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CON424-R

Using Amazon CloudWatch Container Insights to monitor your microservices

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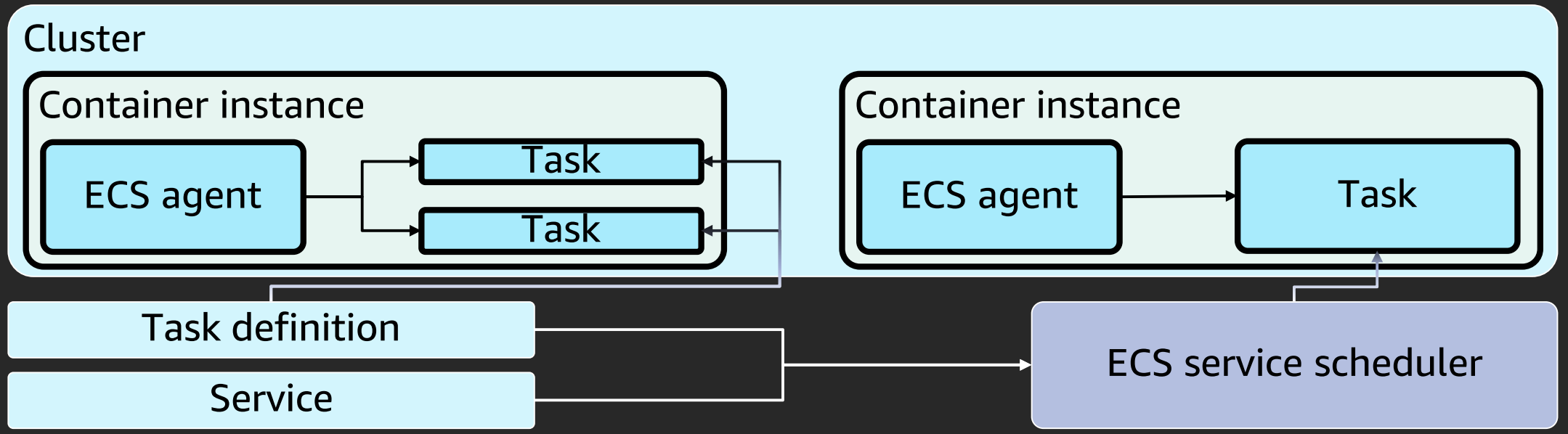
Agenda

- What is Amazon Elastic Container Service (Amazon ECS)?
- What is Amazon ECS CloudWatch Container Insights?
- What metrics do we provide?
- How do metrics get propagated to Amazon CloudWatch?
- What can we do with these metrics?
- Demo
- Q&A

Amazon ECS

- Highly scalable and performance-optimized container orchestration service that supports Docker container workloads
- Provides a variety of resource constructs to make this process simple and maintainable
- Containers can be launched on **AWS Fargate** to remove the burden of managing infrastructure through **serverless** containers



Amazon ECS

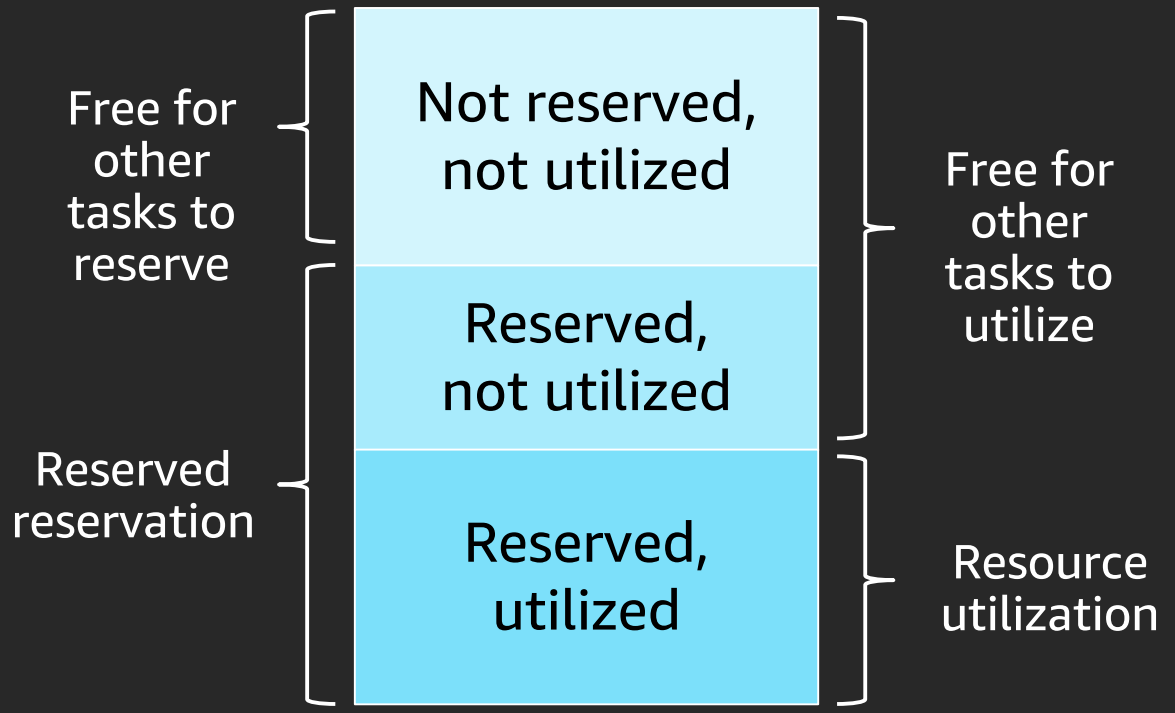
- **Task:** Basic primitive comprised of several related containers running together on the same infrastructure
- **Task definition:** The configuration for launching a task on targeted infrastructure
- **Service:** A configuration defining how Amazon ECS can schedule and maintain tasks on targeted infrastructure
- **Cluster:** A logical grouping of ECS tasks, ECS services, and Amazon Elastic Compute Cloud (Amazon EC2) instances to use as target infrastructure
- **ECS agent:** A container run on your infrastructure to communicate with Amazon ECS and manage your containers

ECS Container Insights

- ECS Container Insights collects, aggregates, and summarizes metrics and logs from your containerized workloads
- Opt in on a cluster for all of the tasks run in that cluster
- Provides **in-depth logging** of metric data for each task and container running in your cluster
- Provides **live metrics** based on a number of the logs emitted in your cluster
- Logs emitted by Container Insights can be further queried for post analysis and to set up **new tooling**
- This data is gathered from Docker stats via the ECS agent. Then, it is ingested, processed, and published through the Amazon ECS back-end infrastructure, providing a simple opt-in experience

Metrics: Amazon ECS and Container Insights

- Amazon ECS
  - Dimension: Cluster and service
  - Resources: CPU (%), memory (%), GPU (%)
- ECS/Container Insights
  - Dimension: Cluster, service, and task definition
  - Resources: CPU, memory, network, storage, cluster stats, and service stats



Enhancing developer operations?

- ECS Container Insights provides a variety of new data to analyze performance trends and implement new tooling, which can enable automation of developer workflows
- What is possible with ECS Container Insights?
  - **Dive deep into your infrastructure** through detailed structured logs and metrics
  - **Alarm and scale automatically** on new data points, such as network utilization, storage utilization, service state, and cluster state
  - **Reduce risk** by implementing tooling to respond to unexpected performance changes
  - **Save money** by implementing tooling to determine the right size for tasks
  - **Reduce operations effort and response time** by implementing tooling to resize your TaskDefinition on demand

Demo

Thank you!

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