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PROFESSIONAL SERVICES TECH NOTE #033

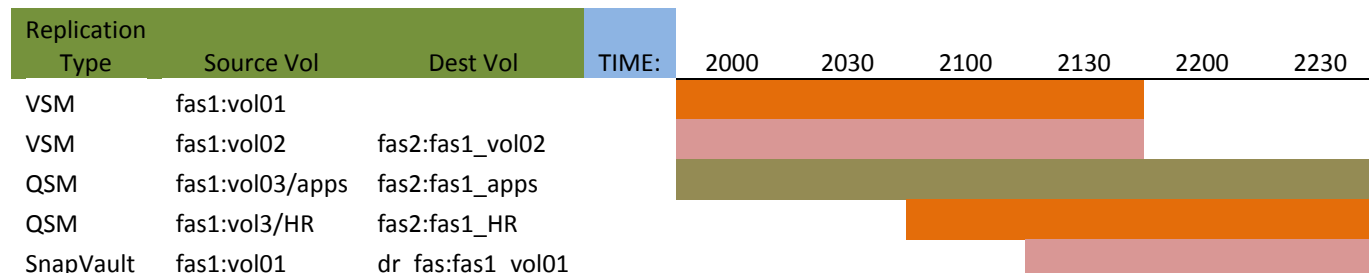
Replication Deconfliction

The Concept

Data ONTAP can replicate data internally or to other NetApp systems using Volcopy, Volume SnapMirror, Synchronous SnapMirror, Qtree SnapMirror and SnapVault. Every NetApp model has a limited number of replication streams it can process simultaneously (a NearStore license increases the limit). When this limit is reached, additional replication sessions are queued up. Unfortunately, there is no easy way to identify when too many replication streams overlap. Often the only clue is an error message stating a session has failed. One solution is to graph a timeline of the start time of each replication session and the average time it takes to complete. By scanning down the columns you count how many sessions overlap and ensure the number is lower than your systems' limits. You can then use this graph to find time slots for future replication sessions.

Examples

This chart indicates a session conflict (>4 sessions) from 9:30 - 10 PM on a FAS270 running Data ONTAP 7.2.6.1:



What It Means To You

The first step of deconfliction is to prioritize replication sessions. Volumes and qtrees with application data often have limited windows when the data is quiesced, so give them priority to time slots (SnapManager uses snapshots to reduce application downtime. The snapshot data can then be replicated at a later time). The next step is to balance the increased workload and disk I/O of a replication session with the activity of the source data. Finally, you may have to deconflict replication sessions with network traffic on the intranet and WAN (lunch time is probably not a good time to SnapVault to your DR site when everyone is surfing the web). Data ONTAP includes some basic replication throttling options, but network congestion is best managed with Quality Of Service (QoS) settings and WAN accelerator products.

More Information

See chapter 4 of the Data Protection Online Backup and Recovery Guide for simultaneous streams limits.
<http://now.netapp.com/NOW/knowledge/docs/ontap/rel7261/html/ontap/onlinebk/4mirror3.htm>

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