

Requirements

In order to run this backup procedure, the following requirements must be met:

- You must have installed at least one *Host* with flexVDI and a flexVDI Manager instance. The installation and configuration process is out the scope of this documentation, but you can find some information in the [Getting Started guide](#).
- In order to carry out security copies we have chosen Bacula software, as it provides flexibility and it is a free tool. Bacula presents a client-server architecture and provides backup copies in a Local Area Network. It offers a wide range of functions and features in order to copy and restore damaged or lost files. If you want to have additional information regarding the software and its configuration visit the www.bacula.org web page. During this guide we'll assume you know how to manage the software.
- Virtual machines created from the flexVDI Manager are located in a shared storage that is accessible from all the hosts of the virtualization environment. In this scenario, the backup procedure can be executed if we install a Bacula client in any *Host*.
- The backup will be stored in a different storage from the one where the virtual machine is running. You then need an additional host to manage the backups, whether it runs flexVDI or another Operating System.
- The volume where the virtual machines are located **must contain an OCFS2 file system**. This file system allows you to use the *reflink* command, that provides file snap-shot functionalities. You can find additional information about the instruction and the OCFS2 filesystem in the following link <http://www.oracle.com/us/technologies/linux/025995.htm>. You'll also find information regarding OCFS2 configuration in the [Clustering and shared storage guide](#).
- The reflink command can be installed in any flexVDI host:

```
yum install reflink
```

Creating a snapshot of the virtual machine image is mandatory. Without it, the backup cannot be performed without stopping (or at least pausing) the virtual machine. Otherwise, copies would end up corrupted. As an alternative to OCFS2, you can store the virtual machine images in an external volume, in a directory that resides in an LVM logical volume. LVM supports volume-wide snapshots, that can be used instead of using the reflink command, but the procedure is not explained in this guide.