Splunk Application Performance Monitoring
Open, full fidelity tracing powers AI-driven monitoring and troubleshooting for modern applications

Splunk APM is the most advanced application performance monitoring and troubleshooting solution for cloud-native, microservices-based applications. With **open and flexible instrumentation**, **NoSample™ full-fidelity tracing**, collecting 100% of traces, a highly scalable streaming architecture, and powerful **AI-Driven Directed Troubleshooting**, DevOps teams can quickly and easily find the root cause of any issue.

![AI-Driven Directed Troubleshooting analyzes 100% of traces to find root cause errors.](image)

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<th>Key Benefits</th>
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<td>Improve User Experience</td>
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<td>By ingesting ALL traces, Splunk APM ensures that no anomaly goes undetected, so issues are alerted on before they affect customers with a mean time to detect up to 80% faster than competitors.</td>
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<td>Accelerate Developer Productivity</td>
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<td><strong>AI-Driven Directed Troubleshooting</strong> can quickly isolate traces and surface patterns that help SREs and developers pinpoint problems impacting user experience and overall application performance.</td>
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<td>Future-Proof Your Applications</td>
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<td>With open standards such as OpenTelemetry, Splunk Microservices APM helps you free your code from the constraints of any single vendor, releasing you of vendor lock-in, and enabling you to use the languages and frameworks that work best for you.</td>
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**Architecture**

**NoSample™ full-fidelity tracing**
Splunk APM ingests ALL traces across distributed services with highly granular details.

**AI-driven directed troubleshooting and streaming analytics**
To quickly make sense of vast amounts of data, and act on them in seconds, our AI-Driven Directed Troubleshooting helps minimize MTTR by pointing you to root cause issues.

**Open standards approach for data collection**
As founding members and active contributors to OpenTelemetry, we designed Splunk APM to support open, vendor-neutral instrumentation giving customers complete flexibility and choice for instrumenting their applications.
Key Capabilities

**AI-driven problem detection and alerts**
Sophisticated data science and advanced statistics on trace metrics, including latency and error rate, enable real-time, granular, and accurate service-level alerting. Trigger alerts based on dynamic thresholds and multiple, complex conditions, including sudden changes and historical anomalies.

**Auto-instrumentation**
Automatic instrumentation of popular languages and frameworks, including: Java, Kotlin, Python, Ruby, Node.js, Go and PHP for fast time to value.

**Custom instrumentation**
Manual instrumentation via open, standard APIs and client libraries to support selective capture of trace spans and relevant span metadata tags for specific blocks of code.

**Data links**
Data links enable context-aware workflows across metrics, traces and logs to quickly troubleshoot a performance issue. Start with Splunk dashboards powered by metrics and traces and link into Splunk’s best-of-breed log analytics solutions for deeper analysis.

**Dynamic service maps**
Dynamically generated service maps give instant, accurate, and out-of-the-box visibility into all service interactions, inferred services, dependencies, and performance.

**Infinite cardinality trace exploration**
Unique ability to breakdown ALL traces and observe application behavior for every single customer, container, service names, operations, organization IDs, or any other important business logic.

**Latency contribution analysis**
Instantly identify bottlenecks with automatic calculation of the top contributors to trace latency. Trace visualization displays constituent operations, their duration, and the percentage of total latency attributed to the operations.

**Root cause error mapping**
For each microservice, AI-Driven Directed Troubleshooting automatically indicates which errors originated in that service and which were originated in other downstream services.

**Service alerting with trace context**
Service alerts within the context and time window of a trace, all the way down to the code level, to expedite troubleshooting and root cause analysis.

**Service-to-infrastructure correlation**
Automatic correlation of infrastructure dependencies at a granular span-level to provide a more comprehensive view of application performance within a single visualization, which helps DevOps and SRE teams more quickly troubleshoot incidents caused by infrastructure problems.

**Trace navigator**
Easily view and explore traces with thousands of spans using intuitive node and waterfall visualizations, which support quick zoom-in and zoom-out, and filtering to display only the traces and spans of interest.

**Trace exemplars**
Easily view details of traces exemplifying different point-in-time system behavior.

**Unified service dashboards**

Check out our observability demo at: https://events.splunk.com/Observability-Demo