Hyper-V Standard vs Rapid Recovery

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When it comes to Hyper-V backups, it may not be clear, at first, which kind to choose and how to configure them for your clients. This article attempts to give a useful summary of each Hyper-V backup set type, the differences between them, and how you can use each to meet your recovery point objective (RPO) and recovery time objective (RTO).

Hyper-V Backups Summary

Both Hyper-V Standard and Hyper-V Rapid Recovery backup sets provide you with image-style backups of Hyper-V virtual machines. This means all the data stored within those virtual machines will be included in the backup and will be available to restore from. As you may be able to deduce, the sizes of the Hyper-V backups are going to be at least the size of the virtual machine itself plus some amount of overhead for revisions. You will want to make sure you have plenty of space allocated for the place you end up storing Hyper-V backups.

Hyper-V backups are designed to work while the virtual machines they back up are running. Since they utilize Hyper-V snapshots to create application-consistent backups, you will also want to make sure your Hyper-V host has the resources to accommodate the presence of these snapshots during backup operation.

Both types of Hyper-V backups require the Backup Agent be installed on the Hyper-V host housing the virtual machines you plan to back up. Clustered hosts are not supported.

Hyper-V Standard vs. Hyper-V Rapid Recovery

The following table summarizes the differences between the two Hyper-V backup set types.

Feature	Hyper-V Standard	Hyper-V Rapid Recovery
Possible backup destination(s)	Online and/or Local	Local
Storage folder	Local Vault	Local Storage
Encrypted	Yes	No
Compressed	Yes	No
Revision type	Forward Incremental	Reverse Incremental

Restore time (order of magnitude)	Hours	Minutes
Object-level restores	No	Yes
Requires license	No	Yes (Hyper-V Host License)

The main advantages to Hyper-V Standard are off-siting of backups and data encryption for greater security. The advantages to Hyper-V Rapid Recovery are faster backup times since there is no encryption or compression performed, quicker restores due to the reverse incremental style, and object-level restore capability. Hyper-V Rapid Recovery also has the added benefit of using a Local Storage folder; each backup set has its own unique Local Storage folder for greater flexibility with choosing where to store those backups.

Another consideration to remember is that you aren't limited to using only Hyper-V Standard or Hyper-V Rapid Recovery on one host machine. You can use both to cover all bases. For example, you can run Hyper-V Rapid Recovery backups 2-5 times a day, Monday through Friday, for more granular RPOs, then have the Hyper-V Standard backups run on the weekends, off-siting a separate copy of the virtual machines for disaster-recovery purposes. If a Hyper-V Standard and a Hyper-V Rapid Recovery backup job overlap, this will cause one of the jobs to lag as an individual virtual machine cannot be worked on by both jobs simultaneously.

The following criteria may help you decide which backup set is needed for your specific goals.

	Hyper-V Standard	**Hyper-V Rapid Recovery**
I want to be able to back up my virtual machines multiple times a day.		✓
I want the protection of having off-site copies of my backups.	✓	
I want to be able to restore individual files instead of the entire virtual machine.		✓
If I lose any of these machines, I need them up and running in minutes.		✓
I need to have my backup data encrypted.	✓	

Figures

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