Details about the Microsoft DSM in Windows Server 2012

The Microsoft device-specific module (DSM) provided as part of the complete solution in Windows Server 2012 includes support for the following policy settings:

- **Failover Only** Policy setting that does not perform load balancing. This policy setting uses a single active path, and the rest of the paths are standby paths. The active path is used for sending all I/O. If the active path fails, one of the standby paths is used. When the path that failed is reactivated or reconnected, the standby path can optionally return to standby if failback is turned on. For more information about how to configure MPIO path automatic failback, see the section later in this document titled, "Configure the MPIO Failback Policy."
- **Round Robin** Load-balancing policy setting that allows the DSM to use all available paths for MPIO in a balanced way. This is the default policy that is chosen when the storage controller follows the active-active model and the management application does not specifically choose a load-balancing policy setting.
- **Round Robin with Subset** Load-balancing policy setting that allows the application to specify a set of paths to be used in a round robin fashion, and with a set of standby paths. The DSM uses paths from active paths for processing requests as long as at least one of the paths is available. The DSM uses a standby path only when all of the active paths fail. For example, given 4 paths: A, B, C, and D, paths A, B, and C are listed as active paths and D is the standby path. The DSM chooses a path from A, B, and C in round robin fashion as long as at least one of them is available. If all three paths fail, the DSM uses D, the standby path. If paths A, B, or C become available, the DSM stops using path D and switches to the available paths among A, B, and C.
- **Least Queue Depth** Load-balancing policy setting that sends I/O down the path with the fewest currently outstanding I/O requests. For example, consider that there is one I/O that is sent to LUN 1 on Path 1, and the other I/O is sent to LUN 2 on Path 1. The cumulative outstanding I/O on Path 1 is 2, and on Path 2, it is 0. Therefore, the next I/O for either LUN will process on Path 2.
- **Weighted Paths** Load-balancing policy setting that assigns a weight to each path. The weight indicates the relative priority of a given path. The larger the number, the lower ranked the priority. The DSM chooses the least-weighted path from among the available paths.
- **Least Blocks** Load-balancing policy setting that sends I/O down the path with the least number of data blocks currently being processed. For example, consider that there are two I/O(s): one is 10 bytes and the other is 20 bytes. Both are in process on Path 1, and there are no outstanding I/Os on Path 2. The cumulative outstanding amount of I/O on Path 1 is 30 bytes. On Path 2, it is 0. Therefore, the next I/O will process on Path 2.

How to set up MPIO Policy?

To check your current policy

```
Get-MSDSMGlobalDefaultLoadBalancePolicy
```

To change your policy

```
Set-MSDSMGlobalDefaultLoadBalancePolicy LB
```