

Vmdkbp(C++) Updates

July 21, 2010

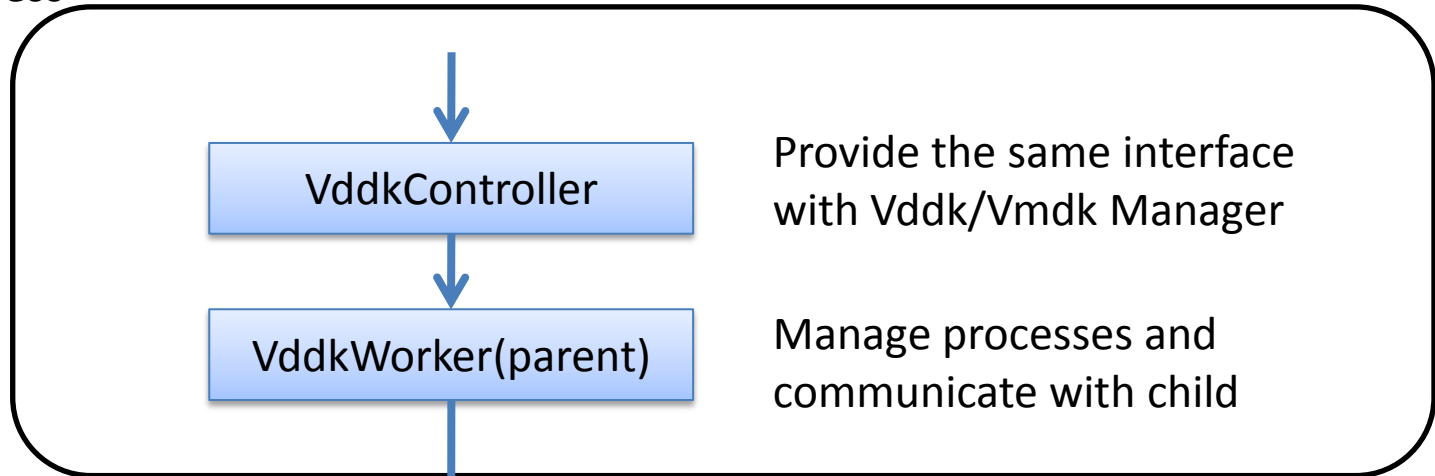
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Changes

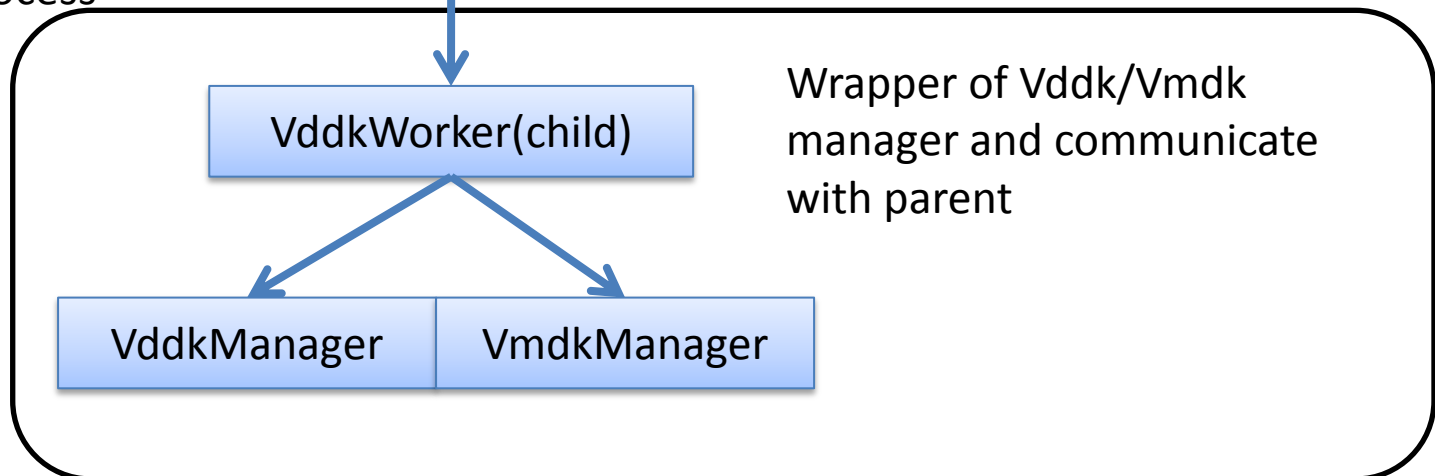
- VDDK Control with Fork
 - Solves the problem that VDDK re-initialization for SAN transfer due to SCSI reservation conflict error inevitably fails and falls back to NBD transfer.
- Multi-threaded Archive Manager
 - Improves performance with gzipped multi-stream dump/restore/check/merge operations
- Restore with MultiArchiveManager/SAN
 - Improve performance with threaded-multi-stream control
 - Improve performance via SAN but there is still allocation problem

VDDK Control with Fork

Main process



Forked process



Multi-threaded Archive Manager

Archive Managers

Interface of archive accesses
specialized for each command

Archive IO Managers

Multi-threaded/Single-threaded
stream access for each archive file

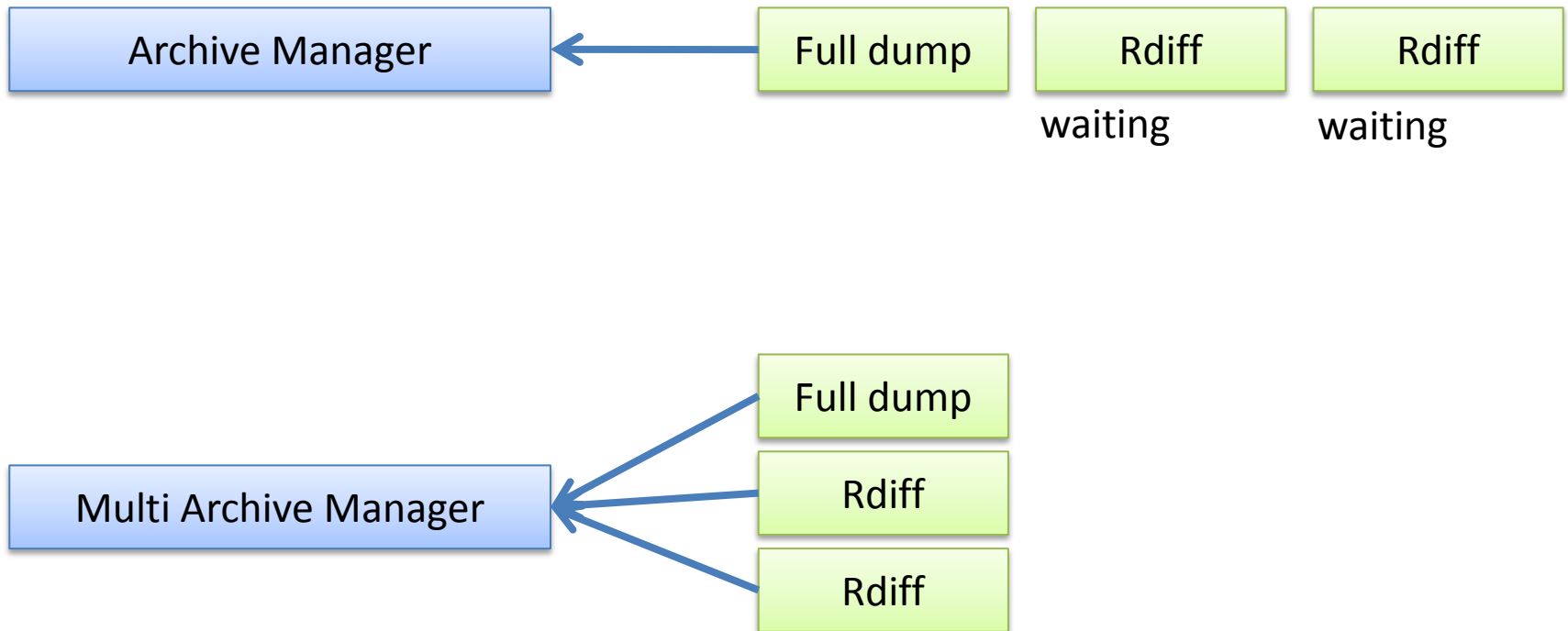
DataReader, DataWriter

Worker thread and its controller for
Gzip compression/decompression

Queue

Thread-safe FIFO

Restore with MultiArchiveManager



Restore with SAN

- Problem in restore with SAN
 - Failed auto-allocation for thin vmdk
 - Auto-allocation is too slow for thick vmdk
 - There is no efficient allocation method.
- If zero-block restore with NBD is faster, use it as allocation method
 - ➔ not fast...

Remaining Task

- Code review and its feedback
- Test-run (remaining two update backups)
- Preparing normal operation
- Publish source code as GPL