




Using software intelligence to simplify microservices



The flexibility and agility of a microservices architecture comes at a cost: **added complexity**. You can avoid this cost with the automated visibility of software intelligence powered by AI.

Agency Scenario: Knowing where to begin

Michelle is tasked with creating a more agile environment for delivering her agency's services to end-users. She wants to implement a microservices architecture for faster and more flexible development, deployment, and management of applications. But after repeated efforts, the initiative has made little progress, as the IT team struggles to identify appropriate applications and plan for their new deployment as microservices in the infrastructure.

A successful microservices program begins with an automated platform for monitoring and analyzing infrastructure and applications. The Dynatrace Software Intelligence Platform uses AI to automate this process, providing teams with the insight needed to understand where they are and identify the right path forward.

A microservices architecture offers your agency flexibility and agility in deploying, securing, and updating applications by breaking them into their constituent parts. Dealing with individual parts — or services — is easier than dealing with thousands or millions of lines of code in a monolithic legacy program.

Done properly, with appropriate monitoring and analysis, microservices can be easier to deploy across distributed, multiple platforms in data centers, on-premises, and in the cloud. Components are easily updated, and security vulnerabilities can be isolated and fixed without changing the entire application.

Agencies that are testing the waters to see what applications can be best moved to this type of architecture are discovering these advantages come with a cost, and planning is essential to teams successfully making this shift.

Trade-offs

Ironically, the flexibility, agility, and simplicity of microservices also create additional complexity.

Instead of a handful of standalone applications, your IT team must now manage hundreds or thousands of individual services scattered across multiple platforms. While dealing with individual components can be simpler, on-staff techs must be able to keep track of each of them and understand their relationships and dependencies.

Manually deploying agents to a handful of services might be a practical way to monitor and inventory a system in a traditional environment. But without automation, monitoring and understanding the more complex microservices architecture becomes untenable.

Automation is key

Before implementing a microservices architecture, you must develop a strategy and processes to break the application into services. Doing this on an existing monolithic application takes multiple steps. It starts with identifying all the logical components of the application, then understanding what each function and activity is and where it can be broken into separate services.

Gaining this depth of insight requires the level of automation provided by the Dynatrace® Software Intelligence Platform. Dynatrace delivers precise answers about the performance and security of applications, microservices, the underlying infrastructure, and the experience of all users to enable agencies to innovate faster, collaborate more efficiently, and deliver more value with dramatically less effort.

Automated deployment of agents and analysis of data from many sources across your infrastructure provides the needed understanding to develop and carry out a successful strategy for the adoption of microservices and manage your evolving environment. You see not only the applications and services running on your systems, but their interactions with each other and the demands they place on the underlying infrastructure.

Root cause analysis with AI ensures that security is not lost in the new environment. Problems are identified and automatically analyzed so they can be quickly fixed within the individual service. This is the main reason to break services apart.

This rich visibility helps your team develop the skills needed to manage a microservices architecture without being overwhelmed by new complexity.

Your essential tool

Manual monitoring and scanning tools do not provide the speed, automation, or visibility Dynatrace does. These tools also can't provide the powerful AI analysis that transcends human capability. Without these abilities, the advantages of a microservices architecture are liable to be lost in the complexities.

When you deploy new services, Dynatrace deploys with you. When you scale to new environments, Dynatrace scales with you.

To take advantage of the Dynatrace Software Intelligence Platform, powered by AI:



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About **Dynatrace**

Dynatrace provides software intelligence to simplify cloud complexity and accelerate digital transformation. With automatic and intelligent observability at scale, our all-in-one platform delivers precise answers about the performance and security of applications, the underlying infrastructure, and the experience of all users to enable organizations to innovate faster, collaborate more efficiently, and deliver more value with dramatically less effort. That's why many of the world's largest enterprises trust Dynatrace® to modernize and automate cloud operations, release better software faster, and deliver unrivalled digital experiences.

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