Modern Applications: Modern compute

Modern compute

When you're building an application, you generally have three options for compute: instances, containers, and Lambda. What you choose and how you choose it depends on how much you care about flexibility versus simplicity, because there are tradeoffs. We define "simplicity" as seamless integration with other services and features and flexibility as the ability to make more decisions about configuration. Increasingly we're seeing our customers choose containers and Lambda for compute. Containers offer excellent portability and flexibility over an application's settings. Lambda offers the most simplicity, allowing developers to focus only on the business logic of the application.

Build with Serverless Simplicity

Centering your application on AWS Lambda enables you to spend more time focusing on innovating your application instead of managing infrastructure. You no longer need to provision or maintain servers, operating systems, or software. This means you can focus on writing business logic that provides differentiated value to your customers and business. Serverless technologies automatically scale by unit of work and have built-in availability and fault tolerance, so you can build customer-ready applications, right from the start. You can build serverless applications with a lower cost of ownership because you pay for execution duration, or consistent throughput, not for server unit.

About containers

Containers provide a standard way to package your application's code, configurations, and dependencies into a single object. Containers share an operating system installed on the server and run as resource-isolated processes, ensuring quick, reliable, and consistent deployments, regardless of environment. Containers package your code with the configuration files and dependencies it needs to consistently run in any environment. Containers also provide process isolation that lets you granularly set CPU and memory utilization for better use of compute resources.

Serverless Compute Options

AWS Lambda
Serverless event-driven code execution

Short-lived
Data source integrations
Invisible Infrastructure

AWS Fargate
Serverless compute engine for containers

Long-running
Bring existing code
Fully managed orchestration

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The power of “And”: Serverless and containers

For building net-new applications, you should consider using serverless technologies such as AWS Lambda and AWS Fargate. With serverless, you no longer need to provision or maintain servers, operating systems, or software. This means you can focus on writing business logic that provides differentiated value to your customers and business.

For modernizing legacy apps and migrating these to the cloud, you should consider using containers. Containers help you provide a consistent packaging and deployment environment, which facilitates on-premises portability and hybrid scenarios as you build your cloud migration strategy. Containers also provide complete, granular control of the compute environment, easing the complexity of migration your apps to the cloud.

When you’re ready to containerize, simplify the process with **AWS App2Container**, which packages your existing application artifact and identified dependencies into container images, configures the network ports, and generates the ECS task and Kubernetes pod definitions.

AWS is the best place to build serverless or container based applications. But don’t take our word for it, read **Forrester’s latest New Wave reports** to see how AWS stacks up against the competition.

Ready to see how it works?
Visit us to learn more about how to leverage modern compute practices.

Or, get up to speed on **Serverless** and **Containers** to optimize your modern apps.

What is serverless?

No infrastructure provisioning, no management

Automatic scaling

Pay only for execution time

Highly available and secure

According to research from IDC, organizations that adopt serverless technologies reduce their five-year operating cost by 60% while increasing compute deployment efficiency by 89%.

80%
of all containerized applications running in the cloud run on AWS*

3x
Fargate usage growth in 1 year, 100 million tasks running every week

10x
EKS usage growth in 1 year

2B+
weekly image pulls using ECR

*https://nucleusresearch.com/research/single/guidebook-containers-and-kubernetes-on-aws/