aws

Architecture Diagrams

Modernize Applications with Microservices Using Amazon EKS

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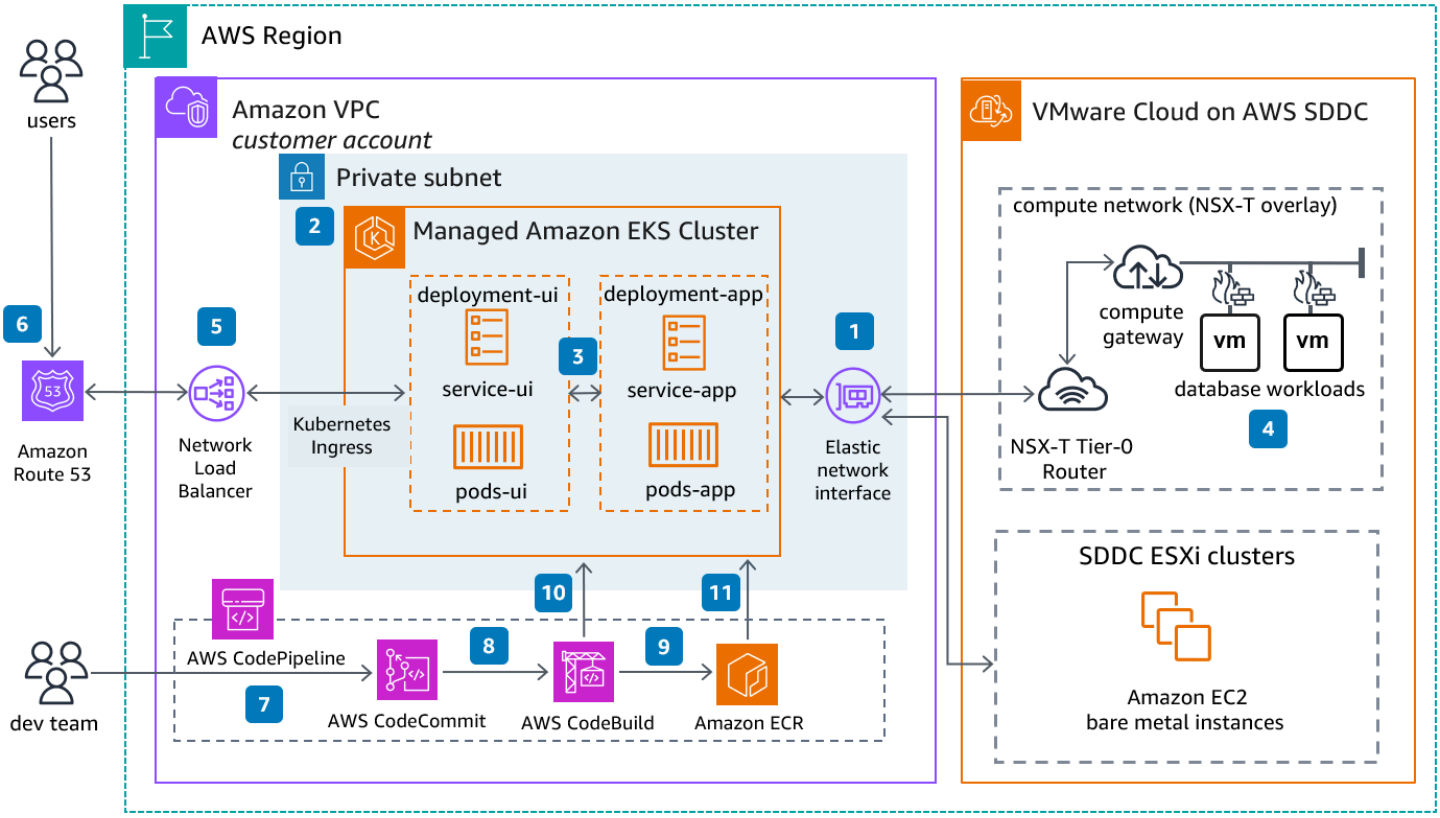
This architecture enables you to integrate Amazon Elastic Kubernetes Service (Amazon EKS) with VMware Cloud on AWS. Use AWS DevOps tools to accelerate application modernization.

Modernize Applications with Microservices Using Amazon EKS Diagram



1. The Elastic Network Interface is automatically attached to the **Amazon Elastic Compute Cloud** (Amazon EC2) bare metal (ESXi) hosts in VMware Cloud on AWS during the software-defined data center (SDDC) provisioning.
2. Provision fully managed **Amazon Elastic Kubernetes Service** (Amazon EKS) clusters for different environments (dev/test/production).

3. Use tools such as **AWS App2Container** (App2Container) to accelerate refactoring/rearchitecting applications into containerized microservices. Use **Amazon EKS** to manage and automate the testing and deployment of container workloads.
4. Transform and containerize legacy systems to modern applications with minimal disruptions. The existing database tier can keep running on **VMware Cloud on AWS** to avoid the complexity and delay of database migrations.
5. **Network Load Balancer** integrates with the Kubernetes Ingress Controller, providing a secure and consistent approach for exposing applications.
6. **Amazon Route 53** resolves incoming requests to **Network Load Balancer** in the primary AWS Region.
7. The dev team commits code to an **AWS CodeCommit** repository, which initiates **AWS CodePipeline** to start processing the code changes through the pipeline.
8. **AWS CodeBuild** packages the code changes and dependencies and builds a Docker image.
9. The new Docker image is pushed to **Amazon Elastic Container Registry** (Amazon ECR).
10. **CodeBuild** uses a Kubectl command line tool to invoke Kubernetes API and update the image tag for the microservice deployment.
11. Kubernetes performs a rolling update of the pods in the application deployment according to the new docker image specified in **Amazon ECR**.

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Further reading

For additional information, refer to

- AWS Architecture Icons
- AWS Architecture Center
- AWS Well-Architected

Contributors

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Diagram history

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Change	Description	Date
Diagram update	Diagram reviewed and updated for freshness	July 24, 2023
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