

Cloud Migration Unlocked

Modern Strategies for Moving to Azure

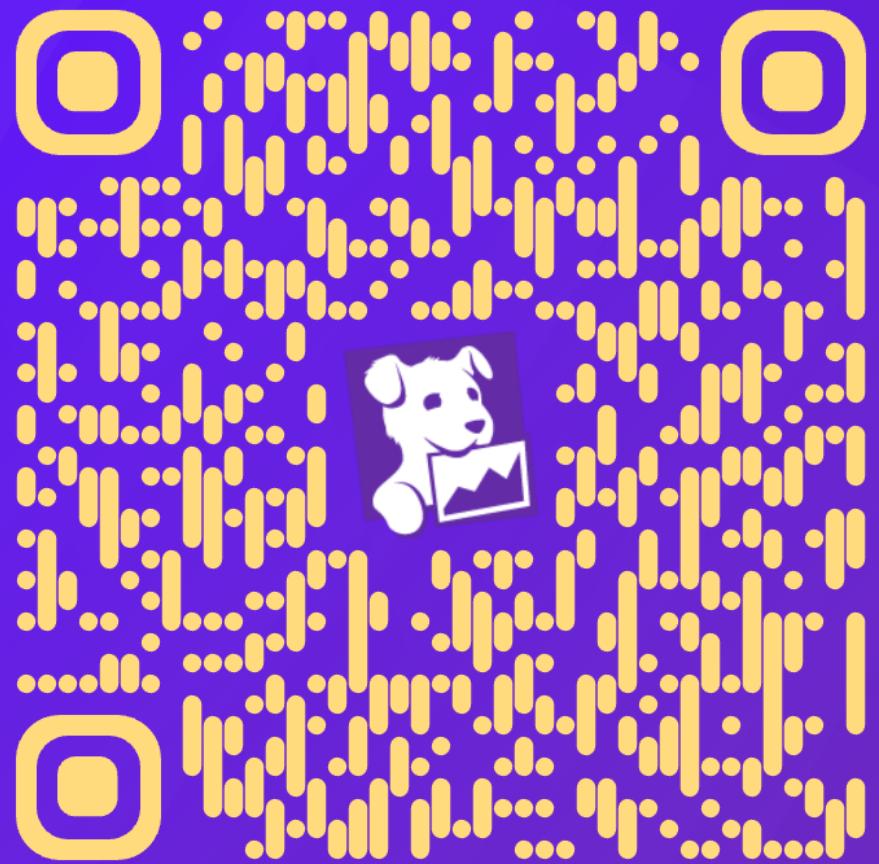


DATADOG



Jason Hand

Senior Developer Advocate
DevOps, SRE, and AI



dtdg.co/azure_migration_strategies



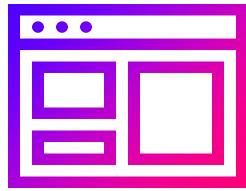
So you think you want to migrate to
the cloud...

“ Worldwide end-user spending on public cloud services is forecast to grow 20.4% to total \$678.8 billion in 2024, up from \$563.6 billion in 2023. ”

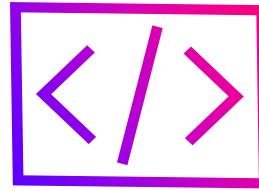
Gartner
2024 Forecast

Barriers To Migration

(Identified by Gartner)



Application Size



Heavy Customization



Insufficient Skills

Cloud Computing Trends

- Microsoft Azure catches up with Amazon Web Services.
- Cloud spend management becomes the priority

The screenshot shows the AAG IT website homepage. At the top, there's a navigation bar with links for Sales, Email, Resources, Blog, News, Client IT Support, and a Contact us button. The main header is "Cloud Computing Trends In 2023". Below it, a section titled "Microsoft Azure catches up with Amazon Web Services" discusses the market share shift between AWS and Azure. Another section, "The cloud becomes more popular with SMEs", talks about SMB adoption of public clouds. To the right, a callout box promotes a free guide on "Cyber Security Threats for Business in 2024".

Source: AAG IT

<https://aag-it.com/the-latest-cloud-computing-statistics/>

Why Migrate?

Scalability

Reliability

Security

Optimized Costs

Free up resources



Scalability

Scalability



Elasticity

Dynamic resource allocation and auto-scaling



Global Reach

Multiple datacenters and geographic redundancy



Cost Efficiency

Pay as you go models and economies of scale

Scalability



Flexibility

Wide range of services and hybrid or multi-cloud options



Improved Performance and Reliability

Load balancing and resource isolation



A vibrant green background with a repeating pattern of stylized green hills and valleys. Numerous purple ants are scattered across the scene, some carrying large blue leaves. The title text is overlaid on this naturalistic setting.

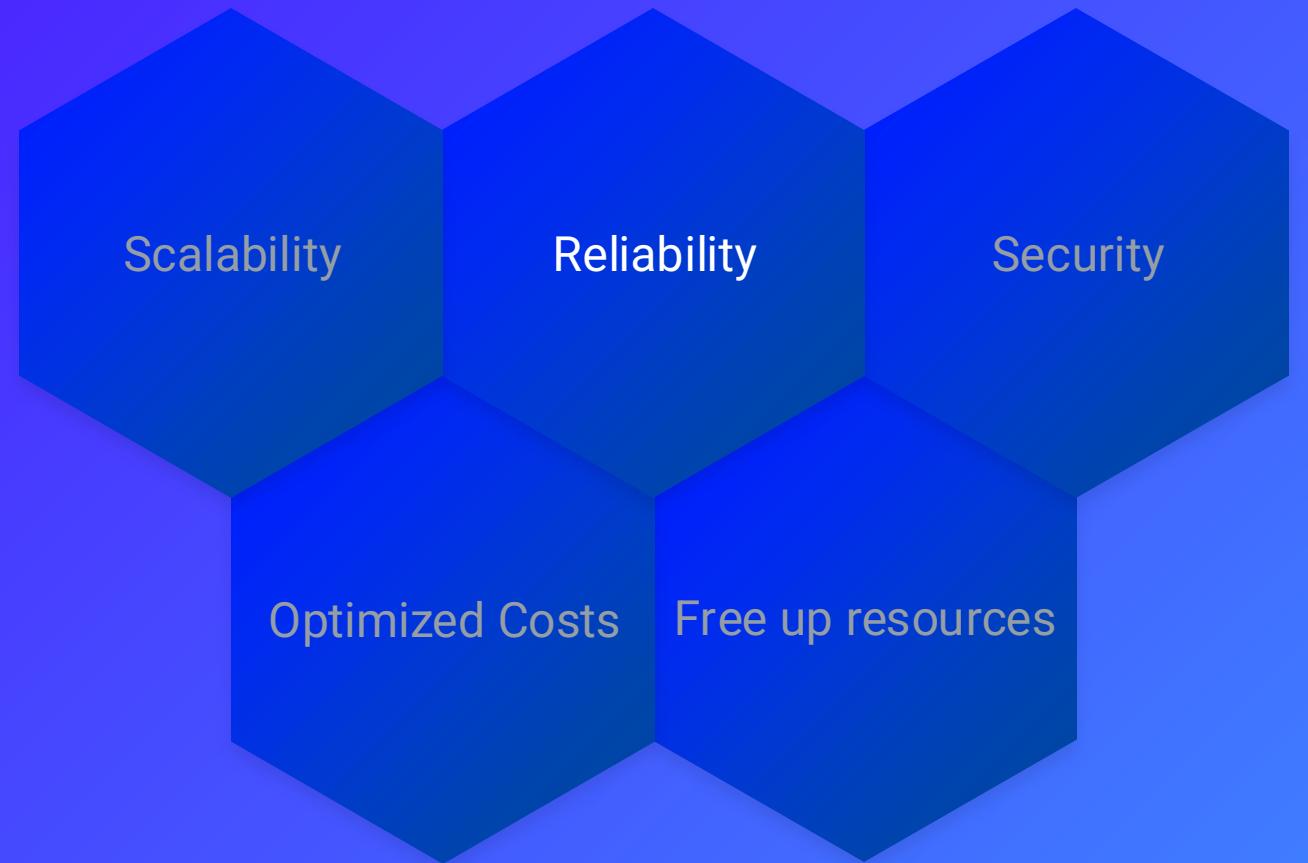
THE STATE OF **SERVERLESS**



49%

of our Azure customers
currently use one or more
serverless solutions

Datadog State of Serverless 2023



Reliability

Reliability



High Availability

Redundancy and SLAs



Disaster Recovery

Automated backups and geographic distribution



Scalable Infrastructure

Autoscaling and load balancing

Reliability



Proactive Monitoring and Maintenance

Real-time monitoring, alerting, and operational maintenance



Security Compliance

Advanced security features and compliance standards

Security



Security



Advanced Security Measures

Built-in security features and compliance certifications



Expertise and Resources

Dedicated security teams and threat intelligence



Scalability of Security Measures

Elastic security and automated security management

Security



Disaster Recovery Backup

Built-in disaster recovery and rapid recovery



Continuous Monitoring and Incident Response

24/7 monitoring and integrated security tools



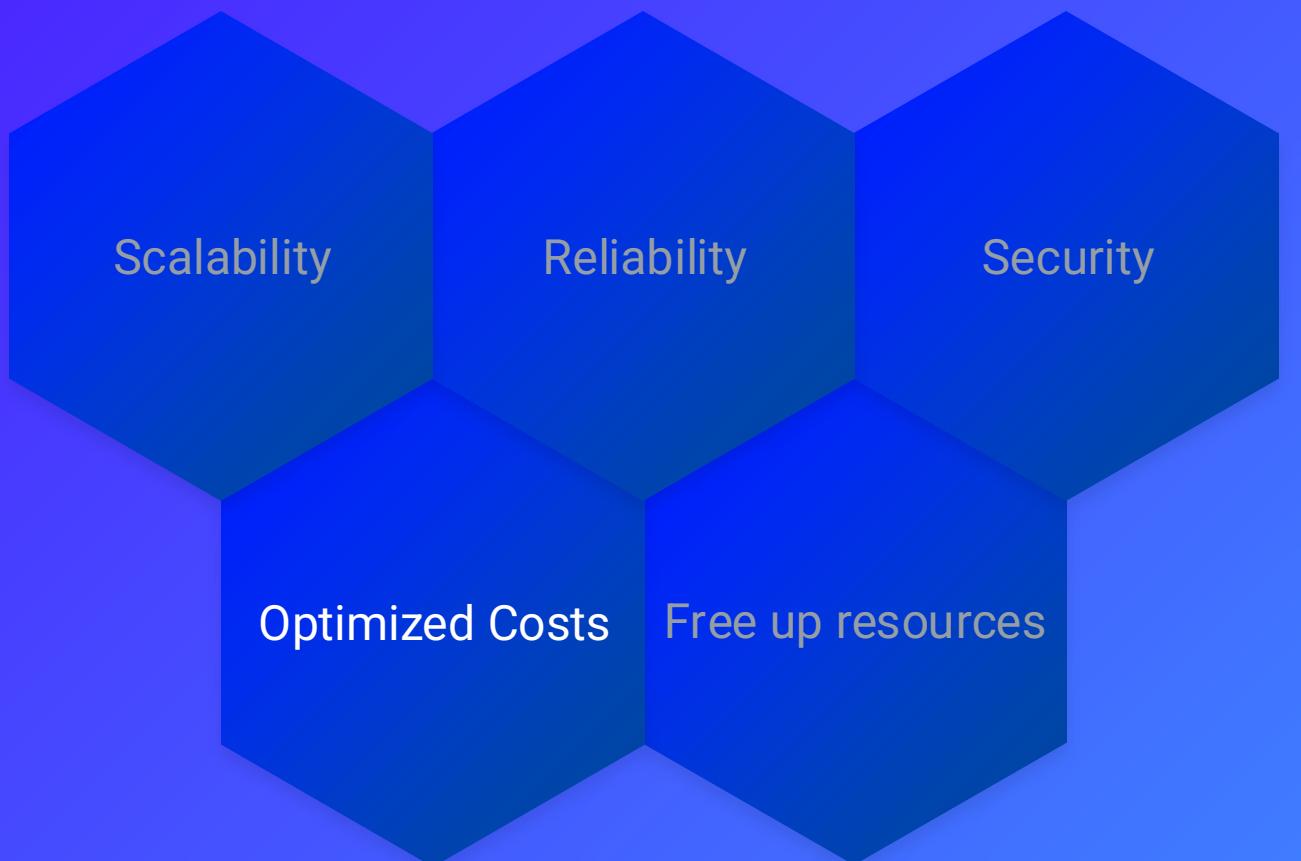
STATE OF CLOUD SECURITY



“

Data from both Microsoft and Google indicates that usage of MFA can prevent the vast majority of account takeovers and only 20 percent of Azure organizations had all Azure AD users authenticate with MFA. ”

Datadog 2024 State of Security Report



Optimized Costs

Cost Optimization



Pay as you go pricing

Cost efficiency and scalable pricing



Reduced Infra costs

Eliminate hardware costs and lower maintenance costs



Operational Efficiency

Automated management and resource optimization

Cost Optimization



Energy Savings

Reduced power consumption and economies of scale



Improved Budgeting and Forecasting

Predictable costs and allocation



Reduced Downtime Costs

High Availability and Automatic Failover

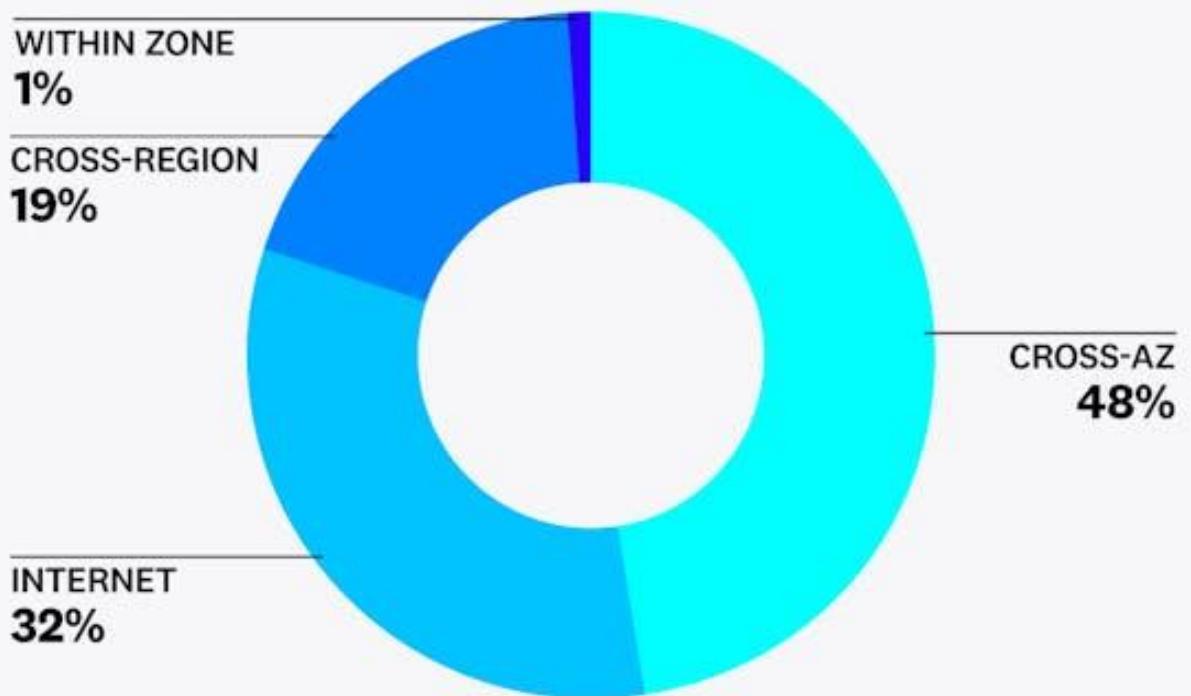


STATE OF CLOUD COSTS

CROSS-AZ TRAFFIC MAKES UP NEARLY HALF OF DATA TRANSFER COSTS

Source: Datadog

Data transfer costs by type





Free Up Resources

Free Up Resources



Reduced Infrastructure Management

Outsourced maintenance and automated processes



Focus on Core Business Objectives

Innovation, development, and increased productivity



Access to Advanced Tools and Services

Built-in services, scalability, and flexibility

Free Up Resources



Enhanced Collaboration and Integration

Unified platforms and API integrations



Improved DevOps Practices

CI/CD and Infrastructure as Code



Enhanced Resource Allocation

Dynamic resource allocation, monitoring, and optimization

How to Migrate



How to Migrate

“ It depends ... ”

Everyone who has successfully migrated to the cloud

Everywhere

Cloud Migration Strategies

A screenshot of a Google search results page titled "R's Cloud migration strategies". The search bar shows the query. Below the search bar are filters for "All", "Images", "Videos", "News", "Web", "Shopping", "Forums", and "More". A "Tools" button is also present. The main content area displays a grid of migration strategies:

Category	Sub-Category	Action
Rs of cloud migration	Retire	Rehost
	Retain	Repurchase
	Refactor	Rehost or lift and shift
		Replatform
		Refactor/re-architect
		Relocate

At the bottom, a button says "14 more". The page is framed by a yellow border.

Common Cloud Migration Strategies

Rehost (“Lift & Shift”)



r/sysadmin · 1 yr. ago
SnooDoughnuts2426



Regret moving to the Cloud?

I'm an Assistant Director in the IT department for a university. Several colleagues and I have been tasked with looking into moving our ERP system to the cloud, as we are in a hurricane prone area. We're considering Azure at the moment.

I'm interested to know if any who has moved their systems to cloud, do you regret it? Has anyone moved back to on prim for whatever reason?



Archived post. New comments cannot be posted and votes cannot be cast.



76



155



Share

Sort by: Best

Search Comments



sryan2k1 · 1y ago

"Lift and shift" is the most expensive thing you can possibly do. Simply running the same VMs you have somewhere else works fine, but is very expensive. What about backups? Connectivity? Etc.

If your ERP vendor offers an actual SaaS product, that is worth investigating.

Never move things to the cloud simply because it's the cloud.

Common Cloud Migration Strategies

Rehost (“Lift & Shift”)

Replatform

Repurchase

Common Cloud Migration Strategies

Rearchitect

Retain

Retire

Azure Migrate

Simplified migration, modernization, and optimization service for Azure

The screenshot shows the Azure Migrate product page on the Microsoft website. The browser title bar reads "Azure Migrate - Cloud Migrati X". The address bar shows the URL "azure.microsoft.com/en-us/products/azure-migrate". The Microsoft navigation bar includes links for Microsoft, Azure, Explore, Products, Solutions, Pricing, Partners, Resources, Search, Learn, Support, Contact Sales, Get started with Azure, and Sign in.

Prices going up? Get price protection and save on Azure with the VMware Rapid Migration Plan. [Learn more >](#)

Azure Migrate

Simplify Azure migration and modernization with a unified platform.

[Try Azure Migrate free](#)

Already using Azure? [Get started with Azure Migrate](#)

The main visual is a 3D illustration of a blue cloud icon with two white arrows pointing right, positioned above a server rack. To the right of the server rack is a computer monitor displaying a chart with a line graph and percentage symbols (%). Below the server rack are several blue cylinder icons representing databases or storage units.

Azure Migrate

The screenshot shows a web browser displaying the "About Azure Migrate" page from the Microsoft Learn website. The URL in the address bar is learn.microsoft.com/en-us/azure/migrate/migrate-services-overview. The page title is "About Azure Migrate". The main content area features a large heading "About Azure Migrate" with a sub-headline: "This article provides a quick overview of the Azure Migrate service." Below this, there is a detailed paragraph about the service's purpose and capabilities. To the right of the main content, there are several "Additional resources" sections: "Training" (with a link to "Discover and assess your on-premises servers with Azure Migrate - Training"), "Feedback" (with a blue thumbs-up icon), "Certification" (with links to "Microsoft Certified: Windows Server Hybrid Administrator Associate - Certifications"), and "Documentation" (with a link to "Azure Migrate documentation"). The left sidebar contains a navigation menu with items like "Overview", "About Azure Migrate" (which is highlighted in grey), "What's new", "Common questions", "Quickstarts", "Tutorials", "Concepts", "How-to guides", "Troubleshoot", "Reference", and "Resources". The top navigation bar includes links for "Learn", "Discover", "Product documentation", "Development languages" (which is underlined in blue), "Topics", "Azure", "Products", "Architecture", "Develop", "Learn Azure", "Troubleshooting", and "Resources". There are also buttons for "Portal" and "Free account" in the top right corner.

Azure Migrate Documentation

Overview

About Azure Migrate

What's new

> Common questions

> Quickstarts

> Tutorials

> Concepts

> How-to guides

> Troubleshoot

> Reference

> Resources

Article • 05/22/2024 • 13 contributors

In this article

- Integrated tools
- ISV integration
- Azure Migrate: Discovery and assessment tool
- Migration and modernization tool

Show 3 more

This article provides a quick overview of the Azure Migrate service.

Azure Migrate provides a simplified migration, modernization, and optimization service for Azure. All pre-migration steps such as discovery, assessments, and right-sizing of on-premises resources

Additional resources

Training

Discover and assess your on-premises servers with Azure Migrate - Training

Explore the Azure Migrate tools for discovering and assessing your virtual machine servers. Learn how to install and configure a virtual machine appliance in...

Feedback

Certification

Microsoft Certified: Windows Server Hybrid Administrator Associate - Certifications

As a Windows Server hybrid administrator, you integrate Windows Server environments with Azure services and manage Windows Server in on-premises environments. Learn how to use tools

Documentation

Azure Migrate documentation

Find Azure migration tutorials, resources, and documentation to help you get started. Learn how to use tools

Azure Cloud Adoption Framework

The screenshot shows a web browser window with the title "Get started with the Cloud Adoption Framework" from learn.microsoft.com. The page content includes a sidebar with navigation links like "Cloud Adoption Framework for Azure", "About the Framework", "What's new", "Scenarios", "Adoption journeys", "Get started" (with "Overview" selected), "Strategy", "Plan", "Ready", "Adopt", "Govern", "Manage", "Secure", "Organize", and "Resources". Below the sidebar is a "Download PDF" button. The main content area features the title "Get started with the Cloud Adoption Framework", a timestamp ("Article • 03/26/2023"), a contributor count ("12 contributors"), a "Feedback" link, and an "In this article" section with links to "Cloud adoption scenarios", "Cloud adoption antipatterns", "Align foundation", "Accelerate adoption", and "Show 2 more". A descriptive paragraph explains the purpose of the framework, followed by a list of actions to take during adoption.

Get started with the Cloud Adoption Framework

Article • 03/26/2023 • 12 contributors

Feedback

In this article

Cloud adoption scenarios
Cloud adoption antipatterns
Align foundation
Accelerate adoption
Show 2 more

The Cloud Adoption Framework can help you get started with several different getting started guides. This article groups the guides to help you find the one that best aligns with your current challenges.

Each of the following links takes you to questions that are typically asked when an organization is trying to accomplish a certain goal during their cloud adoption journey.

- Choose the cloud adoption scenario that best supports your strategy
- Examine antipatterns across methodologies and their solutions
- Align foundational concepts to onboard a person, project, or team
- Adopt the cloud to deliver business and technical outcomes sooner
- Improve controls to ensure proper operations of the cloud
- Establish teams to support adoption and operations

Azure Cloud Adoption Framework

Questions typically asked when an organization is trying to accomplish a certain goal during their cloud adoption journey.

- Choose the cloud adoption scenario that best supports your strategy
- Examine antipatterns across methodologies and their solutions
- Align foundational concepts to onboard a person, project, or team
- Adopt the cloud to deliver business and technical outcomes sooner
- Improve controls to ensure proper operations of the cloud
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The screenshot shows a Microsoft Edge browser window with the following details:

- Title Bar:** "Get started with the Cloud Ad" (partially visible) and a "+" button.
- Address Bar:** "learn.microsoft.com/en-us/azure/cloud-adoption-framework/get-started/#cloud-adoption-scenarios".
- Page Content:**
 - Header:** "Get started with the Cloud Adoption Framework".
 - Left Sidebar (Cloud Adoption Framework for Azure):**
 - "Filter by title"
 - "Cloud Adoption Framework for Azure"
 - "About the Framework"
 - "What's new"
 - "Scenarios"
 - "Adoption journeys"
 - Main Article Area:**
 - "Article • 03/26/2023 • 12 contributors"
 - "Feedback" button
 - In this article:** "Cloud adoption scenarios"
- Right Sidebar (Training):**
 - "Training"
 - "Learning path Accelerate cloud adoption"
 - "Microsoft Cloud Adoption for Azure - Training"
 - "Do you need a clear path for your cloud journey? This learning path includes best practice guides..."

Cloud Adoption Scenarios

Determine which cloud adoption scenario is best for your organization.

- Hybrid and multi cloud
- Modern application platform
- SAP
- Desktop virtualization
- Retail industry
- Defense

Pre-Migration Strategies

Azure Cloud Adoption Framework

docs.datadoghq.com/integrations/guide/azure-cloud-adoption-framework/

Webinar: Restore Services Faster with Datadog Incident Management

PRODUCT CUSTOMERS PRICING SOLUTIONS

ABOUT BLOG LOGIN GET STARTED FREE

Datadog Docs

Search documentation...

Integrations

Guides

OpenTelemetry

Developers

API

Datadog Mobile App

CoScreen

Cloudcraft

IN THE APP

Dashboards

DOCS > INTEGRATIONS > INTEGRATION GUIDES > AZURE CLOUD ADOPTION FRAMEWORK WITH DATADOG

Azure Cloud Adoption Framework with Datadog

Overview

Using Azure's Cloud Adoption Framework with Datadog can help you ensure safe, speedy migrations to a new cloud environment, whether from on-premises or other cloud environments.

You can:

1. Prepare your Datadog account for your teams to efficiently execute their workload migrations. This is the “planning” stage.
2. Use Datadog to measure the health of your original environments and new workloads as your teams launch them in your new landing zones. This is the “migrating” stage.

LANGUAGE English

DATADOG SITE US1

ON THIS PAGE

Overview

Planning

Migrating

Further Reading



**“If you fail to plan,
you are planning to
fail”**

- Benjamin Franklin (* maybe)



* There is no substantive evidence that the quote is attributed to Benjamin Franklin

Planning



Enable the Datadog-Azure integration



Document a tagging strategy



Configure dashboards



Establish communication channels

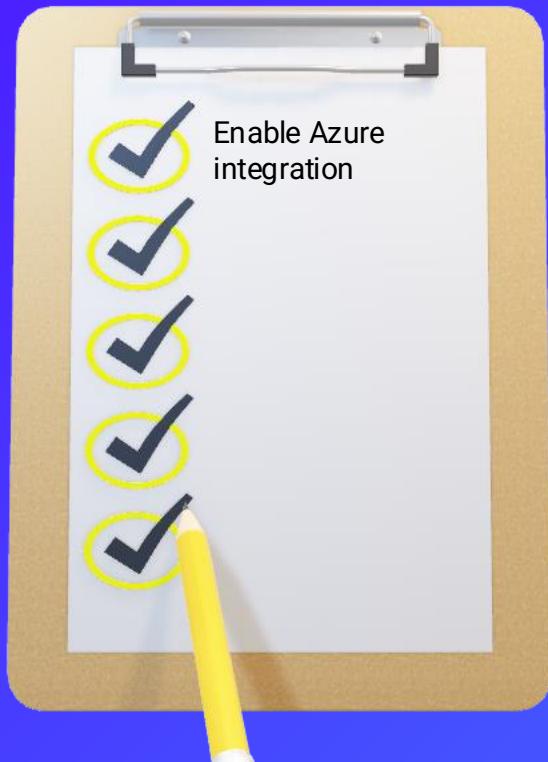
Planning

Detailed Steps



Enable Datadog-Azure Integrations

Datadog and Azure have partnered together to offer Datadog's services within your Azure account.

A screenshot of a web browser displaying the Datadog Documentation website (docs.datadoghq.com/integrations/?q=azure#all). The page title is "Webinar: Restore Services Faster with Datadog Incident Management". The navigation bar includes links for PRODUCT, CUSTOMERS, PRICING, and SOLUTIONS, along with a Datadog logo and links for ABOUT and BLOG. The main content area is titled "Datadog Docs" and features a search bar with the query "azure". On the left, there is a sidebar with a "Integrations" section containing links to Guides, OpenTelemetry, Developers, API, Datadog Mobile App, CoScreen, and Clouddraft. Below this is a "IN THE APP" section with links to Dashboards, Notebooks, and Monitors and Alerting. To the right, there are several cards representing different Azure integrations, each with an icon and a name: Microsoft Azure, Azure Active Directory, Microsoft Azure API Management, Microsoft Azure App Configuration, and Microsoft Event Grid.

Tags

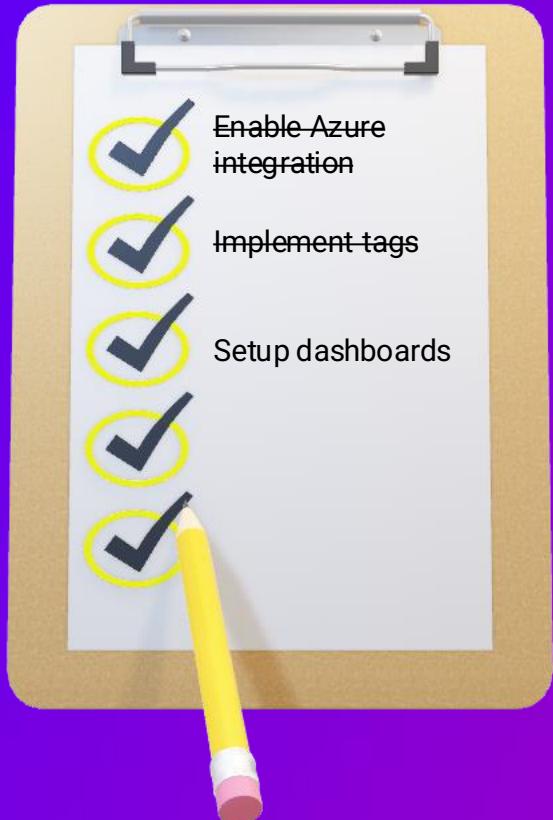
Tagging is critical in the effective monitoring of your applications and environments.

Before you begin migrating to your Azure landing zone, you should implement a tagging strategy.

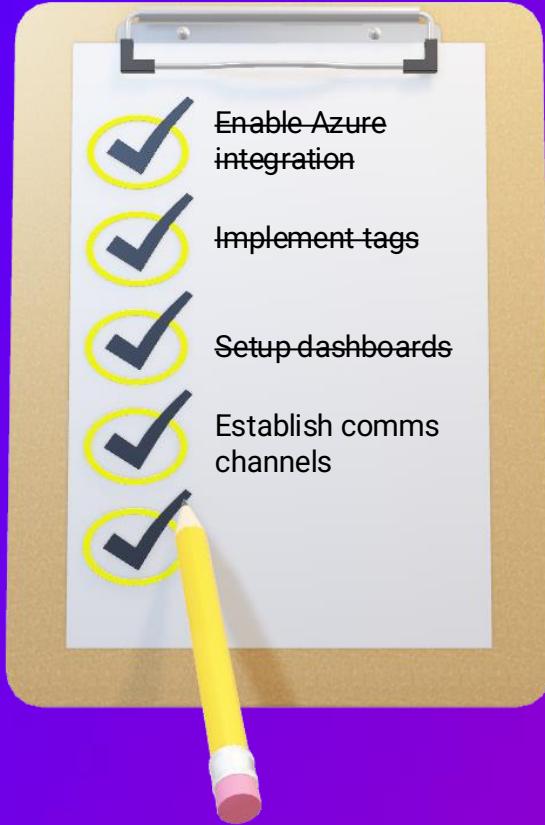


Add the following tags to your resources whenever applicable:

TAG NAME	DESCRIPTION
env	For <code>prod</code> , <code>staging</code> , and <code>dev</code> .
service	When in doubt, use the same value as <code>ApplicationName</code> .
version	Identifies which version of an application is being used.
team	Defines what team has built or manages the resource. Create a separate Microsoft Teams channel devoted to each team so they can receive communications about the health of their services.
owner	Defines who specifically is responsible for a resource.
workload	Clarifies what workload a resource relates to, and assists in legacy-to-cloud performance and KPI comparisons.
landing-zone	Identifies what landing zone a resource exists in (if any) and assists in legacy-to-cloud performance and KPI comparisons.



Dashboards



Communication channels for incident response

Migrating



Install and configure the Datadog Agent



Configure dashboards



Configure monitors



Add Synthetics tests



Configure SLOs

Migrating

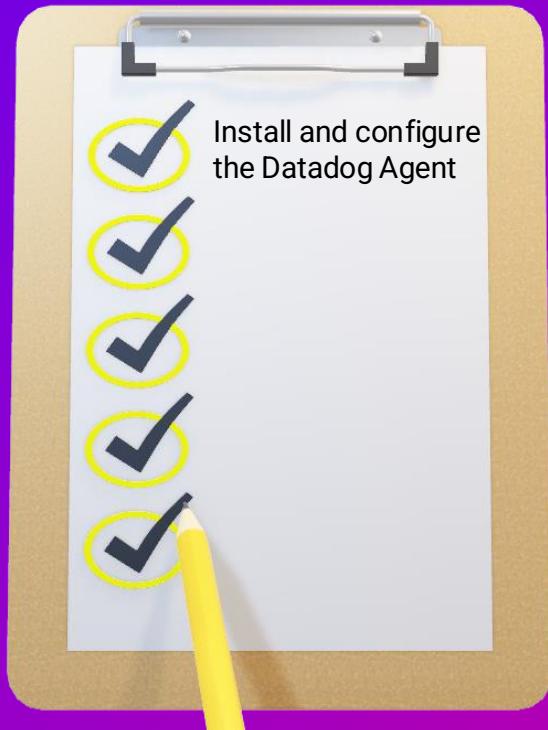
More specifics



Resolve Observability Gaps

Create comprehensive, consistent observability across your original environment and new azure workloads with the Datadog Agent

1. Add integrations to collect data specific to the technologies your services employ.
2. Enable Application Performance Monitoring (APM) to measure the request counts, latency, and error rates of your services.
3. Capture the logs generated by your environment to gain deeper context into when your metrics and traces behave unexpectedly.
4. Enable Network Performance Monitoring (NPM) to ensure efficient communication between your services.





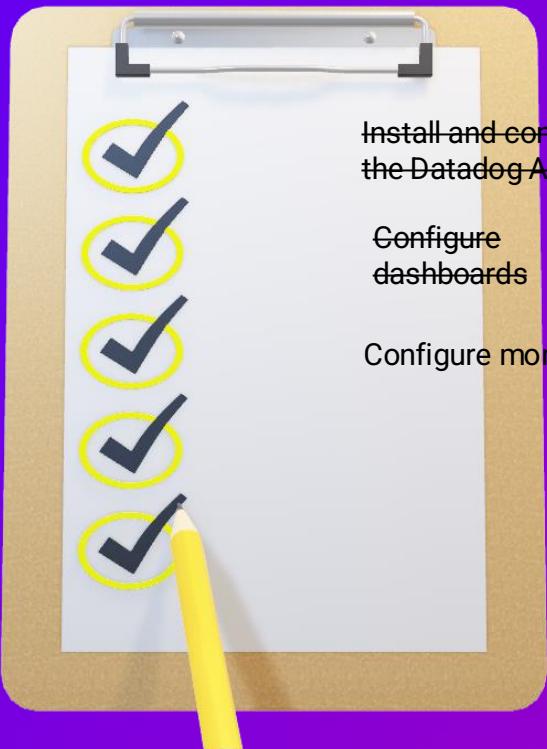
Once the health data is flowing into your Datadog account, you can view and understand your environment.

Install and configure
the Datadog Agent

Configure
dashboards

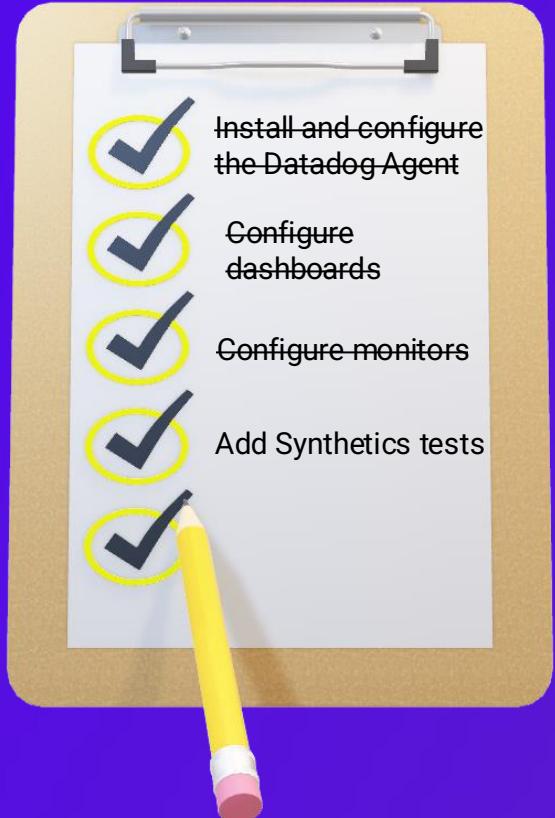
Migration Dashboards

As you migrate your workloads, ensure that the right people are automatically alerted when important performance KPI thresholds are crossed.

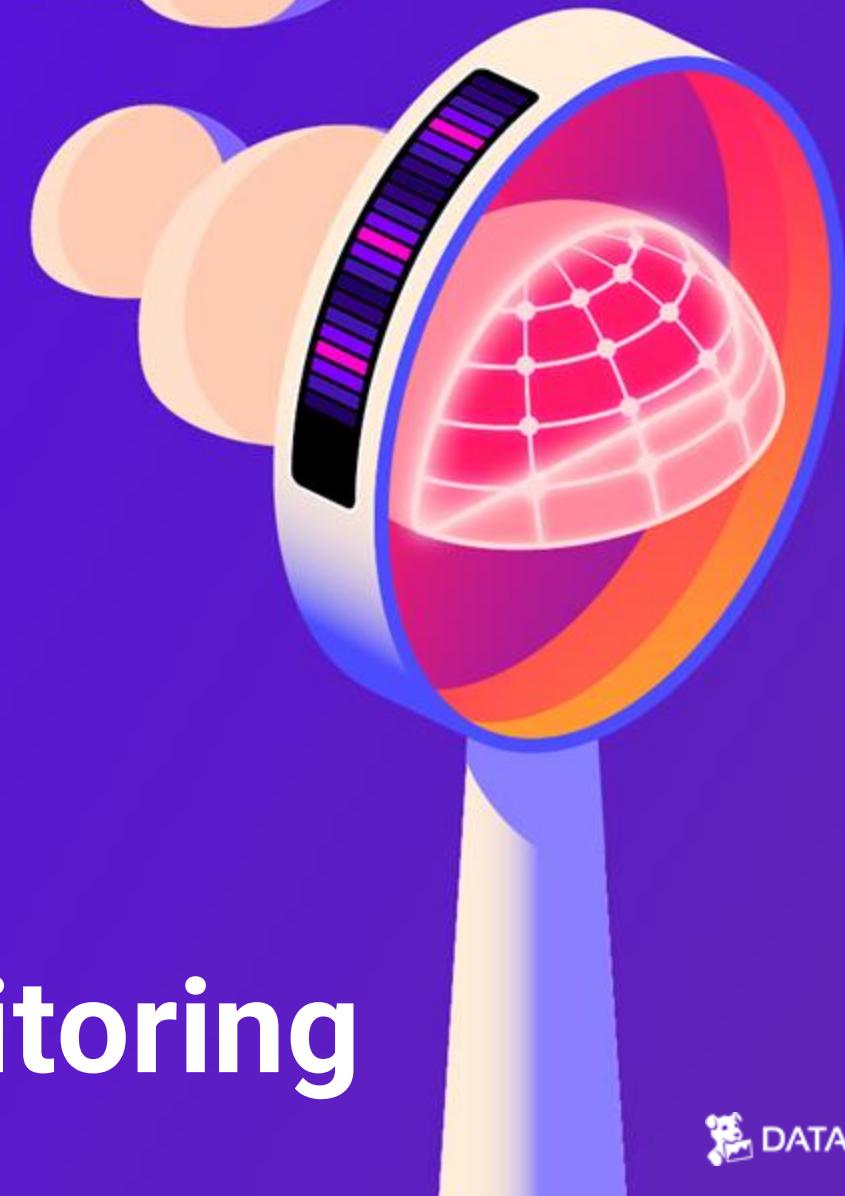


Send Actionable Alerts

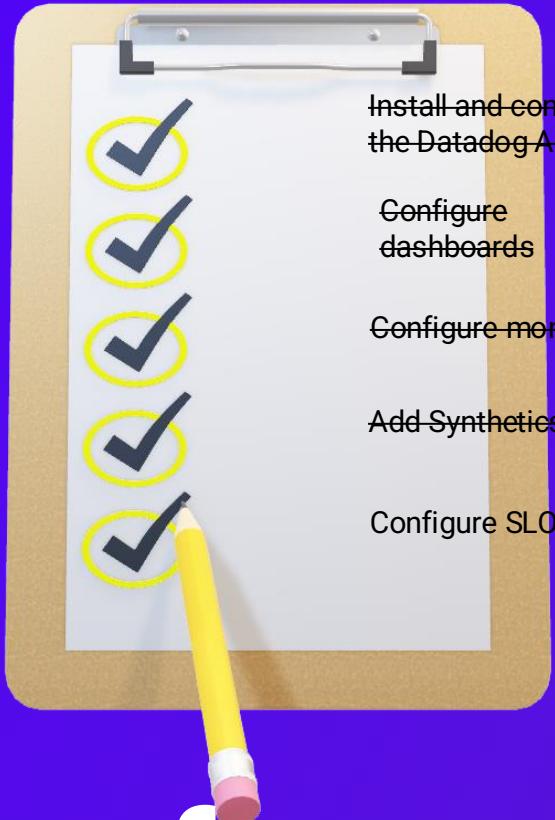
Configure Synthetics tests to proactively verify a healthy customer experience for your end users.



Proactive Synthetic Monitoring



Document your workloads' availability targets and success throughout the migration.



Install and configure the Datadog Agent

Configure dashboards

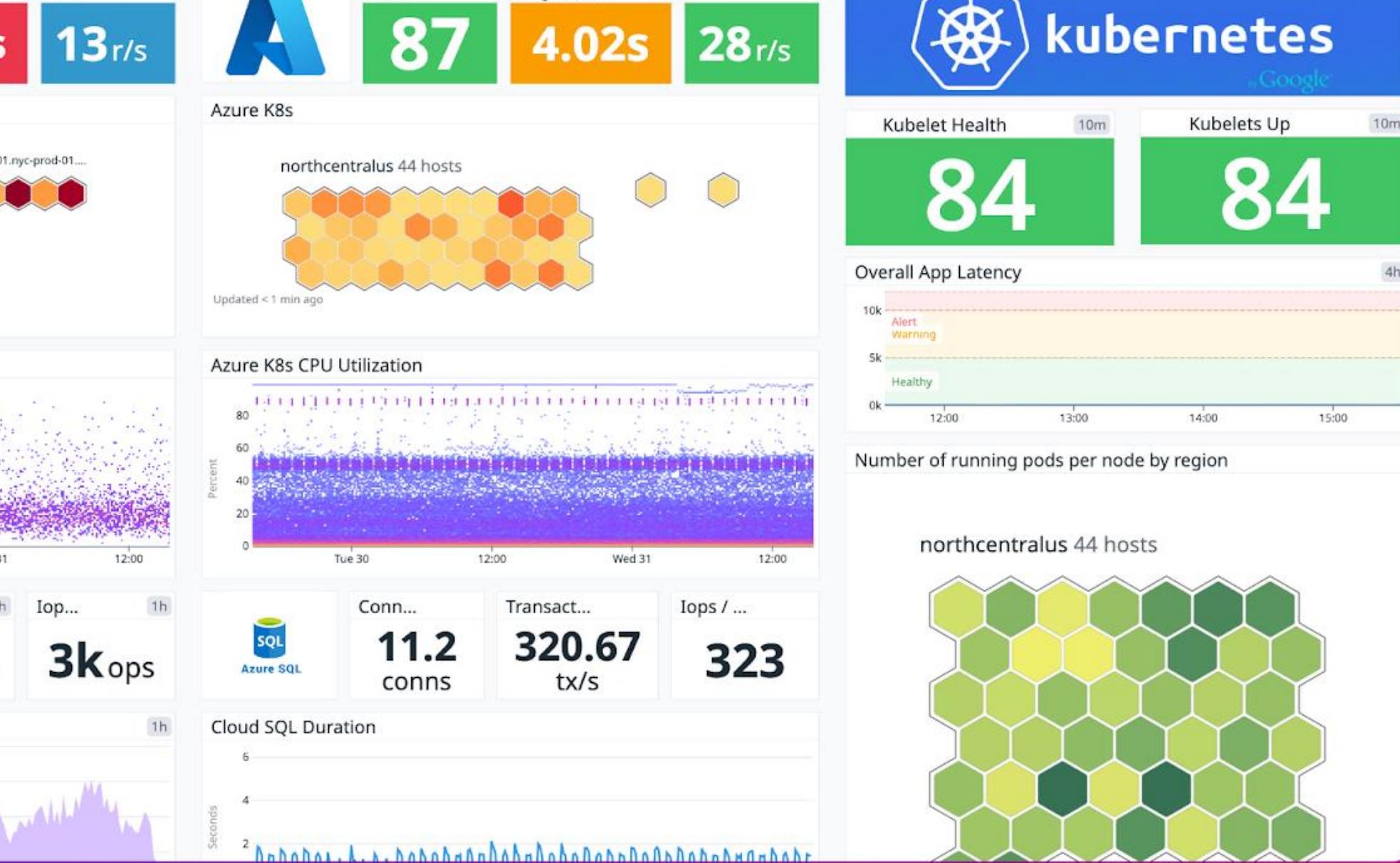
Configure monitors

Add Synthetics tests

Configure SLOs



Configure Service Level Objectives



Example
Dashboard

Blogs & E-books



- **Benefits of Cloud Migration**

Improved agility, resilience, scalability, and cost reductions.

- **Microsoft Cloud Adoption Framework**

Provides guidelines, current practices, and tools for successful cloud migration.

- **Datadog Integration**

Supports migration planning and execution with dashboards and alerts.

- **Service Dependencies**

Visualizes application architecture to understand dependencies.

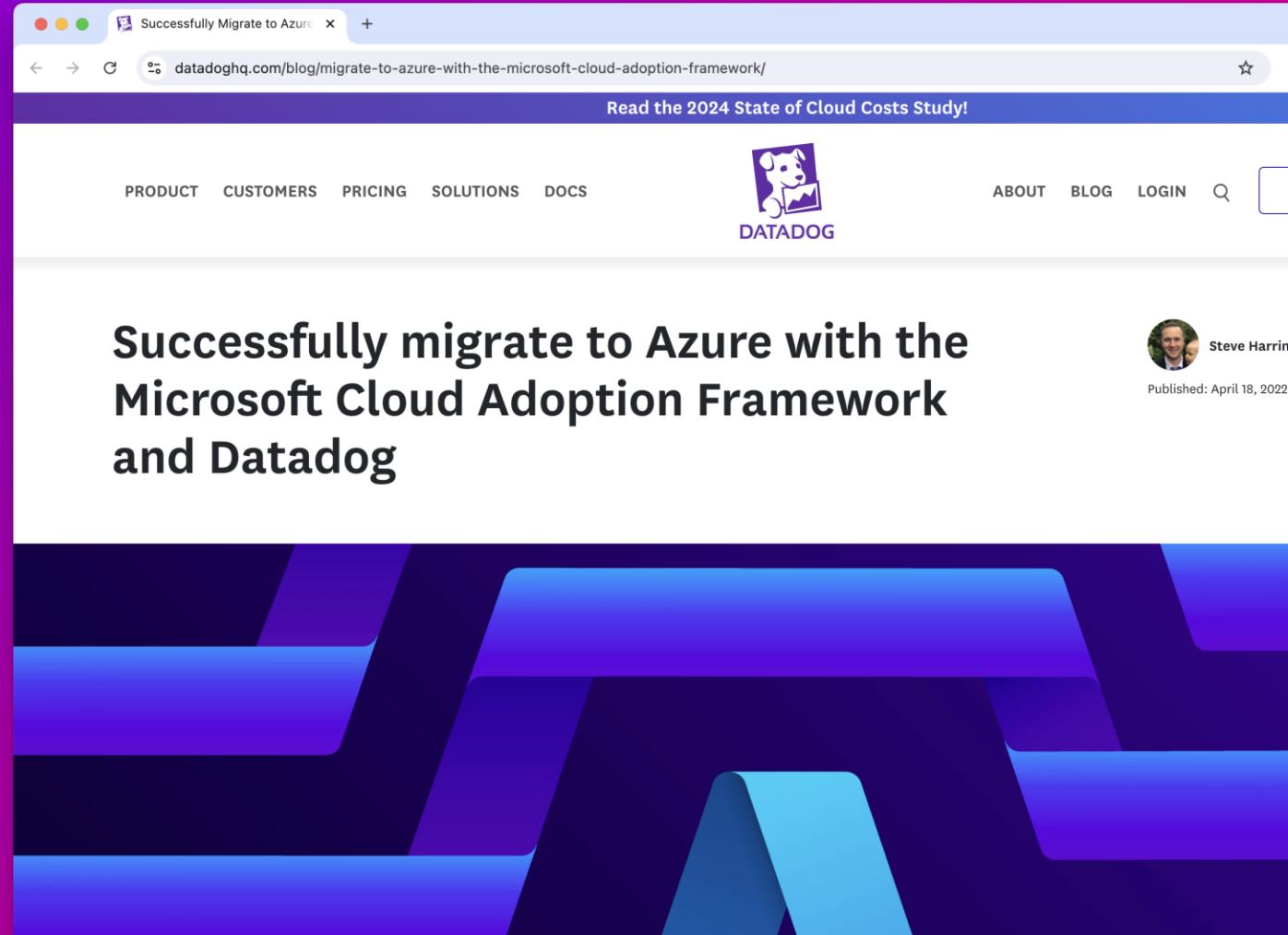
- **Infrastructure Metrics**

Monitors resource usage across environments with Datadog's Host Map.

- **Performance Monitoring**

Tracks application performance and availability using Synthetic Monitoring and Real User Monitoring.

Blog



Blog

- **Introduction to Migration**

Benefits of migrating SQL workloads to Azure and how Datadog aids in this process.

- **Datadog's Features**

Overview of Datadog's monitoring capabilities for SQL workloads on Azure.

- **Migration Strategies**

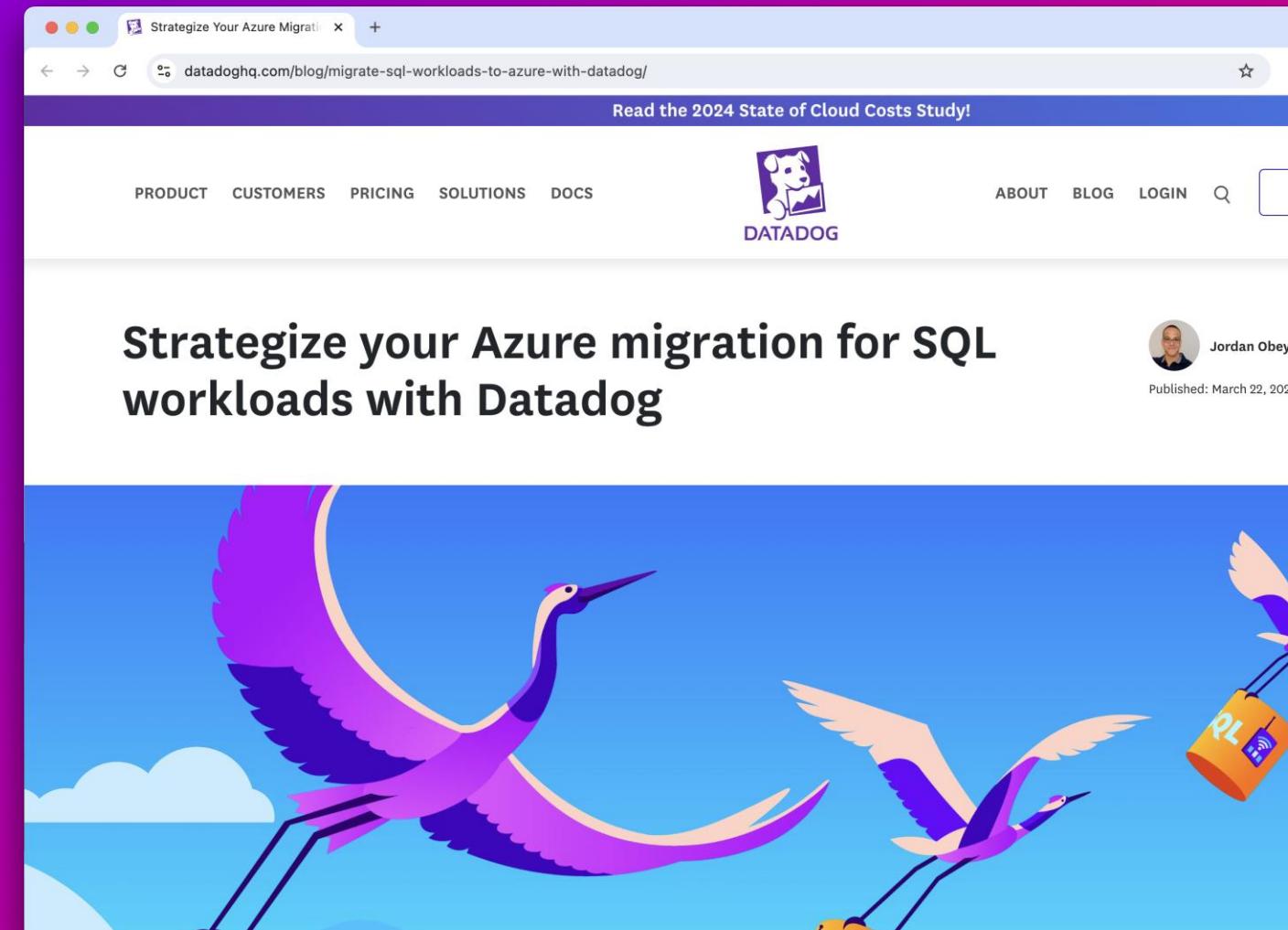
Detailed migration strategies and modern practices and processes.

- **Real-Time Monitoring**

Importance and benefits of real-time monitoring during and after migration.

- **Security and Compliance:**

Ensuring data security and compliance with industry standards.



"Cloud spend management becomes the priority" - AAG

- **Introduction to Cloud Cost Management**

Importance of controlling cloud expenditure and optimizing resource usage.

- **Datadog's Cost Management Features**

Overview of tools and capabilities offered by Datadog to manage and optimize costs in Azure environments.

- **Monitoring and Alerts**

Setting up monitoring and alerts to track spending and identify cost anomalies.

- **Tagging and Attribution**

Utilizing tags to attribute costs to specific teams, projects, or environments.

- **Custom Dashboards and Reports**

Creating custom dashboards and reports to visualize and analyze cloud spending.

- **Integrations and Automation**

Leveraging integrations and automation for better cost management practices.

Blog

The screenshot shows a web browser displaying a blog post from datadoghq.com. The title of the post is "Avoid Azure migration cost overruns with Datadog Cloud Cost Management". The post features a purple header with navigation links for PRODUCT, CUSTOMERS, PRICING, SOLUTIONS, and DOCS. Below the header is the Datadog logo. The main content area contains the title and some introductory text. At the bottom of the page, there is a screenshot of a Datadog Cloud Costs dashboard showing a chart of cost changes for Virtual Machines.

Read the 2024 State of Cloud Costs Study!

PRODUCT CUSTOMERS PRICING SOLUTIONS DOCS

DATADOG

ABOUT BLOG LOGIN

Avoid Azure migration cost overruns with Datadog Cloud Cost Management

Natasha Go...
Jeremie Pon...

Published: May 23, 2023

Cost Change Summary

TOTAL COST FEB 16 - MAR 26 \$17.3k

WHAT HAPPENED COMPARED TO JAN 8 - FEB 15 \$3.76k 28% ↗

Associated Team(s)

cloud-ints-tee cake agent-integrations sales.engineering.emea solutions eng...

Include previous period

Cloud Cost Spend Summary

Migrating Workloads to Azure X +

datadoghq.com/resources/azure-migration-ebook/ Finish update :

 DATADOG

GET STARTED FREE

Migrating workloads to Azure

Learn how to successfully migrate workloads to Azure with Datadog in our partner eBook.

In this eBook, you'll learn strategies for successfully implementing and measuring every phase of your Azure migration.

Download the eBook to learn about:

- The challenges of migrating to the cloud
- The benefits of migrating to Azure
- Monitoring a migration to Azure



Complete the form to receive the eBook.

First Name*

Last Name*

Company*

 62

Final Thoughts

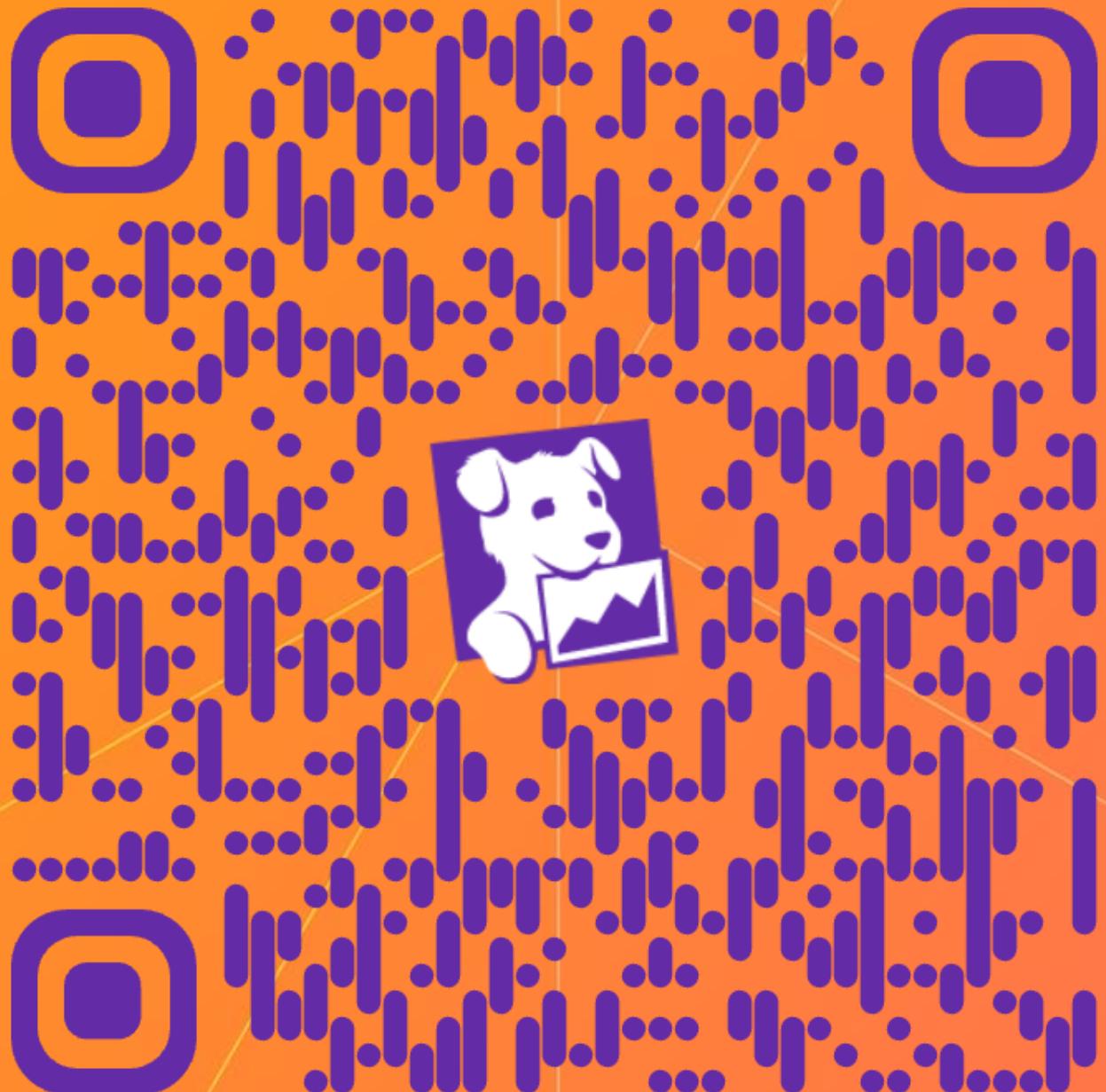
Every organization is unique – so every cloud migration is too!

Understand your applications, infrastructure, and their associated costs as best you can BEFORE taking action.

Resources

GitHub Repository has everything

dtdg.co/azure_migration_strategies



Thank you



DATADOG