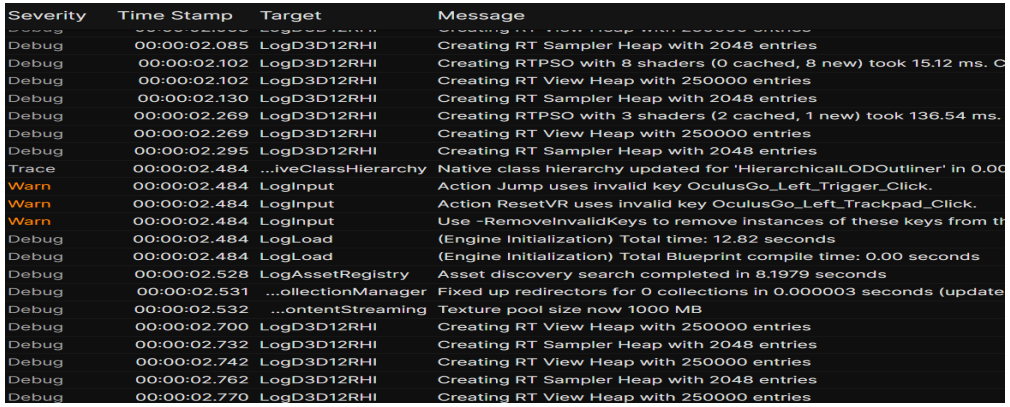
Legion Performance Analytics

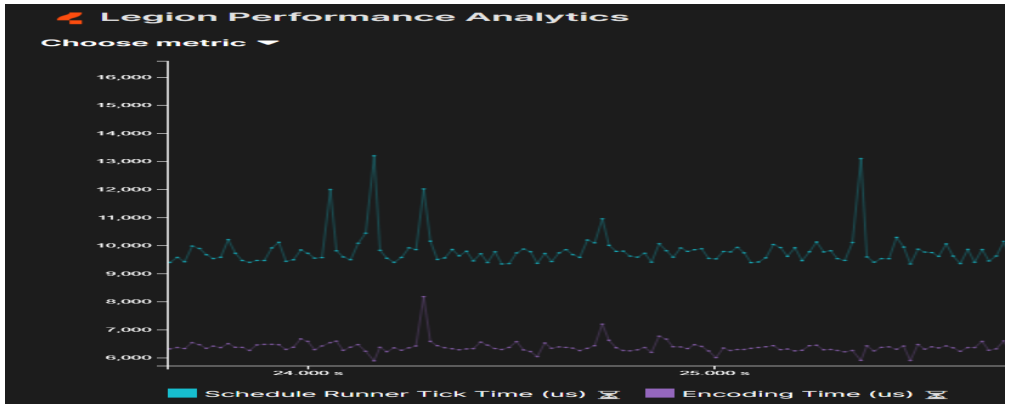
May 2022

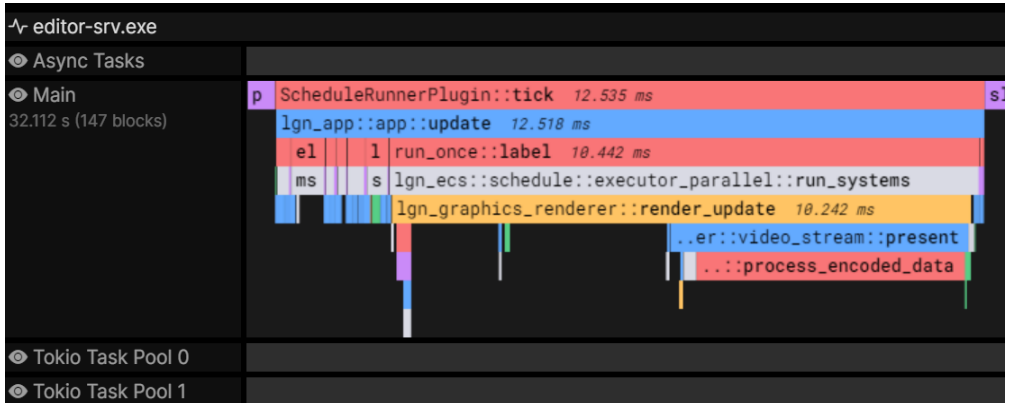
Legion Performance Analytics

Introduction

- Logs, metrics, traces
- Latency, stability, satisfaction
- For local, distributed & cloud native applications







Legion Performance Analytics

Full stack solution

- One protocol
  - Structured events
  - time series are not general enough
- One data lake
  - no loose files
- One UI
  - High performance web user interface
  - Tight integration between the logs, metrics & traces

Legion Performance Analytics

Designed for scale

- High event density: 40 ns overhead / event
  - platform-specific memory layout
  - the protocol is the memory layout
- Store everything: event batch stored in S3
  - shallow metadata index in SQL database
- Distributed ingestion
  - optimized & stateless

Legion Performance Analytics

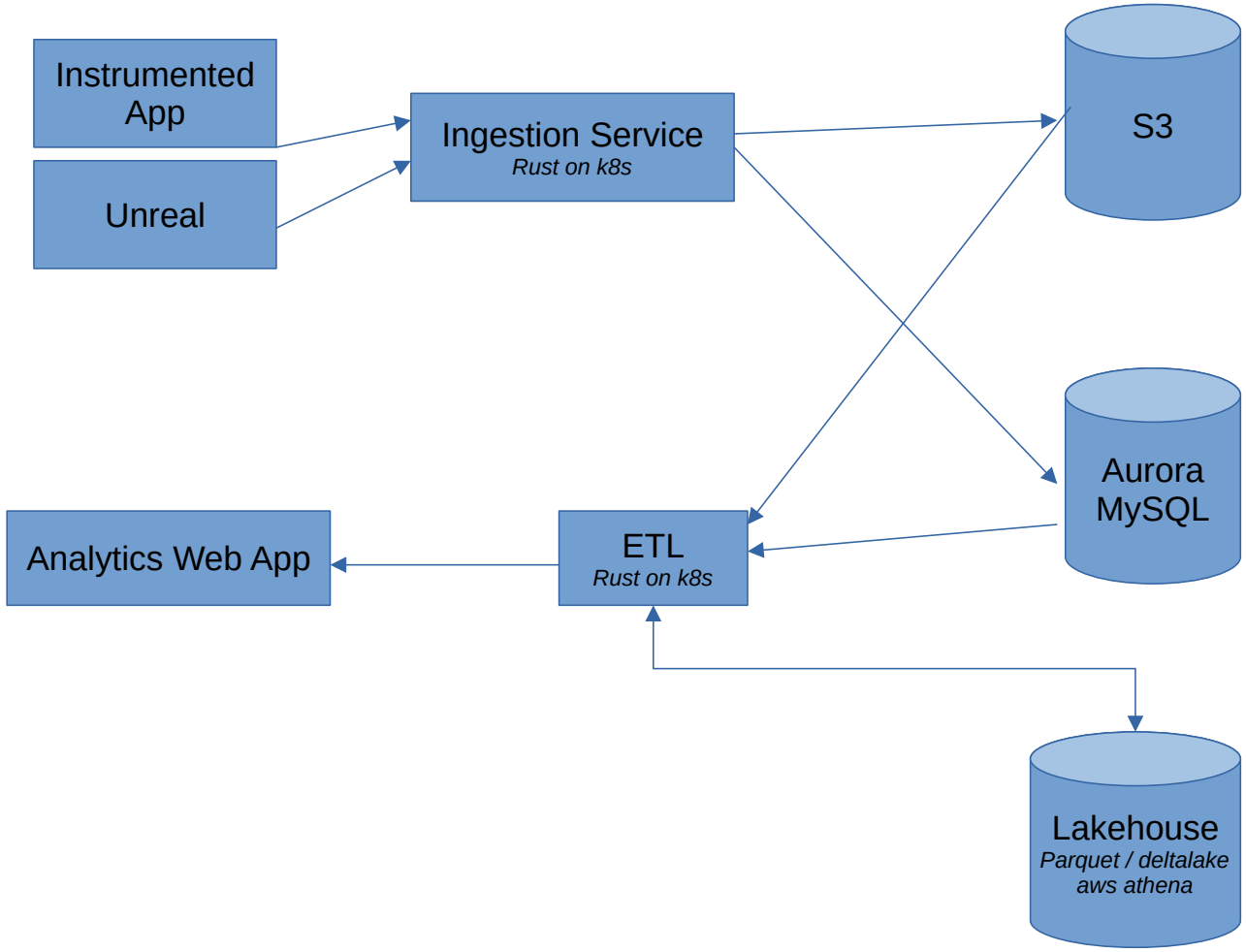
Analytics is the new profiling

- Designed for iterating in development
  - data available as soon as it is sent
  - no nightly indexing job
- Faster reaction time
  - know the bugs *before* they become problems
- Understand the issue without reproducing it
- Spend time on the worst issues, not the first one you find

Status Quo

Data	Development	Live
Client Logs	loose files	ELK/sampling
Client Metrics	debug overlay	low frequency
Client Traces	interactive profiling	❌
Server Logs	loose files	ELK
Server Metrics	❌	Prometheus, Grafana
Server Traces	loose files	❌

Comparison

Capability	Legion Performance Analytics	Splunk/Datadog	Logz	RAD Telemetry
Logs	✓	✓	✓	✗
Time series	✓	✓	✓	✓
Traces	✓	✓	✗	✓
$calable	💚	✗	✓	⛔

Architecture