



**SDD and SDDPCM migration procedures
when migrating a Virtual IO Server from
version 1.X to version 2.X**

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1. Introduction

When you migrate the VIO Server (VIOS) from version 1.X to version 2.X, you must migrate the SDD or SDDPCM package.

For VIOS version 1.X, the SDD package is `devices.sdd.53.rte` and the SDDPCM package is `devices.sddpcm.53.rte`.

For VIOS version 2.X, the SDD package is `devices.sdd.61.rte` and the SDDPCM package is `devices.sddpcm.61.rte`.

2. Scope

These procedures apply if all the following statements are valid for your configuration:

- Migrating VIOS from version 1.X to version 2.X.
- SDD (1.6.2.0 or later) or SDDPCM (any version) is installed and configured on VIOS.
- Virtual target devices (VTD) are configured and backed with SDD or SDDPCM devices.

These procedures enable you to perform the following tasks:

- Preserve the mappings between the virtual target devices and the backing devices so you do not need to destroy and recreate the mappings.
- Keep the VIO Clients up during the VIOS migration if you have a dual VIOS and there are redundant paths to your VIO Clients. Your dual VIOS can be booting from internal disk or SAN boot disk.

3. Preparation before migration

Before you start the migration, back up your VIOS.

For information about VIOS backup and migration, see

<http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html>.

4. Migration procedures

Note: Contact Technical Support at 1-800-IBM-SERV if you are running these procedures and experience unexpected results.

4.1 Procedures for single or dual VIOS with internal boot or SAN boot with SDDPCM

Note: Contact Technical Support at 1-800-IBM-SERV for the latest

PCM2PCM_OS_SAN_*.tar tar file that contains the scripts used in this procedures.

1. If you have single VIOS, bring down your VIO Clients.
2. If you have a dual VIOS and there are redundant paths to your VIO Clients, you can keep the VIO Clients up during the migration. On each VIO Client, put all the paths to one of the VIOS that will be migrated to Define state. To do this, run **rmdev -l vscsi# -R**.

3. Perform the following steps on the VIOS for which the VIO Client's paths are in Defined state. Leave these paths in Defined state throughout these steps. Delay operations on VIO Client that runs `cfgmgr`, such as CEC Firmware update.
 - a. Back up your VIOS.
For information about VIOS backup procedures, see <http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html>.
 - b. Run `oem_setup_env` to become root.
 - c. Create the directory `/usr/sys/inst.images/Migrate_SDDPCM`.
 - d. Untar `PCM2PCM_OS_SAN_*.tar` into the `/usr/sys/inst.images/Migrate_SDDPCM` directory and change the permissions of the script files to allow execution.
 - e. Copy the SDDPCM files, `devices.sddpcm.61.rte`, for the new VIOS level into the same directory. If you want to migrate to a SDDPCM PTF level, copy both the base package, `devices.sddpcm.61.rte`, and the PTF package, `devices.sddpcm.61.*.bff`, for the new VIOS level into the same directory. If you also want to upgrade the SDDPCM Host Attachment, `devices.fcp.disk.ibm.mpio.rte`, copy a newer SDDPCM Host Attachment into the same directory.
 - f. Run `migratePCMBeforeOSmigrate.sh`. It will automatically:
 - i. Put all the virtual target devices in Defined state
 - ii. Unmount file systems and deactivate the volume groups that are created with SDDPCM devices.
 - iii. Remove all the SDDPCM devices.
 - iv. Stop the SDDPCM server.
 - v. Uninstall the SDDPCM for VIOS 1.X package, `devices.sddpcm.53.rte`.
 - vi. Install the newer SDDPCM Host Attachment package on the same directory.
 - vii. Install SDDPCM for the VIOS 2.X package, `devices.sddpcm.61.rte`.
Important: Do not reboot the VIOS.
 - g. After the script is successfully run, run `lslpp -l devices.sddpcm.61.rte` command to check if SDDPCM for the VIOS 2.X package, `devices.sddpcm.61.rte`, is successfully installed.
 - h. If your VIOS is booting from SAN disk, run `lsdev -Cc disk` to check if your SAN disk is now displayed as **MPIO Other FC SCSI Disk Drive**.
 - i. **Important:** Immediately migrate the VIOS from 1.X to 2.X.
For more information about VIOS migration procedures, see <http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html>.
 - j. After you migrate the VIOS, the VIOS is rebooted.
 - k. When your system comes back, make sure that all the virtual target devices are back in Available state. If logical volumes that were created with SDDPCM devices are used as backing devices and they are not set to auto-varied on, you can run `restorelvm.sh`. It will vary on the previously varied on volume groups and mount the previously mounted file systems. Then you can run `cfgmgr` to put all virtual target devices back in Available.
4. On your VIO Clients, put all the paths to the migrated VIOS to Available state with `cfgmgr -l vscsi#` or `cfgmgr`.
5. Repeat step 1 through step 3 for the other VIOS.

4.2 Procedures for single or dual VIOS with internal boot or SAN boot with SDD

Note: Contact Technical Support at 1-800-IBM-SERV for the latest **SDD2SDD_OS_SAN_*.tar** tar file that contains the scripts used in this procedures.

1. If you have single VIOS, bring down your VIO Clients.
2. If you have a dual VIOS and there are redundant paths to your VIO Clients, you can keep the VIO Clients up during the migration. On each VIO Client, put all the paths to one of the VIOS that will be migrated to Define state. To do this, run **rmdev -l vscsi# -R**.
3. Perform the following steps on the VIOS for which the VIO Client's paths are in Defined state. Leave these paths in Defined state throughout these steps. Delay operations on VIO Client that runs cfgmgr, such as CEC Firmware update.
 - a. Back up your VIOS.
For information about VIOS backup procedures, see <http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html>.
 - b. Run **oem_setup_env** to become root.
 - c. Create the directory **/usr/sys/inst.images/Migrate_SDD**
 - d. Untar **SDD2SDD_OS_SAN_*.tar** into the **/usr/sys/inst.images/Migrate_SDD** directory and change the permissions of the script files to allow execution.
 - e. Copy the SDD fileset, **devices.sdd.61.rte**, for the new VIOS level into the same directory. If you want to migrate to a SDD PTF level, copy both the base package, **devices.sdd.61.rte**, and the PTF package, **devices.sdd.61.*.bff**, for the new VIOS level into the same directory. If you also want to upgrade the SDD Host Attachment, **devices.fcp.disk.ibm.rte** or **ibm2105.rte**, copy a newer SDD Host Attachment into the same directory.
 - f. Run **migrateSDDbeforeOSmigrate.sh -f**
Attention: -f option will preserve all the SDD multipath devices' reserve_policy attribute value. If you have set any SDD multipath devices' reserve_policy to a non-default value (i.e. PR_exclusive) or if you are running a dual VIOS, you must use the -f option.
This script will automatically:
 - i. Uninstall the SDD for VIOS 1.X package, **devices.sdd.53.rte**.
 - ii. Install the newer SDD Host Attachment package on the same directory.
 - iii. Install SDD for the VIOS 2.X package, **devices.sdd.61.rte**.**Important:** Do not reboot the VIOS.
 - g. After the script is successfully run, run **lspp -l devices.sdd.61.rte** command to check if SDD for the VIOS 2.X package, **devices.sdd.61.rte**, is successfully installed.
 - h. **Important:** Immediately migrate the VIOS from 1.X to 2.X.
For more information about VIOS migration procedures, see <http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/home.html>.
 - i. After you migrate the VIOS, the VIOS is rebooted.
 - j. When your system comes back, make sure that all the virtual target devices are back in Available state. If logical volumes that were created with SDD devices are used as backing devices, you must activate the volume group with **varyonvg**

<vgname>. Then you can run **cfgmgr** to put all virtual target devices back in Available.

4. On your VIO Clients, put all the paths to the migrated VIOS to Available state with **cfgmgr -l vscsi#** or **cfgmgr**.
5. Repeat step 1 through step 3 for the other VIOS.

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