

Logging & Monitoring

Memi Lavi
www.memilavi.com



Logging & Monitoring

- Extremely important in Microservices
- Flow goes through multiple processes
- Hard to get wholistic view
- Hard to know what's going on with the services

Logging vs Monitoring

Logging

- Recording the system's activity
- Audit
- Documenting errors

Monitoring

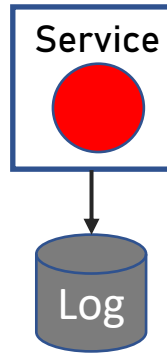
- Based on system's metrics
- Alerting when needed

Implementing Logging

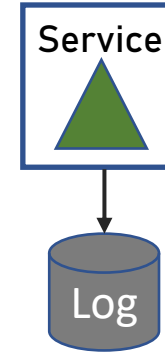
- Logging should provide wholistic view on the system
- Should allow tracing end-to-end flow
- Should contain as much information as possible
- Can be filtered using severity, module, time, etc.

Logging

Traditional

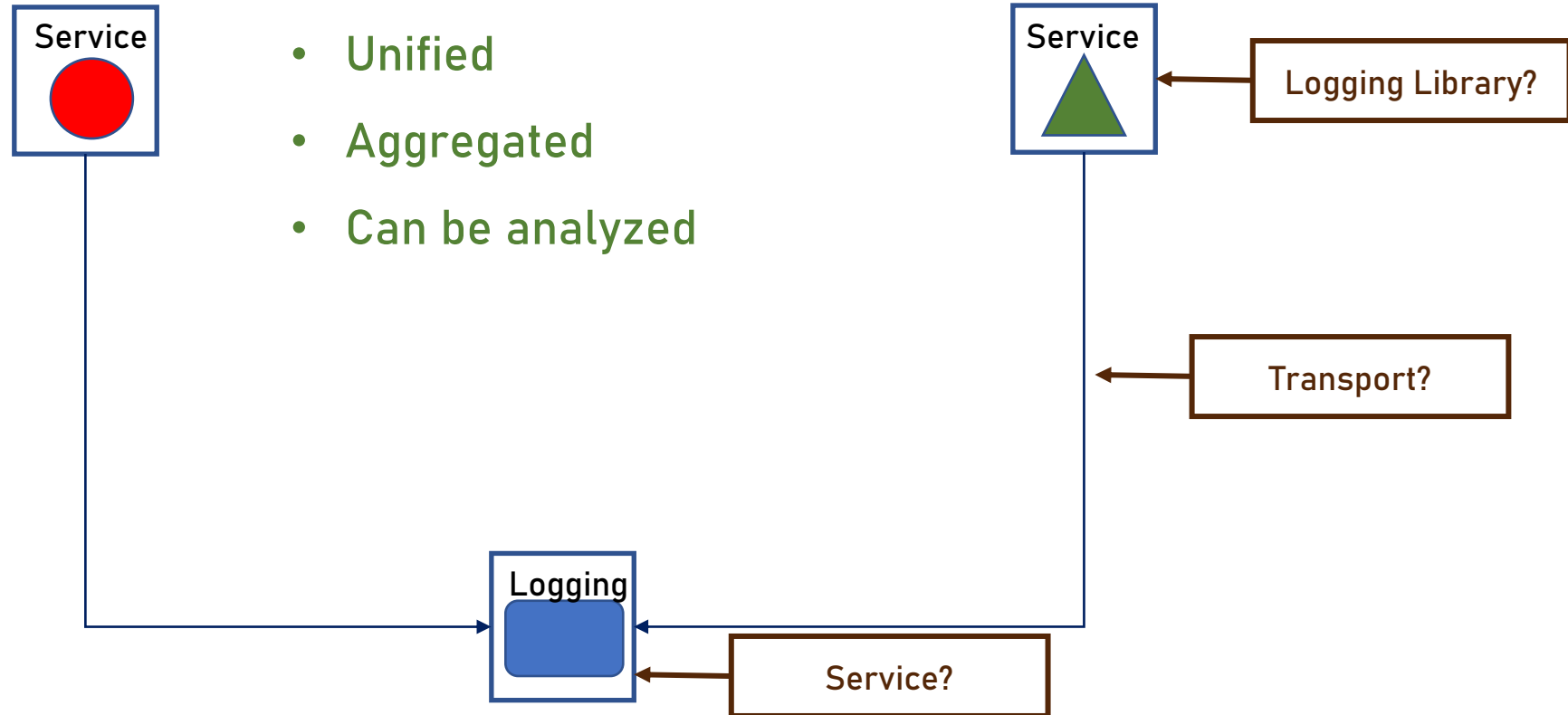


- Separate
- Different formats
- Not aggregated
- Can't be analyzed



Logging

Microservices



Logging Library

- Better use one library for all the services
 - Winston (nodeJS), Serilog (.NET core)
- If using various platforms – one library for each platform
- Use severity wisely

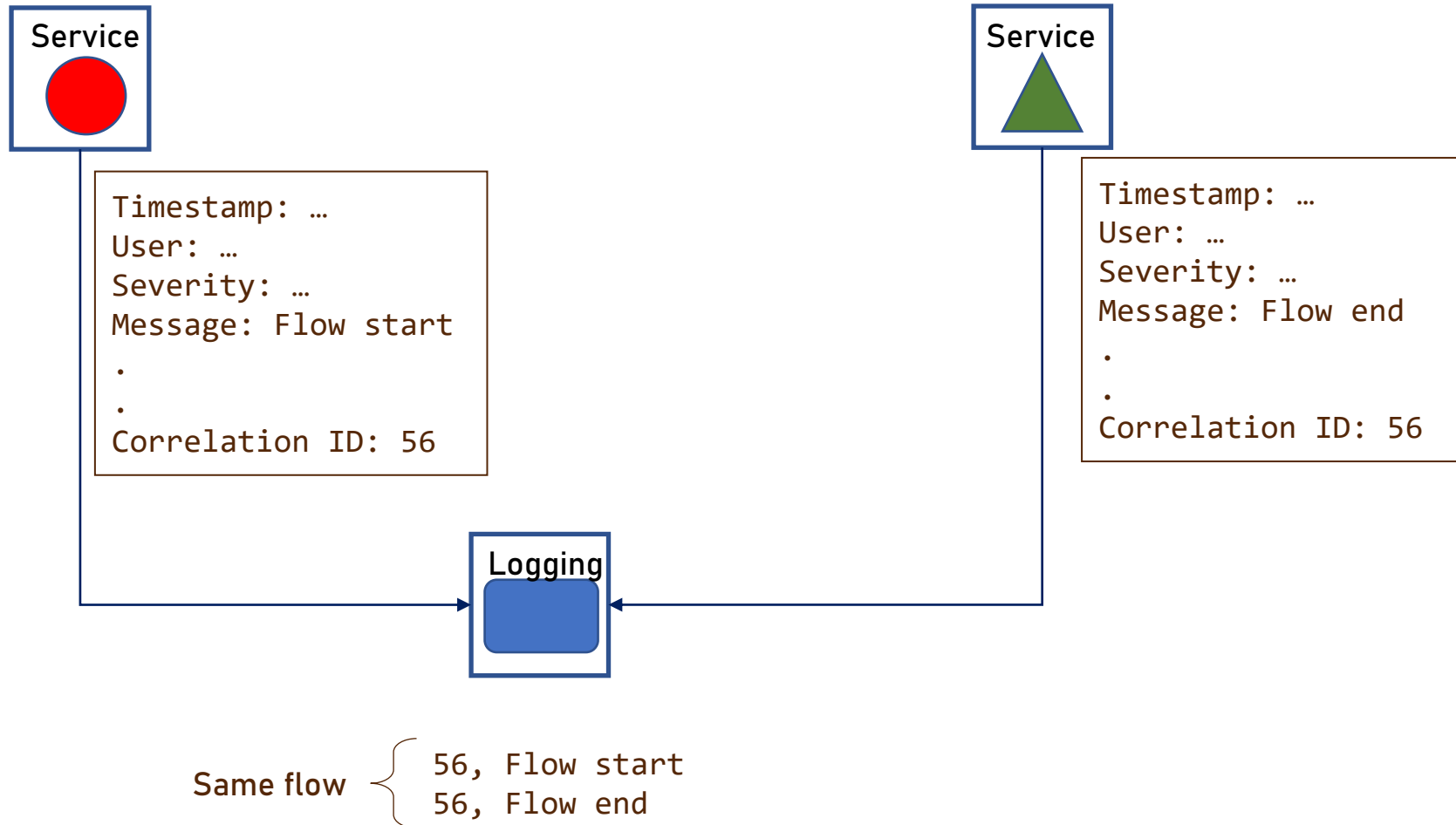
Logging Library

- Log as much info as possible, at least:
 - Timestamp
 - User
 - Severity
 - Service
 - Message
 - Stack Trace (if error)
 - Correlation ID

Correlation ID

- A flow identifier
- Correlates events between services
- Enables stitching separate events to single flow

Correlation ID



Transport

- Preferably Queue
- Balances the load
- No performance hit on the client side
- Usually RabbitMQ / Kafka

Logging Service

- Preferably based on indexing / digesting / search product
- Can index any log format
- Provides great visualization
- No development required



Implementing Monitoring

- Monitoring looks at metrics and detects anomalies
- Provides simplified view of the system status
- Alerts when there is a problem



D

Dashboard / [Logs] Web Traffic



e



Full screen Share Clone Edit

Filters

Search

KQL



Last 7 days

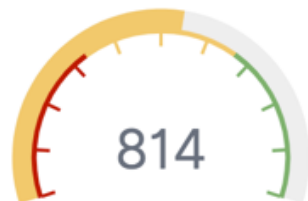
Show dates

Refresh

+ Add filter

Sample Logs Data

This dashboard contains sample data for you to play with. You can view it, search it, and interact with the visualizations. For more information about Kibana, check our [docs](#).



Unique Visitors

Source Country

Select...

OS

Select...

Bytes

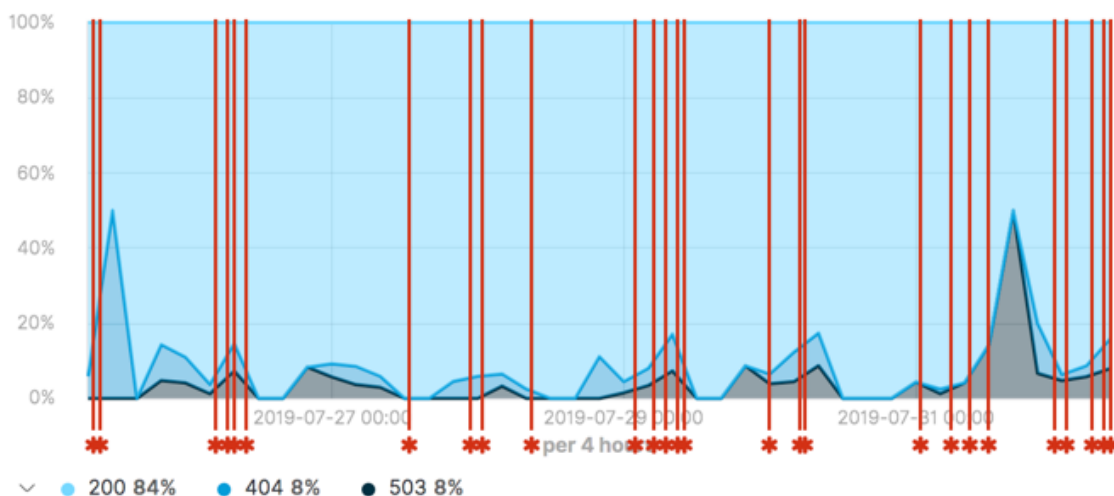
0

19732

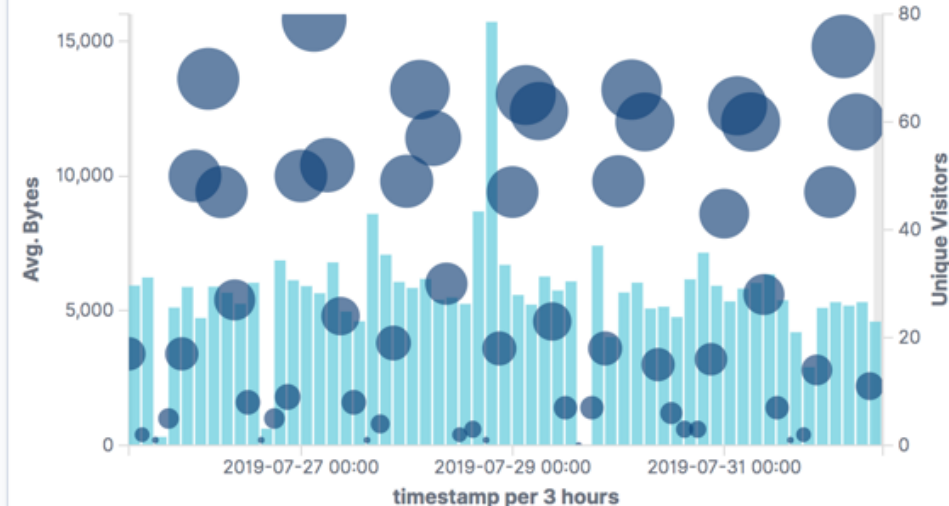
[Logs] Visitors by OS



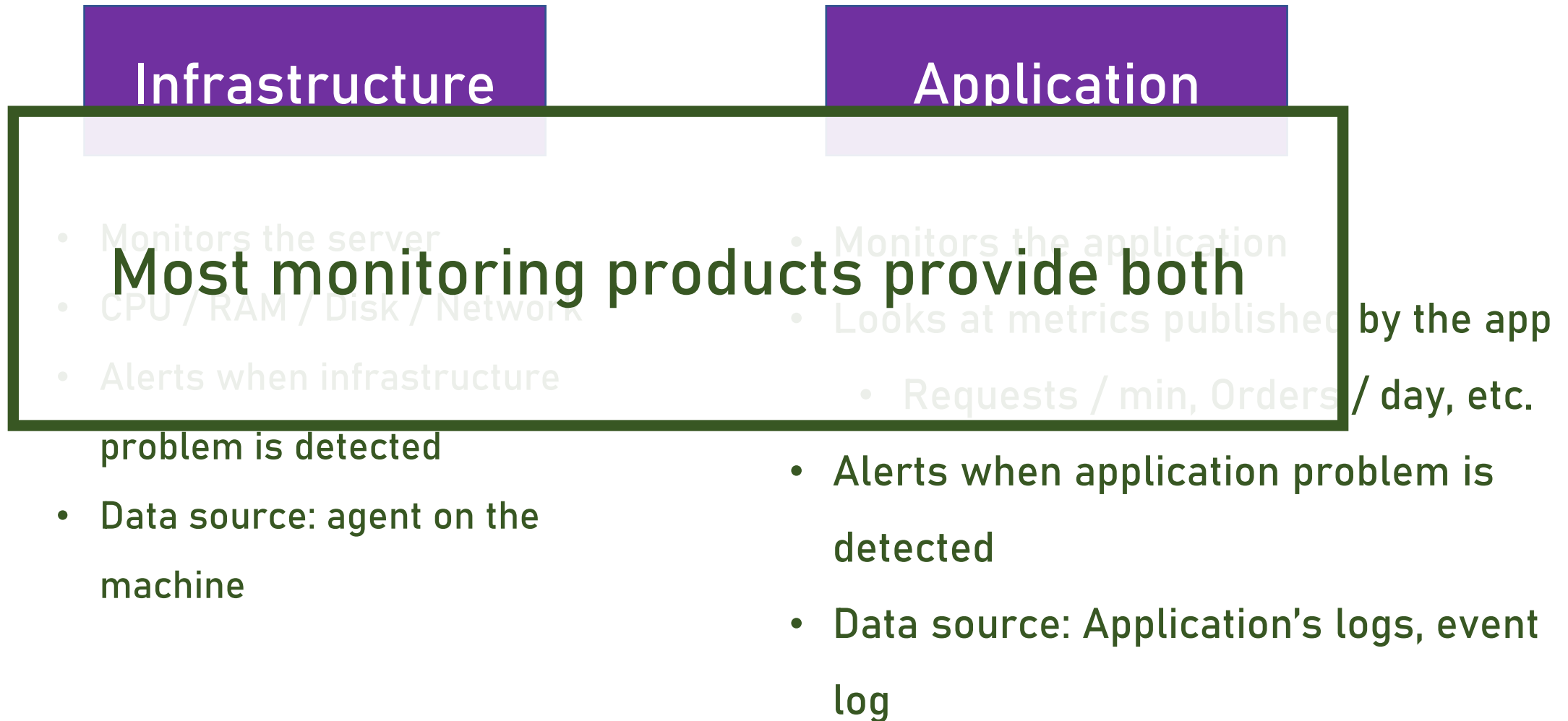
[Logs] Response Codes Over Time + Annotations



[Logs] Unique Visitors vs. Average Bytes



Types of Monitoring



Monitoring Products

Nagios®



Application Insights