



DATADOG
PARTNER
NETWORK

Partner Technical Enablement 2020

1PM에 시작 예정입니다. 잠시만 기다려 주세요.



DATADOG

Agenda

Day 1

- Welcome and Introduction
- What We Ask of our Partners
- DPN Learning Paths (recap)
- Datadog 주요기능 소개(Demo)
- Tagging Deep Dive
- Application Performance Monitoring (APM)
- Logs and Logging Without Limits™
- Synthetics



DATADOG

Agenda

Day 2

- Overview of Kubernetes Implementation
- Real User Monitoring (RUM)
- Security Information and Event Management (SIEM)
- Network Performance Monitoring (NPM)
- Service Level Objectives (SLO)
- Monitor Downtime
- Datadog Best Practices a Platform - Our approach to Observability



DATADOG

Agenda

Day 3

- Keeping Up to Date About Datadog
- Datadog Support
- Datadog Security
- Role Based Access Control (RBAC)
- Usage Metering and Billing
- Accelerating Customer Onboarding



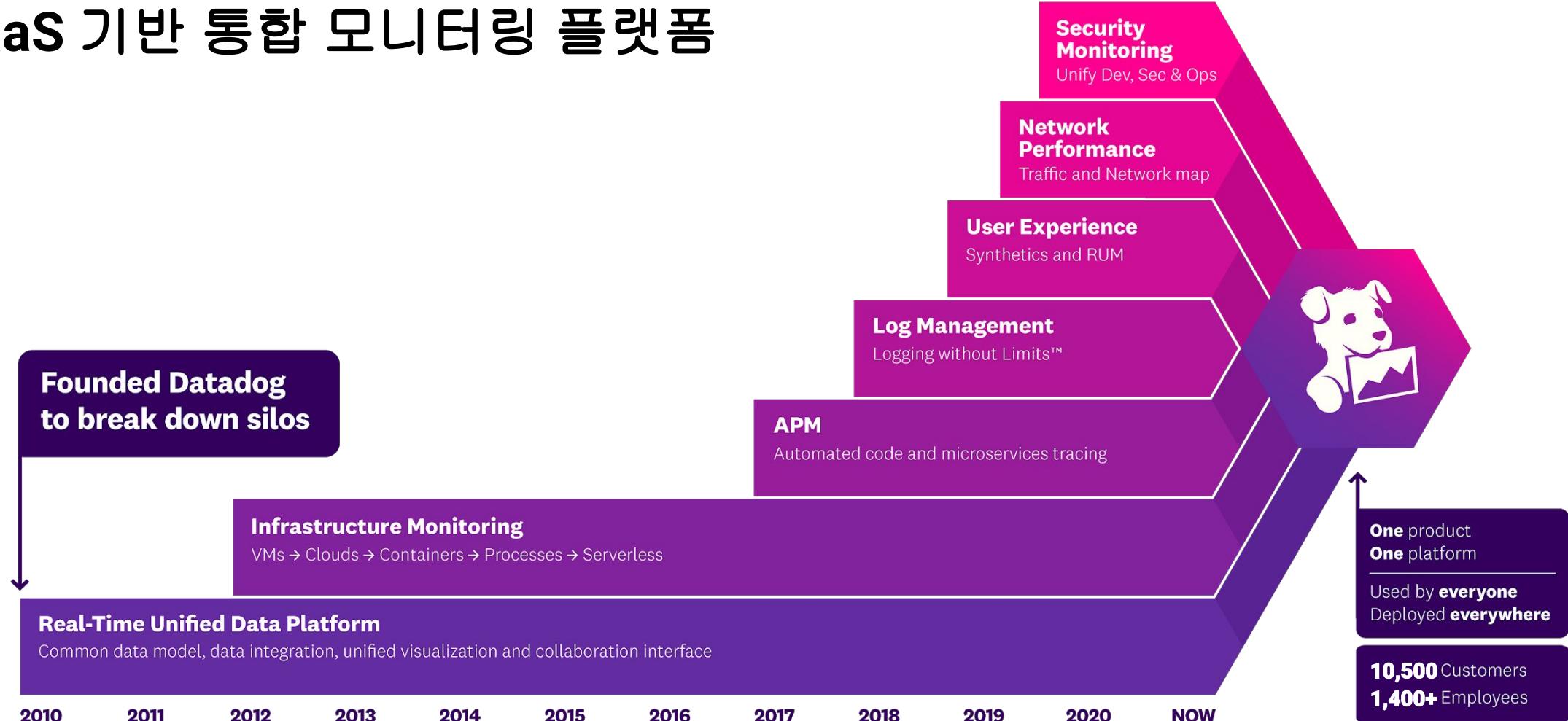
DATADOG

What we ask of our Partners

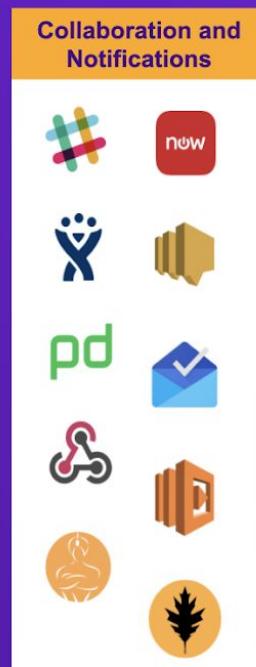
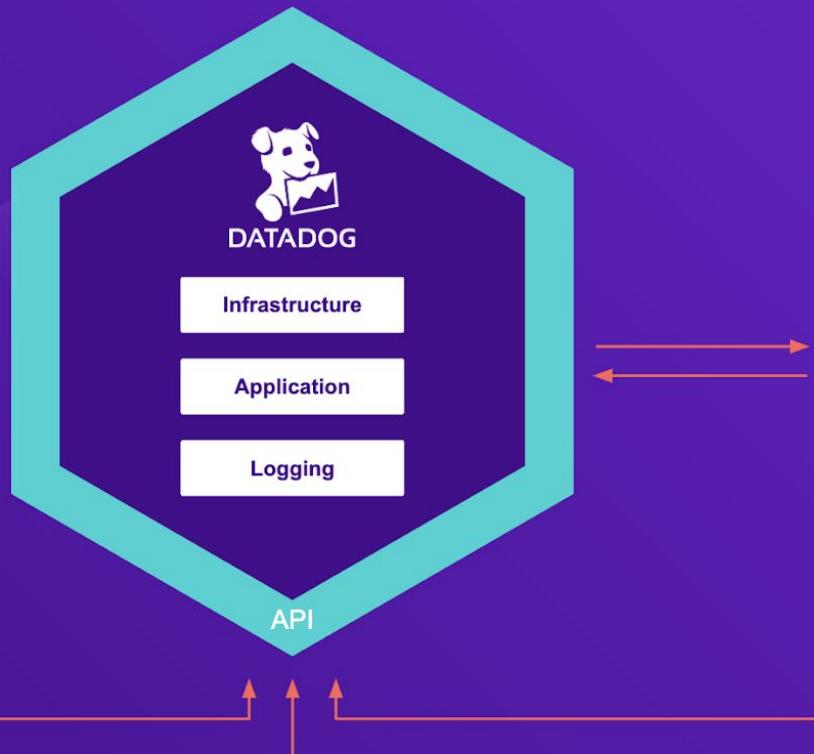
- Develop expertise in Datadog and embrace the philosophy of the platform (collaborative, single pane of glass, no silos).
- Develop a detailed understanding of the Customer's critical Business Services, including the applications that make those services possible, the environments, infrastructure, operational process and security governance deployed to support those applications.
- Develop Service Offerings designed to deliver customers' desired outcomes:
 - Achieve rapid time to value and reduced risk implementing Datadog...
 - Using a Best-Practices approach to...
 - Improve development, deployment, and operational efficiency...through
 - Full-stack observability of the customer's critical business services
- Bring a great Customer experience by providing first line support and effective ticket escalation (MSP)
- Communicate effectively with the Datadog team

Datadog 소개

SaaS 기반 통합 모니터링 플랫폼



DATADOG



Infrastructure Metrics
Custom and out-of-the-box

APM
Java, Python, Ruby, Go, NodeJS, etc.

Logs & Events
Structured and unstructured

Tags/Metadata
Custom and out-of-the-box

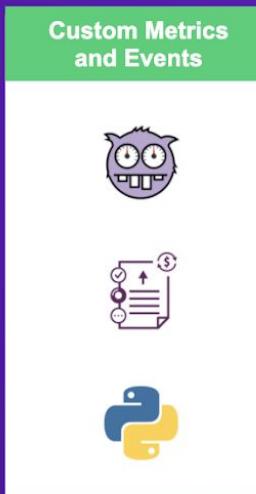
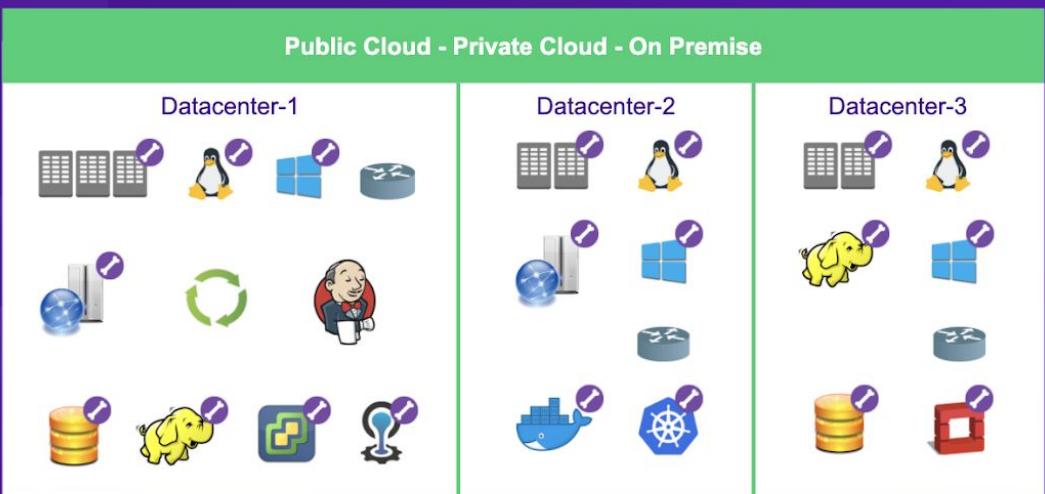
Retention
15 months by default (extendable on request)

Granularity
No roll ups, full granularity

Secure Focused
Encrypted at Rest, SOC 2 Compliant

High Available
Spanning multiple AZ's

API
Bidirectional RESTful API supported across all product components for configuration, importing, exporting and more.



Encrypted Communication
Outbound only via HTTPS/443

System Metrics
80+ CPU, Disk, Load, Network, etc.

400+ Integrations
MySQL, NGInx, MongoDB, Hadoop, etc.

High resolution
15 sec host granularity, 1 sec. custom and business metric granularity

DATADOG 주요 기능

다양한 종류의 Metric/Trace/Log를 손쉽게 수집

다양한 실시간 분석 기능

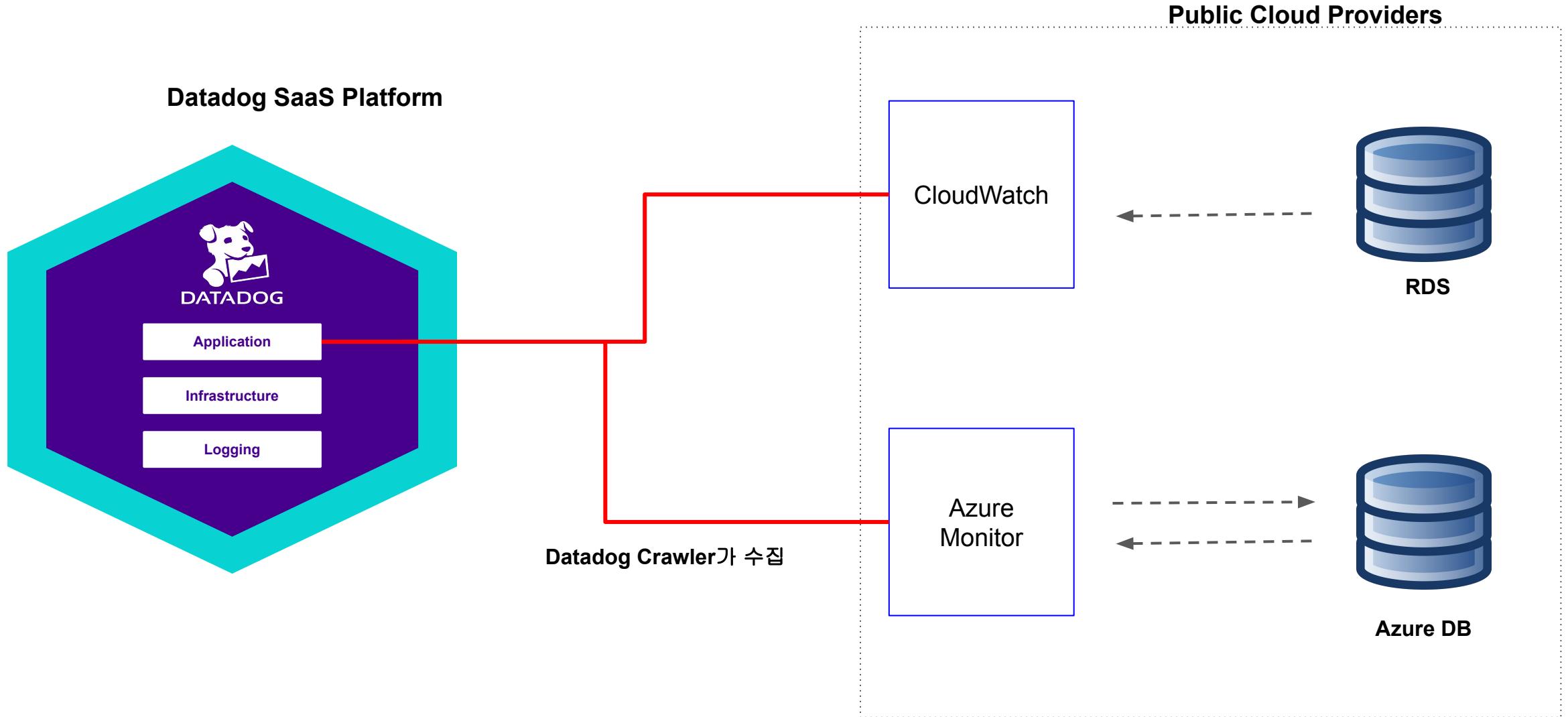
Metric / Trace / Log 연계 분석 기능

어떻게 Datadog 수집하나요?

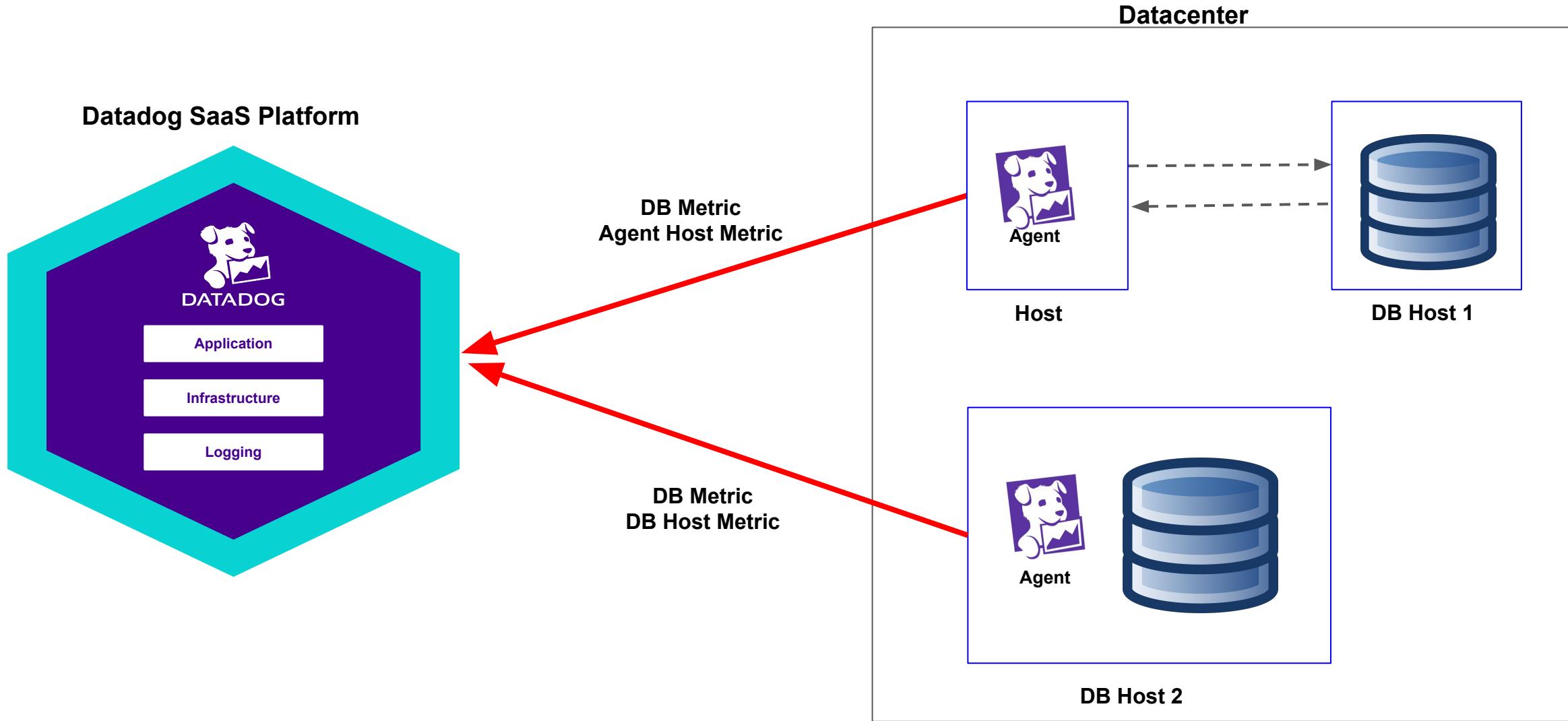
450개 이상의 Integration을 통해 개발없이 Data 수집

Installed							
 Apache ActiveMQ ✓ Installed	 Aerospike ✓ Installed	 Airbrake ✓ Installed	 Akamai DataStream ✓ Installed	 Alibaba Cloud ✓ Installed	 Amazon EKS ✓ Installed	 Amazon Fargate ✓ Installed	 Amazon Kafka ✓ Installed
 Amazon MSK ✓ Installed	 Amazon Web Services ✓ Installed	 Amazon API Gateway ✓ Installed	 Amazon AppStream ✓ Installed	 Amazon Athena ✓ Installed	 Amazon CloudFront ✓ Installed	 Amazon CloudSearch ✓ Installed	 Amazon CodeDeploy ✓ Installed
 Amazon Cognito ✓ Installed	 Amazon Connect ✓ Installed	 Amazon DirectConnect ✓ Installed	 Amazon DMS ✓ Installed	 Amazon DocumentDB ✓ Installed	 Amazon DynamoDB ✓ Installed	 Amazon EBS ✓ Installed	 Amazon EC2 ✓ Installed
 Amazon ECS ✓ Installed	 Amazon EFS ✓ Installed	 Amazon ElastiCache ✓ Installed	 Amazon ElasticBeanstalk ✓ Installed	 Amazon ELB ✓ Installed	 Amazon EMR ✓ Installed	 Amazon ES ✓ Installed	 Amazon EventBridge ✓ Installed
 Amazon Firehose ✓ Installed	 Amazon Gamelift ✓ Installed	 Amazon Glue ✓ Installed	 Amazon Health ✓ Installed	 Amazon Inspector ✓ Installed	 Amazon IoT ✓ Installed	 Amazon Kinesis ✓ Installed	 Amazon KMS ✓ Installed
 Lambda	 CloudWatch Metrics	 CloudWatch Metrics Insights	 AWS Lambda	 Amazon CloudWatch Metrics	 Amazon CloudWatch Metrics Insights	 Amazon CloudWatch Metrics Insights	 Amazon CloudWatch Metrics Insights

Metric 수집 구조 (Datadog Crawler)



DB Metric 수집 구조 (Agent 기반)



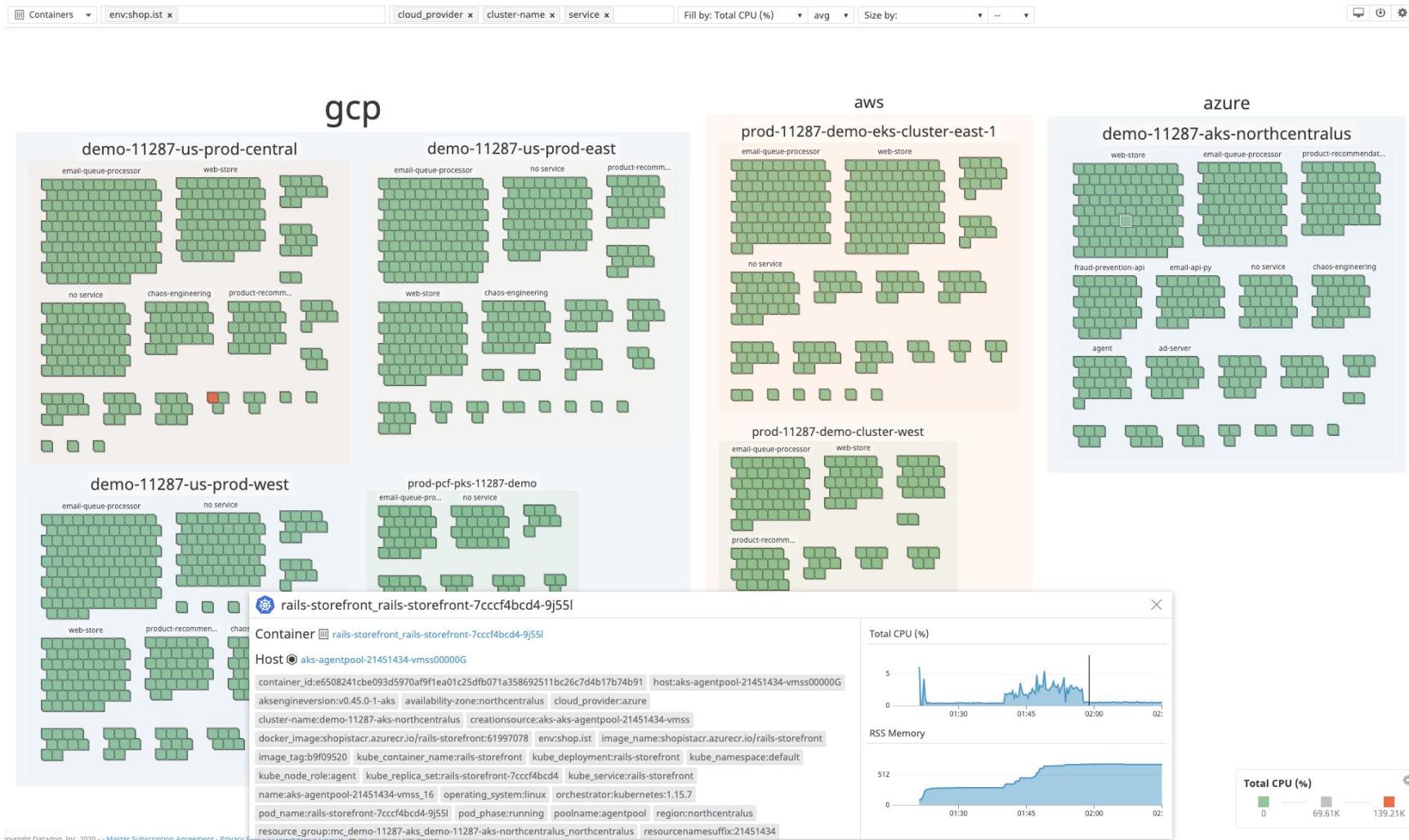
DATADOG 주요 기능

다양한 종류의 Metric/Trace/Log를 손쉽게 수집

다양한 실시간 분석 기능
(Host Map, Live Container, Live Process, Live Tail..)

Metric / Trace / Log 연계 분석 기능

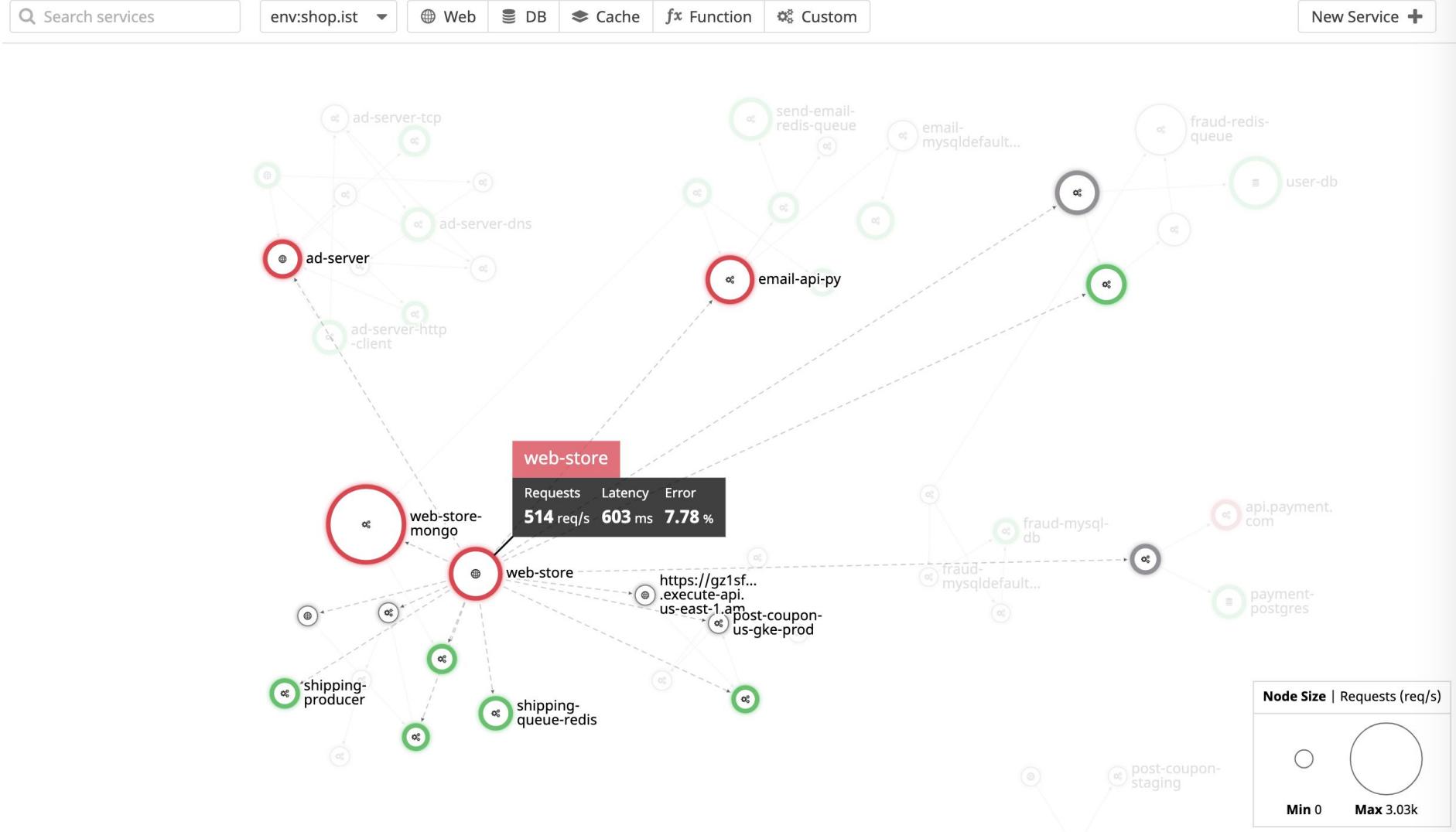
Host Map



수집된 TAG를 이용하여 자유롭게 Filtering/Grouping 가능

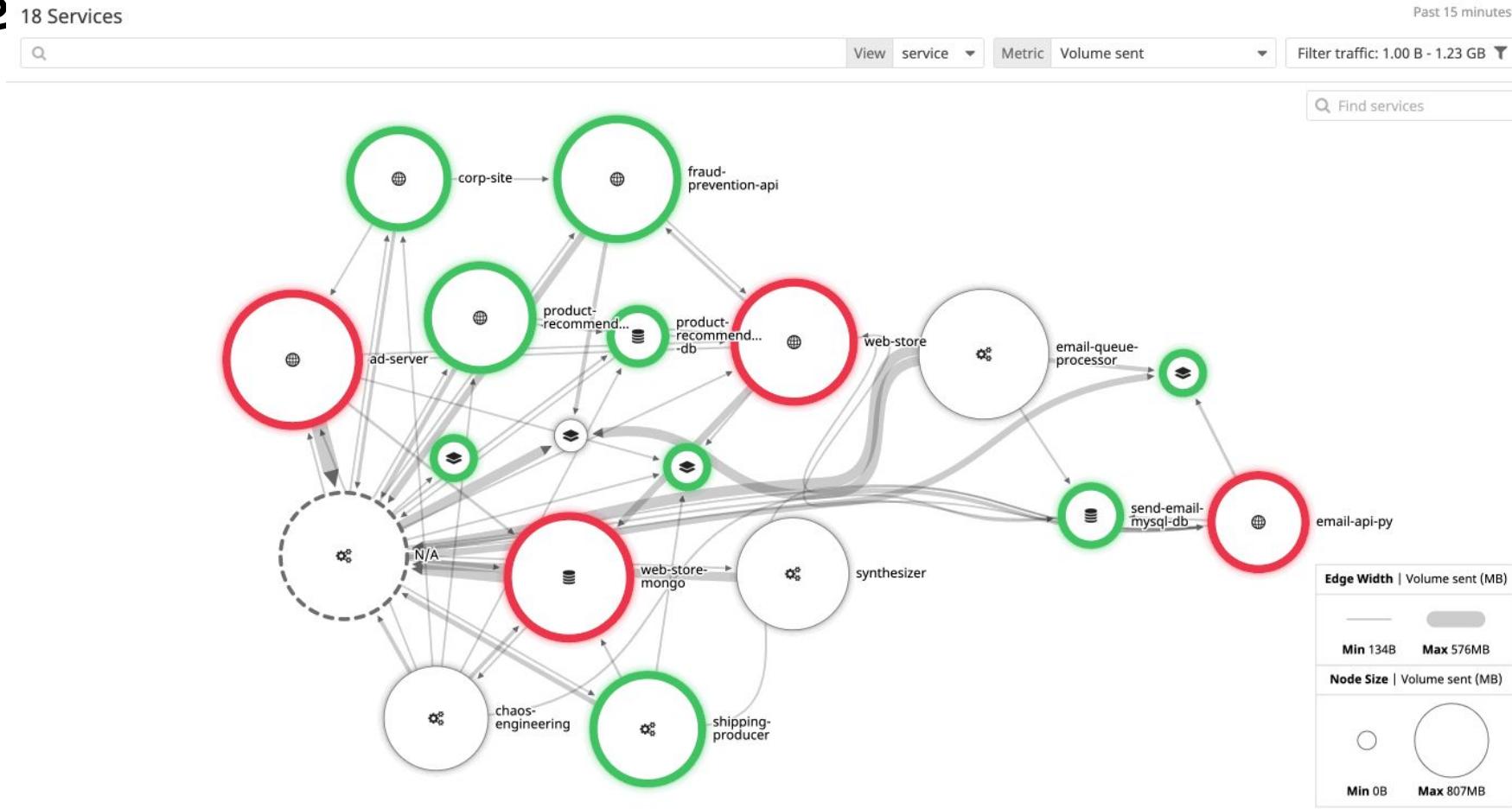
Service Map

50 Services



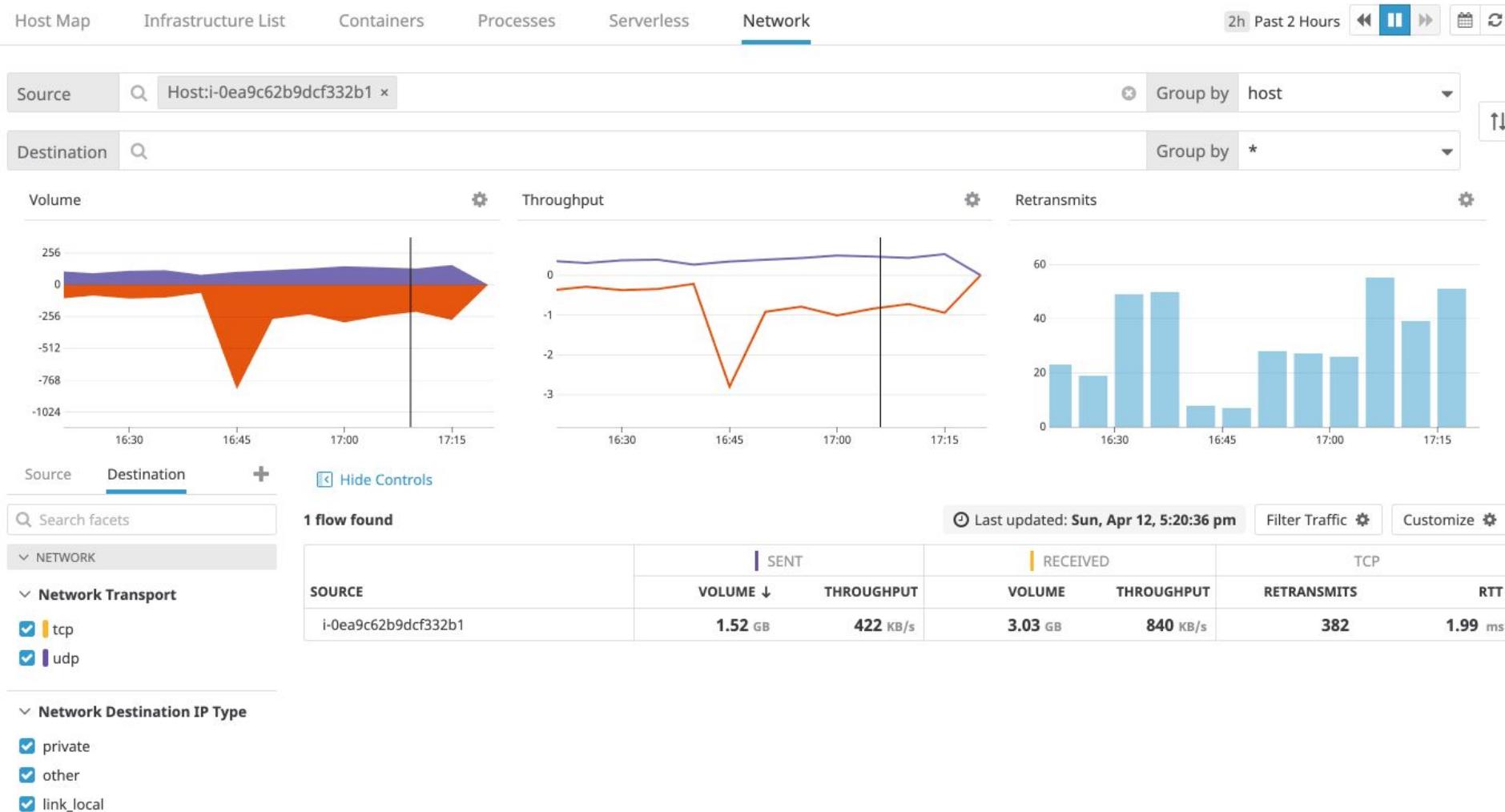
Network Map

Kubernetes 환경에서 Container/Pod/Deployment/Service 별 트래픽 흐름을
시각화



Network Performance Monitoring

우리의 서버가 어떤 IP나 DNS와 통신을 하고 있는지 세분화해서 분석 가능



Live Container

Host Map Infrastructure List **Containers**

2190aa517dbd Filter by tag

> CORE
INFRASTRUCTURE
Host Group
i-0afb2e152266ec63a

> Datacenter Group
> Instance-id Group
> Instance-type Group
> Security-group-name Group
> Security-group Group
> Availability-zone Group
> Name Group
> Image Group
> Account Group
> Kernel Version Group
> Autoscaling Group Group
> Region Group
> Terraform.module Group
> Site Group
CONTAINERS
Container Image Group
docker.io/istio/examples-...

productpage_productpage-v1-7d6cfb7dfd-lfprs

HOST START CONTAINER IMAGE
i-0afb2e152266ec63a 2 days ago docker.io/istio/examples-bookinfo-productpage-v1

TAGS
container_id:2190aa517dbd pod_name:productpage-v1-7d6cfb7dfd-lfprs host:i-0afb2e152266ec63a +26

PROCESS LIST

COMMAND	PID	PPID	CPU %	RSS MEMORY
sh & python productpage.py 9080 -c tail -f /opt/...	6160	6129	0 %	696 KB
└─ python productpage.py 9080	6210	6160	0 %	34 MB
└─ python productpage.py 9080	6398	6210	< 1 %	36 MB
└─ tail -f /opt/microservices/microservice.log	6209	6160	0 %	684 KB

Metrics Logs Traces Network 15m Past 15 Minutes

Total CPU (%) 0.8 % (0.8 %)

RSS Memory 49.8 MiB (49.8 MiB)

22:10 22:15 22:20 22:25 22:30

22:10 22:15 22:20 22:25 22:30

Use ↑ / ↓ to view previous/next container

2초마다 데이터를 업데이트하여 실시간 분석이 가능

Live tail (LOG) - 수집된 로그를 실시간으로 출력

Live Tail

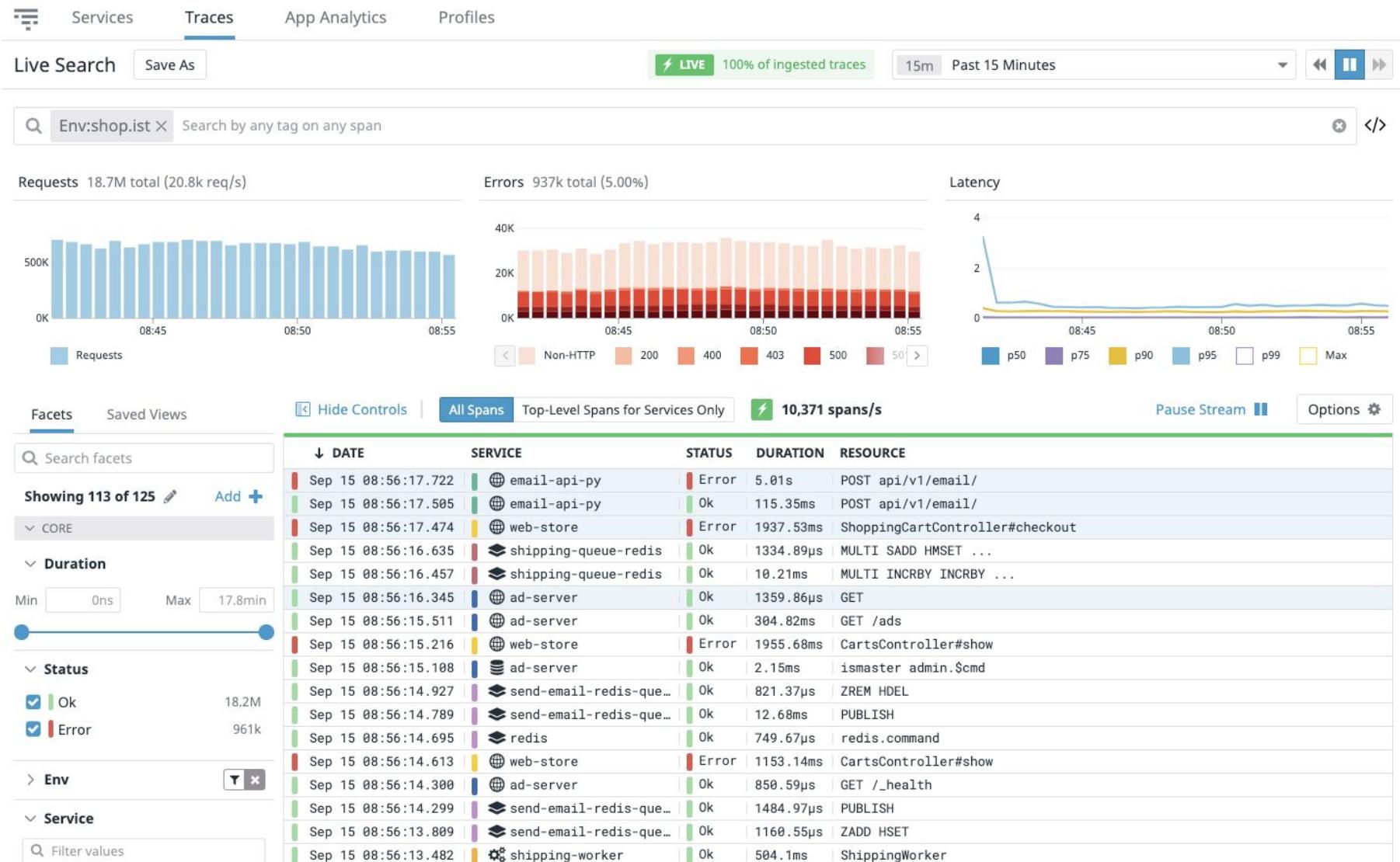
Env:aws-prd

15 events/s, 71% displayed (refine your query to avoid sampling)

Options

↓ DATE	HOST	SERVICE	STAT...	CONTENT
Apr 10 23:41:14.700	i-0afb2e152266ec63a	examples-bookinfo-details-v1	Info	> 127.0.0.1 - - [10/Apr/2020:14:41:14 UTC] "GET /details/0 HTTP/1.1" 200 178
Apr 10 23:41:14.700	i-0afb2e152266ec63a	examples-bookinfo-details-v1	Info	> - -> /details/0
Apr 10 23:41:12.355	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:08.518Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 4 4 "-" "Wget" "2ae1fbcc...
Apr 10 23:41:12.355	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:08.514Z] "GET /reviews/0 HTTP/1.1" 200 - "-" "-" 0 375 9 9 "-" "Wget" "2ae1fbc...
Apr 10 23:41:12.355	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:10.585Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 2 1 "-" "Wget" "2ef00a26...
Apr 10 23:41:12.355	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:10.583Z] "GET /reviews/0 HTTP/1.1" 200 - "-" "-" 0 375 5 5 "-" "Wget" "2ef00a2...
Apr 10 23:41:12.354	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:06.444Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 3 3 "-" "Wget" "e161b62d...
Apr 10 23:41:12.354	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:03.353Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 2 2 "-" "Wget" "36a4e984...
Apr 10 23:41:12.354	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:06.442Z] "GET /reviews/0 HTTP/1.1" 200 - "-" "-" 0 375 6 6 "-" "Wget" "e161b62...
Apr 10 23:41:12.354	i-04f501b0e20f024bb	proxyv2	Info	> [2020-04-10T14:41:03.349Z] "GET /reviews/0 HTTP/1.1" 200 - "-" "-" 0 375 7 7 "-" "Wget" "36a4e98...
Apr 10 23:41:10.603	i-0afb2e152266ec63a	examples-bookinfo-ratings-v1	Info	> GET /ratings/0
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:08.518Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 3 3 "-" "Wget" "2ae1fbcc...
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:09.554Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 2 2 "-" "Wget" "78738a55...
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:03.353Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 1 1 "-" "Wget" "36a4e984...
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:02.326Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 1 1 "-" "Wget" "06a832a3...
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:06.447Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 0 0 "-" "Wget" "e161b62d...
Apr 10 23:41:10.253	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:05.405Z] "GET /ratings/0 HTTP/1.1" 200 - "-" "-" 0 48 0 0 "-" "Wget" "8964823c...
Apr 10 23:41:09.556	i-0afb2e152266ec63a	examples-bookinfo-ratings-v1	Info	> GET /ratings/0
Apr 10 23:41:08.523	i-0afb2e152266ec63a	examples-bookinfo-ratings-v1	Info	> GET /ratings/0
Apr 10 23:41:08.509	i-0afb2e152266ec63a	examples-bookinfo-details-v1	Info	> 127.0.0.1 - - [10/Apr/2020:14:41:08 UTC] "GET /details/0 HTTP/1.1" 200 178
Apr 10 23:41:08.429	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:05.396Z] "GET /details/0 HTTP/1.1" 200 - "-" "-" 0 178 1 0 "-" "Wget" "8964823...
Apr 10 23:41:08.429	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:07.468Z] "GET /details/0 HTTP/1.1" 200 - "-" "-" 0 178 2 0 "-" "Wget" "6f793fb...
Apr 10 23:41:08.429	i-0afb2e152266ec63a	proxyv2	Info	> [2020-04-10T14:41:03.342Z] "GET /details/0 HTTP/1.1" 200 - "-" "-" 0 178 1 0 "-" "Wget" "36a4e98...

Live tail (APM) - APM Trace를 실시간으로 출력



Event stream

 X -

sources:azureddevops,azure,azurestorage azure X 

Show 1h Past 1 Hour ▼   

FROM

- All
- Airbrake
- Amazon App Mesh
- Amazon Auto Scaling
- Amazon Cloudtrail
- Amazon CodeDeploy
- Amazon EC2
- Amazon ECS
- Amazon ElastiCache
- Amazon Health
- Amazon Lambda
- Amazon RDS
- Amazon SNS
- Amazon Web Services
- Ansible
- Azure ✓
- Azure DevOps ✓
- Azure Storage ✓
- Bitbucket
- Chef
- Cisco ACI
- Cloud Foundry
- Consul
- Datadog
- DingTalk
- Docker
- Elasticsearch

4 events 17:15 17:20 17:25 17:30 17:35 17:40 17:45 17:50 17:55 18:00 18:05 18:10 Now

56 matching events from Aggregate related events

 Leave a status update... Post

 **Fix backend feature flag logic for faster one-click checkouts** #automatic-restart:true ...
dd-trace-dotnet Build Service (datadog-apm) pushed a commit to [dd-trace-dotnet](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet):[zach/feature/graphql-client](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/#version=GBzach%2Ffeature%2Fgraphql-client)
* Initial implementation of Samples.GraphQL.Client [90665436](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/commit/90665436d5eee595778a325dc9f366ae5155dd64)
Sun Apr 26 2020 18:09:27 GMT+0900 (KST) · Add comment

 **Bug fix for GraphQL.Client** #aws_account:172597598159 ...
dd-trace-dotnet Build Service (datadog-apm) pushed a commit to [dd-trace-dotnet](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet):[zach/feature/graphql-client](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/#version=GBzach%2Ffeature%2Fgraphql-client)
* Initial implementation of Samples.GraphQL.Client [90665436](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/commit/90665436d5eee595778a325dc9f366ae5155dd64)
Sun Apr 26 2020 18:07:55 GMT+0900 (KST) · Add comment

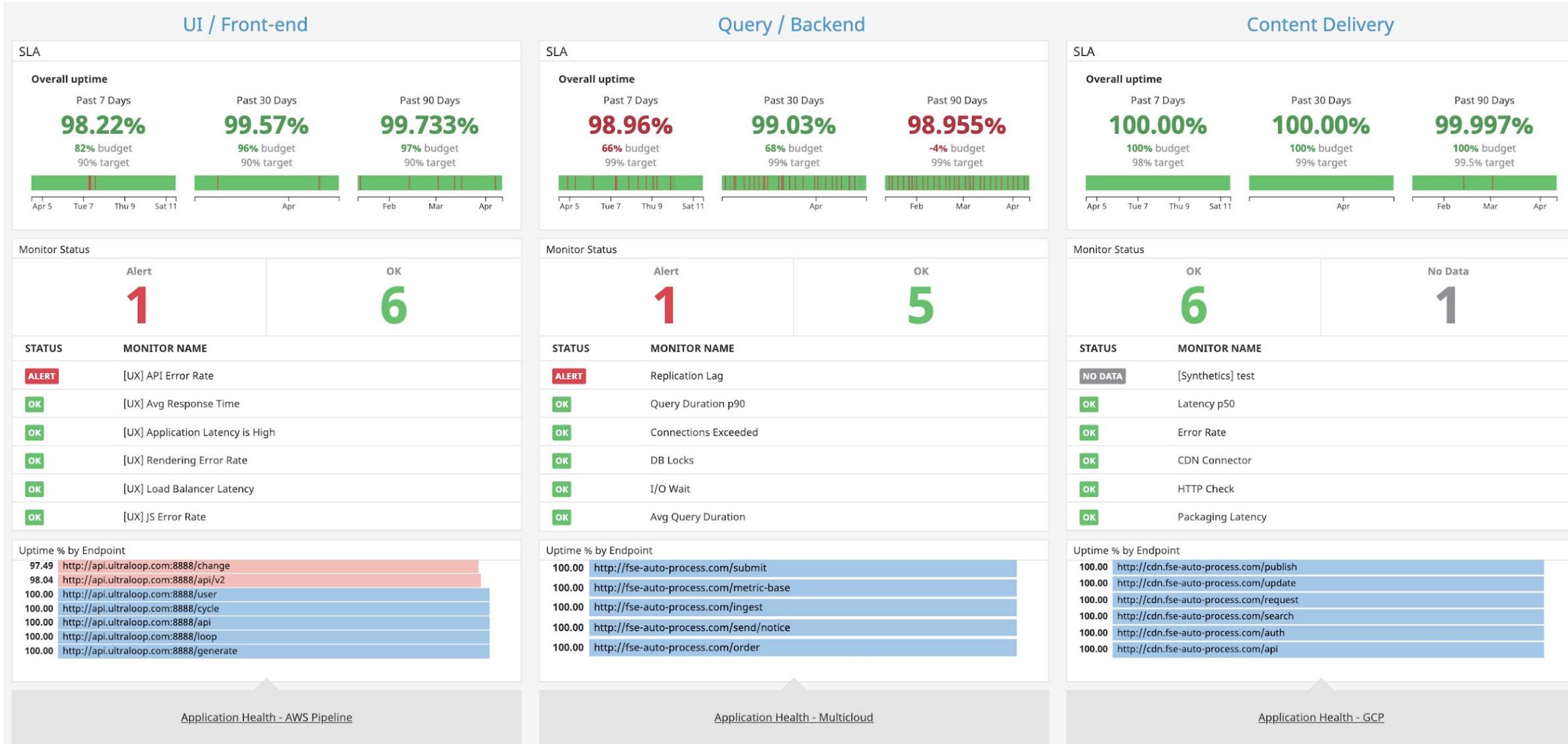
 **Bugfix for lagging shipping workers** #aws_account:172597598159 ...
dd-trace-dotnet Build Service (datadog-apm) pushed a commit to [dd-trace-dotnet](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet):[zach/feature/graphql-client](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/#version=GBzach%2Ffeature%2Fgraphql-client)
* Initial implementation of Samples.GraphQL.Client [90665436](https://dev.azure.com/datadog-apm/dd-trace-dotnet/_git/dd-trace-dotnet/commit/90665436d5eee595778a325dc9f366ae5155dd64)
Sun Apr 26 2020 18:07:54 GMT+0900 (KST) · Add comment

 **Build 2020-04-26 09:06:02 succeeded** #aws_account:172597598159 ...

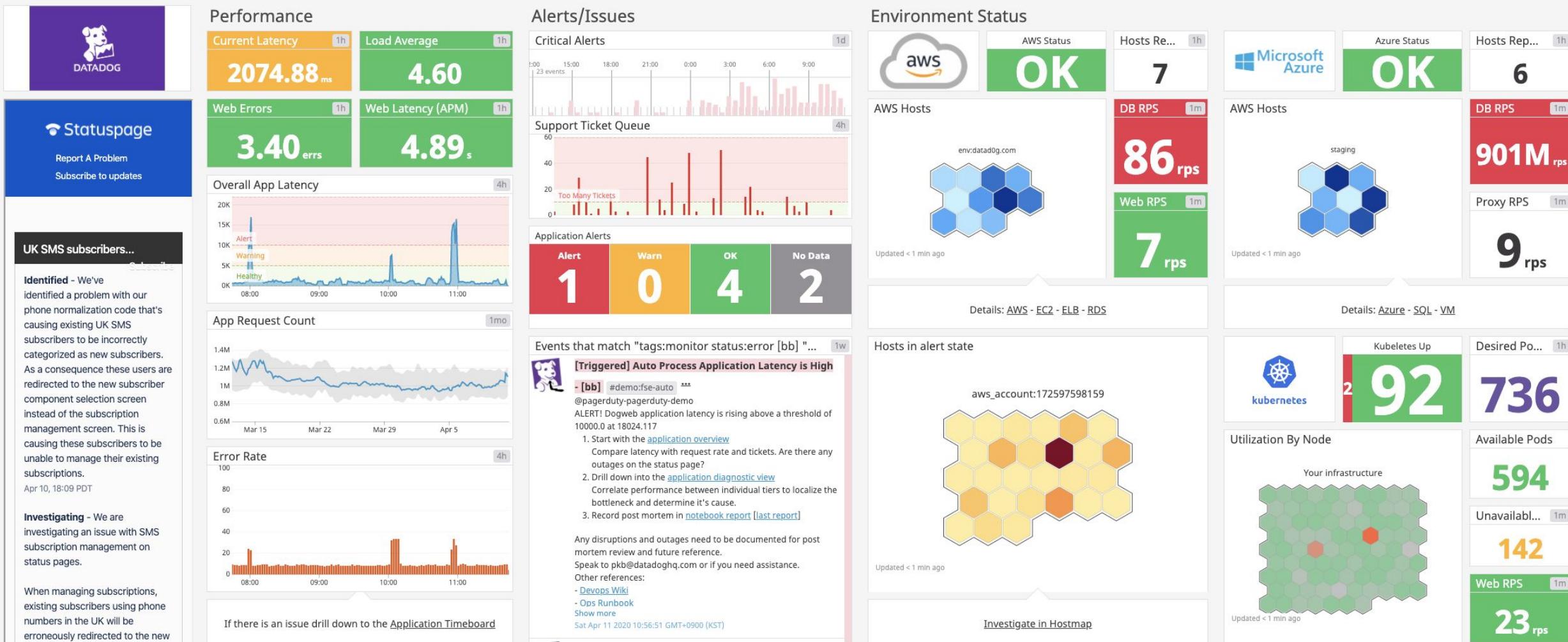
Dashboard



Dashboard



Dashboard



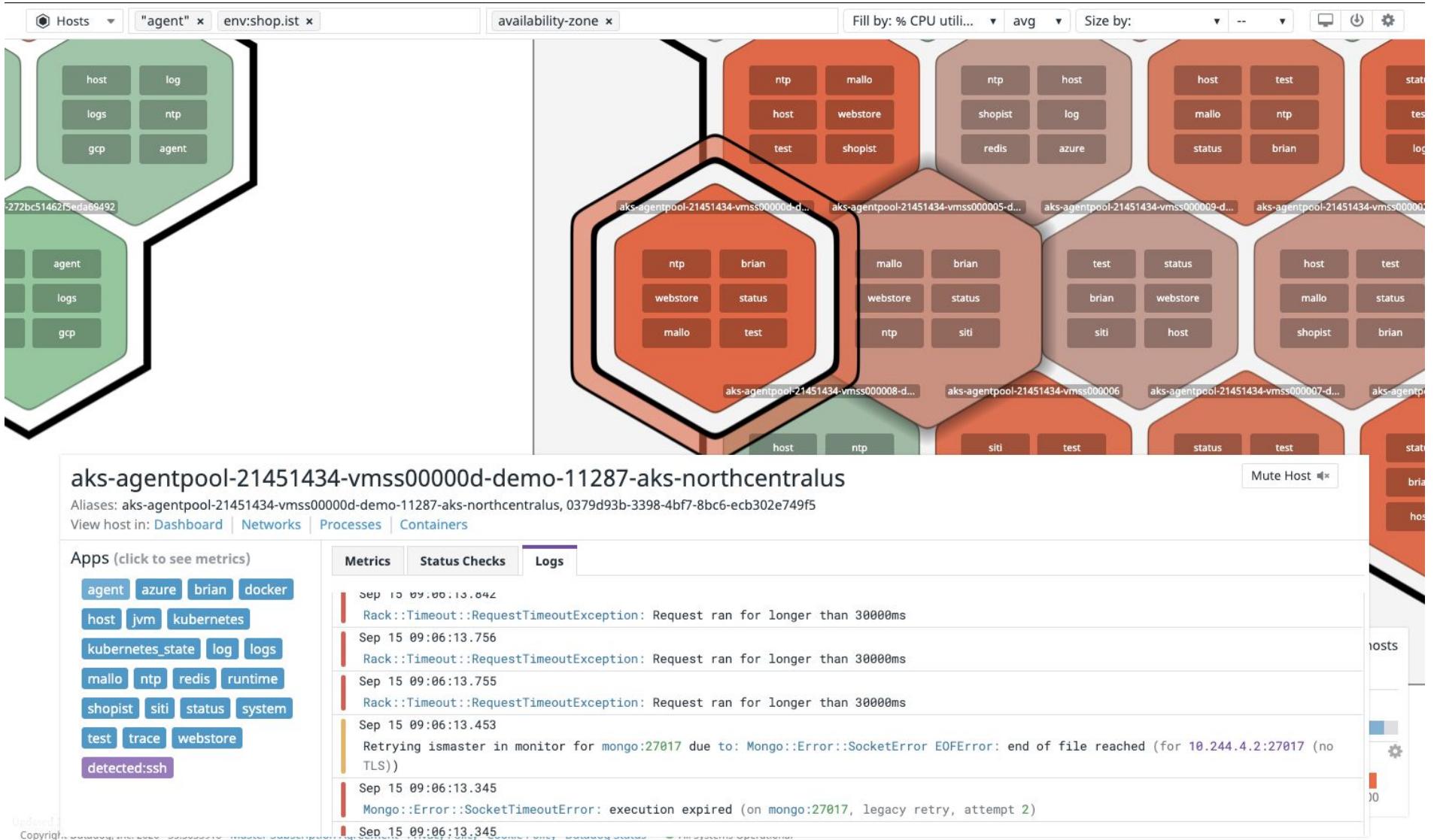
DATADOG 주요 기능

다양한 종류의 Metric/Trace/Log를 손쉽게 수집

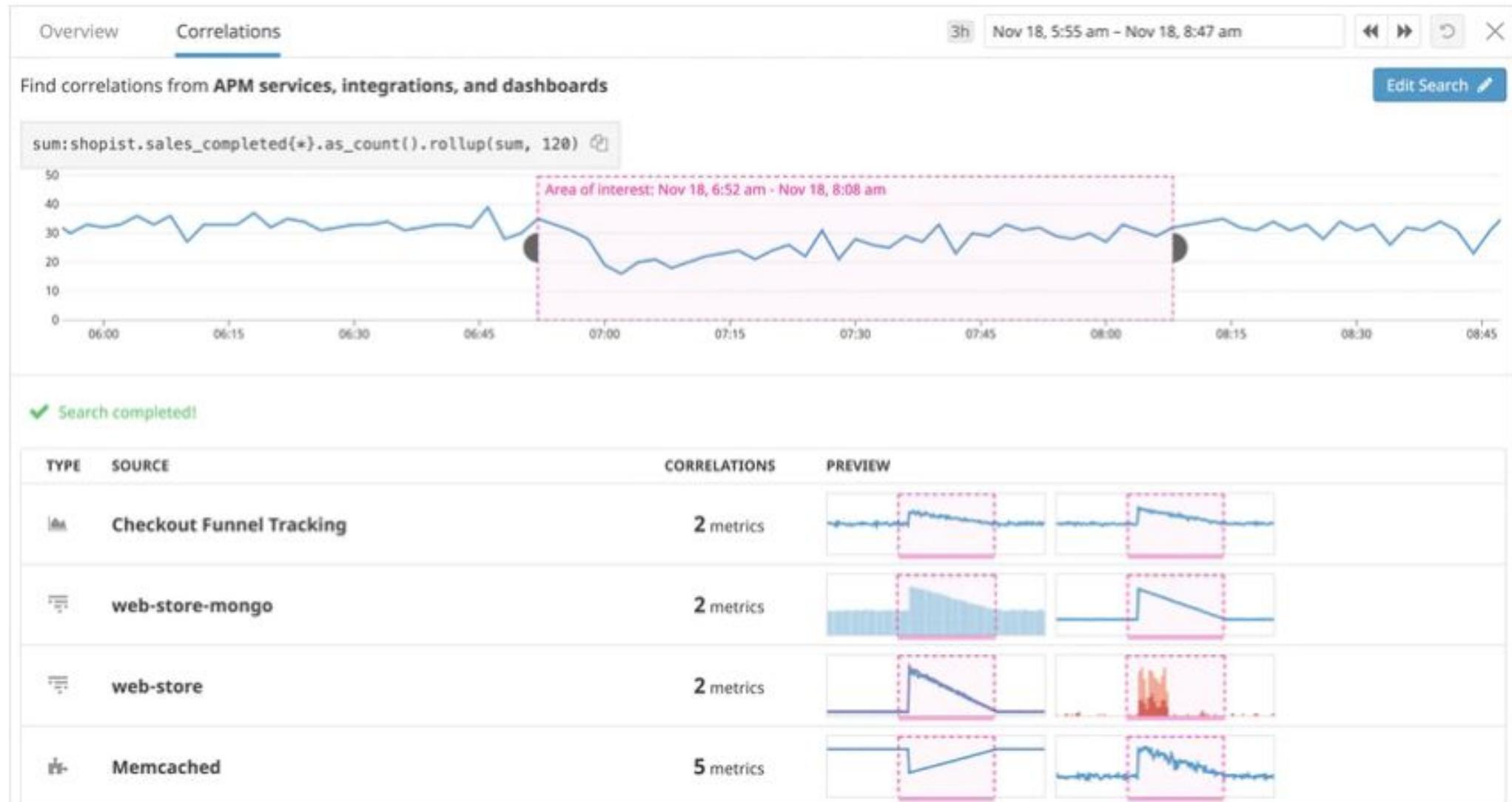
다양한 실시간 분석 기능
Live Container, Live Process, Live Tail(Log/APM)

Metric / Trace / Log 연계 분석 기능

Host Map Correlation



Metric Correlations



Container Correlations

Host Map Infrastructure List Containers Processes Settings

Search container Filter by tag

< Back

rails-storefront_rails-storefront-654769f96d-fmggz X

HOST	START	CONTAINER IMAGE
gke-demo-11287-us...	3 hours ago	gcr.io/datadog-shopist/rails-storefront

Hide Controls Showing 15 cluster-name

NAME
cluster-name demo-11287-us-prod-west
cluster-name demo-11287-us-prod-east
cluster-name demo-11287-us-prod-central
cluster-name prod-pcf-pks-11287-demo
cluster-name demo-11287-aks-northcentral
cluster-name prod-11287-demo-cluster-west
cluster-name prod-11287-demo-eks-cluster
cluster-name cloudrun-test
cluster-name kafka01
cluster-name user-cluster2
cluster-name cake-emea
cluster-name mikezvi-fairwinds
cluster-name kubecon-eu19
cluster-name auto-process
cluster-name eks_beta_test

PROCESS LIST

COMMAND	PID	PPID	CPU %	RSS MEMORY
puma 3.12.0 (tcp://0.0.0.0:3000) [rails-storefront]	2274198	2274174	< 1 %	118 MB
└─ puma: cluster worker 1: 1 [rails-storefront]	2275490	2274198	1 %	839 MB
└─ puma: cluster worker 0: 1 [rails-storefront]	2275478	2274198	< 1 %	634 MB

Metrics Logs Traces Network 15m Past 15 Minutes

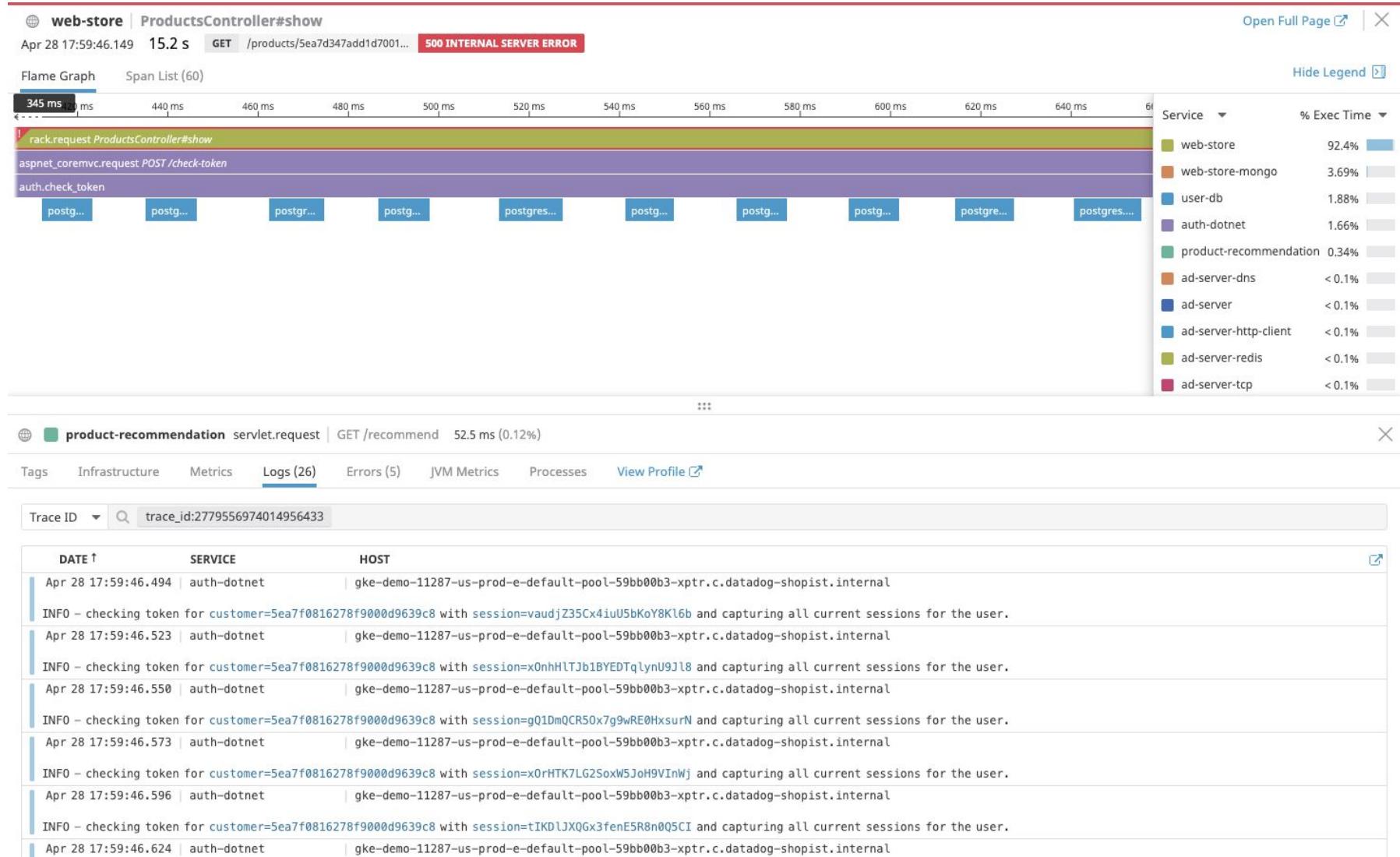
Total CPU (%) 1 % (1 %)

RSS Memory 1.4 GiB (1.4 GiB)

16:20 16:25 16:30

16:20 16:25 16:30

APM->(Log/Profile/Metric) Correlations



Log->APM Correlations

Log Explorer Save As

index:demo x Service:web-store x ERROR x

2K

Facets Saved Views

Search facets

Showing 11 of 141 Add +

Core Index Source Host Service Filter values

Service: web-store 114k

Status: Error 114k

Facets Hide Controls 114,119 results found

DATE HOST

DATE	HOST
Apr 28 19:44:31.936	gke-demo-11287-us-prod-c-default-p
Apr 28 19:44:31.911	vm-5ae5f6e3-1513-42eb-61fa-c
Apr 28 19:44:31.474	aks-agentpool-21451434-vmss0
Apr 28 19:44:31.133	gke-demo-11287-us-prod-c-def
Apr 28 19:44:31.007	gke-demo-11287-us-prod-w-def
Apr 28 19:44:31.004	gke-demo-11287-us-prod-w-def
Apr 28 19:44:30.823	gke-demo-11287-us-prod-c-def
Apr 28 19:44:30.587	i-0c4e7c5e6e336cce2
Apr 28 19:44:30.512	gke-demo-11287-us-prod-e-def
Apr 28 19:44:30.332	gke-demo-11287-us-prod-e-def
Apr 28 19:44:30.316	vm-40732de3-dedb-4ab4-7b71-f
Apr 28 19:44:30.266	vm-deedb587-74a7-44f2-5beb-c
Apr 28 19:44:30.239	gke-demo-11287-us-prod-c-def
Apr 28 19:44:30.204	i-098497fd9de7631cc
Apr 28 19:44:30.147	gke-demo-11287-us-prod-c-def
Apr 28 19:44:30.146	gke-demo-11287-us-prod-c-def
Apr 28 19:44:30.145	gke-demo-11287-us-prod-c-def
Apr 28 19:44:29.903	i-0c9821c555e5a8061
Apr 28 19:44:29.847	gke-demo-11287-us-prod-c-def
Apr 28 19:44:29.839	vm-1008190a-5409-4dee-4962-c
Apr 28 19:44:29.812	i-0d6019961b14ea810
Apr 28 19:44:29.811	vm-1008190a-5409-4dee-4962-c
Apr 28 19:44:29.732	gke-demo-11287-us-prod-e-def
Apr 28 19:44:29.723	aks-agentpool-21451434-vmss0
Apr 28 19:44:29.709	gke-demo-11287-us-prod-c-def
Apr 28 19:44:29.561	gke-demo-11287-us-prod-c-def
Apr 28 19:44:29.461	i-0c4e7c5e6e336cce2

ERROR Apr 28, 2020 at 19:43:59.737 (a few seconds ago)

View in Context Up X

HOST gke-demo-11287-us-prod-c-default-p SERVICE web-store SOURCE ruby Ruby

CONTAINER NAME k8s_rails-storefront_rails-storefront-6 NAME storefront-654769f96d-m77s4

TAGS automatic-restart:true availability-zone:us-central1-a

See trace in APM Search for trace_id

Exclude trace_id Remove service:web-store from search

Remove column for service Copy to clipboard Go to APM service page

POST /checkout 500 INTERNAL SERVER ERROR 1287.62ms

ATTRIBUTES

- action checkout
- controller ShoppingCartController
- ddsource rails-storefront
- duration 1287620000
- format html
- http {
 - method POST
 - status_category Error
 - status_code 500
- url_details {
 - path /checkout
- level INFO
- params {
 - path /checkout

Synthetic->APM Correlations

STATUS ALERT **STARTING URL** <https://www.shopist.io> **STEPS** 10 / 17 **DURATION** 1m 11s

Step 9 Click on div "Proceed to checkout" 11s

Errors & Warnings (1) Resources (4) Traces (1)

1 trace associated with this step. View <https://api.shopist.io/checkout.json> View Entire Trace

Step Results

	SCREENSHOT	ACTION
0 ✓		Navigate to start URL https://www.shopist.io Started at about:blank
1 ✓		Click on div "Chairs" Started at https://www.shopist.io
2 ✓		Click on image "b69da..." Started at https://www.shopist.io
3 ✓		Click on div "Add to cart" Started at https://www.shopist.io
4 ✓		Click on div "Sofas" Started at https://www.shopist.io
5 ✓		Click on image "9990b..." Started at https://www.shopist.io
6 ✓		Click on div "Add to cart" Started at https://www.shopist.io
7 ✓		Test div "Cart (2)" contains "CART (2)" Started at https://www.shopist.io
8 ✓		Click on div "Cart (2)" Started at https://www.shopist.io
9 ✓		Click on div "Proceed to checkout" Started at https://www.shopist.io
10 ✗		Test div "Thank you! Your order has been placed." contains "Thank you! Your order has been placed." Started at https://www.shopist.io

Element's content should contain given value. View

Hide Legend

Service % Exec Time

- web-store-monitoring 42.2%
- web-store 35.5%
- auth-dotnet 13.6%
- payments-go 3.41%
- payment-postgresql 1.81%
- user-db 1.59%
- api.payment.com 1.13%
- fraud-prevention 0.38%
- ad-server-graphite 0.21%
- ad-server-monitoring < 0.1%

web-store rack.request | ShoppingCartController#checkout 7.23 s (100.0%)

Tags Infrastructure Metrics Logs (18) Errors (5) Runtime Metrics Processes

PaymentServiceUnavailableError: Payment service reported 503 Unavailable.

```
cart { id: 5ea8deb728e04c2fc8939a55, value: 15 } checkout { expiry_date: 10/21, last_four_digits: 8023 } container_info { ... } customer { email: <email redacted>, id: 649700 } error { message: "Payment service reported 503 Unavailable." } feature_flag { express_generate_receipt: false, instant_pay: true, one_click_checkout: false }
```

Break Time - 10 mins

Resume at __:__



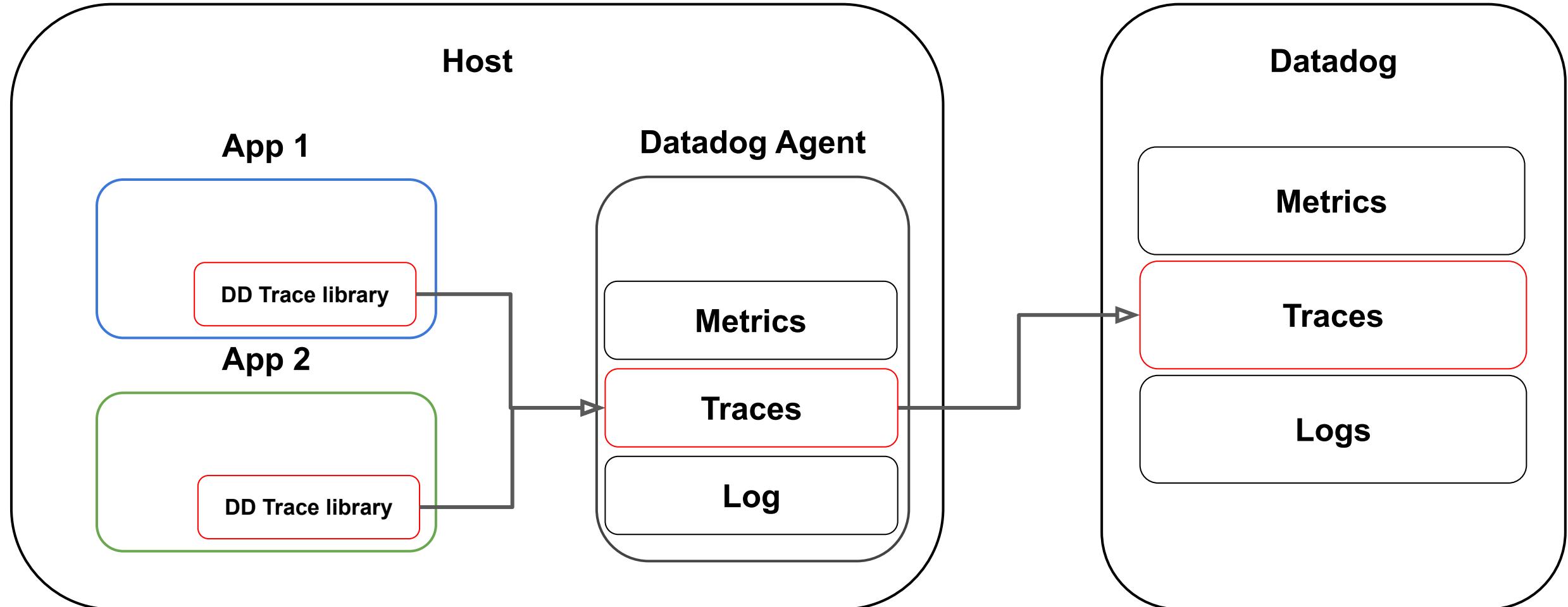
DATADOG

Tagging Deep Dive

Infrastructure

Application Performance Monitoring (APM)

Application Trace 수집 구조

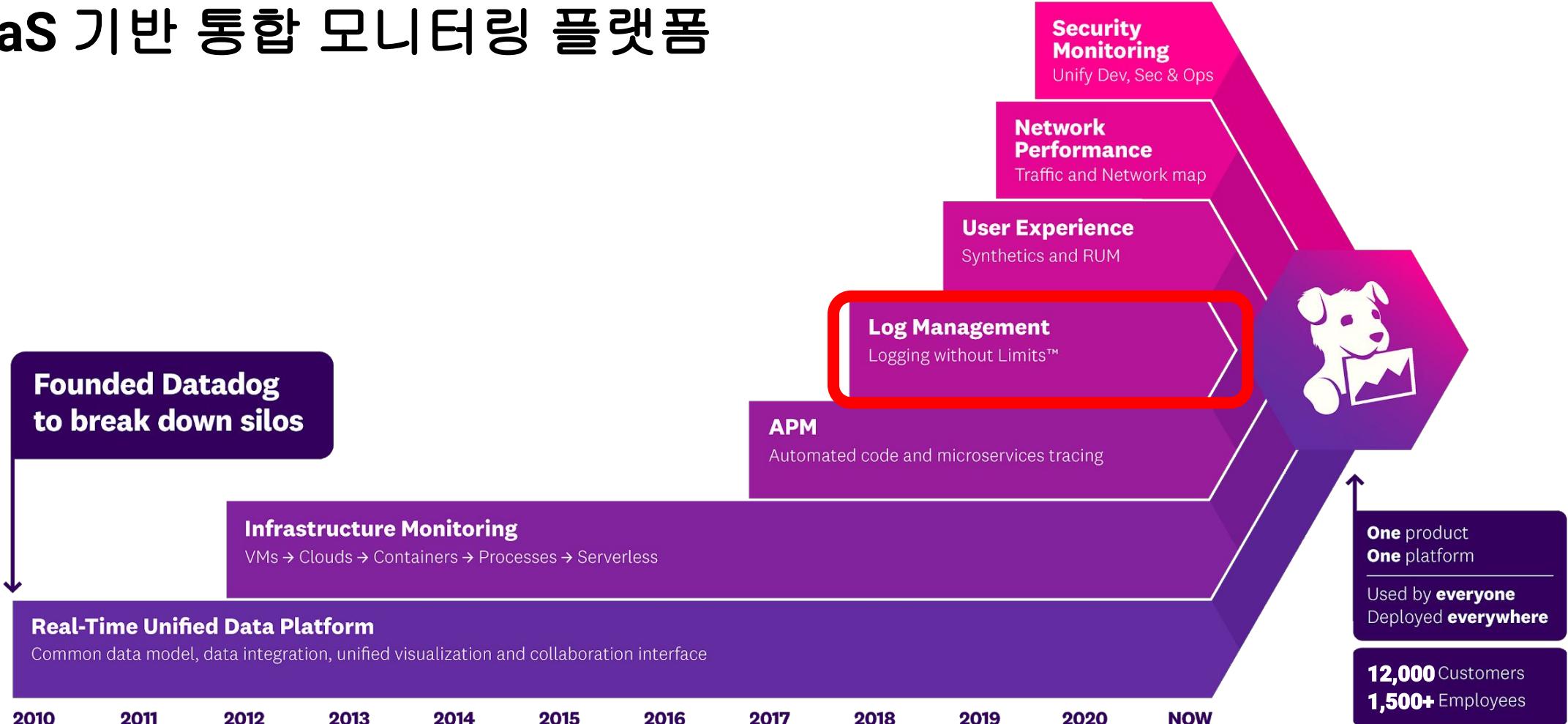




Logs & Logging Without Limits™

Datadog 소개

SaaS 기반 통합 모니터링 플랫폼



DATADOG

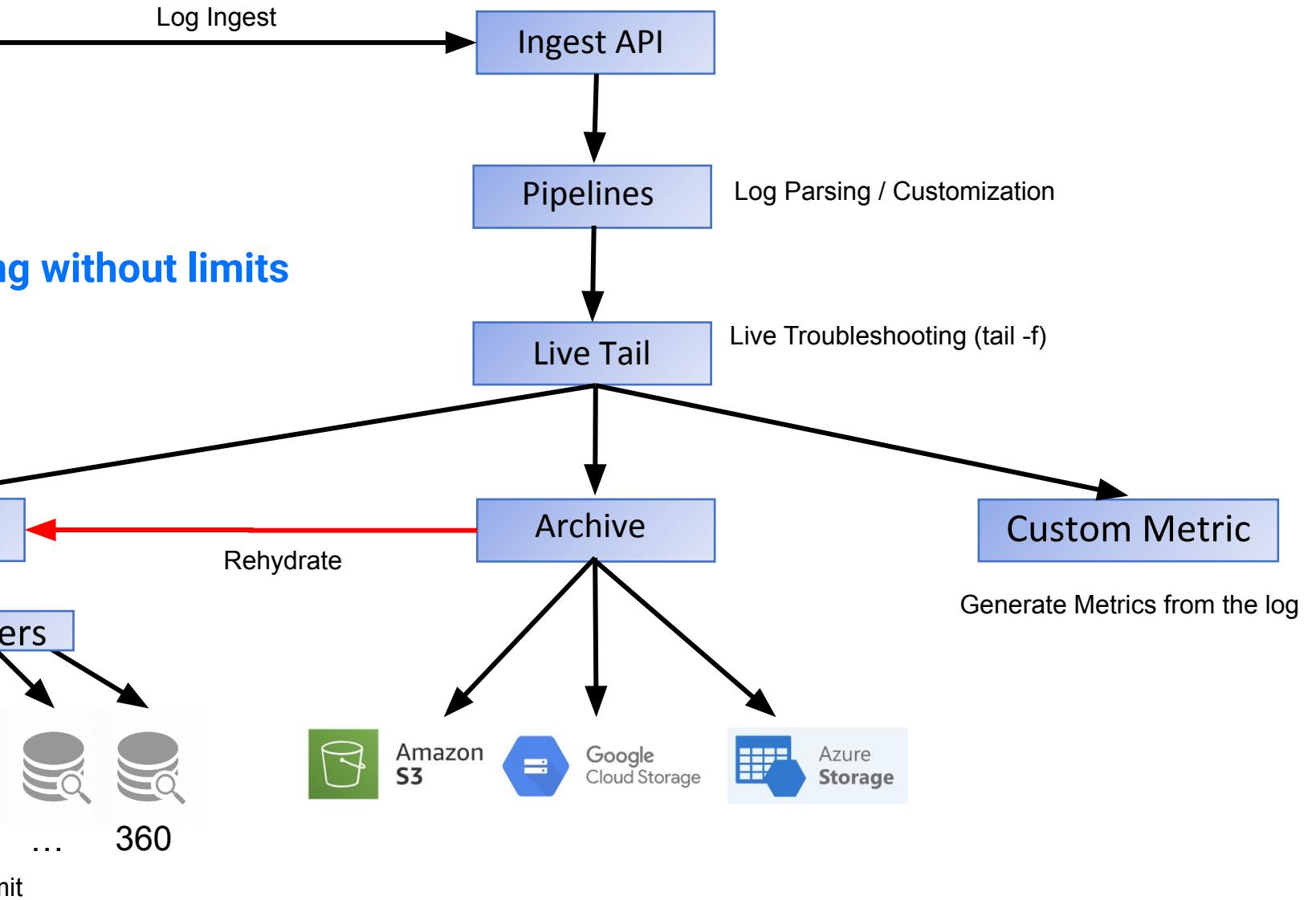
#Datadog Log Life Cycle



aws Azure Google Cloud Platform



rsyslog logstash fluentd



Datadog Logs Management

01 쉬운 구축 및 관리

- Agent/CSP/Log Forwarder 사용하여 연동 지원
- 중앙 로그 프로세싱 관리
(Server Side가 아닌 중앙 로그 프로세싱 관리 지원)
- 400+ Integration 외 150+ Log Pipeline Library 제공

02 쉬운 사용 및 제한없는 성능/기능

- Custom Query Language 없이 직관적인 검색 및 Facet 지원
- 빠른 응답 제공
- 추가 Add-on 없이 머신러닝 기반 분석 툴 및 Alert / Dashboard 기능 제공

03 Logging without limits

- 모든 로그 전송 후 콘솔상에서 Index 로그 지정 가능
- 로그 종류별 Sampling / Limit 설정 지원
- 로그 기반 메트릭 생성 지원
- 조건 별 보관 및 복원 지원

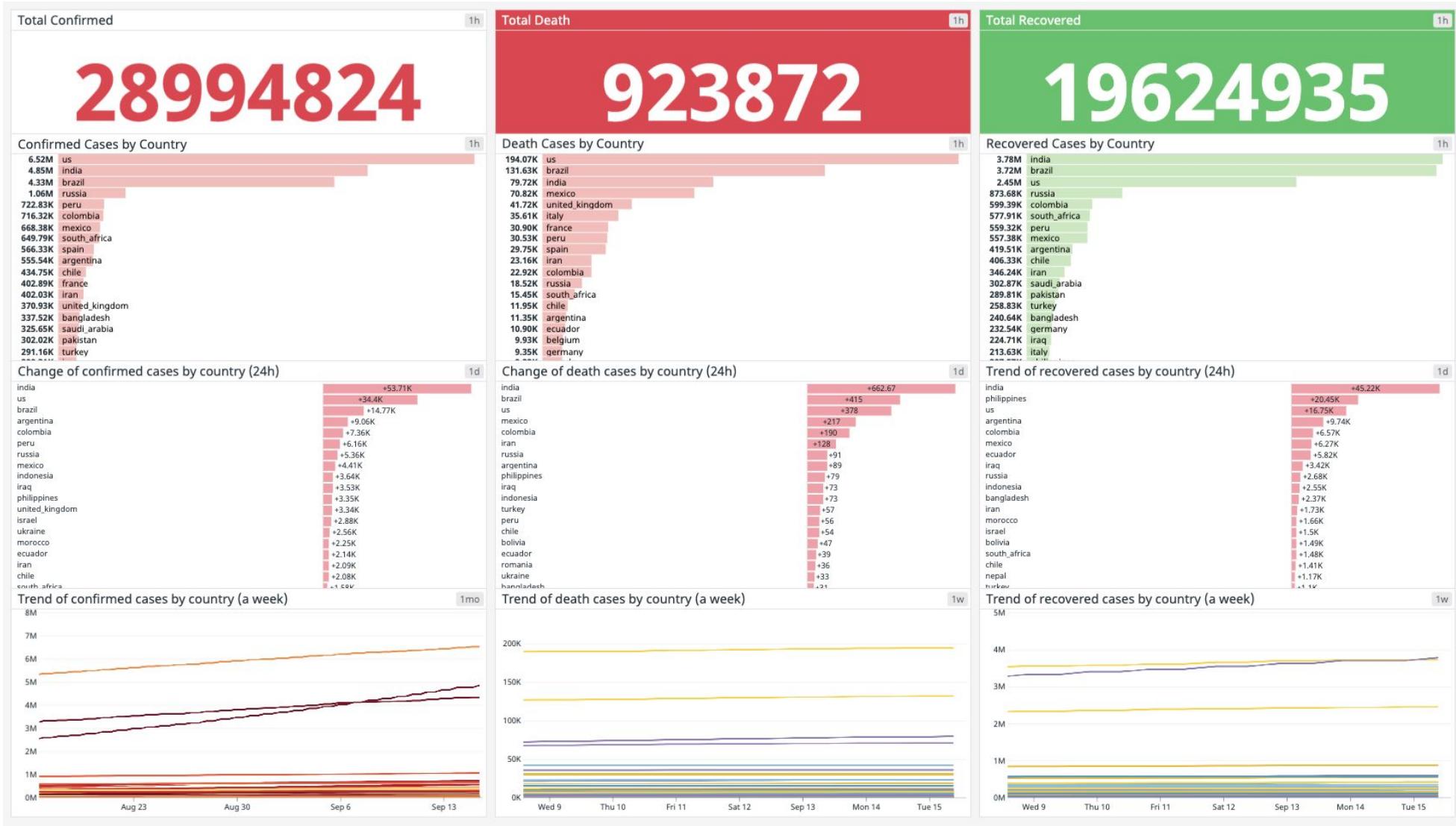
04 Correlation & troubleshooting

- 3 pillars(Metric-trace-log) 상관관계 분석 지원
- Live Tail / Pattern / Alert / Analytic 기능을 제공하여 빠른 장애 분석 지원(Faster MTTR)

Logging Without Limits™

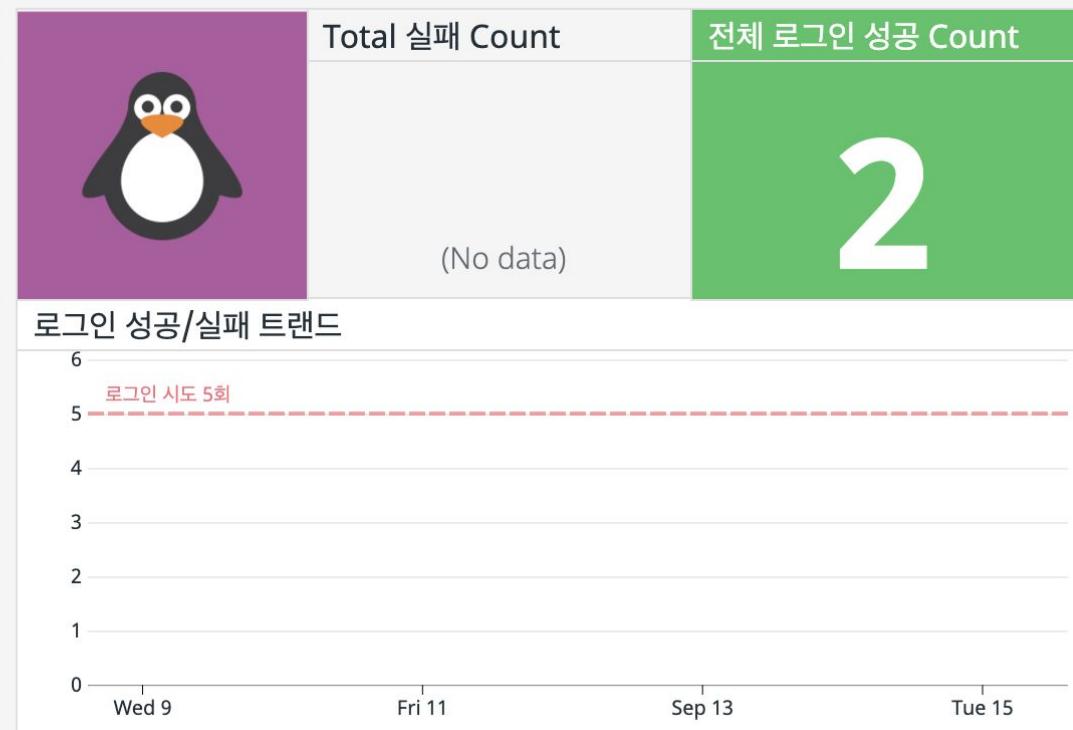
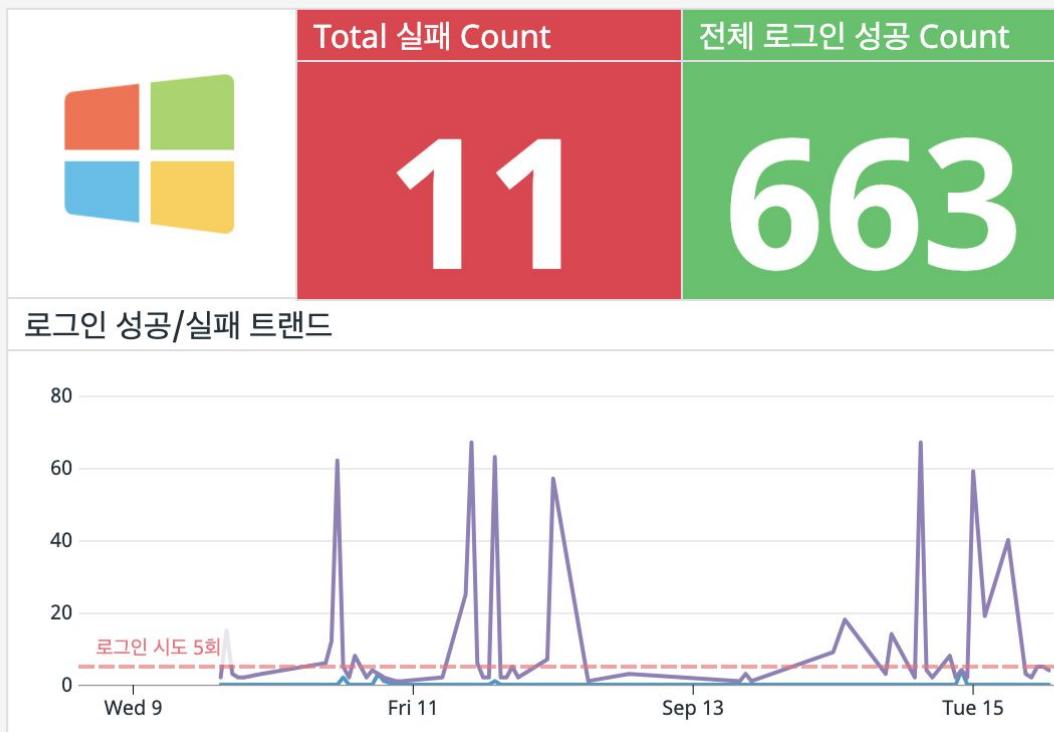
- 1 로그 종류 및 조건별 *Ingest*와 *Indexing* 구분하여 사용 가능
- 2 ***Ingest*시 \$0.10/GB 과금**
- 3 **프로세싱(파싱 / Remapping) 이후 고객님의 클라우드 스토리지로 로그 보관 지원**
- 4 ***Ingest*된 로그 기반으로 Metric을 생성하여 보관 가능**
- 5 **필요한 로그만 선별하여 *Indexing* 설정**
 - 로그 종류 및 조건 별 보관 주기 설정 가능
 - 언제든지 로그 Sampling / Limit 설정 및 변경 가능
- 6 **필요에 따라 기간/종류/조건별 로그 복원 지원**

Dashboards



Dashboards

Login Status

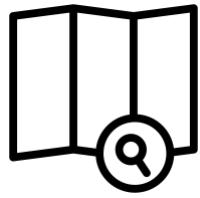


Synthetics

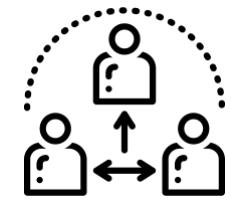
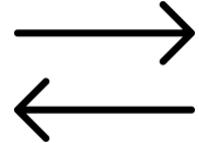
Synthetics - Classic Use Cases



Test features
& endpoints



Explore geography &
devices



Compare to
competition

Evaluate
third party

Two Flavors

Create Synthetic test

X

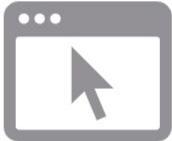
New API Test



For monitoring uptime and availability

Synthetic monitors test your websites and APIs from several locations around the world to assess availability and uptime.

New Browser Test



For monitoring key business flows

Create step by step recordings of your key business flows to make sure they are meeting your performance goals from multiple locations around the world.

Feedback Survey - Day 1



DATADOG



DATADOG
PARTNER
NETWORK

Partner Technical Enablement 2020

1:00 PM에 시작 예정입니다.
잠시만 기다려 주세요.



DATADOG

Agenda (recap)

Day 1

- Welcome and Introduction
- What We Ask of our Partners
- DPN Learning Paths (recap)
- Datadog 주요기능 소개(Demo)
- Tagging Deep Dive
- Application Performance Monitoring (APM)
- Logs and Logging Without Limits™
- Synthetics



DATADOG

Agenda

Day 2

- Overview of Kubernetes Implementation
- Monitor
- Service Level Objectives (SLO)
- Real User Monitoring (RUM)
- Network Performance Monitoring (NPM)
- Security Information and Event Management (SIEM)

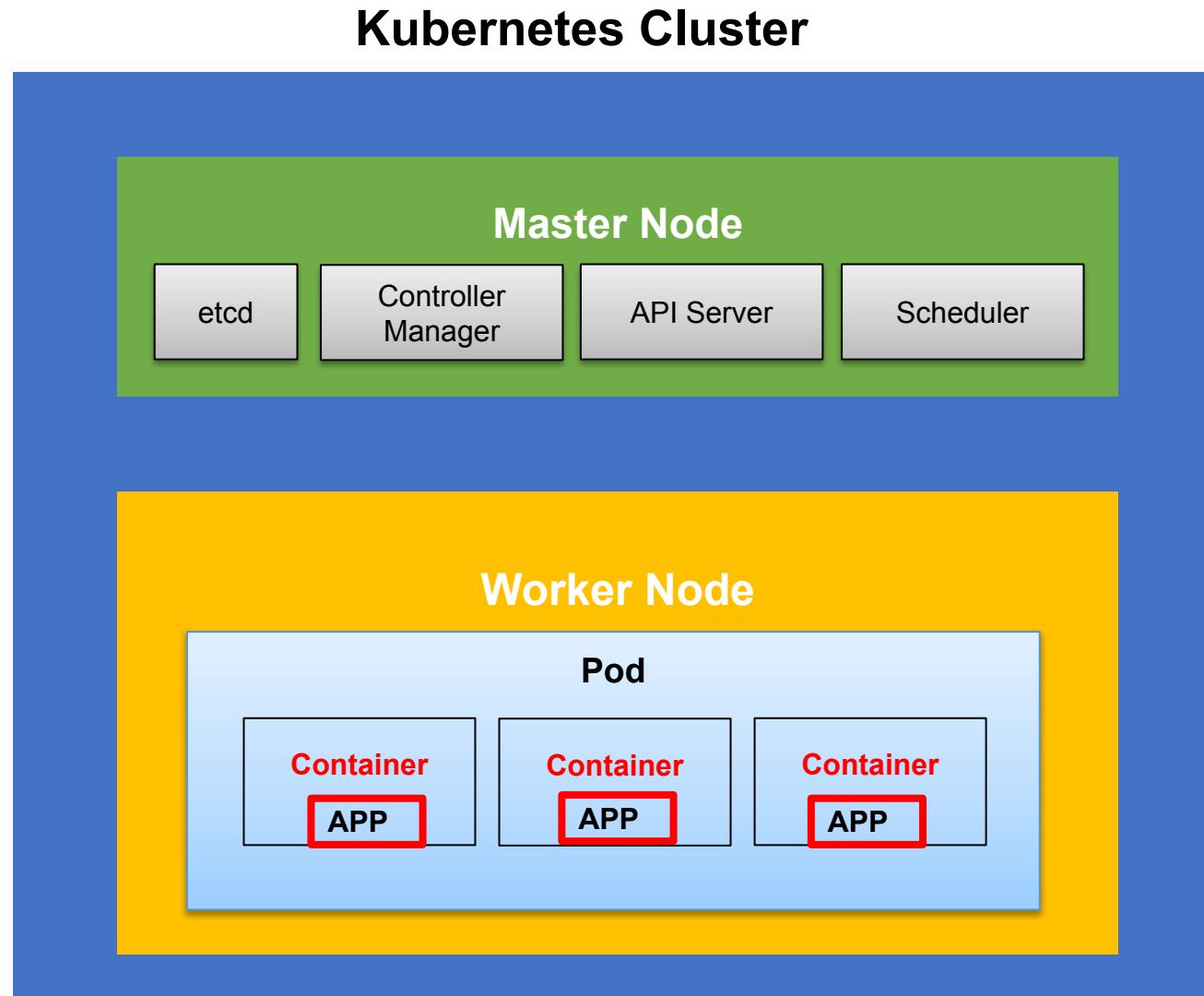


DATADOG

Overview of Kubernetes Integration

무엇을 모니터링 해야 하나?

1. Cluster Node
2. Control Plane
3. Pod/Container
4. Kubernetes Event
5. Application의 Trace 수집
6. Log



Kubernetes 연동 방법

Integrations Marketplace APIs Agent Embeds

Agent 7 Installation Instructions

See instructions for [Agent 6](#) or [Agent 5](#) instead

Overview

Mac OS X

Windows

Debian

Ubuntu

Amazon Linux

CentOS/Red Hat

Fedora

SUSE

AIX

CoreOS

Docker

Kubernetes

OpenShift

Chef

Puppet

Installing on Kubernetes

Run the Datadog Agent in your Kubernetes cluster directly in order to start collecting your cluster and applications metrics, traces, and logs. You can deploy it with a Helm chart (instructions below) or directly with a [DaemonSets](#).

1 Intalling the Datadog Agent

To install the chart with a custom release name, `RELEASE_NAME` (e.g. `datadog-agent`):

1. Install [Helm](#).
2. Add Datadog Helm repository: `helm repo add datadog https://helm.datadoghq.com`.
3. Add stable repository (for kube-state-metrics chart): `helm repo add stable https://kubernetes-charts.storage.googleapis.com/`.
4. Fetch latest version of newly added charts: `helm repo update`.
5. Download the [Datadog values.yaml configuration file](#).
6. Deploy the Datadog Agent with:

For Helm v3+

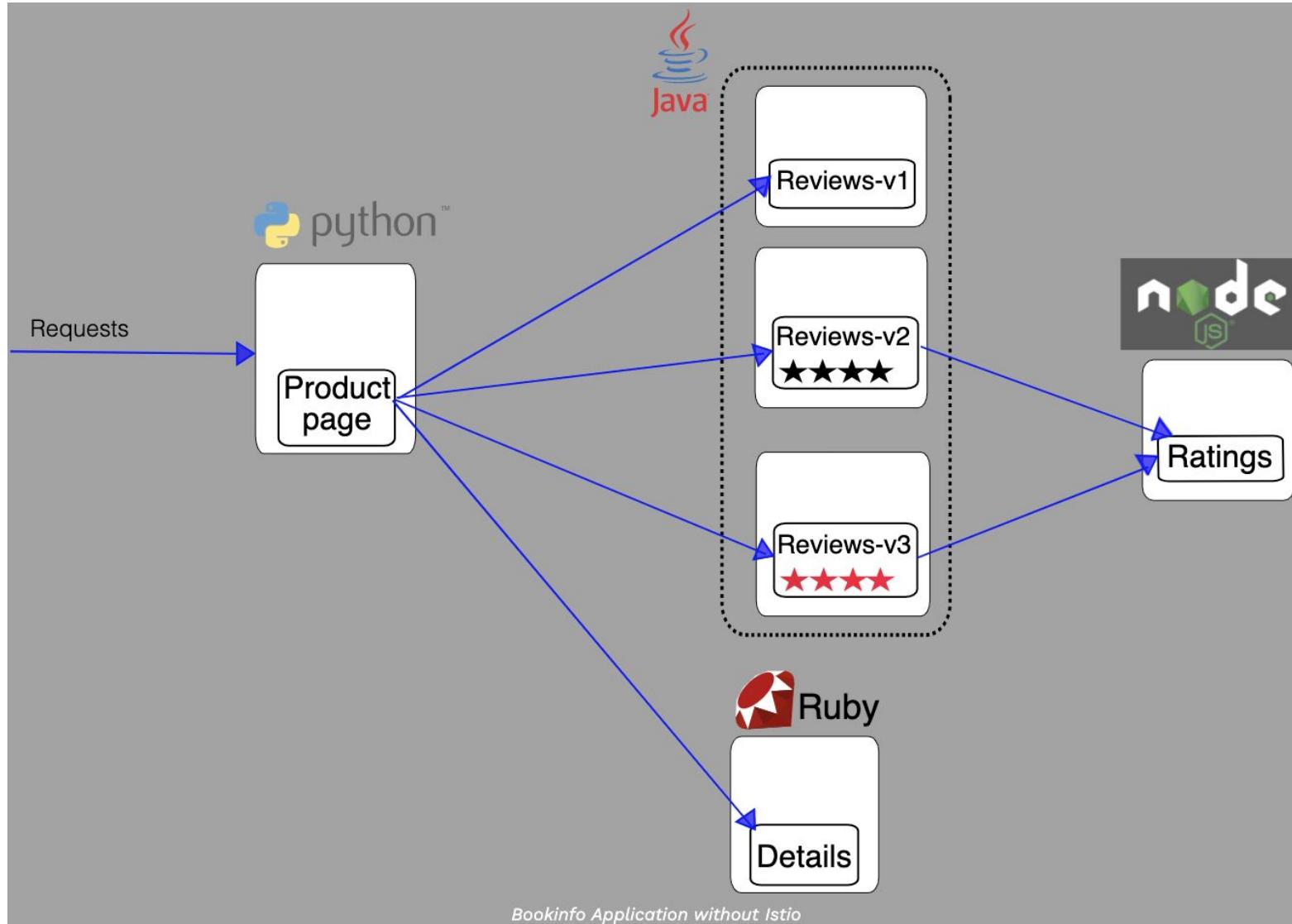
```
helm install RELEASE_NAME -f datadog-values.yaml --set datadog.site='datadoghq.com' --set datadog.apiKey='REDACTED'
```

For Helm v1/v2

```
helm install -f datadog-values.yaml --name RELEASE_NAME --set datadog.site='datadoghq.com' --set datadog.apiKey='REDACTED'
```

This chart adds the Datadog Agent to all nodes in your cluster via a DaemonSet. It also optionally deploys the kube-state-metrics chart and uses it as an additional source of metrics about the cluster. A few minutes after installation, Datadog begins to report hosts and metrics data.

Bookinfo App 에 Datadog Agent 연동



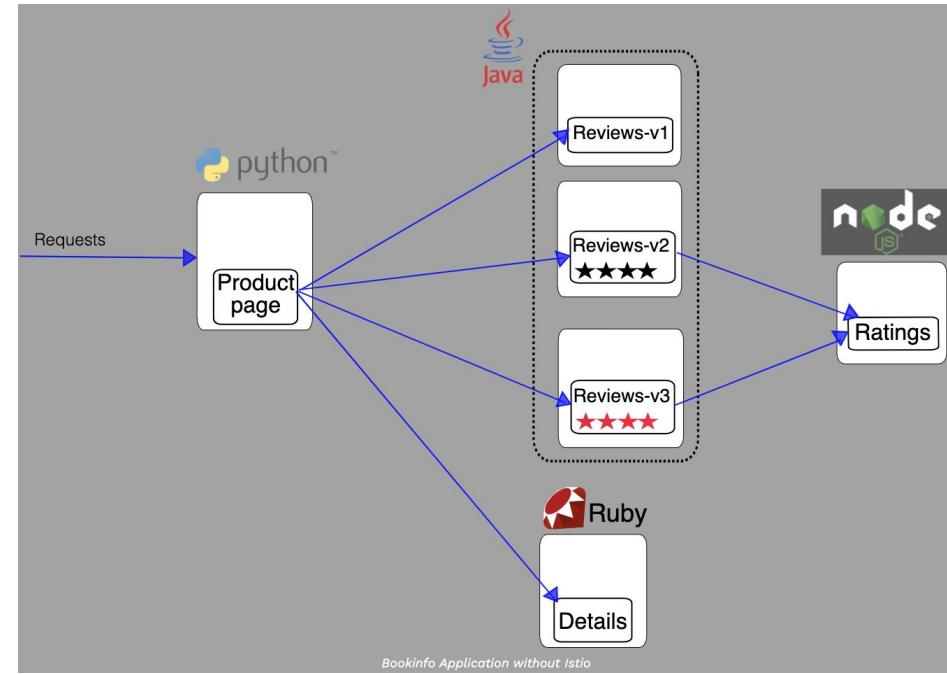
kubectl get pods -A 결과

```
jacky.jung@COMP11458:~/k8s_webinar|⇒ kubectl get pods -A
```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
default	details-v1-76ff5c68cb-gjbmj	1/1	Running	0	30m
default	loadgenerator-v1.1-566bdd8c55-776t4	1/1	Running	0	21h
default	productpage-v1-6b9bd5d9bd-9sn2l	1/1	Running	0	3m13s
default	ratings-v1-5944768b44-t64hr	1/1	Running	0	3m13s
default	reviews-v1-7944fd9fbb-g47nn	1/1	Running	0	30m
default	reviews-v2-59b794bb4d-29thf	1/1	Running	0	30m
default	reviews-v3-5cb7b59df8-k2mbf	1/1	Running	0	30m
default	web-0	1/1	Running	0	44h
default	web-1	1/1	Running	0	44h
default	web-2	1/1	Running	0	44h
kube-system	aws-node-j2z6j	1/1	Running	0	44h
kube-system	aws-node-vtrfs	1/1	Running	0	44h
kube-system	coredns-7ff4ccb447-hjjgm	1/1	Running	0	44h
kube-system	coredns-7ff4ccb447-hx148	1/1	Running	0	44h
kube-system	kube-proxy-j6shj	1/1	Running	0	44h
kube-system	kube-proxy-rddvv	1/1	Running	0	44h
kube-system	kube-state-metrics-96f95db6b-65bdf	2/2	Running	0	44h
kube-system	metrics-server-64c67868bd-vrs5c	1/1	Running	0	44h
kube-system	tiller-deploy-597765d7c-88mtf	1/1	Running	0	44h
kubernetes-dashboard	dashboard-metrics-scraper-69fcc6d9df-47hkc	1/1	Running	0	44h
kubernetes-dashboard	kubernetes-dashboard-6d75768647-v2ls4	1/1	Running	0	44h

목표 : Full Stack 가시성 확보

1. Cluster Node의 가시성 확보
2. Pod/Container 레벨의 가시성 확보
3. Kubernetes Event 수집
4. Application 로그 수집
5. Application의 Trace 수집
6. Cluster 외부 테스트 자동화를 통한 SLO 구성



어떤 작업이 필요한가요?

1. Cluster Node의 가시성 확보
2. Pod/Container 레벨의 가시성 확보
3. Kubernetes Event 수집
4. Application 로그 수집
5. Application의 Trace 수집
6. Cluster 외부 자동화 테스트 자동화를 통한 SLO 구성

Datadog agent daemonset 배포

Option

- 1) Application에 Library 삽입
- 2) Istio를 통한 Trace 전송

Synthetic을 이용한 Cluster 외부 Check

Step1: Datadog Agent 배포 (Demo)

```
kubectl create -f "https://raw.githubusercontent.com/DataDog/datadog-agent/master/Dockerfiles/manifests/rbac/clusterrole.yaml"  
kubectl create -f "https://raw.githubusercontent.com/DataDog/datadog-agent/master/Dockerfiles/manifests/rbac/serviceaccount.yaml"  
kubectl create -f "https://raw.githubusercontent.com/DataDog/datadog-agent/master/Dockerfiles/manifests/rbac/clusterrolebinding.yaml"
```

→ 1. RBAC 설정

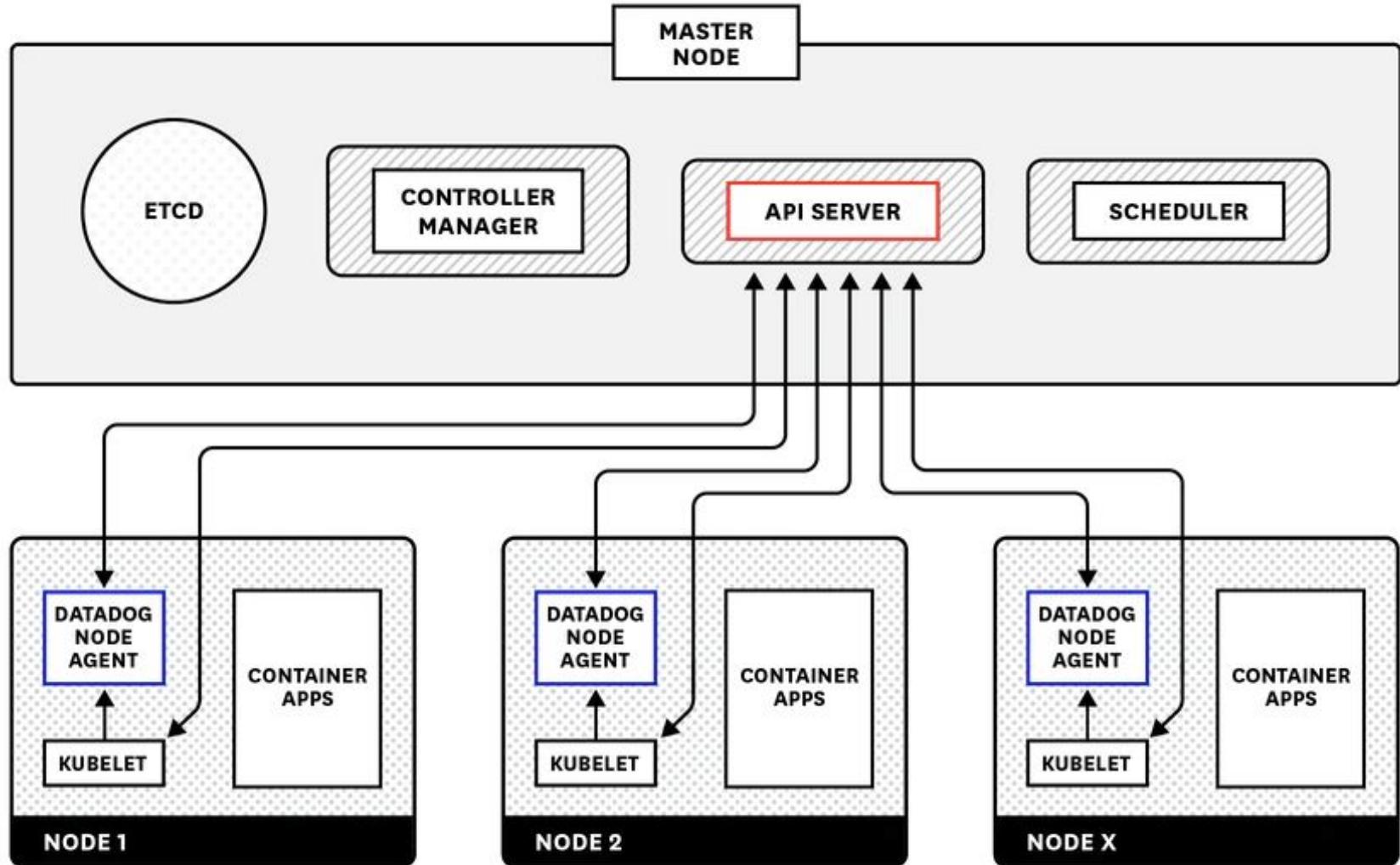
```
kubectl create secret generic datadog-secret --from-literal api-key="██████████"
```

→ 2. Secret 저장

```
apiVersion: apps/v1  
kind: DaemonSet  
metadata:  
  name: datadog-agent  
spec:  
  selector:  
    matchLabels:  
      app: datadog-agent  
  template:  
    metadata:  
      labels:  
        app: datadog-agent  
        name: datadog-agent  
    spec:  
      serviceAccountName: datadog-agent  
      containers:  
      - image: datadog/agent:7  
        imagePullPolicy: Always  
        name: datadog-agent  
        ports:  
        - containerPort: 8125  
          # Custom metrics via DogStatsD - uncomment this section to enable custom metrics collection  
          # hostPort: 8125  
          name: dogstatsdport  
          protocol: UDP  
        - containerPort: 8126  
          # Trace Collection (APM) - uncomment this section to enable APM  
          # hostPort: 8126  
          name: traceport  
          protocol: TCP
```

→ 3. Agent Daemonset 배포

Datadog Agent 배포 후 아키텍쳐



Datadog Agent 주요 설정 확인 (1/5)

https://github.com/JungYoungseok/K8S_Webinar_202006/blob/master/datadog-agent-all-enabled.yaml

```
1 apiVersion: apps/v1
2 kind: DaemonSet
3 metadata:
4   name: datadog-agent
5   labels:
6     app: datadog-agent
7     service: datadog-agent
8 spec:
9   revisionHistoryLimit: 10
10  updateStrategy:
11    type: RollingUpdate
12  selector:
13    matchLabels:
14      app: datadog-agent
15  template:
16    metadata:
17      labels:
18        app: datadog-agent
19        service: datadog-agent
20    name: datadog-agent
21    annotations:
22      sidecar.istio.io/inject: "false"
23      container.apparmor.security.beta.kubernetes.io/system-probe: unconfined
```

Agent는 Daemonset 으로 Deploy 됨

Datadog Agent 주요 설정 확인 (2/5)

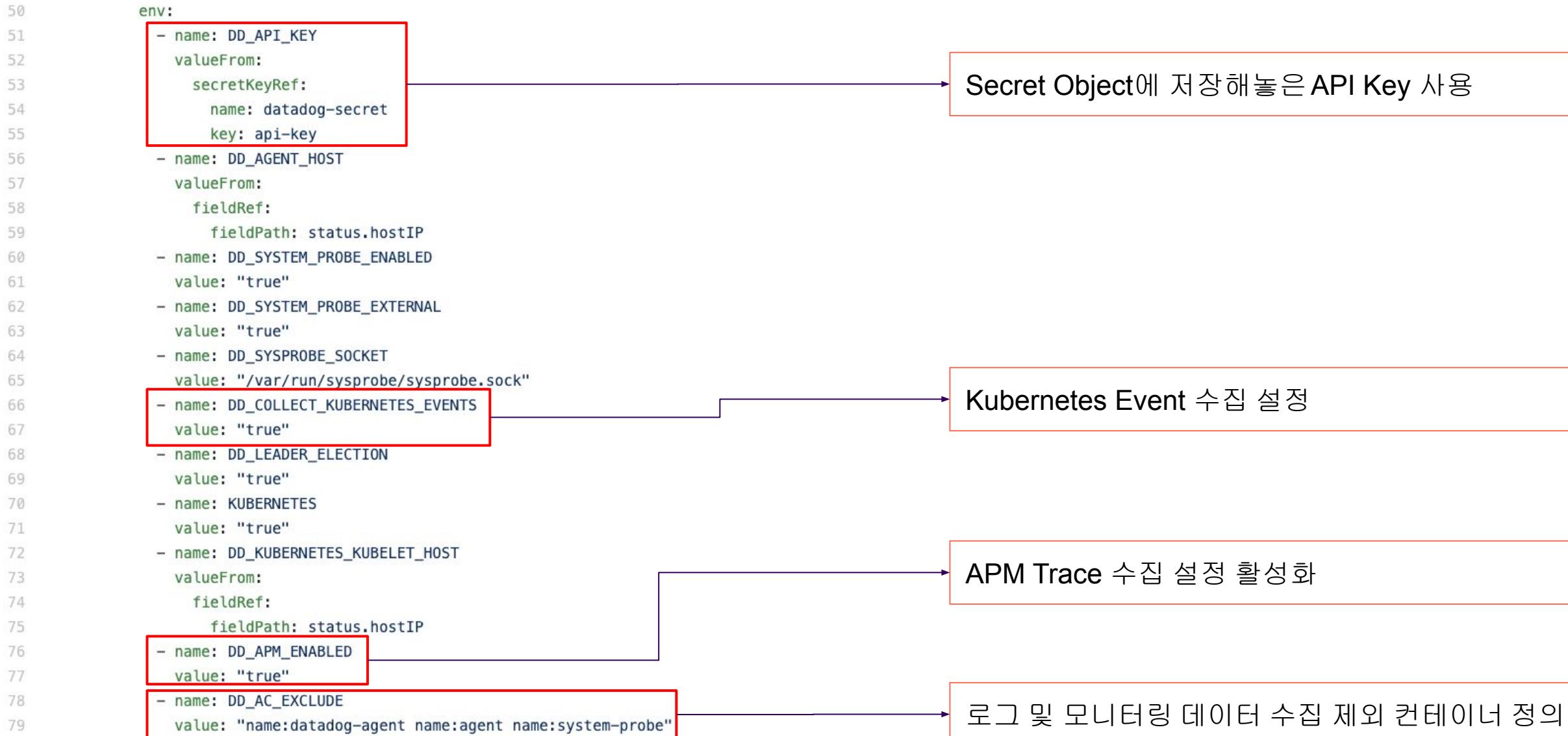
```
24   spec:  
25     serviceAccountName: datadog-agent  
26     containers:  
27       - name: datadog-agent  
28         image: datadog/agent:7.19.2  
29         imagePullPolicy: Always  
30       ports:  
31         - containerPort: 8125  
32           hostPort: 8125  
33           name: dogstatsdport  
34           protocol: UDP  
35         - containerPort: 8126  
36           hostPort: 8126  
37           name: traceport  
38           protocol: TCP  
39         - containerPort: 5555  
40           hostPort: 5555  
41           name: healthport  
42           protocol: TCP  
43     resources:  
44       requests:  
45         memory: "200Mi"  
46         cpu: "0.25"  
47       limits:  
48         memory: "750Mi"  
49         cpu: "1"
```

<img alt="Diagram showing annotations for the Datadog Agent configuration file. A red box highlights the 'image' field in the container section, which is connected by a purple arrow to a callout box stating '현재 Latest 버전으로 설정' (Currently set to Latest version) and 'Production에서는 특정 버전을 지정해서 사용 권장' (In Production, it is recommended to specify a specific version). Another red box highlights the 'resources' section, which is connected by a purple arrow to a callout box stating 'Container의 resource request/limit 정의' (Definition of Container resource request/limit) and '노드당 Container 수가 많을 경우 모니터링을 통해 조절 필요' (When there are many Containers per node, it is necessary to regulate through monitoring).

현재 Latest 버전으로 설정
Production에서는 특정 버전을 지정해서 사용 권장

Container의 resource request/limit 정의
노드당 Container 수가 많을 경우 모니터링을 통해 조절 필요

Datadog Agent 주요 설정 확인 (3/5)



Datadog Agent 주요 설정 확인 (4/5)

```
86
87      - name: DD_LOGS_CONFIG_CONTAINER_COLLECT_ALL
88          value: "true"
89
90      - name: DD_LOGS_CONFIG_USE_HTTP
91          value: "true"
92
93      - name: DD_LOGS_CONFIG_USE_COMPRESSION
94          value: "true"
95
96      - name: DD_LOGS_CONFIG_COMPRESSION_LEVEL
97          value: "6"
98
99      - name: DD_LOGS_ENABLED
100         value: "true"
101
102     - name: DD_TAGS
103         value: "env:aws-prd cluster-name:analysis-production"
104
105     - name: DD_TRACE_ANALYTICS_ENABLED
106         value: "true"
107
108     - name: DD_PROCESS_AGENT_ENABLED
109         value: "true"
110
111     - name: DD_KUBERNETES_POD_LABELS_AS_TAGS
112         value: '{"service":"service","team":"team"}'
113
114     - name: DD_HEALTH_PORT
115         value: "5555"
116
117     - name: DD_KUBELET_TLS_VERIFY
118         value: "false"
```

Container의 stdout/stderr 로그를 수집하도록 설정

Process 레벨 모니터링 설정 활성화

Datadog Agent 주요 설정 확인 (5/5)

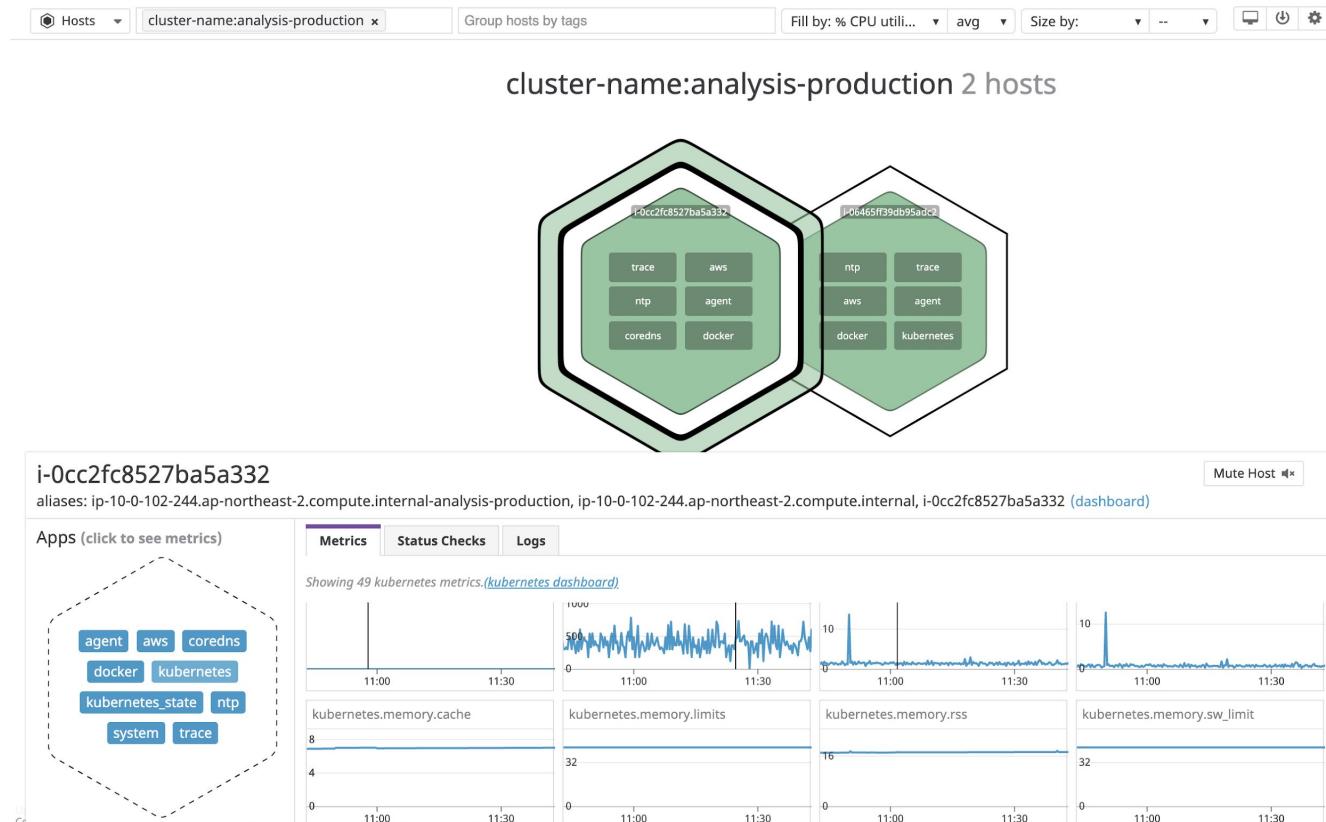
```
141 - name: system-probe  
142   image: datadog/agent:7.19.2  
143   imagePullPolicy: Always  
144   command:  
145     - /opt/datadog-agent/embedded/bin/system-probe  
146   env:  
147     - name: DD_SYSTEM_PROBE_ENABLED  
148       value: "true"  
149     - name: DD_SYSprobe_SOCKET  
150       value: "/var/run/sysprobe/sysprobe.sock"  
151     - name: DD_DISABLE_DNS_INSPECTION  
152       value: "false"  
153     - name: DD_TAGS  
154       value: "env:aws-prd cluster-name:analysis-production"  
155     - name: DD_KUBERNETES_POD_LABELS_AS_TAGS  
156       value: '{"service":"service","team":"team"}'  
157     - name: DD_API_KEY  
158       valueFrom:  
159         secretKeyRef:  
160           name: datadog-secret  
161           key: api-key  
162     - name: DD_AGENT_HOST  
163       valueFrom:  
164         fieldRef:  
165           fieldPath: status.hostIP
```

Network Performance Monitoring 용 컨테이너 활성화

- Network Flow 수집 (Network Map 구성 데이터)

Agent Deploy 후 활성화 된 기능 확인(Demo)

1. Cluster Node의 가시성 확보
2. Pod/Container 레벨의 가시성 확보
3. Kubernetes Event 수집
4. Application 로그 수집



Step2: APM 설정 (Application Library 삽입)

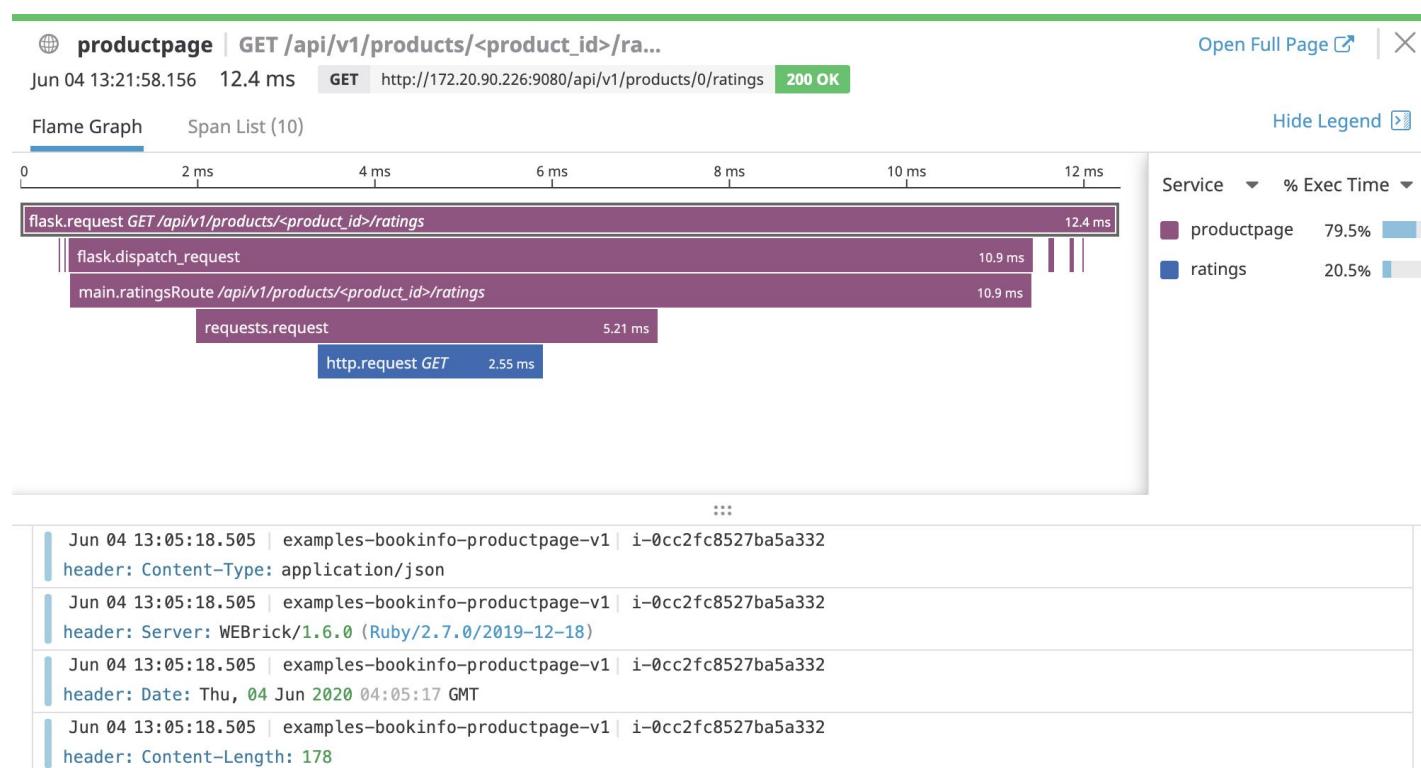
1. Cluster Node의 가시성 확보 ✓ Done
2. Pod/Container 레벨의 가시성 확보 ✓ Done
3. Kubernetes Event 수집 ✓ Done
4. Application 로그 수집 ✓ Done
5. Application의 Trace 수집
6. Cluster 외부 테스트 자동화를 통한 SLO 구성

Option

- 1) Application에 Library 삽입
- 2) Istio를 통한 Trace 전송

APM 설정 후 활성화 된 기능 확인(Demo)

1. Cluster Node의 가시성 확보
2. Pod/Container 레벨의 가시성 확보
3. Kubernetes Event 수집
4. Application 로그 수집
5. Application의 Trace 수집



Step3: Synthetic 설정 (서비스 품질 측정 가능)

1. Cluster Node의 가시성 확보 ✓ Done
2. Pod/Container 레벨의 가시성 확보 ✓ Done
3. Kubernetes Event 수집 ✓ Done
4. Application 로그 수집 ✓ Done
5. Application의 Trace 수집 ✓ Done
6. Cluster 외부 테스트 자동화를 통한 SLO 구성

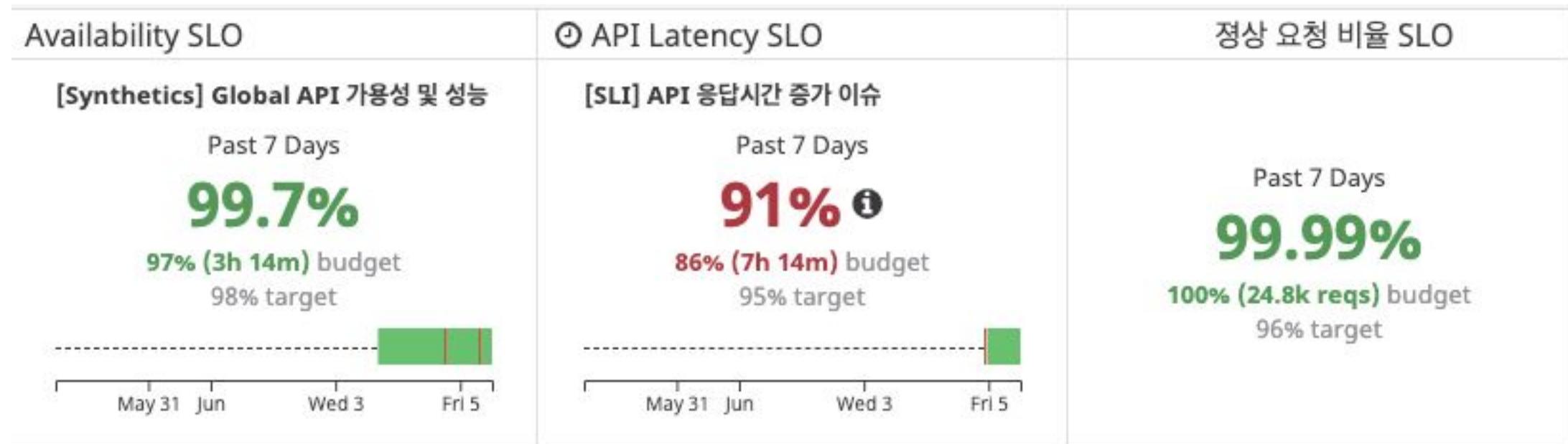
Synthetic을 이용하여 우리 서비스의 Availability/Quality 지표 측정

Step3: Synthetic 설정 (지역별 서비스 품질 측정)

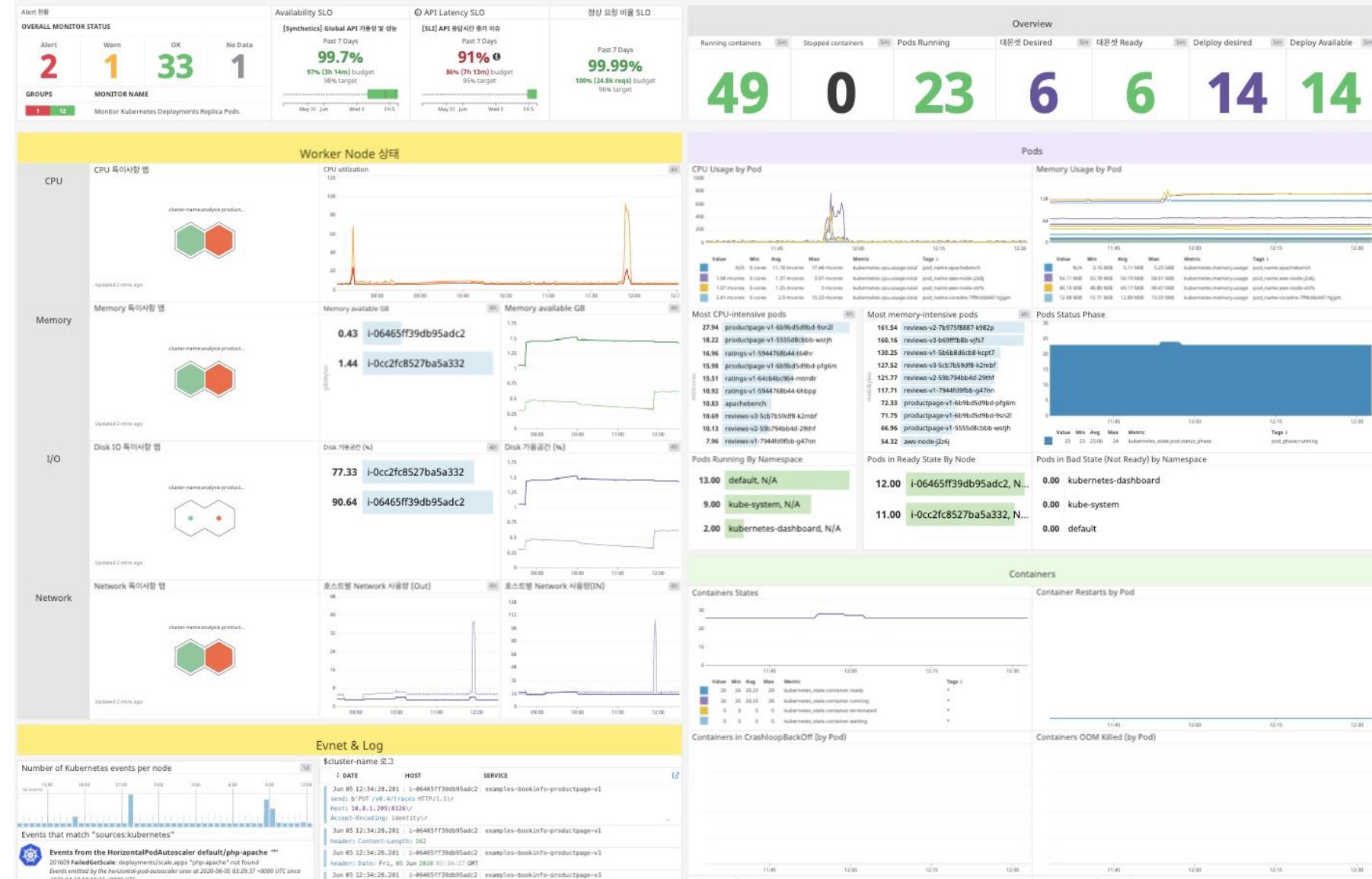


SLO 관리 예 (Demo)

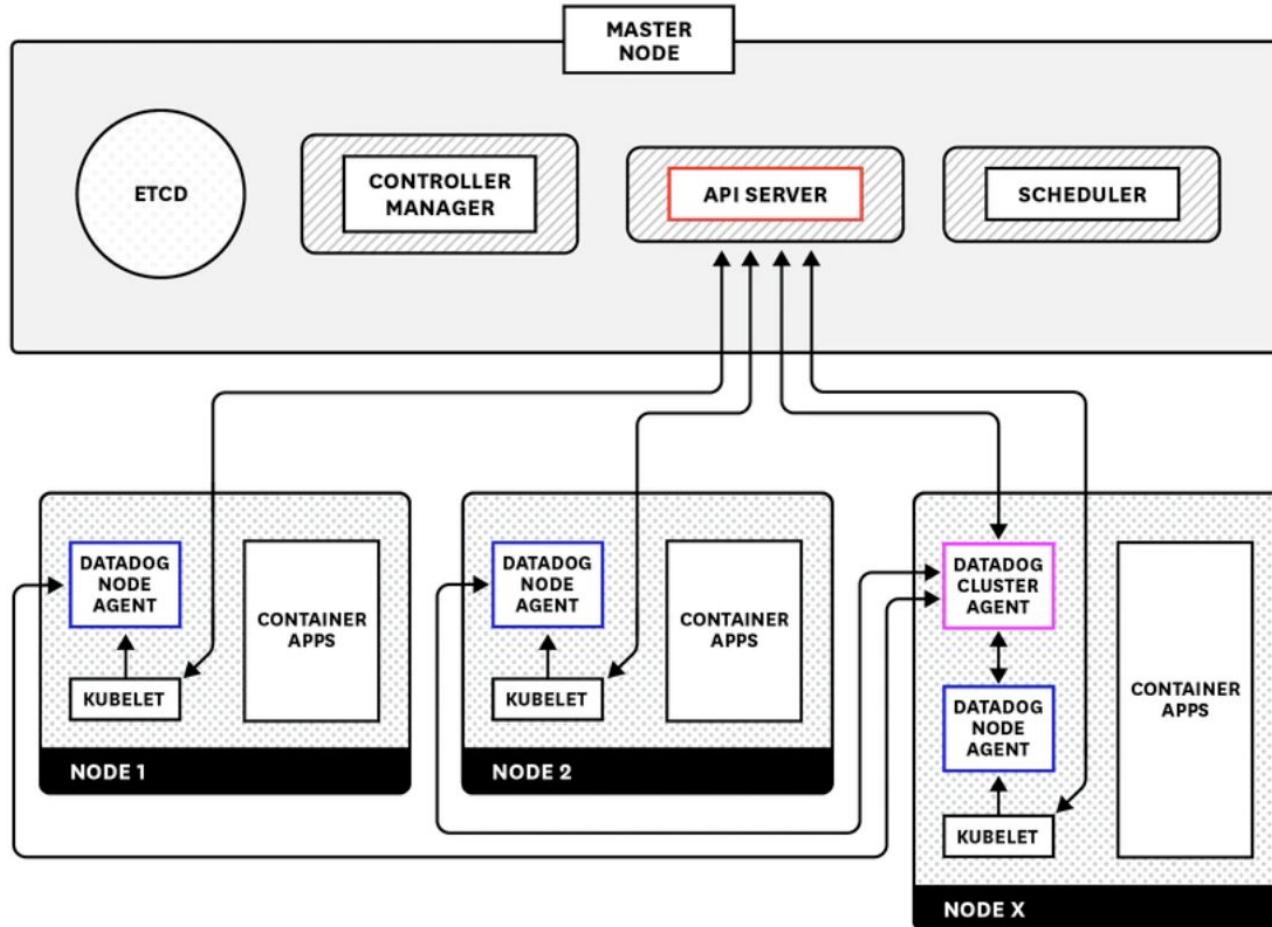
우리 서비스 조직에서 가장 중요하게 판단하는 메트릭의 목표를 적용하여 SLO 관리



K8S custom dashboard with SLO



Datadog Cluster Agent



Datadog Cluster 사용 장점

1. API 서버의 부하 경감
2. External metric provider
3. K8S 환경 밖의 서비스 체크를
효과적으로 수행(ex:SaaS기반 솔루션,
SNMP)



Monitor

Recommended Monitors

Monitors > Create New

Custom Monitors

Recommended Monitors BETA

Browse preconfigured monitors for your installed integrations

▼ Integrations

- Kubernetes 11
- IO Connect MuleSoft Any... 9
- Nomad 5
- Federator.ai 3
- Office 365 3
- Synthetic Email 2
- Trek10 AWS Coverage Adv... 2

Showing 1–35 of 35 results



[Nomad] Pending Jobs >= 1 for 15 minutes

Get notified when Nomad has observed jobs in pending status for more than 15 minutes.

Metric Monitor integration:nomad

QUERY

```
min(last_15m) :max:nomad.nomad.job_status.pending{*} >= 1
```



[kubernetes] Pod {{pod_name.name}} is CrashloopBackOff on namespace {{kube_namespace.name}}

Get notified when a pod is in a CrashloopBackOff state for your Kubernetes integration.

Metric Monitor integration:kubernetes

QUERY

```
avg(last_30m) :default(avg:kubernetes.containers.state.waiting{reason:crashloopbackoff} by {kube_namespace,pod_name}, 0) >= 1
```



[kubernetes] Monitor Kubernetes Pods Terminated

Notify your team when the number of terminated containers for Kubernetes is more than 1.

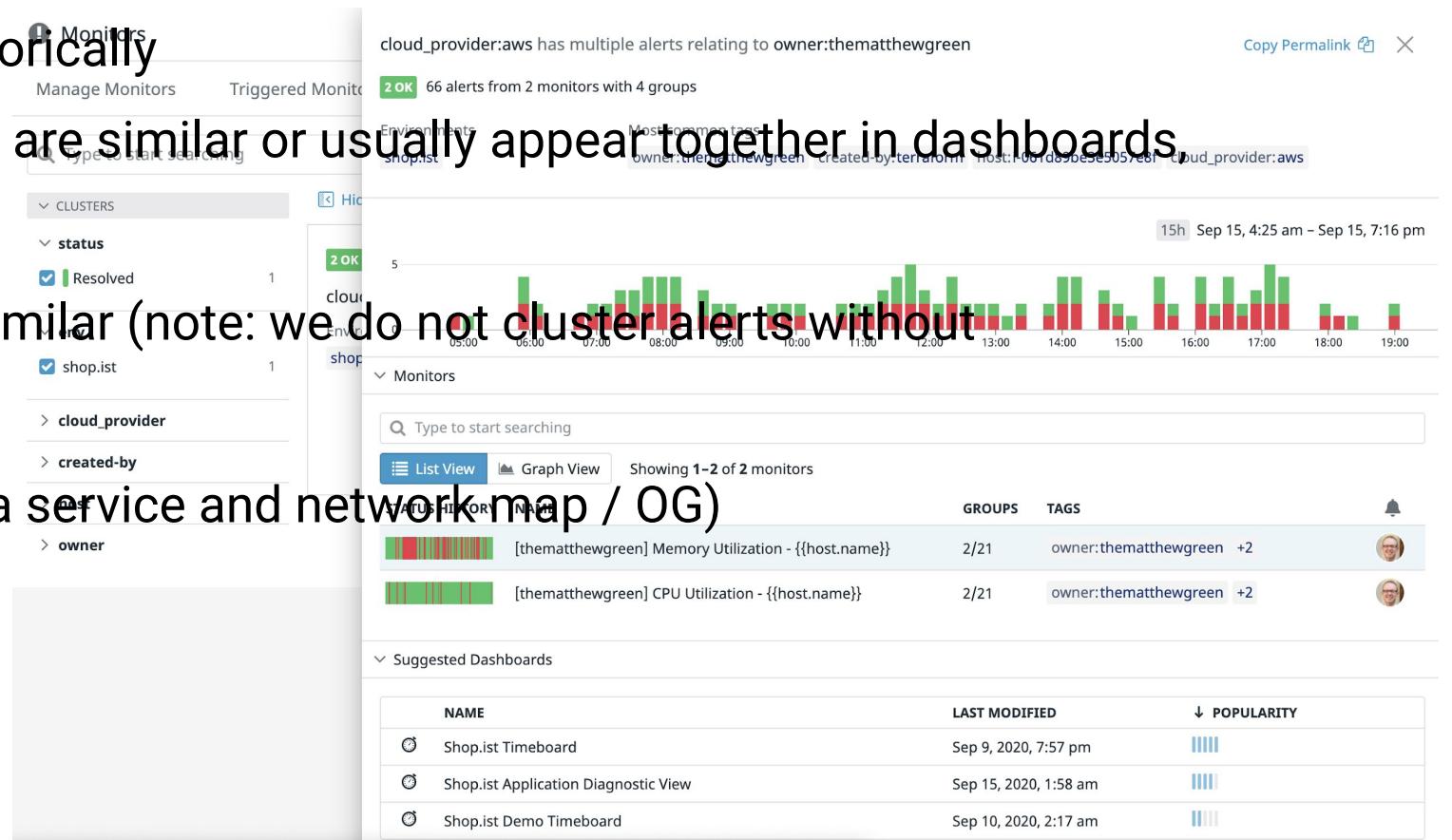
Metric Monitor integration:kubernetes

QUERY

```
change(sum(last_5m),last_5m) :avg:kubernetes.containers.state.terminated{*} by {kubernetes_cluster} >= 1
```

Alerting Situation

- When they fire
- If they tend to fire together historically
- If their queries (metrics & logs) are similar or usually appear together in dashboards,
- The similarity of their tags
- Recipient to notifications are similar (note: we do not cluster alerts without notification)
- Monitoring related services (via service and network map / OG)



Service Level Objectives (SLO)

#Identifying good SLIs

Response/Request (프런트엔드)	가용성(Availability) <ul style="list-style-type: none">- 요청에 올바르게 응답할 수 있는지 응답시간(Latency) <ul style="list-style-type: none">- 응답 시간은 얼마나 오래 걸리는지 처리량(Throughput) <ul style="list-style-type: none">- 얼마나 많은 요청을 처리할 수 있는지
Storage (저장소 시스템)	가용성(Availability) <ul style="list-style-type: none">- 필요할 때 데이터에 액세스할 수 있는지 응답시간(Latency) <ul style="list-style-type: none">- 데이터를 읽고 쓰는데 어느 정도의 시간이 걸리는지 내구성(Durability) <ul style="list-style-type: none">- 데이터는 안전하게 저장되어 있는지
Pipeline (데이터 처리 파이프라인)	정확성(Correctness) <ul style="list-style-type: none">- 올바른 응답이 리턴되었는지 데이터 처리량 및 응답시간(Freshness) <ul style="list-style-type: none">- 데이터가 유입된 이후로 결과값을 표기하기까지의 시간은 얼마나 걸리는지

#SLIs are applied values

사용자 경험을 반영하는 SLI 설정하기

endpoint에서 성공적으로
완료 된 요청 수



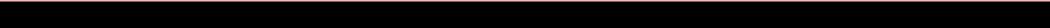
endpoint에서 500ms
내에 완료 된 요청 수



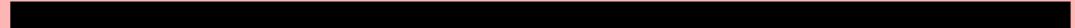
#SLOs are applied SLIs

목표는 *Target* 그리고 *Time Window*를 포함하기

24시간동안 99.95%의 요청이 성공



30일동안 90%의 요청이 500ms내에
완료



#에러 버짓 산정하기

- 제품 관리자들이 서비스의 분기별 예상 업타임을 의미하는 SLO 산정
- 실제 업타임은 제3자를 사용하여 측정한다
(hint: a monitoring system)
- 실제 모니터링한 수치와 목표시간과의 차이를 에러 예산으로 산정
ex. 업타임 - SLO = 에러 예산

#Measuring SLIs with Datadog



Monitor-based

- 시간 기준
- ex. 서비스 시간중 "99%의 시간 동안 특정 요청의 지연시간이 200ms 미만으로 유지될것"



Event-based

- 주로 상태를 기준으로 설정
- 성공률 기준
- ex. "99%의 요청이 200ms 미만의 지연시간을 가질것"

#서비스별 Dashboard 예

UX / Front-end



Query / Backend



Content Delivery



Monitor Status

Status	Count
Alert	1
OK	6

STATUS MONITOR NAME

ALERT	[UX] API Error Rate
OK	[UX] Avg Response Time
OK	[UX] Application Latency is High
OK	[UX] Rendering Error Rate
OK	[UX] JS Error Rate
OK	[UX] Load Balancer Latency

Monitor Status

Status	Count
Alert	1
OK	5

STATUS MONITOR NAME

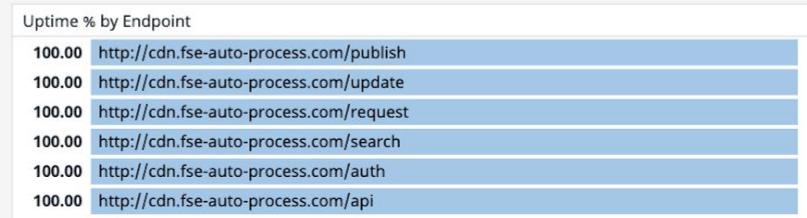
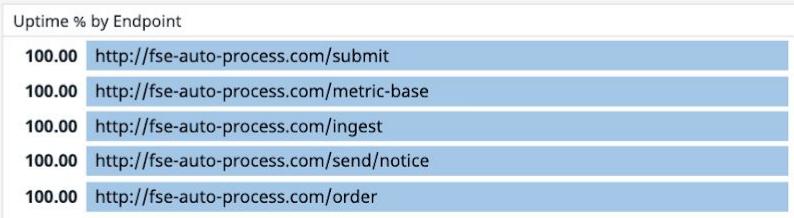
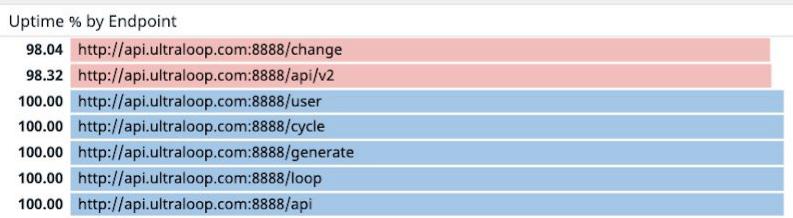
ALERT	Replication Lag
OK	Query Duration p90
OK	Connections Exceeded
OK	DB Locks
OK	Avg Query Duration
OK	I/O Wait

Monitor Status

Status	Count
OK	6
No Data	1

STATUS MONITOR NAME

NO DATA	[Synthetics] test
OK	Latency p50
OK	Error Rate
OK	CDN Connector
OK	HTTP Check
OK	Latency p90



Application Health - AWS Pipeline

Application Health - Multicloud

Application Health - GCP

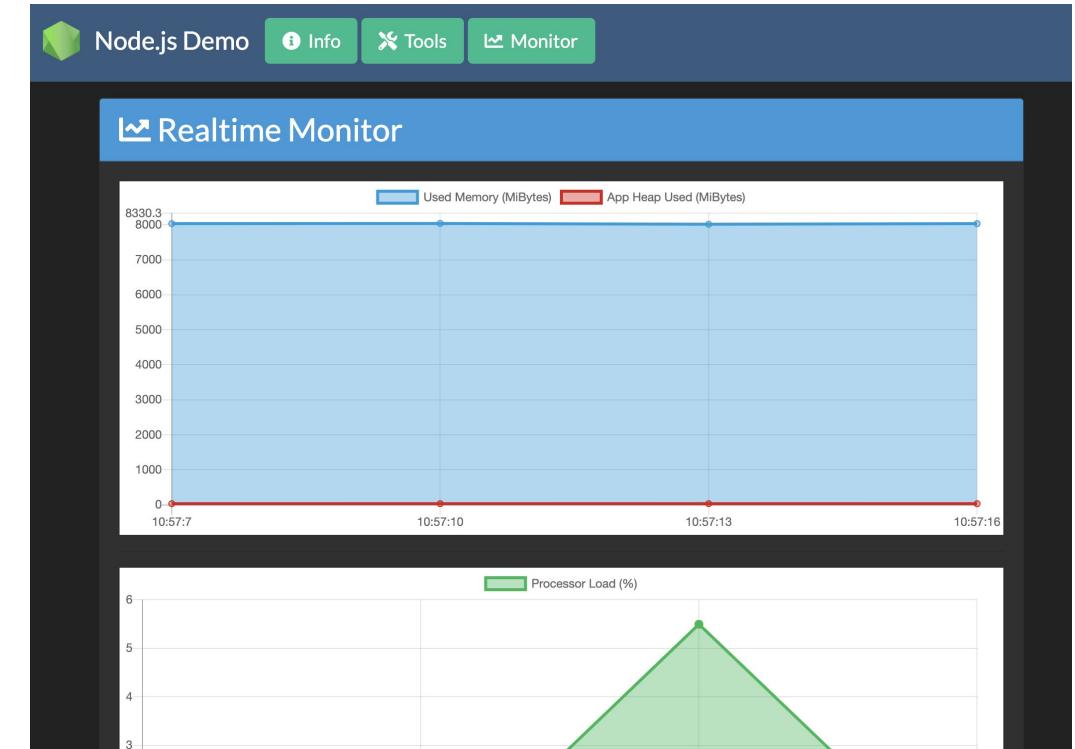
Real User Monitoring (RUM)

Live Instrumentation of an Application

Sample Node app 에 APM/RUM 환경 구성

The screenshot shows the 'Tools & Debug' section of the Node.js Demo application. At the top, there's a message: 'I did some really hard sums and it only took me 375 milliseconds!'. Below this are four buttons:

- CPU Load: Generate forced CPU load
- Exception: Will trigger a runtime exception
- 404 Page: Trigger a 404
- Garbage Collect: Force garbage collector to run



<https://github.com/benc-uk/nodejs-demoapp>

Network Performance Monitoring (NPM)

NPM Requirements

Network performance monitoring requires [Datadog Agent v6.14+](#). Since this product is built on eBPF, Datadog minimally requires platforms that have an underlying [Linux kernel versions of 4.4.0+](#).

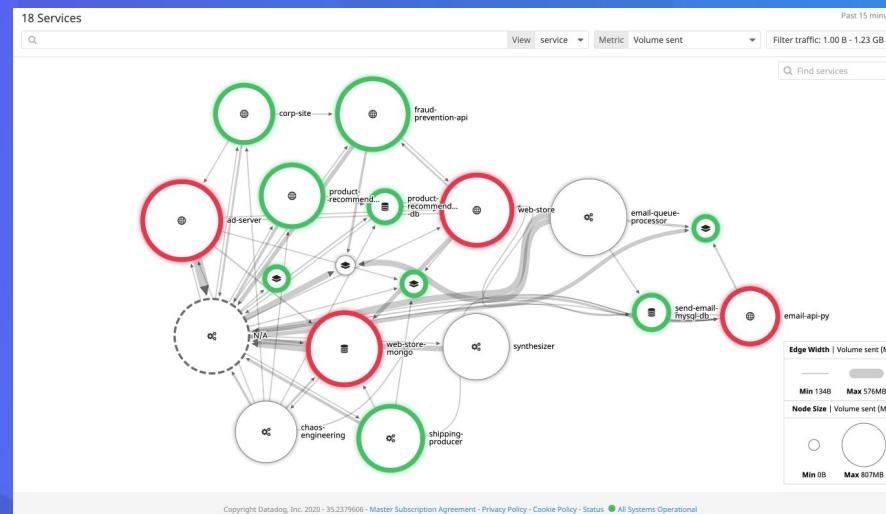
Supported platforms include:

- Ubuntu 16.04+
- Debian 9+
- Fedora 26+
- SUSE 15+
- Amazon AMI 2016.03+
- Amazon Linux 2

There is an exemption to the 4.4.0+ kernel requirement for [CentOS/RHEL 7.6+](#). The [DNS Resolution](#) feature is not supported on CentOS/RHEL 7.6.



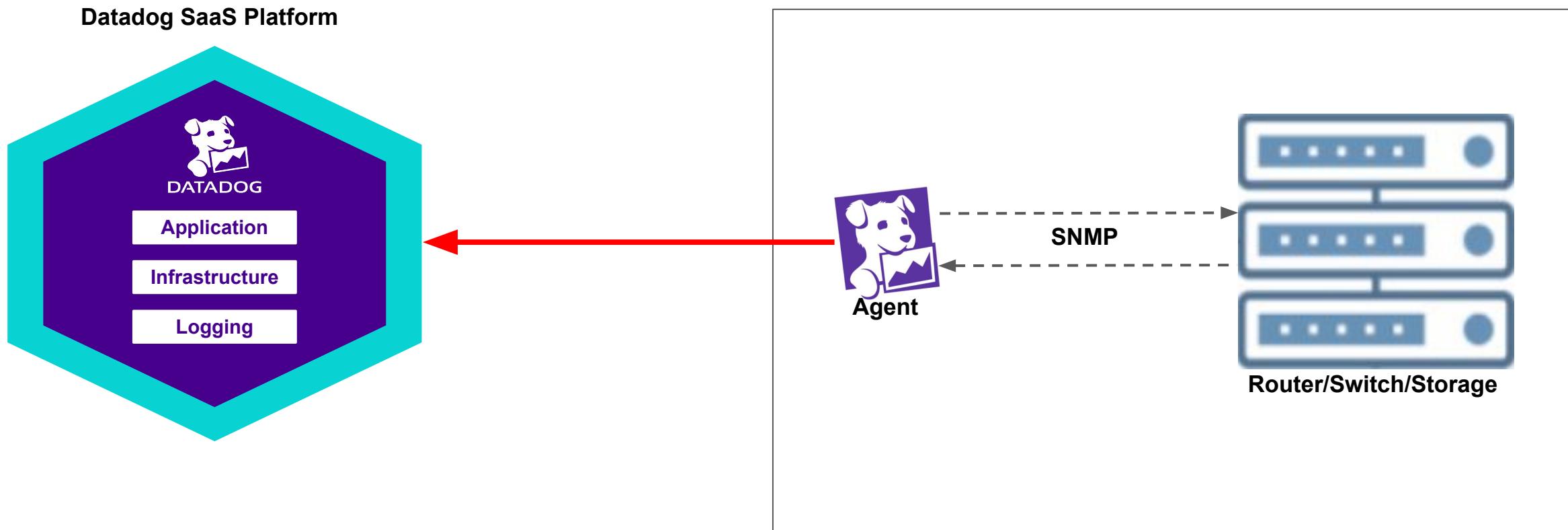
Network Performance Monitoring Demo





Monitoring On-Prem Network Appliances

Datadog Network 장비 모니터링 방법



기본으로 제공되는 Profile 및 수집 Metric

- Generic router (*Default profile in case no other profile matches*)
- Cisco ASA 5525
- Cisco c3850
- Cisco Nexus
- Cisco Meraki
- Cisco UC Virtual Machine
- Cisco ICM
- Cisco ISR 4431
- Dell iDRAC
- Dell Poweredge
- F5 Big IP
- Fortinet FortiGate
- HP iLO4
- HPE Proliant
- NetApp
- Palo Alto
- Checkpoint Firewall
- Isilon
- APC UPS

- Resource
- Queue
- Recv/Sent
- errors
- drop 등 관련 메트릭 수집

SNMP Dashboard가 제공이 되나요?

Datadog에서 제공되는 Widget을 이용하여 자유롭게 Dashboard 구성 가능

SNMP

Devices Autodiscovered **37 devs**

Inbound Errors by Switch 

Outbound Errors by Switch

0.12 0.12

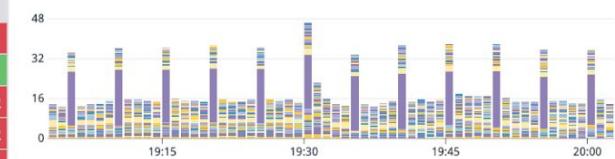
Outbound Discarded Packages Inbound Discarded Packages 

0.12 0.12

Host

Interface Status

INTERFACE	ADMIN STATUS	OPER STATUS
eth1	3	2.91
gigabitethernet1/0/7	3	1
fastethernet3/0/46	2	2
stacksub-st3-2	2	2
fa3/0/47	2	2
adaptive_security_appliance_gigabitethernet1	2	2
stacksub-st3-1	2	2
fa3/0/46	2	2
gigabitethernet1/0/2	2	2
adaptive_security_appliance_gigabitethernet0	2	2
adaptive_security_appliance_gigabitethernet1	2	2

Bytes Received by each Device Host 

Packets sent/received & err count 

Packet Errors 

TCP Backlog drops

Network

Cross-AZ Traffic 

Retransmits per Availability Zone 

Retransmits in traffic from web-store-mongo to other services 

Top DNS

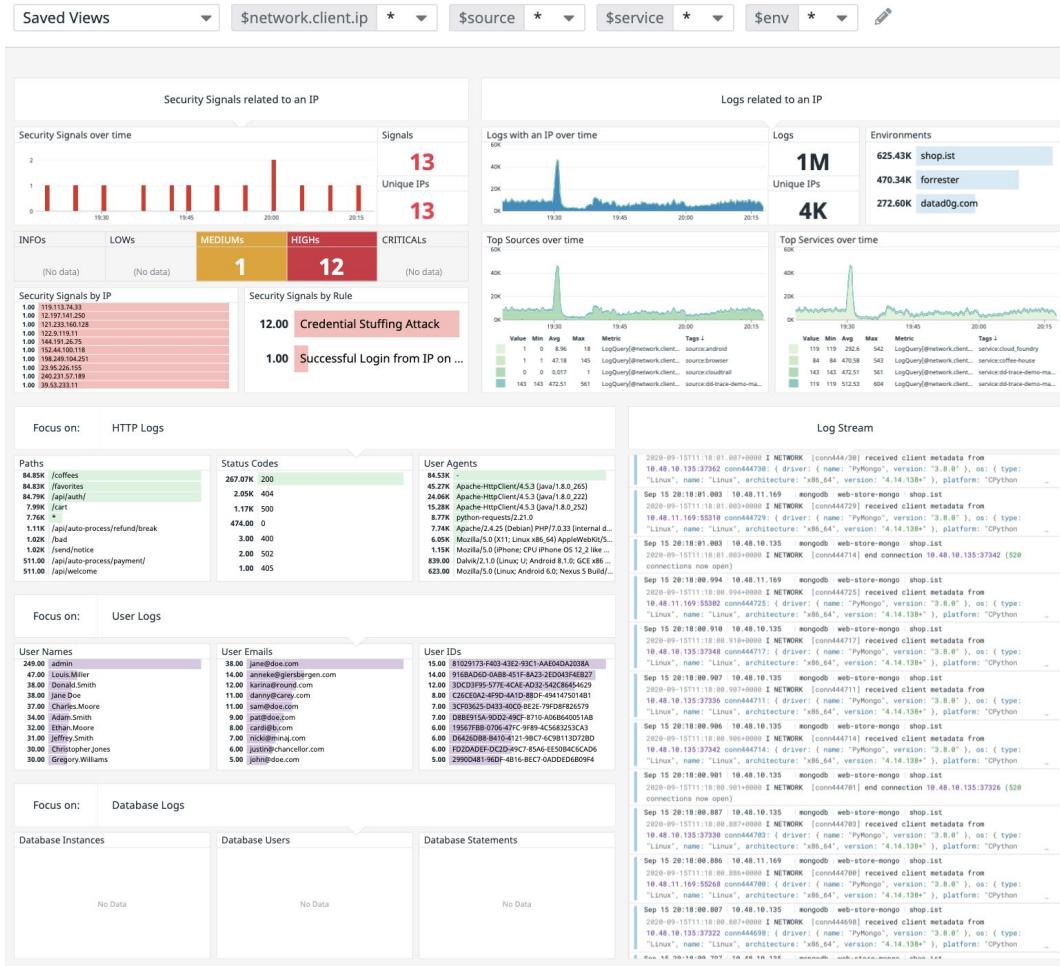
SOURCE_SERVICE	DEST_DNS	SUM:NETWORK BYTES SENT
		No matching results found



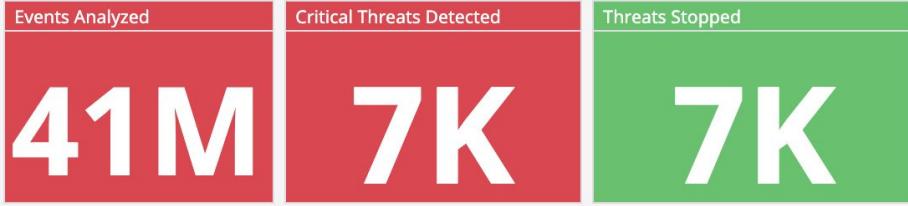
Security Information & Event Management (SIEM)

Security Dashboard

☆ Security Monitoring - IP Overview ▾



Security Team KPIs



Compliance Team KPIs



Security Audit Events

Authentication Attempts				
↓ DATE	SOURCE	USER NAME	CLIENT IP	
Sep 15 20:19:15.095	internal_app	admin	118.250.243.14	
Sep 15 20:19:15.053	ssh	Stephen.Moore	59.46.90.235	
Sep 15 20:19:14.911	okta	Jesse.Moore	234.115.36.162	
Sep 15 20:19:13.795	okta	Logan.Williams	69.67.36.87	
Sep 15 20:19:12.053	okta	Christopher.Jones	112.178.150.79	
Sep 15 20:19:10.456	internal_app	admin	118.250.243.14	
Sep 15 20:19:09.337	internal_app	Bradley.Jones	198.249.104.25	
Sep 15 20:19:07.933	okta	Jose.Brown	40.254.242.122	
Sep 15 20:19:06.058	okta	Arthur.Johnson	192.186.104.15	
Sep 15 20:19:05.964	internal_app	Brandon.Moore	198.249.104.25	
Sep 15 20:19:02.925	okta	Peter.Taylor	17.248.123.70	

Live Instrumentation of an Application

Feedback Survey - Day 2



DATADOG

Break Time - 10 mins

Resume at __:__



DATADOG

Q&A Session



DATADOG
PARTNER
NETWORK

Partner Technical Enablement 2020

1:30 PM에 시작 예정입니다. 잠시만 기다려 주세요.



DATADOG

Agenda

Day 3

- Keeping Up to Date About Datadog
- Datadog Support
- Datadog Security
- Role Based Access Control (RBAC)
- Usage Metering and Billing
- Accelerating Customer Onboarding



DATADOG

Keeping Up To Date About Datadog

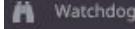


DATADOG

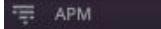
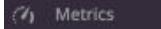
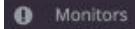
Release Note



DATADOG



Events



Security



10 of 10

Ergonomics in Design / 11



Team

sungwook.lee...

https://app.datadoghq.com/release_notes

Release Notes

Introducing Datadog Error Tracking

September 3, 2020

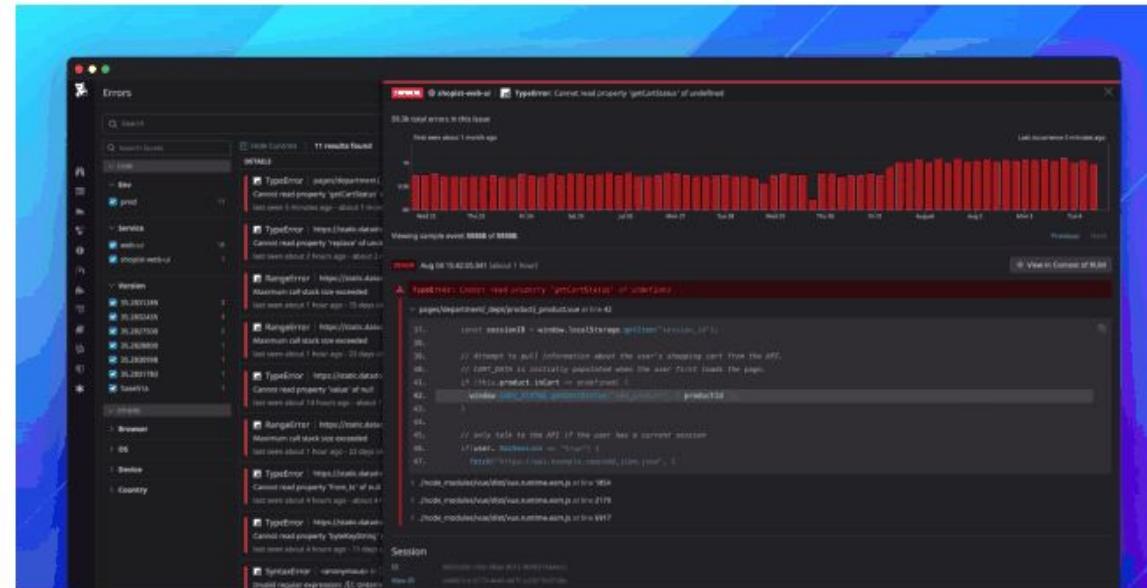
We are pleased to announce that our new Error Tracking product is now generally available for **JavaScript errors with RUM**.

Error Tracking automatically gathers application errors already collected in real time by our products (for now RUM, soon APM and Log Management). So no configuration change is required to benefit from the solution, and it is included into your current product's subscription(s).

Error Tracking enables you to better prioritize errors by

- **Grouping similar errors into issues** to reduce noise and make it much easier to know at a glance what's happening.
 - **Following issues over time** to know when they start and if they're still ongoing, but also how often each issue happens.
 - **De-obfuscating stack traces** using JavaScript source maps to provide the best visibility into errors.
 - Getting all the information **in one place** to facilitate the troubleshooting.

For more information, see our [blog post](#) or view the [documentation](#).





DATADOG

Dash 2020 Keynote Summary

Dash 2020

Aug 11, 10:00PM to Aug 12, 4:00PM KST 9137 people attended



The logo features the word "DASH" in large, white, sans-serif letters. Each letter is positioned between two thick vertical bars. The background is a dark teal color with a repeating pattern of blue diamond shapes.

D|A|S|H

BY DATADOG



Dash 2020

19 videos • 24 views • Updated yesterday



Videos of sessions from Datadog's 2020 Dash conference held on August 11th. <http://www.dashcon.io>



Datadog

SUBSCRIBED



Dash 2020 Keynote

Datadog



Never Let a Crisis Go to Waste - Dash 2020 (SeatGeek)

Datadog



How Online Retailer Zulily Creates a DIY Monitoring Culture to Drive Progress - Dash 2020

Datadog



A GraphQL Journey: How Zillow Overcame Production Chaos - Dash 2020

Datadog



Measuring Software Quality at Instacart - Dash 2020

Datadog



NASDAQ: Market Resiliency in the Age of COVID-19 - Dash 2020

Datadog



Migrating to the Cloud while Your Company Splits in Half - Dash 2020 (Thomson Reuters)

Datadog



Classifying APIs for Clear Contracts - Dash 2020 (Rapid7)

Live Search is GA

Search all traces live for the last 15 mins.

Use any tag on any span.

Included with APM.

Datadog Continuous Profiler GA

< 3% CPU overhead



Error Tracking in Datadog Platform



Included with RUM
-No new SDK



Import source maps
with Datadog CLI Tool

Included with RUM, Log Management or APM

Frontend Javascript

Available today



Mobile Languages

Coming soon



Backend Languages

Coming soon



Going Deeper

Tracing without Limits

- Understand customer experience
- See all incoming requests
- Cross service visibility at any scale

Continuous Profiler

- Find performance bottlenecks
- Always on visibility
- No performance impact

Error Tracking

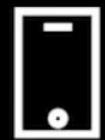
- Understand application behavior
- Track errors to their source
- Integrated with Logs, RUM & APM

Recommended Monitors

- Get up and alerting fast
- Out of the box alert queries and thresholds
- Expert recommended best practices
- With more integrations coming soon!

Incident Response

Get started today



Mobile App

Respond to incidents
on-the-go



Datadog Chatbot

Team collaboration
and incident response



Incident Timeline

Visualize and track all
incident activity and
investigation signals



Datadog Notebooks

Multi-editor collaboration
for postmortems

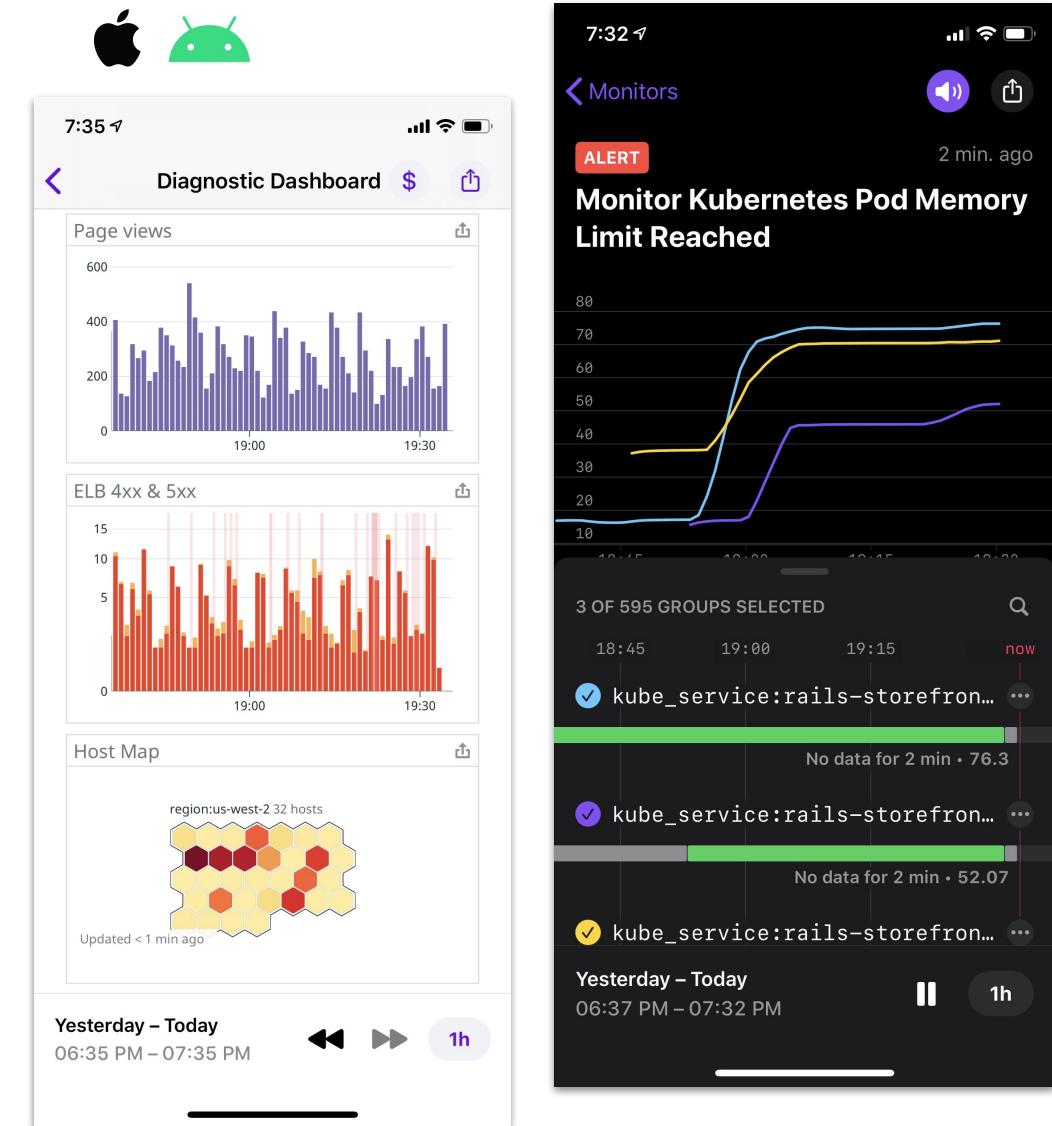
Mobile App: GA

Overview:

- A mobile app to complement our web platform, allowing on-call engineers to quickly investigate monitors and dashboards from a mobile device
- Available on [iOS](#) and [Android](#). We encourage everyone in sales to download and try it out!

Business impact:

- Users can triage quickly; reduced MTTR



Incident Management: Beta

Overview:

- Allows users to declare incidents, investigate and collaborate on incidents, and create postmortems all within the Datadog app
- Brings the process of collaborative on-call work closer to where users' data lives to reduce downtime

Business impact:

- Incident management totally within the Datadog platform (tool consolidation)





ACTIVE SEV-3 11h Since: 01:17 am KST 08/14/2020

11 hours of customer impact

Slack: #incident-499

Start a Zoom meeting

Add a Postmortem Doc

Overview

Timeline

Remediation

Communications

FILTERS

Hide Controls

Content Type

 Incident Update 8

Contributor

 Neil Taylor 7 Charlie Monzillo 1

Important

 No 7 Yes 1

TIME ↑ NOTES

Add Note +

Export ↗

Aug 14, 2020
1:17 am KST**Incident declared on 08/14/2020 at 01:17AM KST by Charlie Monzillo**
IR-499: hello world 2 | Commander: Charlie Monzillo | Status: Active | Severity: SEV-3**Customer Impact** updated to "fasdfasdf"; started at 08/13/2020 4:17 pm KST by Neil Taylor**Customer Impact** updated to **Billing impact on infra hosts** by Neil Taylor**Title** updated to **new title 2** by Neil Taylor**Algorithm** updated to **linear, robustraw, robust** plus 5 more by Neil Taylor**Algorithm** updated to **seasonal, agile, scaledbscan** plus 9 more by Neil Taylor**Algorithm** updated to **seasonal, agile, scaledbscan** plus 8 more;
Title updated to **aer** by Neil Taylor**Title** updated to **updated title** by Neil Taylor

Introducing Datadog Marketplace



Marketplace: GA

Overview:

An **App Store inside Datadog** where third-party partners can sell their own integrations and extensions

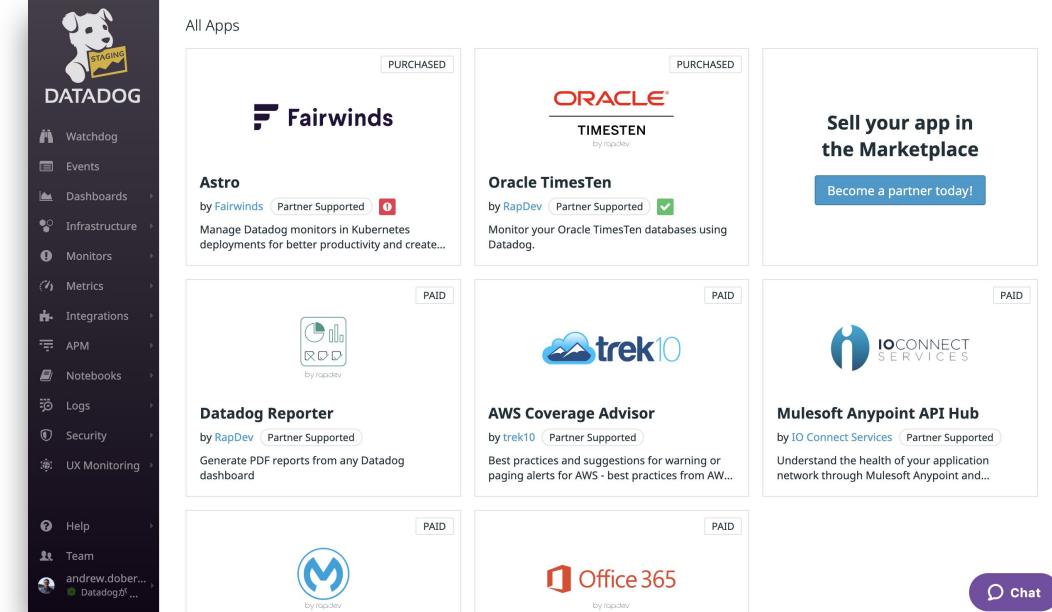
Business impact:

For Customers:

Lets them buy more integrations, plus other functionality

For CS/Sales:

Sales here do not retire quota
Some apps increase custom metric counts
Adds many additional SKUs



For Analysts:

This is a big deal - marks our maturity as a company

For Partners:

New revenue stream (they keep 70% of sales)
Puts their name in front of our customers



DATADOG

Dash 2020 Updates

Version Deployment Insights: Beta

Overview:

This is a feature of APM that allows devops teams and application engineers to

- Monitor the impact of new version deployments
- Analyze latest versions deployed by errors, latency, requests, endpoints, error types, etc.
- Correlate version data with changes in infrastructure metrics (using a version tag)
- Performance comparison of versions deployed in the last 30 days

Business impact:

- Visibility into deployment health
- Adoption of modern deployment practices such as Canary, Blue-Green, and Shadow deployments
- Verify that no new errors have surfaced and latency meets customer's benchmarks
- Roll back versions quickly if needed

Versions										
NAME	FIRST SEEN ↓	LAST SEEN	REQUESTS	P95 LATENCY	ENDPOINTS	ERROR TYPES	ERROR %	ERRORS		
v12.1.4	2 hours ago	LIVE	3.06M	61ms	2 NEW	2 NEW	1%	3		
v12.1.3	4 hours ago	15 minutes ago	0.98M	222ms	0 NEW	0 NEW	1%	2		
v12.1.2	1 day ago	33 minutes ago	0.38M	129ms	0 NEW	0 NEW	1%	1		
v12.1.1	2 days ago	41 minutes ago	0.28M	71ms	0 NEW	0 NEW	1%	1		

Compliance Monitoring: Private Beta

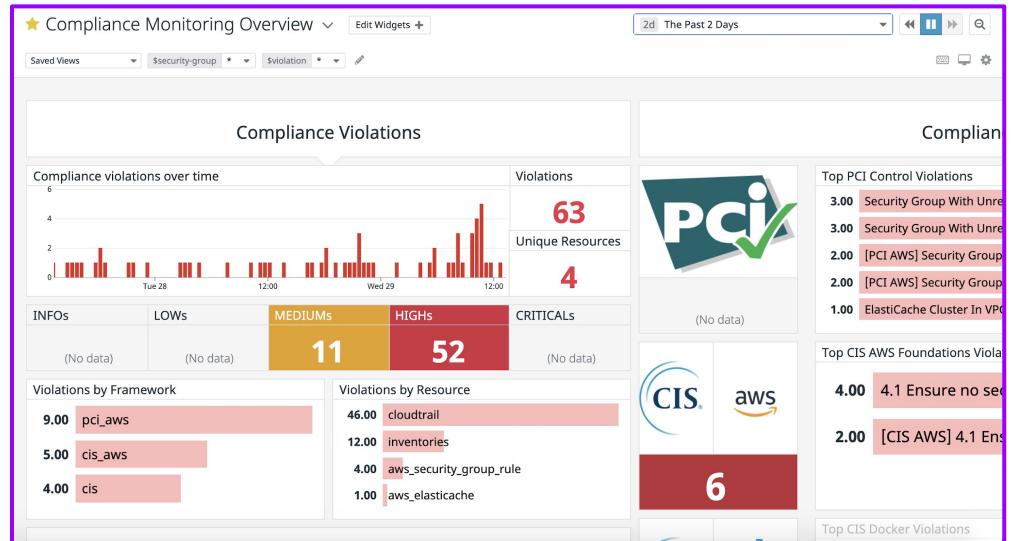
Overview:

This new product allows customers to:

- Easily measure a cloud environment against industry-standard benchmarks, like HIPAA and multiple types of PCI and CIS-benchmarks.
- Help customers adhere to complex regulations.
- Analyze all assets across the entire stack.

Business impact:

- Users can now start assessing compliance visibility in a unified platform!



The interface shows a step-by-step guide for creating a new detection rule. Step 1: Select a rule type (Detection Rule or Configuration Rule). Step 2: Define search queries. Step 3: Set rule cases. Step 4: Say what's happening. The configuration rule is currently selected.

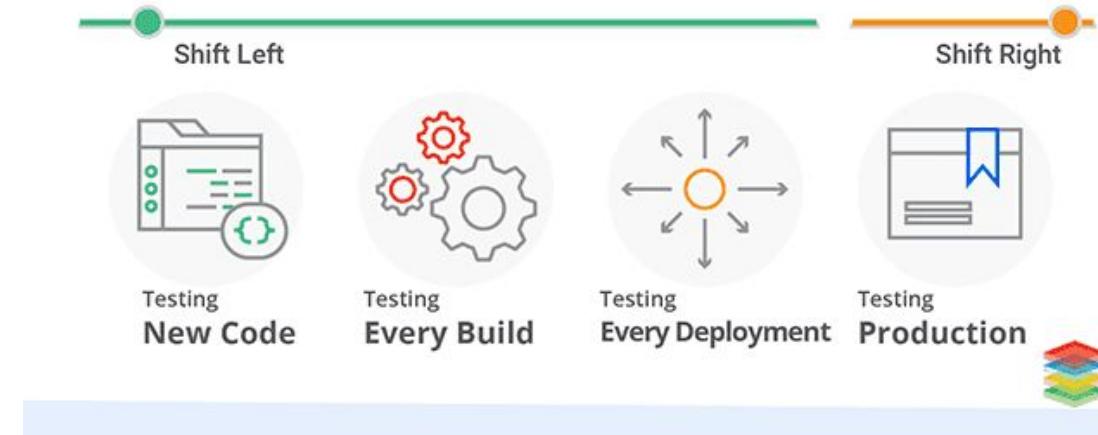
Synthetic CI/CD Testing: GA

Overview:

- Extending synthetic monitoring to now give users the ability to test earlier in the development cycles, like in your CI pipelines

Business impact:

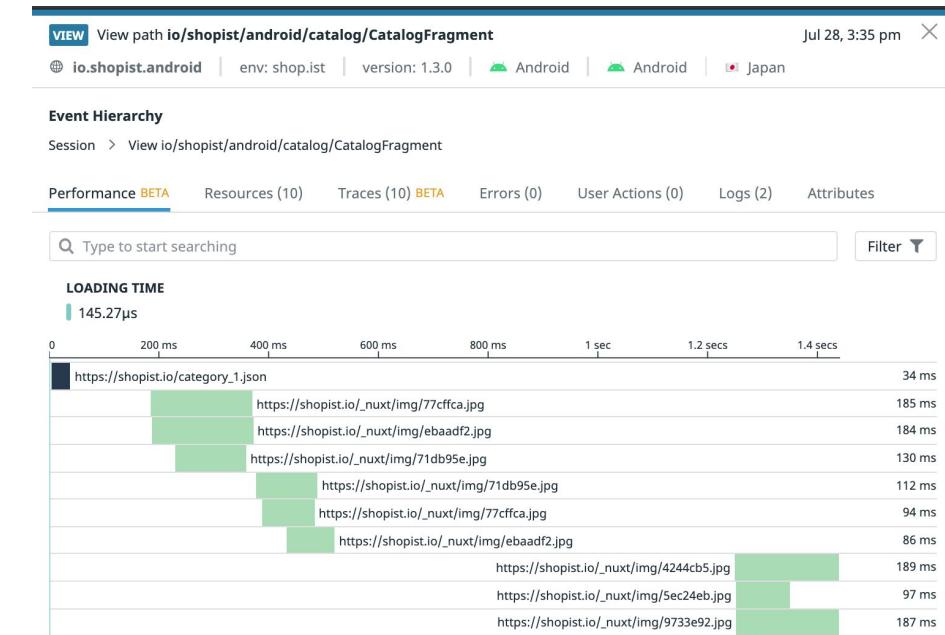
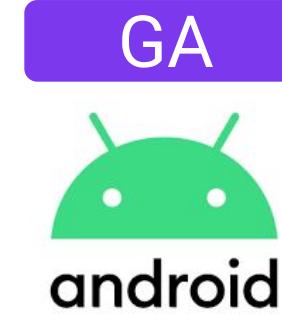
- Catch issues before they escalate to larger bugs that have already went live in production; **safeguard core functionality!**



Mobile RUM: GA

Overview:

- Datadog RUM now provides user experience insights for Mobile apps
- Visibility into App Performance + Crashes
- React Native and other mobile frameworks will come after iOS GA



Business impact:

- Feature parity with other RUM solutions on the market; RUM data we previously couldn't offer

Network Device Monitoring: GA



Overview:

- Formerly *SNMP Integration* - now a **fully-fledged Network product**
- Functionality that makes it easy for any customer to **collect metrics from any bare metal network device**
- Monitoring for hardware health and performance: **throughput, bandwidth util, temp, up/down, etc**

Business impact:

- Billing: \$7 per device per month - see FAQ for details
- New audience: **Network Engineering teams, NOCs, Network IT**
- New competition: Legacy/on-premise dinosaurs





Datadog Support

Datadog Security

14:35에 다시 시작 예정입니다

#Datadog compliances

ISO 27000 Family (ISO 27001, ISO 27017, ISO 27018)

SOC 2 Type 1 and Type 2

FedRAMP (Federal Risk and Authorization Management Program)

HIPAA (Health Insurance Portability and Accountability Act)

GDPR (General Data Protection Regulation)

#Data security

모든 통신은 TLS를 통한 암호화

고객 데이터는 암호화 하여 저장

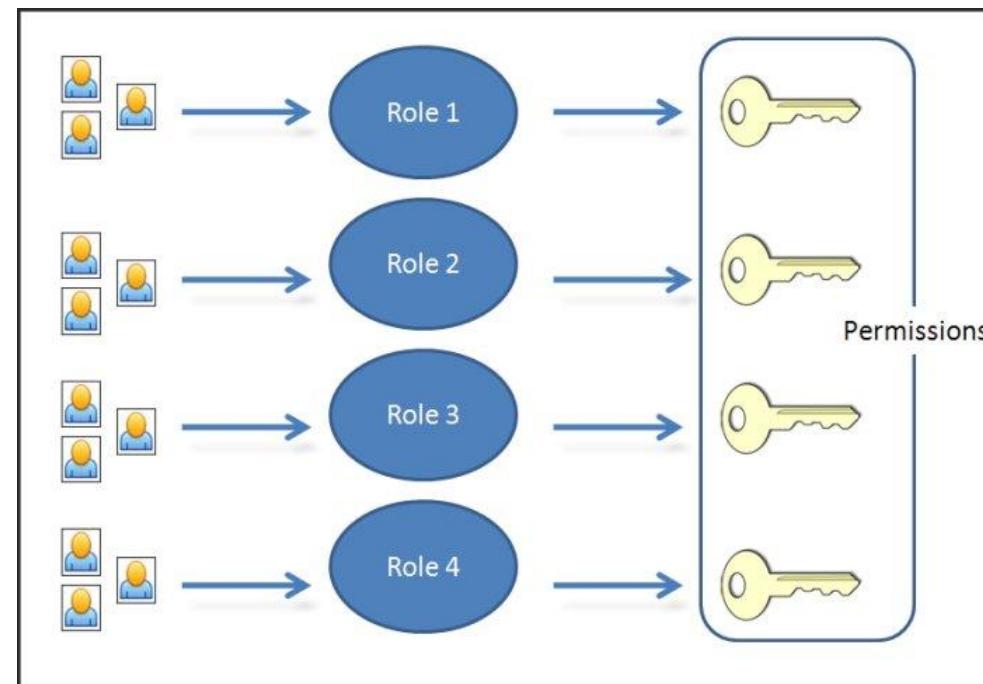
- AES-256
- asymmetric encryption
- KMS-based protections

Agent Level에서 Automatic/Manual scrubbing 지원

Role Based Access Control (RBAC)

What is RBAC?

Role Based Access Control enables users to carry out a range of tasks by *dynamically regulating* their actions according to assigned roles.



What organisations require it?

Enterprise level

Managed Service Providers (MSP)

SaaS Vendors

Themes

Relevance

- Avoid noise
- Restrict edit rights to individual teams

“I have 3 teams who collaborate on shared infrastructure and/or some applications, but I want to prevent having one team accidentally change another team’s alert threshold. They should each manage their own boards/alerts.”

Security

- Restricting subsets of data

“I have a team of tier 1 responders who should only see metrics from some of our customers, but not others. The manager of those teams should have access to all data.”

Datadog Default Roles

ROLE	DESCRIPTION
Datadog Admin Role	Users have access to billing information and the ability to revoke API keys. They can manage users and configure <u>read-only dashboards</u> . They can also promote standard users to administrators.
Datadog Standard Role	Users are allowed to view and modify all monitoring features that Datadog offers, such as <u>dashboards</u> , <u>monitors</u> , <u>events</u> , and <u>notebooks</u> . Standard users can also invite other users to organizations.
Datadog Read Only Role	Users do not have access to edit within Datadog. This comes in handy when you'd like to share specific read-only views with a client, or when a member of one business unit needs to share a <u>dashboard</u> with someone outside their unit.

Additional Permissions

	read	write	other
Logs Read Index Data	<input type="checkbox"/>	.	.
Logs Modify Indexes	.	.	<input type="checkbox"/>
Logs Live Tail Access	<input type="checkbox"/>	.	.
Logs Write Exclusion Filters	.	<input type="checkbox"/>	.
Logs Write Pipelines	.	.	<input type="checkbox"/>
Log Write Processors	.	<input type="checkbox"/>	.
Logs Archives	<input type="checkbox"/>	<input type="checkbox"/>	.
Logs Public Config API	.	.	<input type="checkbox"/>
Log Generate Metrics ?	.	.	<input type="checkbox"/>
Logs Read Data	<input type="checkbox"/>	.	.
Logs Historical View	.	<input type="checkbox"/>	.
Dashboards	read	write	other
Dashboards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	.
Dashboards Share	.	.	<input type="checkbox"/>
Monitors	read	write	other
Monitors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	.
Monitors Manage Downtimes	.	.	<input type="checkbox"/>
Security Monitoring	read	write	other
Detection Rules	<input type="checkbox"/>	<input type="checkbox"/>	.
Security Signals	<input type="checkbox"/>	.	.

Dashboards

★ sungwook-[Korea] Hybrid Environment - DC / Azure / ... ▾ Edit Widgets +

1h Saved

Permissions

🔒 Restrict editing of this dashboard to:

- Everyone
- YOUR ROLES
- Datadog Admin Role**
- Log Archives & Pipelines
- Datadog Standard Role

ALL ROLES

- compliance-mvp-demo
- Datadog Logs Read Only
- Datadog Read Only Role
- Monitor RBAC Team B

sungwook.lee@datadoghq.com (creator).

Public sharing: on

PUBLIC URL

<https://p.datadoghq.com/sb/rk1UvX-cae4a738c6c08ba52868d8802cd453ad> 

GLOBAL TIME ON PUBLIC BOARD

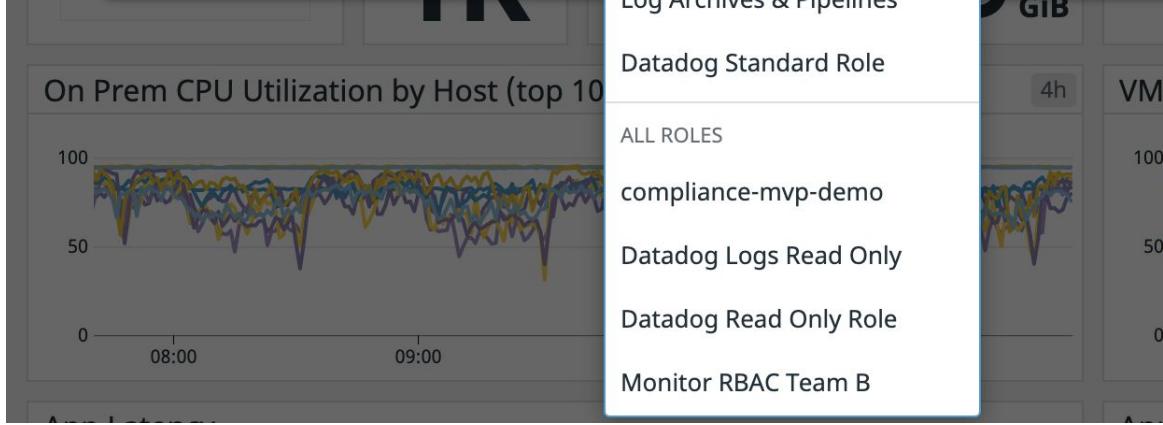
Default: 1h Past 1 Hour Allow viewers to change time frame

TEMPLATE VARIABLES ON PUBLIC BOARD

NAME	TAG GROUP	DEFAULT VALUE	VISIBLE TAGS
availability_zone	availability-zone	*	select tags
rds_db_instance	dbinstanceidentifier	*	select tags
host	host	*	select tags

Revoke Public URL  Done

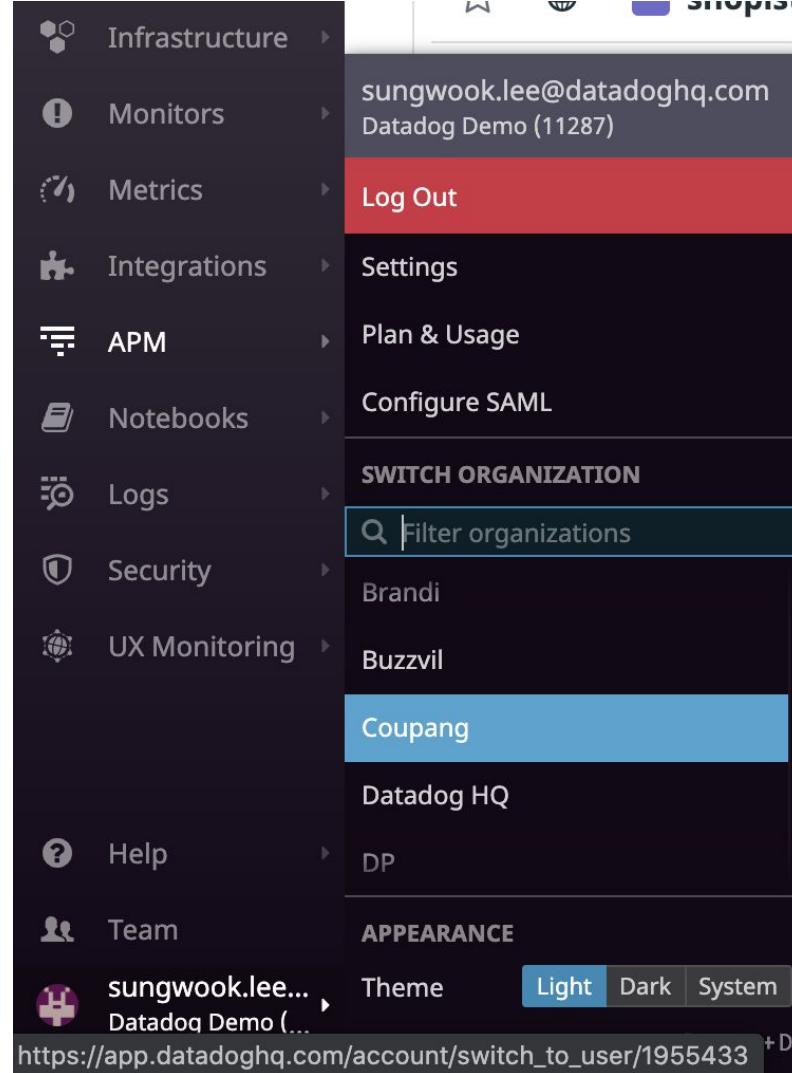
On Prem CPU Utilization by Host (top 10)



VM GIB 4h

Managing Multiple Organisations

#Landing Page를 통한 가이드 제공 가능



https://docs.datadoghq.com/account_management/multi_organization/#pagetitle

#Landing Page를 통한 가이드 제공 가능

The screenshot shows a Datadog dashboard titled "[Jacky] Landing Page sample". The dashboard features a purple header with the Datadog logo and a "Welcome to Datadog!" message. It includes sections for "Useful Docs", "First time here?", "APM (Application Performance Management)", and "Datadog Learning Platform". A sidebar on the left provides navigation links for Watchdog, Events, Dashboards, Infrastructure, Monitors, Metrics, Integrations, APM, Notebooks, Logs, Security, and UX Monitoring.

★ [Jacky] Landing Page sample ▾ Edit Widgets +

Add Template Variables ?

Enable dashboard time controls...

Watchdog

Events

Dashboards

Infrastructure

Monitors

Metrics

Integrations

APM

Notebooks

Logs

Security

UX Monitoring

Hello team!

Useful Docs

Short How-to videos

- [Datadog 101](#)

Dashboards

- [Creating a dashboard](#)
- [Widgets overview](#)
- [Creating a graph](#)

Monitors

- [Creating a monitor](#)
- [Creating an alert message](#)
- [How to generate tickets from monitor alerts](#)

Events

- [Searching for events](#)

Metrics

- [Viewing your application metrics](#)

Welcome to Datadog!

First time here?

Here are some quick links:

- View a list of your [Live Processes](#)
- Check on the [Health of your Hosts](#)
- See which of your monitors have [Triggered Alerts](#)
- Jump right to your installed [AWS dashboards](#)

APM (Application Performance Management)

Useful docs:

- [Setting up APM for Java](#)
- [Setting up APM for Python](#)
- [Tracing guide](#)
- [Definition of key concepts](#)

After instrumenting your application with Datadog APM, click on the following to explore the data available:

- [Service Map](#)
- [Services list](#)

Need Help?

- Have general usage questions? [Contact Datadog support](#)
- Have Additional questions? Send an email to [datadog-admin](#)

Datadog Learning Platform

- [Access Datadog's learning platform here](#)
- Suggested Courses are [Introduction to Datadog](#) and [Introduction to Monitoring](#)
- All Courses are free
- All courses spin up test Datadog instance independent from your account

Feedback Survey



DATADOG

비용 최적화

Q&A Session



Training Recap



DATADOG



DATADOG
Thank You