

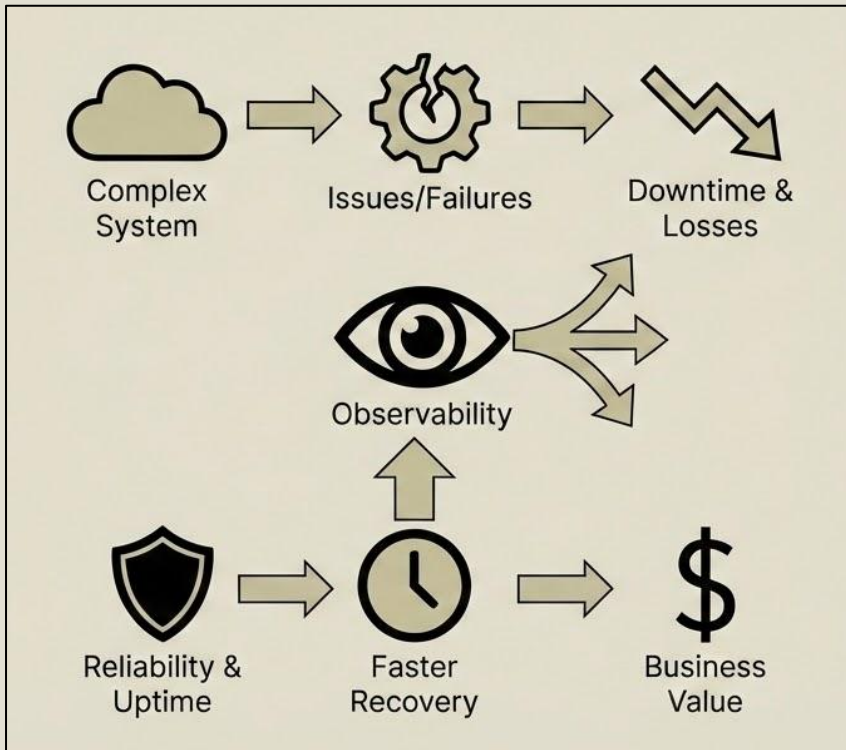
Precision Over Proliferation

SRE Approach for Leaner, Smarter and Data-Driven Observability

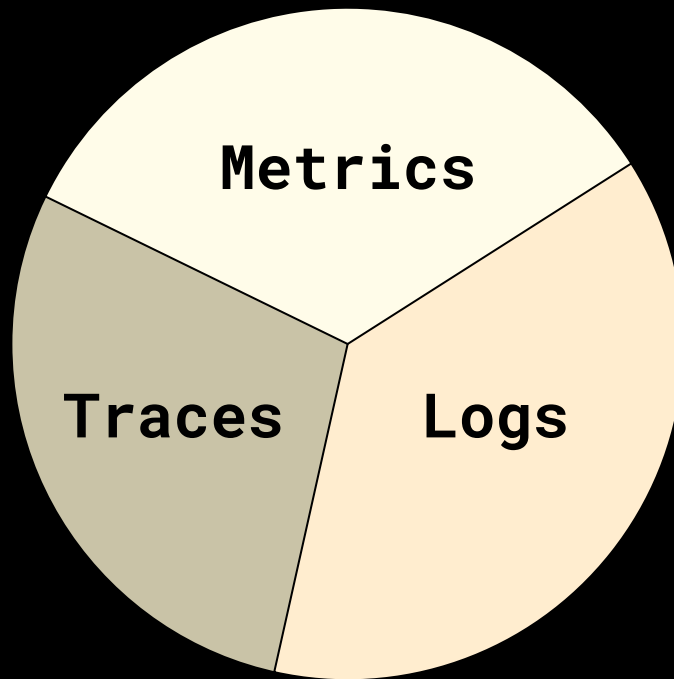
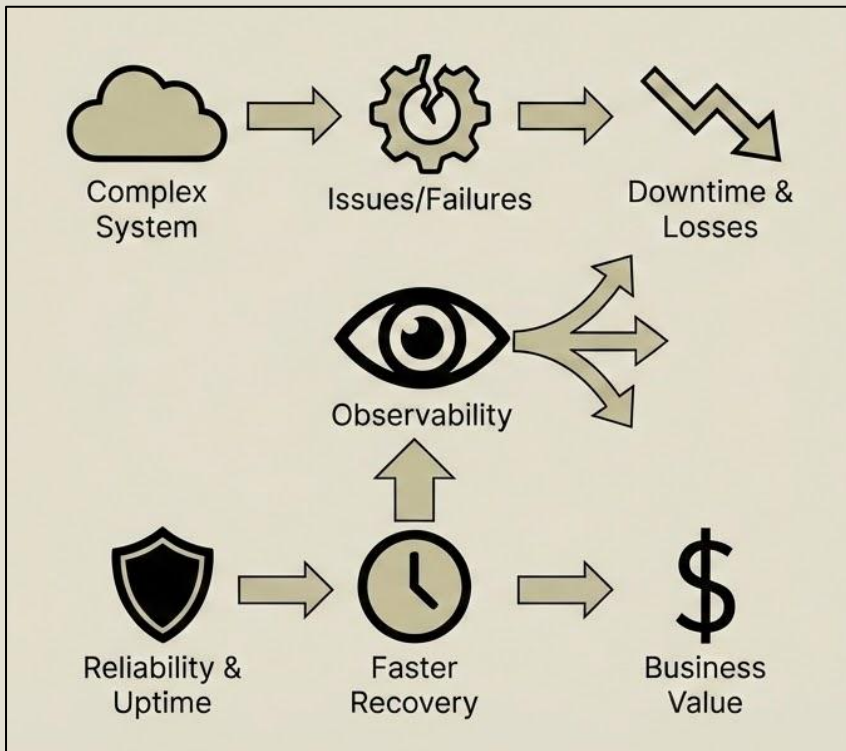
MD SHAGHIL
SWE-SRE / RUBRIK
Bangalore - India

OBSERVABILITY

Non Negotiable



Non Negotiable



THE BITTER TRUTH



Observability is costly



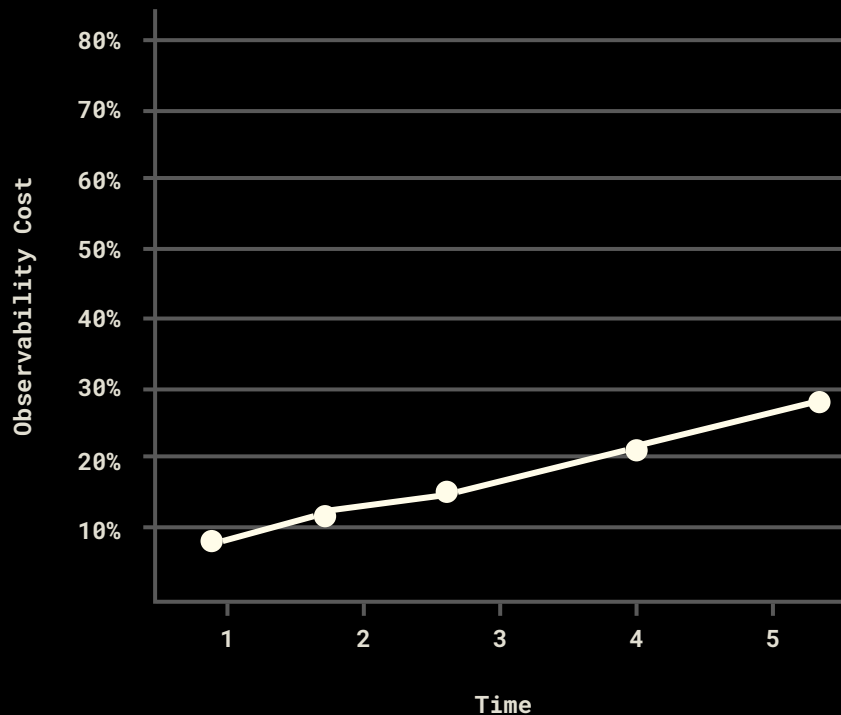
Growing 20%+ YoY¹



65% org site cost as #1 factor for choosing tools².



Grows 3-5X faster than traffic



METRICS

Early
Warning
System

METRICS

Visualization

**Early
Warning
System**

METRICS

Visualization

**Early
Warning
System**

METRICS

**SLAs and
SLOs**

Visualization

Statistical
Analysis

Early
Warning
System

METRICS

SLAs and
SLOs

METRICS

Visualization

Statistical
Analysis

Early
Warning
System

SLAs and
SLOs

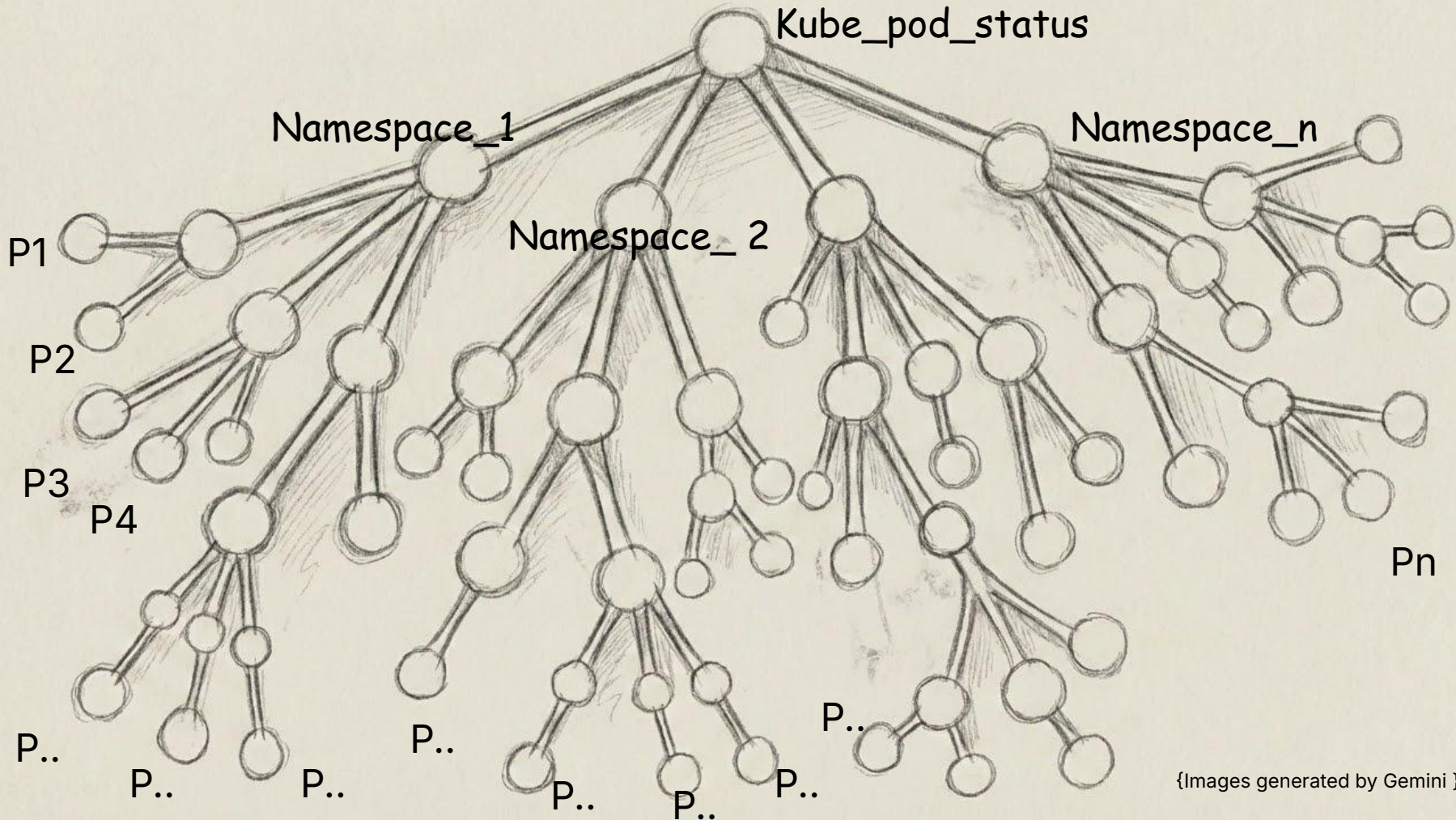
KPI
Tracking

Trend Analysis

CARDINALITY

Number of unique time series for a given metrics

**All Unique Combination of Metrics name, labels
name and their values.**

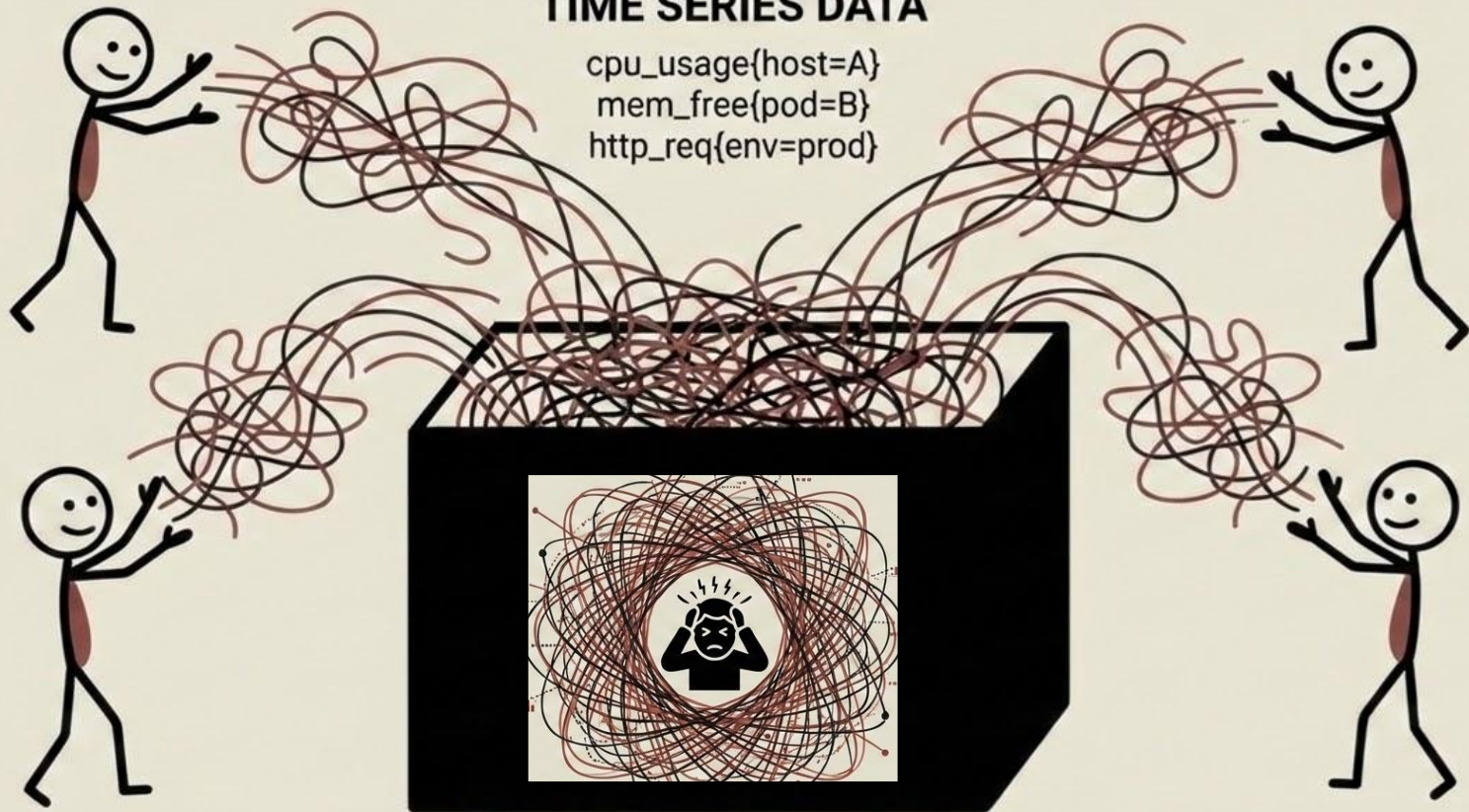


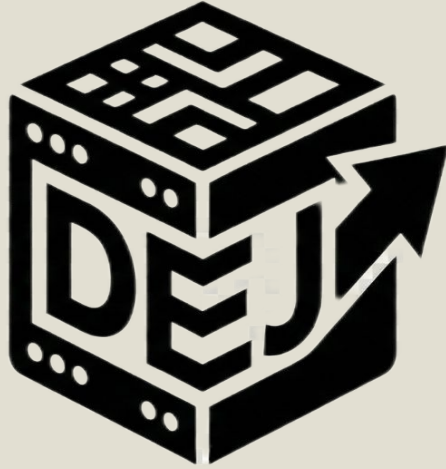
{Images generated by Gemini }

Metrics Management Framework

TIME SERIES DATA

```
cpu_usage{host=A}  
mem_free{pod=B}  
http_req{env=prod}
```





Metrics data extraction

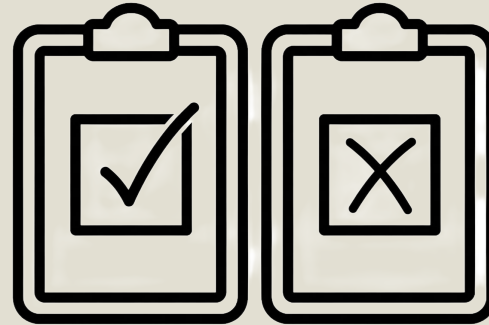
visualization



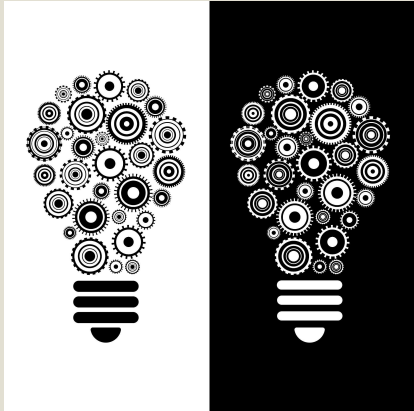
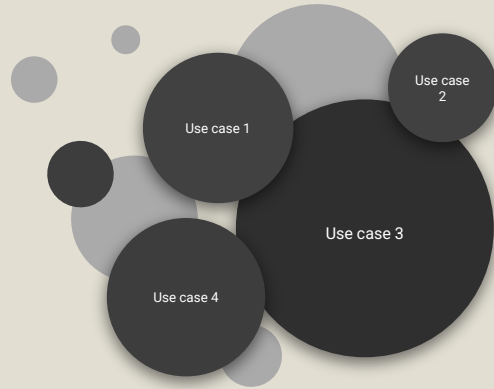


Auditing

Control

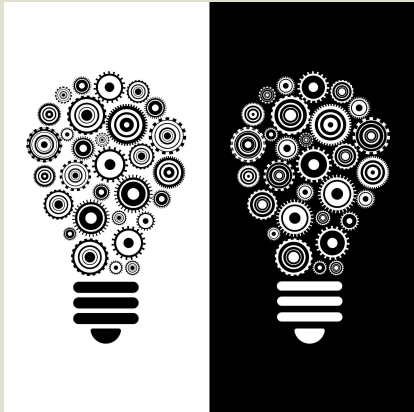
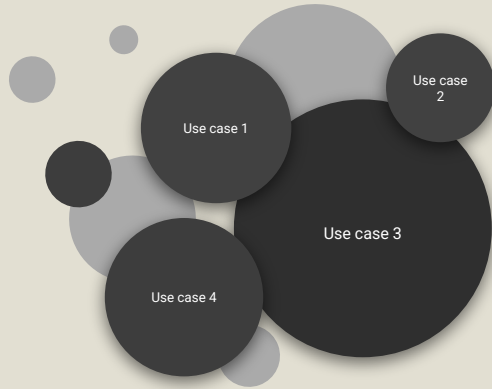


Categorization



Tailored
Solutions

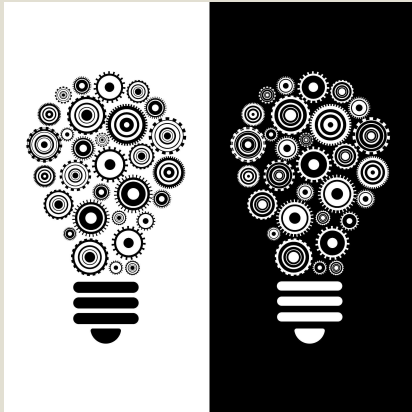
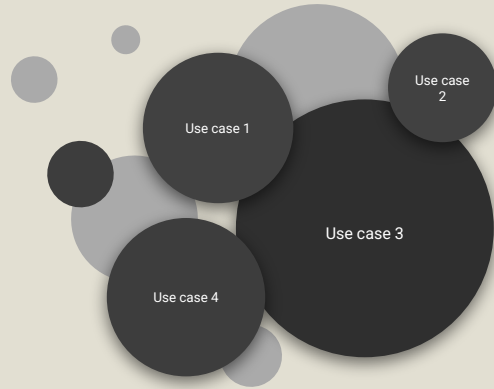
Categorization



Tailored
Solutions

Dollar Per Query Model

Categorization



Tailored
Solutions

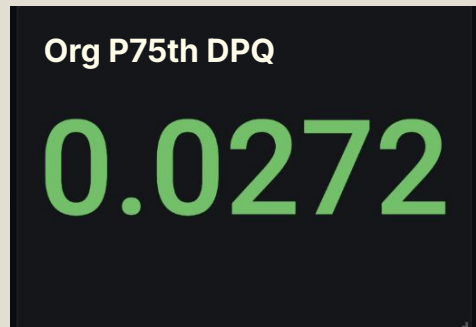
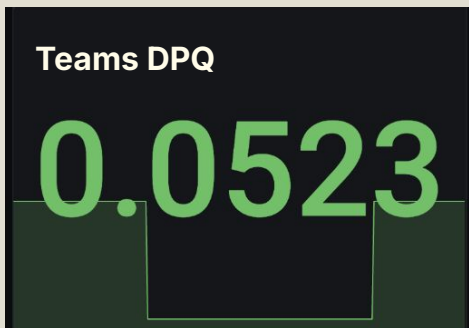
Dollar Per Query Model

Team Self Management Model

Metrics Usage Dashboards

DOLLAR PER QUERY

$$AvgDollarPerQuery_{t1} = \frac{\sum_i Cost(M_i, t1)}{\sum_i (Queries(M_i, t1) \times \%Cardinality(M_i, t1))}$$



What all does it provide?

Per-team DPQ informations

Total Cardinality consumption for each team

High cardinality metrics list based on selected services

Top k metrics with highest Weekly/Monthly cardinality increases

Top k Low utilization metrics

Top k Unused metrics

Amortised Dollar Per Query

70.5

P50th Metric Dollar/Query

0.412

P90th Metric Dollar/Query

37.0

P95th Metric Dollar/Query

181

What all does it provide?

It also shows per metrics complete usage information as well:

Number of dashboard references

Number of alert references

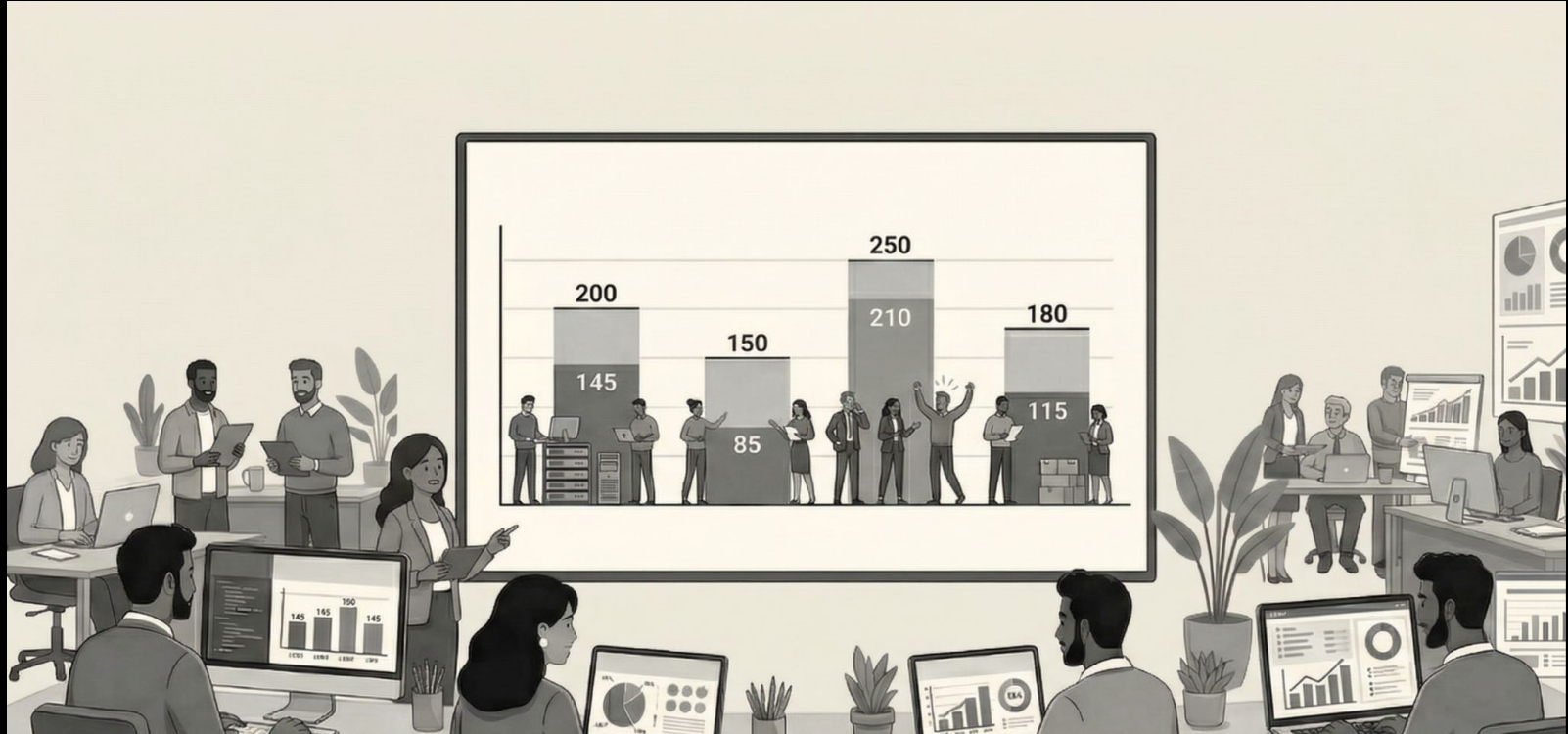
Number of dashboard execution

Number of alert execution

Number of unique users and api token interacting with this metrics

*Our initial collaboration with the top three teams, utilizing this data, resulted in a **6% reduction** in cardinality.*

Teams Self Management Model



On Demand Metrics

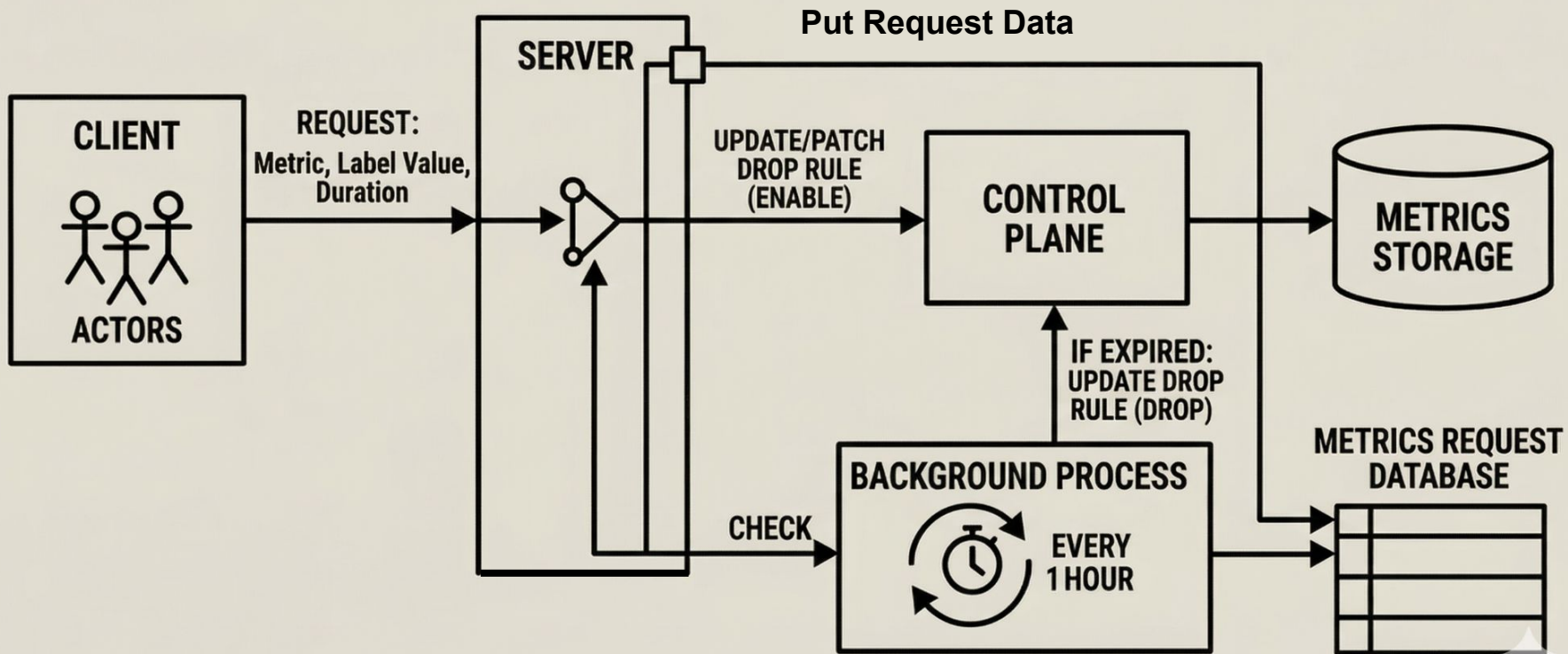
Why would you have metrics but not persist?

- Forgetting to remove once purpose is served.
- Deploying new metrics takes time.
- Gives flexibility at the time of incidents.

Use Cases / Categories

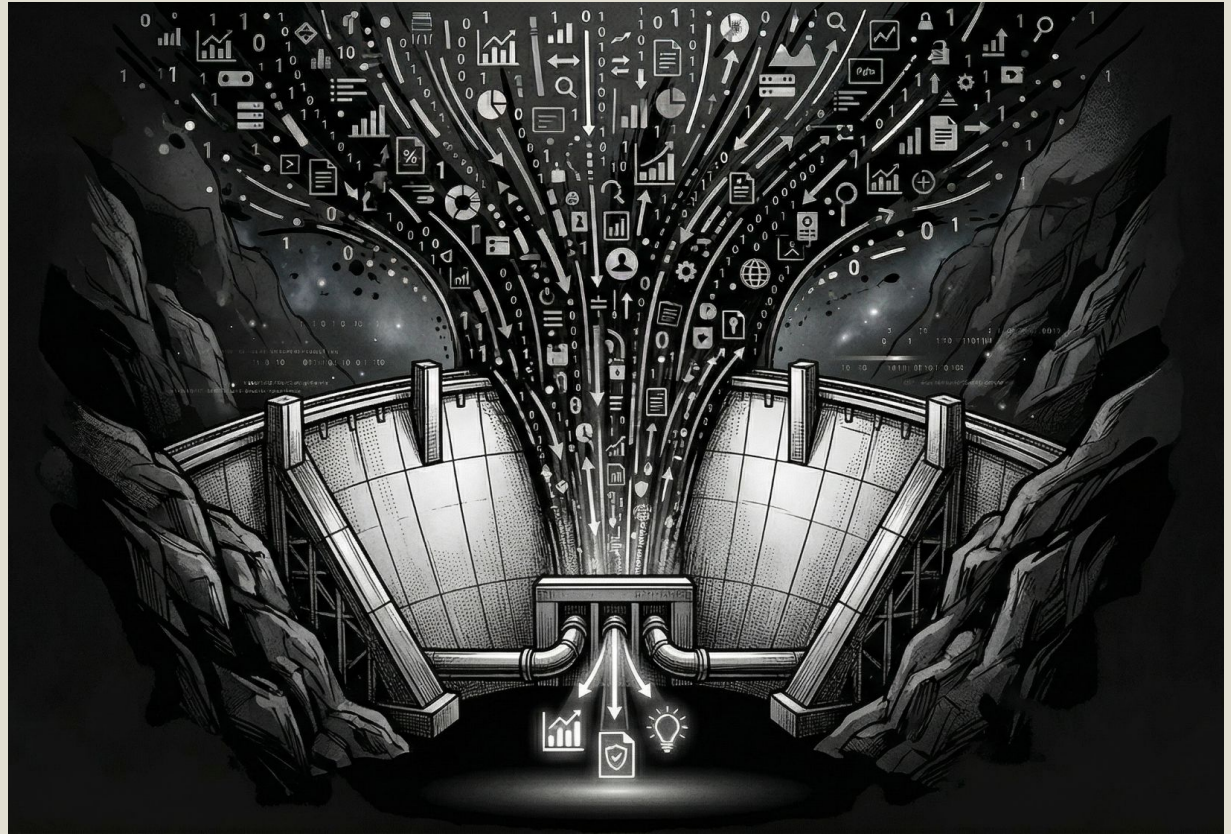
Development/Test Environment

Debugging Metrics



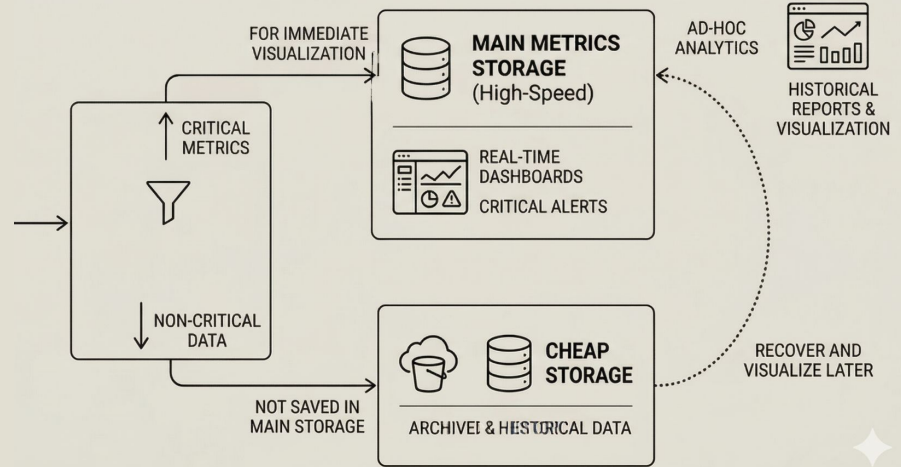
8%

Cardinality reduction
On Adopting this
process to dev
environment.



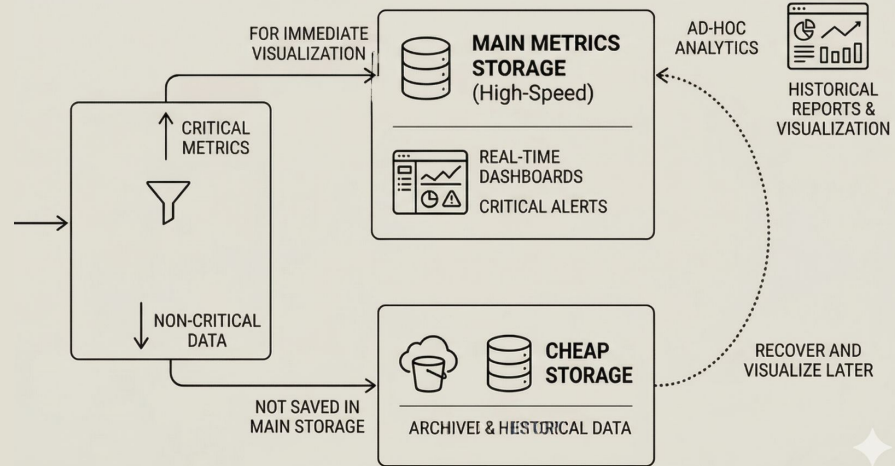
Batch Metrics

This category of solution applies to those use cases in which metrics is not required real time.



This category of solution applies to those use cases in which metrics is not required real time.

10%
cost Reduction



Quarterly Audits

We sometimes need to discard old clothes that haven't been worn in a long time.



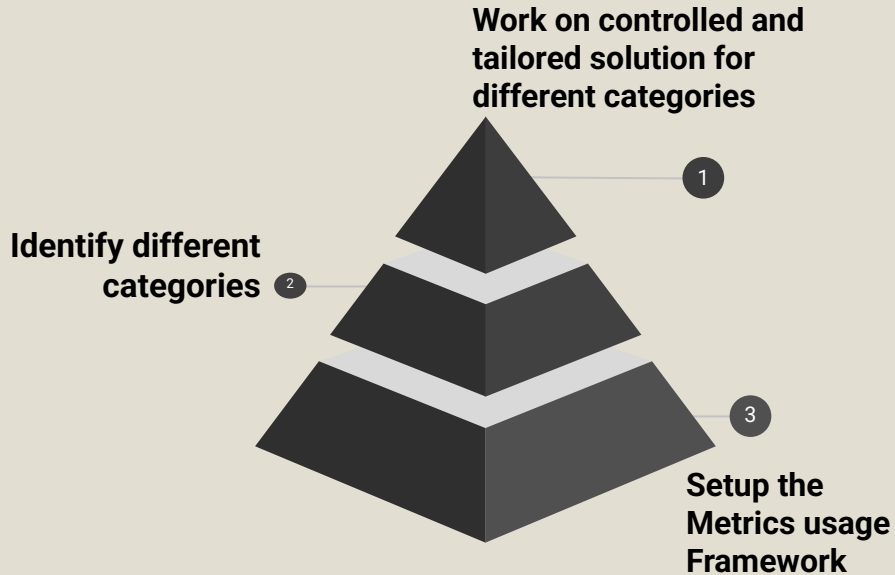


16%

Cardinality reduction



How to go about it?



40%

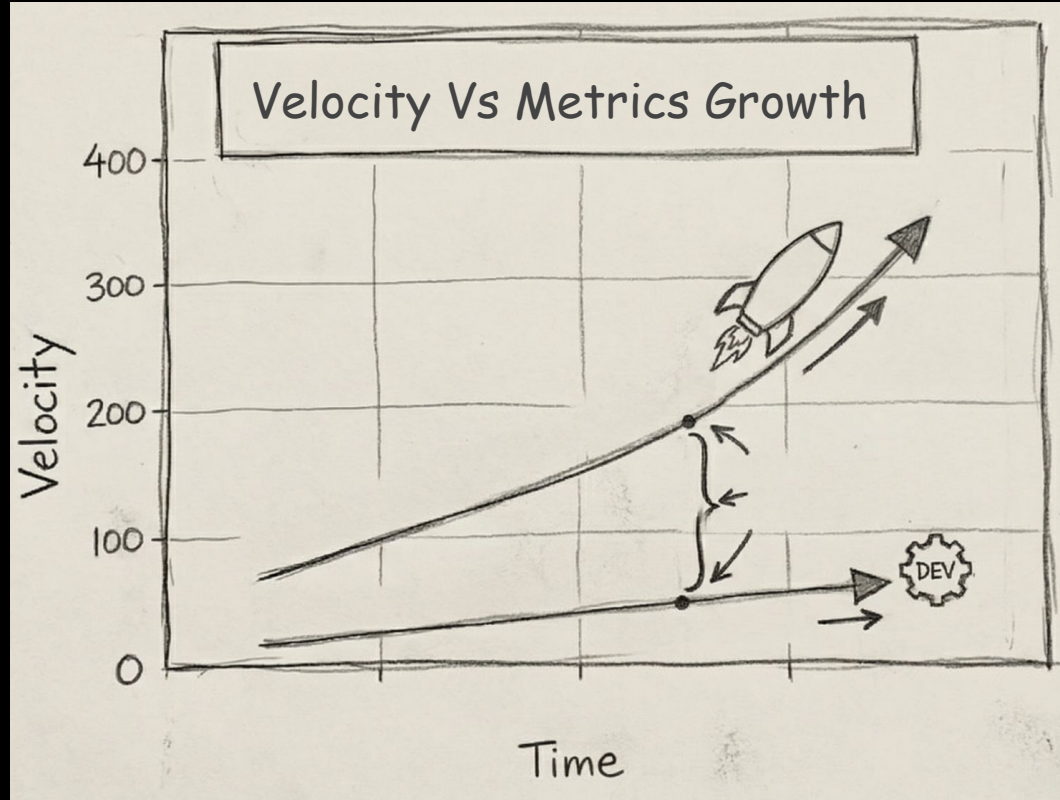
Cardinality/cost reduction have been done with this methodology

Why Precision Over Proliferation?

AI has accelerated development velocity significantly.

Metrics cardinality grows 5x-10x pace of development velocity.

Scaling storage or optimizing cost of storage and compute will not be enough.



THANK YOU

Email

shaghil.md98@gmail.com

Linkedin

