



Accelerating workloads to Red Hat OpenShift

6 ways modern monitoring can help you move quickly with less risk and cost

Introduction

Top performing organizations know that they must build and run new software at speed and scale — and migrate strategic workloads to the cloud — as quickly as possible to meet increasing demands for more features, faster.

While this is an imperative to be competitive, there are challenges along the way as companies look to build new cloud-native apps, refactor monolithic apps, containerize legacy apps, or a combination of approaches.

This brief is for ops management, enterprise IT or cloud architects, and application developer leads working with OpenShift platforms. It reviews 6 key modern monitoring capabilities that provide the visibility and context you need to move more app workloads to the cloud with less risk, costs and downtime.

What's inside

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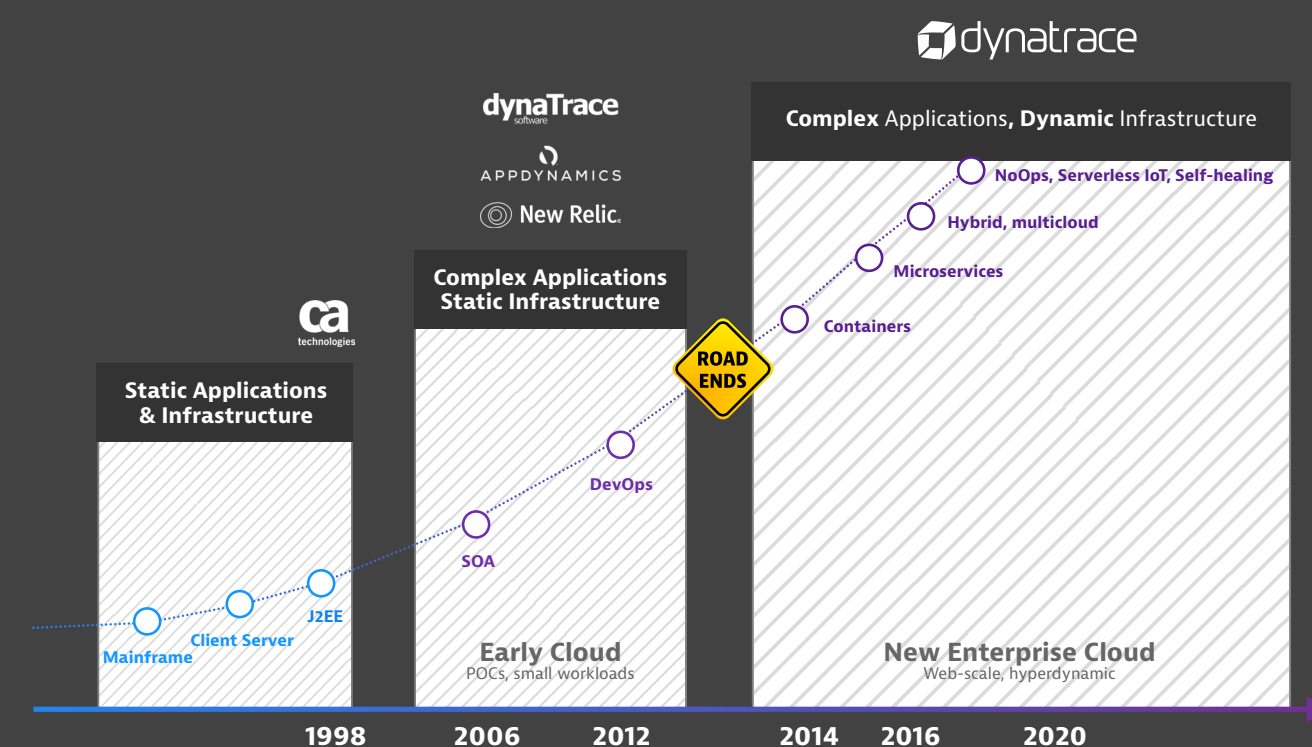
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1. Cloud, containers, and microservices changed everything

A new generation of monitoring is required

Traditional monitoring is simply not engineered for dynamic, highly scalable cloud native applications and environments.

This new generation of application architectures requires a monitoring approach designed and built for cloud, microservices, and containers; and the resulting complexity, speed and scale they convey.



Enterprise Cloud — a combination of classic and new stack technologies running across enterprise and cloud datacenters.

Web-scale — agile, dynamic environments that are highly scalable in size as it pertains to speed and agility.

Microservices and containers — a software architecture doing one component of an application exceptionally well, with containers as tools for packaging and organization.

DevOps — the collaboration of engineering, production and business teams on the creation and deployment of great software that creates competitive business value.

User expectations — both business and consumer evolution of higher expectations with perfection being the benchmark for accuracy and response.

Challenges presented by traditional monitoring tools

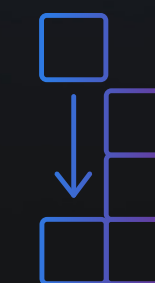
To move workloads to the cloud faster, traditional monitoring tools won't help. They are not built for the speed, scale, and automation of the enterprise cloud.

Here is why:



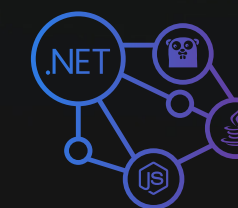
Time-consuming, error-prone manual effort

Slow, manual deployment and configuration coupled with manual upgrades and re-work when environments change. It all means a maximum of just 5% of apps are monitored.



Monitoring tool overload with no context

Many monitoring tools for different and specific purposes, with siloed teams looking at myopic data sets, and no contextual knowledge between them.



Time-consuming agent complexity

Complex mix of agents for diverse technologies types, each with different deployment, installation, and configuration processes.



Lots of data, but no dependencies or context

Data from multiple agents and different sources look bountiful, but the data means nothing without context to drive actions for resolution.

2. Envisioning AI and automation to achieve true cloud agility

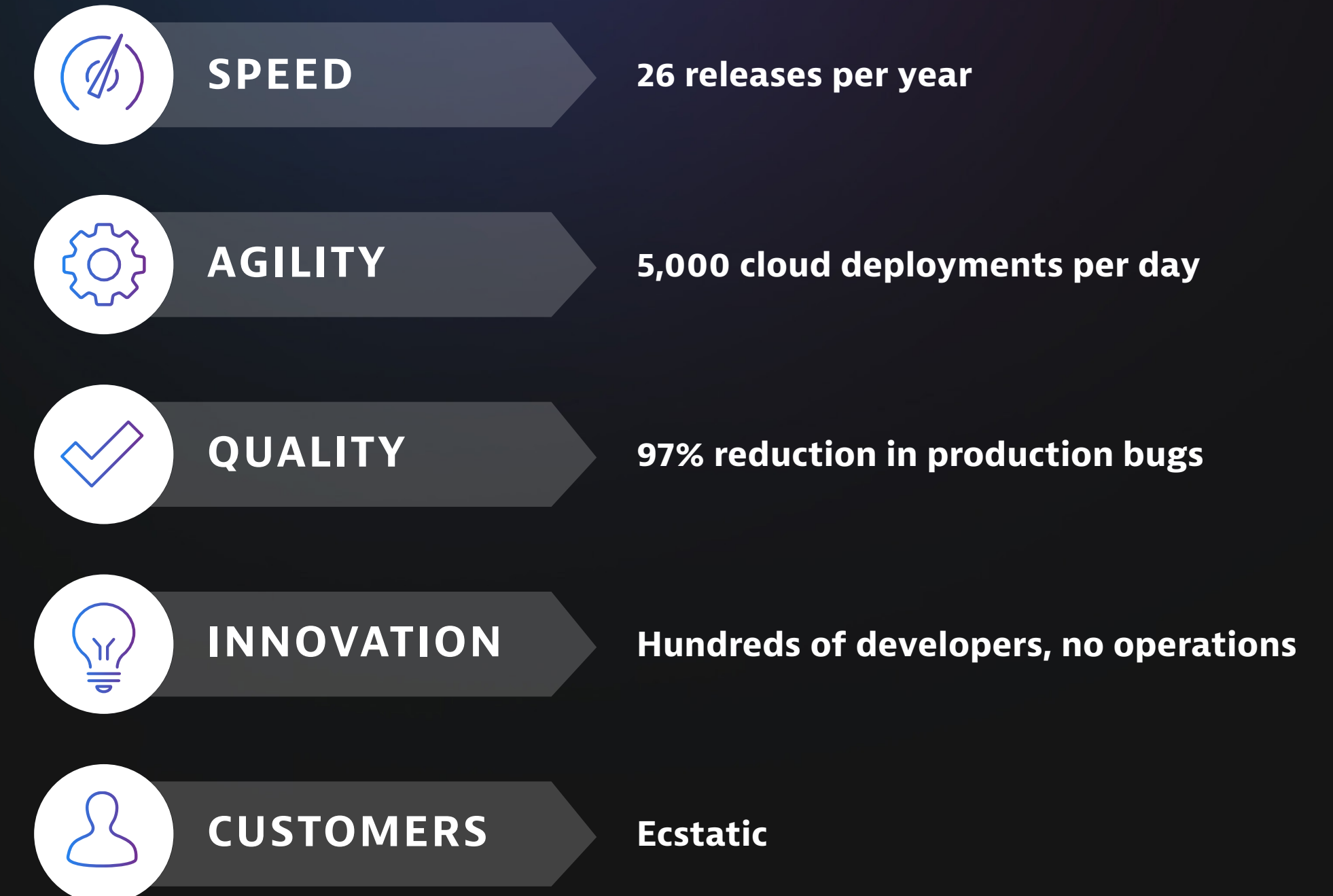
Transformation approach

Five years ago, Dynatrace, an APM market leader, foresaw changes with emergence of cloud platforms, and realized traditional monitoring would not suffice in these complex, highly dynamic environments. We moved 40 of our best engineers to develop the next generation with a goal to provide dev, ops and business teams with faster, real-time answers and context.

A single agent architecture was created, that could automatically be deployed at scale, and could capture high fidelity data, including microservices and containers, without any human intervention. This feeds the AI-engine, which auto-analyzes the entire tech environment instantly and services up answers to performance issues — as well as the smallest variation in any code, process, service or user experience.


Our success was profound! As an industry APM market leader, #1 in market share today, we work with customers all over the globe to share these best practices so that they can drive their own business transformation.


Transformation Results





3. Capabilities for managing enterprise cloud complexity is key

Dynatrace's AI-powered all-in-one software intelligence for enterprise cloud environments provides visibility and context across multi-cloud environments, including the industry's only deep container monitoring.

 Application performance management

 Cloud infrastructure monitoring

 AIOps

 Digital experience management

What makes Dynatrace unique?

- Automated deployment via OneAgent Operator** — Fully automated monitoring for OpenShift, apps and infrastructure, including Kubernetes nodes.
- High fidelity data** — Highest quality data, in context, at scale.
- Full stack with context** — Smartscape® real-time topology mapping from apps to infrastructure.
- AI-powered** — Causation-based answers & insights, not more data and charts requiring correlation.
- Common big data architecture** — Same solution available as SaaS and Managed On-premise.
- Open APIs** — For cross-cloud ecosystem automation.

Prepare to be amazed

When users experience Dynatrace for the first time they are amazed at what it can do. It's automated. It's AI-powered. It's full stack. It's easy.

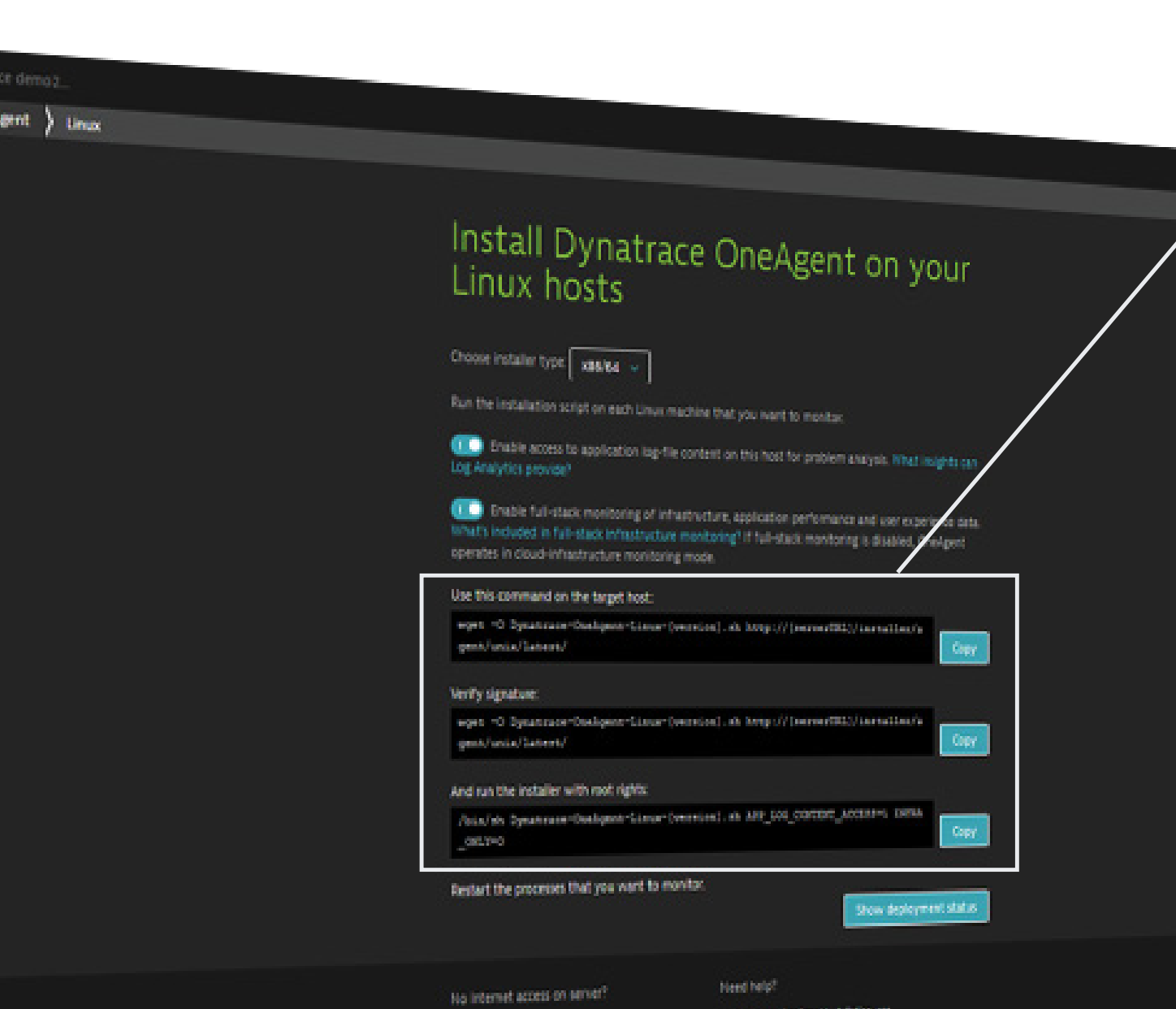


1. Leveraging the value of Dynatrace — Let's get started!

Easy agent deployment

Let's take a look at how our industry-leading technology, experience and best practices can help you move workloads with OpenShift using Dynatrace.

With Dynatrace you install just one single agent one time per host and you will automatically begin collecting all relevant metrics across 100% of your application delivery chain (including containers). A single Dynatrace OneAgent can handle monitoring the full breadth of your stack, including servers, applications, services, databases and more.

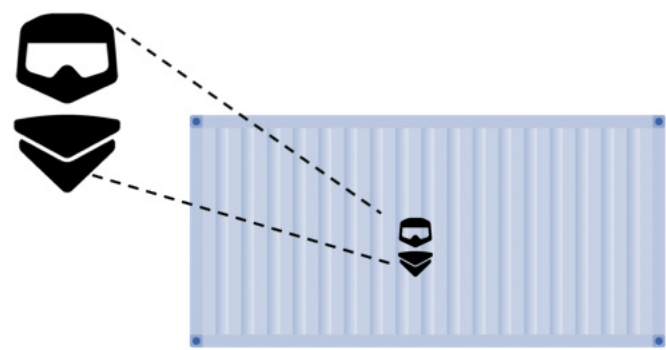


The screenshot shows the 'Install Dynatrace OneAgent on your Linux hosts' page. It includes a dropdown for 'Choose installer type' set to 'x86_64'. Below are two checkboxes: 'Enable access to application log file content on this host for problem analysis. What insights can Log Analytics provide?' and 'Enable full-stack monitoring of infrastructure, application performance and user experience data. What's included in full-stack infrastructure monitoring? If full-stack monitoring is disabled, OneAgent operates in cloud-infrastructure monitoring mode.' A code block shows the command to use on the target host: `wget -O Dynatrace-OneAgent-Linux-(version).sh https://(licenseURL)/installers/agent/linux/(arch)/`. Below this is a 'Verify signature' section with a command: `wget -O Dynatrace-OneAgent-Linux-(version).sh https://(licenseURL)/installers/agent/linux/(arch)/`. At the bottom, it says 'And run the installer with root rights' and shows a command: `/bin/sh Dynatrace-OneAgent-Linux-(version).sh API_KEY=(API_KEY) DATA_CENTER=(DATA_CENTER)`. A 'Restart the processes that you want to monitor' button is at the bottom right.

In this example, for Linux hosts all that is required is 3 simple cut and paste commands and you are up and running.

A note on containers

Dynatrace is the only industry monitoring solution that covers containers completely. It auto-injects as the container spins up and eliminates the need for developers to build an agent into the image. The containerized services are automatically closely monitoring by Dynatrace.

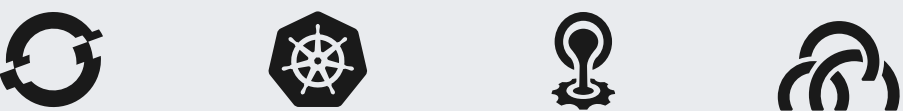


Dynatrace supports a wide range of platforms and operating systems

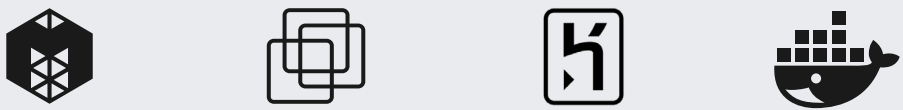
Public cloud platforms



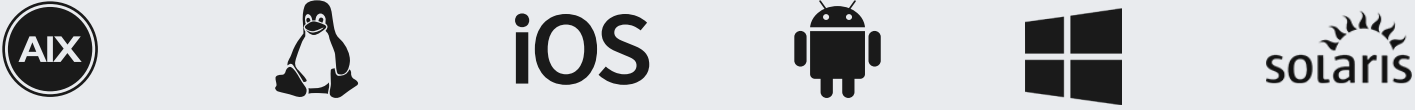
Enterprise cloud platforms



Other technology platforms



Operating systems



2. Jump start with out-of-the-box results

Within minutes, Dynatrace starts working. Dynatrace comes with prebuilt dashboard to meet every user's needs. Or build a custom dashboard specific to your needs.

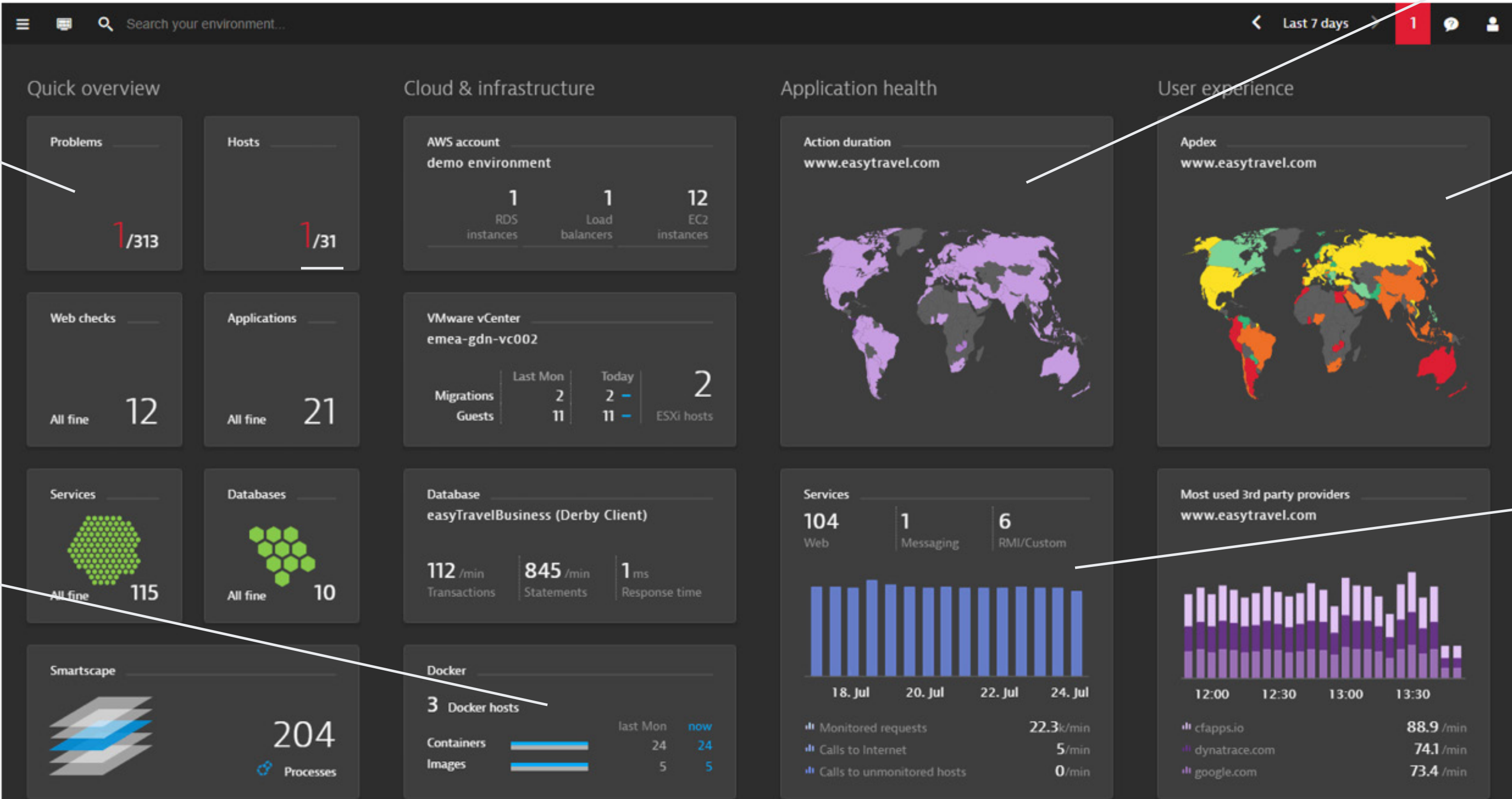
Dynatrace AI provides the root cause of problems automatically.
Page 7

Smartscape uses the application topology and discovery information of your environment and builds an intuitive, interactive visualization.
Page 8

See how Dynatrace monitors your infrastructure, public cloud, on-premise cloud and traditional.
Page 10

User experience is why you do this, so monitoring it is critical.
Page 12

See how your microservices and containers are performing and communicating with each other.
Page 8

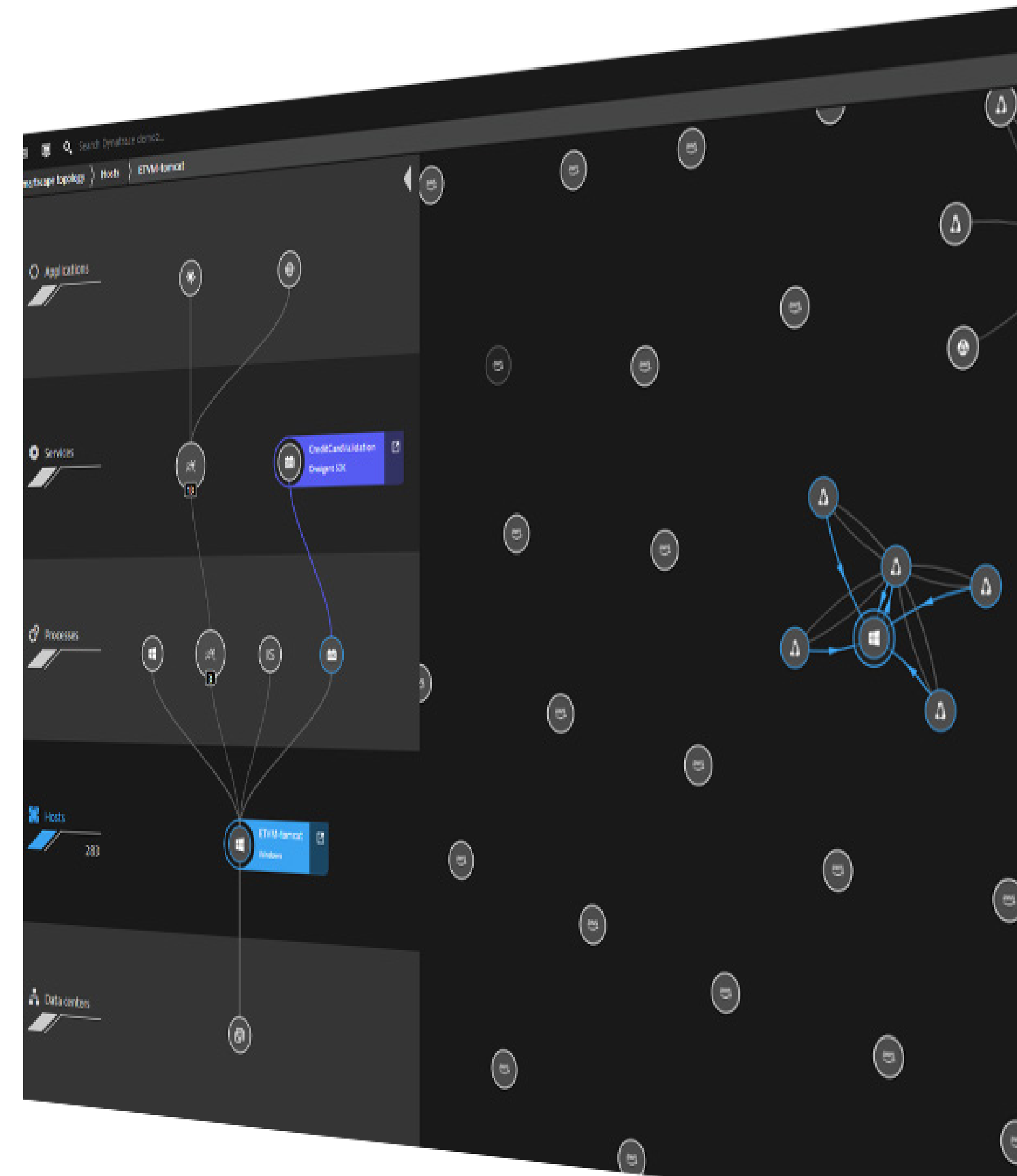


3. Automatically see all components and dependencies in real-time

Within minutes of installing Dynatrace you will get a roadmap of all relationships and dependencies that's always accurate, and up-to-date. Our unique Smartscape technology takes the application topology and discovery information and builds an intuitive, interactive visualization.

Because Dynatrace sees relationships and dependencies in real-time, our deterministic AI engine has the context it needs to tell you not only what happened, but why it happened. While other solutions can only correlate disconnected data, Dynatrace AI automatically detects virtual and physical relationships and changes. This allows us to go beyond correlation and give you true causation.

Apps to infrastructure
with real-time
dependency mapping



4. Automatic problem detection with immediate root cause analysis

Without any configuration, the deterministic AI detects issues reliably, shows the root cause & business impact, and eliminates alert storms. Problems are summarized in a single view with all the information needed to fix the problem.

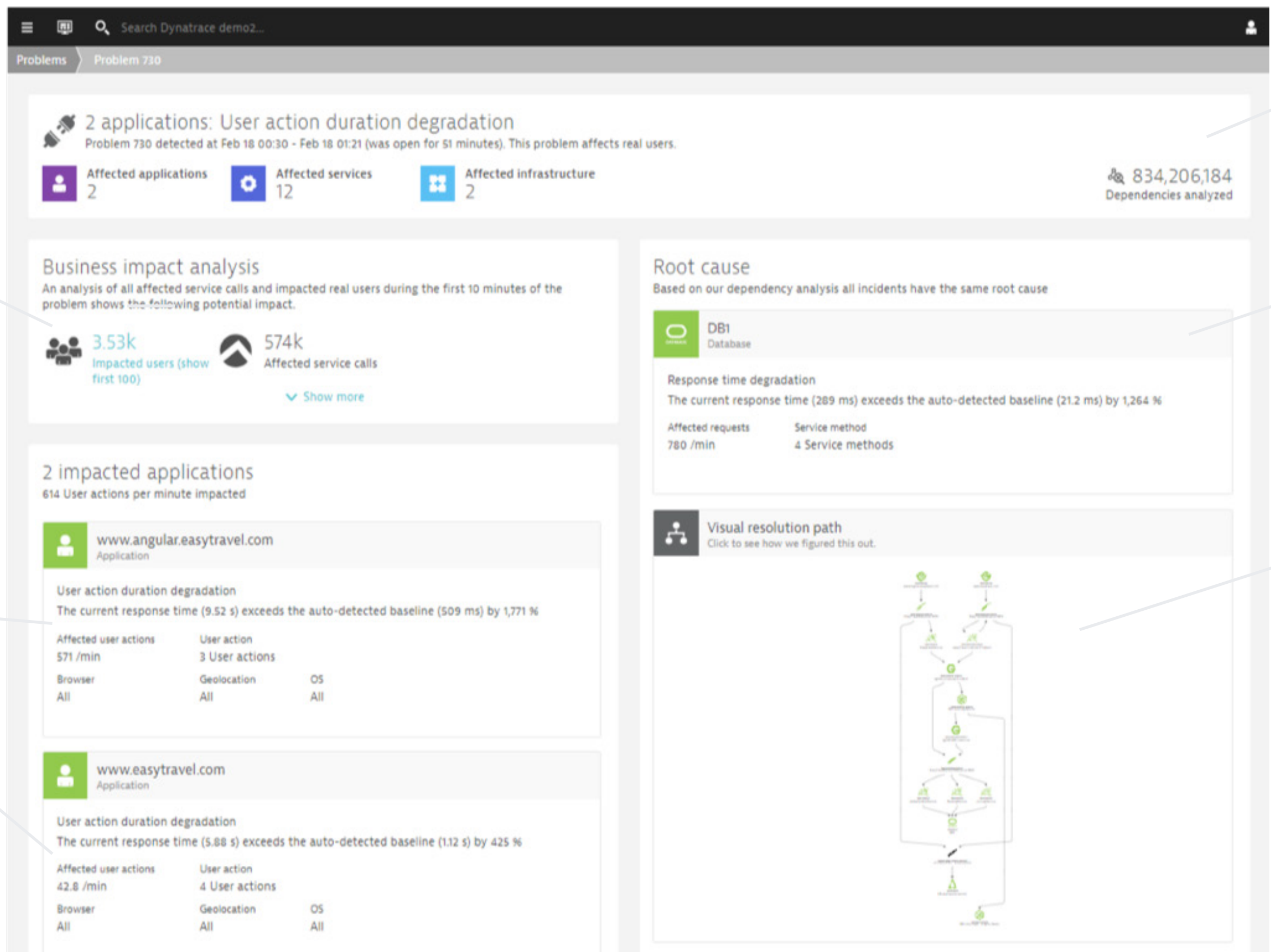
How the problem is impacting others

Applications affected by the problem

More than 843 million dependencies analyzed

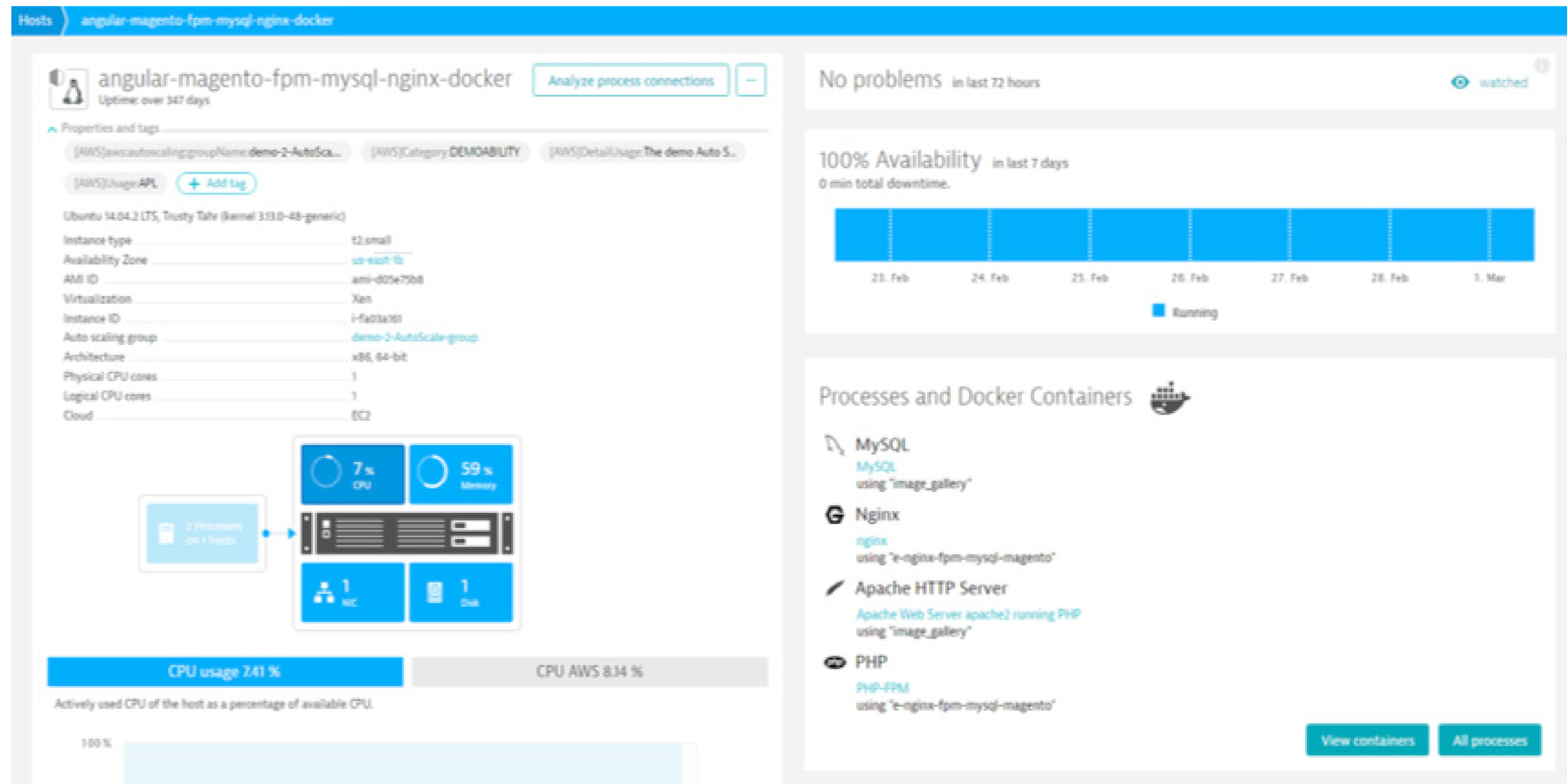
Root cause – Database

Watch a replay of how the problem played out and the hundreds of alerts other solutions would have sent. Dynatrace sends a single alert with all the information you need to fix it.



5. Monitor infrastructure health in context to applications

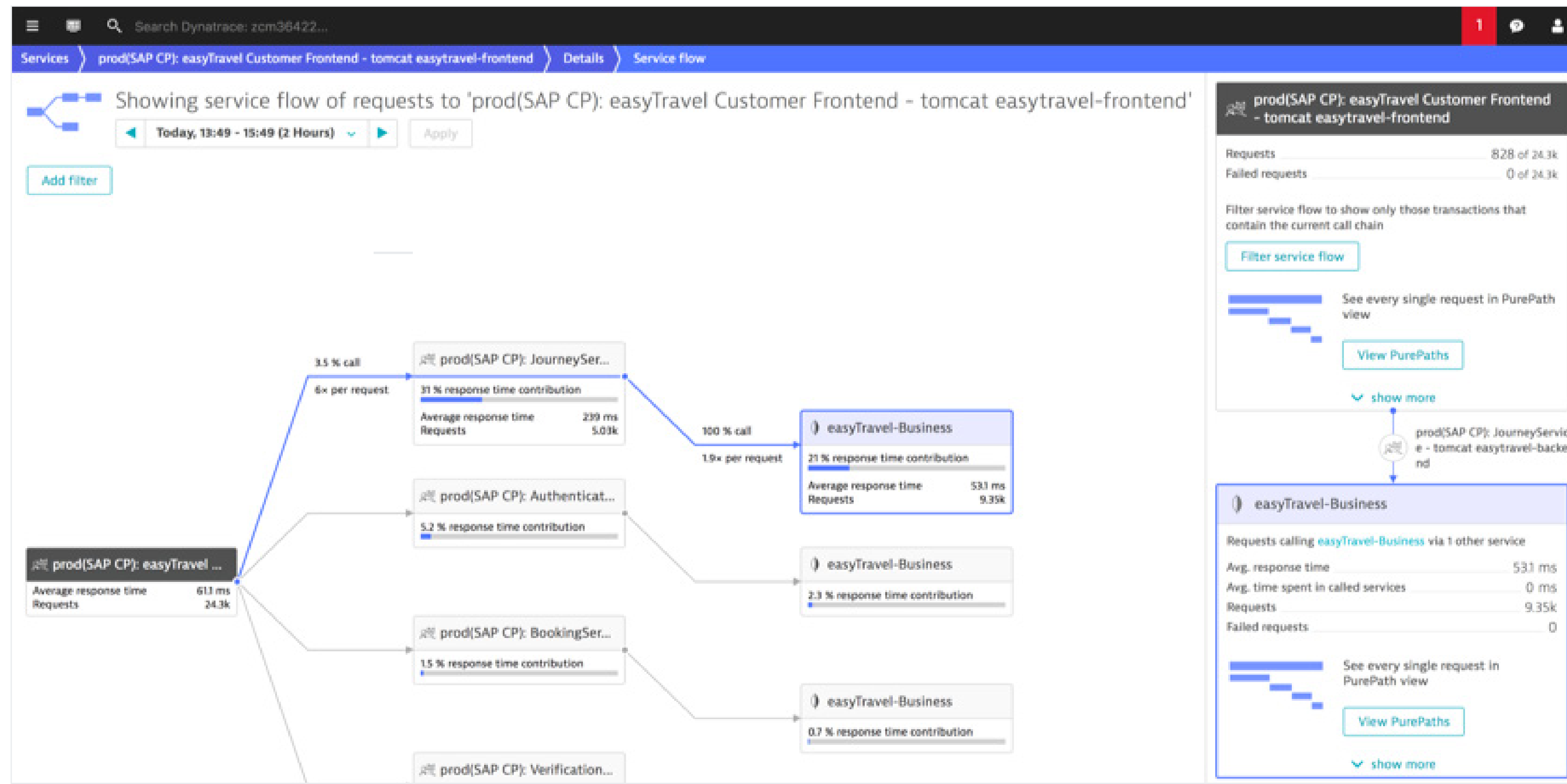
Analyze key infrastructure health metrics in real-time. Automatically correlate performance problems with system changes. Keep enterprise infrastructure up and running whether on bare metal, VMware, OpenStack, AWS, Azure, or hybrid solutions.



6. Light up microservices running inside containers

Dynatrace automatically discovers and monitors dynamic microservices running inside containers.

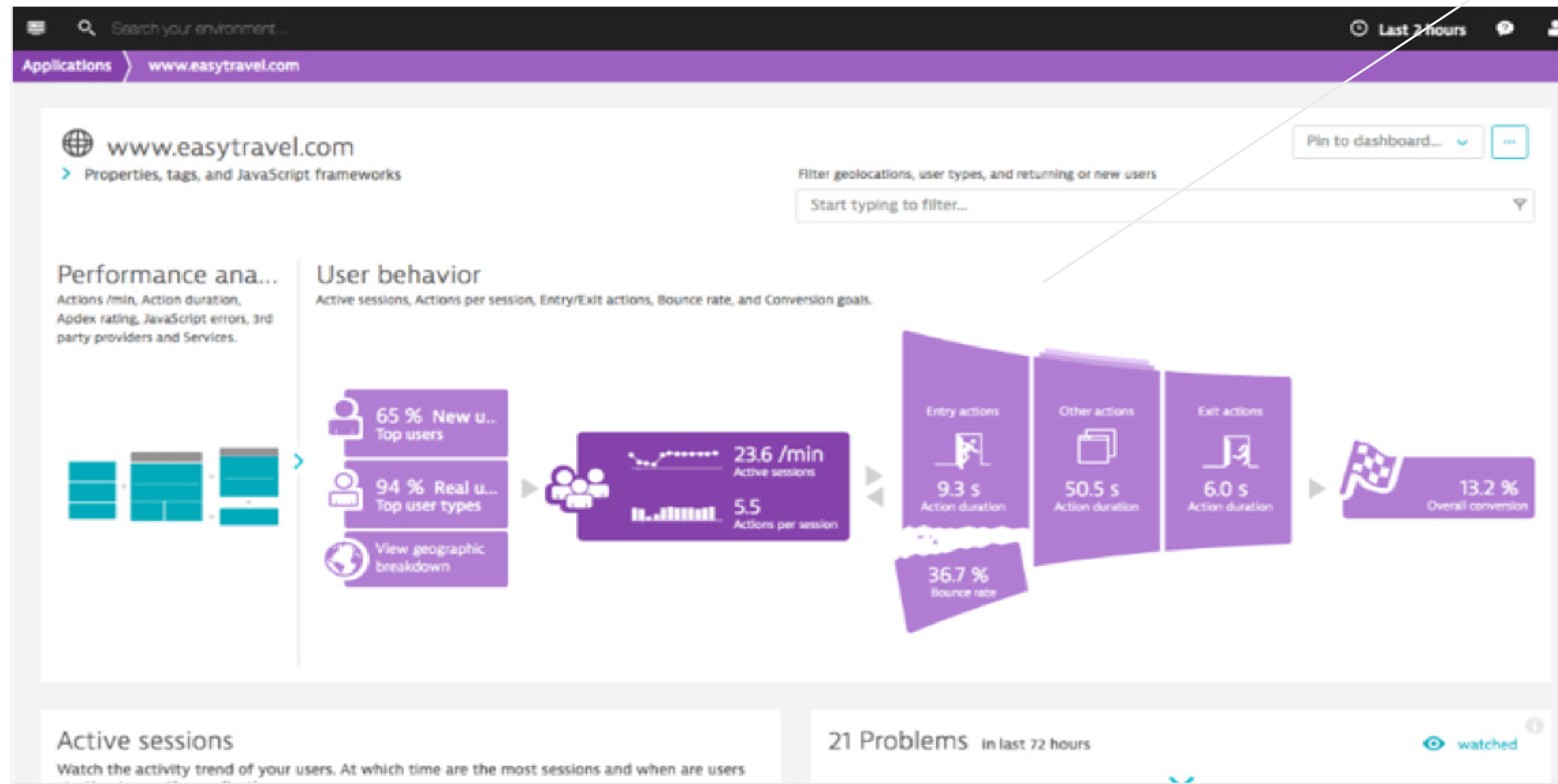
See how they're performing, how they communicate with each other and immediately detect poorly performing microservices.



7. Analyze the impact of performance on user experience

Gain full visibility into all activity from every mobile and web application user across all devices and browsers; analyze user data in real-time to assess satisfaction, detect struggles and proactively predict and influence next steps in their digital journey.

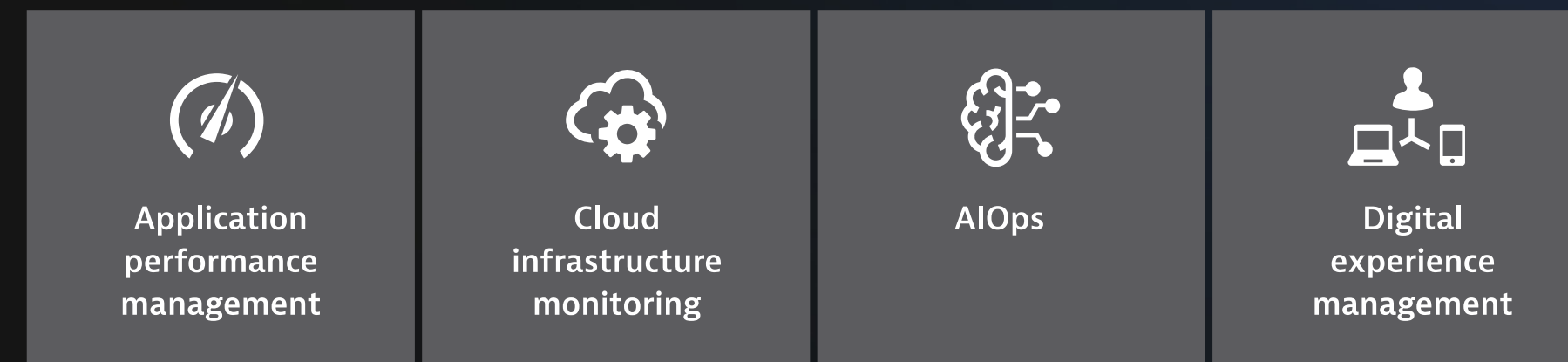
Compare bounced user sessions, converted user sessions or new versus returning users to understand your customer base.



Ready to accelerate workloads to OpenShift?

- ✓ No credit card required
- ✓ Up and running in under 5 minutes
- ✓ Get instant value and insight

Dynatrace automatically provides insights into all OpenShift applications and technologies, and our deterministic AI-engine immediately identifies problems and their root cause. This frees up IT teams to focus on accelerating workload migration and application builds to OpenShift.



Start your 15-day free trial



About Dynatrace

Dynatrace provides software intelligence to simplify enterprise cloud complexity and accelerate digital transformation. With AI and complete automation, our all-in-one platform provides answers, not just data, about the performance of applications, the underlying infrastructure and the experience of all users. That's why many of the world's largest enterprises trust Dynatrace to modernize and automate enterprise cloud operations, release better software faster, and deliver unrivaled digital experiences.

