



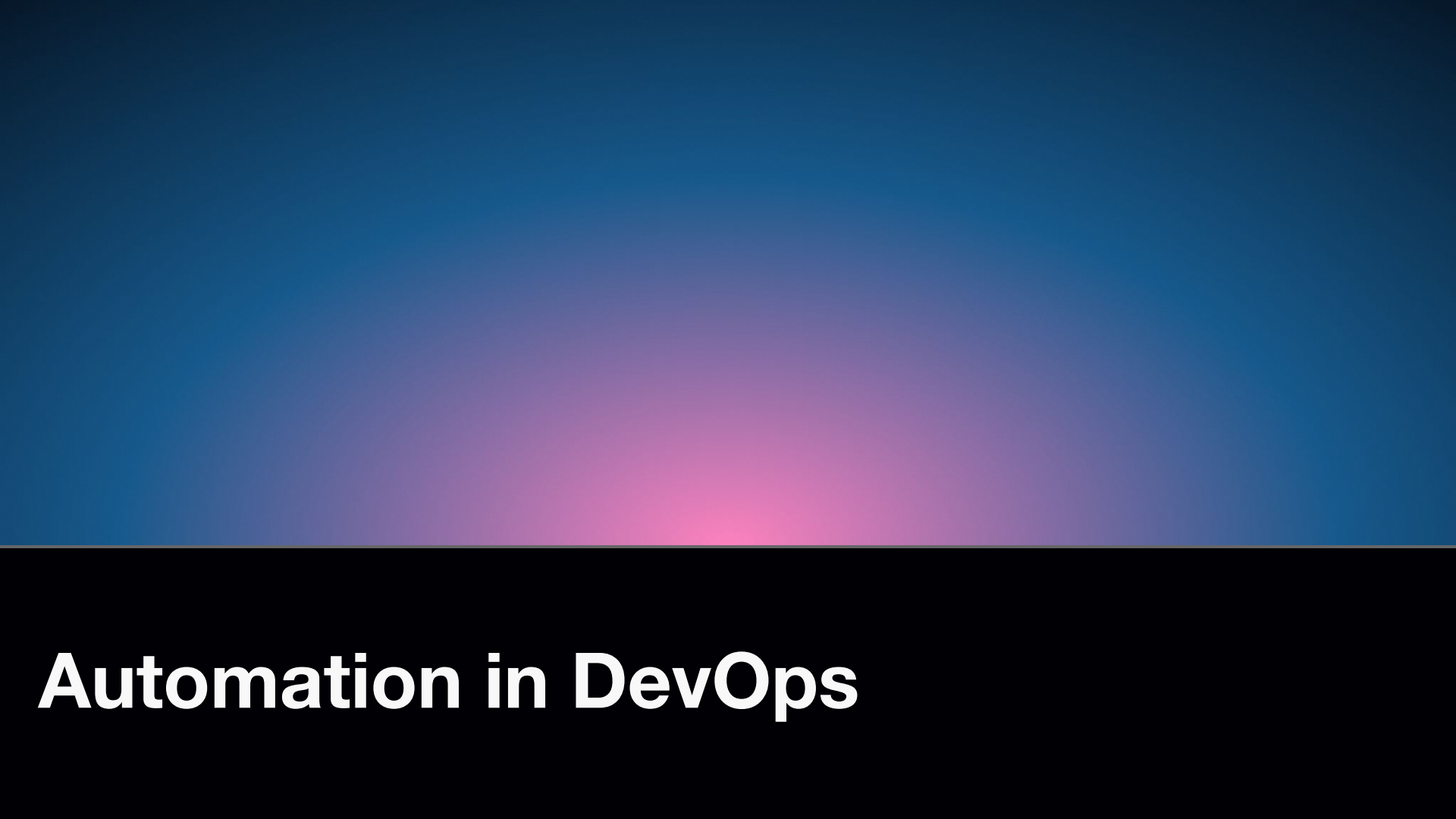
AWS DevOps Agent in SRE workflow

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Overview

- Automation in DevOps
- Implementation options
- AWS DevOps Agent
 - Features
 - Extensibility
 - Practice
- DevOps Hamster





Automation in DevOps

Automation in DevOps

Automation is core of DevOps

Autoscaling and automatic restart of services

Pipelines and deploys

Next step?

Agentic features vs agentic operations

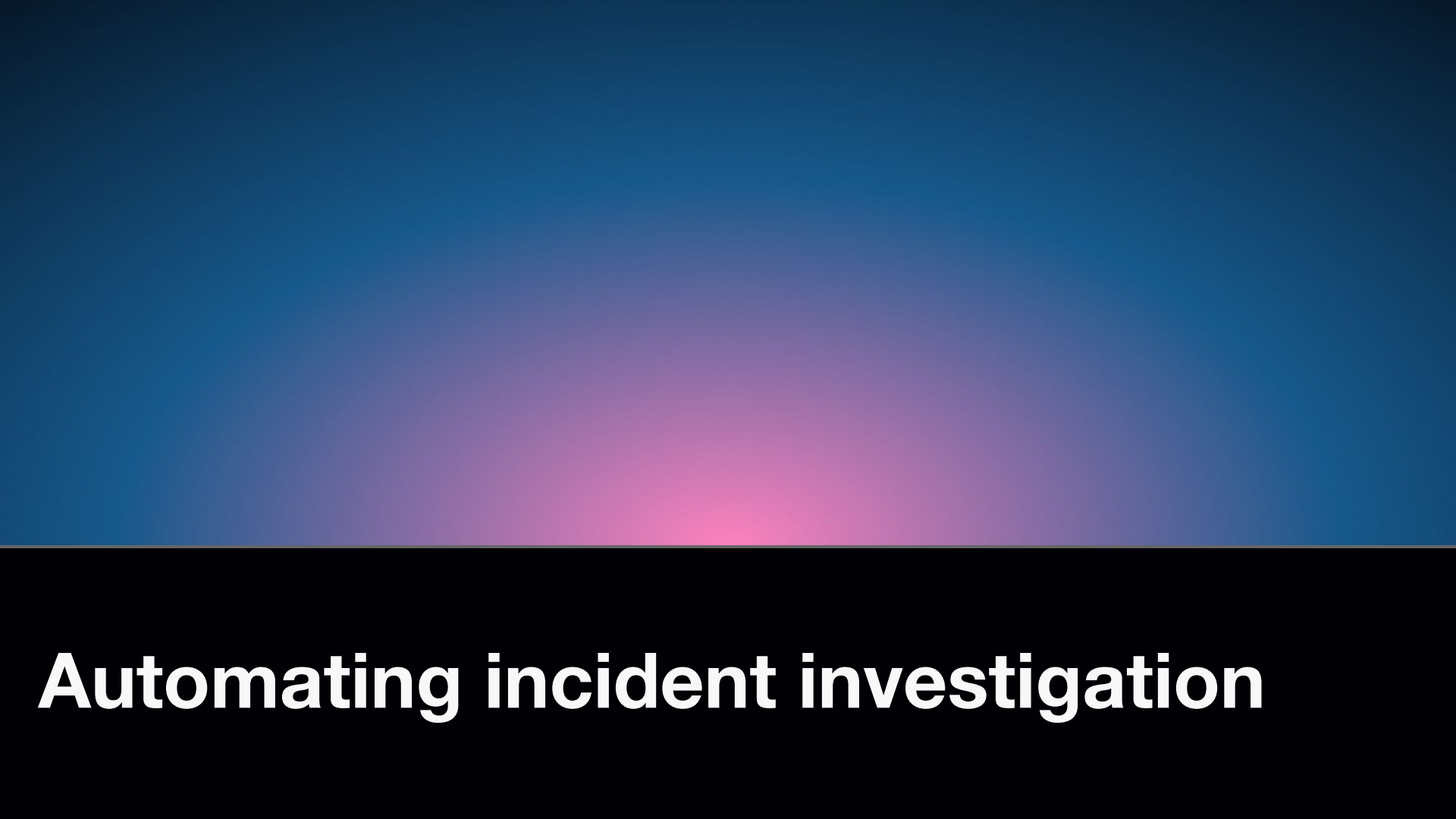
Giving up keys to the kingdom to AI.

Agentic feature may have 95% success rate which is absolutely unacceptable for operations.

Infrastructure development

DevOps brings software development practices to operations.

Therefore DevOps should follow AI-SDLC



Automating incident investigation

Types of production regressions

A change to production environment

Monitor releases on GitHub to determine root cause.

Rollback is often an option unless there is a blocking deploy.

Regression may be related to the deployment procedure itself.

Foo database maintainers.

Unusual behavior on platform

First step: triage.

On-call engineer starts looking at logs and metrics related to the raised alert.

AI agents are actually good at gathering context.

Ideally, a summary is ready when the engineer opens their laptop.

Latent issues

Architectural issues.

No outstanding behavior, platform usage patterns naturally evolve.

Most difficult for operations to manage and to automate.



Current setup

Grafana Investigations

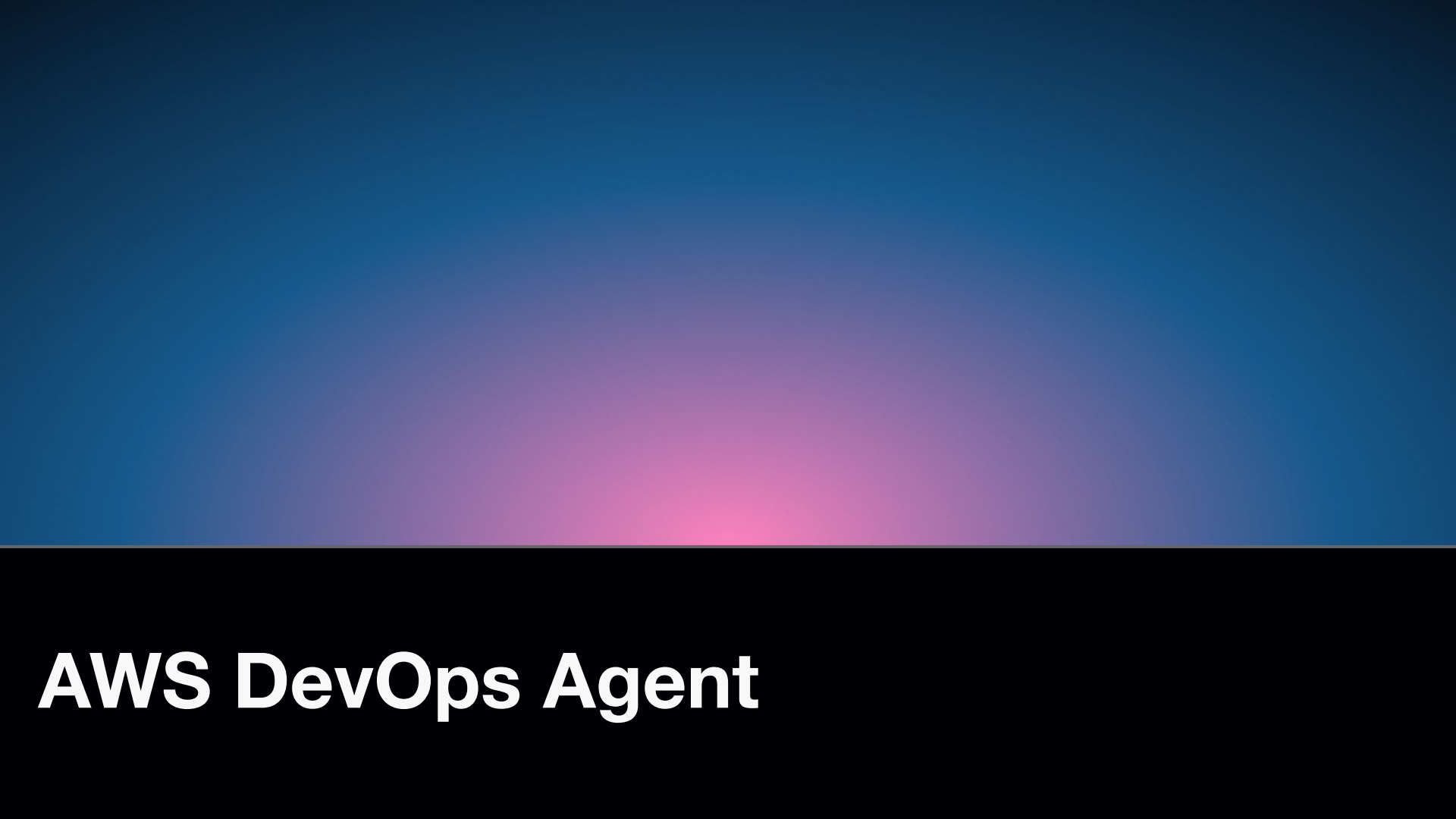
- We host our logs and metrics on Grafana Cloud
- Good dashboards
- Automatic trigger on Prometheus based alerts
- Skills for Investigations
- MCP connections for external providers (Sentry...)

Skills

- Skill issue was limiting Grafana Investigations
- Incident triage
- Checking deployments
- Rollback safety assessment
- Checking logs and log format
- Checking Sentry
- Monitoring setup
- Checking status pages
- Check queues
- Queue dependencies
- Propose operational action
- ...

Claude Code

- Use the same skills provided to Grafana
- Connect to MCP servers of our observability providers
- Limited success

The image features a gradient background transitioning from dark blue at the top to a bright pinkish-purple glow in the center, and finally to a solid black area at the bottom where the text is located.

AWS DevOps Agent

AWS DevOps Agent

- Set it up in an account of your choice
 - AWS suggests monitoring account
- Capabilities are set up account wide
- DevOps Agent Space
 - Capabilities
 - Tools
 - Access to other accounts
- Agent Space per operations team

AWS DevOps Agent

- **Connecting external systems:**
 - **Grafana**
 - **PagerDuty**
 - **DataDog**
 - **GitHub**
 - **Azure**
 - **Any custom MCP server**
- **RO access to our production AWS accounts**
 - **Exceptions**

AWS DevOps Agent

- Limitations and extensibility
- Skills for each agent
- Agent reads alert runbooks
- Agent instructions for each agent
- Connect to external MCP servers and Agents via A2A
- Getting internet access
 - Extend with AgentCore MCP Gateway
 - Expose Lambda as MCP tool

What does AWS DevOps Agent even offer

1

Chat

- Quick queries
- Skill and tool access
- Context-aware
- Investigation steering

2

Triage & RCA

- Part of the investigation flow
- Triage agent searches your telemetry connections
- RCA agent takes the findings and performs analysis

3

Mitigation

- Mitigation agent takes the Investigation results, prepares a resolution spec for another agent
- Set up for operational actions

4

Proactive prevention

- Based on previous alerts, it suggest improvements

5

Release readiness

- Code review
- Release testing



Any success?

Results

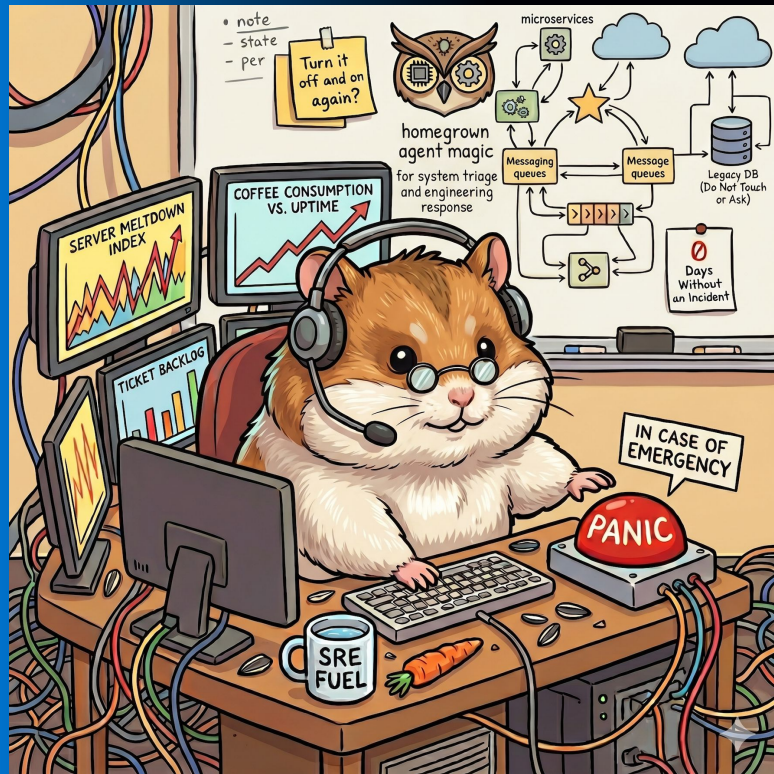
- Auth incident
 - Analytics pipeline
 - Weekly healthchecks
-
- Closing the loop with agentic development



DevOps Hamster

Hamster

- It is a set of invokable skills and MCP tools
- Works as a combination of the three approaches described before
- Connect AWS DevOps Agent to Cursor/Claude



Hamster's three tier architecture

Tier 1: Grafana

Upon invocation Hamster will gather more context

Access local codebase

Access Prod Grafana over MCP

Knowledge of our monitoring setup

For simple queries it may stop here

How many jobs are in foo queue?

How many requests to hub in the last hour?

Tier 2: Chat

With expanded context, Hamster will try to reach AWS DevOps Agent

It will start a session in interactive mode with DevOps Agent

All DevOps Production skills available - same instance that solves production issues

Creative export pipeline is stuck, what service is causing issues?

Are there any issues on AWS S3 right now?

Tier 3: Investigation

If the first two tiers fail to deliver an appropriate response, a deep investigation is launched.

The investigation takes 6-7 minutes.

Same investigation agent as handles critical alerts for DevOps team

Why is the metadataCreator service failing?

Check this alert [20 lines pasted]

Has any service behaved unusually in the last week?

| Celtra