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Driving Product Reliability with User Objectives

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Is Your Product Reliable?

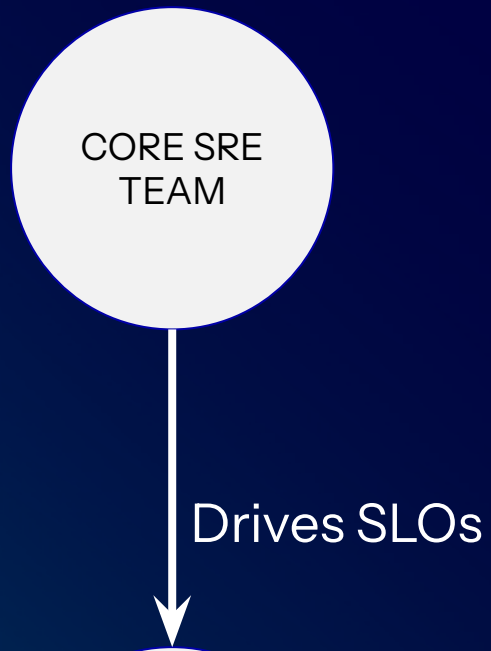
Shifting the Reliability Conversation

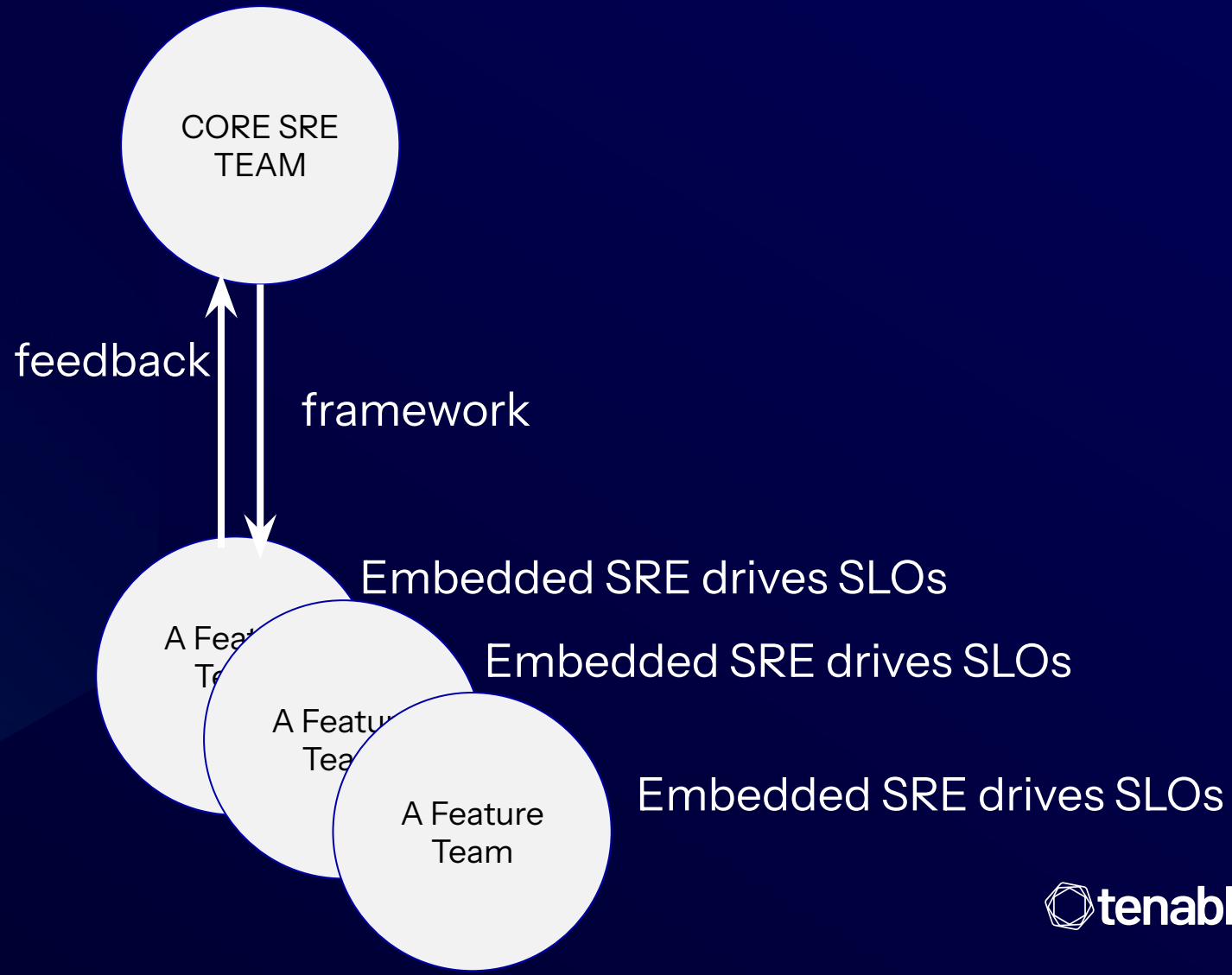
Flipping the Approach

The Mindset Shift

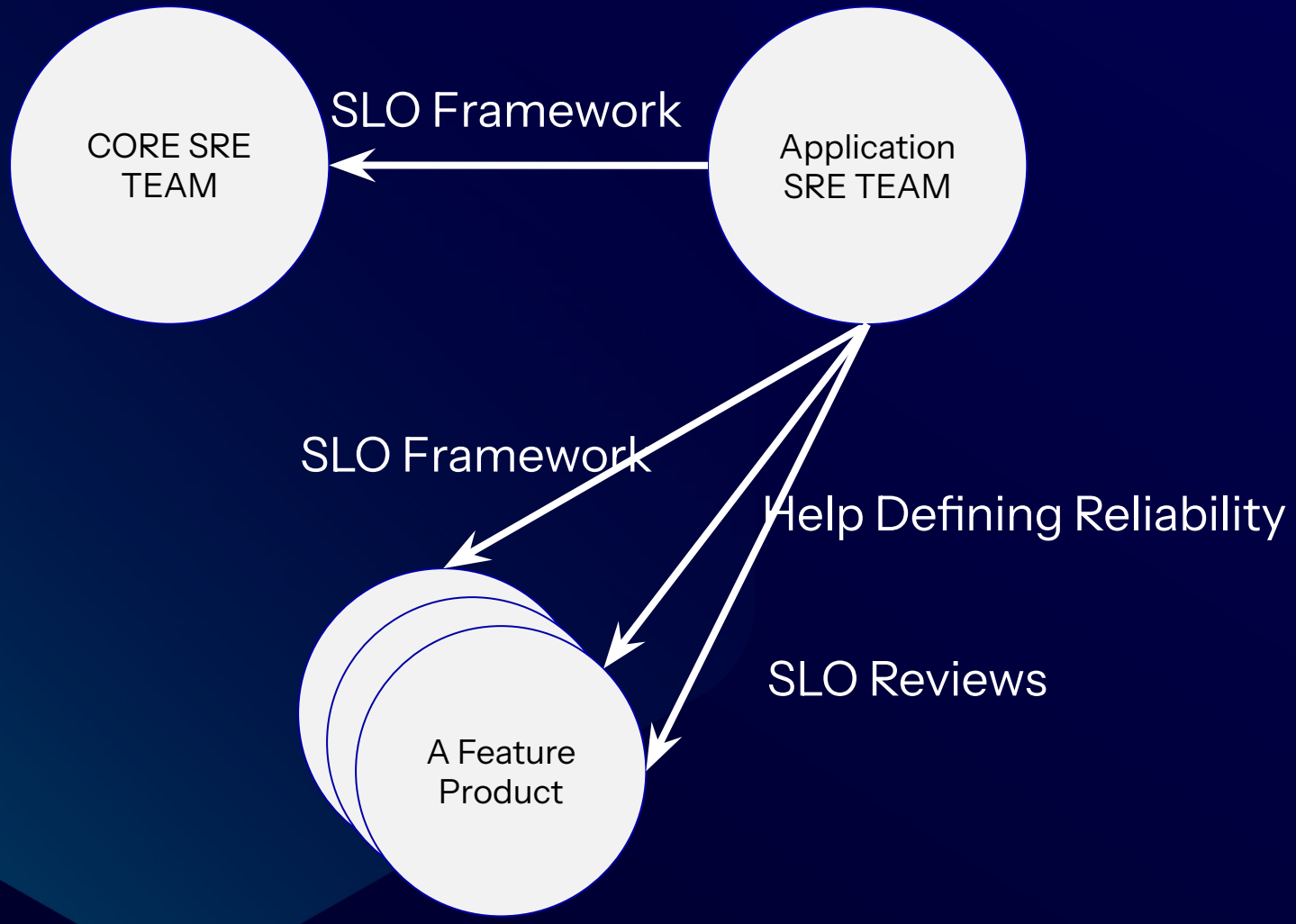
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Evolution of a Team Structure to support Product Reliability





Evolution of a Team Structure to support Product Reliability



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Lessons from our recent past...

- Start with the **metrics** you already have
- **Codify** SLOs to encourage consistency
- Create **reusable** building blocks for scale
- Get as **many eyes** on your new SLOs as possible
- Partial wins can spark **bigger initiatives**

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What is Product Reliability?

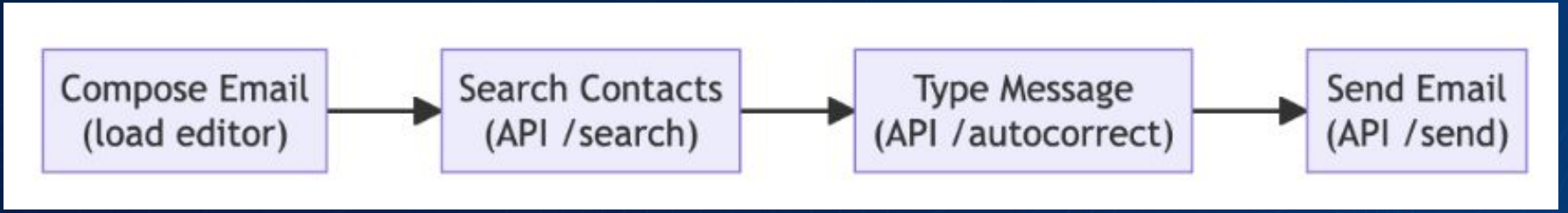
- To the Tenable **Engineering Team**:
  - *"Pods are up!", "Topic lag is🤦", "No CS Tickets"*
  - Graphs, logs, dashboards, monitors... CS tickets
    - Or in some *rare* cases - **SLOs** (Service Level Objectives)
  - **fewer** incidents, **faster** recovery times, **lighter** pagers 📟 and **higher** team productivity.
- To **Our Customers**:
  - *"It just works!"*



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Choosing our Methodology...

- Research a methodology and modify as needed...
- User Objectives ⭐ and User Steps 👟



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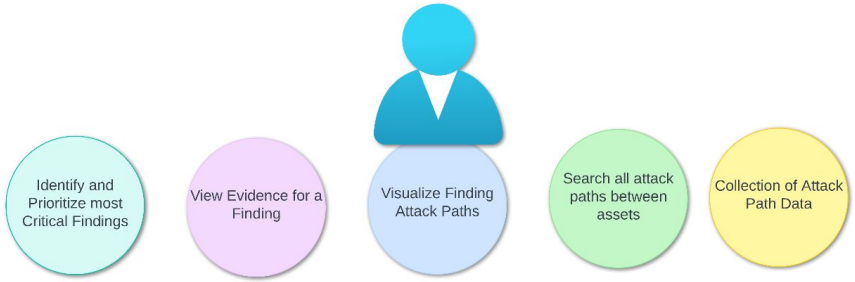
Gathering some Guinea Pigs

- **Start Small:**
  - Target a newly acquired product or feature

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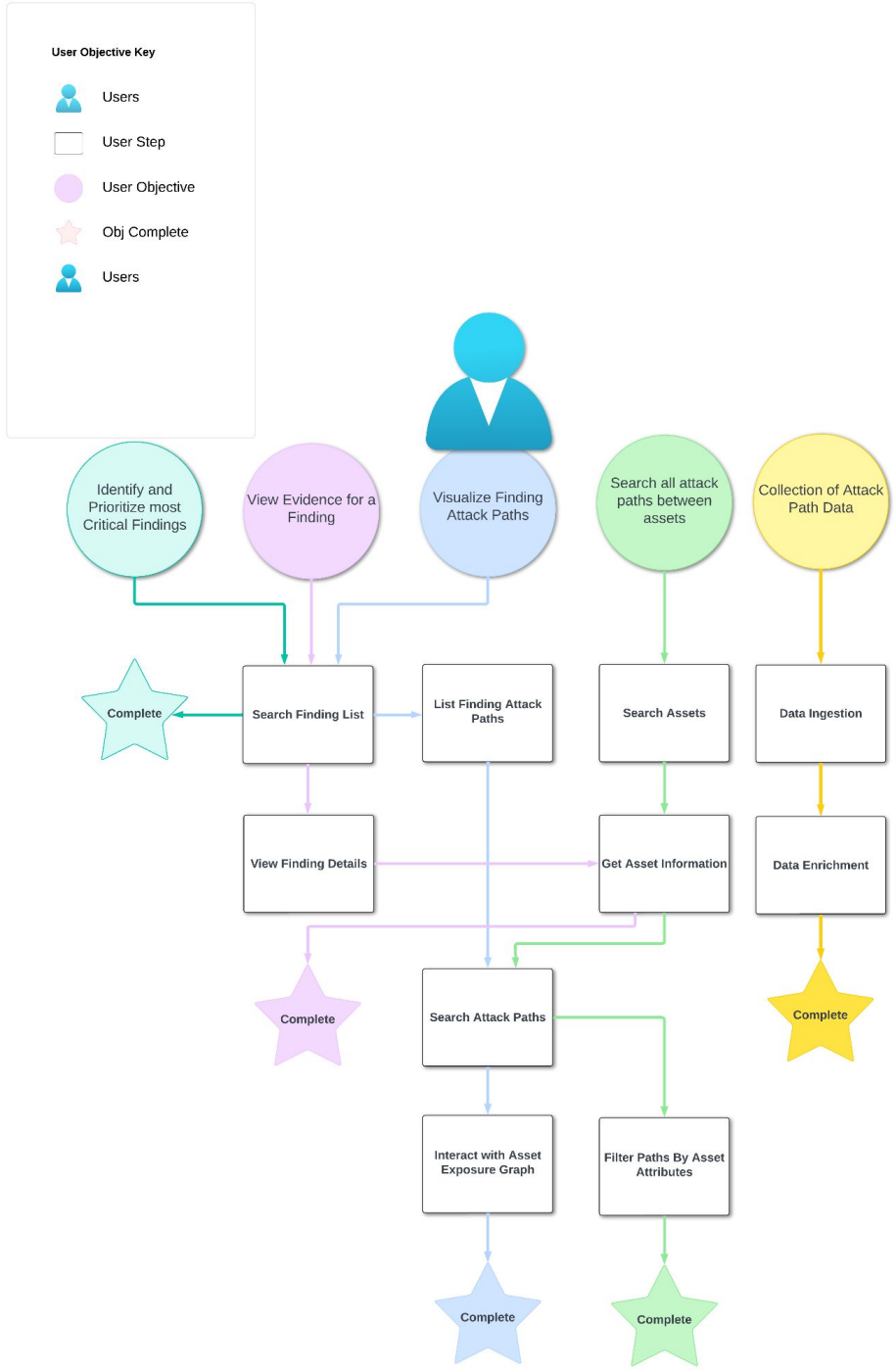
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- **Product Manager:**
  - Define User Objectives



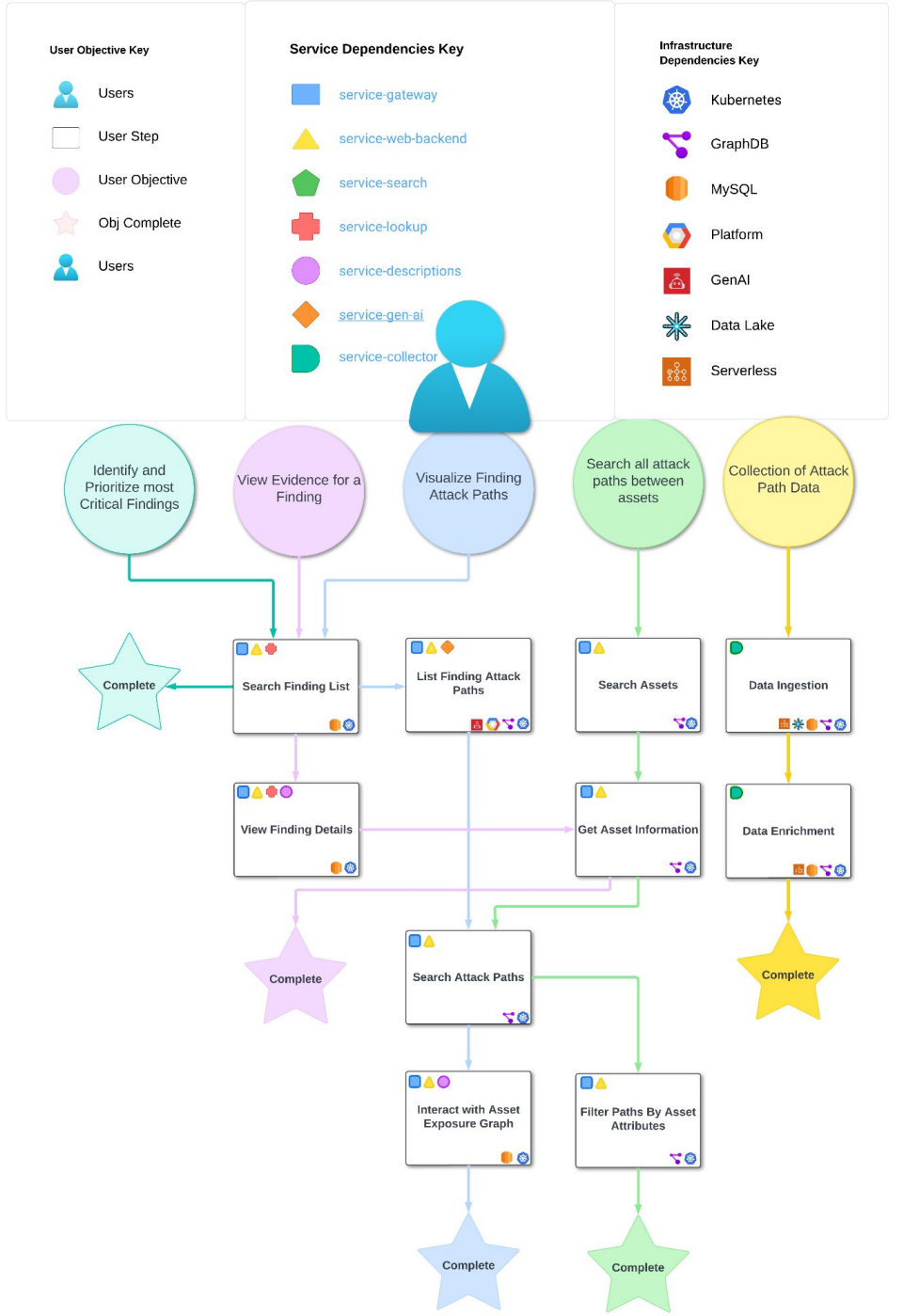
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- **Engineering Leads:**
  - Map out User Steps



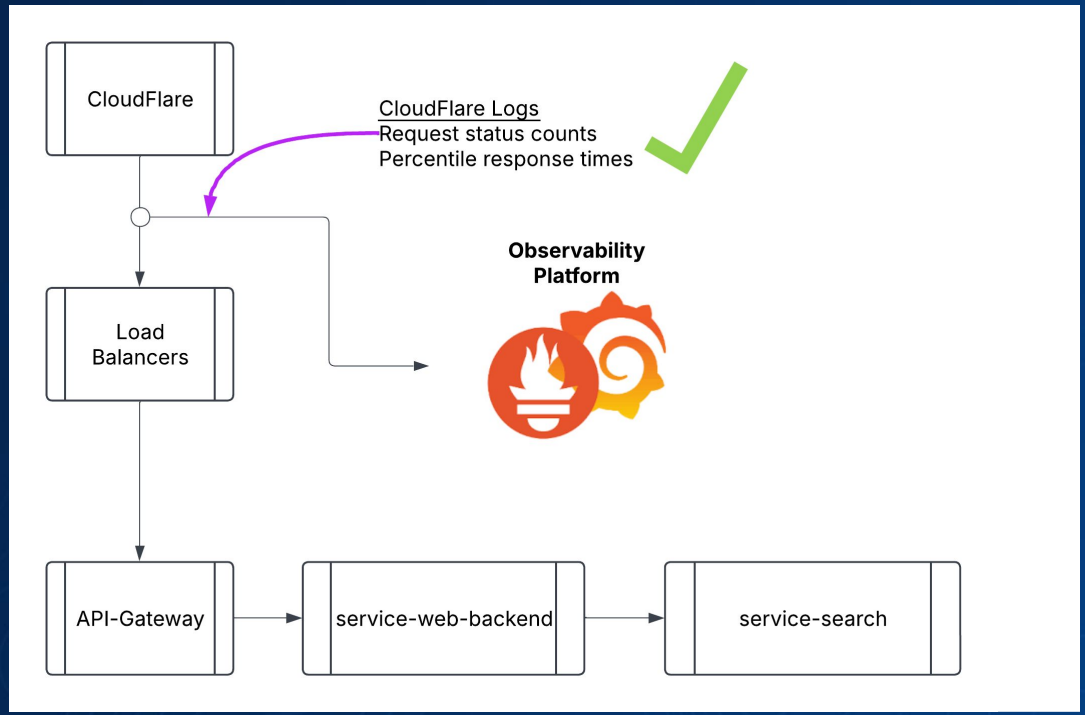
Gathering some Guinea Pigs

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- **Product Manager:**
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- **Engineering Leads:**
  - Map out User Steps
- **Wider Team:**
  - Align dependencies & define SLIs (close to the user)



Choosing the right SLI...

- Measure user experience…
  Not system health
- Get as close to the user as possible
- Use the right aggregation – P95/P99 over averages



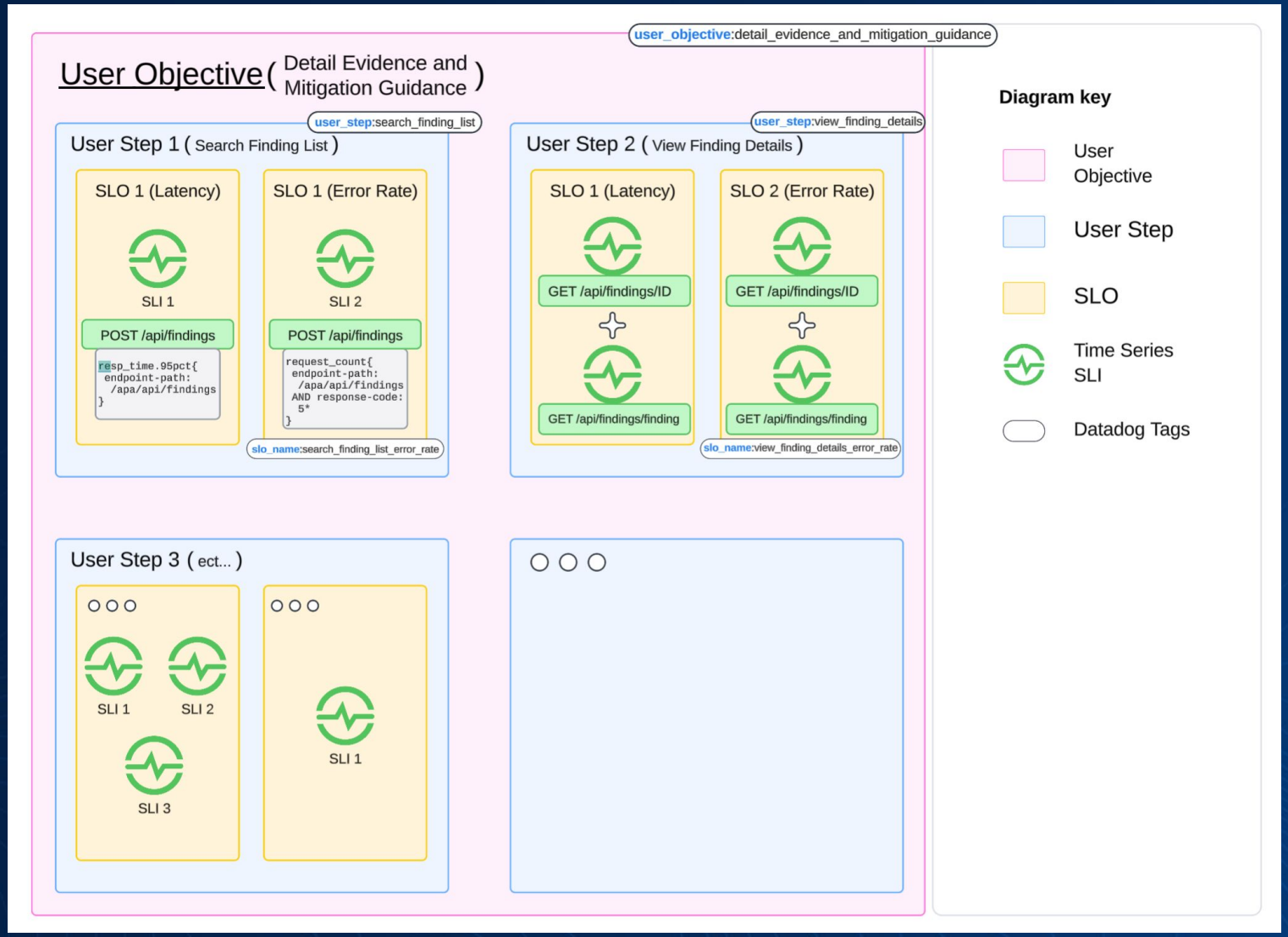
➔ `service-web-backend.query_execution_time.avg` ❌

➔ `request.duration.p95{service:api-gateway}` ≈

➔ `cloudflare.response_duration.p95{clientrequestpath:/search/resource}` ✅

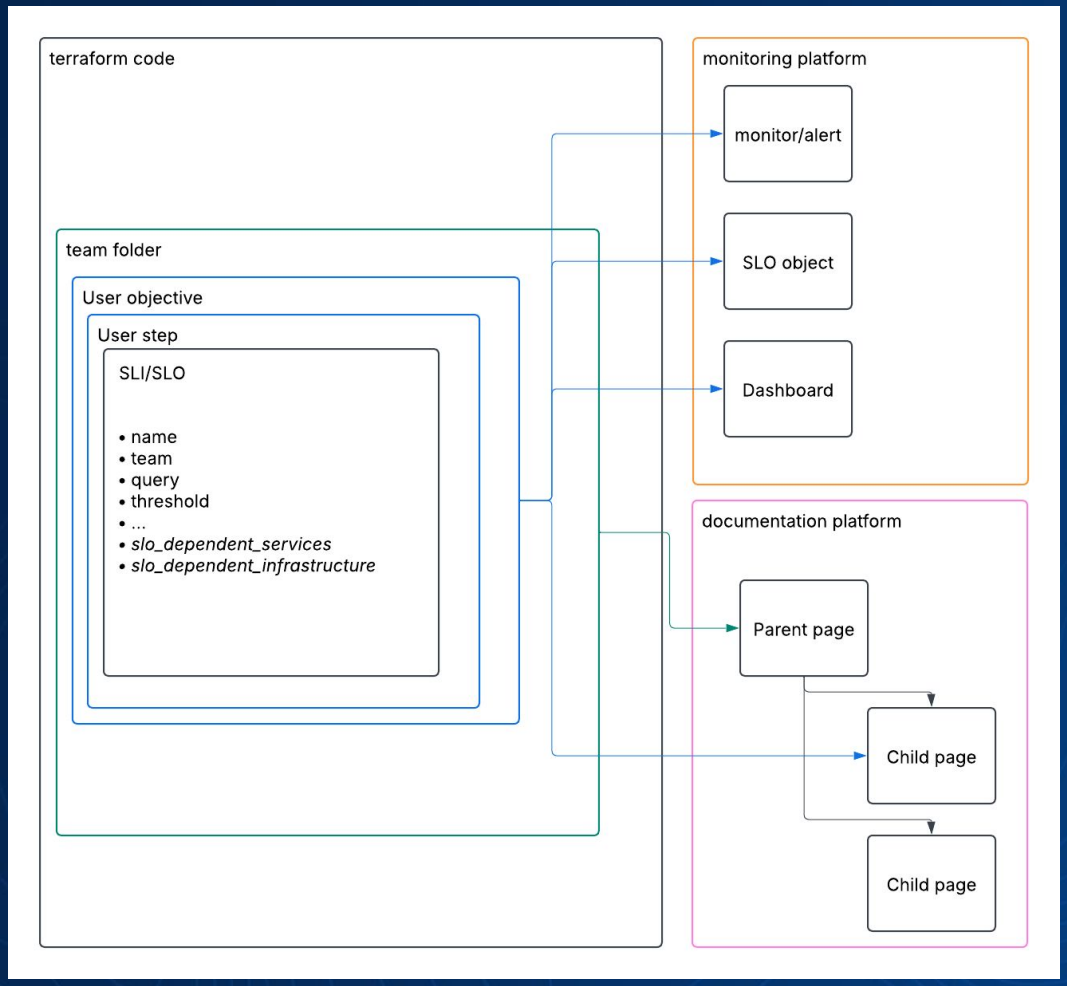
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Anatomy of a User Objective SLO



Framework Details - Inputs/Outputs

- SLO framework
  - standardization
  - full control
  - labeling/tagging
- Monitoring/Alert
- Auto Generated Documentation
- Reporting
  - Weekly reminders
  - Scoped to weekly timeframe
  - Easily accessible
- Dashboarding
  - Hierarchical
  - Executive View
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Report from Friday, 07 March to Friday, 14 March. Report generated at 2025-03-14 12:24:42.629761

Product Area	User Objective	Site	SLO 7d	SLO 30d	Comments based on discoveries during individual SLO Reviews	Action
Data Processing	Data Processing P99 >	fra	98.86% 7d SLO target: 99.0 = 1h 40m error budget 7d SLO achieved: 98.86% = 1h 54m Delta: 99.00% - 98.86% = 0.14% (0h 14m)	99.36% 30d SLO target: 99.0 = 7h 12m error budget 30d SLO achieved: 99.36% = 4h 37m Delta: 99.00% - 99.36% = -0.36% (-2h -34m)	• investigation showed service-x underscaled for load • temporarily increased scale	SRE-27985: make service-x autoscaled IN PROGRESS
Scan Management	Scan Management EDITOR Error Rate SLO	mssp	98.97% 7d SLO target: 99.0 = 1h 40m error budget 7d SLO achieved: 98.97% = 1h 43m Delta: 99.00% - 98.97% = 0.03% (0h 3m)	98.64% 30d SLO target: 99.0 = 7h 12m error budget 30d SLO achieved: 98.64% = 9h 48m Delta: 99.00% - 98.64% = 0.36% (2h 36m)	• SLO threshold too tight	SRE-27986: adjust threshold for SLO CLOSED

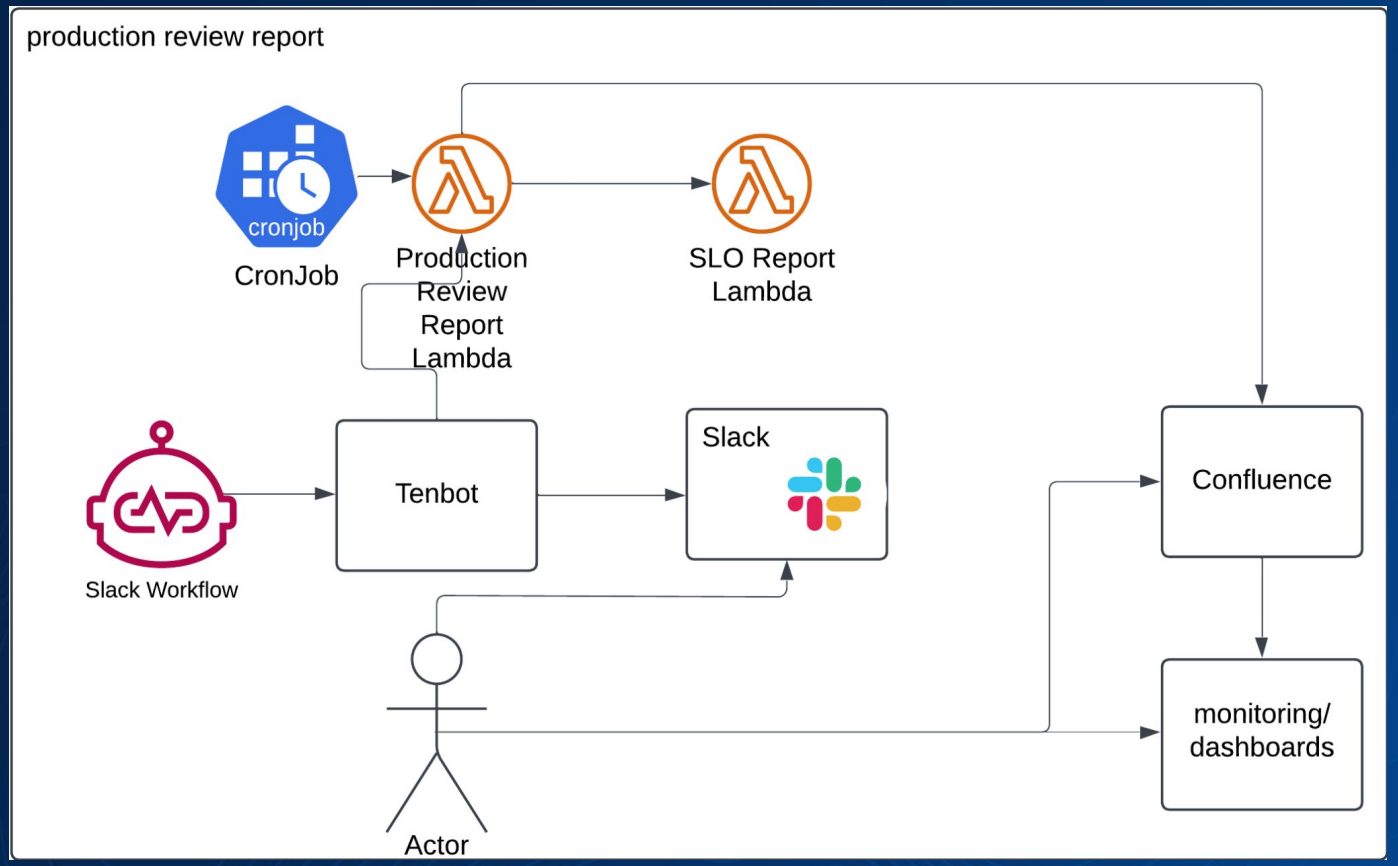
Source:

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- VM Scan Integration: Executive Dashboard & Engineering Dashboard
- VM Scan Management: Executive Dashboard & Engineering Dashboard
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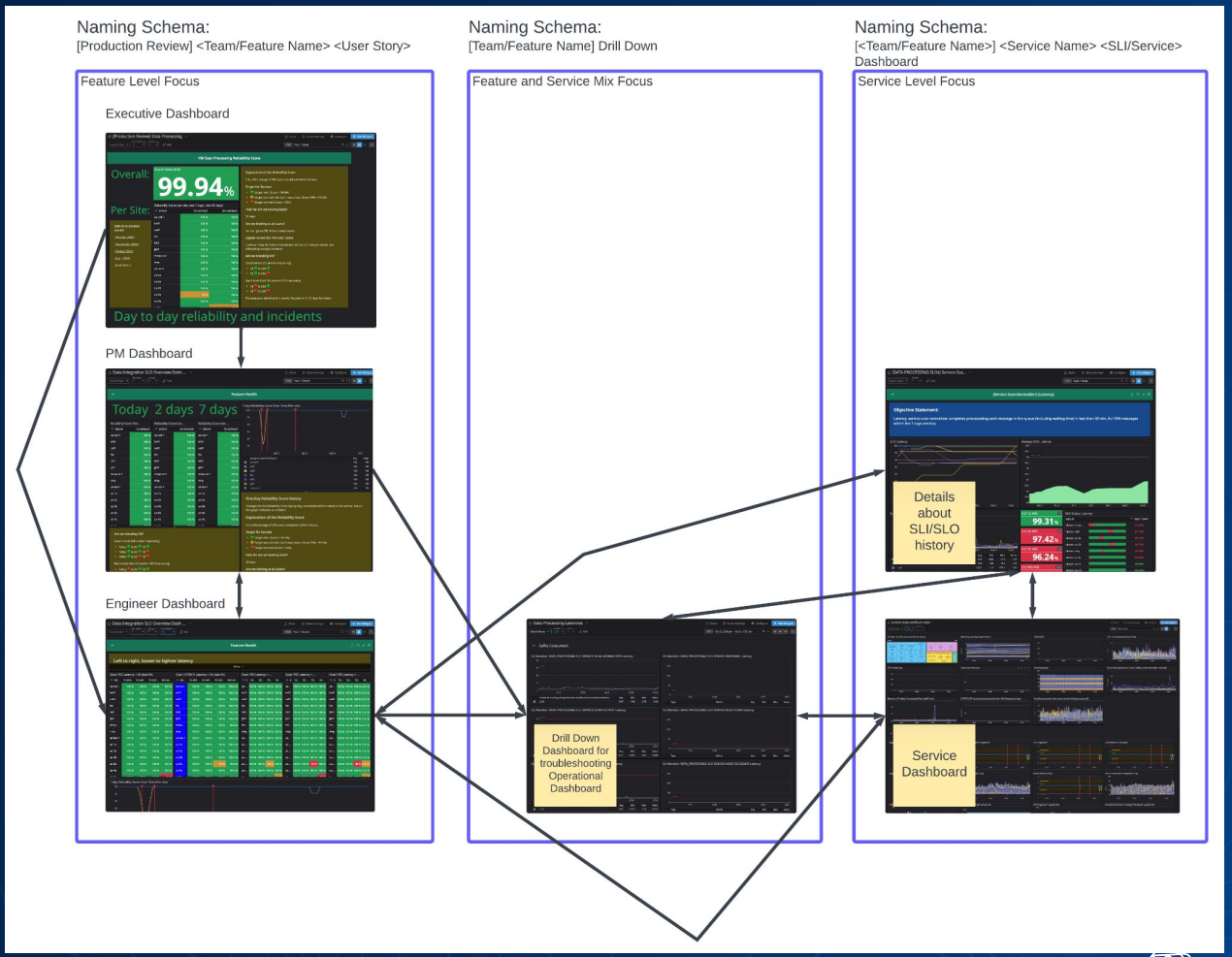
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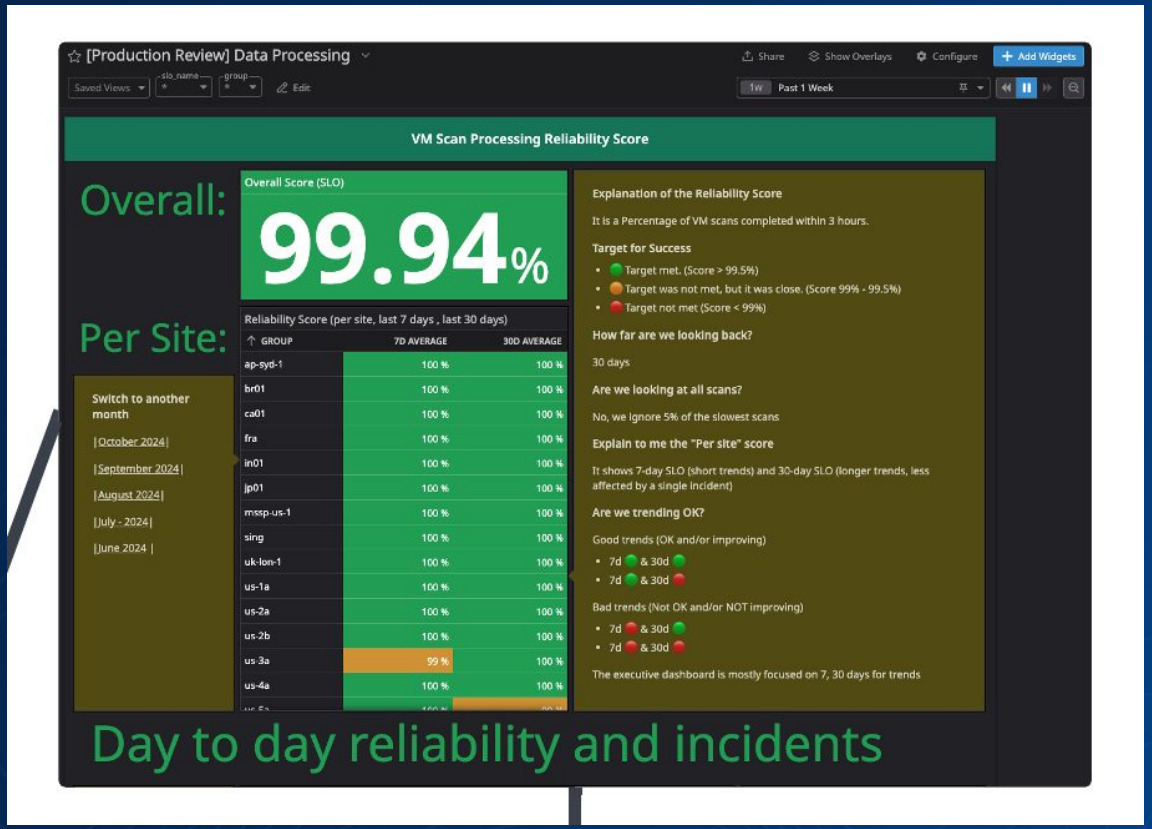
Framework Details - Dashboard Hierarchy

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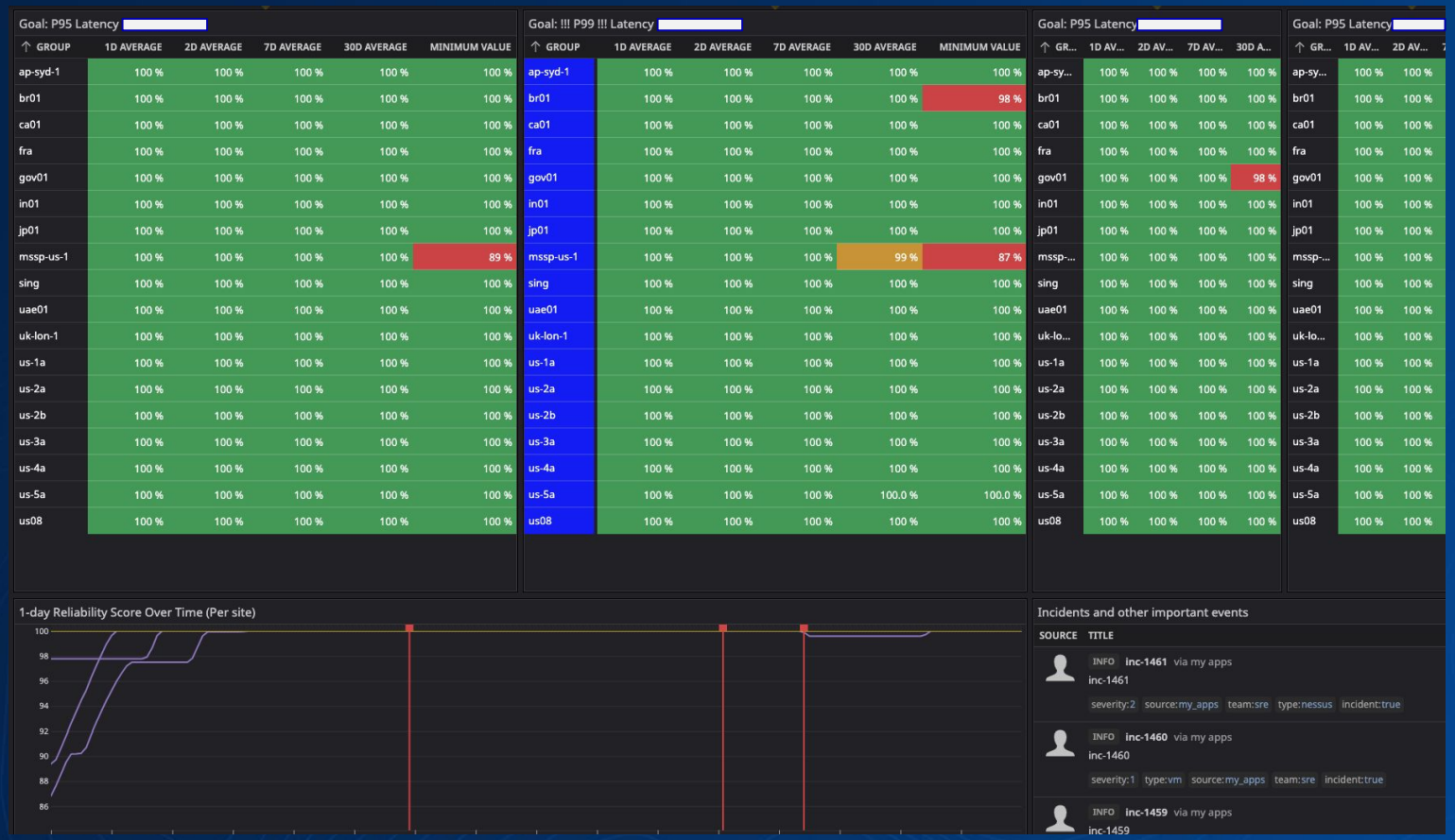
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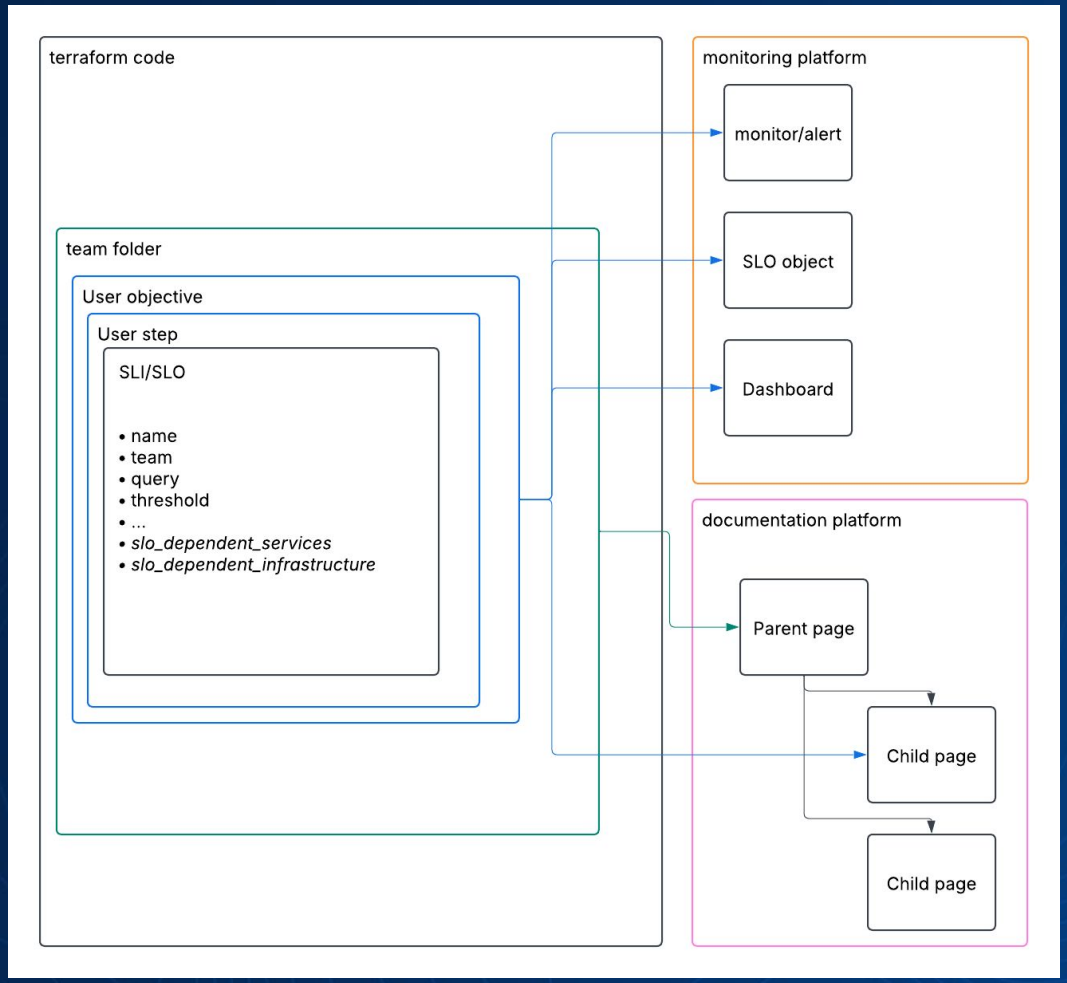
Step #4 - Framework Details - Dashboards

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Step #5 - Closing the feedback loop

- Daily (individual)
  - Alerting/Incidents
- Weekly (team)
  - Production report and SLO reviews
  - Ticketing (automation and ease of use)
- Monthly (org)
  - long term trend
- Team buy-in and commitments
- Incident review/gap analysis

1D AVERAGE	2D AVERAGE	↑ 7D AVERAGE	30D AVERAGE	MINIMUM VALUE
100 %	100 %	89.4 %	94.7 %	100.0 %
100 %	96 %	97.6 %	99.4 %	83.1 %
100 %	100 %	98.0 %	99.5 %	89.7 %
100 %	100 %	99.6 %	99.8 %	97.5 %
100 %	100 %	99.7 %	99.9 %	97.9 %
100 %	100 %	99.7 %	99.9 %	98.0 %
100 %	100 %	100.0 %	100.0 %	100.0 %
100 %	100 %	100.0 %	100.0 %	100.0 %

1D AVERAGE	2D AVERAGE	↑ 7D AVERAGE	30D AVERAGE	MINIMUM VALUE
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	100 %
100 %	100 %	100 %	100 %	94 %

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We are learning

Do:

- Plan engagements early
- Build relationships first (leadership, engineering)
- Include Product Management Team
- Talk openly about ownership
- Cliche: an imperfect SLO is better than none – iterate!

Enjoy the outcome:

- Happier Customers
- Less Escalations from Support
- Incident driven by SLOs
- Better collaboration SRE <> Product
- Product/Customer-Centric Reliability during the design phase

Please come talk to us! We'd love to learn from you too

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