

# Self-Service Portal - What is application-aware processing

## Summary

Application-aware processing allows for transactionally consistent backups of virtual machines that run VSS-aware applications such as Microsoft Active Directory, Microsoft SQL Server, Microsoft SharePoint, Microsoft Exchange or Oracle.

Application-aware processing relies on Microsoft VSS to quiesce the applications running on the virtual machine. Microsoft VSS ensures that there are no unfinished database transactions or incomplete application files when the backup job runs. In order to utilize application-aware processing you must have the most up to date version of VMware Tools and the latest guest OS updates installed on the source VM.

## Requirements

The following is required when configuring Application-Aware processing:

- An administrative account.
  - This can be provided in the form of a domain account that is a local admin within the guest OS.
    - Entered in the format of **domain name\username** in the backup job settings.
  - This can be provided in the form of a local administrator account with the guest OS.
    - Entered in the format of **computer name\user name** in the backup job settings.
  - The account must also have the required permissions to truncate logs within the application.
- User Account Control must be disabled.
  - Edit the following registry key and set to 0.
    - HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System\EnableLUA
  - Immediately reboot the Guest OS.
    - If not done immediately, the settings will revert.
- No other VSS writers should be installed.
  - Run **vssadmin list writers** from an administrative command prompt.
    - If there are any additional listed from third-party software that are not needed, they should be removed.
- Have the latest VMware Tools installed.
- Have the latest guest OS updates installed.

## How Application-Aware Processing Works

1. The backup job triggers a runtime process to check if there are any applications installed and running on the source VM that utilize Microsoft VSS.
2. Information about the installed applications utilizing VSS is collected, this is required during a restore of the data.
3. The applications are prepared for VSS-aware restore.
  - a. The VSS-aware restore process is started after a VM is powered on once it is restored.
4. Microsoft VSS quiesces the application data for that specific point in time.
5. The backup requests a VSS snapshot on the source VM guest OS.
6. The backup triggers a VMware snapshot of the entire source VM.
7. Microsoft VSS resumes application data, releasing the Microsoft VSS snapshot within the guest OS.
8. The backup job continues as normal.
9. If the option to truncate logs has been enabled the backup job initiates this process once the backup job has completed backing up the disks of the source VM.