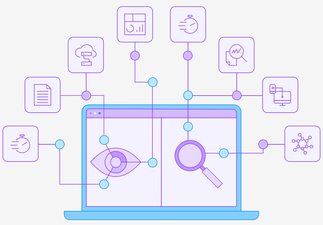
IBM Instana

Monitoring versus observability



What is monitoring?

Monitoring is the process of using pre-configured telemetry data with dashboards and alerts to understand your application's health and performance.

Outputs monitoring examines

Health checks

Health checks periodically poll a specific service for a success response.

Alerts

Alerts are triggered by specific predefined thresholds being exceeded.

Dashboards

Dashboards show specific predetermined metrics.

Traces

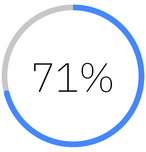
Traces show how operations move from one node to another throughout your systems.

Logs

Logs are a timestamp record of events happening in your software.

Metrics

Metrics use time-series data to monitor system performance.



of executives surveyed said mainframe-based applications are central to their business strategy.[1]

What is observability?

Observability is the ability to understand the inner state of your evolving systems by analyzing all available outputs in real time.

Outputs observability examines

Distributed traces

Distributed traces follow an entire request lifecycle through all services.

Automated service discovery

New services and applications can be discovered and observed without additional deployments or configuration.

Dynamic dependency graph

Communication between services is mapped and graphed as it occurs.

Contextualized logs

Logs can be correlated with specific traces, metrics, services and hosts for faster debugging.

Granular metrics without sampling

Unsampled metrics allow for complete awareness and faster responses.

Application profiling

Technology-specific instrumentation gathers metrics from within service runtimes.

End user monitoring

Instrumentation in mobile apps and web front ends allows for monitoring real user experiences.

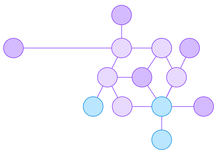
Smart alerts

Smart alerts can be triggered by dynamically defined criteria based on previous metrics.

Root cause analysis

AI-powered expert knowledge ingests all of this observability data to track down the root causes of errors.

Relationship between observability and monitoring



Monitoring

- measures system health by collecting and analyzing aggregate data systems using predefined metrics and logs.
- helps teams detect known failures reactively, with some limitations.
- requires you to know and specify which metrics and logs to track.

Observability

- helps you understand a complex system's internal state based on external outputs.
- allows teams to identify performance issues using system data.
- allows proactive prevention and requires no additional testing or coding.

1. IBM Institute for Business Value: https://www.ibm.com/thought-leadership/institute-business-value/report/application-modernization-mainframe