# Using the System Monitor to Monitor to Monitor Jobs and Events

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## Preface

This guide provides step-by-step instructions on how to use the Actifio Desktop System Monitor. It assumes you have read **Getting Started with Actifio Copy Data Management**, are familiar with the components of the Actifio Desktop, and have a grasp of the basic concepts associated with an Actifio appliance.

Your Actifio appliance's Documentation Library contains detailed, step-by-step, application-specific instructions on how to protect and access your data. Each guide is in PDF format and may be viewed online, downloaded, or printed on demand. The following guides will be of particular interest:

- Configuring Resources and Settings With the Domain Manager
- Setting Up Users and Roles With the Domain Manager
- Connecting Hosts to Actifio Appliances
- Planning and Developing Service Level Agreements
- Virtualizing and Protecting Copy Data with the Application Manager
- Replicating Data Using Actifio Appliances

#### **Actifio Appliances**

Unless otherwise specified, all features and functions described in this document apply to all Actifio appliances.

#### The ActifioNOW Customer Portal

During the configuration and initialization of your Actifio appliance your Actifio representative provided you with a user name and password for the ActifioNOW customer portal.

From the ActifioNOW customer portal you can obtain detailed reports about your Actifio appliance, access the Actifio product documentation, including release notes, and search the knowledge base for answers to specific questions.

To log into the ActifioNOW customer portal:

- 1. Go to: https://now.actifio.com.
- 2. When prompted, enter the user name and password provided by your Actifio representative.

#### **Actifio Support Centers**

To contact an Actifio support representative, you can:

- Send email to: support@actifio.com
- Call:

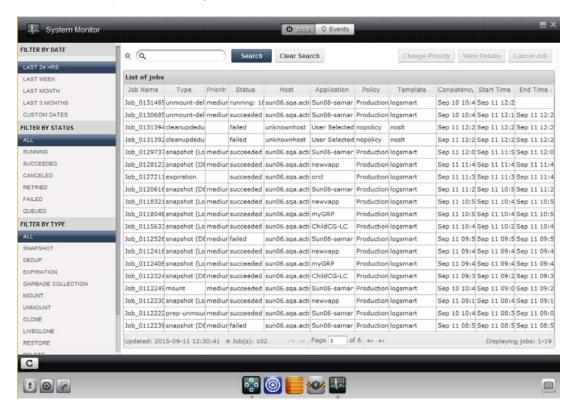
From anywhere: +1.315.261.7501
US Toll-Free: +1.855.392.6810
Australia: 0011 800-16165656
Germany: 00 800-16165656
New Zealand: 00 800-16165656

**UK**: 0 800-0155019

# 1 Using the System Monitor

Use the Actifio Desktop System Monitor to monitor jobs and events from the Actifio CDS or Sky appliance that you are logged into.

- You can monitor jobs, including canceling active jobs or changing the job priority of an active job, as detailed in Chapter 2, Monitoring Jobs.
- You can view events (real-time information/warning/error notifications raised by the Actifio appliance) as described in Chapter 3, Monitoring Events.



The System Monitor

# 2 Monitoring Jobs

The System Monitor offers a variety of services for monitoring jobs:

Job Types on page 4

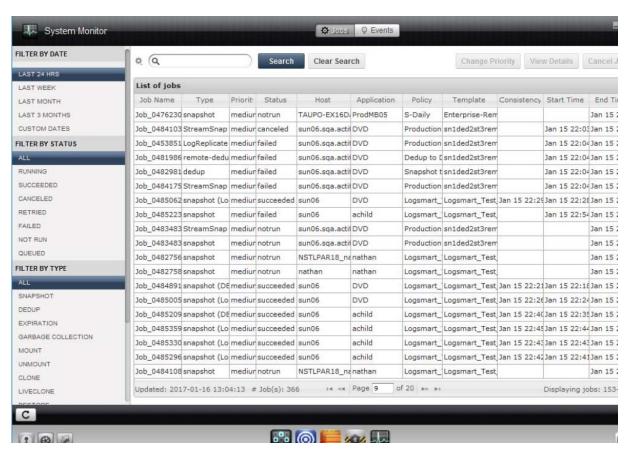
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Viewing All Jobs on page 7

Viewing the Details of a Job on page 8

Filtering the Jobs View on page 12

Canceling a Running Job on page 12



**Monitoring Jobs - Note the Job Types and Statuses** 

### Job Types

The Actifio appliance protects and accesses data through these types of jobs:

| Job Type              | Label in<br>System<br>Monitor | What This Job Type Does   |
|-----------------------|-------------------------------|---|
| Clone                 | clone                         | Creates a regular Clone image.  |
| Dedup                 | dedup<br>directdedup          | Deduplicates a snapshot image from the Snapshot Pool to the Dedup Pool.  Deduplicates an image of a production application to the Dedup Pool.   |
| Dedup-<br>Async       | dedupasync                    | Creates/refreshes a failover-ready Dedup-Async image on a remote appliance.   |
| Delete                | delete                        | Deletes an image that was already unmounted from the host.  |
| Expiration            | expiration                    | Snapshot: Deletes an image.  Dedup: Marks an image to be deleted when GC runs.  |
| Garbage<br>Collection | gc                            | Identifies, clears, and consolidates Dedup Pool space occupied by expired images.   |
| LiveClone             | liveclone<br>refreshliveclone | Creates a LiveClone image.  Refreshes a LiveClone image with current data.  |
| Log<br>Replicate      | logreplicate                  | Uses StreamSnap technology to perform the replication between the local and remote Actifio appliances, meaning the log replication goes directly from the snapshot pool on the local appliance to the snapshot pool on the remote appliance.  |
| Mount                 | mount<br>prep-mount           | Mounts an image to a selected host.  Mounts an image ready for processing to a selected host.   |
| Provision             | provision                     | Driven by an Actifio Workflow. This job is the initial provisioning of a work environment with captured data. Provisioning is done on a schedule or on demand. Provisioned data can be in the form of a virtual application, LiveClone, or a LiveClone that has been scrubbed for sensitive data.                     |
| Remote                | remote-dedup                  | Copies a deduplicated image to a remote system.   |
| Reprovision           | reprovision                   | Driven by an Actifio Workflow. As the name implies, this job re-provisions an existing work environment with captured data. Re-provisioning is done on a schedule or on demand. Re-provisioned data can be in the form of a virtual application, LiveClone, or a LiveClone that has been scrubbed for sensitive data. |
| Restore               | restore                       | Replaces production data with a selected backup image.  |
| Snapshot              | snapshot                      | Takes a point-in-time image of the application or VM.   |

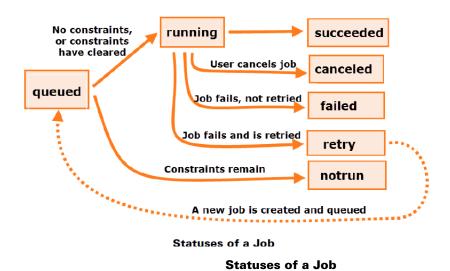
| Job Type     | Label in<br>System<br>Monitor | What This Job Type Does  |
|--------------|-------------------------------|--|
| StreamSnap   | streamsnap                    | Creates/refreshes a failover-ready StreamSnap image on a remote appliance.  Note: A StreamSnap replication job is also tied to a specific Snapshot policy. It uses the schedule and frequency settings of Snapshot policy when performing replication.   |
| Unmount      | unmount                       | Removes the image from the host and optionally deletes it.   |
| OnVault      | onvault                       | Transfers snapshot images to storage defined by an Actifio OnVault Pool.   |
| Verification | verification                  | Used for validating data in your dedup image. Based on the selection you make (newest/oldest/random), the Actifio appliance picks that dedup image from the list of completed dedup jobs for the application this policy is applied to and runs a verification. It can be run on-schedule or on-demand.  Note: An Image Verification dedup policy setting has a dramatic impact on |
|              |                               | <b>Note:</b> An Image Verification dedup policy setting has a dramatic impact on system performance and should only be used when recommended by your Actifio representative.   |

#### **Job Status**

At any time, a job can have one of seven statuses:

#### **Job Statuses**

| Status    | Meaning  |
|-----------|--|
| canceled  | The job was canceled by a user.  |
| failed    | The job failed to run to completion within the SLA period. In case of job failure, an event is created with information about the job failure.  If there is time in the SLA period, the original job becomes <b>retry</b> and an identical new job is <b>queued</b> .  |
| notrun    | The job could not run during its SLA period due to some constraint, for example the scheduler is disabled, destination pool is full, source image is missing or unsuitable, connectivity issue, GC is running, no available job slots, etc.  |
| queued    | When a policy requires a job to be run, a job is created with a status of <b>queued</b> . If no constraints are present, it goes into the <b>running</b> state. If constraints prevent it from running, then it remains queued. If the constraints continue to be present until it is time to run the next instance of the same policy, the job is given <b>notrun</b> status, and a new job instance with the same Job ID and a letter appended to it is added in the <b>queued</b> state.                        |
| retry     | The job did not complete. The job goes into the <b>retry</b> state. If there is time in the SLA period, the original job becomes <b>retry</b> and a new job instance with the same Job ID and a letter appended to it is <b>queued</b> . There can be three retry attempts, at 4, 16, and 64 minutes after each job fails. When the SLA time runs out or if another instance of the job begins, the original job is <b>failed</b> and any retry jobs (with a, b, and c added to the Job ID) stay as <b>retry</b> . |
| running   | The job is currently being processed. Its percent completion is indicated in the status.   |
| succeeded | The job has completed successfully according to the SLA that invoked it.   |

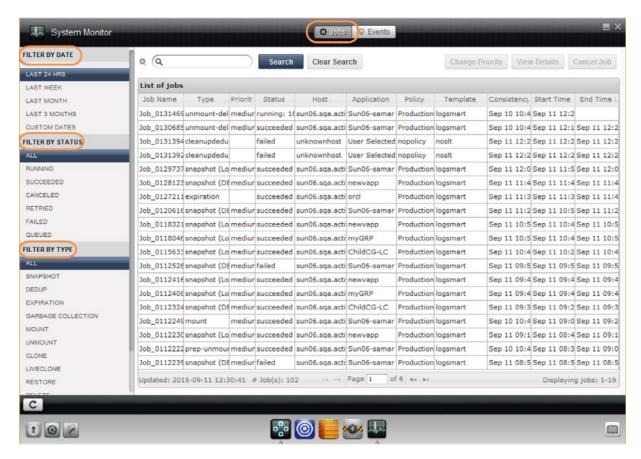


#### Viewing All Jobs

To view jobs sorted by date, status, or type:

- Open the Actifio Desktop to the System Monitor, Jobs tab. A list of jobs appears in the display pane.
- 2. Select filters from the navigation pane. You can filter by date of job, job status, or type of job.

Note: See Job Types on page 4 for a summary of the different job types supported by an Actifio appliance.

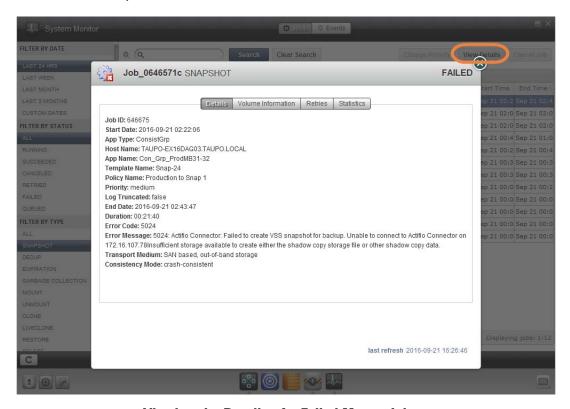


**Selecting Filters for Sorting Jobs to View** 

#### Viewing the Details of a Job

To view the details of a job:

- 1. Open the Actifio Desktop to the **System Monitor**.
- 2. Select the **Jobs** or **Events** services tab at the top of the page. A list of jobs or events appears in the display pane.
- 3. Select the event or job and click View Details.



#### Viewing the Details of a Failed Mount Job

There are four tabs of detail information:

Job Detail on page 8

Volume Information on page 10

Retries on page 10

Statistics on page 11

#### Job Detail

| Detail   | What It Means   |
|----------|---|
| App Name | Application name, not necessarily unique  |
| App Type | Application types, such as SQL Server, Oracle, filesystem, or an entire Virtual Machine |
| Capacity | The capacity of each volume   |

#### Job Detail

| Detail           | What It Means   |
|------------------|---|
| Consistency Mode | Crash-consistent or application consistent, indicates whether the application was quiesced during the job |
| Duration         | The time between start date and end date  |
| End Date         | The date and time when the job finished   |
| Error Code       | 0 for no error, a non-zero value to indicate the error encountered when running the job                   |
| Error Message    | A message explaining the error(s) encountered when running the job  |
| Expiration Date  | Date and time when this image is due to be expired  |
| Host Name        | Name of the host where the application runs   |
| Image Type       | Snapshot, dedup or cloud, the type of image created by the job  |
| isbootvmdk       | Set to true for the volume within the image that is the boot volume, if any                               |
| Islvm            | For each volume, whether it is a Logical Volume Manager Volume  |
| Job ID           | A unique number that identifies a job   |
| Log Truncated    | Set to true to indicate that logs were truncated for the application                                      |
| logicalname      | The name of each volume as identified by the host system  |
| Mounted Host     | For a mount/failover job, the host where the image is mounted   |
| Policy Name      | The name of the policy associated with the job  |
| Priority         | Low, medium or high, set in the policy  |
| Protected data   | Amount of data protected  |
| Source Name      | Which specific copy of an image was the source for a job.   |
| Sourcemountpoint | The name of the mount points for each of the volumes on the original host                                 |
| Start Date       | The date and time that the job actually started running   |
| Template Name    | The name of the service level template  |
| Transport Medium | How the data was transported during the job: over the SAN or LAN  |

#### Job Detail

| Detail    | What It Means  |
|-----------|--|
| Uniqueid  | An identifier that uniquely identifies each volume in the image                    |
| Volumekey | A string that is used internally to identify the multiple volumes within the image |
| VolumeUID | A unique identifier for each volume in the image                                   |

#### **Volume Information**

| Info              | Job type   |
|-------------------|--|
| Capacity          | Size of the volume that was backed up                                      |
| Data Store        | For a virtual machine, the datastore where the volume was located          |
| File Name         | VMware: Pathname to the VMDK file.  Hyper-V: Pathname to the VHD file      |
| HUID              | Host unique identifier - a string that uniquely identifies the volume      |
| Label             | The volume label of the volume   |
| Logical Name      | A human readable unique name for the volume. For VMware, same as filename. |
| Source Mountpoint | The mount point of the volume.   |
| Target            | The Actifio VDisk name for the copy of the volume                          |

#### **Retries**

| Info          | Job Type  |
|---------------|---|
| End Date      | The date and time when the job finished, whether successfully or in failure |
| Error Code    | Zero, or the error code returned by the job                                 |
| Error Message | A textual messages corresponding to the error code                          |
| Job Name      | The job name of the original job or retry attempt                           |
| Start Date    | The date and time when the job started running                              |

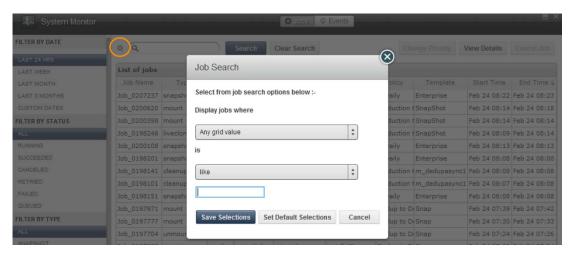
#### **Statistics**

| Info                                    | Job Type   |
|---|--|
| Application Freeze Time                 | <b>Application freeze time</b> is the total time for which the application was in a frozen state during a backup. The application was placed in a frozen state, during a backup (snapshot) so that all of the data was captured in a consistent state.   |
| Application size (GB)                   | This is the size of the application data on the staging disk.  |
| Number of volumes                       | The number of volumes in the application that is the subject of the job.   |
| Data copied (GB)                        | This shows the amount of new application data that was found by this job.  |
| Local bytes read                        | This shows the new data that was processed by the dedup engine. This number can be larger than <b>Data copied</b> because the dedup engine ingests data in discrete blocks.  |
| Dedup precompress size (MB)             | These are results of deduplicating the local bytes read.   |
| Dedup threads total elapsed time (sec)  | The amount of processing time spent on a deduplication job, including time spent waiting for conditions to be met and time lost to interruptions.  A job can require multiple threads of execution; this is the sum of time used by all threads. For example, five threads that needed 10 seconds each would have 50 seconds total elapsed time. |
| Dedup threads total runnable time (sec) | Job threads are often interrupted. While it is interrupted, the thread is runnable, but not running (see below). <b>Dedup threads total runnable time</b> is the amount of time for which at least one of the job threads was runnable. It is always less than <b>Dedup threads total elapsed time</b> .   |
| Dedup threads total running time (sec)  | For deduplication jobs, this is the amount of time for which at least one of the threads of execution was running. If <b>Dedup threads total running time</b> is significantly less than <b>Dedup threads total runnable time</b> , then the job spends a lot of time waiting or interrupted. Consider scheduling the job for less busy time.    |
| Dedup postcompress size (MB)            | This shows the new data written to the dedup pool for this job after dedup and then compression.   |

#### Filtering the Jobs View

If the filters on the left do not offer the control that you need, you can filter jobs based on the job, host, application, policy, template, or the end time.

- 1. Open the Actifio Desktop to the **System Monitor**, **Jobs** tab. A list of jobs appears.
- 2. Click the **Search Control** to the left of the Search field. A Job Search page appears.
- 3. Select:
  - What to compare: Job Name, Host Name, Application Name, Policy Name, Template, End Time, or Any grid value.
  - o A comparison value: like, equal to, or not equal to.
  - o In the space provided, enter the search text.
- 4. Click **Save Selections**. You can save these search criteria as the default by clicking Set Default Selections.
- 5. Click Search.



**Searching for Jobs** 

#### Canceling a Running Job

To cancel a currently running job:

- 1. Open the Actifio Desktop to the **System Monitor**.
- 2. Click **Jobs** at the top of the page. A list of jobs appears.
- 3. Under Filter by Status, select Running.
- 4. Select the job to cancel.
- 5. Click Cancel Job.



**Canceling a Running Job** 

# 3 Monitoring Events

Events are information/warning/error notifications raised by an Actifio appliance.

You can view events in several ways:

Viewing Events Based on Date or Severity on page 13

Viewing the Details of an Event on page 14

Clearing Events Marked for Deletion on page 16

Filtering Events on page 16

#### Viewing Events Based on Date or Severity

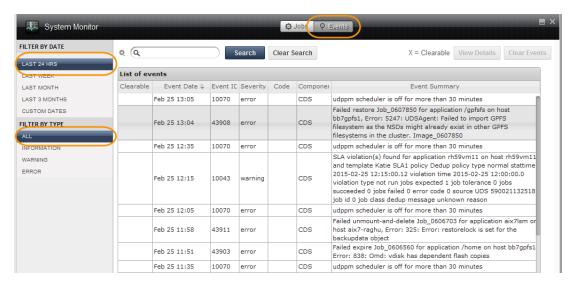
To view the events based on when they occurred:

- 1. Open the Actifio Desktop to the **System Monitor**.
- 2. Click **Events** at the top of the page. A list of events appears.
- 3. From **Filter by Date** or **Filter by Type** in the left sidebar, select the desired period or severity. The Actific Desktop filters the list to include only the events that match the selection.

You can also use the Search button to search for events based on any of the columns.

The most common Event IDs of severity Error are detailed in the knowledge base in the Actifio Now Portal at <a href="http://now.actifio.com">http://now.actifio.com</a> and in *Most Common Error Codes* in your Documentation Library.

To configure automatic SNMP or SMTP event alerting, see *Configuring Actific Event Alerting* in your Documentation Library.



Viewing All Events of the Past 24 Hours

#### Viewing the Details of an Event

To view the details of an event:

- 1. Open the Actifio Desktop to the **System Monitor**.
- 2. Select the **Events** services tab at the top of the page. A list of events appears in the display pane.
- 3. Select the event or job and click View Details.



Viewing the Details of a Failed Mount Job Error Event

The details available are described below. Not all events include every detail. For example, event 10070, "udppm scheduler is off for more than 30 minutes" is about the Actifio appliance, so it has no application-specific information.

#### **Event Details**

| Detail     | What it Means  |
|------------|--|
| ID         | The database row id in the Actifio eventdata table. This can be ignored.   |
| Event Date | The time that the event occurred.  |
| Component  | CDS: These are from Actifio CDS and Sky.  AOS: These are from storage arrays that are configured to be monitored as described in Configuring Resources and Settings With the Domain Manager.  Platform: These are from the Actifio CDS appliance; Sky-only systems do not get errors of this type. |

#### **Event Details**

| Detail                                  | What it Means  |
|---|--|
| Appliance Name                          | The ID of the appliance where the event occurred.  |
| Object ID<br>and<br>Object Type         | (CDS events only) The CDS process that posted the event.  Object ID is a numerical code and Object Type is the name of the process:  1 = psrv 2 = udp 3 = omd 4 = dedup  |
| Application Name                        | The user-assigned name of the application, if applicable   |
| Application Type                        | The type of application, if applicable   |
| Job Name                                | A unique job identifier  |
| Notification Type                       | Information: provides information about changes in the system. Most Information events do not require action.  Warning: Action may soon be required.  Error: Most events are errors.   |
| Event ID                                | A unique event identifier. CDS event IDs are sometimes augmented by an additional event code from the application that initiated the event.  |
| Error Code                              | Additional information about the event, often with a link to an Actifio Knowledge Base article about this kind of event.   |
| Error Message                           | A text description of the event. The error message is often supplements by additional information from external components.  |
| Requires Clearing<br>and<br>Sequence ID | (Platform and AOS events only) This event will continue to be reported until it is cleared. sequenceid correlates multiple notifications of the same event. Both events have the same eventid and sequenceid but different event dates. The appliance raises these events periodically until they are cleared. |

#### Clearing Events Marked for Deletion

Use the Clear Events function to unmark events and prevent them from being deleted. To clear marked events:

- 1. Open the Actifio Desktop to the **System Monitor**.
- 2. Click **Events** at the top of the page. A list of events appears.
- 3. Select the event(s). Use the Shift key to select multiple events.
- 4. Click Clear Events.

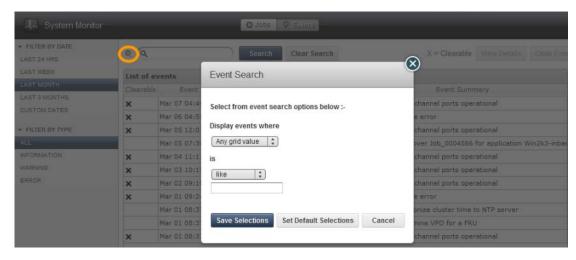


**Events Marked for Deletion Can Be Cleared** 

#### Filtering Events

You can filter events based on all the columns displayed on the Events window.

- 1. Open the Actifio Desktop to the **System Monitor**, **Events** tab. A list of events appears.
- 2. Click the **Search Control** to the left of the Search field. An Event Search page appears.
- 3. Select:
- 4. What to compare: Event ID, Event Date, Severity, Component, Event Summary, or Any grid value.
- 5. A comparison value: like, equal to, or not equal to.
- 6. In the space provided, enter the search text.
- 7. Click **Save Selections**. You can save these search criteria as the default by clicking Set Default Selections.
- 8. Click Search.



**Searching for Events** 

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