



WHITE PAPER

Monitoring Tool Consolidation

Table of contents

1

Introduction

2

Problem

Companies face monitoring tool sprawl

3

Business Significance

Challenges with monitoring tool sprawl

4

Solution

How monitoring tool consolidation can impact your business

5

Required Capabilities

What capabilities firms need for monitoring tool consolidation

6

Datadog's Capabilities

How Datadog enables tool consolidation

7

Success Metrics

How to measure the business impact of monitoring tool consolidation

1

Introduction

This white paper describes why monitoring tool sprawl occurs, why it's a problem for businesses, and the positive business impacts of monitoring tool consolidation. We then describe the required capabilities for successful monitoring tool consolidation (irrespective of specific solutions or platforms). We then describe in detail how Datadog meets the required capabilities for monitoring tool consolidation. Finally, we identify several metrics firms can use to measure the success and business impact of their monitoring tool consolidation initiative.

2

Problem

Companies face monitoring tool sprawl

Companies frequently experience monitoring tool sprawl. This occurs for several key reasons:

Narrow tool focus

Historically, monitoring tools covered different pieces of the tech stack, such as the infrastructure, application (server-side, front-end code, user experience), logging, network, and security. A typical firm will have half a dozen or more different monitoring tools.

Legacy and point solutions acquired over time

Over time, organizations accumulate more tools as their technology landscape evolves. New technology investments often render incumbent monitoring tools obsolete, resulting in the acquisition of new tools. But the legacy applications and services (and their associated monitoring tools) tend to remain for long periods of time.

Inherited from multiple business units and acquisitions

When companies acquire new businesses, those businesses bring with them their existing monitoring toolset. Compounded over years, the firm inherits a wide variety of disparate tools.

3

Business Significance

Challenges with monitoring tool sprawl

Organizations dealing with monitoring tool sprawl encounter numerous challenges, including:

Poor collaboration

Highly complex and specialized monitoring tools tend to be owned by specific teams and not accessible by others. This leads to tribal mentalities, fiefdoms, and finger pointing when problems arise.

Excess Cost

With many monitoring tools, companies are unable to take advantage of economies of scale, meaning they cannot realize lower unit costs due to coordination, management, and communication inefficiencies. Each monitoring tool includes direct cost via licenses, subscriptions, and hosting, and also indirect costs via maintenance and break/fix work.

Technology professionals must also have command of each monitoring tool, which means additional training and onboarding costs. With multiple monitoring tools, both direct and indirect costs are inflated due to diseconomies of scale.

Complexity

With multiple monitoring tools, teams have a fragmented picture of their environment. Teams lack standardized processes and methodologies across the monitoring lifecycle, from instrumentation and agent installation to dashboarding, alerting, notification, and collaboration.

High MTTD & MTTR

Monitoring tool sprawl makes it difficult for technology professionals to quickly detect and remediate issues in their environments. Teams must toggle back and forth between separate tools to properly diagnose problems, and the tools often use different timestamps and variables, making it more challenging to draw correlations and perform root cause analysis. This fragmentation leads to elevated mean time to detect (MTTD) and mean time to remediate (MTTR) issues, which can lead to breached SLOs and poor customer experience.

Alert Fatigue & Burnout

Monitoring tool sprawl results in excessive, uncontextualized alerts (many of which are false positives). This can result in alert fatigue and burnout among technology teams.

4 Solution

How monitoring tool consolidation can impact your business

Monitoring tool consolidation is beneficial to businesses in several key ways:

Faster detection and troubleshooting

By unifying all telemetry in a single pane of glass, teams are able to more quickly correlate data and identify the root causes of problems. MTTD and MTTR times are reduced, leading to improved service levels and customer experience.

Lower risk

Siloed monitoring data creates blind spots that increase the risk of incidents. With all monitoring telemetry on one platform, organizations can do more robust data analytics and leverage machine-learning-powered algorithms to spot anomalies, forecast issues, and prevent problems before they arise.

Cost savings and economies of scale

Fewer monitoring tools allow firms to lower unit costs and benefit from economies of scale. Technology teams can eliminate duplicative or unnecessary subscription and licensing costs, hosting costs, maintenance and break/fix work on numerous point solutions, while enjoying greater volume discounts on fewer tools. In addition, management overhead and training time and costs for the monitoring toolset is reduced by standardizing on a single tool.

Rapid onboarding of new team members

A single monitoring tool is a single tool for new technology professionals to learn, which means team members can get onboarded quickly, and rapidly learn the environment and start making contributions.

Improved collaboration

Gathering all telemetry on a single platform breaks boundaries between teams, democratizes monitoring, and eliminates friction.

Standardization

Technology teams benefit from standardized monitoring and troubleshooting methodologies and processes. Teams can leverage templated dashboards, monitoring, alerts, and notifications across the organization. Best practices can be developed for monitoring, troubleshooting, and incident management.

Centralized oversight and governance

A unified monitoring platform eliminates fiefdoms and, especially in large IT organizations, provides centralized enabling teams a way to oversee, govern, and guide the rollout and implementation of monitoring capabilities.

5 Required Capabilities

What capabilities firms need for monitoring tool consolidation

Monitoring tool consolidation is challenging for organizations for several reasons, including: the heterogeneity of the environment; the presence of legacy on-premises infrastructure and applications; and high rip and replace costs of incumbent monitoring tools. However, these challenges can be overcome if the target monitoring platform has the following capabilities:

- Combines monitoring of multiple elements of the tech stack: infrastructure, network, application (server-side code, front-end code, APIs, browsers, mobile apps), real and synthetic users, logging, security, and Internet of Things (IoT) devices.
- Includes monitoring for multiple use cases, including DevOps, DevSecOps, SRE, DevBizOps, and Compliance.
- Includes support for applications written in multiple languages.
- Simple set up process (hours not days) through a single agent and out-of-the-box integrations with popular tools, technologies, and services.
- Combines data ingestion with dashboarding and visualization, alerting and notification capabilities.
- Easy to use and doesn't require specialized knowledge, such as query languages.
- Integrates with multiple cloud provider services and on-premises private cloud environments.
- Includes standard, out-of-the-box dashboard templates for popular tools and services.
- Account federation and sub-org creation to allow centralized oversight in large and multi-business unit organizations.
- Flexible commercial models - pay-as-you-go, monthly commit, drawdown, volume-based discounts - to allow firms to optimize their spend on observability.

In the sections below, we describe how Datadog meets all the capabilities described above for a monitoring tool consolidation initiative.

6 Datadog's Capabilities

How Datadog enables tool consolidation and helps teams capture all monitoring data in one platform

Datadog is a unified monitoring platform, allowing businesses to monitor their environment from a single pane of glass:

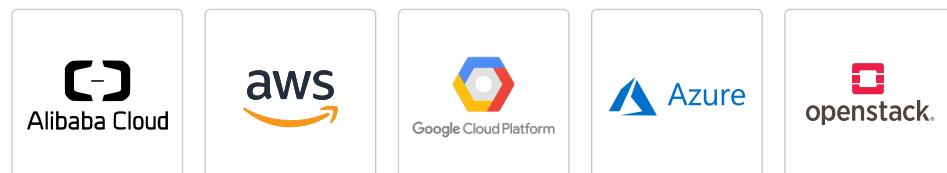
Full-stack data collection

Datadog combines infrastructure monitoring, Application Performance Monitoring (APM), Network Monitoring, Log Management, Security Monitoring, and frontend monitoring via Synthetics and Real User Monitoring (RUM).



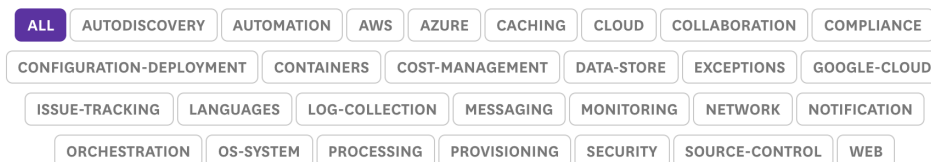
Cloud provider integrations

Datadog integrates with all major cloud providers, encompassing numerous services from each provider. These integrations will automatically collect metrics, logs, and discrete events from these platforms, giving teams visibility into hosts and any serverless services, such as databases, load balancers, and functions.



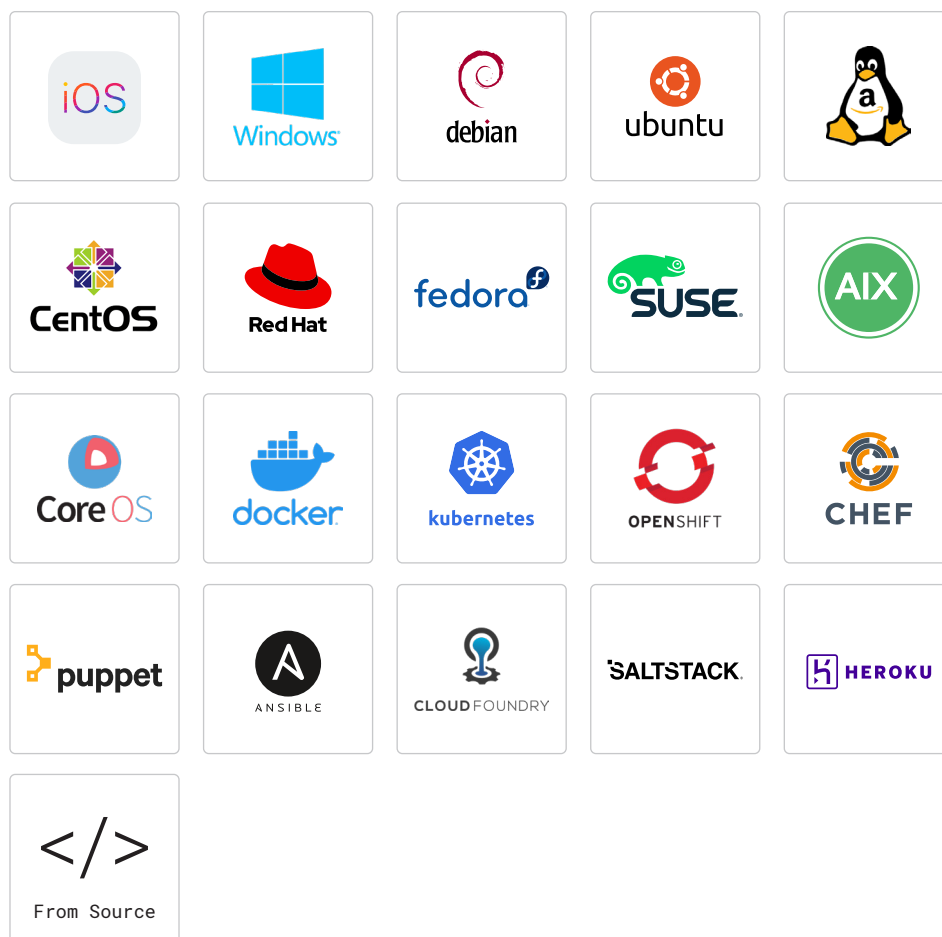
Service and tool integrations

In addition to cloud provider services, Datadog integrates with 400+ popular technologies, tools, and services, covering the full spectrum of resources that need to be monitored by technology teams--as well as key tools in the software development and delivery pipeline.



Flexible lightweight agent

Datadog's agent can be deployed on a variety of hosts (VMs and containers) in any cloud provider and many on-premises environments to capture events and metrics from the hosts and any services running on the host. The agent is lightweight, utilizing less than 2% CPU capacity. Datadog also offers an even lighter weight Internet of Things (IoT) agent to monitor connected devices in one platform.



Code Auto-Instrumentation

Datadog's APM can automatically trace requests across many popular libraries and frameworks, including Python, Node.JS, Java, .NET, and more. This makes it easy for technology teams to capture data on code performance across services written in different languages.

Extendable Application-Based Business Metric Instrumentation

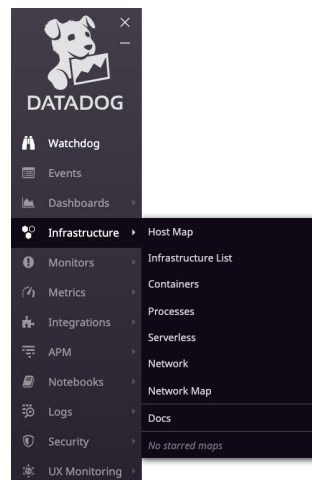
Datadog features integrations with StatsD, SNMP, WMI, JMX, and FluentD, which are standards used to instrument and collect proprietary metrics from within applications and infrastructure. Thus, any metric of note can be collected by Datadog for analysis (such as the transactions per minute in a payment processing subsystem, or the revenue collected by a particular store), supporting business users and DevBizOps collaboration.

How Datadog eliminates the friction of multiple monitoring tools

It's one thing to ingest all telemetry into a unified platform. It's another thing to present the data in a way that makes detection and troubleshooting easier. Datadog brings together telemetry in intelligent ways to reduce friction, eliminate alert fatigue, and encourage collaboration.

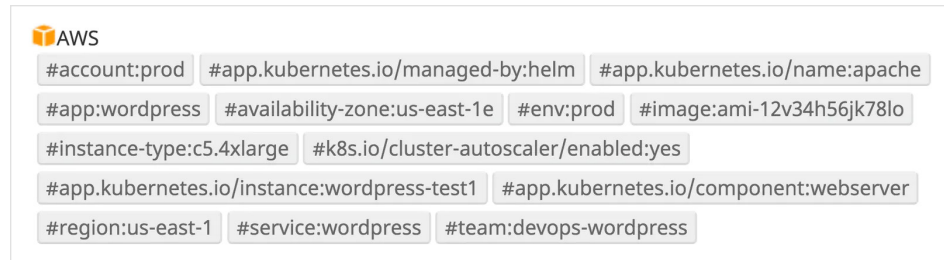
Intuitive User Interface

Datadog is built as a single app with a highly intuitive user interface (UI), which makes onboarding new team members fast and easy. There is no query or coding language required to use Datadog. Users are able to point and click and drag and drop elements, and perform common tasks like adding colleagues just as they would in a consumer app.



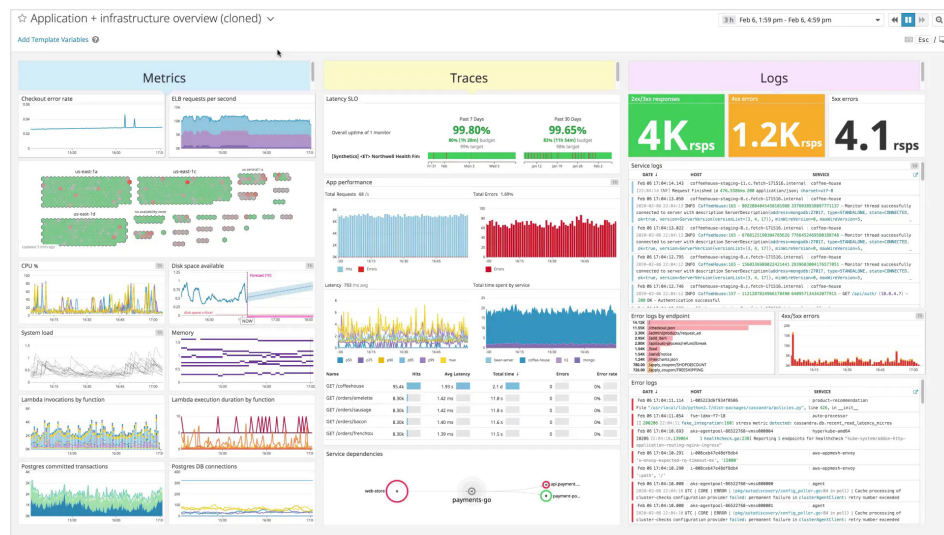
Automatic & Pervasive Tagging

All incoming data in Datadog is “tagged” with both integration-specific and customizable metadata. This is the glue of the Datadog platform that enables teams to aggregate, filter, and correlate data.



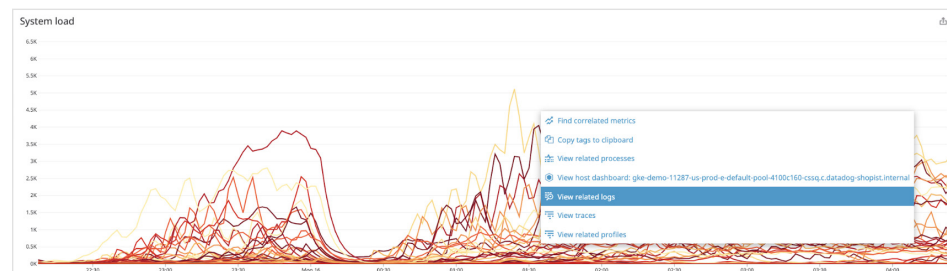
Out-of-the-box, flexible dashboards

Datadog has numerous out-of-the-box dashboards for popular cloud providers and cloud services, making it easy for teams to get a high-level overview of environments. Datadog dashboards are also highly flexible and customizable, allowing teams to create custom visualizations.



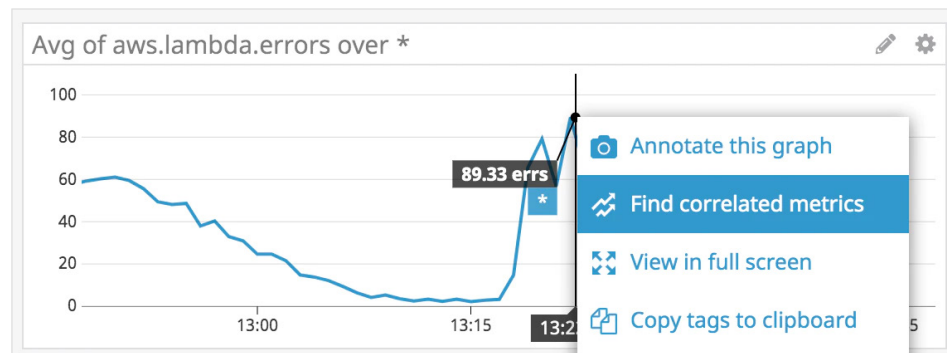
Metric, Trace, and Log Correlation

Datadog makes it easy to navigate between the data needed to understand the root cause of the problem. By bringing together metrics, traces, and logs into a single pane of glass, engineers can quickly see the context of an issue without learning multiple tools or hopping from one platform to another. This allows engineers to bring up the logs associated with a spike in infrastructure load, or pull up infrastructure metrics from a slow application request, all with a single click.



Automatic Metric Correlations

Datadog's Metric Correlations aids in identifying the root causes of issues by searching for other metrics that exhibited irregular behavior around the same time. Correlations scans metrics from disparate sources such as dashboards, integrations, APM, and custom metrics.



Alerting and notification

Datadog makes it easy to configure highly contextualized, actionable alerts using a variety of disparate metrics from across the environment, and notify the right stakeholders. There is no query language required, and tags ensure that queries capture all relevant resources even when the underlying infrastructure changes.

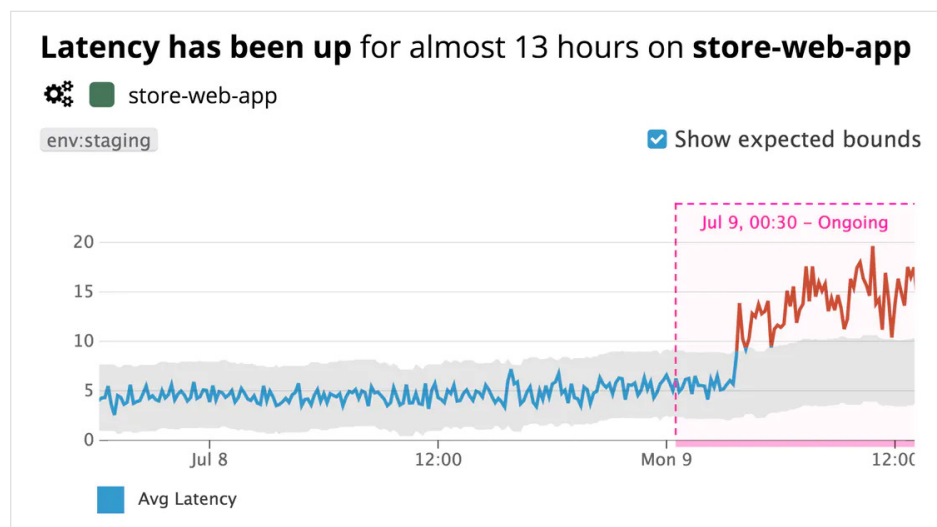
Define the monitor's query

- 1 > Choose the detection method
- 2 > Define the metric
- 3 > Set alert conditions
- 4 > Say what's happening
- 5 > Notify your team

[Test Notifications](#)
[Export Monitor](#)
[Save](#)

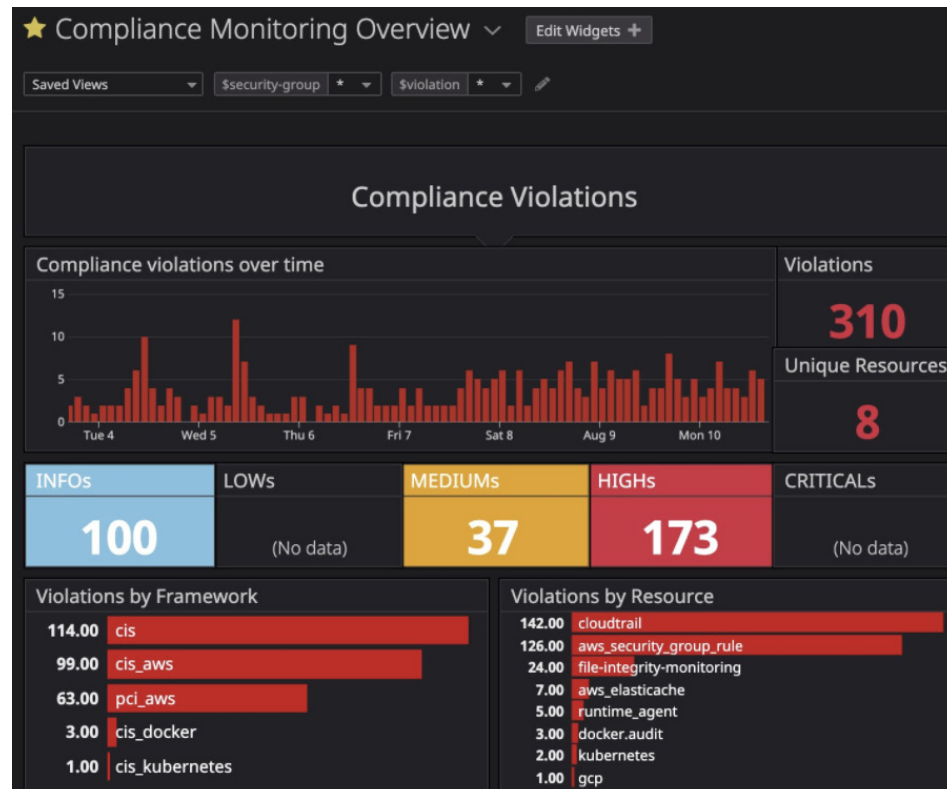
Machine-Learning-Powered Alerting and Analytics

Machine learning tools like Log Patterns, Anomaly Detection, Outlier Detection, and Forecasting help surface what's normal and what's not automatically, based on patterns in the telemetry ingested into the platform. In addition, Datadog's Watchdog tool notifies teams of anomalies in applications and infrastructure fully autonomously, with no setup required. These tools help organizations catch potential issues that a fragmented monitoring toolset would not catch.



Rule-based monitoring for Security & Compliance

Datadog adds value on top of the ingested telemetry through out-of-the-box and customizable rules for key security and compliance monitoring use cases. This puts even more teams, such as Security and GRC professionals, on the same page by focusing on a single pane of glass.



Collaboration channel integrations

Datadog integrates with a variety of DevOps collaboration and paging tools, including Slack, PagerDuty, and Zendesk, allowing teams to push alerts to these channels and collaborate on remediation. Or, organizations can use Datadog's native alerting and collaboration capability. These collaboration capabilities and integrations enable teams to develop standardized on-call, incident management, and escalation processes.

#incident-70 ☆

👤 1 🚨 #70 Customer error count abnormally high | July 30 at 23:24 (UTC) | IC: Zack Burgess | <https://app.datadoghq.com/incidents/70> | active | None ⓘ Details

Datadog APP 4:24 PM
set the channel topic: 🚨 #70 Customer error count abnormally high | July 30 at 23:24 (UTC) | IC: Zack Burgess | <https://app.datadoghq.com/incidents/70> | active | None

Datadog APP 4:24 PM
👉 Use this channel to manage Incident #70

👤 Incident Commander: Zack Burgess

Zack Burgess 4:25 PM
was added to #incident-70 by Datadog.

Zack Burgess 4:26 PM
Investigating further... the db latency is also increasing: <https://app.datadoghq.com/s/rkIUvX/28u-rte-wmv>

✕ **Latency on service web-store-mongo in env shop.ist**
Added by Datadog (67 kB) ▾



Zack Burgess 4:39 PM
@oncall-team

How Datadog helps companies manage multiple business units and teams

Datadog's multi-organization features allow firms to manage observability for all teams and business units in one platform:

Sub-org creation

Datadog allows organizations to create child or sub-org accounts for distinct teams and business units. Sub-orgs maintain their own data in an isolated secure environment. Sub-orgs don't see data from other teams.

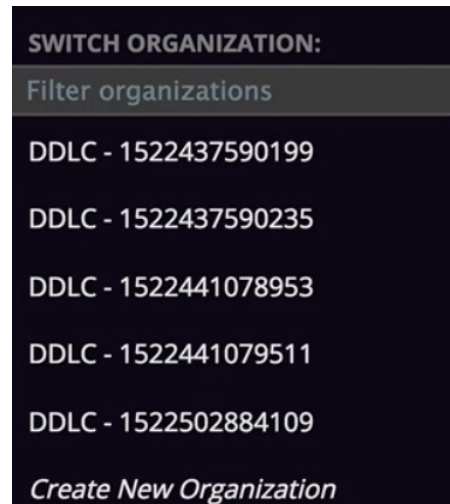
Individual Organization Usage
Download CSV: [Month-to-Date Usage](#) | [Last Month's Usage](#)

📌 All Billable Showing 1-4 of 4 results 🔍 Filter organizations

ORGANIZATION	↓ INFRA HOSTS	INFRA HOURS	APM HOSTS	CUSTOM METRICS	INDEXED LOGS	CONTAINERS	ANALYZED SPANS	PROFIL
Datadog Demo (1128...	6,534	286,701	112	1,051,147	931,491	2,416	2335.552	
Shop.ist Staging	239	5,049	21	115	356.12	472	611.388	
Shop.ist DR	185	4,360	21	113	356.119	474	607.514	
Shop.ist Dev	71	3,337	21	112	356.118	472	607.498	

User management

Users can be added to any sub-org and switch between them. This allows technology professionals to quickly toggle back and forth between different business units, teams, and apps.



Centralized administration

The parent organization can view the usage of individual child organizations while also seeing consolidated billing and usage information for the parent account as a whole.

Month-to-Date Usage Long-Term Trends			
Overall Usage			
Infra Hosts 7.03K / MTD	Infra Hours 299K / MTD	APM Hosts 175 / MTD	Custom Metrics 1.05M / MTD
Indexed Logs 2.00B / MTD	Containers 3.83K / MTD	Analyzed Spans 4.16B / MTD	Profilled Hosts 98.0 / MTD
Profilled Containers 240 / MTD	Ingested Logs 7.25TB / MTD	Analyzed Logs (Security) 5.25TB / MTD	Serverless Functions 291 / MTD
Fargate Tasks 3.00 / MTD	Network Hosts 175 / MTD	Network Flows 61.7M / MTD	Network Devices 18.0 / MTD
Synthetics API Test Runs 5.62M / MTD	Synthetics Browser Test Runs 789K / MTD	RUM Sessions 2.22K / MTD	

Flexible commercial model

Datadog supports a variety of commercial arrangements to help businesses optimize their spending on observability. Firms can choose between pay-as-you-go, monthly commit by client, and drawdown models. Datadog also offers volume discounts.

7 Success Metrics

How to measure the business impact of monitoring tool consolidation

What metrics can firms track to assess the business impact of monitoring tool consolidation?

Total spend on observability

This includes all direct licensing and subscription costs, plus all hosting costs and dedicated person-hours focused on set up, maintenance, and administration of monitoring tools.

MTTD and MTTR

This is the Mean Time to Detect (MTTD) and Mean Time to Resolve (MTTR) incidents. A unified monitoring platform should result in dramatically lower MTTD and MTTR.

Number of alerts

The aggregate number of alerts technical teams receive should decrease as teams configure more actionable alerts that take into account more system telemetry and context.

Number of declared incidents

The number of serious issues (P1, P2, P3) requiring an incident management process should be dramatically reduced due to improved detection capabilities.

Ticket volume

The volume of tickets both from end users and from internal teams should gradually decrease as a result of unified monitoring thanks to improved detection and remediation capabilities.

Get Started

To start consolidating your organization's monitoring tools, your team can sign up for a free 14-day Datadog trial at datadoghq.com.