

Optimizing SQL Server Performance in a Virtual Environment

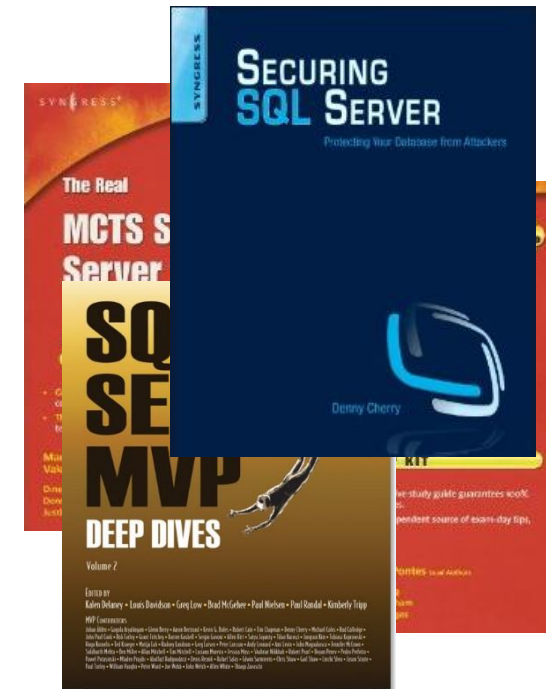
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About Me

- Denny Cherry & Associates Consulting
- 6 books
- Dozens of articles
- Microsoft MVP
- Microsoft Certified Master
- VMware vExpert



SQL Server 2008



Topics of Discussion

Diagnosing Performance Problems

Balloon Memory Drivers

Memory Deduplication Options

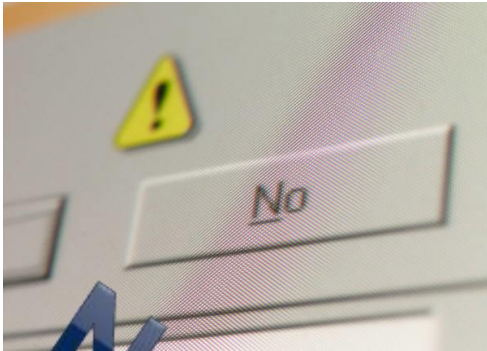
Storage Configuration Options



Tuning Differences in T-SQL

Nothing

NOPE



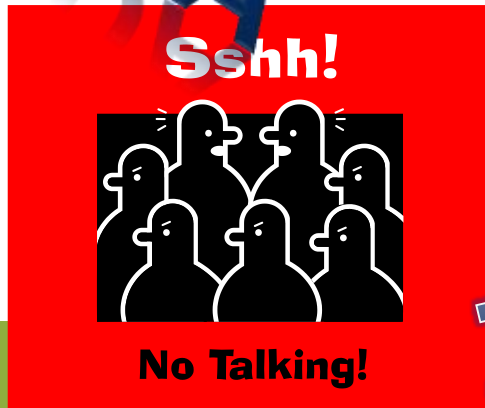
Nope



Never

WADA

It's all the same!



WSTĘP
WZBRONIONY!

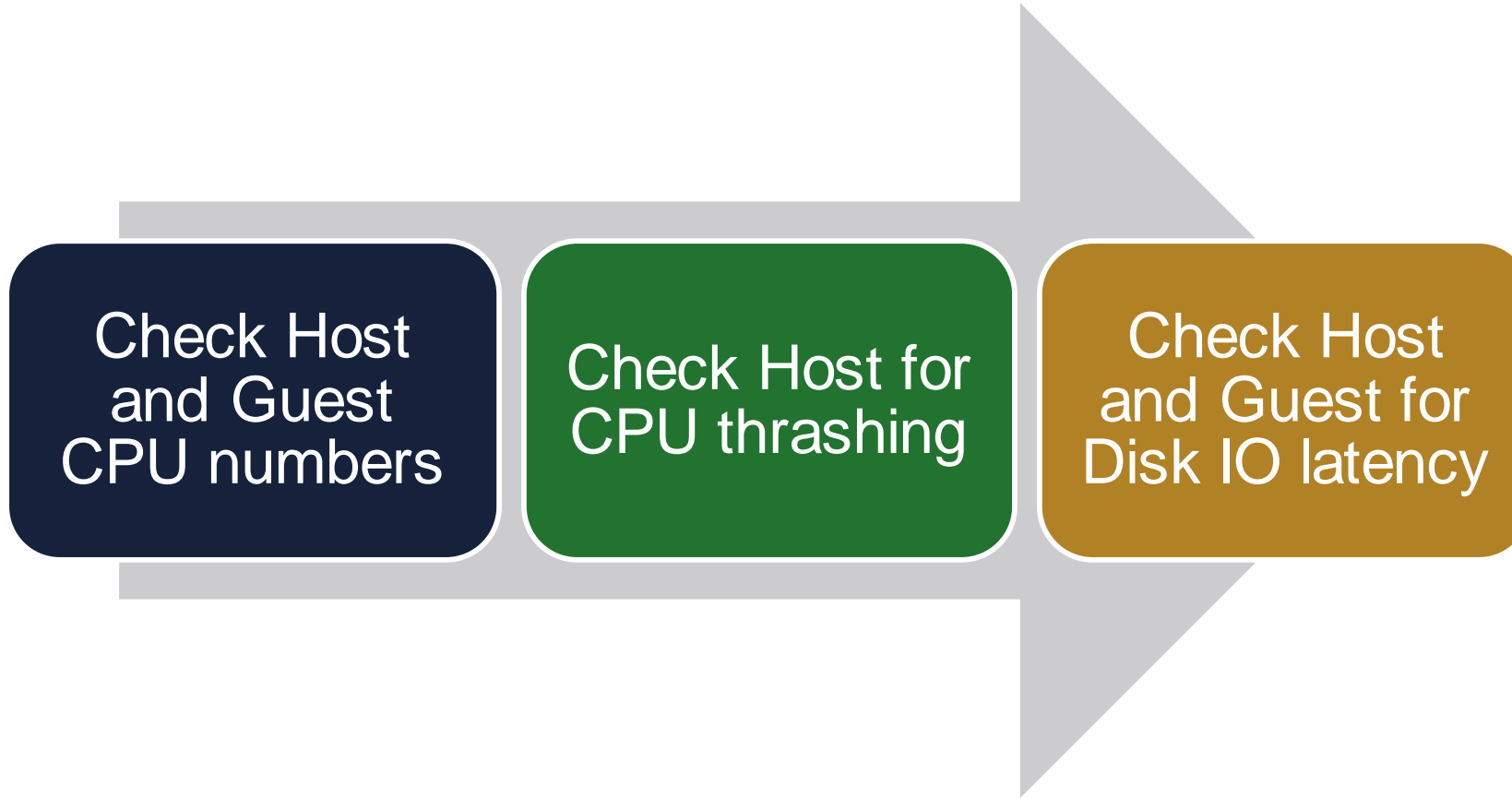
Zero

Zip

DC & AC



Diagnosing Performance Problems



Balloon Memory Drivers

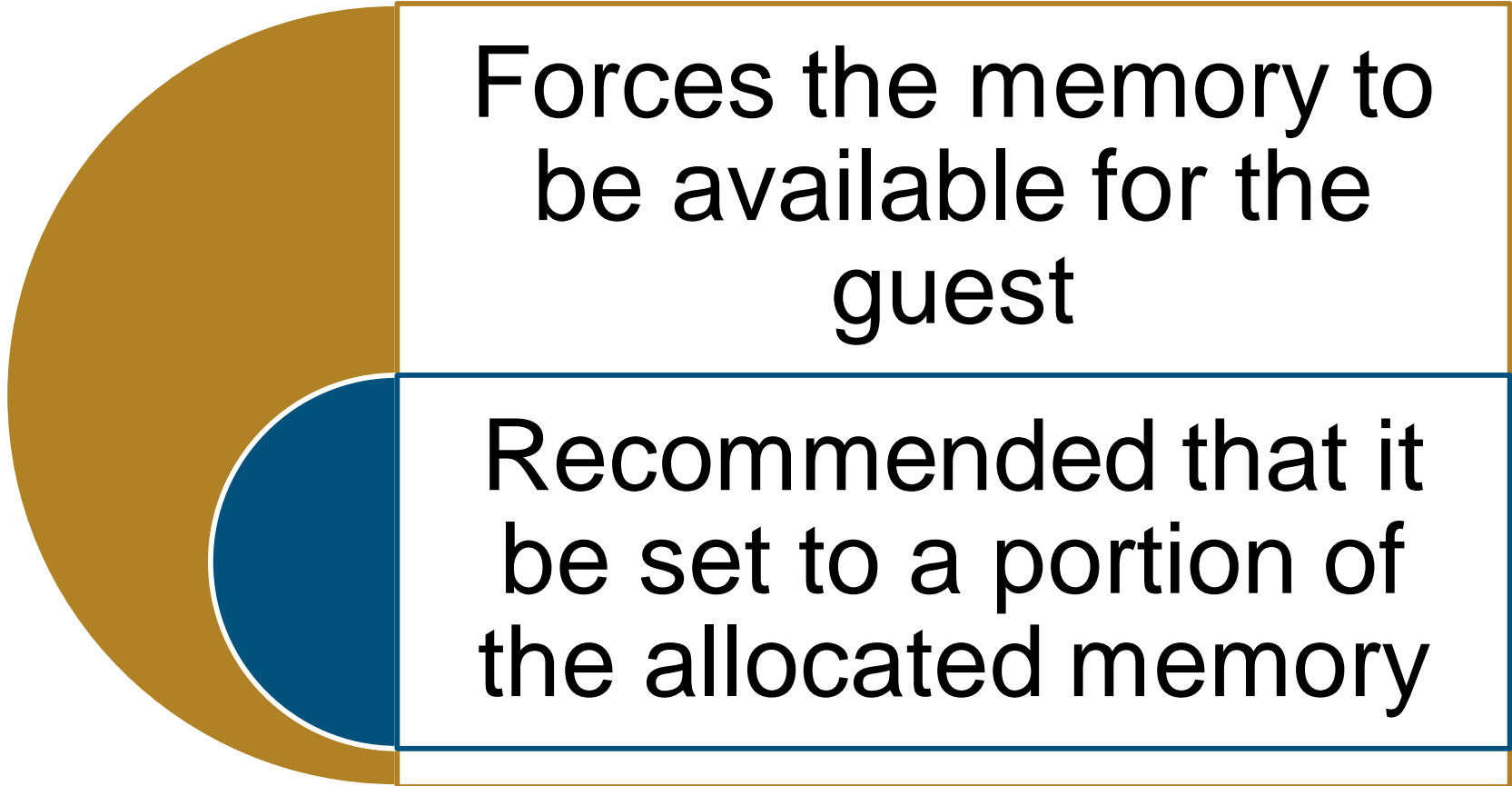
Used by host OS to request memory back from the guest OS

Prevents host of from paging physical memory to the hosts swap file

Should be enabled

Lock pages in memory should be disabled, unless enabled for a specific reason

Memory Reservations - VMware



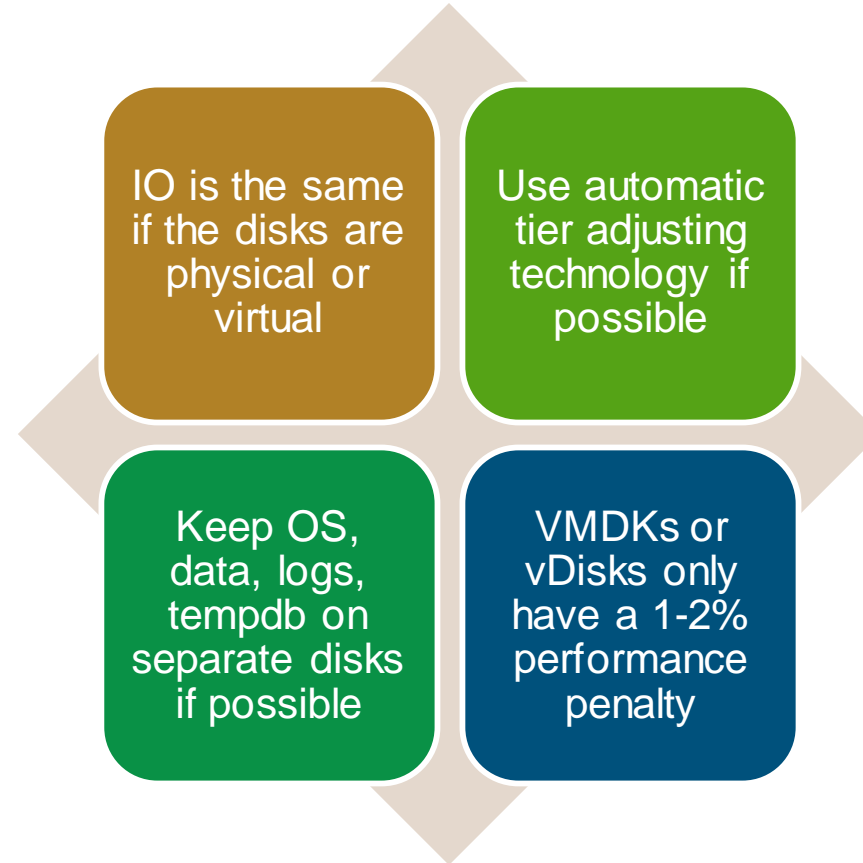
Memory Deduplication Options

Great for OS
memory

Doesn't work
at all for SQL
Server

- Unless... multiple SQL Servers have the same pages in cache

Storage Configuration Options



Storage Deduplication

Can greatly improve overall performance

By deduplicating OS virtual disks, we save much less data to the array

As less data is written to the array, less OS data is loaded into cache on the array

Can increase risk of corruption



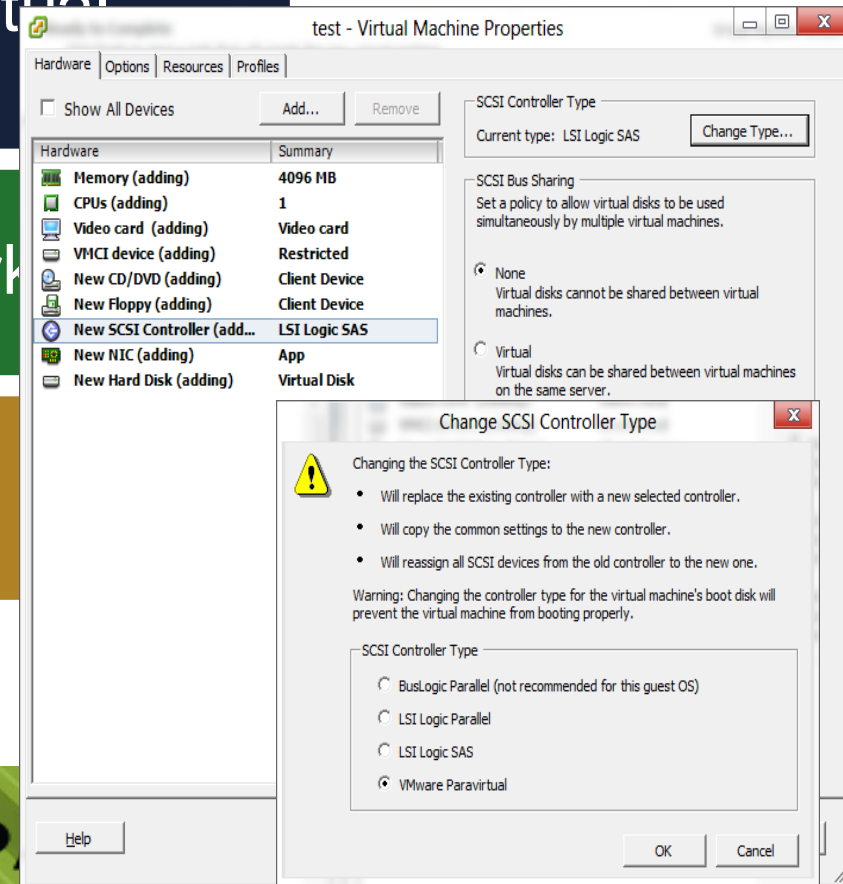
VMware Paravirtualization Driver

Optional Driver for vSphere Virtual Machines

Recommended for high IO workloads

Configured via VM Properties

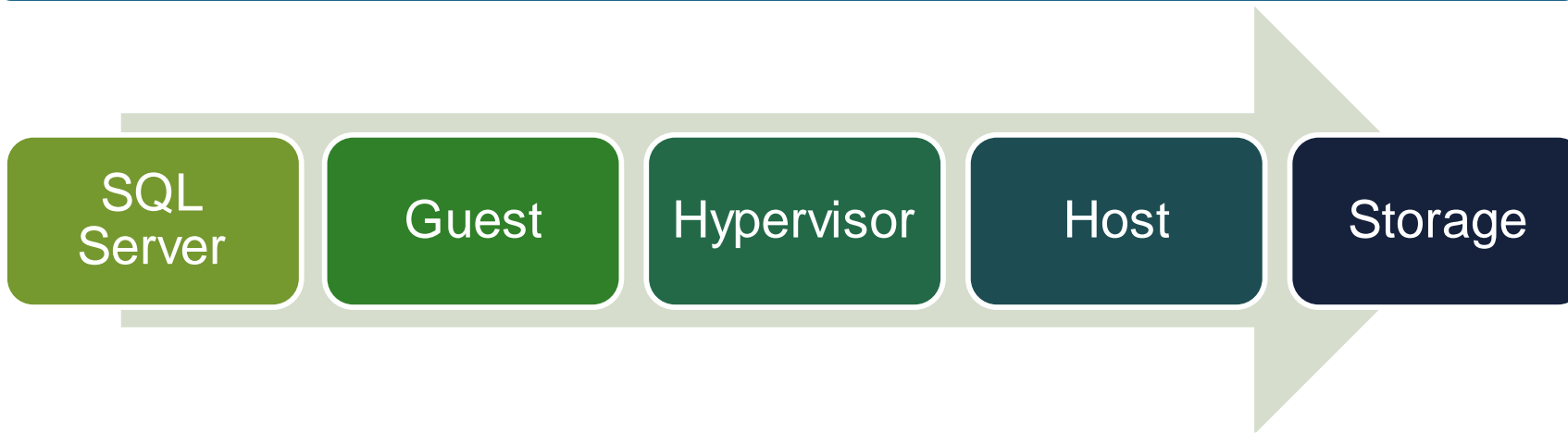
- Select SCSI Controller
- Change Type



Monitor, Monitor, Monitor

Did I mention that you need to monitor

Watch all levels of the environment



Correlate Numbers Together

Some Perfmon Counters to Monitor

Reads & Writes / Sec

Seconds / Read & Write

Disk Queue

Page Life Expectancy

System Processor Queue

VM Disk (VMware)

VM Memory (VMware)



Please evaluate this session



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