



Hypervisor Best Practices

Bacula Systems Documentation

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While it is technically possible to backup multiple VMs in one Bacula hypervisor plugin backup job (VMware, Hyper-V, RHV, Proxmox, etc), this is not necessarily the best way to perform VM backups. It is strongly recommended that one backup Job is created for each VM being backed up for the following reasons:

- By default, if one of your VMs fails to backup in a “multi-VM” backup job, the main Bacula job will terminate “Backup OK – with warnings.” The JobStatus for jobs that terminate “Backup OK” and “Backup OK – with warnings” are not differentiated in the catalog. They are both ‘T’, so this means that you will have to carefully monitor your backup job logs in case some VM backups fail and pay attention to the JobErrors field in the job summaries.
- To address this issue, there is a plugin option called “abort_on_error” in each of the Bacula hypervisor plugins, which causes Bacula to immediately fail the job as soon as an error is detected while backing up a VM. However, if you use this option, and the backup of VM number 11 in a list of 50 VMs fails, then the whole job will be failed, and VMs 12-50 will not be backed up during that job’s run.
- A 1:1 configuration (one VM backed up per job) means that the “abort_on_error” option will make more sense to enable in each job so you will immediately know when a VM fails to backup since the Bacula job will terminate with a “Backup failed” message and ‘f’ in the catalog for the job.
- With a 1:1 VM/Job configuration, re-running a specific VM backup job is simple to do after the cause of the failure is investigated and fixed.
- In the example about the 50 VMs, without a 1:1 configuration, there is no way to re-run a backup of just the one VM that failed to backup.
- Additionally, with a 1:1 VM/Job configuration, job metrics will have more meaning because each VM will be one job, and you will know to expect a specific number of jobs each night with each job representing one VM.
- With a multi-VM per job configuration, each VM will be backed up “serially”, one at a time, disk by disk, VM by VM. A 1:1 configuration will allow several VM backups to be run concurrently which will reduce the overall time to perform the VM backups. Of course, you will need to pay close attention to SD and ESXi storage and networking resources, and adjust the number of concurrent jobs accordingly.
- For some hypervisors (VMware, Proxmox, etc) Bacula provides automation scripts (eg: scan_datacenter.pl for VMware). These scripts are designed so that they will create 1:1 VM/Job configurations. If you plan to make use of these automation scripts, it is a good idea to already be thinking this way, and having your hypervisor plugin backup configurations in a 1:1 configuration from the beginning.