Deploying Actifio Sky in the Google Cloud Platform

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Preface

The information presented in this guide is intended for users who are configuring Actifio Sky for the Google Cloud Platform. If you are installing Actifio Sky for the Google Cloud Platform in a production environment, before proceeding, consult with your Actifio representative to properly size your Actifio Sky appliance.

When you have finished configuring Actifio Sky for the Google Cloud Platform, consult ***Getting Started with Actifio Copy Data Management.*** It introduces basic concepts, processes and procedures for an Actifio appliance.

Copies of these guides can be found in the ***ActifioNOW Customer Portal***, ***Doctifio Public Documentation Library.***

The ActifioNOW Customer Portal

Actifio customers can access to the entire Actifio documentation set as well as the portal's knowledge base.

To log into the ActifioNOW Customer Portal:

1. Go to: ***https://now.actifio.com***

2. When prompted, enter your user name and password you were provided when you purchased your Actifio appliance.

The Doctifio Public Documentation Library

The Doctifio Public Documentation Library provides a limited number of Actifio documents and is open to the public.

To access the Doctifio Public Documentation Library, in a web browser enter the address: ***docs.actifio.com***.

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1 Introduction

An Actifio Sky appliance is a virtual server designed to capture and manage data. Captured data can be replicated between Actifio appliances in your data center, between appliances in the Google Cloud Platform, and between appliances in your data center and in the Google Cloud Platform. Replicating to another Actifio appliance ensures a solid disaster recovery solution.

Actifio Sky allows an enterprise to leverage the Google Cloud Platform as a flexible hybrid cloud infrastructure to build higher quality applications faster and improve business resiliency and availability.

Data in Google Cloud Platform is instantly accessible and can be re-used for the following key use cases:

- **Accelerates DevOps, CI/CD, and application dev/test processes:** Provision virtual copies of databases instantly, in self-service manner with secure, role-based access controls. This enables developers to perform development, test, QA and integrate with continuous integration and continuous deployment tools.

- **Leverages instant access to data:** Actifio appliances allows user to failover to their Google Cloud Platform environment delivering business resilience for on-premises enterprise applications.

- **On-Demand analytics:** The ability to capture, manage and re-use databases and file systems enables data warehousing and analytics applications.

- **Secure migration to a Google Cloud Platform:** Securely migrating applications to a Google Cloud Platform. Using an Actifio appliance's instant access, users can create a sandbox environment in a Google Cloud Platform, conduct security, performance and scalability validation, before turning on the application in a Google Cloud Platform.

- **Global, standardized, Hybrid Cloud Data Management:** For Google Cloud Platform-resident applications, Actifio appliances can manage their data life cycle and deliver the same benefits as for on-premises applications: accelerate high quality application development, enhanced business resilience, meet compliance requirements and drive down infrastructure costs.

An Actifio Sky appliance installed in a Google Cloud Platform delivers the following benefits:

Build Higher Quality Apps Faster: Actifio appliance's database virtualization in a Google Cloud Platform enables Dev, QA and UAT teams to self-service provision on-demand virtual copies of production databases with secure data masking. This helps catch defects earlier in QA cycles, enabling the release of higher quality products, faster.

Improve Business Resiliency: By replicating on-premises and cloud-based data to any Google Cloud Platform location for instant recovery of mission critical applications, Actifio appliances eliminate the fear of downtime for critical applications, thereby eliminating potential losses in revenue, reputation, and employee productivity.

Outsource Infrastructure: By delivering a modern data management platform in hybrid cloud environments, Actifio appliances help accelerate business transformation by making it easy for enterprises to leverage cloud technologies, allowing them to outsource costly infrastructure.

Data Warehouse, ETL, Analytics: Actifio appliances make it very easy for enterprises to provision virtual copies of production data in a Google Cloud Platform while feeding data into on-demand data warehousing, ETL, or analytics solutions. This accelerates the speed at which business analytics can be achieved in the cloud, while simultaneously eliminating the need to invest more in software tools and on premise infrastructure.

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2 Configuring an Actifio Sky Instance

This chapter contains the following sections:

Sizing the Actifio Sky Solution

Actifio representative will use a sizing tool to determine the size requirements for your Actifio Sky solution. The sizing tool takes in to account:

- Amount of data
- Whether you will use deduplication
- Data type
- Change rate
- Growth
- Retention

The sizing tool recommends a license size for the Actifio instance. The size of the license will dictate the number of CPUs and the amount of memory required for the solution. The sizing tool will also recommend the number and size of disks needed.

Limitations When Deploying in Google Cloud Platform

The following limitations must be considered when deploying in the Google Cloud Platform:

- Each network interface configured in a single instance must be attached to a different VPC network, and each interface must belong to a subnet whose IP range does not overlap with the subnets of any other interfaces.
- The additional VPC networks that the multiple interfaces will attach to must exist before you create the instance.
- Each instance must have at least one network interface. The maximum number of network interfaces per instance is 8, depending on the instance's machine type. Also, the eth0, eth1, and multiple NICs must be created at the time the instance is created.

- Google Cloud Platform's DHCP server sends a default route (RFC 3442, "classless static route") only to the default NIC, nic0. If a default route is needed on another NIC, you must configure it in the instance. While changing the default route in the instance, use the serial console in order to avoid losing connectivity to the VM.

- You cannot add network interfaces to, or remove them from, an existing VM.

CPU and Memory Requirements

The following table details the CPU and Memory requirements for each Actifio Sky solution.

CPU and Memory Required by License		
License	Minimum Memory	*Cores
60 TB Sky	16 GB	4 for a Non-Encryption License 6 for an Encryption License
120 TB Sky	32 GB	6 for a Non-Encryption License 8 for an Encryption License
128 TB Sky	150 GB	12 for a Non-Encryption License 15 for an Encryption License
200 TB Sky	48 GB	8 for a Non-Encryption License 10 for an Encryption License

* Required cores can be spread across multiple CPUs, with multiple CPUs providing slightly better performance.

Obtain the Actifio Sky Solution

To obtain an Actifio Sky solution:

1. From the Google Cloud Platform's left-hand navigation, click **Cloud Launcher** and the Cloud Launcher page is displayed.

2. In the **Search For Solutions** text box type: **Actifio** and the Actifio Sky icon is displayed:

3. Click on the Actifio icon and the Launch Actifio Sky on Compute Engine page is displayed:

4. Click **Launch On Compute Engine** and the **New Actifio Sky Deployment** page is displayed:

5. In the space provided, enter a name for the Actifio Sky deployment

6. From the drop down menu, select a region.

7. Under **Machine Type**, click **Customize** and the custom machine type options are displayed:

8. Select the Cores and Memory required by your Actifio Sky license

9. Scroll down to the bottom of the page and click **Deploy** and the Actifio Sky solution will be deployed.

Storage Requirements

When configuring the Actifio instance you must create at least three disks, These disks must use storage that meets the following performance profile:

- 35 random reads per second per TB with 64KB read size,
- 10 random write per second per TB with 64 KB write size

The instance's disks will be used to create storage pools for the Actifio Sky appliance. The Actifio pools are the:

- **Primary Pool:** One 200 GB used by the Actifio Sky appliance.
- **Snapshot Pool:** Accommodates the full copies (snapshots) to be retained, plus enough space for future growth. A minimum of 10 GB is required. You can at a later date, add additional disks to accommodate growth.
- **Dedup Pool:** A minimum of 100 GB is required.

Configuring an Instance

To configure a new Actifio Sky solution:

1. Log into your Google Cloud Platform account and your dashboard is displayed:
2. In the left-hand navigation menu, mouse over **Compute Engine** and a pop up menu is displayed:
3. From the pop up menu, select **VM Instances**. and all available instances are displayed:
4. Select the Actifio instance (solution) you just uploaded and the Instance Details page is displayed.
5. Scroll down to the Boot Disk and Local Disk section.
6. In the top menu bar click **Edit**.
7. Click **+Add Item**.and the Create Disk popup is displayed.
8. Enter a name for the disk
9. Click **Create Disk** and the Create disk page is displayed:

You must create at least 3 disks. See Storage Requirements on page 5 for details.

   a. In the **Name** field, enter a name that will allow you to determine which Actifio pool will use the disk.
   b. In the **Description** field, enter text that will further describe the disk's use with the Actifio instance
   c. For **Disk type**, Actifio recommends **Standard persistent disk**, When creating the disk for deduplication performance, you must select **SSD persistent disk**.
   d. **Source type** must be **None (blank disk)**.
   e. Size is determined by which Actifio pool will use the disk. See Storage Requirements on page 5 for details.
   f. For Encryption, keep the default Automatic (recommended).

10. Click **Create** and the disk is created.
11. Repeat this process until you have created all disks.
12. Once all disks are created, review the settings for the instance.
13. If all of your settings are correct, click **Save** and the Actifio Sky instance will be created.
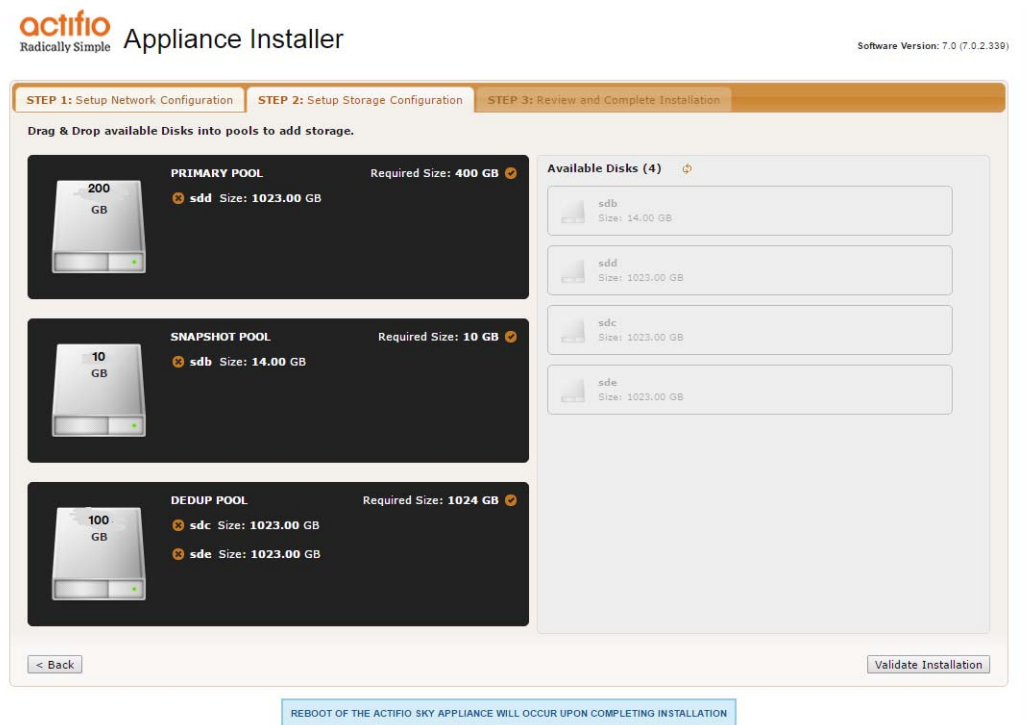
3 Installing an Actifio Sky Appliance

When the Actifio instance is ready, obtain the instance's Public IP. Once you have the IP you are ready to install the Actifio Sky appliance in to the instance.

1. Enter the instance's **Public IP** address in a browser's address space and the Actifio Appliance Installer is displayed:

Actifio Sky Appliance Installer Step One

2. In the spaces provided enter the instance's Public IP.

3. Ensure that the auto discovered Actifio Sky appliance IP address is correct.

4. In the space provided, enter a name for the Actifio Sky appliance.

5. Ensure that the auto discovered network IP addresses are correct.

6. From the Infrastructure drop down menu, select **Google Cloud Platform**.

7. Set the time zone as needed.

8. If you are installing the Actifio Sky appliance as an evaluation, leave the **License Number** field set to the default setting.:

9. If you are NOT installing this Actifio Sky appliance as an evaluation:

    o   Capture the System UUID and pass it on to the Actifio representative. The Actifio representative will use the UUID to generate the Actifio Sky appliance license key.

    o   In the space provided, paste a copy of the license key you obtained from the Actifio representative.

    o   Click **Validate License** to ensure the validity of the license entered.

    o   If the license is valid, the Managed Data License (MDL) size will be displayed in a popup window. If there are any optional add-ons included in the license they will also be shown here.

    o   If you are using an encryption license, a pass phrase field is displayed. Enter a pass phrase, record the pass phrase and keep it in a secure location.

10. In the spaces provided, create a password for the first Admin user of the Actifio Sky appliance. Record the password.

11. Click **Next** and the Step 2 tab contents are displayed:

Actifio Sky Appliance Installer Step Two

12. Select and drag the Available Disks to their associated pools. These are the disks you created when you configured the Actifio instance. Drag them to their corresponding pool:

    o Drag the 200 GB disk to the Primary Pool.

    o Drag at least 10 GB (minimum) to the Snapshot Pool.

    o Drag at least 100 GB (minimum) disk to the Dedup Pool.

13. Click **Validate Installation**. The Actifio Sky installer validates the settings. Any issues will appear in a yellow field at the top of the page 2. If no issues are encountered, the third tab is displayed:

| STEP 1: Setup Network Configuration | STEP 2: Setup Storage Configuration | STEP 3: Review and Complete Installation |

Your settings have been validated successfully. Once you click **"Complete Installation"**, the system will complete the installation and reboot. You will be redirected to 'Actifio Resource Page' but must wait approximately 30 minutes before the system is back online.

< Back   Complete Installation

REBOOT OF THE ACTIFIO SKY APPLIANCE WILL OCCUR UPON COMPLETING INSTALLATION

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Actifio Sky Appliance Installer Step Three

14. The third tab provides the opportunity to review choices and go back and make changes as needed.

15. Once choices are verified, click **Complete Installation** and the Actifio Sky appliance will reboot. The reboot may take several minutes.

When the reboot finishes continue on to join the Sky appliance to AGM. For more information, see the AGM on-line help topic **Joining in Non-Sharing Mode**.