



Optimizing VM Performance

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Recommended UCS Settings

On UCS servers with RAID configured, for improved performance, it is recommended to set the Requested Write Cache Policy on the RAID controller as **Write Back** instead of **Write Through** (the default setting). The downside of using the Write Back option is that you may lose some data if a system failure occurs before the data in the cache is written to disk. Therefore, we recommend to set the Requested Write Cache Policy on the RAID controller to **Write Back Good BBU**. In this mode, the controller enables Write Back caching when the Battery Backup Unit (BBU) is installed and charged. It provides a good balance between data protection and performance.

NUMA Optimization

If you do not configure the virtual CPUs correctly, you may run into Non-Uniform Memory Access (NUMA) performance issues. To avoid this issue, do not configure a virtual machine from using more virtual CPUs than a single NUMA node. Otherwise, it will be scheduled across multiple NUMA nodes causing memory access degradation. Generally, this means to assign no more virtual CPUs to a virtual machine than the total number of physical cores of a single CPU socket.

Hyperthreading Considerations

When using hyperthreading virtual CPUs, note that the general CPUs utilization is 30% not 100% as threading allows for other work to be done when the main thread is stalled waiting for something. The exact numbers may be different as it depends on the workloads.

