Cloud Video Editing on the AWS Cloud

Quick Start Reference Deployment

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Contents
Overview ........................................................................................................................................... 2
Cloud Video Editing on AWS ........................................................................................................ 2
Costs and Licenses .......................................................................................................................... 3
Architecture .................................................................................................................................... 3
Prerequisites ...................................................................................................................................... 5
Specialized Knowledge .................................................................................................................... 5
Technical Requirements ................................................................................................................ 5
Deployment Options ....................................................................................................................... 6
Deployment Steps .......................................................................................................................... 6
Step 1. Prepare Your AWS Account ................................................................................................. 6
Step 2. Obtain a Teradici Cloud Access Software License ............................................................... 6
Step 3. Subscribe to the NVIDIA GPU AMI in AWS Marketplace ............................................... 7
Step 4. Launch the Quick Start ...................................................................................................... 8
Step 5. Test the Deployment ......................................................................................................... 12
Best Practices for Cloud Video Editing on AWS ......................................................................... 17
This Quick Start deployment guide was created by Amazon Web Services (AWS) in collaboration with Teradici, Inc.

Quick Starts are automated reference deployments that use AWS CloudFormation templates to launch, configure, and run the AWS compute, network, storage, and other services required to deploy a specific workload on AWS.

Overview

This Quick Start reference deployment guide provides step-by-step instructions for deploying a video editing solution on the AWS Cloud.

This Quick Start is for those who use video editing software such as Blender, Adobe Premiere Pro, and Avid Media Composer to transform their video creation. Users include large or small studios, broadcast news organizations, creative agencies, or anyone who needs a powerful graphics processing unit (GPU) workstation to manipulate content.

Cloud Video Editing on AWS

Creating and editing video involves large video files. Amazon Simple Storage Service (Amazon S3) provides object storage that’s highly durable, secure, and scalable, making it the perfect location to store video content long-term. Also, with the high availability of the AWS Cloud, video editors can collaborate across a wide geographic area.

Using Teradici’s PC-over-IP (PCoIP) technology, video editors can modify content by connecting to a remote workstation, instead of transferring large files to a local machine. They avoid the cost of a high-end workstation for editing. The Teradici client runs on their desktop or laptop and gives access to an Amazon Elastic Compute Cloud (Amazon EC2) G3 instance. G3 instances offer a powerful, low-cost, pay-as-you go model for high-end workstations.
This Quick Start deployment uses the following:

- **Teradici Cloud Access Software** provides an optimal protocol for delivering interactive applications. Teradici Cloud Access Software is installed on the G3 GPU instance and works with a software or hardware client to bring the desktop to the user.

- **Blender** is an open-source, 3D creation suite that supports video editing, modeling, animation, simulation, rendering, compositing, motion tracking, and game creation.

  **Note** Although this Quick Start installs Blender, you can install your preferred video editor with a Bring Your Own License (BYOL) model.

Please know that we may share who uses AWS Quick Starts with the AWS partner that collaborated with AWS on the content of the Quick Start.

**Costs and Licenses**

You are responsible for the cost of the AWS services used while running this Quick Start reference deployment. There is no additional cost for using the Quick Start.

The AWS CloudFormation template for this Quick Start includes configuration parameters that you can customize. Some of these settings, such as instance type, will affect the cost of deployment. For cost estimates, see the pricing pages for each AWS service you will be using. Prices are subject to change.

You can request more information about Cloud Access Software from Teradici. For more information about the plans and pricing, see the Teradici website.

**Architecture**

Deploying this Quick Start for a new virtual private cloud (VPC) with default parameters builds the following cloud video editing environment in the AWS Cloud.
The Quick Start sets up the following:

- **Amazon S3.** Amazon Simple Storage Service (Amazon S3) is an object store that provides artifacts necessary for the Quick Start. You can also use it to upload video for editing on the G3 GPU instance.

- **AWS Directory Service.** AWS Directory Service makes it easy to set up and operate a new directory in the AWS Cloud. This Quick Start supports AWS Directory Service for Microsoft Active Directory (Enterprise Edition), which provides most of the features offered by Microsoft Active Directory plus integration with AWS applications.

- **NAT Gateway.** Network address translation (NAT) gateways are NAT devices that provide outbound internet access to instances in a private subnet, but prevent the internet from accessing those instances. NAT gateways provide better availability and bandwidth than NAT instances. NAT Gateway is a managed service that administers NAT gateways for you.

- **Amazon VPC.** Amazon Virtual Private Cloud (Amazon VPC) lets you provision a private, isolated section of the AWS Cloud where you can launch AWS services and other resources in a virtual network that you define. You have complete control over
your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.

- **Amazon EC2.** Amazon Elastic Compute Cloud (Amazon EC2) enables you to launch virtual machine instances with a variety of operating systems. You can choose from existing Amazon Machine Images (AMIs) or import your own virtual machine images.

- **Remote Desktop Gateway.** In a public subnet, a Remote Desktop Gateway (RD Gateway) instance provides readily available administrative access to the environment. This provides secure access to Microsoft Windows instances located in the private and public subnets. The RD Gateway instance uses the Remote Desktop Protocol (RDP) over HTTPS to establish a secure, encrypted connection between remote users on the internet and Windows-based EC2 instances, without needing to configure a virtual private network (VPN) connection. This helps reduce the attack surface on your Windows-based instances and provides a remote administration solution for administrators.

- **IAM roles.** The Quick Start configures AWS Identity and Access Management (IAM) roles so that AWS resources created through the Quick Start can access other AWS resources when required. These IAM roles enable access to data in Amazon S3.

**Prerequisites**

**Specialized Knowledge**

Before you deploy this Quick Start, we recommend that you become familiar with the following AWS services and components. (If you are new to AWS, see [Getting Started with AWS](#).)

- **Amazon EC2**
- **Amazon EC2 G3 instance**
- **Amazon S3**
- **Amazon VPC**

We also recommend that you familiarize yourself with [Cloud Access Software](#) from Teradici. This Quick Start installs the Blender video editor, but you can install your preferred video editor with a Bring Your Own License (BYOL) model.

**Technical Requirements**

You must subscribe to the NVIDIA GPU AMI in AWS Marketplace. This free AMI includes the required GPU drivers for the EC2 instance. See [step 3](#) for instructions on how to subscribe.
Blender uses this AMI in AWS Marketplace for video acceleration. For more information and configuration instructions, see [GPU Rendering](#) in the Blender documentation.

**Deployment Options**

This Quick Start provides two deployment options:

- **Deploy the cloud video editing environment into a new VPC** (end-to-end deployment). This option builds a new AWS environment consisting of the VPC, private and public subnets, NAT gateways, security groups, and other infrastructure components, and then deploys the environment into this new VPC.

- **Deploy the cloud video editing environment into an existing VPC**. This option provisions the environment in your existing AWS infrastructure.

This Quick Start includes separate AWS CloudFormation templates for these options. The Quick Start also lets you configure CIDR blocks, instance types, and settings for the cloud video editing environment, as discussed later in this guide.

**Deployment Steps**

**Step 1. Prepare Your AWS Account**

1. If you don’t already have an AWS account, create one at [https://aws.amazon.com](https://aws.amazon.com) by following the on-screen instructions.

2. Use the region selector in the navigation bar to choose the AWS Region where you want to deploy a cloud video editing environment on AWS.

3. Create a [key pair](#) in your preferred region.

4. If necessary, request a [service quota increase](#) for the Amazon EC2 G3 instance type. You might need to do this if you already have an existing deployment that uses this instance type, and you think you might exceed the [default quota](#) with this reference deployment.

**Step 2. Obtain a Teradici Cloud Access Software License**

1. Navigate to [https://connect.teradici.com/cas-demo](https://connect.teradici.com/cas-demo) to contact Teradici Sales for Cloud Access Software licenses. Alternatively, buy licenses directly from the [Teradici e-store](#).

2. Teradici will contact you via an email with your license key and links to the client download.
Step 3. Subscribe to the NVIDIA GPU AMI in AWS Marketplace

This is a manual process due to the way AWS Marketplace licensing works.

   a. You will see a title similar to “Microsoft Windows Server 2016 with NVIDIA GRID Driver.”
   b. To subscribe, choose **Continue**.
   c. Verify your region.
   d. Choose **Accept Software Terms & Launch with 1-Click**.

2. AWS Marketplace starts a G3 instance and subscribes you to the AMI.

3. You will see a message that says: **Thank you for subscribing to Microsoft Windows Server 2016 with NVIDIA GRID Driver**.


   **Note** You might have to refresh the screen a few times until you see that you are subscribed. This takes a few minutes or less.

5. Now that you are subscribed, you can terminate the EC2 instance started by AWS Marketplace:
   a. In the AWS Management Console, choose **Services**, and then choose **EC2**.
   b. On the left-hand side, choose **Instances**. You will see a **g3.4xlarge** instance running with a blank name.
   c. Right-click the **g3.4xlarge** instance, choose **Instance State->Terminate**, and then choose **Yes, Terminate**.

   **Note** For some AWS accounts, the process for AWS Marketplace subscription is slightly different. Instead of **Accept Software Terms & Launch with 1-Click**, you will see an option to choose **Accept Software Terms** or **Accept Terms**. In this case, no instance will be launched, and step 5 of this subscription procedure is not required.
Step 4. Launch the Quick Start

Note  You are responsible for the cost of the AWS services used while running this Quick Start reference deployment. There is no additional cost for using this Quick Start. For full details, see the pricing pages for each AWS service you will be using in this Quick Start. Prices are subject to change.

1. Choose one of the following options to launch the AWS CloudFormation template into your AWS account. For help choosing an option, see deployment options earlier in this guide.

   Option 1  Deploy environment into a new VPC on AWS
   ![Launch](Launch)

   Option 2  Deploy environment into an existing VPC on AWS
   ![Launch](Launch)

   Important  If you’re deploying the environment into an existing VPC, make sure that your VPC has two private subnets in different Availability Zones for the database instances. These subnets require NAT gateways or NAT instances in their route tables, to allow the instances to download packages and software without exposing them to the internet. You will also need the domain name option configured in the DHCP options as explained in the Amazon VPC documentation. You will be prompted for your VPC settings when you launch the Quick Start.

   Each deployment takes about 30 minutes to complete.

2. Check the region that’s displayed in the upper-right corner of the navigation bar, and change it if necessary. This is where the network infrastructure for the cloud video editing environment will be built. The template is launched in the US East (Ohio) Region by default.

3. On the Select Template page, keep the default setting for the template URL, and choose Next.

4. On the Specify Details page, change the stack name if needed. Review the parameters for the template. Provide values for the parameters that require input. For all other parameters, review the default settings and customize them as necessary. When you finish reviewing and customizing the parameters, choose Next.
In the following tables, parameters are listed by category and described separately for the two deployment options:

- Parameters for deploying into a new VPC
- Parameters for deploying into an existing VPC

**Option 1: Parameters for deploying into a new VPC**

**View template**

**Network Configuration:**

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability Zones (AvailabilityZones)</td>
<td>Requires input</td>
<td>This field displays the list of Availability Zones to use within your selected region for the subnets in the VPC. The Quick Start uses two Availability Zones from your list and preserves the logical order that you specify in your deployment.</td>
</tr>
<tr>
<td>VPC CIDR (VPCCIDR)</td>
<td>10.0.0.0/16</td>
<td>The CIDR block for the VPC. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
<tr>
<td>Private subnet 1 CIDR (PrivateSubnet1CIDR)</td>
<td>10.0.0.0/19</td>
<td>The CIDR block for the private subnet located in Availability Zone 1. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
<tr>
<td>Private subnet 2 CIDR (PrivateSubnet2CIDR)</td>
<td>10.0.32.0/19</td>
<td>The CIDR block for the private subnet located in Availability Zone 2. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
<tr>
<td>Public subnet 1 CIDR (PublicSubnet1CIDR)</td>
<td>10.0.128.0/20</td>
<td>The CIDR block for the public (DMZ) subnet located in Availability Zone 1. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
<tr>
<td>Public subnet 2 CIDR (PublicSubnet2CIDR)</td>
<td>10.0.144.0/20</td>
<td>The CIDR block for the public (DMZ) subnet located in Availability Zone 2. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
<tr>
<td>Remote Desktop gateway external access CIDR (RDGWCIDR)</td>
<td>Requires input</td>
<td>The allowed CIDR block for external access to the Remote Desktop Gateway instances. The CIDR block parameter must be in the form x.x.x.x/x.</td>
</tr>
<tr>
<td>Edit Host external access CIDR (EditHostAccessCIDR)</td>
<td>Requires input</td>
<td>The allowed CIDR block for external access to the Edit Host instances. The CIDR block parameter must be in the form x.x.x.x/x.</td>
</tr>
</tbody>
</table>
### Amazon EC2 Configuration:

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key pair name (KeyPairName)</td>
<td><strong>Requires input</strong></td>
<td>Public/private key pair, which allows you to connect securely to your instance after it launches. When you set up an AWS account, this is the key pair you created in your preferred region.</td>
</tr>
<tr>
<td>Remote Desktop gateway instance type (RDGWInstanceType)</td>
<td>t2.large</td>
<td>Amazon EC2 instance type for the Remote Desktop Gateway instances.</td>
</tr>
<tr>
<td>Edit Host instance type (EditHostInstanceType)</td>
<td>g3.4xlarge</td>
<td>The Amazon EC2 instance type for the video editing servers.</td>
</tr>
<tr>
<td>Number of Edit Hosts (NumberOfEditHosts)</td>
<td>1</td>
<td>Enter the number of Edit Hosts to create.</td>
</tr>
</tbody>
</table>

### Microsoft Active Directory Configuration:

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain DNS name (DomainDNSName)</td>
<td>example.com</td>
<td>The fully qualified domain name (FQDN) of the forest root domain (e.g., example.com). The name must be 2-255 characters.</td>
</tr>
<tr>
<td>Domain NetBIOS name (DomainNetBIOSName)</td>
<td>example</td>
<td>The NetBIOS name of the domain (1-15 characters) for users of earlier versions of Windows (e.g., EXAMPLE).</td>
</tr>
<tr>
<td>Restore Mode password (RestoreModePassword)</td>
<td><strong>Requires input</strong></td>
<td>The password for a separate administrator account when the domain controller is in Restore Mode. The password must be 8-32 characters (letters, numbers, and symbols).</td>
</tr>
<tr>
<td>Domain admin user name (DomainAdminUser)</td>
<td>Admin</td>
<td>The user name (5-25 characters) for the account that will be added as domain administrator. This account is separate from the default administrator account.</td>
</tr>
<tr>
<td>Domain admin password (DomainAdminPassword)</td>
<td><strong>Requires input</strong></td>
<td>The password for the domain admin user. The password must be 8-32 characters (letters, numbers, and symbols).</td>
</tr>
</tbody>
</table>

### Remote Desktop Gateway Configuration:

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Remote Desktop gateway hosts (NumberOfRDGWHosts)</td>
<td>1</td>
<td>Enter the number of Remote Desktop Gateway hosts to create.</td>
</tr>
</tbody>
</table>
**AWS Quick Start Configuration:**

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Start S3 bucket name</td>
<td>aws-quickstart</td>
<td>The S3 bucket you have created for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. The bucket name can include numbers, lowercase letters, uppercase letters, and hyphens (-), but should not start or end with a hyphen (-).</td>
</tr>
<tr>
<td>Quick Start S3 key prefix</td>
<td>quickstart-cloudvideoediting/</td>
<td>The S3 key name prefix used to simulate a folder for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. This prefix can include numbers, lowercase letters, uppercase letters, hyphens (-), and forward slashes (/).</td>
</tr>
</tbody>
</table>

- **Option 2: Parameters for deploying into an existing VPC**

  View template

**Network Configuration:**

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPC ID (VPCID)</td>
<td>Requires input</td>
<td>The ID of the VPC (e.g., vpc-0343606e).</td>
</tr>
<tr>
<td>Public subnet 1 ID (PublicSubnet1ID)</td>
<td>Requires input</td>
<td>The ID of the public subnet 1 in Availability Zone 1 (e.g, subnet-e3246d8e).</td>
</tr>
<tr>
<td>Public subnet 2 ID (PublicSubnet2ID)</td>
<td>Requires input</td>
<td>The ID of the public subnet 2 in Availability Zone 2 (e.g, subnet-e3246d8e).</td>
</tr>
</tbody>
</table>

**Amazon EC2 Configuration:**

<table>
<thead>
<tr>
<th>Parameter label (name)</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Host instance type</td>
<td>g3.4xlarge</td>
<td>The G3 GPU instance type for the Edit Host. The G3 GPU is necessary for accelerated video editing performance.</td>
</tr>
<tr>
<td>Number of Edit Hosts</td>
<td>Requires input</td>
<td>Enter the number of Edit Hosts to spin up.</td>
</tr>
<tr>
<td>EBS volume size for EC2 instance</td>
<td>100</td>
<td>The volume size for the Edit Host, in gibibytes (GiBs). The size must be 100-16,000 GiBs.</td>
</tr>
<tr>
<td>Edit Host external access CIDR</td>
<td>Requires input</td>
<td>The CIDR block for the Edit Host to control authorized access. The CIDR block parameter must be in the form x.x.x.x/16-28.</td>
</tr>
</tbody>
</table>
### Parameter label (name) | Default | Description
--- | --- | ---
**Key pair name** (KeyPairName) | **Requires input** | The public/private key pairs allow you to securely connect to your instance after it launches.

**Microsoft Active Directory Configuration:**

| Parameter label (name) | Default | Description |
--- | --- | ---
**Domain DNS name** (DomainDNSName) | example.com | The fully qualified domain name (FQDN) of the forest root domain (e.g., corp.example.com). The name must be 2-255 characters. |
**Domain NetBIOS name** (DomainNetBIOSName) | example | The NetBIOS name of the domain (1-15 characters) for users of earlier versions of Windows (e.g., CORP). |
**Domain admin user name** (DomainAdminUser) | StackAdmin | The user name (5-25 characters) for the account that will be added as domain administrator. This is separate from the default administrator account. |
**Domain admin password** (DomainAdminPassword) | **Requires input** | The password for the domain admin user. The password must be 8-32 characters containing letters, numbers and symbols. |
**Domain member security group ID** (DomainMemberSGID) | **Requires input** | The ID of the Domain Member security group (e.g., sg-7f16e910). |

**AWS Quick Start Configuration:**

| Parameter label (name) | Default | Description |
--- | --- | ---
**Quick Start S3 bucket name** (QSS3BucketName) | aws-quickstart | The S3 bucket you have created for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. The bucket name can include numbers, lowercase letters, uppercase letters, and hyphens (-), but should not start or end with a hyphen. |
**Quick Start S3 key prefix** (QSS3KeyPrefix) | quickstart-cloudvideoeediting/ | The **S3 key name prefix** used to simulate a folder for your copy of Quick Start assets, if you decide to customize or extend the Quick Start for your own use. This prefix can include numbers, lowercase letters, uppercase letters, hyphens (-), and forward slashes (/). |

### Step 5. Test the Deployment

After you deploy the video editing environment on AWS, install the Teradici PCoIP Client software, connect to your remote G3 GPU instance, and start using the environment.
1. Install the Teradici PCoIP Client software referenced in the Cloud Access Software license email that you received. See Obtain a Teradici Cloud Access Software license, earlier in this guide.

2. Sign in to the AWS Management Console and open the Amazon EC2 console at https://console.aws.amazon.com/ec2.

3. In the left navigation pane, choose Instances.

4. Choose the Edit Host instance. Note the IPv4 public IP address and private IP address, which you will enter later in this procedure.

5. Choose the RDGW instance. Note the IPv4 public IP address. In a Remote Desktop client, connect to the instance by using the IP address. For username, use DomainNetBIOSName\DomainAdminUser; e.g., example\admin. For password, specify the value of DomainAdminPassword you chose when deploying the Quick Start.

6. In the remote desktop session on the RDGW instance, open Remote Desktop Connection. In the Computer field type the private IP address of the Edit Host, leave the default user name, and choose Connect. On the next screen, enter the value of DomainAdminPassword and choose OK. You will be logged on to the Edit Host.

7. Enable the Teradici Cloud Access Software License on the Edit Host:
   a. In the remote desktop session connected to the Edit Host, open a PowerShell prompt with Administrator privileges.
b. In PowerShell, run this command:

```
'C:\Program Files (x86)\Teradici\PCoIP Agent\pcoip-register-host.ps1' -
RegistrationCode '<YourRegistrationCode>'
```

where `<YourRegistrationCode>` is the registration code that you received in an email from registering for Cloud Access Software with Teradici.

![Figure 3: Running Windows PowerShell as Administrator](image3.png)

Figure 3: Running Windows PowerShell as Administrator

A message appears saying that the registration was successful.

8. On your computer, open the Teradici PCoIP Client, and choose **New Connection**.

9. Enter the IPv4 public address from the EC2 Edit Host instance, and choose **Next**.
10. A message appears saying that Teradici cannot verify your connection. Choose **Connect Insecurely**. For more information about Teradici connection security modes, see **Connection Security Modes**.

| Note | By default, the security mode for connecting to the workstation is a warning that the PCoIP client can’t validate the identity of the workstation. You will see a message saying that Teradici cannot verify your connection. The PCoIP Access Software uses a default self-signed Teradici certificate. To avoid the warning, you can create and install your own certificate. |

11. Choose the domain you used as **DomainDNSName**. For the user name, enter the value of **DomainAdminUser**, by default this should be Admin.

12. For the password, use the value of **DomainAdminPassword**, and choose **Login**. You’re now connected to your remote G3 GPU instance running on AWS.

![Figure 5: Connect to the Edit Host using Teradici PCoIP Client](image)

13. A Blender startup file has been copied to C:\cfn\scripts, as shown in Figure 6. Open it to use Blender’s 3D content creation suite and tools. For instance, you can drag a downloaded video to a timeline and play it back.
14. After you launch Blender, a blank Video Sequence Editor (VSE) screen appears, as shown in Figure 7.

![Blank VSE screen](image)

**Figure 7:** Blank VSE screen

15. Now you have a functional workstation to edit videos. As an example, you can download a video named big_buck_bunny_1080p_stereo.avi from [https://download.blender.org/peach/bigbuckbunny_movies/](https://download.blender.org/peach/bigbuckbunny_movies/). After the download is complete, drag the video to the VSE timeline, where an audio and video track appear, as shown in Figure 8.

NOTE: We have seen frequent timeouts with the site, feel free to try this with any other video content that you may have.
16. To start playback, choose **Play animation**, as shown in Figure 9.

![Figure 8: VSE with audio and video tracks](image)

![Figure 9: Play animation button](image)

**Best Practices for Cloud Video Editing on AWS**

PCoIP performance depends on your network connection and proximity to the AWS Region. For more information, see the Teradici [Network Capacity Planning](#) Guidelines.
To ensure high availability of the Edit Host instances, the Auto Scaling Groups template creates instances in multiple Availability Zones. Sourcing video from Amazon S3 provides a durable backup of the video that you can transfer to your instance in either Availability Zone. Your instance contains an AWS Command Line Interface (AWS CLI) that you can use to transfer a video from an existing S3 bucket.

Security
There are several security-related aspects of the architecture in this Quick Start. The VPC provides security using security groups and network access control lists (ACLs). This allows fine-grained control of traffic in and out of the VPC and to the host.

You should only allow access to IP addresses that use the Edit Host (see the EditHostAccessCIDR parameter in Amazon EC2 Configuration, earlier in this guide). This keeps the host protected from malicious attack and protects the data (video, in this case).

Also, keep S3 buckets secure to protect objects. You can secure them by using:

- **Identity and Access Management (IAM) policies**, where organizations can create and manage multiple users under a single AWS account.
- **Bucket policies**, where organizations define rules that apply across all requests to their Amazon S3 resources, such as granting write privileges to a subset of Amazon S3 resources.
- **ACLs**, where customers can grant specific permissions (such as READ, WRITE, FULL_CONTROL) to specific users for an individual bucket or object.
- **Query string authentication**, where customers can create a URL to an Amazon S3 object that’s valid for a limited time.

For more information, see the Amazon S3 Security FAQ. The EC2 host in this Quick Start gains access through an IAM role. See the VideoEditingRole in the template.

The Edit Host instance is in a public subnet, but you should place other hosts that don’t require public access in a private subnet for security. For example, database instances or other API endpoints gain access through Elastic Load Balancing (ELB). The NAT Gateway managed service allows private instances to access the internet or other AWS resources, but prevents the internet from initiating a connection with those instances.
Troubleshooting

Q. I encountered an error saying that the VideoEditingAutoScalingGroup was not successfully created. What should I do?

A. Set the **Rollback on failure** option to **No** for the CREATE_FAILED error:
   1. Launch the Quick Start again.
   2. When the stack fails to create, go to the Amazon EC2 console, choose **Auto Scaling Groups**, and then choose the **Activity History** tab.
   3. To see the details of the error, expand the entry that contains the error.

Q. I encountered a CREATE_FAILED error when I launched the Quick Start. What should I do?

A. If AWS CloudFormation fails to create the stack, we recommend that you relaunch the template with **Rollback on failure** set to **No**. (This setting is under **Advanced** in the AWS CloudFormation console, **Options** page.) With this setting, the stack’s state will be retained and the instance will be left running, so you can troubleshoot the issue. (Look at the log files in %ProgramFiles%\Amazon\EC2ConfigService and C:\cfn\log.)

   **Important** When you set **Rollback on failure** to **No**, you’ll continue to incur AWS charges for this stack. Please make sure to delete the stack when you’ve finished troubleshooting.

For additional information, see [Troubleshooting AWS CloudFormation](https://aws.amazon.com) on the AWS website.

Q. I encountered a size limitation error when I deployed the AWS CloudFormation templates.

A. We recommend that you launch the Quick Start templates from the links in this guide or from another S3 bucket. If you deploy the templates from a local copy on your computer or from a non-S3 location, you might encounter template size limitations when you create the stack. For more information about AWS CloudFormation quotas, see the [AWS documentation](https://aws.amazon.com).

GitHub Repository

You can visit our [GitHub repository](https://github.com) to download the templates and scripts for this Quick Start, to post your comments, and to share your customizations with others.
Additional Resources

AWS services

- Amazon EC2
- Amazon VPC
  https://aws.amazon.com/documentation/vpc/
- AWS CloudFormation
  https://aws.amazon.com/documentation/cloudformation/
- NAT Gateway managed service

Installed software

- Teradici Cloud Access Software
  https://www.teradici.com/products/cloud-access/cloud-access-software
- Blender
  https://www.blender.org/
- NVIDIA GPU Drivers
- AWS Command Line Interface (CLI)
  https://aws.amazon.com/cli/

Teradici Contact Information

- Teradici Sales
  sales@teradici.com

Quick Start reference deployments

- AWS Quick Start home page
  https://aws.amazon.com/quickstart/

Document Revisions

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| December 2019 | New licensing verbiage          | Costs and licenses
                                       Step 2. Obtain a Teradici Cloud Access Software License |
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| **October 2019** | The Edit Host is now joined to the Active Directory domain; login instructions are updated | Step 4. Launch the Quick Start  
Step 5. Test the Deployment |
| **June 2019**  | Changed download instructions of video file                            | Test the Deployment                                |
| **June 2018**  | Added a step for subscribing to the NVIDIA GPU AMI in AWS Marketplace; added troubleshooting information for VideoEditingAutoScalingGroup that isn’t successfully created | Subscribe to the NVIDIA GPU AMI in AWS Marketplace:  
Troubleshooting |
| **March 2018** | Initial publication                                                    | —                                                |

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