels of maturity and making multicloud adoption the new norm.

90% of respondents in a recent survey indicated they were considering a digital transformation strategy; more than half were already executing such a strategy.<sup>1</sup> But this new operational reality is pushing applications to the limit and highlighting some of the inevitable performance, availability and security bottlenecks that organizations face. The number, complexity and location of applications is growing – and these challenges are further compounded by a mix of on-premises, public cloud and cloud-native environments.

77% of IT professionals believe their organization will need to focus their investment on capabilities for observing cloud-native applications and infrastructure.<sup>2</sup>

**Demand for optimal customer experience amid the growing complexity of IT infrastructure requires better monitoring across the application stack.**

Microservices, serverless systems, and containerization in the multicloud environment can enhance application agility but they also make performance issues harder to see.

IT teams are now seeking solutions that deliver full visibility into both legacy, on-premises infrastructure and cloud deployments. And it's not hard to understand why. An application that may have used a traditional three-tier architecture in the past can now be spread over multiple cloud providers and operated by 30 microservices.

This makes observability – automated oversight of the full expanse of an application and supporting IT infrastructure – more vital than ever. Yet most IT departments still rely on multiple, disconnected solutions to monitor availability and performance and don't have unified visibility across their IT cloud-native or multicloud estates.

**85% of IT professionals believe that the shift to full-stack observability will be transformational for their business.**<sup>3</sup>

Observability is the automated oversight of the full expanse of an application and supporting IT infrastructure.

<sup>1</sup>451 Research, 2022, Voice of the Enterprise: Cloud, Hosting & Managed Services, Budgets & Outlook 2022.  
<sup>2</sup>AppDynamics, 2022, Agents of Transformation 2022: Innovating in the Experience Economy.  
<sup>3</sup>AppDynamics, 2022, Agents of Transformation 2022: Innovating in the Experience Economy.





## See more and solve more

**360-degree observability goes beyond monitoring to provide unified, real-time visibility of IT availability and performance. It captures performance metrics and potential red flags up and down the stack, in real time, across compute, storage, network and public internet.**

It enables IT, development and networking teams to identify anomalies quickly and easily, understand root causes and address issues before they impact end users. By reviewing application performance data and comparing it to business outcomes, IT teams can rank issues based on their potential impact and prioritize responses accordingly.

We partner with industry leaders AppDynamics and ThousandEyes, both Cisco companies, to enable you to see more and solve more, so you can deliver outstanding experiences inside the organization and out. The outcome is greater insight into user experience, less firefighting and more focus on strategic IT initiatives.



# Today's applications live in the cloud

In late 2021, Gartner stressed the importance of cloud migration to successful digital transformation, stating that "85% of organizations will embrace a cloud-first principle by 2025."<sup>4</sup>

Observability helps right-size application infrastructure in multicloud environments by identifying baseline application workloads and throughputs. It collects data on resource utilization, user experience and throughputs to match the cloud provider's infrastructure requirements. When cloud migration is complete, observability provides information and insights drawn from the entire application stack to optimize usage, strengthen security and address any issues as they happen.

To enable observability, organizations are now considering how to design and deploy the latest application and network performance management tools in the context of their application investments. Automating data flows is part of that journey – it's essential for uncovering business insights, enabling AI and machine learning initiatives, and improving business outcomes.

IT teams will need observability across the cloud application stack to detect and alert them to issues as they arise and detect security vulnerabilities before any application or update goes live.

<sup>4</sup>Gartner. 10 Nov 2021. Press release: Gartner Says Cloud Will Be the Centerpiece of New Digital Experiences.

<sup>5</sup>AppDynamics. 2022. Agents of Transformation 2022: Innovating in the Experience Economy.



## Multicloud adoption is accelerating complexity

**With reliance on applications ramping up exponentially across the organization, IT teams face new and diverse management challenges.**

A recent Cisco AppDynamics survey identified that the biggest barrier to innovation is the amount of time that technology teams have to spend firefighting IT issues.<sup>5</sup> Furthermore, the study emphasizes the need to connect technology-performance data with real-time business metrics to pinpoint the IT issues that really matter most and prioritize the actions that will deliver maximum business impact.

To unravel the knots in application performance, organizations are now seeking advice on how best to design and deploy observability tools. They're also looking to obtain the skills needed to automate data flows and uncover the business insights needed to enhance visibility and control over their application environment in the midst of ongoing digital transformation.





# Enhancing application availability and efficiency

Applications have to be more than just available – they must consistently provide positive experiences for employees, customers and partners up and down the value chain. This requires innovation at the front end and, even more crucially, a greater focus on efficiency, control and security at the back end.

Many application performance teams are eager to fine-tune the user experience in real time – to be able to adapt and make improvements without introducing risk or threatening performance and availability.

When refining your application strategy, it's important that the decisions made concerning multicloud network selection, software as a service (SaaS) and platform as a service (PaaS) provider performance are reliability- and data-driven.

Here are some critical questions to ask:

- Are all critical applications baselined for key performance metrics?
- Has network performance been baselined?
- Has the performance of all cloud technologies been baselined?

If the answer to any of these questions is “no”, it's harder to have confidence in the choices you make regarding the consistency of service delivery.

There are many drivers for an organization to invest in observability. Often, an immediate tactical requirement to remedy performance issues with a specific app may quickly result in the organization understanding the long-term business value of observability for building resilience.



# The power of observability





# The power of observability

When applications operate at peak performance become an enabler for both employees and customers.

Whether the objective is to speed up response time, reduce security risk, ensure compliance or all the above, being able to understand each customer's journey supports better digital decision-making.

Observability means having a visual representation of the data for every application and its interdependencies. It improves the quality and impact of application-led conversations, with marketing, development, risk or compliance. Observability helps build knowledge of current or potential issues. It also gives teams a common language through a shared focus on customer outcomes and innovation.

Effective and efficient monitoring and management of an application estate allows you to see all your application components, dependencies and connections in one user interface.

This enables IT teams to become more proactive, focus on the customer experience and enable frictionless use of technology across the organization.

**Even during this period of uncertainty and rapidly changing priorities, NTT's 360 Observability can help build the internal capability necessary to maintain high-quality digital experiences across the user landscape.**





## Visibly more secure

Gartner states: "By 2025, 70% of new applications developed by organizations will use low-code or no-code technologies, up from less than 25% in 2020."<sup>6</sup>

**"By 2025, Gartner estimates that over 95% of new digital workloads** will be deployed on cloud-native platforms, up from 30% in 2021."<sup>7</sup>

This proves what most enterprise IT professionals already know: moving to the cloud has gone beyond suggestion to necessity.

For DevOps teams tasked with moving code from development to production on a daily basis, identifying preproduction glitches as they occur will be an essential capability. They'll need full-stack observability to detect and alert when issues arise in the continuous integration/continuous delivery (CI/CD) process — which includes finding security vulnerabilities before any new app or update goes live.

<sup>6</sup> and

<sup>7</sup> Gartner, 10 Nov 2021. Press release: Gartner Says Cloud Will Be the Centerpiece of New Digital Experiences. GARTNER is the registered trademark and service mark of Gartner Inc., and/or its affiliates and has been used herein with permission. All rights reserved.

# The future of application performance is in automation

As applications evolve to containerized architectures, the manual configuration of installs, thresholds, data collection and dashboards is no longer an option. In this case, many hands do not make light work. In fact, manual work actually multiplies application complexity, rather than eliminating it.

Today's application technology stacks are vast, dynamic and ever-evolving, with multiple moving parts. Data center administrators are unlikely to stay ahead of the workflow necessary to configure and deploy each component.

As more applications are deployed in the cloud, the tasks associated with managing the cloud environment grows, increasing the overall workload. Manually deploying and operating functions such as configuring resources, setting up virtual machines and monitoring performance is inefficient and error-prone — putting application availability at risk.

Intelligent automation is essential to a successful migration. Tasks can include storage and backups, managing security and compliance, changing configurations and settings and deploying code. With intelligent automation, the bulk of the workload can be handled without manual intervention, ensuring application availability and performance and allowing administrators to focus their efforts elsewhere.



# Application Performance



# Realize the full value from your application investments

At NTT, we work with clients across the entire application lifecycle to help maximize positive outcomes for customers and employees. By applying industry benchmarking, technology assessment and risk management, we help organizations use technology to achieve strategic goals.

From simplifying online purchases to optimizing supply chains and improving collaboration, applications have the power to change things and move us toward a better world.

We empower our clients to make data-driven decisions, and remediate application issues in a repeatable, scalable and operationally consistent manner.



Full-stack observability

The Power of observability

Application performance

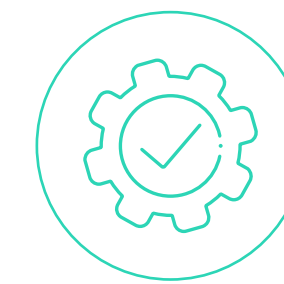
Observability maturity

# Gaining 360 observability

Our **360 Observability Services** help you plan, build and manage your applications. We provide you with the right intelligence to support informed infrastructure decisions, and work with you to detect the primary causes of poor performance or poor user experience and challenges across hybrid IT environments.



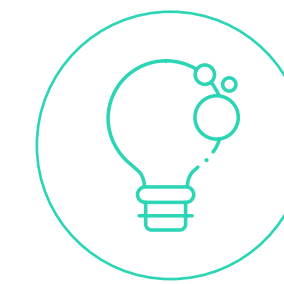
We leverage strategic partnerships to provide visibility, performance management and automated issue-identification tools, enabling you to resolve network and application challenges more effectively and ensure your application environments and underlying infrastructure are secure by design.



**When issues arise, our clients need quick and efficient resolution, ultimately with automation.** We combine the power of the AppDynamics and ThousandEyes platforms to enable our clients to make better decisions and optimize actions through AI and automation.



**Access to real-time data and automation is the foundation of ongoing application performance.** With fully integrated monitoring from Cisco AppDynamics and ThousandEyes, clients can monitor business applications and identify customer-impacting issues quickly and precisely, with an end-to-end view of application performance and all the connectivity and services that depends on.



With 360 Observability Services, you can realize the benefits of enhanced applications and deliver an exceptional user experience, with a focus on business optimization and innovation. Our services provide visibility of the performance of critical applications both within and outside enterprise networks.



# Observability Maturity





# Simplify application complexity

Take our [Observability Maturity Assessment](#) as a first step to understanding and enhancing your organization's performance management and operational maturity.



Full-stack observability

The Power of observability

Application performance

Observability maturity

