

MPIO support in LINUX.

This document is for multipath configuration within Linux.

- (a) Patch file for multipath-tools now only available for below table version, before you setup your environment, please make sure patch files already **copy to your multipath library.**
(libpriopromise_alua.so, libcheckpromise_tur.so).

Patch file fix:

- (1) Change SLES11sp1 tur command timeout value (300 seconds -> async_timeout value).
- (2) Change inquiry and rtg commands timeout value (300 seconds -> disk timeout value).

BZ#[737072](#)

https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/5/html/5.8_Technical_Notes/device-mapper-multipath.html

On 32bit, multipath library is in (/lib/multipath/)

On 64bit, library is in (/lib64/multipath/)

- (b) **SLES11SP1 32bit/64bit ALUA module patch rpm only need to install if your kernel version is older than 2.6.32.27-0.2.2**
- (c) **SLES11SP3 32bit/64bit ALUA feature need upgrade your kernel to the latest version or use specific version, the related bug below:**

Kernel 3.0.76 bug : scsi_dh_alua: multipath failover fails with error 15 (bnc#825696).

Kernel 3.0.93 bug : scsi_dh_alua: reattaching device handler fails with "Error 15" (bnc#843429).

Kernel 3.0.101.15 bug : scsi_dh_alua: fixup RTPG retry delay miscalculation (bnc#854025).

➔ **This Bug will lead host retry command after 5000 seconds!**

- (d) After reboot subsystem (entire) or client, you must to re-construction multipath mapping table before you use VTrakFS.

Please re-construction multipath mapping table to make sure callout library could work before you want to use, please follow below step to construct:

1. Un-mount all VTrakFS.
2. Execute "service multipathd stop"
3. Execute "multipath -F" to flush mapping table.
4. Execute "multipath" to re-construction multipath mapping table.
5. Execute "service multipathd start"
6. Execute "multipath -ll" to make sure paths per LUN you expect.
7. Mount all VTrakFS.

MPIO support List: (Support Should Depend on Your Product Capability List)

folder	ALUA	Normal	Multipath-tools and Kernel version	Resources
RHEL5.10 32 bit	OK	OK	device-mapper-multipath-0.4.7-59 or above	multipath.conf.fc multipath.conf.iscsi
RHEL5.10 64 bit	OK	OK	device-mapper-multipath-0.4.7-59 or above	multipath.conf.fc multipath.conf.iscsi
RHEL5.10 32 bit	OK	OK	device-mapper-multipath-0.4.7-63 or above	multipath.conf.fc multipath.conf.iscsi
RHEL5.10 64 bit	OK	OK	device-mapper-multipath-0.4.7-63 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.2 32 bit	OK	OK	device-mapper-multipath-0.4.9-46 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.2 64 bit	OK	OK	device-mapper-multipath-0.4.9-46 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.3 64 bit	OK	OK	device-mapper-multipath-0.4.9-56 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.4 32 bit	OK	OK	device-mapper-multipath-0.4.9-64 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.4 64 bit	OK	OK	device-mapper-multipath-0.4.9-64 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.5 32 bit	OK	OK	device-mapper-multipath-0.4.9-72 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.5 64 bit	OK	OK	device-mapper-multipath-0.4.9-72 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so
RHEL6.6 32 bit	OK	OK	device-mapper-multipath-0.4.9-80 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.6 64 bit	OK	OK	device-mapper-multipath-0.4.9-80 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.7 32 bit	OK	OK	device-mapper-multipath-0.4.9-87 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.7 64 bit	OK	OK	device-mapper-multipath-0.4.9-87 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.8 32 bit	OK	OK	device-mapper-multipath-0.4.9-56 or above	multipath.conf.fc multipath.conf.iscsi
RHEL6.8 64 bit	OK	OK	device-mapper-multipath-0.4.9-56 or above	multipath.conf.fc multipath.conf.iscsi
RHEL7.0 32 bit	OK	OK	device-mapper-multipath-0.4.9-66 or above	multipath.conf.fc multipath.conf.iscsi

RHEL7.0 64 bit	OK	OK	device-mapper-multipath-0.4.9-66 or above	multipath.conf.fc multipath.conf.iscsi
RHEL7.2 32 bit	OK	OK	device-mapper-multipath-0.4.9-85 or above	multipath.conf.fc multipath.conf.iscsi
RHEL7.2 64 bit	OK	OK	device-mapper-multipath-0.4.9-85 or above	multipath.conf.fc multipath.conf.iscsi
SLES11SP1 32 bit	OK	OK	multipath-tools-0.4.8-40.21 or above <i>*Linux Kernel: 2.6.32.27-0.2.2 or newer.</i>	multipath.conf.fc multipath.conf.iscsi libcheckpromise_tur.so libpriopromise_alua.so scsi_dh_alua_sles11sp1-2-1.i386.rpm
SLES11SP1 64 bit	OK	OK	multipath-tools-0.4.8-40.21 or above <i>*Linux Kernel: 2.6.32.27-0.2.2 or newer.</i>	multipath.conf.fc multipath.conf.iscsi libcheckpromise_tur.so libpriopromise_alua.so scsi_dh_alua_sles11sp1-2-1.x86_64.rpm
SLES11SP2 32 bit	OK	OK	multipath-tools-0.4.9-0.68 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so multipath-tools-0.4.9-0.68.1.i386.rpm
SLES11SP2 64 bit	OK	OK	multipath-tools-0.4.9-0.68.1 or above	multipath.conf.fc multipath.conf.iscsi libpriopromise_alua.so multipath-tools-0.4.9-0.68.1.x86_64.rpm
SLES11SP3 64 bit	<i>*OK</i>	OK	multipath-tools-0.4.9-0.83 or above <i>*Linux Kernel: 3.0.101-0.8 or newer (Exclude 3.0.101-0.15)</i>	multipath.conf.fc multipath.conf.iscsi
SLES11SP3 64 bit	<i>*OK</i>	OK	multipath-tools-0.4.9-0.83 or above <i>*Linux Kernel: 3.0.101-0.8 or newer (Exclude 3.0.101-0.15)</i>	multipath.conf.fc multipath.conf.iscsi
SLES11SP4 32 bit	OK	OK	multipath-tools-0.4.9-109.1 or above	multipath.conf.fc multipath.conf.iscsi
SLES11SP4 64 bit	OK	OK	multipath-tools-0.4.9-109.1 or above	multipath.conf.fc multipath.conf.iscsi
SLES12SP1 32 bit	OK	OK	multipath-tools-0.5.0-0.46 or above	multipath.conf.fc multipath.conf.iscsi
SLES12SP1 64 bit	OK	OK	multipath-tools-0.5.0-0.46 or above	multipath.conf.fc multipath.conf.iscsi

**must requirement.*