



PROFESSIONAL SERVICES TECH NOTE #017

RAID reconstruction speed

The Concept

When a disk drive fails, Data ONTAP reconstructs the data on a hot spare disk. This process consumes CPU resources and may impact overall system I/O. The default speed setting of 'medium' can be raised or lowered to alter the performance hit of reconstructions. Data ONTAP 7 introduced Rapid RAID Recovery which copies good blocks from a failed drive before recreating blocks from parity. This has significantly sped up reconstruction times and reduced overall system impact, but is also throttled with this option.

Examples

```
fas1> options raid.reconstruct.perf_impact [high | medium | low]
```

Note: This is a system wide setting. Changing the setting does **NOT** affect a currently running reconstruction so be sure to change this option before a drive fails.

What It Means To You

If you have critical data on your system then reconstructing failed disks may have a higher priority than performance. On systems where data is less important than responsiveness this impact can be decreased. Data ONTAP 7.1 and newer releases provide further enhancements through Maintenance Center which pre-fails drives before a catastrophic failure forces reconstruction from parity.

More Information

See the Data ONTAP System Management Guide for more information:

http://now.netapp.com/NOW/knowledge/docs/ontap/rel7261/html/ontap/smg/provisioning/task/t_oc_prov_raid-speed-reconstr.html

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Send comments, corrections & suggestion to Michael Cope at mcope@netapp.com