CONTINUOUS DEPLOYMENT
THOUSANDS OF MICROSERVICES
DISTRIBUTED SYSTEMS
THOUSANDS OF MICROSERVICES

Debugging faster with New Relic
Seeing software requests from end-to-end makes finding and fixing issues faster and easier. New Relic simplifies distributed tracing every step of the way.

How Distributed Tracing Works
Understanding modern digital environments
New technologies introduce greater complexity for monitoring software and systems.

What is distributed tracing?
Distributed tracing is a simple way to understand complex environments. It helps software teams see every way to track, visualize, and collect data about requests as they travel through distributed systems.

What is a trace?
Services in a distributed system talk to one another by sending requests. A trace is data that tracks the complete path of a request as it travels from service to service. It’s composed of spans that represent time spent in each operation, or segment, along the path.

Types of sampling
Distributed tracing processes massive amounts of data. There are two common types of sampling to manage your data volume effectively with the insights you need.

1. Head-based sampling
   - Samples traces randomly before they have completed, observes 1/10th of traces, and keeps those with errors, high latency, or anomalies.
   - Works well in pure cloud or microservices environments.

2. Tail-based sampling
   - Samples only after the trace has fully completed, observes 100% of traces, and keeps those with errors, high latency, or anomalies.
   - Usually requires a complex infrastructure.
   - Works well in highly distributed, cloud-based environments or critical applications.

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1. Instrument your stack.
   - Auto-instrument your services using New Relic agents or open instrumentation like the W3C trace context standard.

2. Automatically collect trace telemetry.
   - Automatically gather tracing data from any source, including microservices, containers, serverless functions, messaging queues, service meshes, and more.

3. Visualize, analyze, and optimize.
   - Get end-to-end visibility and lightning-fast search to detect anomalies, reduce latency, squash errors, and optimize the customer experience.

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