AWS re:Invent

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Intentional and empathetic observability

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The nightmare at 2 AM

Fail story

Lacking objectives, context,
discoverability, and workflow

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About the speaker

- Solving problems with dashboards (and a bunch of other tools) for 20 years
- Engineering, business, and operations
- Big tech, FinTech, networks, startups, and education
- Author, consultant and speaker



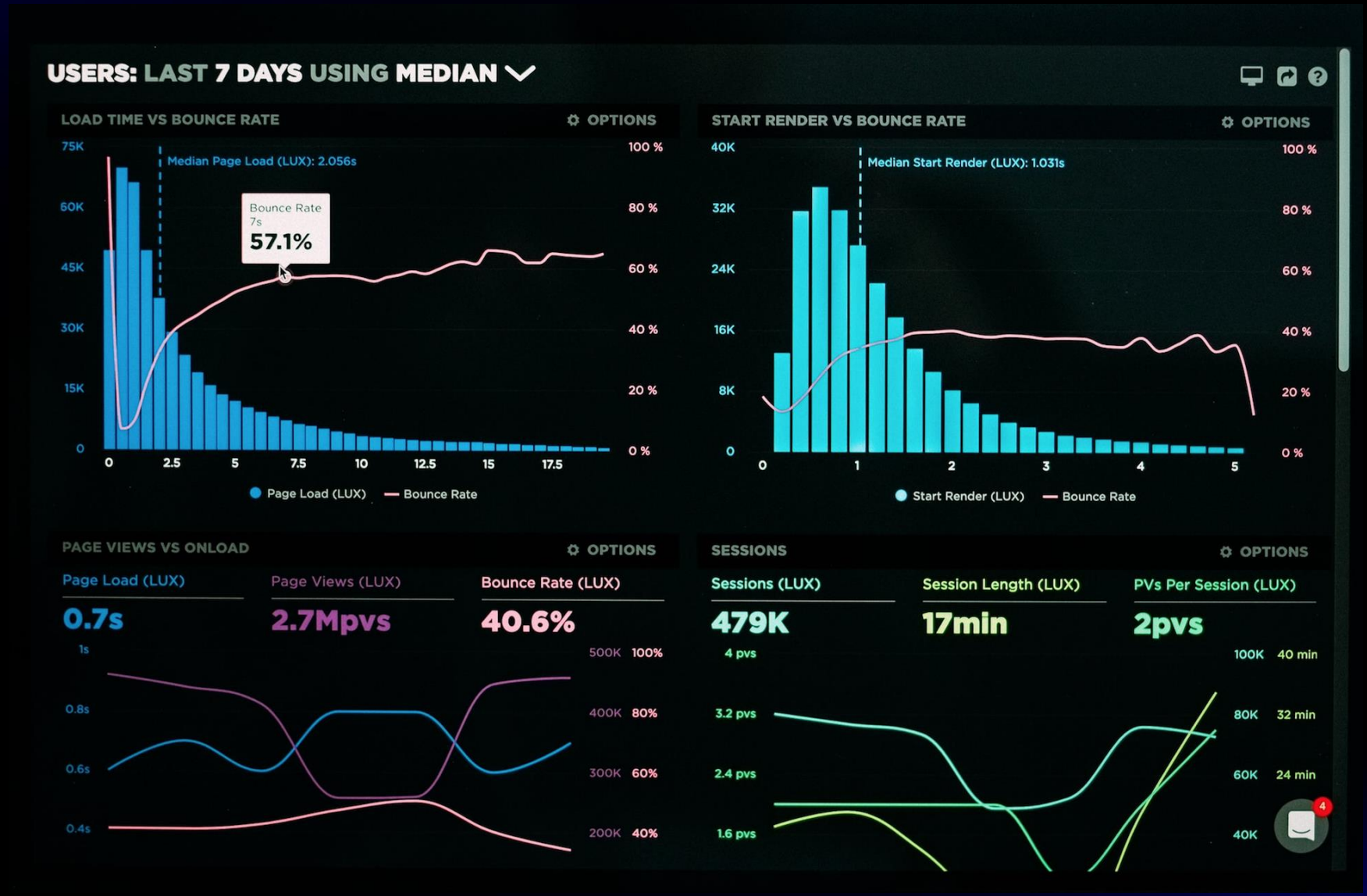
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Who are we, and what do we want?

- We want to be able to understand what is happening
  - In the moment
  - Over time
- We want answers and confidence
- We want to understand aggregate information quickly and visually

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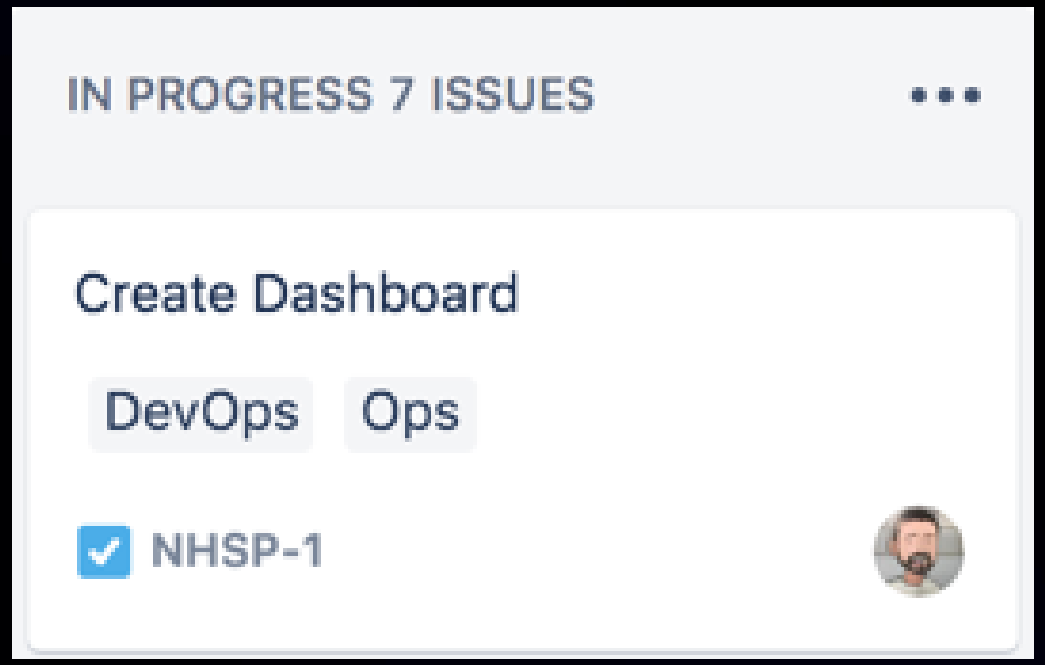
Dashboard – A cyberpunk dreamscape



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But how do we plan for them?

LIKE AN OUTCOME



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Dashboards – What we end up with



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A dashboard must do more than visualize or aggregate data. It must facilitate and teach.

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Building better with intention and empathy

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Recognize and acknowledge . . .

- That the user is inconsistent in behavior
- That different people have different backgrounds and experience
- That a dashboard might be used in suboptimal occasions
- That experience consistency is often more important than other optimizations

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Empathize with the user

- Who is the user/customer?
- What problems will people need to solve?
- What context will they need in order to succeed?
- What common misconceptions might they have?
- What research would they need to do to understand the problem?
- How do they solve the problem? What are the steps?

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Example dashboarding user story

- As a service operator, I want to [], so that I []
- As a product owner, I want to [], so that I []
- As a developer, I want to [], so that I []
- As a lead, I want to [], so that I []
- As an engineering manager, I want to [], so that I []

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Framework and intention

- Objectives
- Context
- Workflow
- Teach
- Usage

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Objectives

What problems are you solving with the dashboard?

For example

- Capacity planning
- Monitoring spend
- Progress reporting
- Incident response
- Optimization
- Performance review

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Context

What other research or technical assets are related to the subject?

- Artifacts
- Escalation paths
- Relationships
- Events
- Objectives
- Thresholds and predictions
- Timing
- Accountable parties
- Cost and business impact information

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Workflow

Problem-solving flows

- Is there a problem?
- Is there going to be a problem in the future?
- What is the impact?
- Has a problem been resolved, or have we met a goal?

Hierarchical data

Launch point

- Deeper review/investigation
- Observe the system or process in action
- Action (recovery, reporting, communication, or follow up)

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Teach

- Encode requisite context and relevant references into the dashboard for the anticipated workflows to eliminate variability in UX
- Use hierarchy and flow to match relevant metrics/data to the steps in a workflow
- Add relevant context to the same visual region as the data for a specific step in the workflow
- If there is an exit point in the workflow, link out to the follow-on action

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Usage

- Build dashboards for official processes or controls
- Enshrine the dashboard into related ceremonies or artifacts
  - Meeting invites
  - Alarms
  - Goal documents
  - Retrospectives and reviews

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Example dashboarding user story

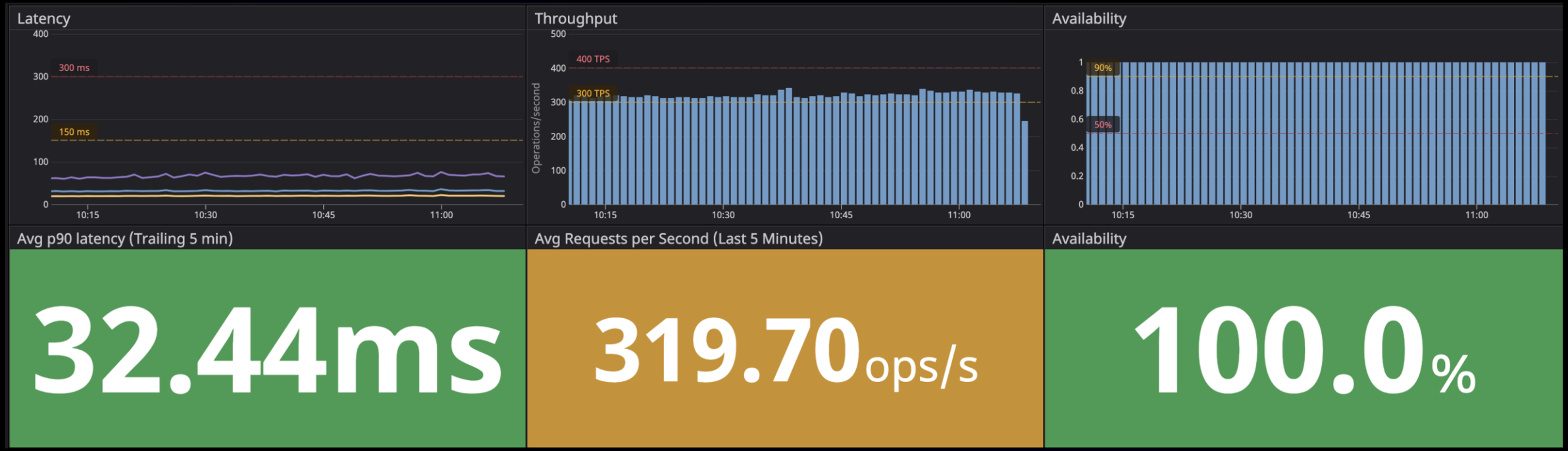
As a service operator, I want to identify and verify service failures, so that I take recovery actions

- I will arrive at this dashboard by way of a link in an alarm
- I need to understand the
  - Impact of the alarm
  - High-level malfunction
  - Alarming and severity criteria
  - Related change events
- I need to be able to quickly identify if any system dependencies are malfunctioning and how to suppress and escalate with the owners
- I need to be able to quickly identify if any known failure modes are occurring and discover related runbooks for recovery
- I need to see or discover low-level metrics for related failure domains

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As a service operator, I want to . . .

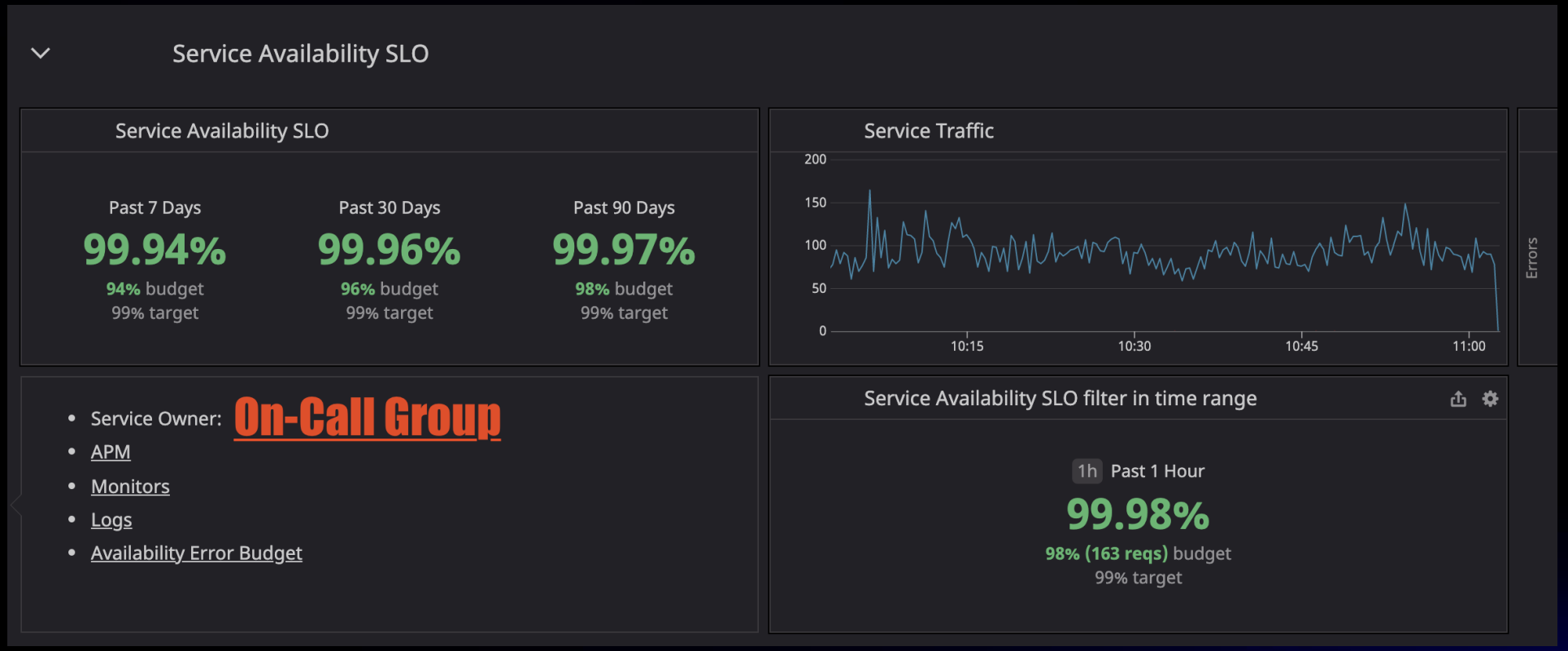
Quickly identify if a given service is meeting health objectives



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As an engineering manager, I want to . . .

Quickly identify if a given service is meeting its SLOs, and discover the responsible parties and related information



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Rapid triage

Success story

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Thank you!

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