Taking Physical Storage Arrays In-Band

This doc includes:

Note: *Remember to procure any approvals needed for the migration tasks, as there will be an outage to the applications.*

Configuring the Actifio CDS Cluster to Use the Hosts and Storage

Before the migration:

1. Add the CDS cluster to a zone that includes the storage array: Zone all four ports on both CDS nodes to a port on each controller your storage array. This will allow Actifio CDS to see the LUNs on the storage array when they are presented.
   - If this is a gateway, this may already be done if you have only one array. If you have more than one array, then the other arrays will have to be zoned and configured.
   - If this is not a gateway, then plug four ports into the customer switch and begin zoning and configuration.

2. Add the CDS cluster to a zone that includes the host physical servers. Zone all four ports on both CDS nodes to the switches for your host servers. This will allow Actifio CDS to present LUNs to the host servers once they are de-presented from the storage array and presented to Actifio CDS.

3. Install the Actifio Connector on the physical servers. This will allow Actifio CDS to communicate with the connector and instruct it to quiesce the data so we can take snapshots of the storage on the backend.

4. Configure each host in Actifio Desktop Domain Manager along with the correct WWPNs and validate. This is not intrusive in any way.

Ensuring Multipathing

If the storage array will be used only through Actifio CDS, then multipathing software is not needed. If the storage will be used outside of Actifio CDS as well, then the multipathing software must be one of the supported multipathing solutions on the IBM Multipathing support matrix.

Supported Multipathing Software for Each Supported OS

Operating System	Supported Multipathing Software
Windows SDDDSM	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#WindowsSDDDSM
Linux SDD	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#LinuxSDD
Linux DM-Multipath	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#LinuxDM
Solaris SDD	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#SolarisSDD
HP-UX SDD	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#HPSDD
AIX SDD	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#AIXSDD
AIX SDDPCM	http://www-01.ibm.com/support/docview.wss?uid=ssg1S7001350#AIXSDDPCM

PowerPath Environments

EMC PowerPath is not supported in the Actifio CDS environment. If your array leverages the native Microsoft MPIO framework, then you can simply install the IBM SDDDSM software on the nodes in question.

If the storage array uses PowerPath, then PowerPath must be uninstalled in order to continue.

Shutting Down PowerPath

If the hosts are using PowerPath, then:

1. Shut down the applications.
2. Unpresent the LUNs from the customer array.
3. Uninstall PowerPath.
4. Reboot (if needed).
5. Install the IBM SDDDSM.

Note: Removing PowerPath in an AIX environment that is booting from a SAN is tricky. Work needs to get done at the SMS layer to remove it (Bossboots and bootlist, etc. as well as some EMC commands).

Veritas DMP 5.1

Veritas DMP 5.1 for Solaris includes a vendor specific string in the SCSI identifiers that the DMP code reads, and fails to recognize the system as an SVC if this field says "actifio". DMP 6.0 and later releases do not have this problem.

Taking the LUNs In-Band

Shutting Down PowerPath

If the hosts you're migrating are utilizing PowerPath, then before doing anything else, see PowerPath Environments on page 2.

Shut Down the Hosts and Present their LUNs to Actifio CDS

1. Shut down the hosts we're trying to protect. If this is a cluster, you will need to shut down all the nodes in the cluster, whether Active/Active or Active/Passive.

2. Unpresent the physical hosts LUNs from the storage array. Record the LUN IDs. In order to go in-band, Actifio needs to see the LUNs and present them to the hosts.

3. Present the LUNs to the Actifio nodes on the storage array. At this point, Actifio is the initiator that's allowed to write to the LUNs on the customer array as far as the customer array is concerned.

Present the LUNs from Actifio CDS to the Hosts

Present the LUNs as image-mode VDisks to the hosts from Actifio CDS. Depending on which node is the preferred node for particular resources, create a VDisk and map those LUNs to the appropriate host in Actifio CDS using the original LUN IDs (for consistency)

Power Up the Hosts and Validate

Do this with one host at a time as opposed to multiple nodes so you will have less to roll-back and less to clean up.

Rollback

If rollback is necessary:

1. Shut down the physical hosts so we don't have any consistency issues.

2. Unmap LUNs from physical hosts through the Actifio Desktop so that they can be mounted again from the storage array directly.

3. Unpresent LUNs from Actifio nodes from the storage array so we can re-present the LUNs to the physical nodes.

4. Present the LUNs to the Physical hosts through storage array, noting the old LUN IDs and matching them up.

5. Start up SharePoint hosts. Validate that the SharePoint hosts see the LUN and mount it up and start up services and validate.