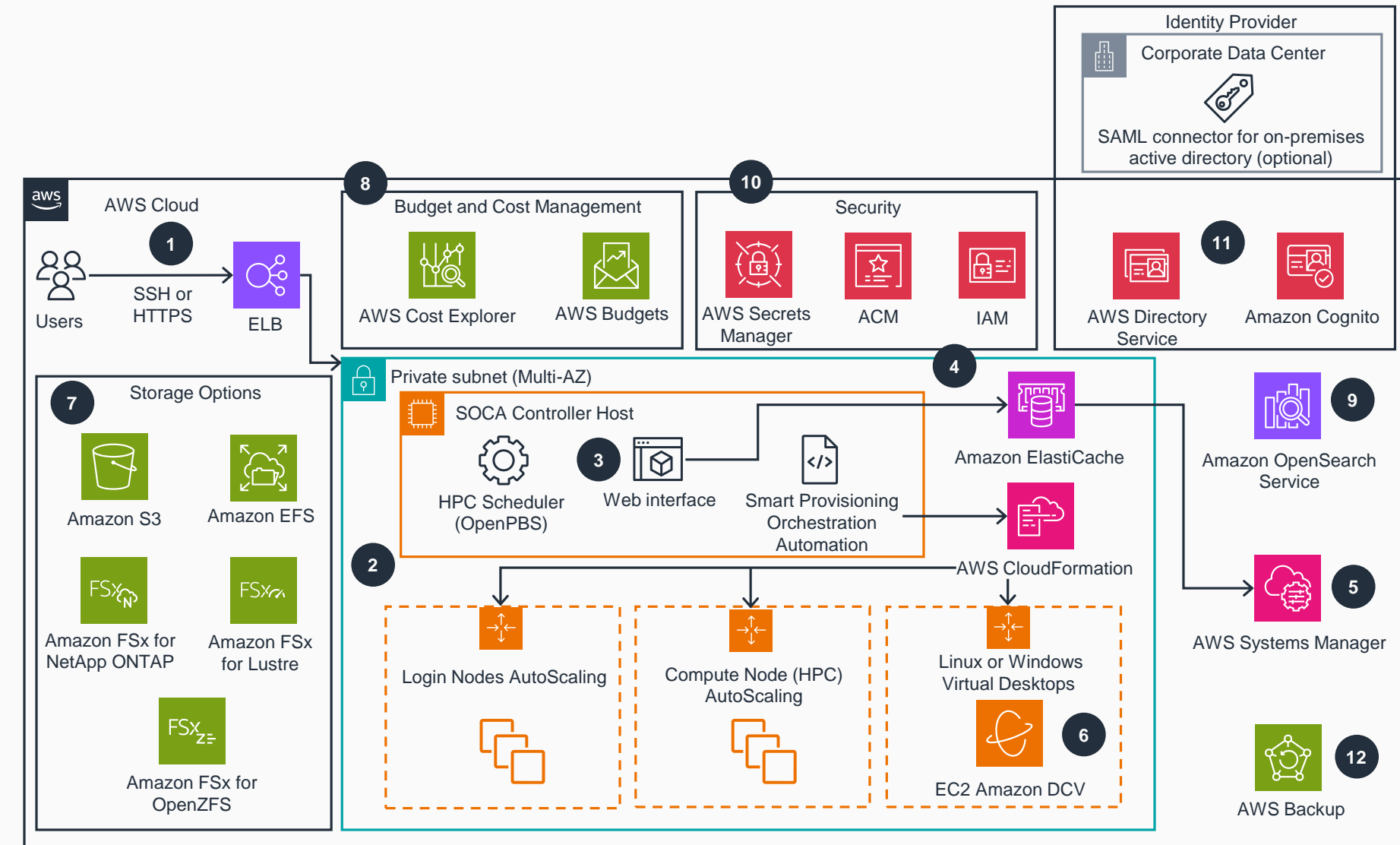


Guidance for Scale-Out Computing on AWS

This architecture diagram shows how to accelerate the product development process. This slide details Steps 1-9.



- Elastic Load Balancing** helps ensure accessibility across Availability Zones. It can be deployed in public subnets (by default) or private subnets.
- The **Amazon Elastic Compute Cloud (Amazon EC2)** instance implements a high-performance computing (HPC) workload manager (OpenPBS), which dynamically provisions AWS resources required for jobs submitted by users. **Amazon EC2 Auto Scaling** automatically provisions the resources necessary to run cluster user tasks such as scale-out compute jobs.
- The controller instance hosts a web interface that allows users and administrators to interact with the environment.
- Amazon ElastiCache** helps optimize overall performance for the web user interface (UI) and orchestration tools by setting up in-memory cache.
- The entire configuration is stored on Parameter Store, a capability of **AWS Systems Manager**, and is easily retrievable through APIs.
- Launch a Linux or Windows virtual desktop that uses **Amazon DCV** to submit batch jobs and run graphical user interface (GUI) tools.
- This Guidance lets you deploy **Amazon Elastic File System (Amazon EFS)**, **Amazon Simple Storage Service (Amazon S3)**, or **Amazon FSx** as storage providers.
- AWS Budgets** and **AWS Cost Explorer** give you insights about AWS spend generated by your cluster and set up cost guardrails to prevent exceeding an allocated budget.
- HPC and virtual desktop information is automatically indexed on an optional **Amazon OpenSearch Service**.



Guidance for Scale-Out Computing on AWS

This architecture diagram shows how to accelerate the product development process. This slide details Steps 10-12.

- 10 Use security services and resources, such as **AWS Secrets Manager**, **AWS Certificate Manager (ACM)**, and **AWS Identity and Access Management (IAM)**.
- 11 Use **Amazon Cognito** or **AWS Directory Service** as identity providers. Additionally, you can deploy a stand-alone OpenLDAP server if needed. An **OpenSearch Service** cluster stores job and host information in addition to metadata.
- 12 Native integration with **AWS Backup** automatically snapshots your environment resources, such as key **EC2** instances and file systems.

