ACADEMIND

Managing Compute Workflows

Beyond basic use-cases & small companies

- Managing Compute Tasks At Scale
- Managing Instance & Server Fleets
- Managing Configuration & Parameters At Scale

Planning & Performing Batch Jobs

AWS Batch

Create Job Definitions	Execute Jobs
Define Fargate or EC2 instance jobs	Submit or schedule jobs
Define image & basic hardware requirements	AWS provisions resources & executes job
Extra configuration: Permissions, file systems, ...	Jobs & job status can be tracked

Optimizing Compute Resources

AWS Compute Optimizer

Uses machine learning to analyze CloudWatch metrics & resource configurations

Recommends improvements (e.g., to use a different instance type or memory settings)

Managing Large Scale Systems

Systems Manager

A service with many capabilities that help with managing large fleets of servers & applications

Node Management	Operations Management	Application Management	Change Management
Group, visualize & manage a fleet of servers	Manage server-wide operations	Manage application parameters	Manage fleet changes & updates
Connect to servers via Session Manager	Manage incidents	Provide & manage application configuration	Automate change requests
Orchestrate patches & server-wide commands	Fleet monitoring	Easily deploy or roll back configuration changes	Configure standardized maintenance windows

Provide Standardized Service Solutions

Problem

Not every account user should create a custom solution

Service Catalog

Create standardized, configurable AWS service usage templates

e.g., a VPC with an EC2 instance and a RDS instance

can be combined

Proton

Create standardized serverless & container deployments

e.g., a VPC with an ECS cluster on Fargate

Launch Wizard

Helps with launching standardized, pre-built (by AWS) applications

e.g., launch a SAP application

Summary

Size Matters

- Micro-management does not work for large-scale cloud usage
- Operating & monitoring individual services is not possible
- System-wide solutions are needed: Systems Manager etc.

Optimizing & Managing Compute Resources

- **Systems Manager:** Manage server fleets & all applications
- Manage updates, incidents or changes globally
- Perform batch operations with less effort via **AWS Batch**
- Optimize compute usage via **Compute Optimizer**

Standardizing Applications & Resources

- Account users shouldn't create different, custom solutions
- Standardized recipes via **Proton** or **Service Catalog**
- Pre-built (AWS-managed) apps via **Launch Wizard**