



G-Technology®

# SNAPSHOT

ESSENTIAL GUIDE

## G|RACK™ 12

High-Performance NAS



# **G|RACK™ 12**

## **Snapshot Essentials**



G-Technology®

**Snapshot Essentials**

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## Overview

Snapshot technologies have long been a part of enterprise-class storage arrays. The ability to quickly create disk-based, point-in-time copies of data enables the data to be more easily accessed and used for business processes and administrative operations across both primary and secondary application environments.

## What is a snapshot?

In computer systems, a snapshot is the state of a system at a particular point in time. The term was coined as an analogy to that in photography. It can refer to an actual copy of the state of a system or to a capability provided by certain systems.

A Snapshot is analogous to a full copy of the file system, but is taken immediately and does not waste disk space for storing duplicated data. The only difference is how the data is physically stored in the file system. When you do a full copy, you actually copy all the data to a different location on the disk, whereas taking a snapshot means you only create a reference to the data. If you later modify the original volume, this will not alter the files under the snapshot, even if you modify already existing files. You can take a snapshot at any time and revert to that snapshot at any time.

A copy-on-write snapshot utility creates a snapshot of changes to stored data every time new data is entered or existing data is updated. This allows rapid recovery of data in case of a disk write error, corrupted file, or program malfunction. However, all previous snapshots must be available if complete archiving or recovery of all the data on a network or storage medium is needed.

A split-mirror snapshot utility references all the data on a set of mirrored drives. Every time the utility is run, a snapshot is created of the entire volume, not only of the new or updated data. This makes it possible to access data offline, and simplifies the process of recovering, duplicating, or archiving all the data on a drive. However, this is a slower process, and it requires more storage space for each snapshot.

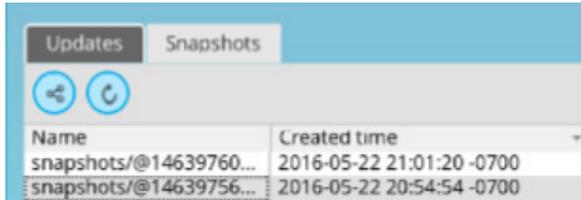
## How and when are snapshots used?

With the snapshots, if the data on a shared workspace was accidentally modified or deleted, you are able to quickly restore the data back to the previous time at which the snapshot was taken. Using snapshot to keep multiple versions of data is different from traditional backups which can take hours to complete. You can take a snapshot at any time and rollback to a snapshot of a previous version of a particular date and time when you need it. Snapshots can be used to replicate, clone and rollback.

## How to use snapshots on the G-RACK 12?

### Snapshots of the operating system(OS)

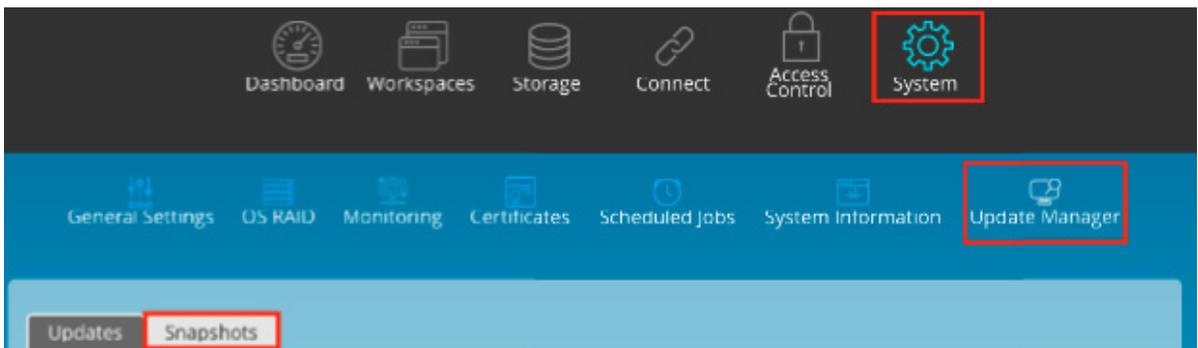
Operating system snapshots are created to roll back the operating system after an update, if the user does not like the update or if there are any problems. Operating system snapshots will only backup the operating system. Operating system snapshots are read-only.



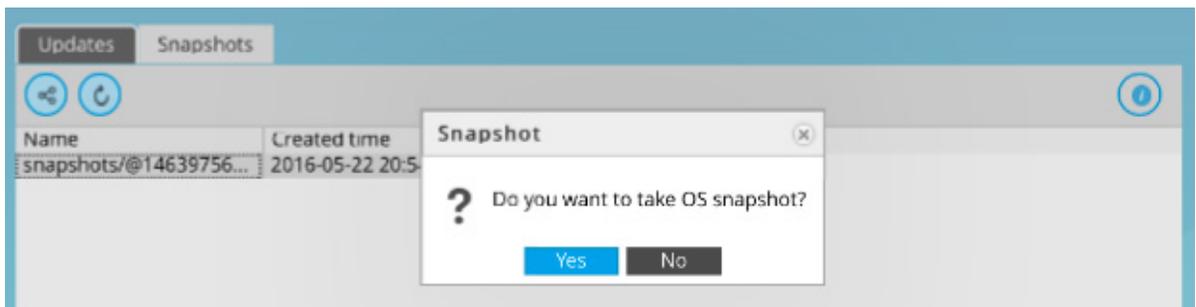
Name	Created time
snapshots/@14639760...	2016-05-22 21:01:20 -0700
snapshots/@14639756...	2016-05-22 20:54:54 -0700

The list of the available snapshots of the operating system will be displayed to the Update Manager under the System menu.

**To take a snapshot** of the current state of the operating system navigate to the Update Manager under the System menu and select the Snapshot tab.

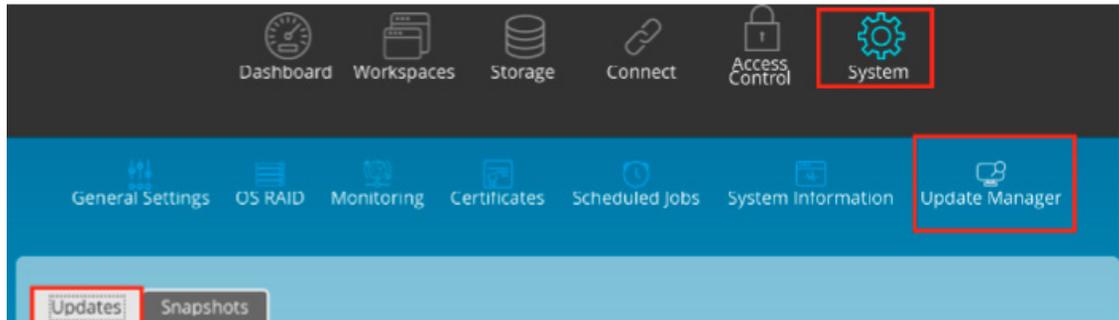


Click the **Take snapshot icon** and confirm

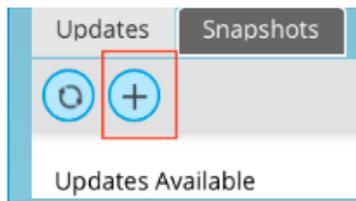


A snapshot has now been created

**Snapshot when updating.** You will have the ability to take a snapshot before a system update. Navigate to the Update Manager under the System menu and select the Update manager tab.

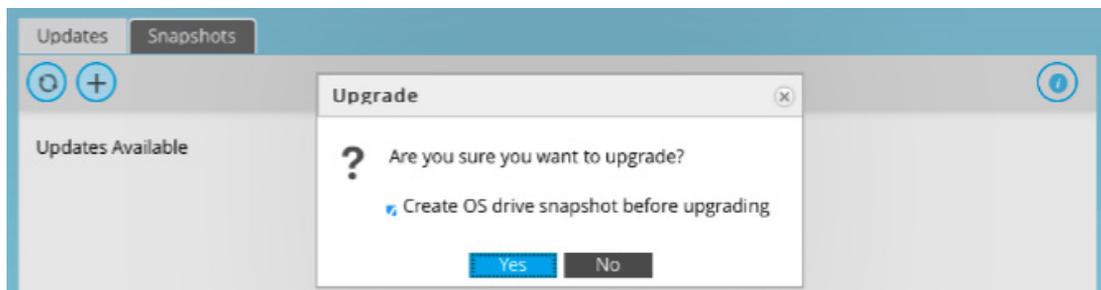


Go to Update Manager when the update is available



Click the **Upgrade** button

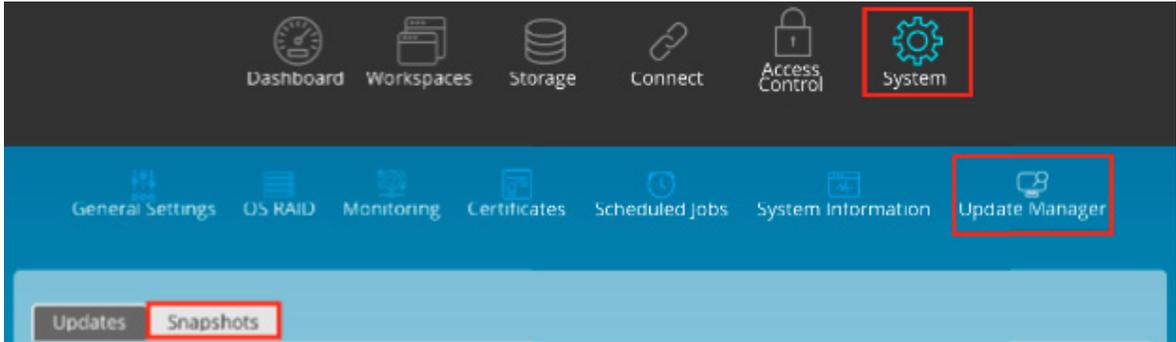
Check the box to take a snapshot before update ( This is checked by default )



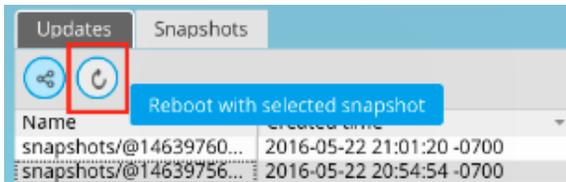
Once the update has finished, **Click on the Snapshots tab** to view the new snapshot.

**Reboot from snapshot. To do this:**

Navigate to the Update Manager under the System menu and select the Snapshot tab.



Select the snapshot to reboot from, click the Reboot from Selected Snapshot icon



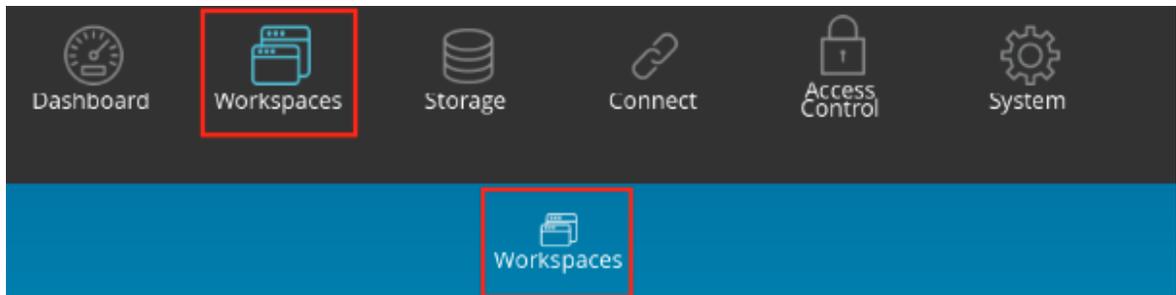
The system will now reboot from the selected snapshot.

**Data Snapshots (Workspaces)**

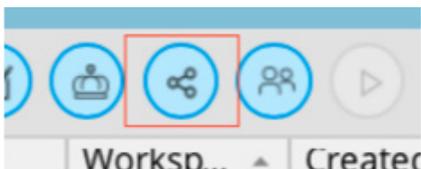
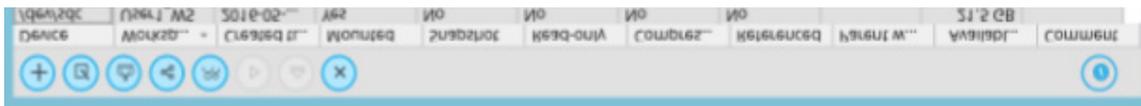
Data snapshots are used to backup your data on your Workspaces.

**To create a Data snapshot:**

Navigate to the Workspace menu



Select a Workspace to snapshot

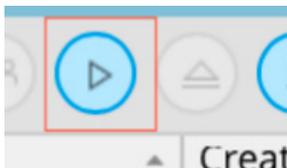


**Click the snapshot icon**

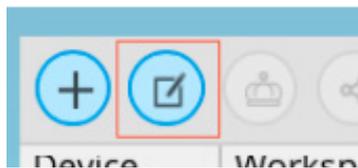
A new snapshot will be created for the selected workspace. The snapshot will be named, selectedWorkspaceName -backup

**To access this snapshot and restore your data:**

Go to Workspace menu Select the snapshot you wish to access



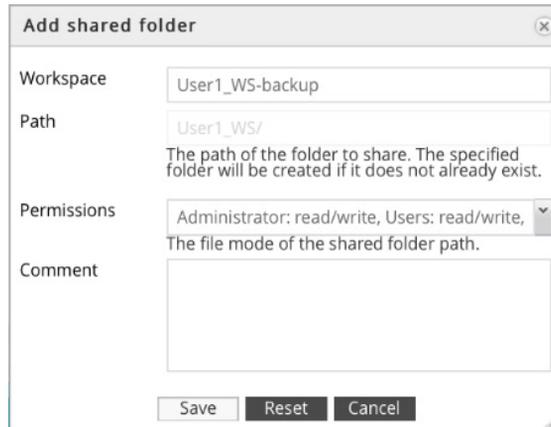
Mount it by clicking the Mount icon



Click the Edit icon



**Confirm to create**  
a shared folder



**Add shared folder**

Workspace: User1\_WS-backup

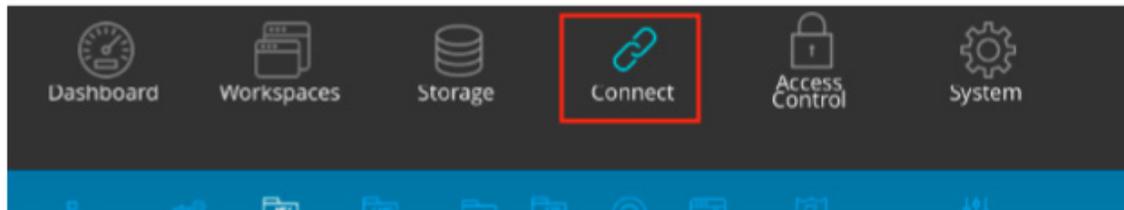
Path: User1\_WS/  
The path of the folder to share. The specified folder will be created if it does not already exist.

Permissions: Administrator: read/write, Users: read/write,   
The file mode of the shared folder path.

Comment:

Save Reset Cancel

Go to **Connect** and enable a protocol for your “snapshot”



Connect to the “snapshot” from the chosen protocol



User will now have access to the data from the snapshot.

## Links and references

[https://en.wikipedia.org/wiki/Snapshot\\_\(computer\\_storage\)](https://en.wikipedia.org/wiki/Snapshot_(computer_storage))

**About G-RACK12**

The G-RACK 12 Network-Attached Storage (NAS) delivers the ultimate in high-performance, centralized storage for small-to-medium size post-production houses, ad agencies, TV/broadcast studios and in-house creative departments that use Avid Media Composer, Final Cut Pro X, or Adobe Premiere.

The G-RACK 12 brings G-Technology's industry-leading reliability, scalability and studio-friendly technology to shared storage. Streamline demanding media and entertainment workflows of 4K and above with:

- A flexible 12-Bay server in 48TB to 120TB capacities;
- An optional 48TB to 120TB Expansion Module;
- Seamless integration with your data network and non-linear editing (NLE) suites; and
- The latest Btrfs file system for better data protection and faster content recovery.

**Key Features:**

- Enterprise-grade Network-Attached Storage (NAS)
- Seamless integration with top non-linear editing suites
- Internet Small Computer System Interface (iSCSI) support for simple shared storage management over data networks
- G-Technology NAS operating system with easy-to-use workstation interface and setup Wizard
- Advanced B-tree file system (Btrfs) for superior data protection
- Scalable 12-bay server with 48, 72, 96, 120TB capacities
- Expandable to 240TB capacity with optional 120TB Expansion Module
- Up to (TBD) MB/s transfer rates
- Ultra-reliable premium quality G-Technology hard disk drives
- Outstanding 5-Year limited warranty

**Safety Notice**

Please read and observe the following precautions to assure personal safety. Improper use can result in hazardous situations.

1. The G-RACK 12 operates normally in the temperature range of 0°C–50°C and relative humidity of 8%–90%. Please make sure the environment is well ventilated.
2. The power cord and devices connected to the G-RACK 12 must provide correct supply voltage (100W, 90–264V). If unsure, please contact the distributor or the local power supply company.
3. Do NOT place the G-RACK 12 in direct sunlight or near chemicals.
4. Unplug the power cord and all the connected cables before cleaning. Wipe the G-RACK 12 with a dry towel. Do NOT use chemical or aerosol to clean the G-RACK 12.
5. Do NOT place any objects on the G-RACK 12 during normal system operations to avoid overheat.
6. Use the flat head screws in the product package to lock the hard disk drives in the G-RACK 12 when installing the hard drives for proper operation.
7. Do NOT place the G-RACK 12 on any uneven surface to avoid falling off and damage.
8. Do NOT expose the G-RACK 12 to dampness, dust, corrosive or any liquids.
9. Do NOT attempt to repair the G-RACK 12 in any occasions. Improper dissemblance of the product may expose you to electric shock or other risks. For any inquiries, please contact the distributor.
10. Do NOT use the G-RACK 12 near water, for example, in a wet basement or near a swimming pool.
11. Do NOT place any object on the power cord. Do NOT locate the G-RACK 12 where it can be stepped on or tripped over.
12. Do NOT install, use, or service the G-RACK 12 during a thunder storm. There is a remote risk of electric shock from lightning.
13. If an extension cord is used with the G-RACK12, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
14. Do NOT drop the G-RACK 12.
15. Do NOT use the G-RACK 12 outside, and make sure all the connections are indoors.
16. Never push objects of any kind into the G-RACK 12 through the chassis slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
17. ONLY qualified service personnel should service or disassemble the G-RACK 12.
18. If the power adapter or cord is damaged, remove it from the power outlet. Do NOT attempt to repair the power adapter or cord. Contact your local vendor to order a new one.