



End-to-End Observability

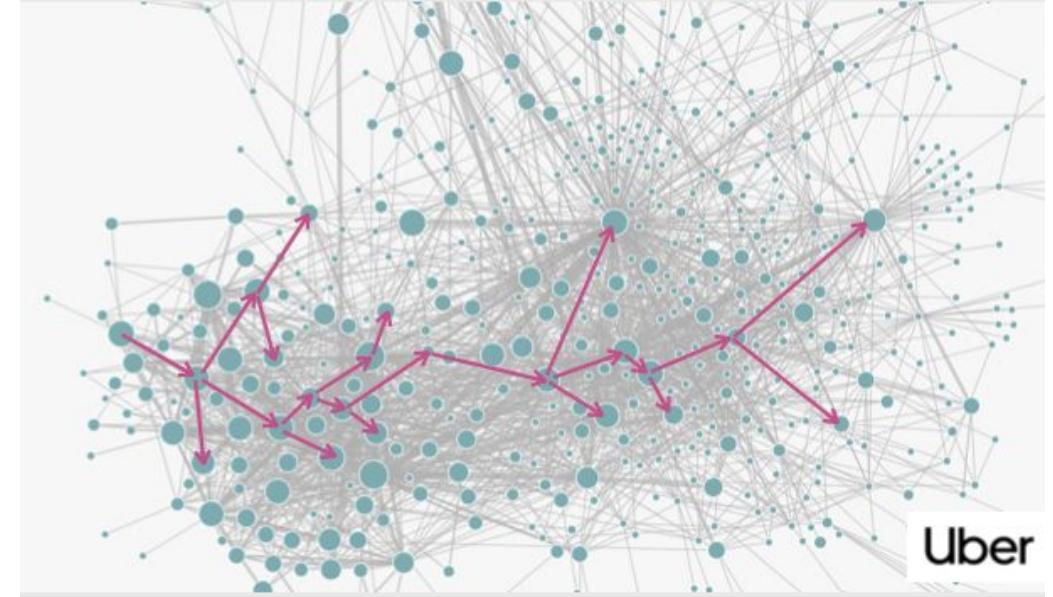
Solution Engineer - 유근준
(gyoo@sumologic.com)

Agenda

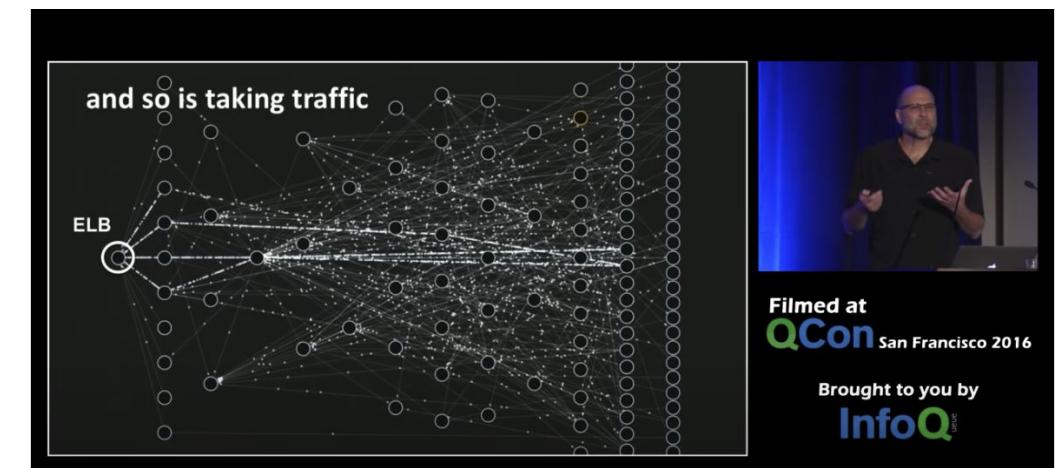
- Observability(관측용이성)란?
- 모니터링과 Observability
- Sumo Logic이 말하는 Observability
- Sumo Logic Traces
 - 마이크로서비스 Observability - Traces
 - Sumo Logic Traces
- Tracing Live Demo
- Summary

Observability ?

- 수많은 마이크로서비스로 **분산처리(Distributed)** 가 기본이 된 클라우드 네이티브 앱에서 효율적으로 Root cause를 찾아가기 위한 모니터링 방법론.
- MSA App의 모니터링 시스템들은 아래 질문에 답을 할 수 있는가?
 - 어떤 서비스들을 거쳐왔는가?
 - 거쳐온 모든 서비스들은 무엇을 했는가?
 - 만약 처리 속도가 느렸다면, 병목형상(bottleneck)은 어디에 있었는가?
 - 만약 특정 요청이 실패(fail)했다면, 에러는 어디서 왔는가?



<https://www.infoq.com/presentations/uber-microservices-distributed-tracing/>



<https://youtu.be/CZ3wluvmHeM>

Monitoring vs Observability

Monitoring

- Metrics 중심
- 이미 알고 있는 것에 대한 모니터
- 실패(Failure)한 후에 대응
 - 실패(Failure)를 피할 방법은 없음

Observability

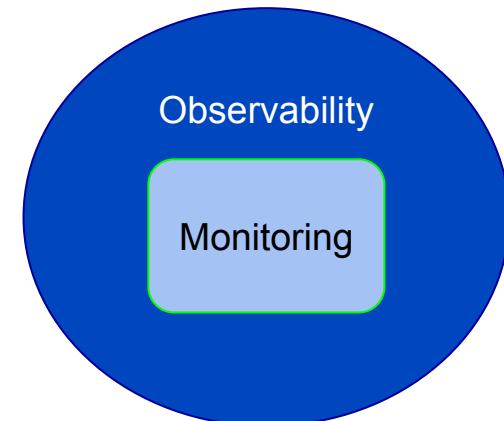
- Logs, Metrics, Traces
- 앱에 대한 내외부의 전체적인 상황(stateful) 제공
- 원인 파악(Root Cause)에 초점
 - What & Why

<https://sre.google/sre-book/monitoring-distributed-systems/>

<https://thenewstack.io/monitoring-vs-observability-whats-the-difference>

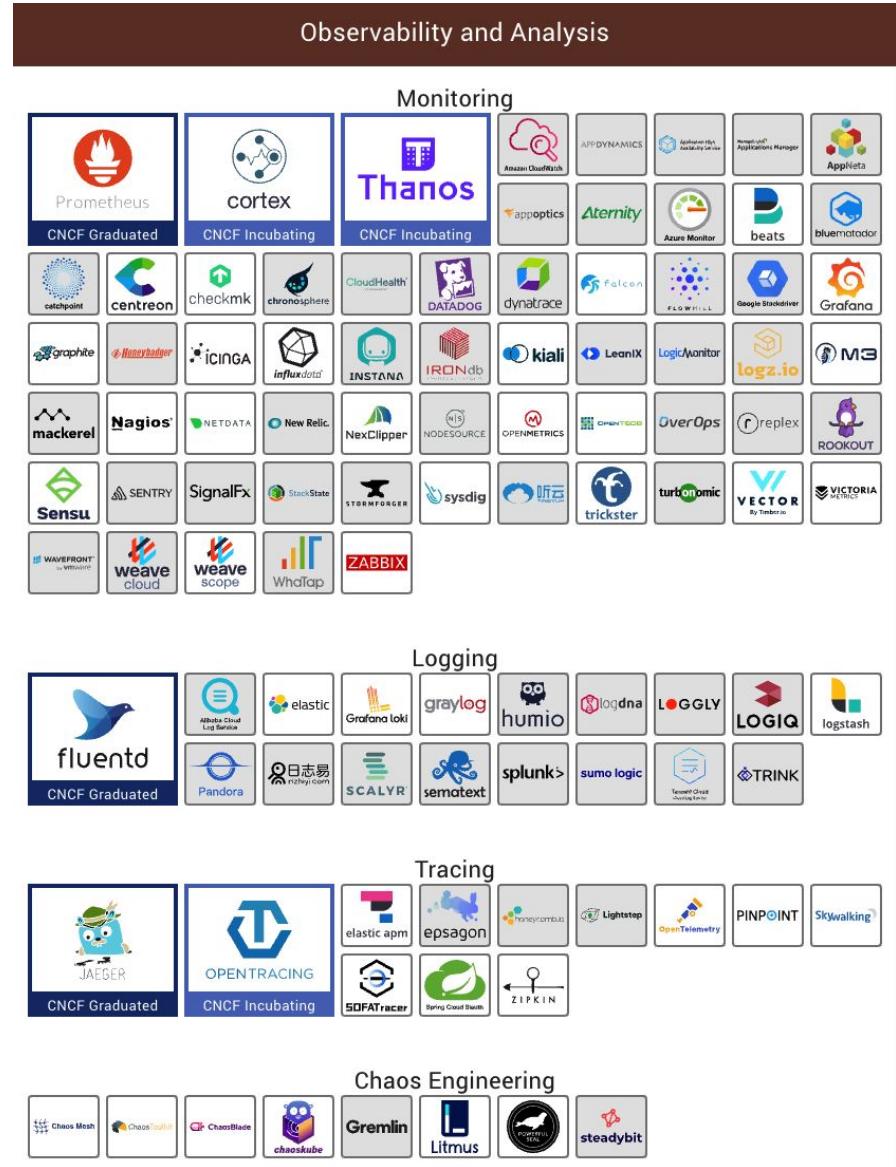
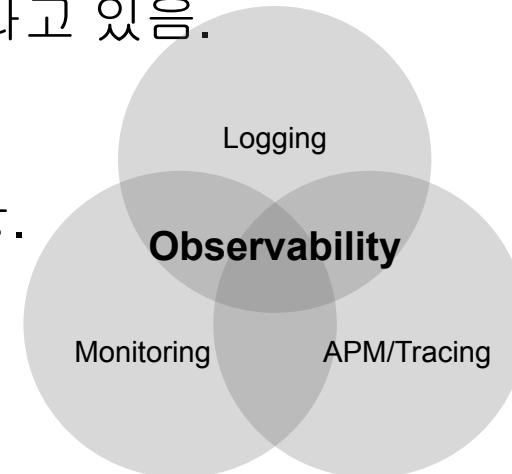
<https://copyconstruct.medium.com/monitoring-and-observability>

Monitoring과 Observability가 왜 다를까?: <https://youtu.be/2ivl8Hzp7QQ>



Observability - CNCF

- Observability는 툴, 혹은 서비스가 아닌 DevOps와 같은 하나의 개념 혹은 추구하는 방향(Movement).
- 데이터에 기반한 앱 개발의 중요도가 올라가면서 Observability의 중요도도 올라고 있음.
- 여전히 초기단계, 꾸준히 성장.

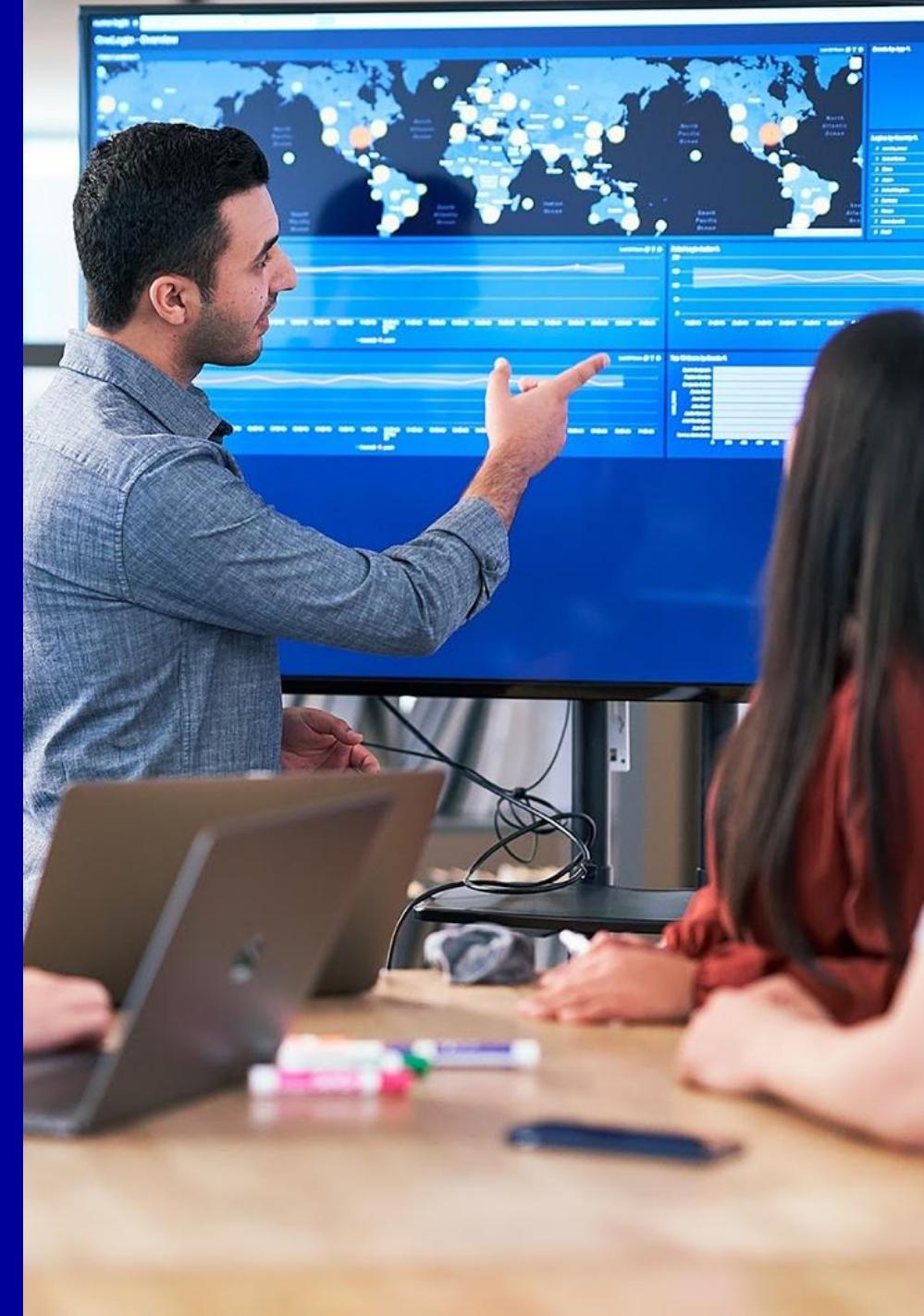


<https://landscape.cncf.io/category=observability-and-analysis&format=card-mode&grouping=category>

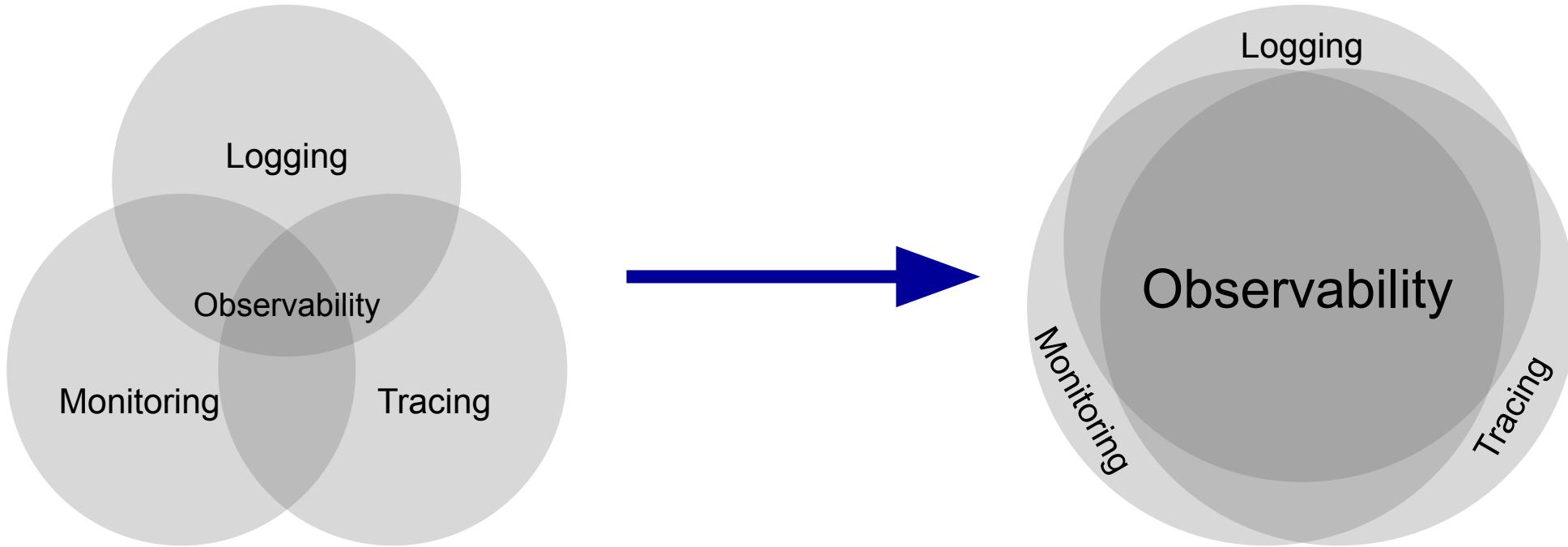
Sumo Logic

SumoLogic이 말하는
Observability

sumo logic

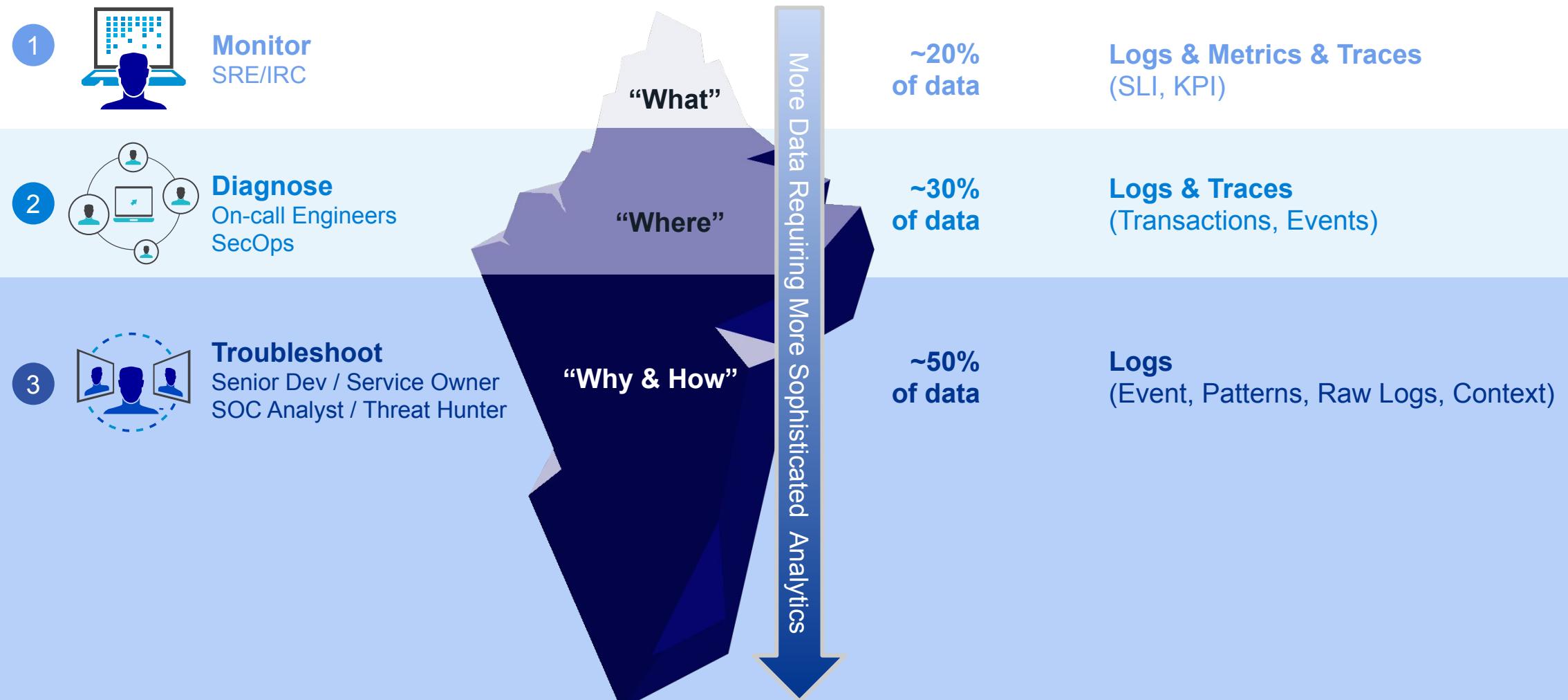


Sumo Logic - Observability 전략

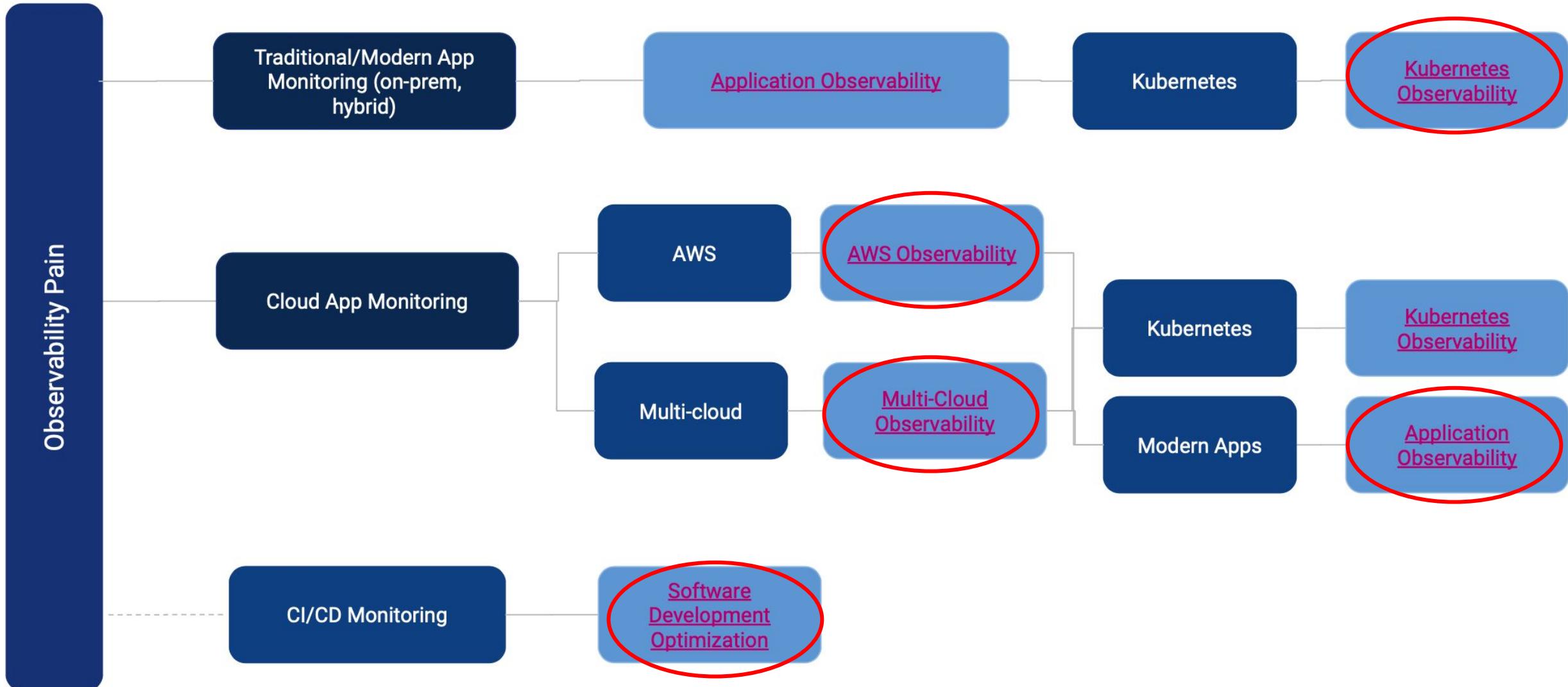


옵저버빌리티 이해

알려지지 않은 Root Cause를 찾기 위해서는 뛰어난 로그 분석 솔루션 필요

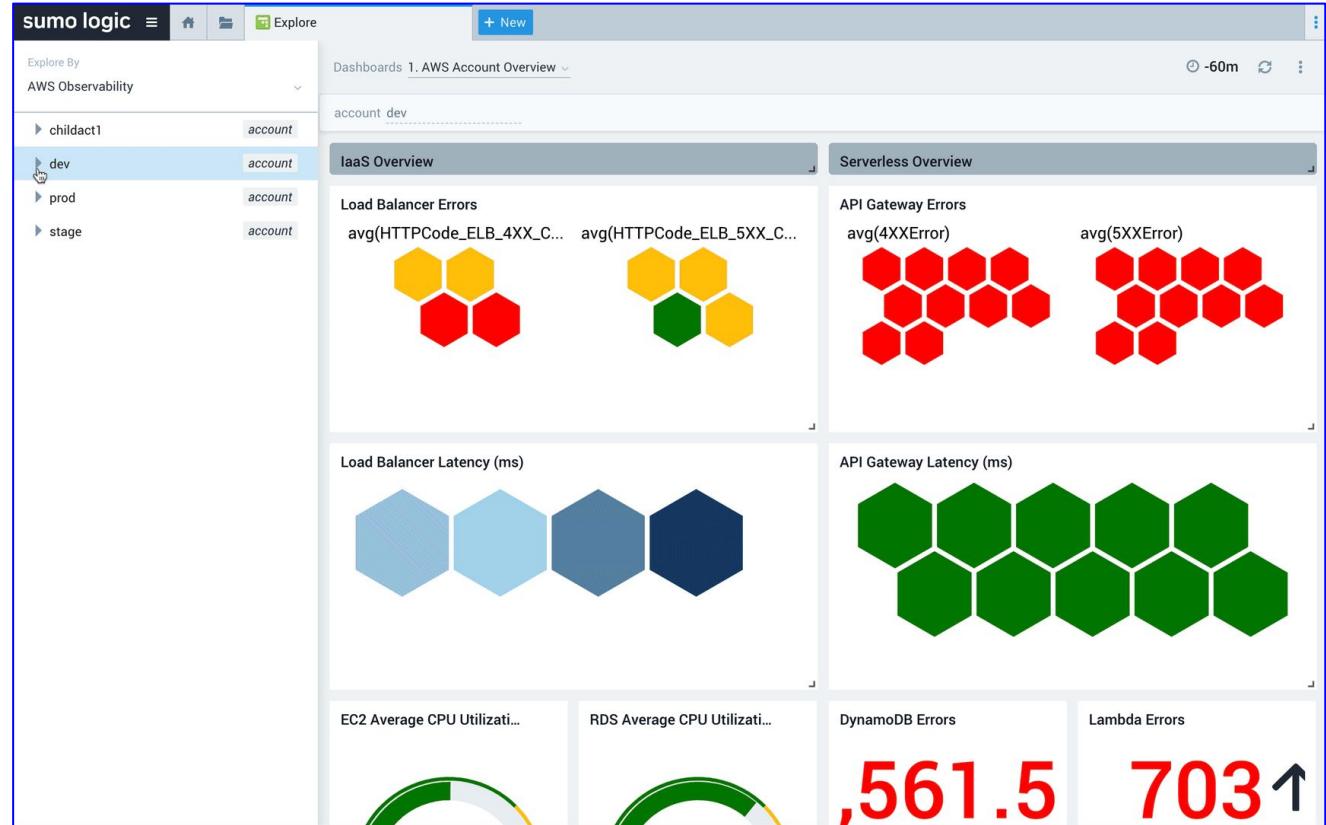


Sumo Logic Observability Categories

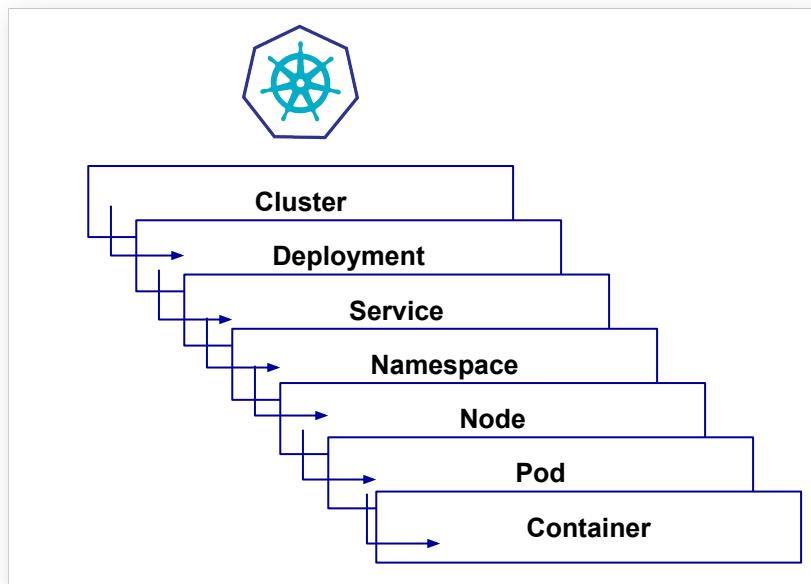


AWS Observability

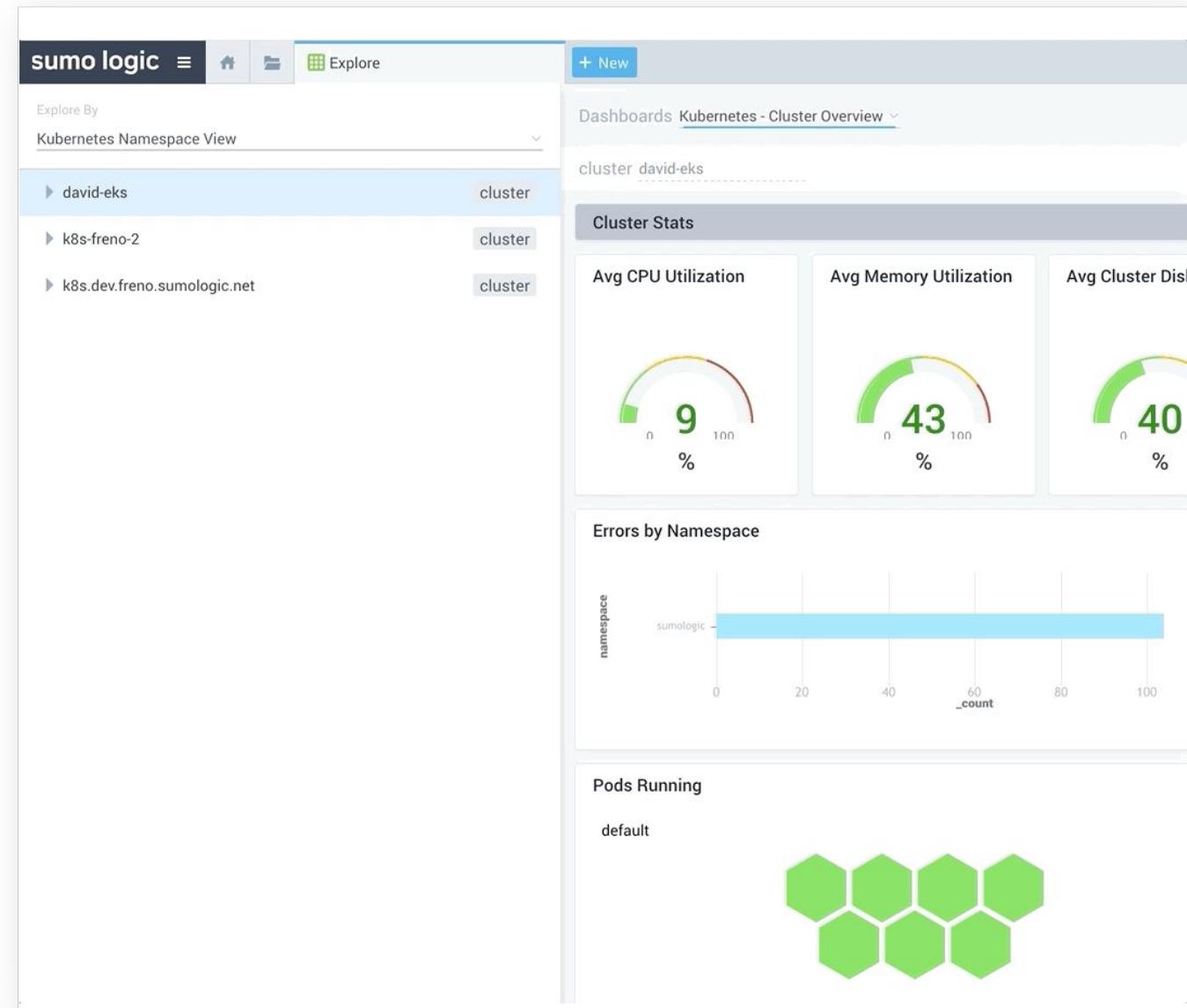
- 어카운트, 리즌, 서비스, 네임스페이스 등을 직관적으로 찾아갈수 있게 하는 계층 트리뷰 제공.
- 40개 이상의 AWS 서비스 앱 대시보드 제공.
- ELB, EC2, RDS, Lambda, DynamoDB, ECS, ElastiCache, ALB and API Gateway 완벽지원.



Kubernetes Observability



sumo logic

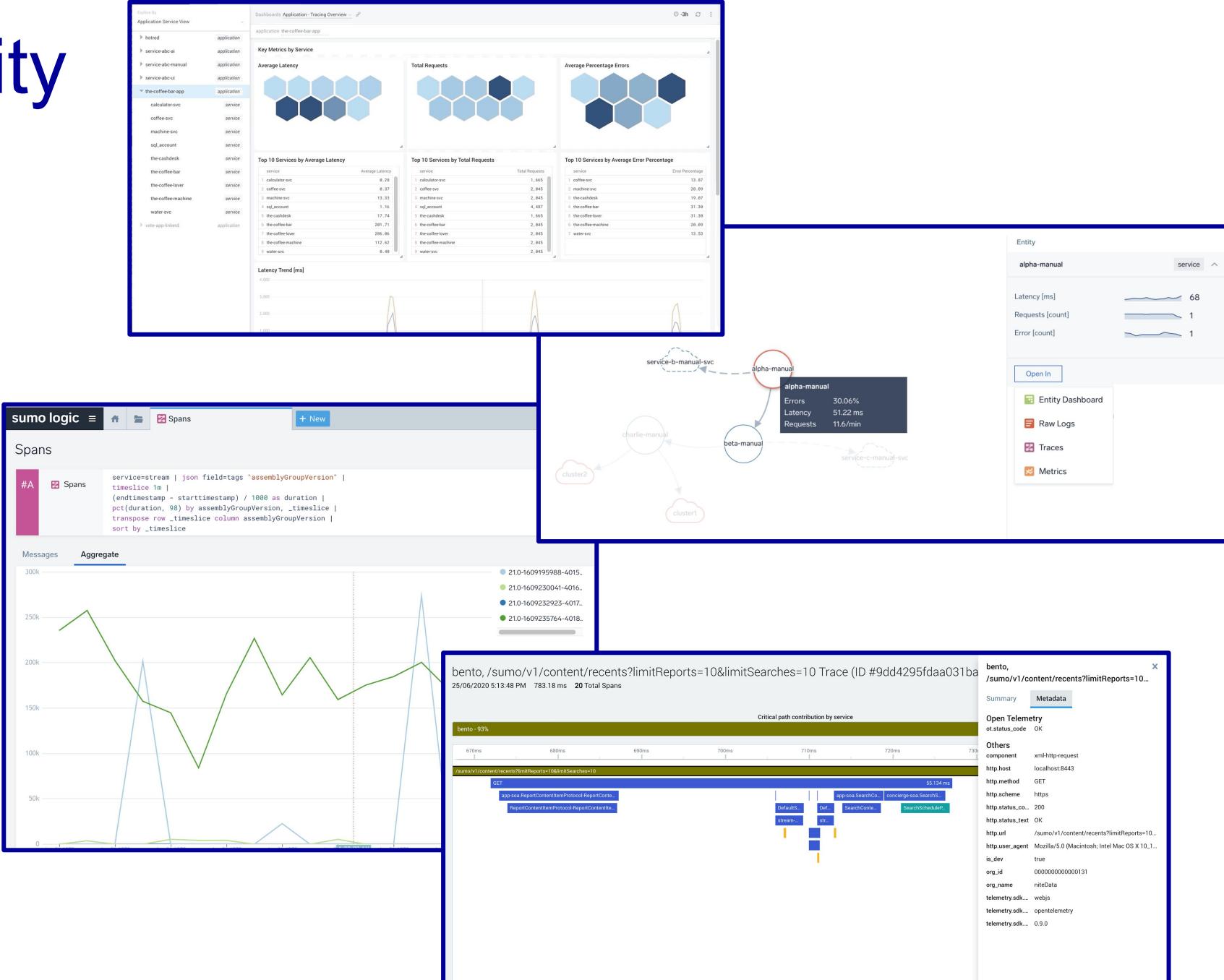


Sumo Logic confidential

App Observability

- Browser monitoring
(RUM)
- Span analytics
- Extended filtering
- Serverless support
- Dashboard panels

sumo logic

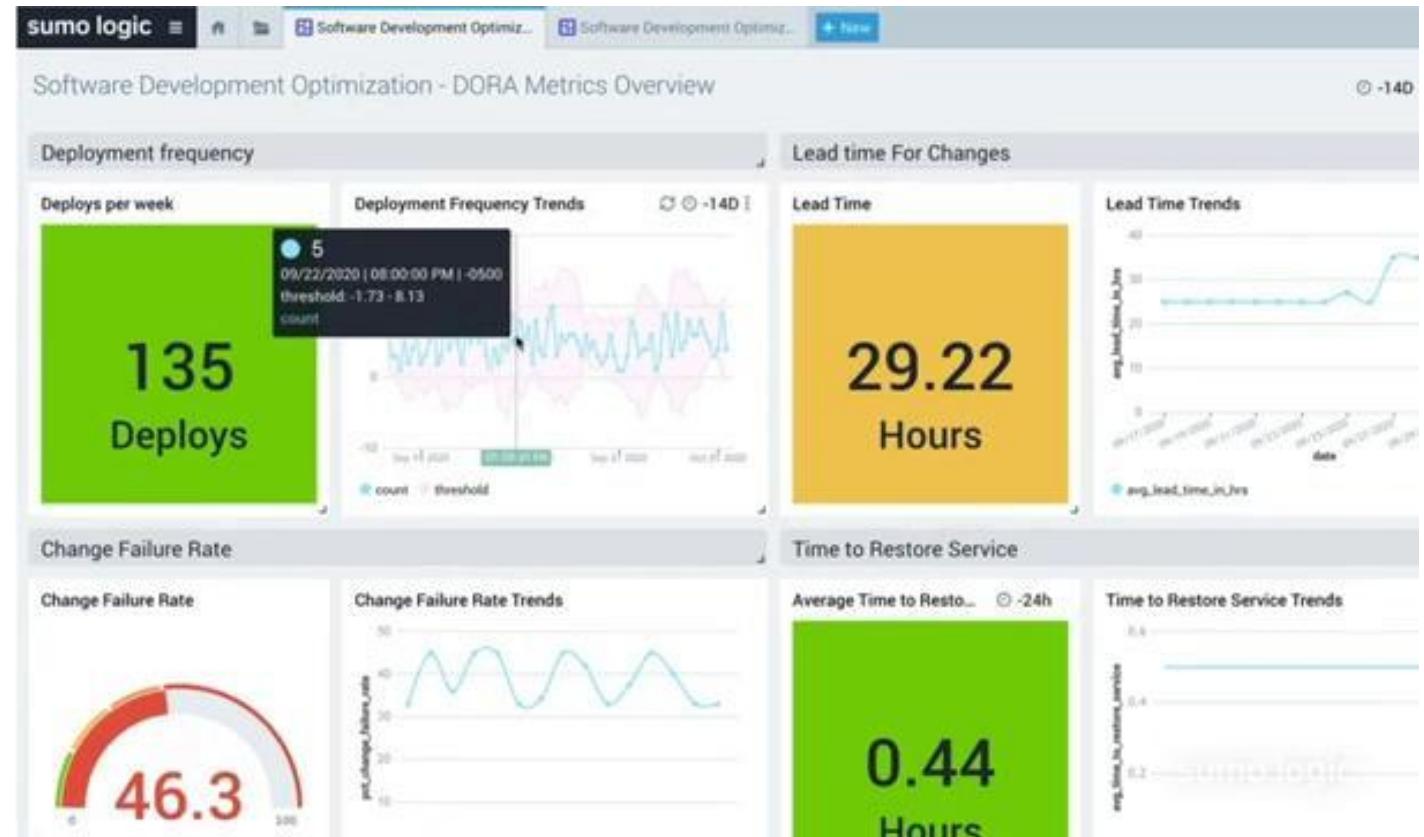
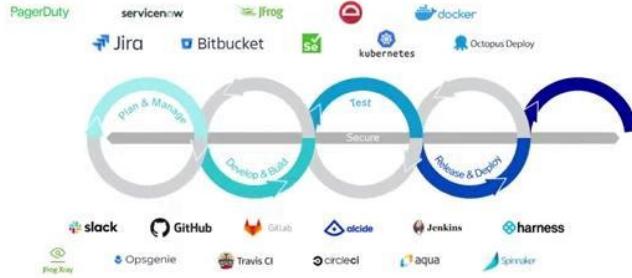


Root Cause Explorer



Drill-down to related log

Software 개발 최적화를 위한 Observability



소프트웨어 개발 최적화 Observability

Terraform을 통한 설정



DORA 대시보드 템플릿

데이터 상관관계에 따른 표준화
포맷

자동 경보/
이슈 생성



sumo logic

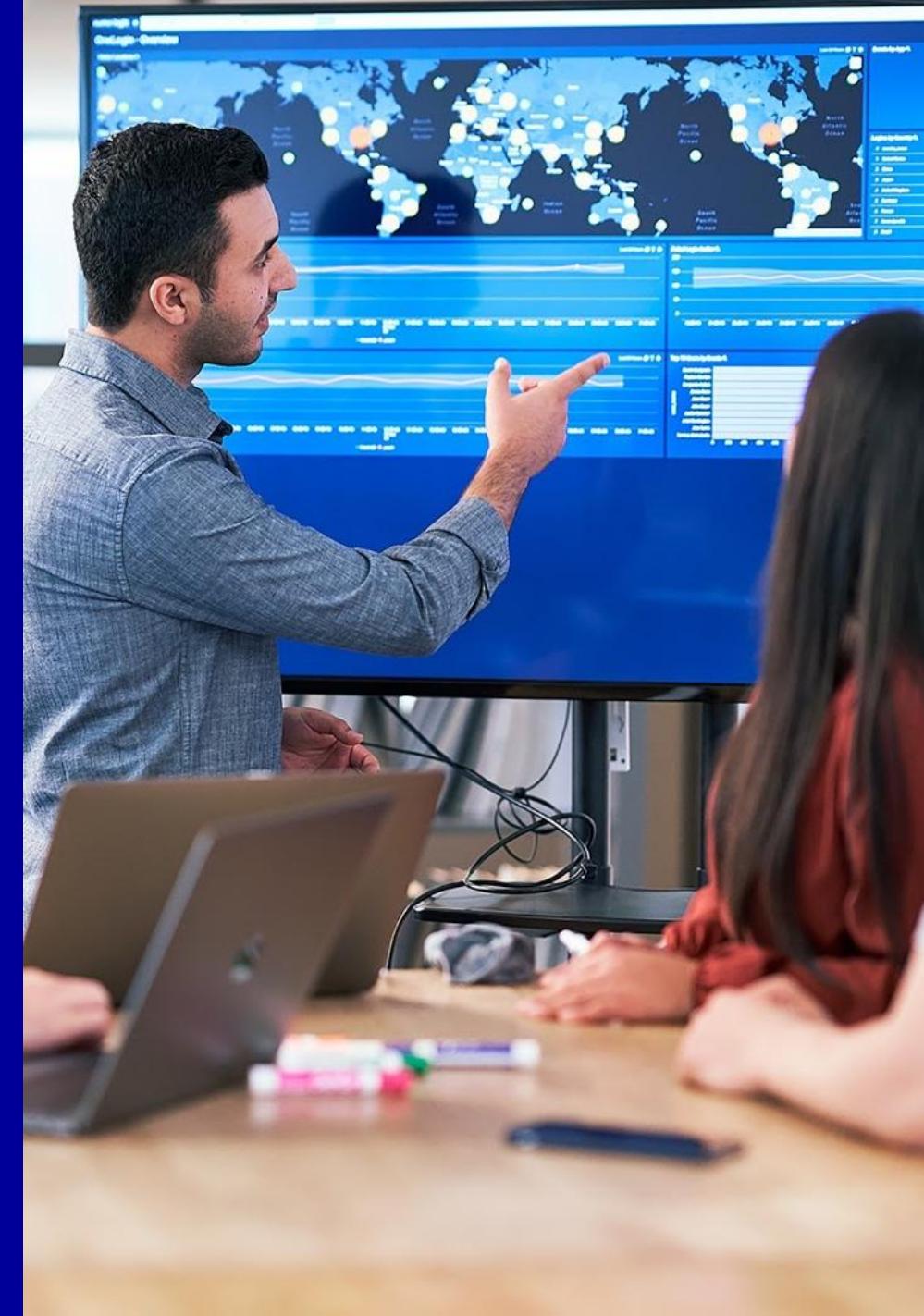


Sumo Logic confidential

Sumo Logic Application Observability

Traces

sumo logic



Observability - Traces

- **Distributed Tracing (CNCF) - OpenSource**

- ZipKin - <https://zipkin.io/>



- Jaeger - <https://www.jaegertracing.io/>



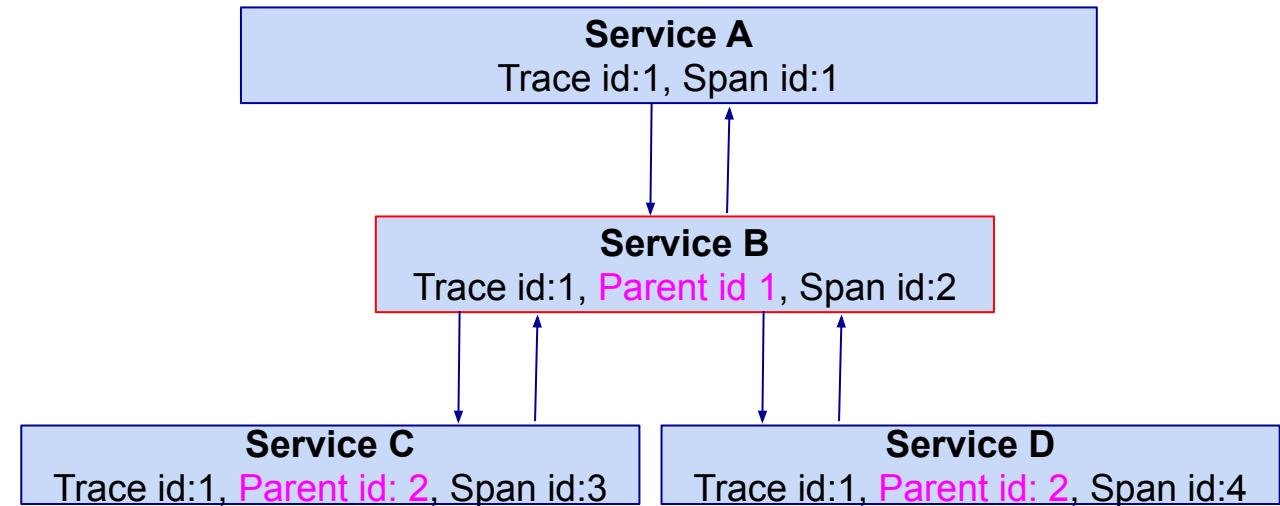
- OpenTelemetry - <https://opentelemetry.io/>



- Spring Cloud Sleuth - <https://spring.io/projects/spring-cloud-sleuth>



- Istio - <https://istio.io/>



Ingest flows



Manual
Instrumentation
(OT/OC
compatible)

Existing
Open source
integration
libraries

Auto-
instrumentation
Java
JS/Node
Python
Ruby
.NET



Spring Cloud Sleuth



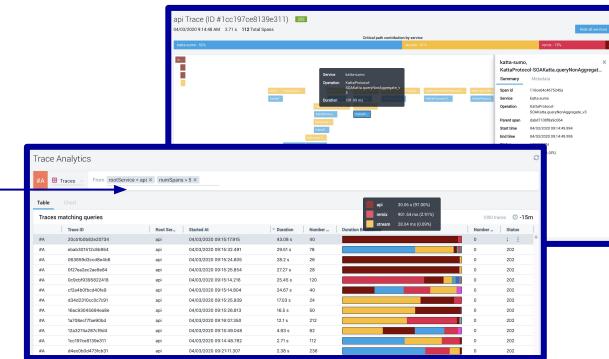
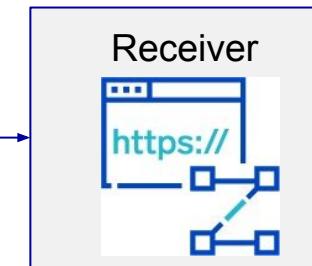
Service mesh
CSpring
Istio
Linkerd



Sumo Logic K8S/
OpenTelemetry
collector



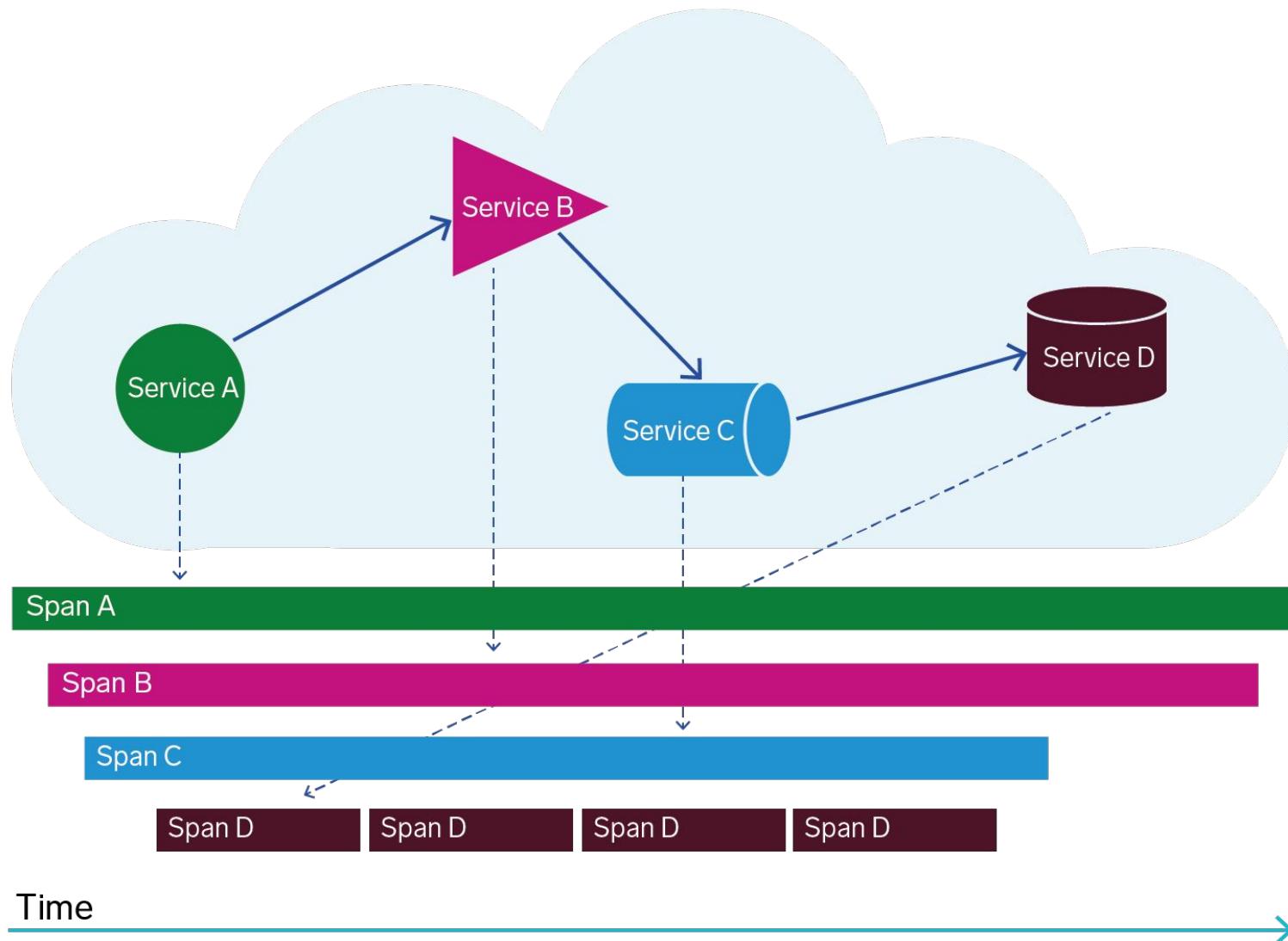
sumo logic



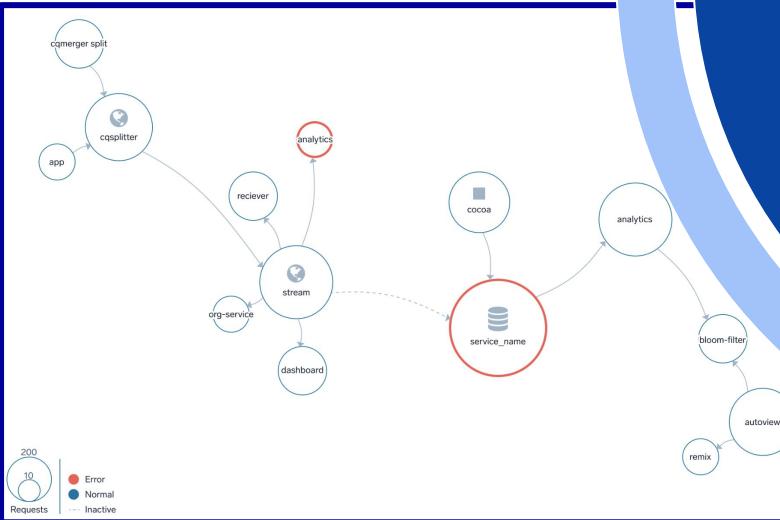
sumo logic

Sumo Logic confidential

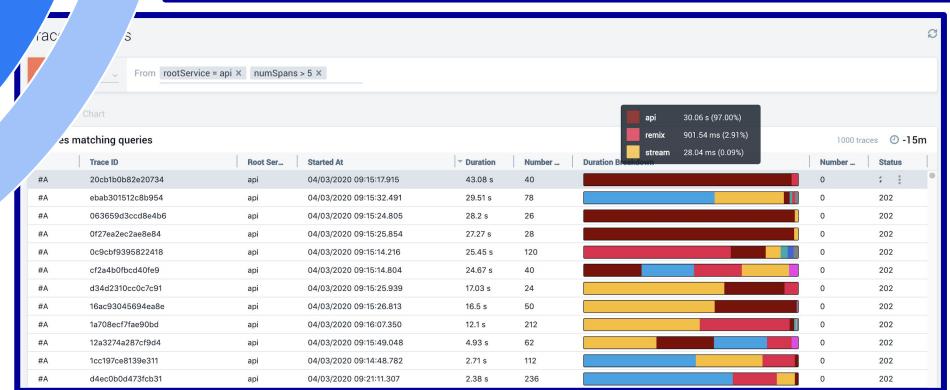
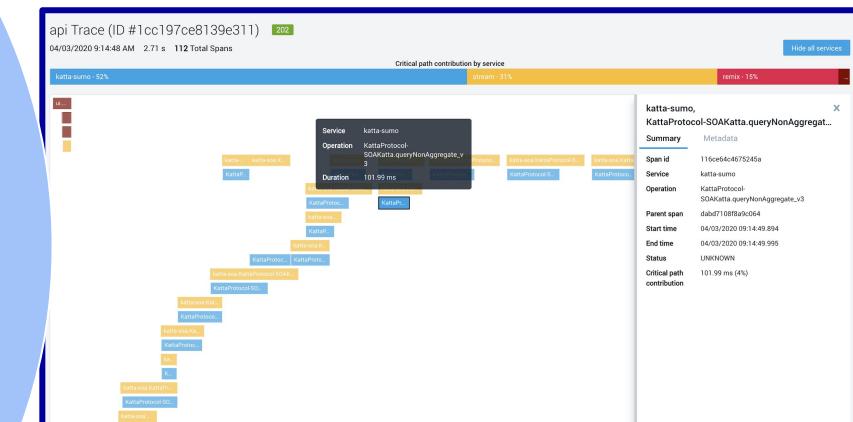
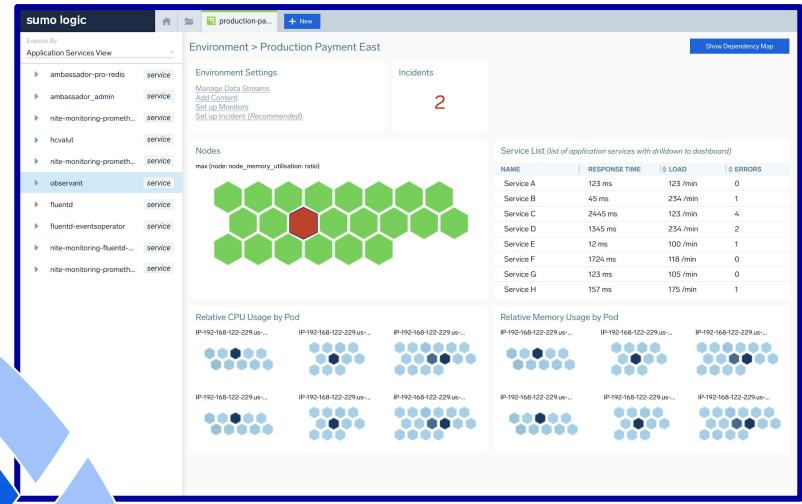
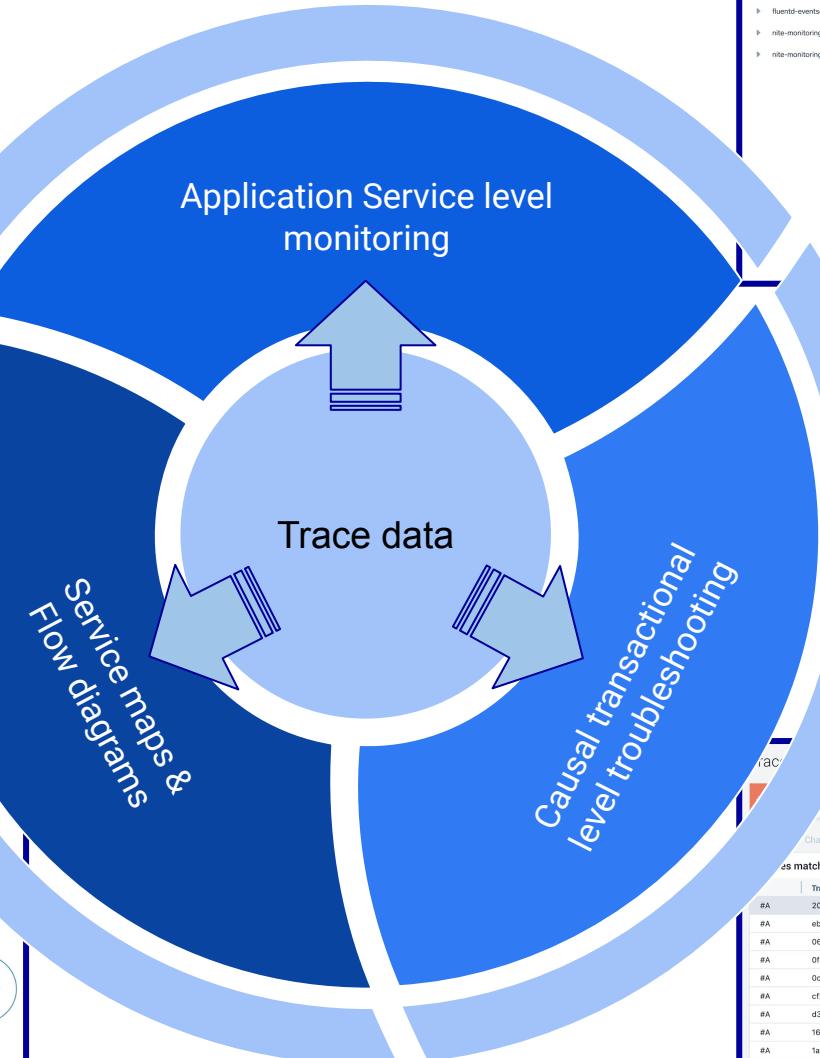
Transaction Traces 중요성 - Telemetry data



Tracing - 제품화



sumo logic



Sumo Logic confidential

Observability

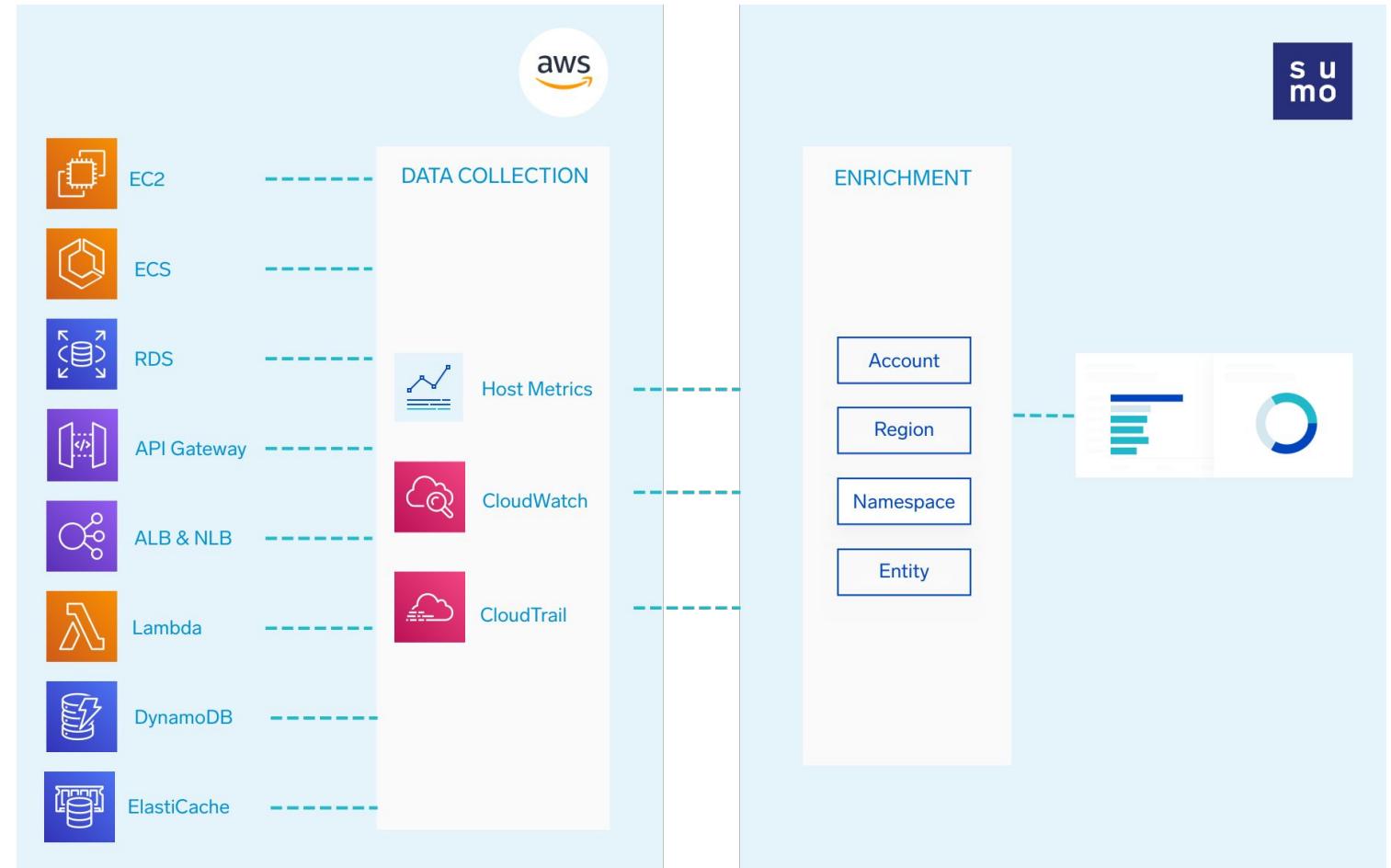
데이터 수집

sumo logic

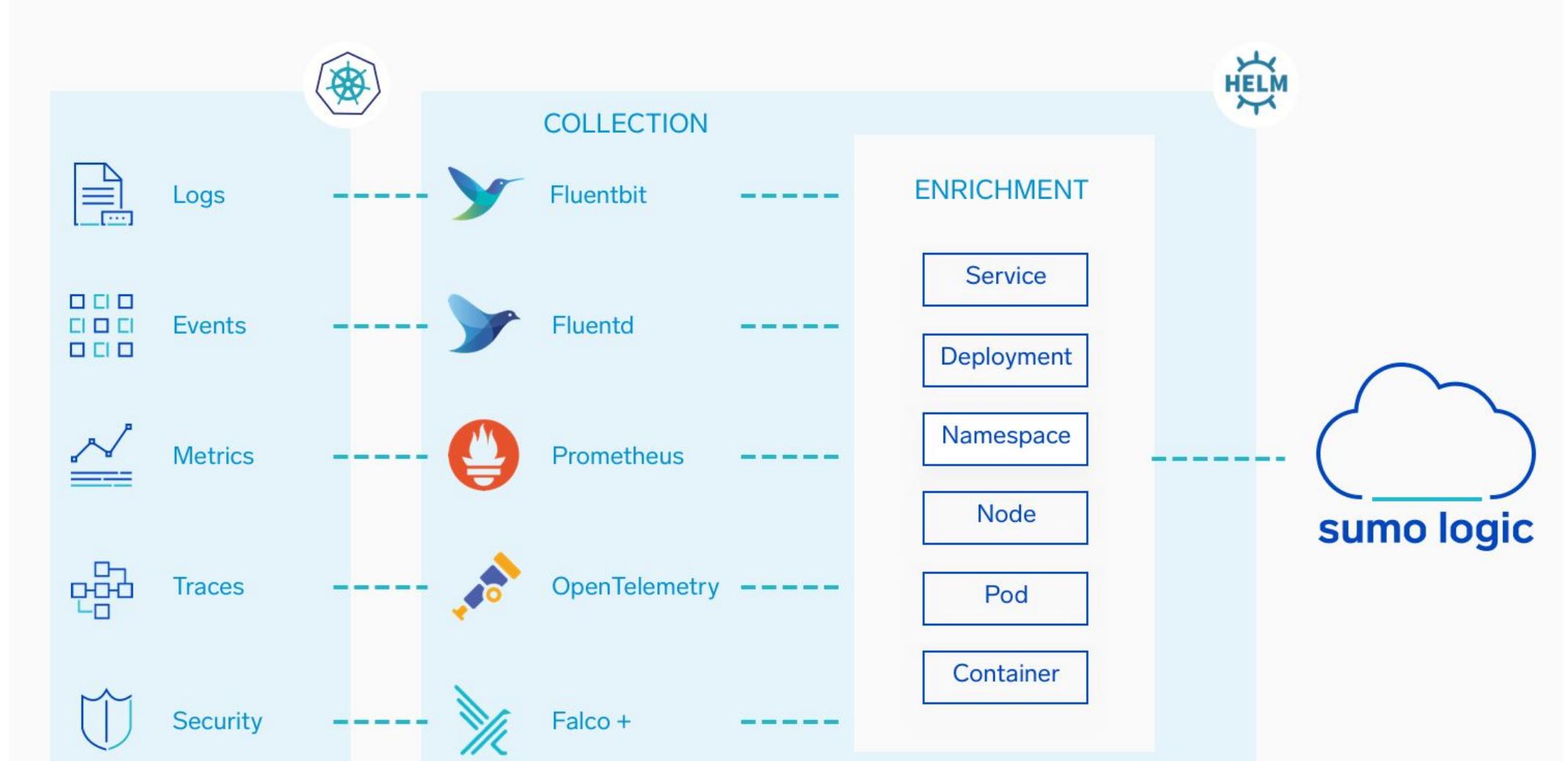


AWS Obs 데이터 수집 - Cloud Formation

- Simple setup via AWS Cloud Formation
-



K8S & Traces 데이터 수집

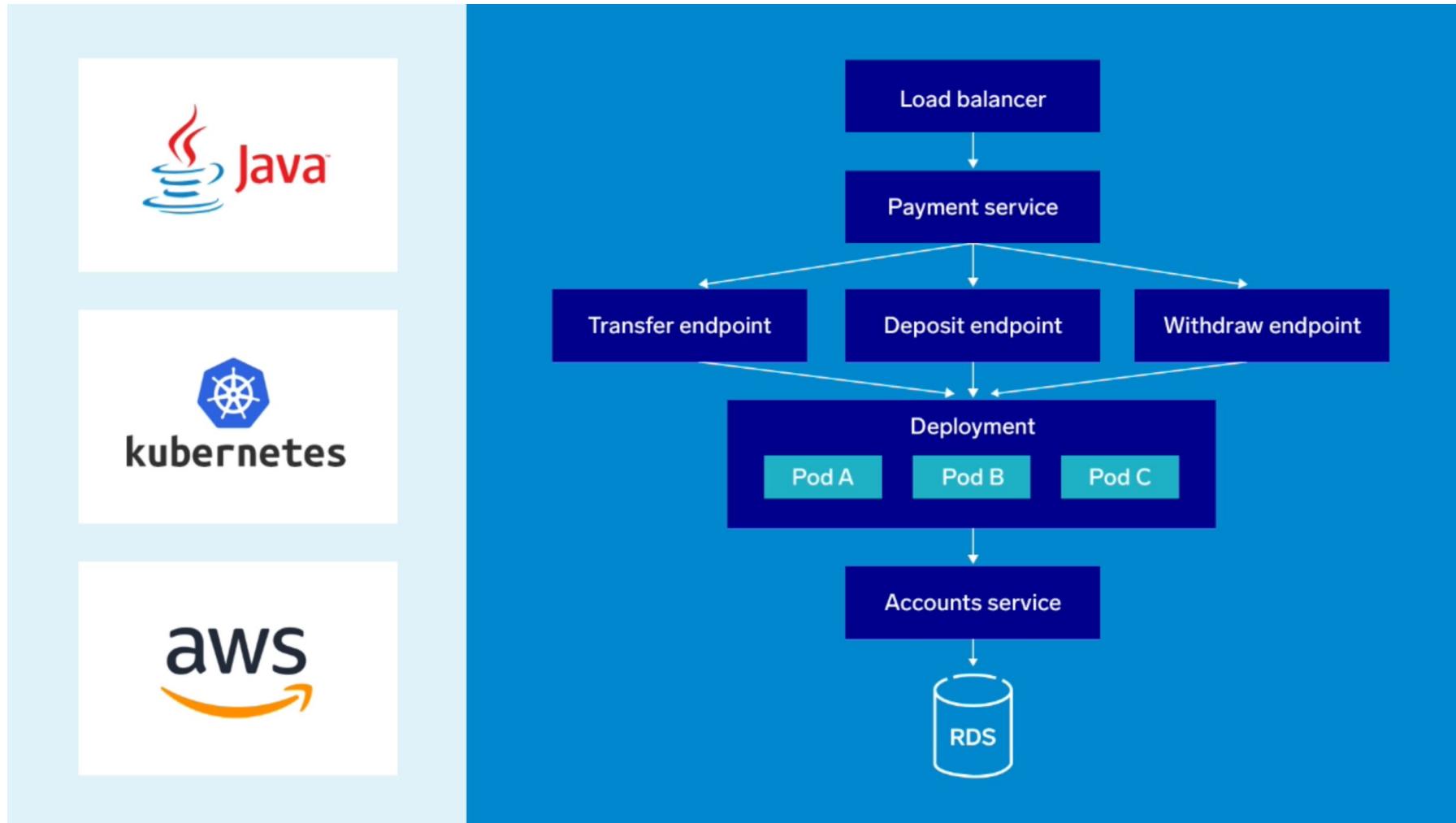


<https://github.com/SumoLogic/sumologic-kubernetes-collection>

Tracing Live Demo



Demo App - Mobile Banking App



Summary

- **Observability**란?
 - Traces + Metrics + Logs = Observability
 - 모니터링과 Observability의 차이
- **Sumo Logic**의 Observability 접근 방식
 - AWS Observability
 - Kubernetes Observability
 - Software 개발 최적화를 위한 Observability
 - Application Observability = Traces
- **Sumo Logic**의 Traces 접근 방식
- **Live Demo**

Thank you

<https://www.sumologic.com>

gyoo@sumologic.com

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people who power
modern business**