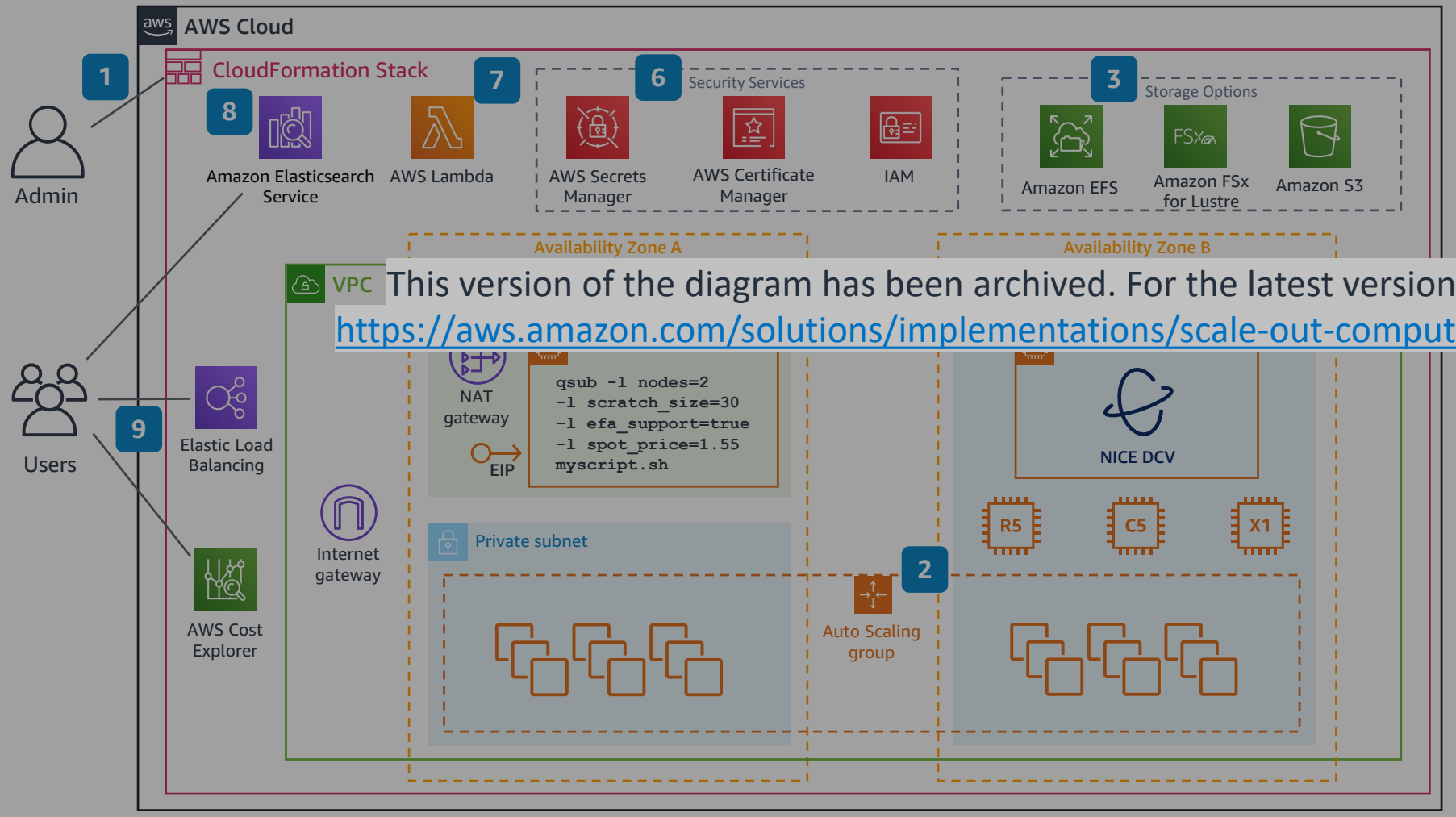
Reviewed for technical accuracy February 18, 2021

Scale-Out Computing on AWS, Services Used

Launch a turnkey scale-out computing environment in minutes

Solution location: https://aws.amazon.com/solutions/scale-out-computing-on-aws/



1. Specify required parameters (VPC, Subnet, storage, etc.) and launch the **AWS CloudFormation** stack, which launches several nested stacks.
2. Choose to run in **multiple Availability Zones**, or use auto-reallocation in the case an instance isn't available in the Availability Zone.
3. Choose from several storage options: **Amazon EFS**, **Amazon FSx for Lustre**, **Amazon S3**, **Amazon EBS**, and **Instance Store**.
5. Launch a 2D or 3D Workstation that uses **NICE DCV**, that can be used to submit batch jobs and run GUI tools.
6. Security services and resources that are used include **AWS Secrets Manager, AWS Certificate Manager, Security Groups**, and **AWS Identity and Access Management (IAM)**.
7. **AWS Lambda** is used throughout the entire deployment and architecture.
8. **Amazon Elasticsearch Service** is used to launch an analytics dashboard.
9. **Elastic Load Balancing** is used to ensure accessibility across Availability Zones, and **Cost Allocation Tags** are used with **AWS Cost Explorer**.

in, submit, and monitor jobs from the
edular Instance.

AWS Reference Architecture

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Scale-Out Computing on AWS, User Access

Launch a turnkey scale-out computing environment in minutes

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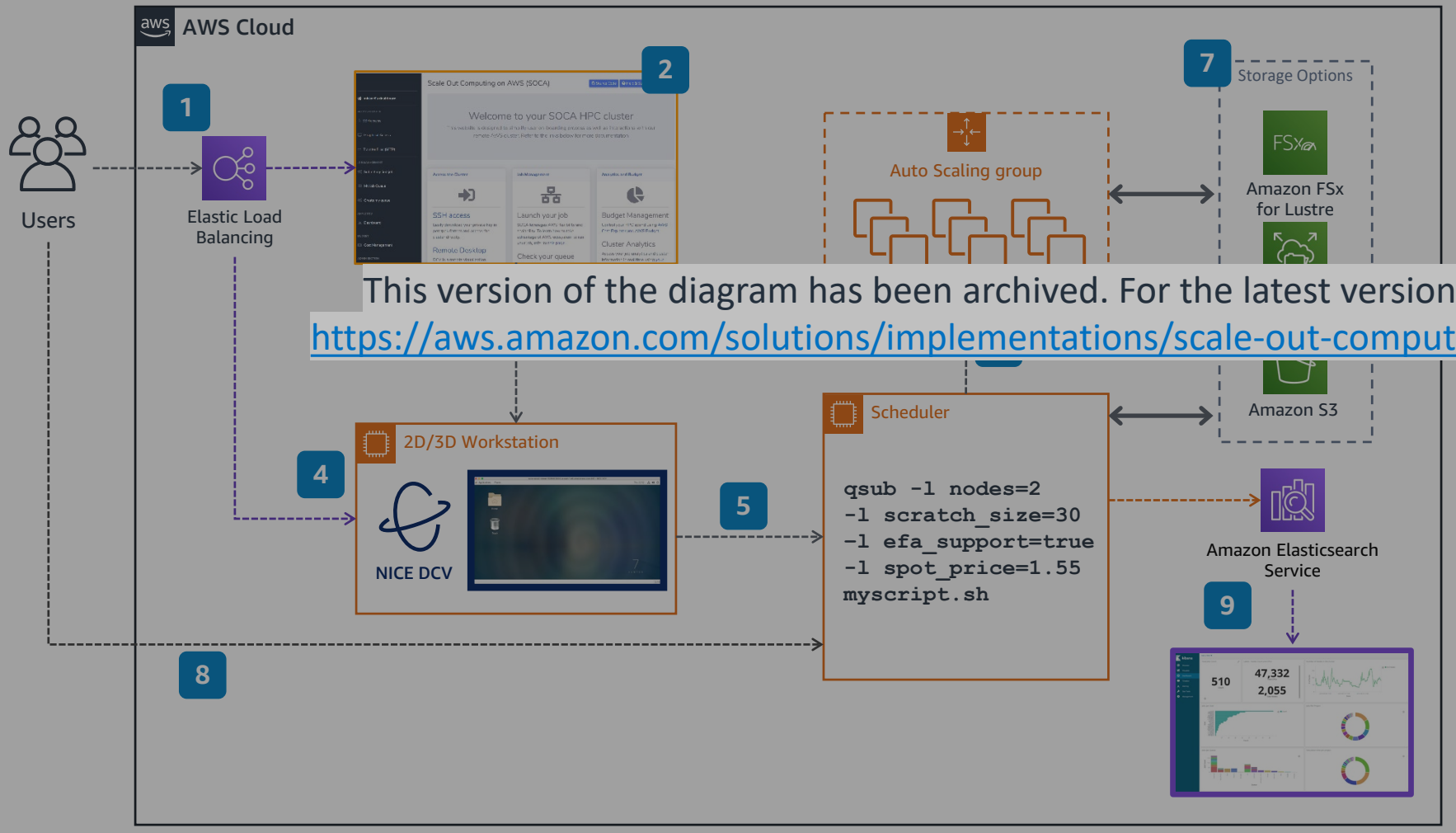

1. Users connect to the Web UI or 2D/3D Workstation using **Elastic Load Balancing**.
2. On the Web UI manage your entire environment, view analytics, add users, launch 2D/3D workstations, monitor jobs, budget info, and more.
3. Leveraging **AWS CloudFormation**, launch a 2D or 3D desktop
4. Use a running 2D/3D Workstation that uses **NICE DCV** to launch batch jobs or run tools.
5. the scheduler instances, or submit a job from the 2D/3D Workstation.
6. Jobs submitted trigger an event, **AWS CloudFormation**, to launch the resources needed to run the job, e.g. an **Auto Scaling Group**.
7. Jobs can use several storage options for executables, runtime data, and results, choose from **Amazon EFS**, **Amazon FSx for Lustre**, **Amazon S3**, **Amazon EBS**, **and Instance Store**.
8. Log in directly to the Scheduler Instance and submit jobs from there.
9. Job information is sent to **Amazon Elasticsearch** and allows users to view an analytics dashboard.

AWS Reference Architecture