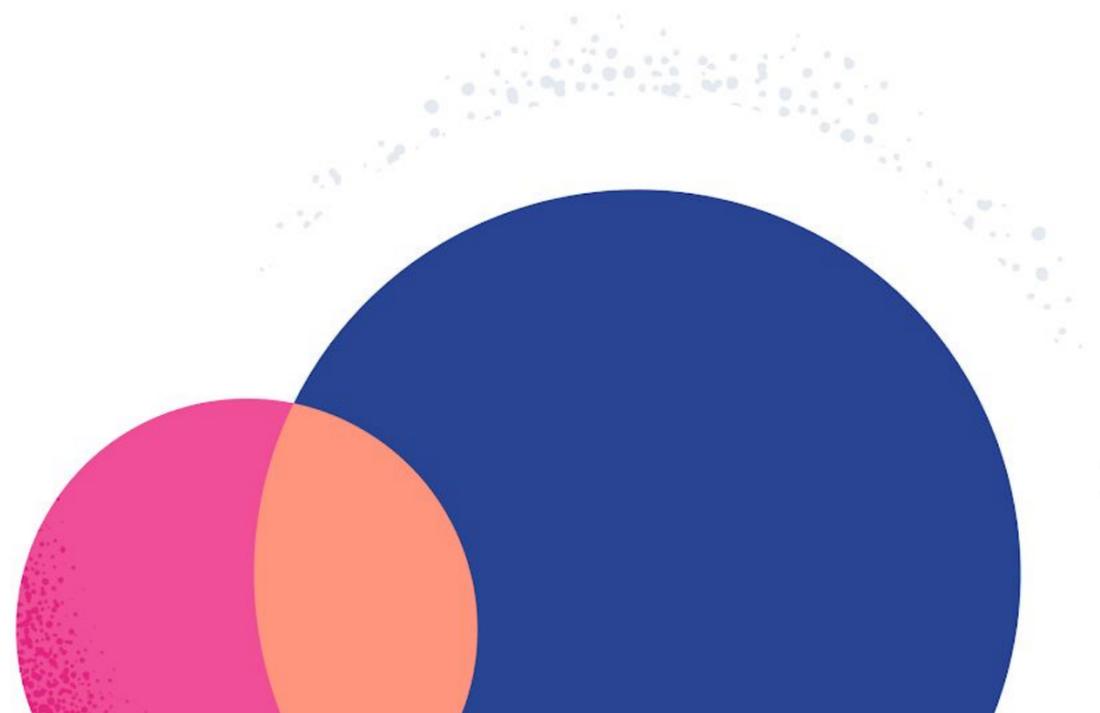




# Elastic Observability 를 활용한 시스템 통합 관제

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2022-11-27T14:00:00+0900



김종민

**Jongmin Kim**

Developer Advocate

@Elastic

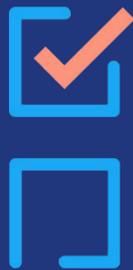
2015. 6 ~



# Agenda

- Elastic Search Platform
- Observability
- Demo - Elastic Observability in MSA
- Demo - Install and Run Elastic @Ubuntu





# *Speed*



Find matches in milliseconds within structured and unstructured datasets

# Scale



Scale massively and horizontally across hundreds of systems

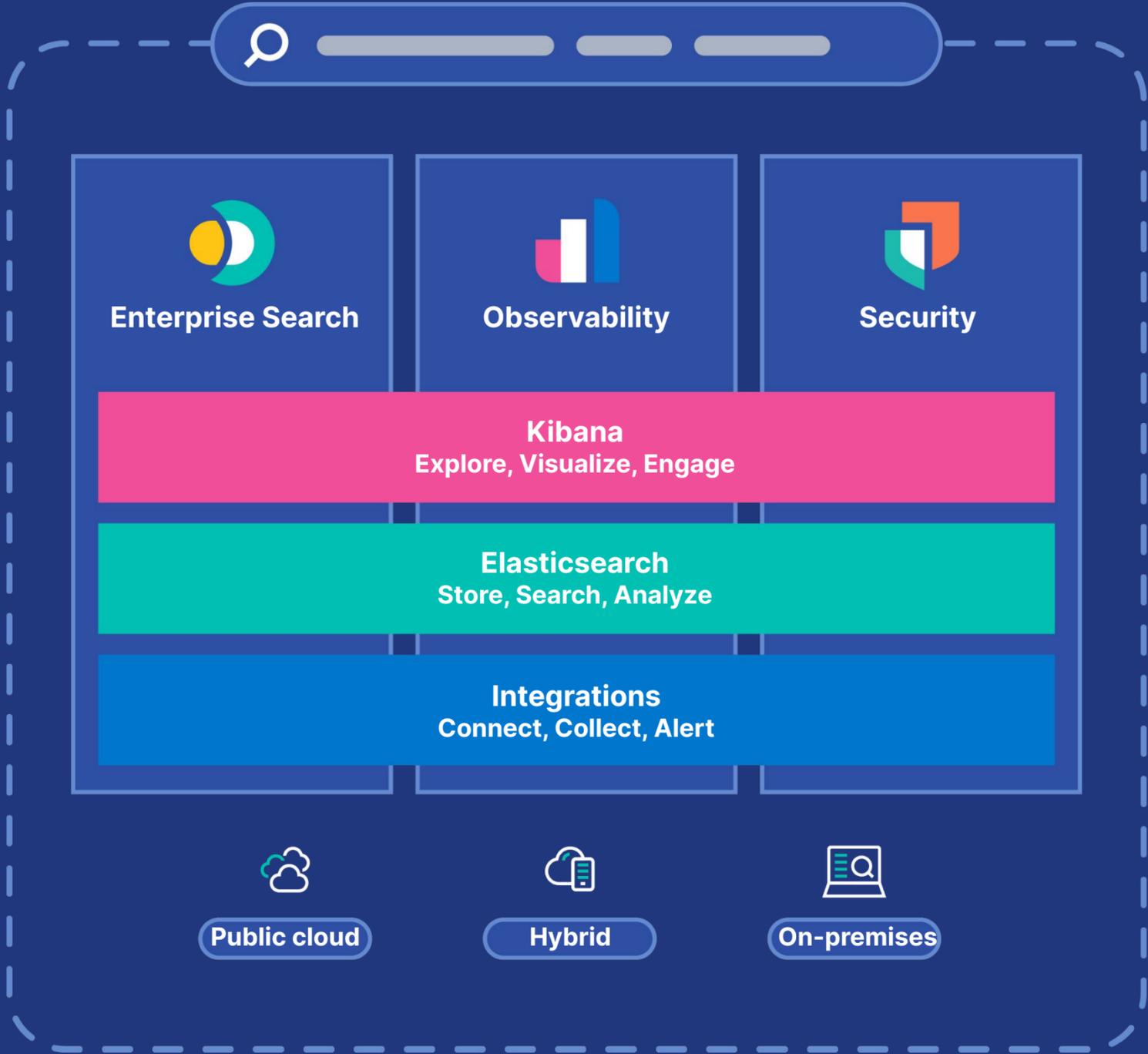
# Relevance



Generate highly relevant results and actionable insights from data



# The Elastic Search Platform



Logs + Metrics + APM + Uptime + User Exp'

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# Elastic Observability

통합 가시성

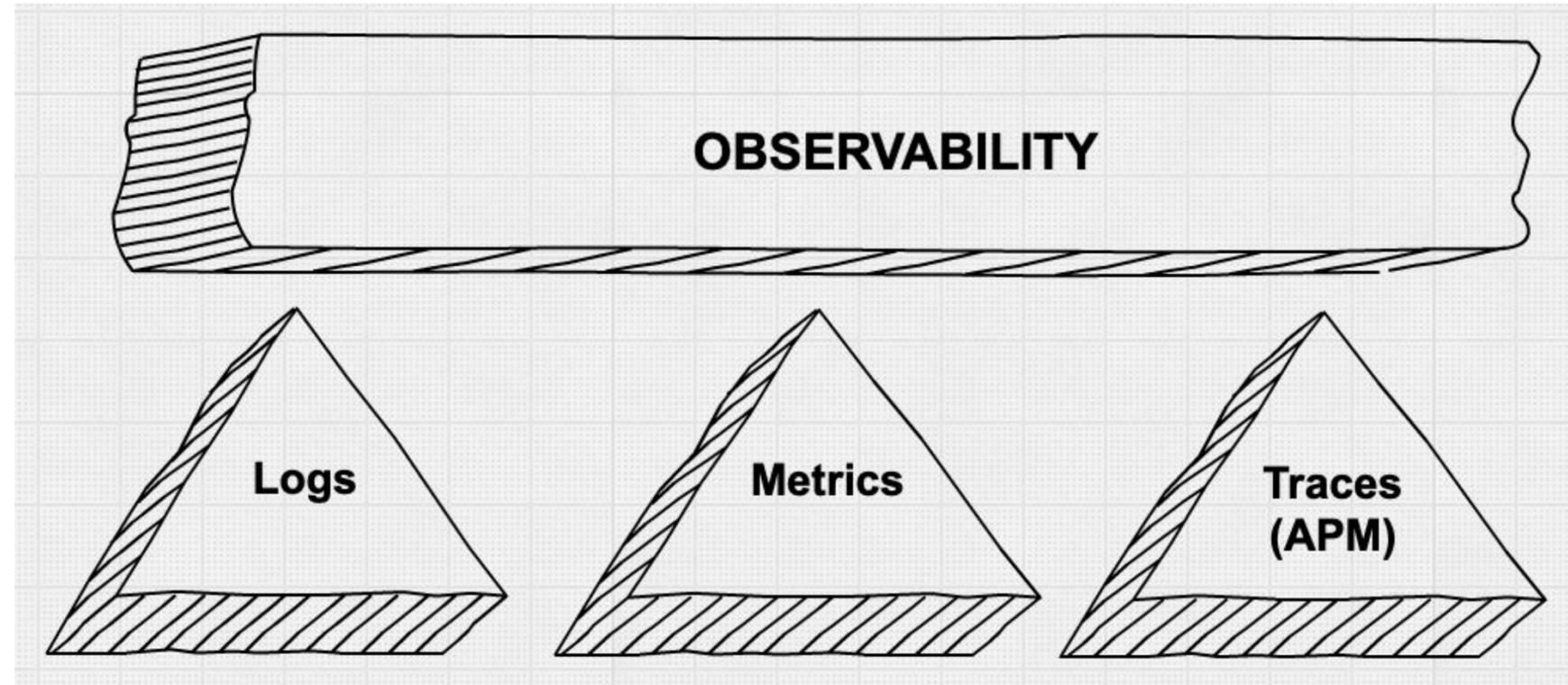
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단일 플랫폼으로  
문제 해결 시간(MTTR)을 최소화, 비용도 최소화

# 로그 / 메트릭 / 트레이스

# Observability

통합모니터링의 세 가지 데이터 타입



# 로그

## 특정 이벤트가 발생할 때마다 생성되는 데이터

```
64.242.88.10 - - [07/Mar/2017:16:10:02 -0800] "GET /mailman/listinfo/hsdivision HTTP/1.1" 200 6291
64.242.88.10 - - [07/Mar/2017:16:11:58 -0800] "POST /twiki/bin/view/TWiki/WikiSyntax HTTP/1.1" 404 7352
64.242.88.10 - - [07/Mar/2017:16:20:55 -0800] "GET /twiki/bin/view/Main/DCCAndPostFix HTTP/1.1" 200 5253
```

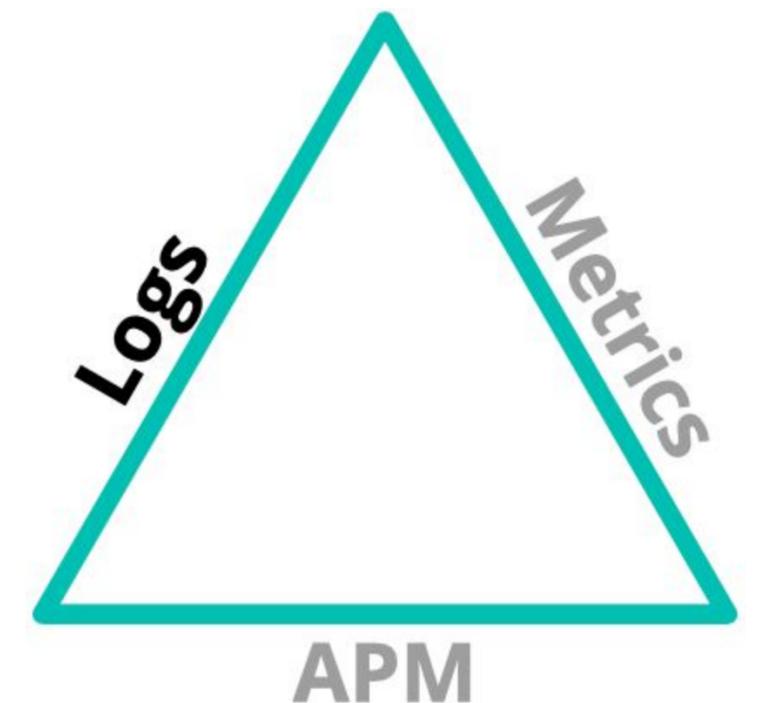
## 각 로그는 ‘어떤’ 일이 일어났는지 기록

### 장점:

- 주로 애플리케이션 또는 서비스가 돌아가는 호스트에 남음
- 사람이 읽을 수 있고 커스터마이징이 가능

### 단점:

- 애플리케이션 수준이 아닌 컴포넌트 수준에서 기록됨
- 출력하지 않으면 기록이 남지 않음
- 포맷이 중요함



# 메트릭

주기적으로 특정 값을 측정하는 데이터

```
07/Mar/2017 16:10:00 all 2.58 0.00 0.70 1.12 0.05 95.55 server1 containerX regionA
07/Mar/2017 16:20:00 all 2.56 0.00 0.69 1.05 0.04 95.66 server2 containerY regionB
07/Mar/2017 16:30:00 all 2.64 0.00 0.65 1.15 0.05 95.50 server2 containerZ regionC
```

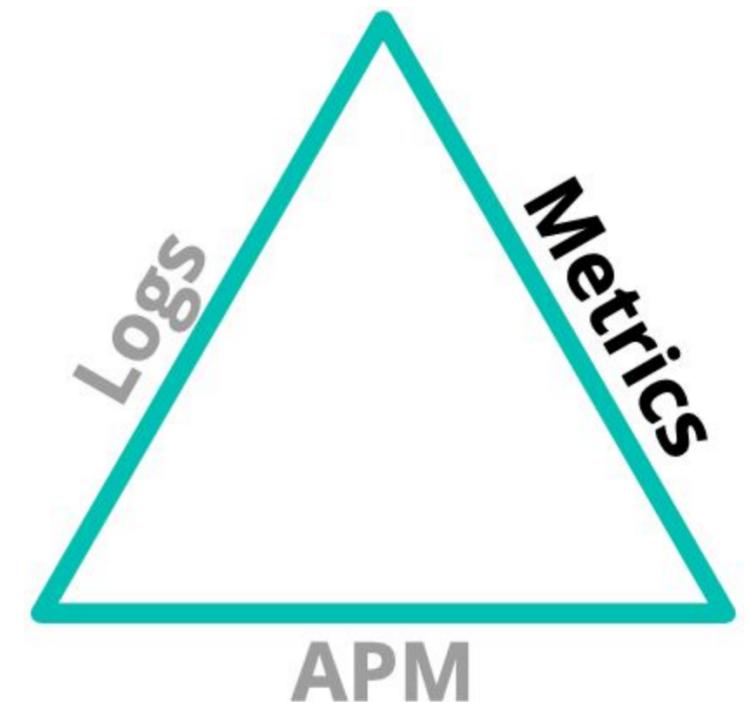
예) 매 10초마다 CPU 사용률을 측정해서 기록 함

장점:

- 트렌드와 이력을 보여줌
- 특정 사건이나 이상치를 잡기 위해 간단한 경고를 만들기 용이함

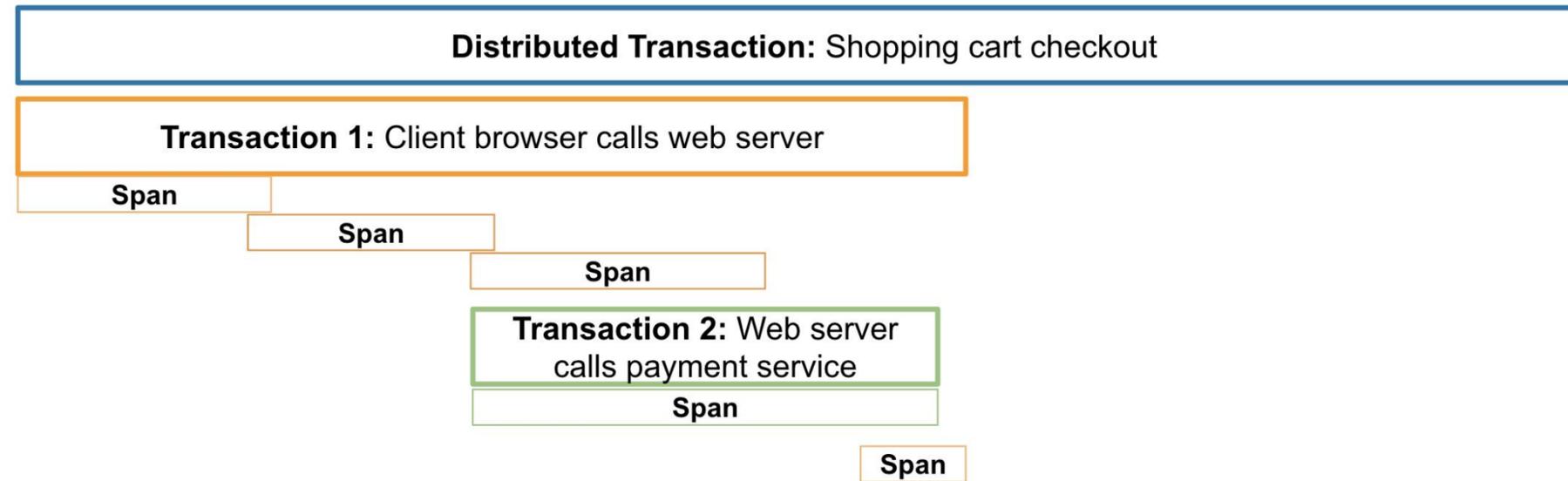
단점:

- 애플리케이션 수준이 아닌 컴포넌트 수준에서 기록됨
- 측정 주기 안에 있는 이상치는 평균에 묻혀버릴 수 있음
- 호스트 또는 네트워크에 기반하지만 컨테이너 환경에서는 총계값이 왜곡될 소지가 있음



# 트레이스

애플리케이션 코드 안에서 일어나는 활동을 기록한 데이터



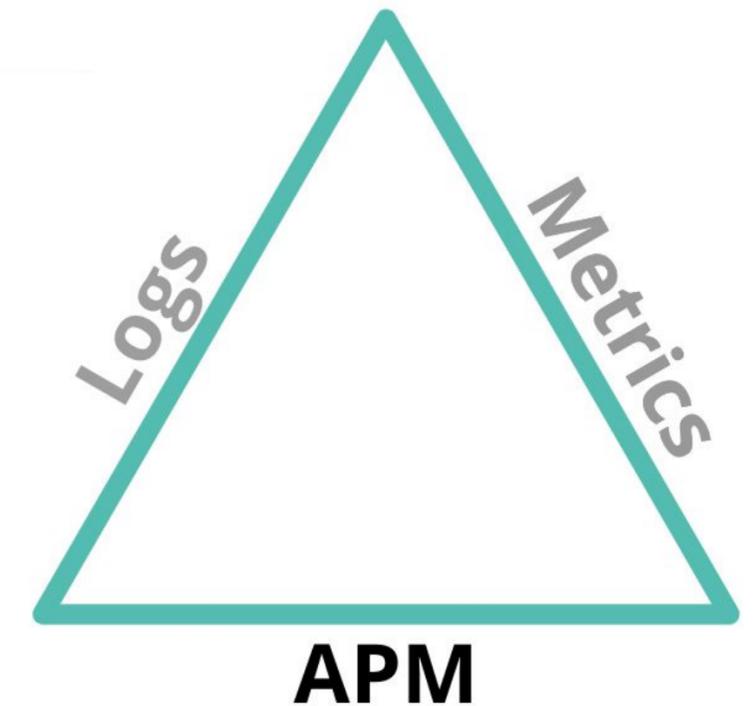
각 트랜잭션마다 관련된 모든 컴포넌트와 그 세부 실행 시간을 추적

장점:

- 근본 원인 분석을 가능케 하는 매우 상세한 정보 제공

단점:

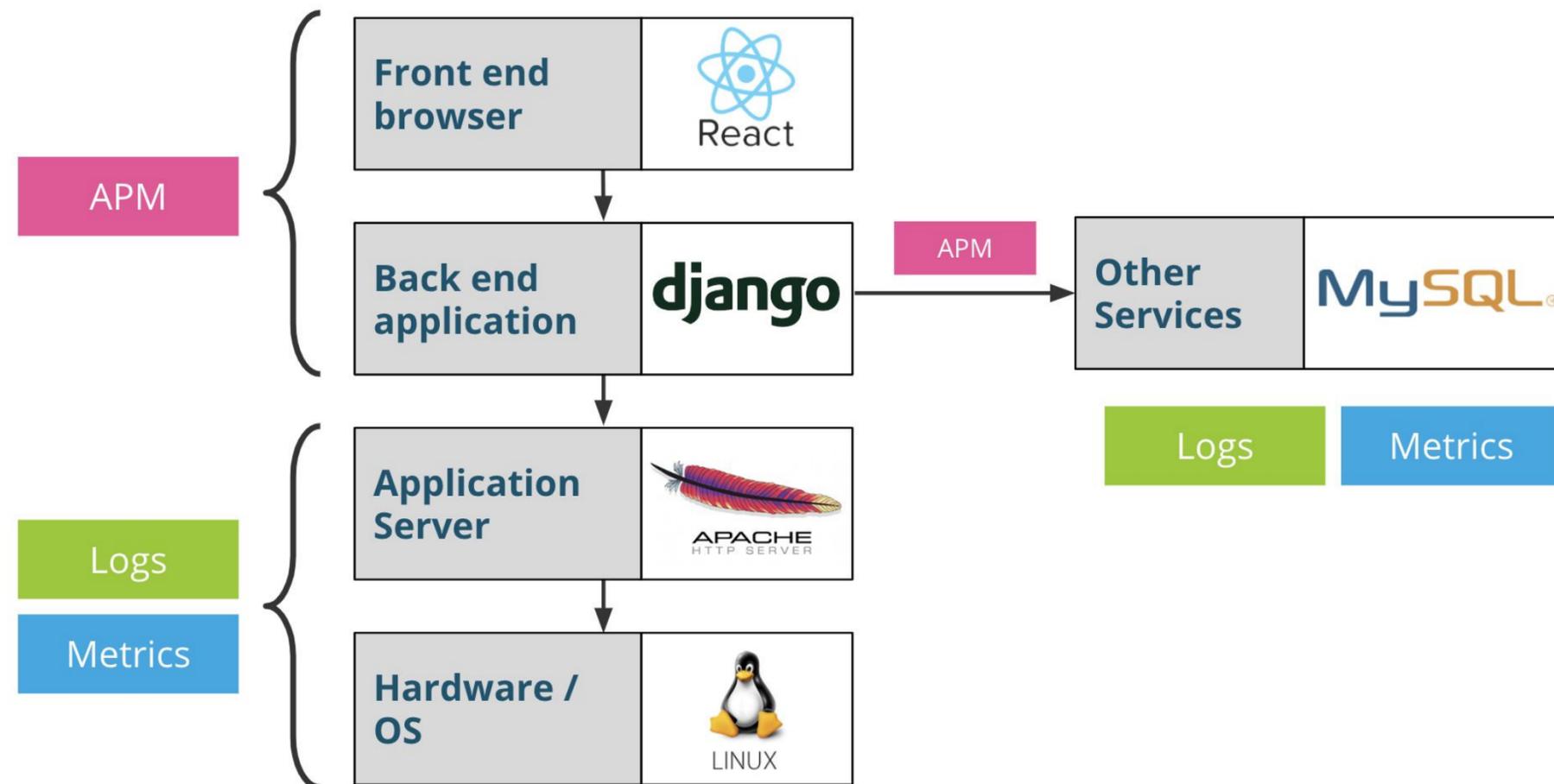
- 데이터 양이 매우 많고 내용이 장황함
- 애플리케이션 코드를 인스트루먼트(instrument) 할 필요가 있음



# 로그 + 메트릭 + 트race

통합 모니터링을 위해서는 세 가지 모두가 필요함

- 웹서버에 “로그” 형태로 기록되는 사용자 요청과 에러 내용
- 운영체제 API 호출로 발생하는 CPU와 RAM 사용 “메트릭”
- 애플리케이션의 로딩 시간과 그 상세 내역이 기록된 “트레이스”



# 트레이스 데이터

예: 응답 시간 또는 실행 시간이 느린 경우

03:43:45 Request "GET cyclops.ESProductDetailView"

03:43:57 Response "cyclops.ESProductDetailView 200 OK"

12 초

# 트레이스 데이터

예: 오류 및 예외 발생

03:43:59 Request "POST /api/checkout"

03:43:59 Response "/api/checkout 500 ERROR"

# 분산 트레이싱

## 단일 트랜잭션



# 분산 트레이싱

다수 서비스

트레이스 A

트랜잭션 1

스팬

스팬

스팬

트랜잭션 2

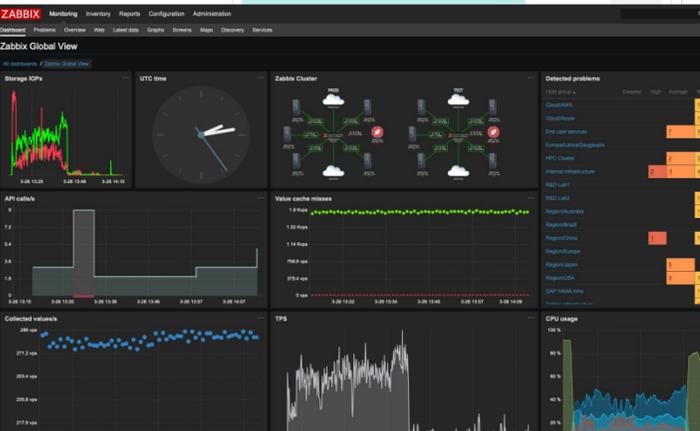
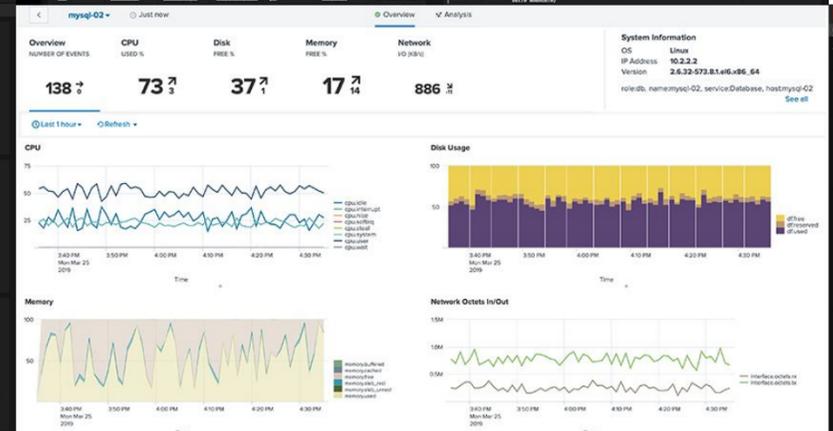
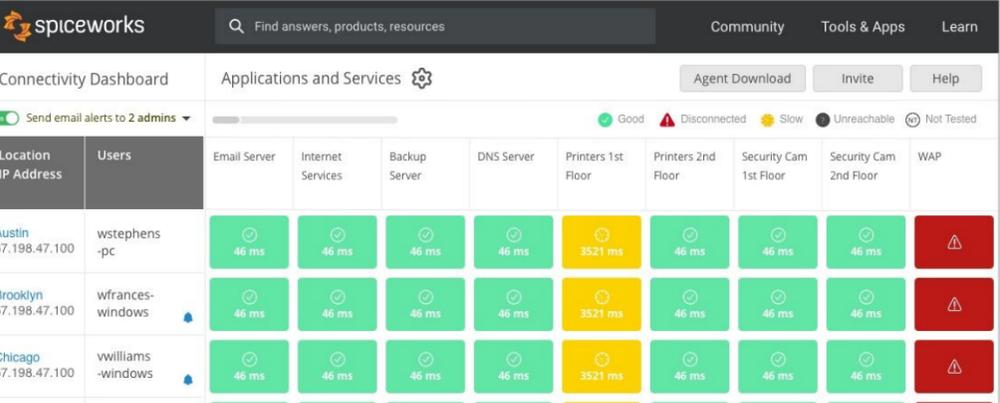
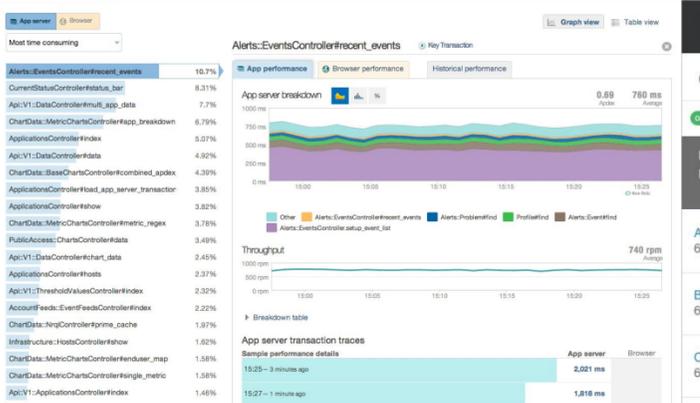
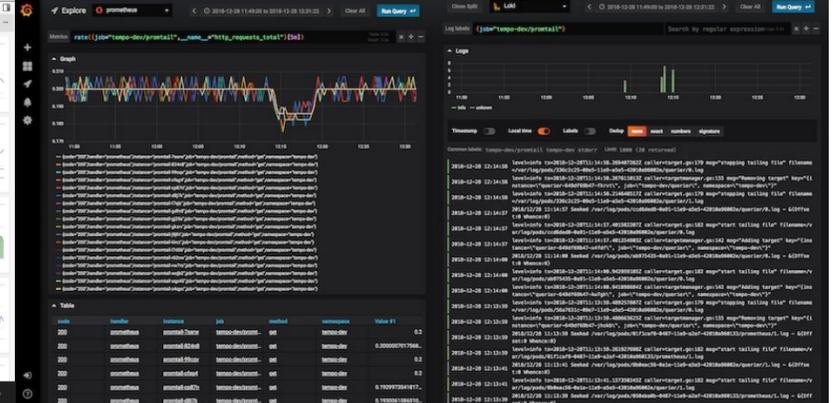
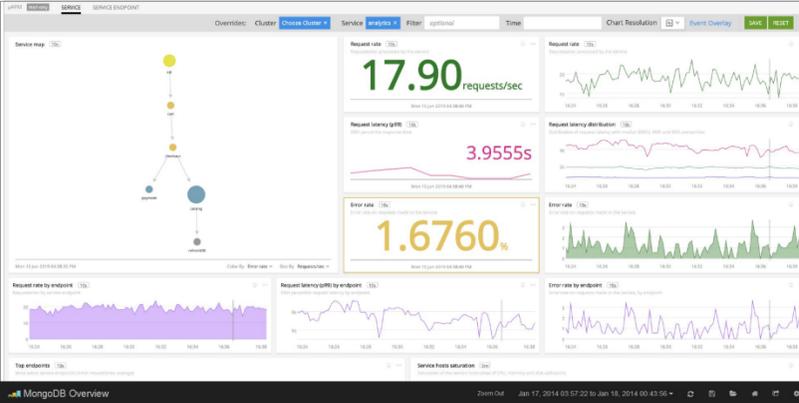
스팬

스팬

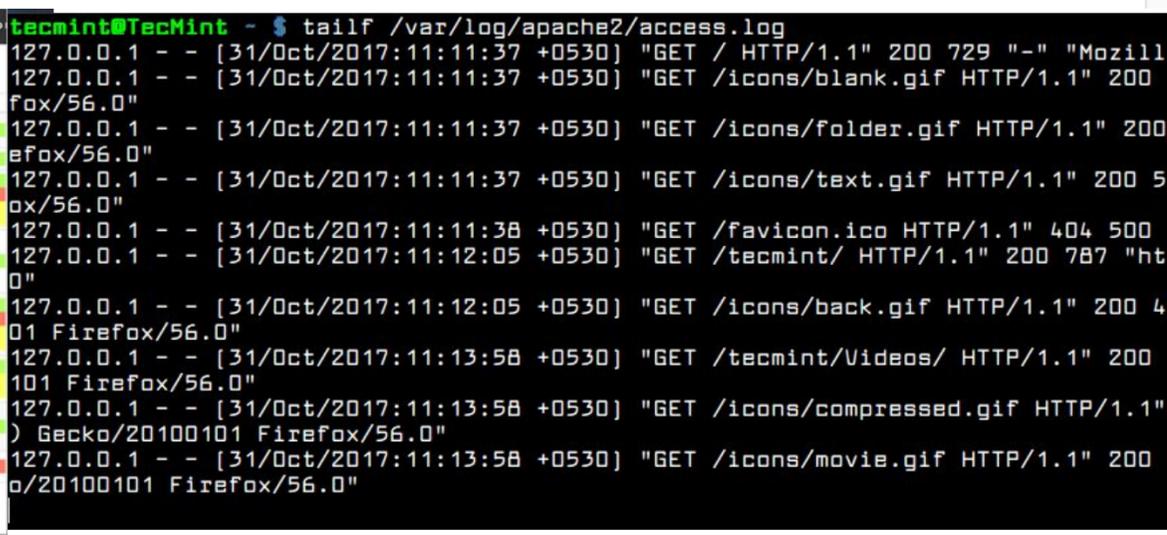
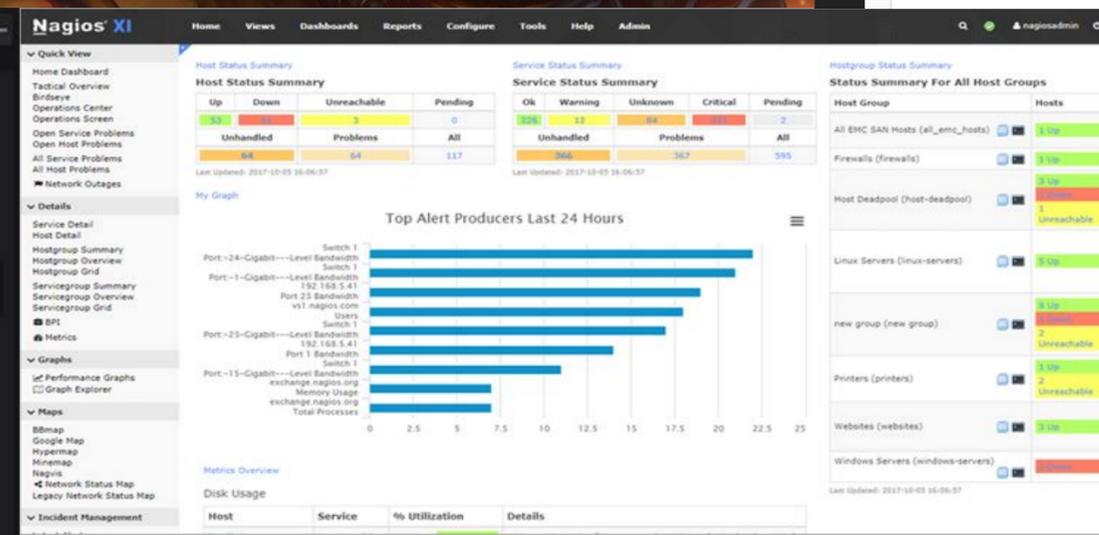
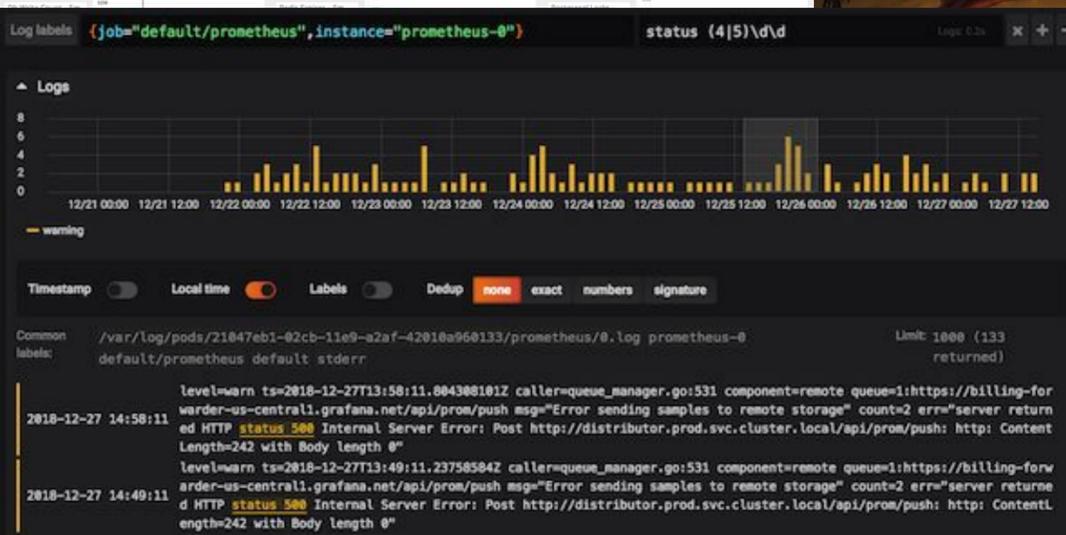
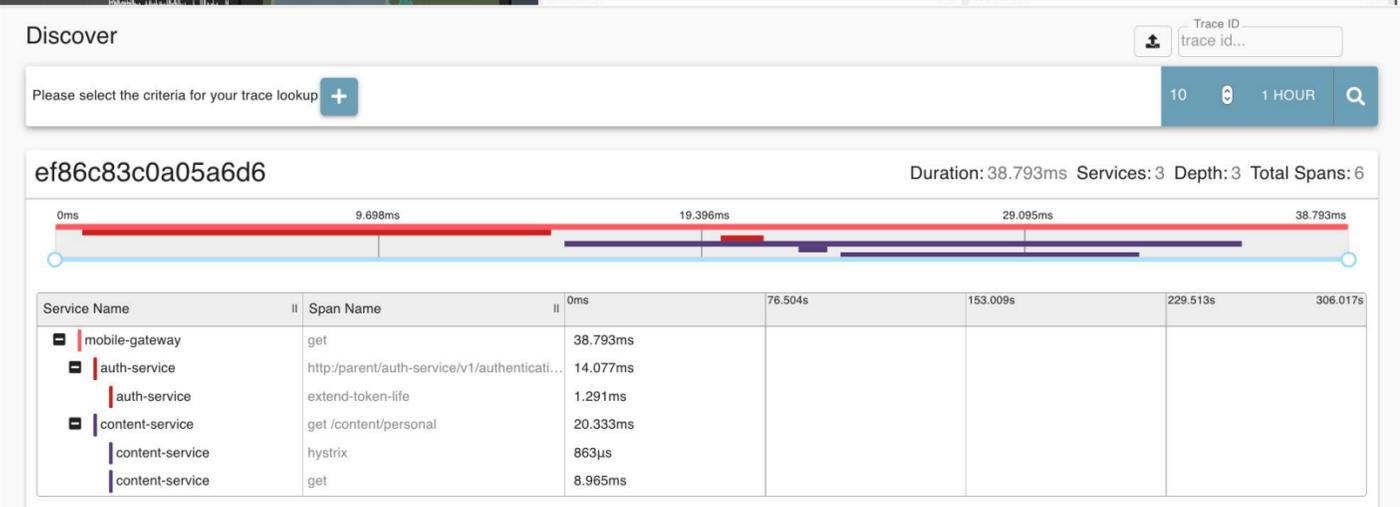
트랜잭션 3

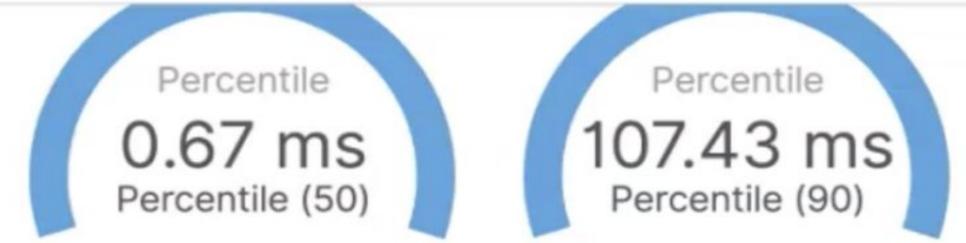
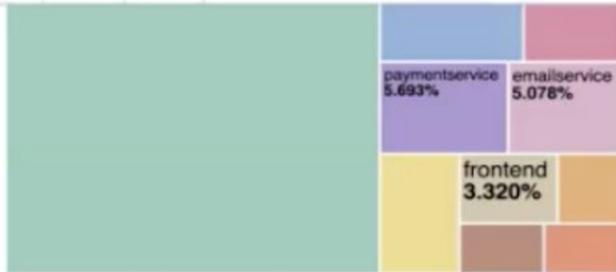
스팬

스팬

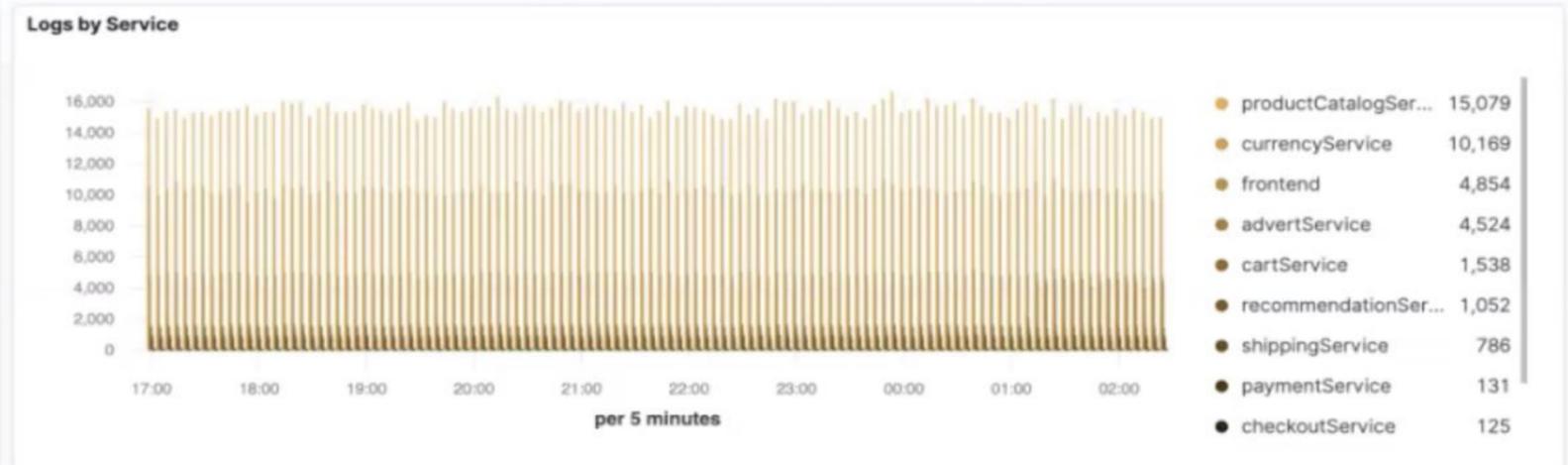


- 7815c90 - (HEAD, origin/master, origin/HEAD, master) Updated iPhones graphic with new screenshot (11 days ago) <@Nutter>
- 9bfa321 - Updated README (2 weeks ago) <@Nutter>
- dd18385 - Updated to new design (2 weeks ago) <@Nutter>
- b2e36c6 - Added fallback for missing avatar (2 weeks ago) <@Nutter>
- 8678978 - Removed Disk caching of avatar (6 weeks ago) <@Nutter>
- 39d2c3c - Preparing for App Store submission (9 weeks ago) <@Nutter>
- 4fd7261 - Fixed cell bg when user only has 1 badge. (9 weeks ago) <@Nutter>
- 13bf363 - Fix image (10 weeks ago) <@Nutter>
- 705363e - Try screenshots with transparent background (10 weeks ago) <@Nutter>
- bd4682e - Correct image location in README (10 weeks ago) <@Will McKenzie>
- 483d05b - Added iPhone screenshots to README (10 weeks ago) <@Nutter>
- 2d7a6d7 - Adding license (10 weeks ago) <@Nutter>
- d6c6660 - Adding to .gitignore (10 weeks ago) <@Nutter>
- 0e2af71 - Still trying to ignore UserInterfaceState file (10 weeks ago) <@Nutter>
- cca3d3b - ignore interfaceState file (10 weeks ago) <@Nutter>
- 2b1e812 - Added first draft of README (10 weeks ago) <@Nutter>
- 38586ba - Bug fixes and UI Improvements. New Icons added (2 months ago) <@Nutter>
- 968d04c - Removed extra app icons (3 months ago) <@Nutter>
- ecf783d - Various updates (3 months ago) <@Nutter>
- 6ce53d3 - Removed SDURL files from root (3 months ago) <@Nutter>
- 62e0679 - Made sure images cache (3 months ago) <@Nutter>
- 1397d2 - Ran Arc conversion to improve memory management. Refactoring and bug fixes (3 months ago) <@Nutter>
- c3061b8 - Added pull to refresh functionality (3 months ago) <@Nutter>
- 926616b - Made sure iPhone badge and accomplishments view controllers reload when user changed. (3 months ago) <@Nutter>
- 83cd921 - Stopped badges images using separate threads. (3 months ago) <@Nutter>

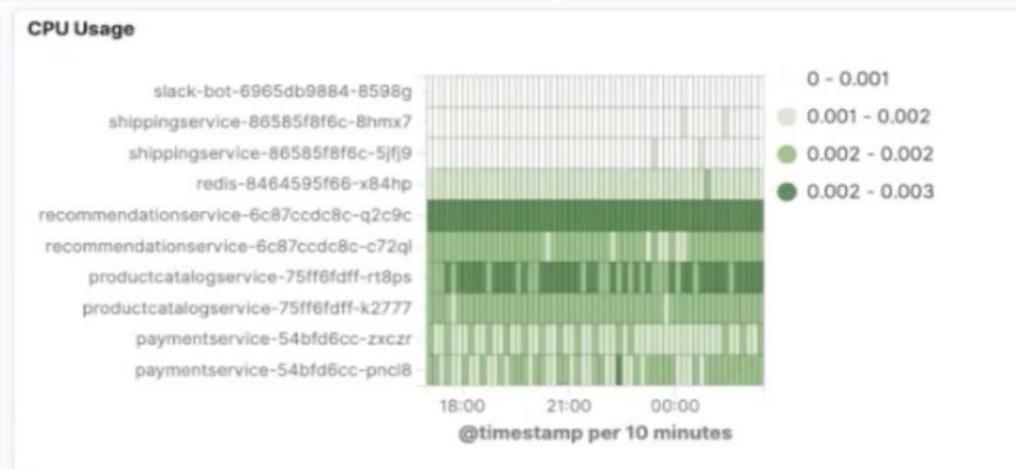
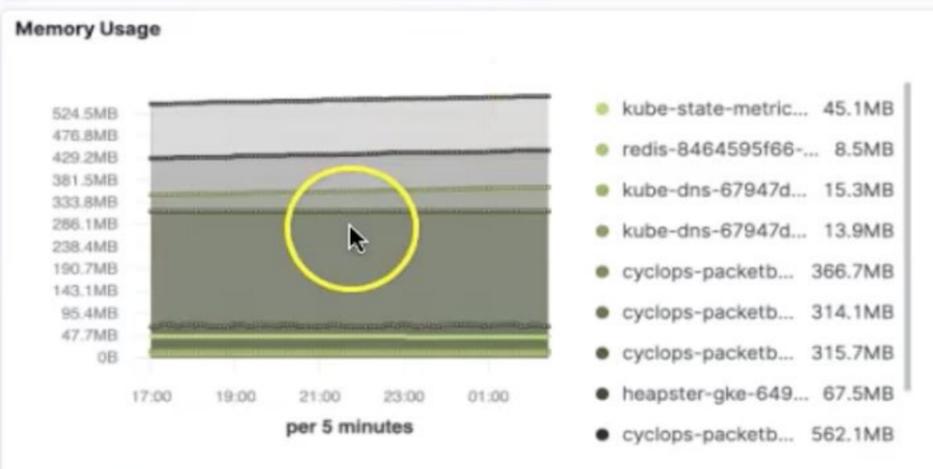




Logs



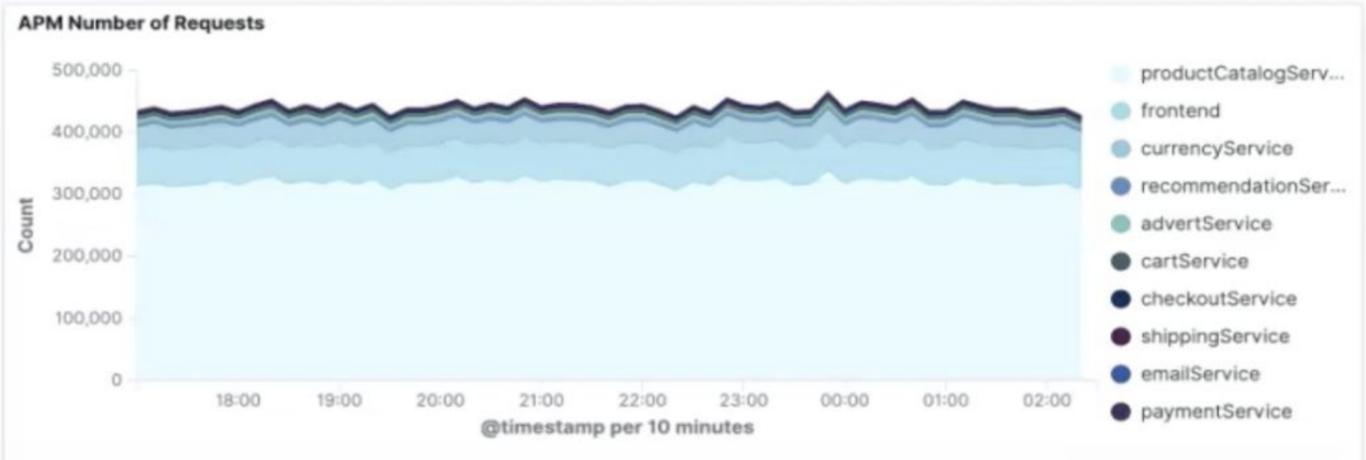
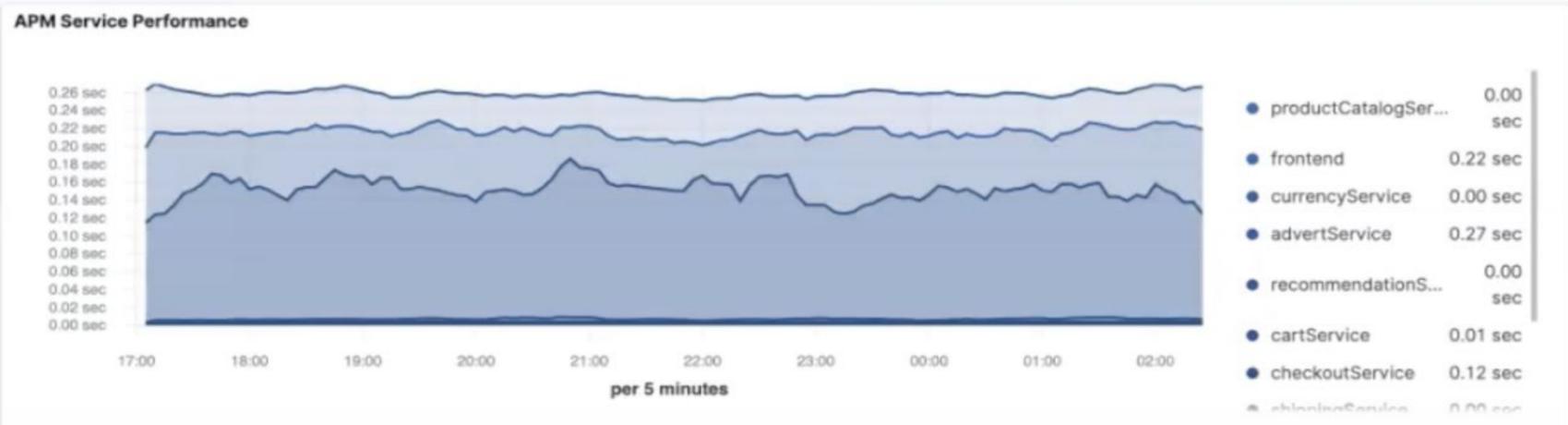
Metrics



Hosts [Metricbeat Redis] ECS

service.address: Descending	Uptime (s)	PID	Memory	CPU used (user)	CPU used (system)
10.80.9.59:6379	42,046	1	1,448,096	61.744	72.956

APM



**Demo**

**Elastic Observability  
in MSA**

# Demo

## Install and Run Elastic @Ubuntu



# Thank you !!

Elastic 부스에 오셔서 더 많은 데모와 정보들을 확인하세요.

Check more info and demos at Elastic sponsor booth!

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