Database performance monitoring and tuning

with Amazon DevOps Guru for RDS

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Amazon Relational Database Service (RDS)

Agenda

- Quick introduction to Amazon RDS and Amazon Aurora
- How do I access RDS performance metrics?
- What additional problems does Amazon DevOps Guru for RDS solve?
- Demo

Amazon Relational Database Service (RDS)

Set up, operate and scale a relational database in the cloud with just a few steps

12+ years of operational expertise, security best practices, and innovation

Remove inefficient administrative tasks with managed databases

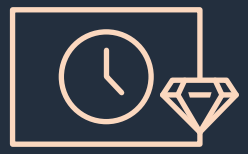
High availability and durability with Amazon RDS Multi-AZ

Build and scale with the database of your choice

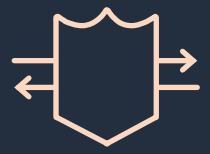
Amazon Aurora

Designed for unparalleled high performance and availability at global scale with full MySQL and PostgreSQL compatibility at 1/10th the cost of commercial databases

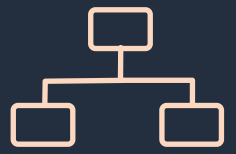
Performance & scalability



Availability & durability



Highly secure



Fully managed

Performance monitoring in RDS

Overview of performance monitoring in RDS

Instance

Amazon CloudWatch

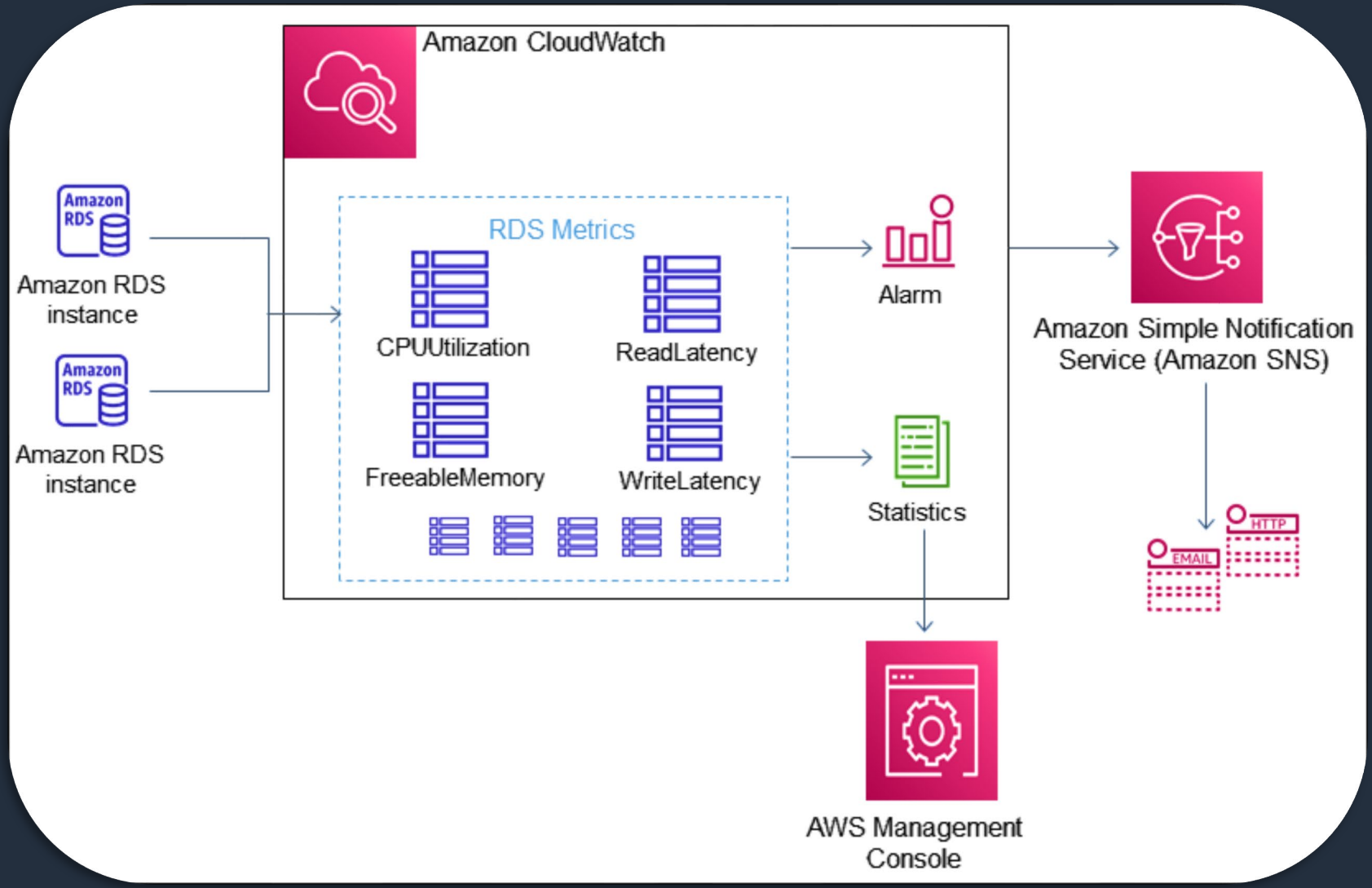
Operating System

Amazon RDS Enhanced Monitoring

Database Engine

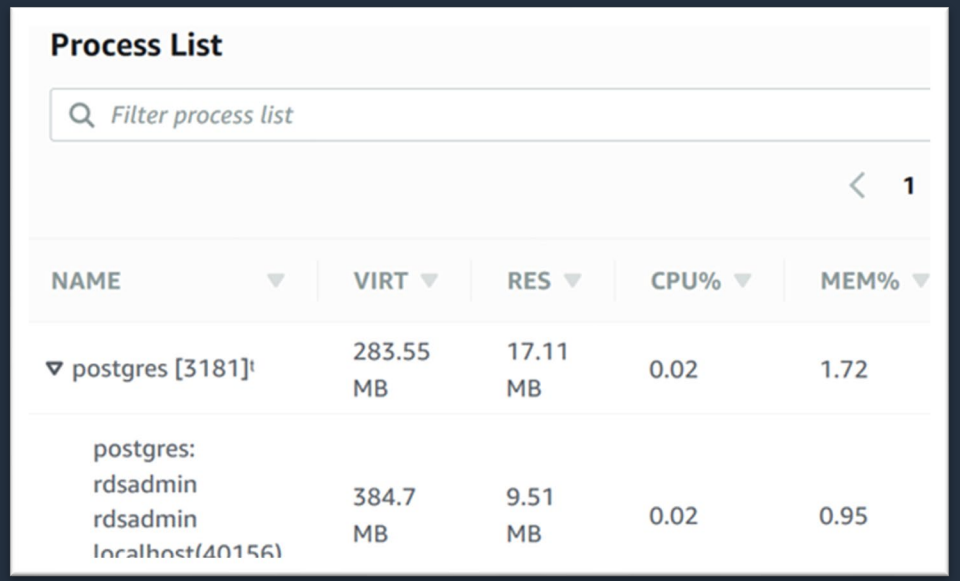
Amazon RDS Performance Insights

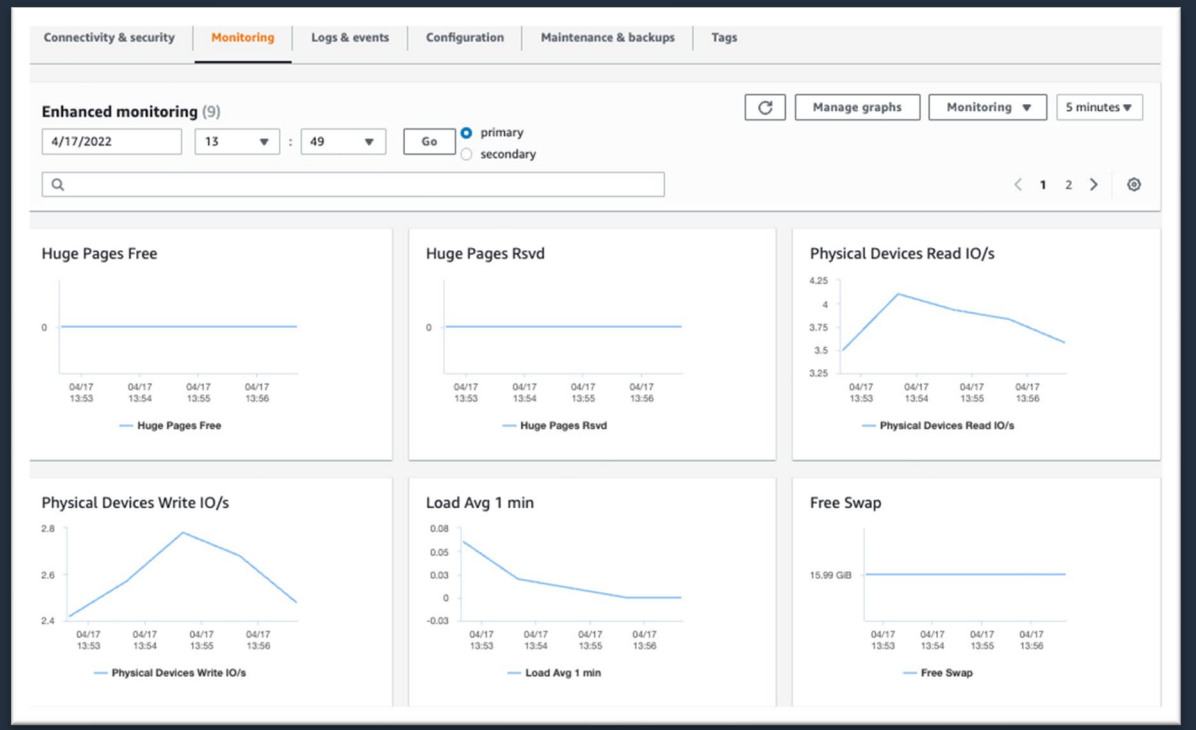
Monitoring instance metrics with CloudWatch



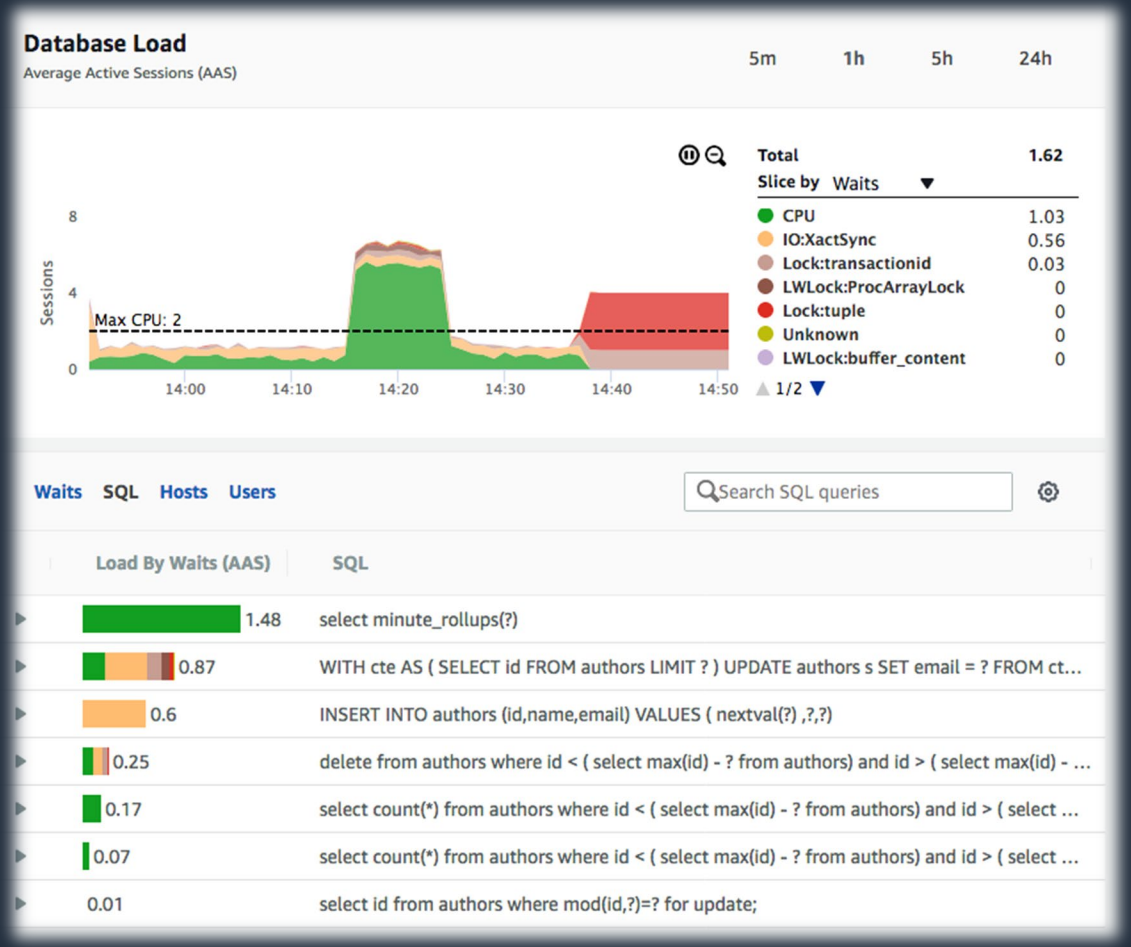
Monitoring the operating system with Enhanced Monitoring

- Granular OS monitoring (e.g., process list, physical devices, swap activity)
- Gathers data via a local agent on the DB instance
- Default retention period: 30 days





Monitoring database load with RDS Performance Insights



- Integrated and fully managed
- Available for all Amazon RDS database engines
- Measures database load
- Easy to identify database bottlenecks

Overview of Amazon DevOps Guru

ML-powered service to improve application availability in the cloud

DevOps Guru is an ML-powered service that makes it easy for developers and operators to automatically detect issues to improve application availability and reduce expensive downtime—no machine learning experience required.

Introducing Amazon DevOps Guru for RDS

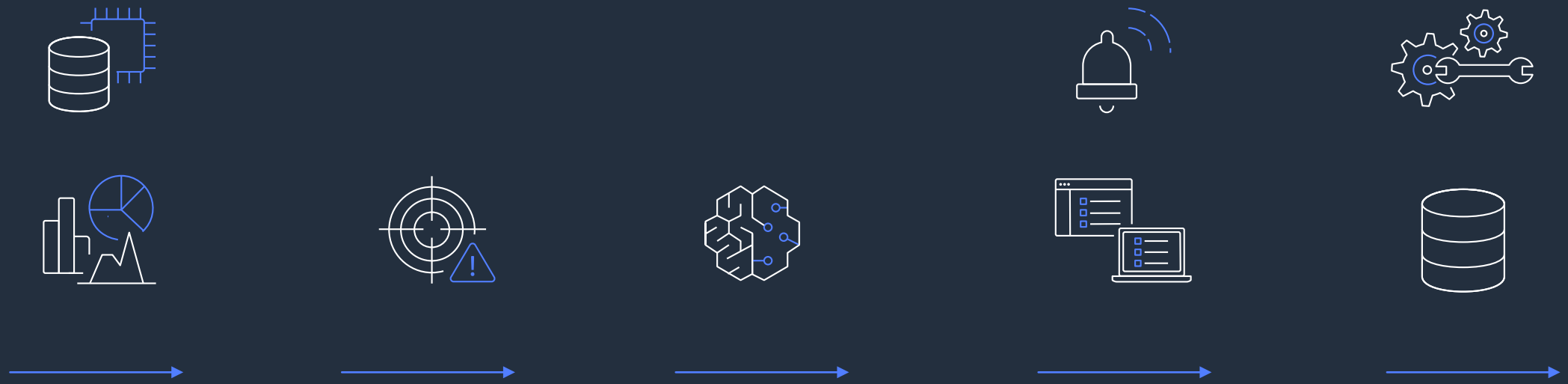
Automatically detects performance bottlenecks and operational issues using machine learning

Delivers insights and recommendations to help resolve issues in minutes

Designed to have no database performance impact

Get started with a few steps in DevOps Guru or RDS Console

Amazon DevOps Guru for RDS: How does it work?



DevOps Guru for RDS: Examples

- Reactive Insights
  - Locking contention
  - Memory pressure
  - CPU exhaustion
  - DB load increases
- Proactive Insights
  - Long running transactions

Demo: Getting started with DevOps Guru for RDS

Recap

- DevOps Guru for RDS empowers everyone from database administrators to DevOps engineers and application developers
- Helps with detecting, diagnosing, and remediating a wide variety of database -related performance issues
- Available for Amazon RDS for PostgreSQL, Amazon Aurora PostgreSQL, and Amazon Aurora MySQL
- Get started in the RDS console by enabling DevOps Guru for specific RDS resources or for your entire account

Additional resources

https://aws.amazon.com/devops-guru/features/devops-guru-for-rds/

Get started with Amazon DevOps Guru for RDS

https://docs.aws.amazon.com/devops-guru/latest/userguide/working-with-rds.html

User documentation for Amazon DevOps Guru for RDS Protection

https://aws.amazon.com/blogs/devops/proactive-insights-with-amazon-devops-guru-for-rds/

Proactive Insights with Amazon DevOps Guru for RDS

Thank you!

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