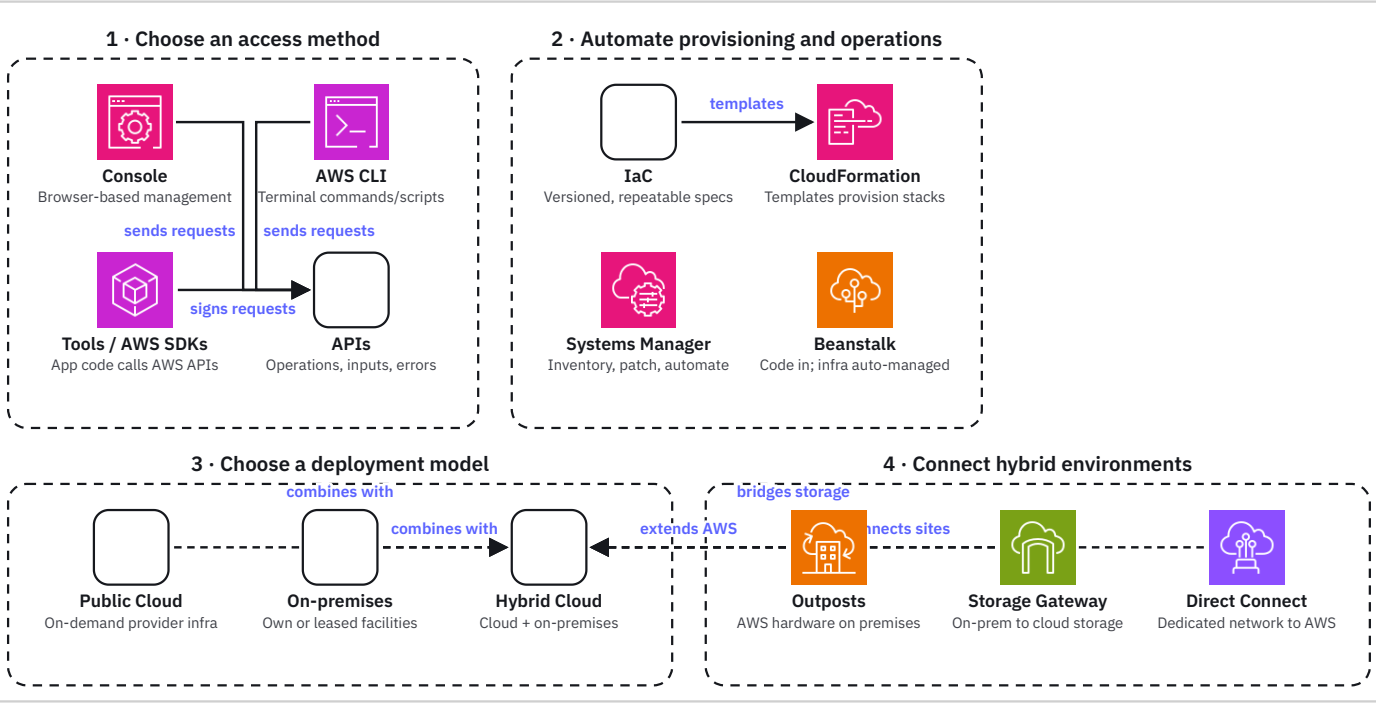
DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · 34% OF THE EXAM · TASK STATEMENT 3.1

Define methods of deploying and operating in the AWS Cloud

Access, automate, choose, connect



1 Choose an access method

Choose **the interaction style**: Console for visual, one-time changes; CLI for terminal commands and scripts; SDKs for service calls inside application code. SDKs handle request signing and response parsing.

2 Automate provisioning and operations

Choose **repeatable infrastructure**: infrastructure as code (IaC) with CloudFormation templates. Systems Manager automates OS operations; Elastic Beanstalk accepts code and manages provisioning, scaling, and deployment.

3 Choose a deployment model

Hybrid combines on-premises infrastructure and public cloud. On-premises retains local infrastructure operation; public cloud supplies on-demand resources without buying and running the underlying hardware.

4 Connect hybrid environments

Choose **the integration need**: Outposts for AWS infrastructure on site, Storage Gateway for cloud-backed storage, Direct Connect for a dedicated network connection. These solve different hybrid requirements.

Exam traps

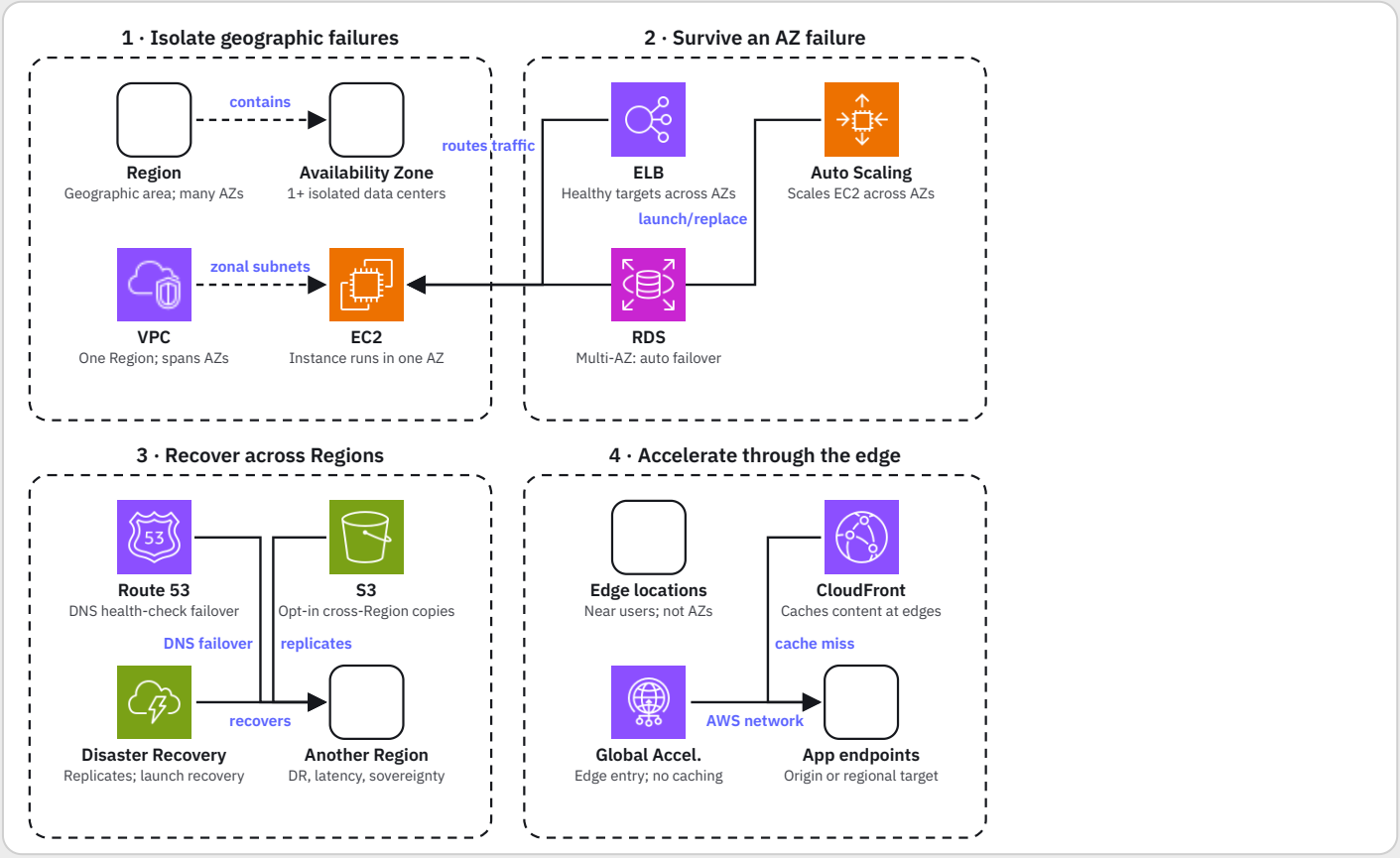
- **CLI scripting is not automatically IaC**: scripts issue commands; CloudFormation templates define repeatable resource stacks. The Console can also launch CloudFormation stacks.
- **Elastic Beanstalk is not OS fleet management**: it deploys application code and manages supporting resources; Systems Manager handles inventory, patching, and operational automation.
- **Direct Connect is not encrypted by default**: it provides a dedicated connection. Storage Gateway bridges storage; Outposts places AWS infrastructure on premises.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.2

Define the AWS global infrastructure

Isolate, fail over, replicate, accelerate



1 Isolate geographic failures

Regions contain multiple AZs. AZs have independent power, cooling, and networking, with no shared single point of failure. **VPCs are Regional**; subnets and EC2 instances are zonal.

2 Survive an AZ failure

Multi-AZ reduces AZ-outage impact: ELB routes to healthy targets, Auto Scaling replaces capacity across enabled AZs, and RDS Multi-AZ fails over automatically. Redundancy must be configured.

3 Recover across Regions

Use **multiple Regions** for disaster recovery, business continuity, user latency, or sovereignty. Configure replication and DNS failover; recovery is not automatic. Residency rules also constrain replica locations.

4 Accelerate through the edge

Edge locations reduce user latency: CloudFront caches content near users and fetches cache misses from origins; Global Accelerator uses the AWS network to reach healthy endpoints without caching.

Exam traps

- **Multi-AZ is not multi-Region**: AZ redundancy handles an AZ outage; it does not protect an application from a whole-Region outage.
- **Standby is not a read replica**: a traditional RDS Multi-AZ DB instance standby supports automatic failover, not read scaling; read replicas primarily offload reads.
- **Route 53 does not replicate data**: DNS failover redirects clients to another endpoint; that endpoint needs working infrastructure and recoverable data.

Get practice exams and lessons for AWS Certified Cloud Practitioner

AWS Certified Cloud Practitioner Cheat Sheet

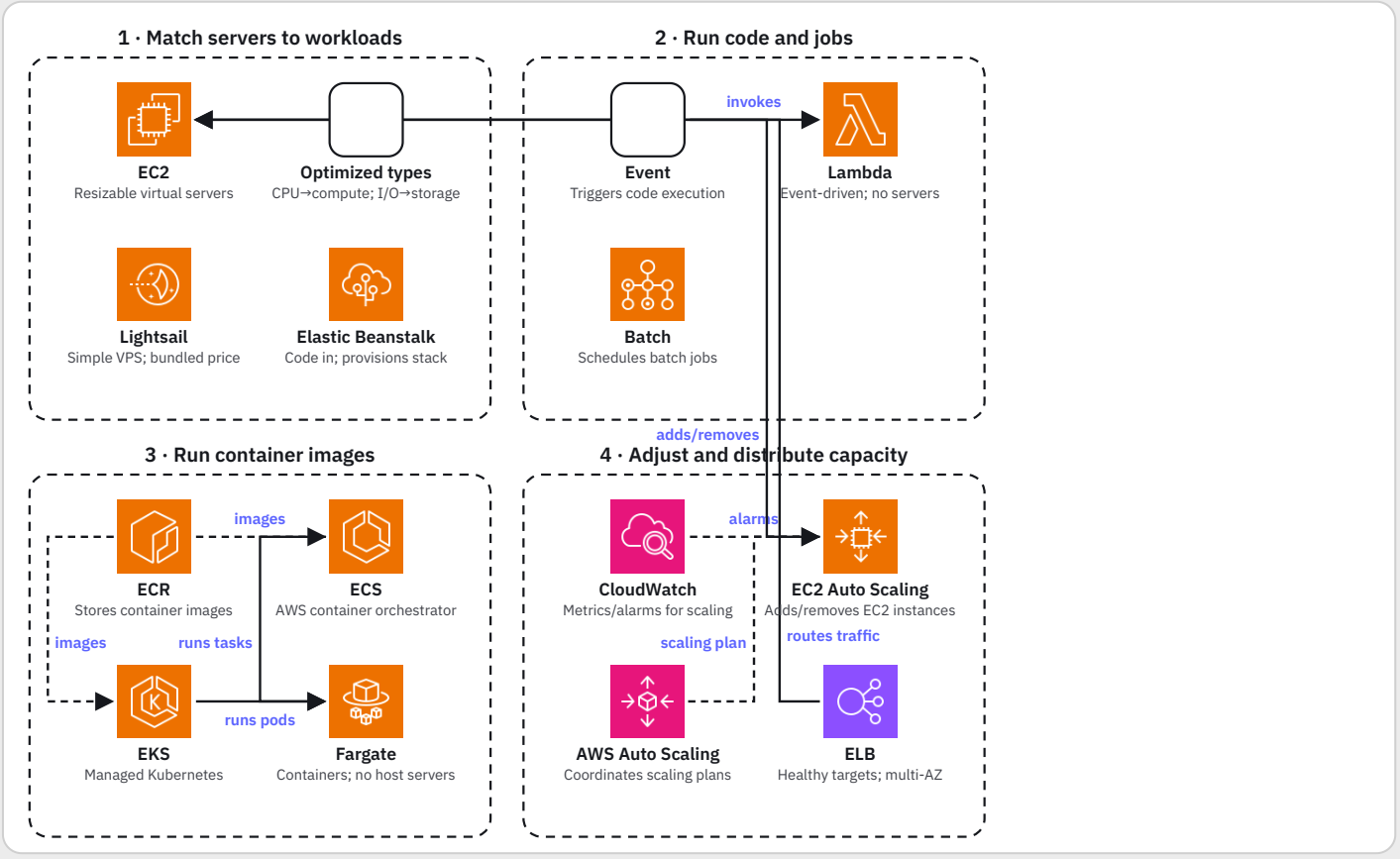
CLF-C02 · Domain 3 of 4

BlowStack

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.3

Identify AWS compute services

Match, execute, orchestrate, scale



1 Match servers to workloads

Choose **instance types** by workload: compute optimized for CPU, memory optimized for in-memory data, storage optimized for disk I/O. Beanstalk automates deployment, load balancing, scaling, and monitoring.

2 Run code and jobs

Lambda runs event-driven code for up to 15 minutes per invocation; Batch schedules queued jobs on EC2 or Fargate. Serverless removes server management, not responsibility for code, data, or permissions.

3 Run container images

Choose EKS for **Kubernetes**, ECS for AWS-native orchestration. Both can use EC2 capacity or Fargate; Fargate removes host provisioning and management. Images package application code and dependencies.

4 Adjust and distribute capacity

For **elasticity**, horizontal scaling adds/removes instances as demand changes; ELB distributes traffic. Healthy targets across multiple Availability Zones support high availability. Scaling requires configured policies.

Exam traps

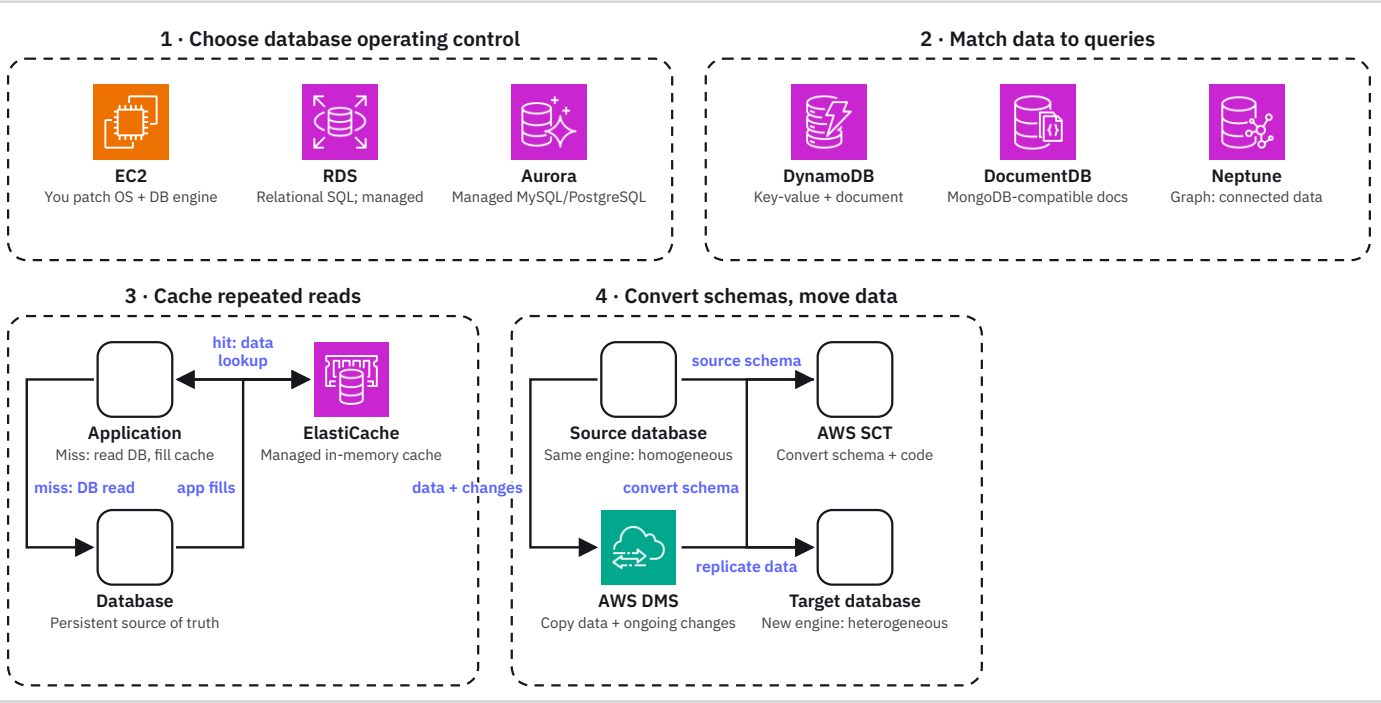
- **ELB does not add instances**: it distributes traffic among healthy targets. Auto Scaling changes capacity; a load balancer alone cannot replace failed capacity.
- **ECR stores; ECS/EKS orchestrate; Fargate runs**. A registry does not execute containers, and choosing a managed orchestrator does not automatically remove worker-server management.
- **Instance type is not a purchasing option**: compute, memory, and storage profiles describe resources. On-Demand, Reserved Instances, and Spot describe purchasing choices.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.4

Identify AWS database services

Match, manage, cache, migrate



1 Choose database operating control

OS/engine control favors EC2. RDS/Aurora automate provisioning, engine patching and backups; customers retain data, access and schema responsibility. SQL tables and joins favor relational databases.

2 Match data to queries

Access pattern selects the NoSQL model: DynamoDB for scalable key-value/document access with single-digit millisecond latency, DocumentDB for MongoDB-compatible documents, Neptune for relationship traversal.

3 Cache repeated reads

Repeated reads favor ElastiCache: in-memory copies lower latency and database load. The application handles cache misses and freshness; a cache does not replace the persistent database.

4 Convert schemas, move data

Same engine: DMS moves data; different engines may need SCT for schema/code conversion. DMS supports ongoing replication; an endpoint must be on RDS or EC2, not two on-premises databases.

Exam traps

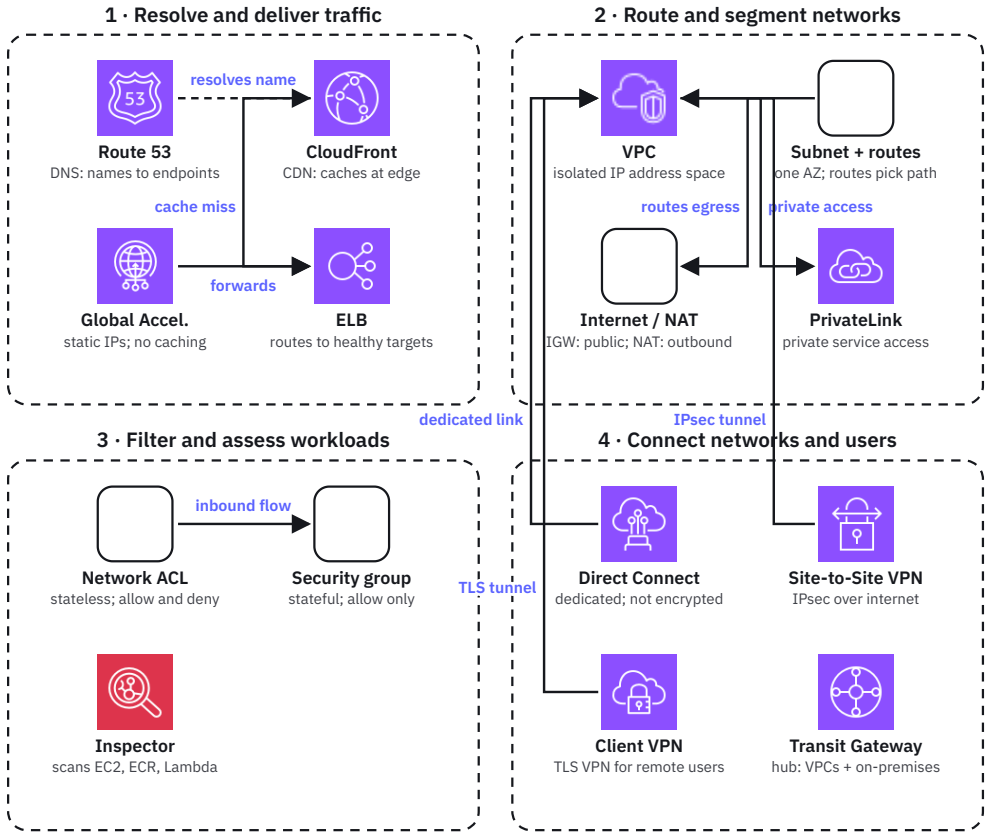
- **Aurora is relational**, not NoSQL; it is compatible with MySQL and PostgreSQL. DynamoDB is key-value/document, while Neptune is graph.
- **Managed does not mean responsibility-free**: EC2 customers patch the OS and database; RDS/Aurora customers still control data, access and schema.
- **DMS moves data; SCT converts schemas**. Changing engines is heterogeneous migration; moving the same engine is homogeneous. SCT conversion can require manual remediation.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.5

Identify AWS network services

Resolve, route, filter, connect



1 Resolve and deliver traffic

CloudFront caches content at edge locations; Global Accelerator speeds TCP/UDP over the AWS network without caching. Route 53 answers DNS queries; ELB distributes traffic but does not add compute capacity.

2 Route and segment networks

Public subnet means a route to an internet gateway; IPv4 internet access also needs a public IP. Private IPv4 egress uses a NAT gateway in a public subnet. PrivateLink accesses services, not whole networks.

3 Filter and assess workloads

Security groups filter resource traffic and automatically allow return traffic. Network ACLs filter subnets; return paths need explicit rules. Inspector reports vulnerabilities; it does not filter packets.

4 Connect networks and users

Site-to-Site VPN connects networks; Client VPN connects users. Direct Connect provides a dedicated, consistent link without encryption by default. Transit Gateway routes between many VPCs and on-premises networks.

Exam traps

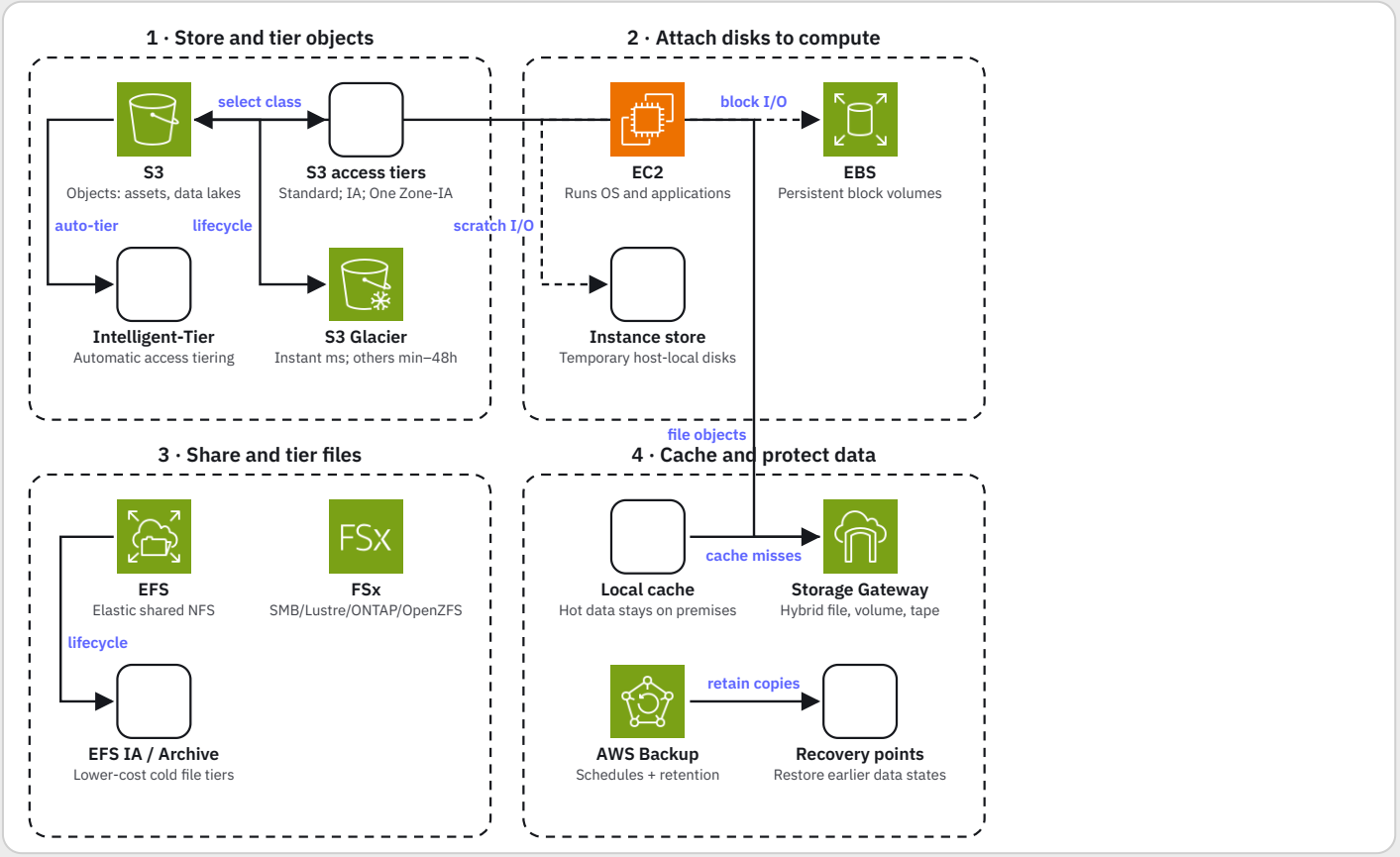
- A NAT gateway is not an inbound gateway: **private-subnet IPv4 egress** permits replies to initiated connections, not unsolicited internet connections.
- Separate subnets alone do not enforce **network segmentation**. Route tables and traffic controls determine which workloads can communicate.
- A dedicated circuit does not imply **encryption in transit**. Direct Connect is not encrypted by default; VPN tunnels encrypt traffic.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.6

Identify AWS storage services

Store, tier, share, protect



1 Store and tier objects

Standard: frequent; IA: infrequent + retrieval fees; One Zone-IA: one AZ. **Glacier** Flexible: minutes–hours; Deep Archive: 12–48h. Lifecycle rules transition or expire objects; Intelligent-Tiering auto-tiers access.

2 Attach disks to compute

Persistent disks for operating systems and databases use EBS. Instance store suits reconstructible caches and scratch data; its data is lost on stop, termination, or underlying disk failure.

3 Share and tier files

Shared files across Linux clients fit EFS. FSx for Windows File Server provides SMB; FSx for Lustre fits HPC. EFS lifecycle management automatically moves eligible files to colder tiers under configured policies.

4 Cache and protect data

Hybrid access uses Storage Gateway with local caching and cloud-backed storage. AWS Backup centralizes scheduled backups and retention across supported resources; restoring backups supports disaster recovery.

Exam traps

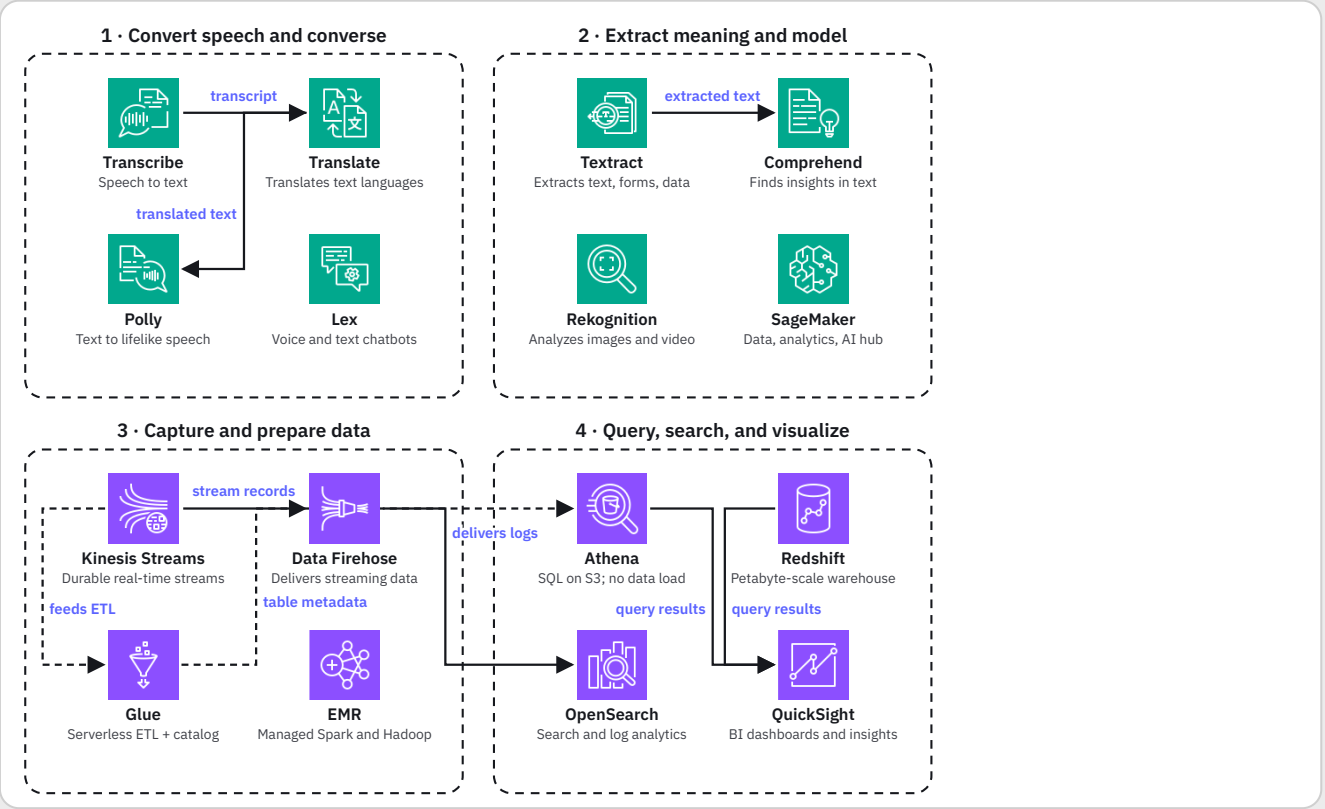
- **Durability is not availability**: durable archived objects can require restoration before access. One Zone-IA does not protect against loss of its Availability Zone.
- **EBS persistence is not permanent retention**: volumes survive instance stop, but deletion on termination is configurable. Instance store survives reboot, not stop or termination.
- **Tiering is not backup**: lifecycle policies move or expire data; AWS Backup retains recovery points. Backups support disaster recovery but do not provide automatic failover.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.7

Identify AWS artificial intelligence and machine learning (AI/ML) services and analytics services

Interpret, model, stream, analyze



1 Convert speech and converse

Input and output decide: Transcribe converts speech to text; Translate changes text language; Polly generates speech. Lex builds conversational interfaces with built-in speech recognition.

2 Extract meaning and model

Choose **prebuilt AI** for document extraction, image/video analysis, or text insights; choose SageMaker for custom ML and unified access to data, analytics, and AI capabilities.

3 Capture and prepare data

Capture vs delivery: Kinesis Data Streams captures durable streams for consumers; Data Firehose delivers streams to destinations. Glue prepares data and catalogs metadata; EMR runs Spark/Hadoop processing.

4 Query, search, and visualize

Query location decides: Athena runs SQL on S3 without loading data; Redshift is a warehouse. OpenSearch supports search and log analytics; QuickSight turns data into BI dashboards.

Exam traps

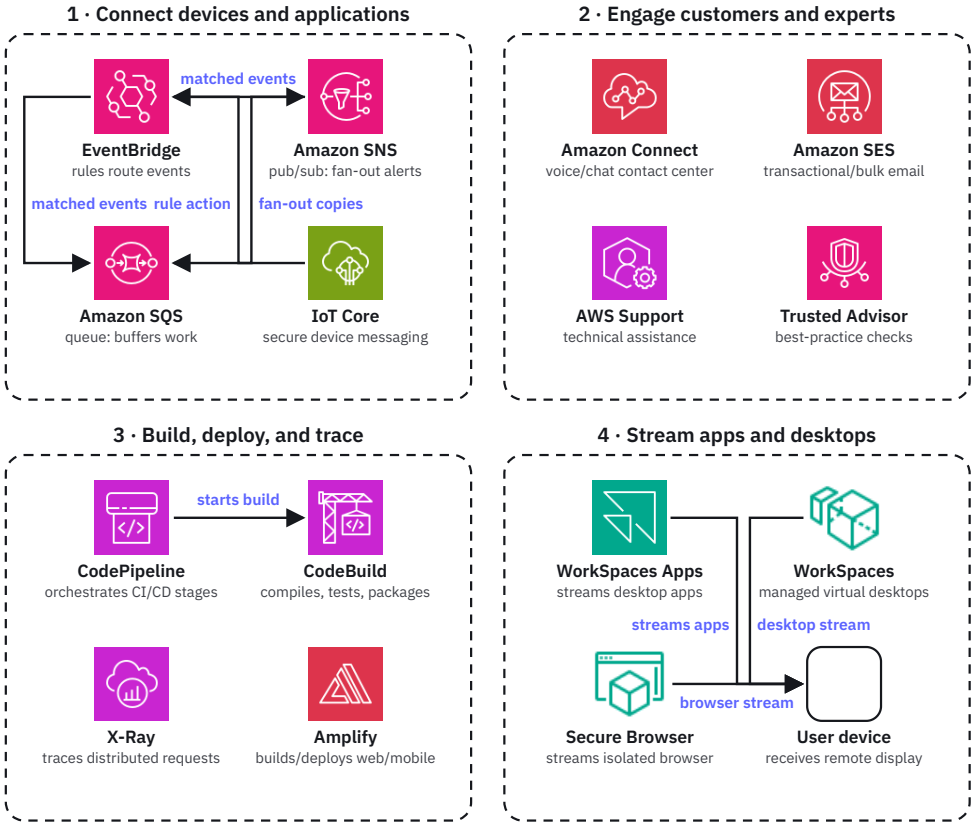
- **Textract vs Comprehend**: Textract extracts document text and structured fields; Comprehend analyzes text for meaning. Neither is the voice/text chatbot service; that is Lex.
- **Athena vs QuickSight**: Athena queries S3 data with SQL; QuickSight visualizes data. QuickSight is not an ETL engine, and Athena does not require loading S3 data into a warehouse.
- **Amazon Q vs Amazon SageMaker**: Q Developer assists engineering work; Q Business answers from organizational content. SageMaker unifies data, analytics, and AI, including custom ML workflows.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · TASK STATEMENT 3.8

Identify services from other in-scope AWS service categories

Route, assist, build, stream



1 Connect devices and applications

Buffer work with SQS; fan out notifications with SNS; route events with EventBridge. AWS IoT Core connects devices; AWS IoT Device Management registers, organizes, and remotely manages fleets.

2 Engage customers and experts

Contact center → Connect; email campaigns → SES. AWS Support plans set assistance and response targets; AWS Professional Services provides project consulting; AWS re:Post provides community answers.

3 Build, deploy, and trace

CI/CD uses automated builds, tests, and release stages; X-Ray diagnoses runtime requests. AWS Tools and SDKs enable programmatic access; AWS Command Line Interface (AWS CLI) manages AWS from a terminal.

4 Stream apps and desktops

Full desktop → WorkSpaces; individual desktop apps → Amazon WorkSpaces Applications, formerly Amazon AppStream 2.0; isolated access to internal websites and SaaS → WorkSpaces Secure Browser.

Exam traps

- **SNS is not a work queue**: it publishes to subscribers; SQS buffers messages for consumers to poll. Standard SQS can deliver duplicates, so consumers need idempotent processing.
- **Health is not advice**: AWS Health Dashboard reports service issues and resource-impacting events; AWS Trusted Advisor recommends best-practice improvements.
- **Orchestration is not compilation**: CodePipeline coordinates release stages; CodeBuild builds and tests. X-Ray traces runtime requests rather than building or deploying code.

Get practice exams and lessons for AWS Certified Cloud Practitioner

DOMAIN 3 · CLOUD TECHNOLOGY AND SERVICES · WHAT TO REMEMBER

Concepts and services of Cloud Technology and Services

Concepts to know

AWS global infrastructure

Regions contain multiple isolated Availability Zones; edge locations serve users nearby. Choose **multiple Availability Zones** for high availability and multiple Regions for regional disaster recovery or geographic requirements.

Elasticity

Elasticity adds and removes capacity as demand changes. Choose **automatic scaling** for variable demand; load balancing distributes traffic across existing targets but does not create capacity.

Serverless

Serverless removes customer management of underlying servers, not responsibility for application code and data. Choose **AWS Lambda for event-driven functions** and AWS Fargate for containers without managing servers.

Core services



Amazon EC2

Choose **configurable virtual servers** when workloads need OS control. Match compute-, memory-, or storage-optimized instance types to the workload; customers manage the guest OS.



Amazon S3

Choose **object storage** for backups, static assets, and data lakes—not attached disks or shared file systems. Select storage classes by access frequency and retrieval needs; lifecycle rules automate transitions.



Amazon VPC

Choose **logically isolated networking** with controlled addressing and routing. A VPC spans Availability Zones; each subnet occupies one. Security groups are stateful; network ACLs are stateless.

Get practice exams and lessons for AWS Certified Cloud Practitioner