

# Observability in Google Cloud

Reliable, secure applications and systems with logs, metrics, and traces

One set of solutions for any Google Cloud service

As an operator, DevOps engineer, or Site Reliability Engineer (SRE), you're often dealing with different vendors used for monitoring and troubleshooting your applications and services. [Google Cloud's operations suite](#) provides a single, integrated set of tools to give you better visibility and control.

Get started quickly: data is already captured

We automatically capture telemetry from Google Cloud services wherever possible and make it available out of the box in integrated dashboards.

Try it out by visiting [Cloud Monitoring](#) or [Cloud Logging](#) in the Google Cloud Console.

## Benefits

**Easier navigation:** observability from one console, instead of multiple, disconnected tools

**Fast analysis:** basic telemetry is built into Google Cloud services, accessible at [no charge](#)

**Less toil with managed services:** devote developer time to your apps, not operations

**Part of your SRE execution:** get visibility into the [four golden signals](#) and drive organizational alignment with [SLOs](#)

According to the [2021 Accelerate State of DevOps Report](#), elite performers who successfully meet their reliability targets are

# 4.1x

more likely to have solutions that incorporate observability into overall system health

Google Cloud's operations suite services at a glance

### [Cloud Monitoring](#)

Service Level Objectives  
Dashboards  
Uptime Checks  
Alerts

### [Cloud Logging](#)

Logs ingestion  
Logs routing  
Logs analysis  
Error Reporting




### [Cloud Trace](#)

OpenTelemetry integration  
Latency tracking  
Trace/span maps



For more information, visit [cloud.google.com/products/operations](https://cloud.google.com/products/operations)

## Options for enabling deep system and application telemetry

<p><b>Application Telemetry</b></p> <ul style="list-style-type: none"> <li>• Logs, metrics, and traces sent to Cloud operations suite</li> <li>• Managed and unmanaged collection options</li> </ul> <p><b>System Telemetry</b></p> <ul style="list-style-type: none"> <li>• Basic logs and metrics collected automatically</li> <li>• Available at no charge in Cloud Logging and Cloud Monitoring</li> </ul>		<p><b>Google Kubernetes Engine</b></p> 	<p><b>Google Compute Engine</b></p> 	<p><b>Serverless compute services</b></p> 
	<b>Logs</b>	Logs written to stdout and stderr are collected automatically	Install the Ops Agent on your VMs	Logs written to stdout and stderr are collected automatically
	<b>Metrics</b>	Google Cloud Managed Service for Prometheus	Install the Ops Agent on your VMs	Automatically sent to Cloud Monitoring
	<b>Traces/Spans</b>	Google Cloud recommends the use of OpenTelemetry to create traces, then analyze in Cloud Trace		Pre-GA

### Better reliability with SRE execution of operations

A large retailer reduced [Mean time to Recovery \(MTTR\) by 82%](#) and [Mean time to Acknowledge \(MTTA\) by 97%](#) with alerting, troubleshooting and blameless postmortems.

### Get visibility into security signals

[Cloud Audit Logs](#) and [Access Transparency logs](#) aid in analysis of who accessed your services. Additionally, you can set alerts to notify you when suspicious activity occurs such as network traffic from unknown sources with [VPC Flow Logs](#).

### GKE metrics at scale

Use [Google Cloud Managed Service for Prometheus](#) for application metrics on Kubernetes, to address the complexity of scaling, and maintain compatibility with the open source ecosystem.

### GCE application telemetry

The [Ops Agent](#) can be installed and managed at scale using popular open source tools for logging and monitoring support for apps running on VMs. It features [out-of-the-box integrations](#) with dozens of popular third party and open source app dev tools.

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