

We do not recommend:

- 1 SANs depending on setup.
- 2 Slow Disks 10K
- 3 RAID 5/6 (Especially with Netflow)
- 4 SQL Servers on Virtual Machines
- 5 SQL Server Installed on Same Server as Orion with NETFLOW.

I suggest for High I/O Database like Orion the following”:

RAID 0+1 or RAID 10 with Fast 15K Disks.

I recommend: RAID 1 with Mirroring may be better option.

Raid 1 (Mirror)

36G disk OS

36G disk OS

Raid 1 (Mirror) – 1 Logical Partition 70GB?

146G Data

146G Data

This way your OS and SQL etc are all mirrored.

Also good practise, is putting PageFile on 2 x disk for pagefile and Backups if needed (Raid 1).

So if you have 8GB RAM, Then separate disk $1.5 * RAM = 12GB$,

plus bit extra, 15-20GB for this Disk.

Recommended type of structure for written to a Write Intensive DB like Orion is explained below:

It is recommended to use a raid array 0+1 or a 1+0 set-up for your hard drive.

RAID 1+0 or some other RAID offers higher disk I/O performance.

But I believe RAID 0 does not have fault tolerance.

Raid 0, i.e. 3 disk array, which gives maximum disk IO with no redundancy.

But you will have to be willing to lose up to 24 hours of data, redundancy is not an issue (if DB is backed up every night).

Level 0 -- Striped Disk Array without Fault Tolerance:

Provides data striping (spreading out blocks of each file across multiple disk drives) but no redundancy.

This improves performance but does not deliver fault tolerance. If one drive fails then all data in the array is lost.

Level 1 -- Mirroring and Duplexing:

Provides disk mirroring. Level 1 provides twice the read transaction rate of single disks and the same write transaction rate as single disks.

<http://www.mtechlaptops.com/raid.htm>

http://en.wikipedia.org/wiki/Redundant_array_of_independent_disks

RAID 5

Raid 5 can become a bottleneck, especially once Netflow goes live, best option is a RAID 1+ 0

Move away from RAID 5 for your SQL disk array. Stick with RAID 1+0 or some other RAID that offers higher disk I/O performance.

<http://thwack.com/blogs/geekspeak/archive/2008/03/24/optimizing-orion.aspx>

<http://thwack.com/blogs/geekspeak/archive/2008/07/21/tips-and-tricks-for-improving-sql-performance.aspx>

Raid 5 vs Raid 1

<http://thwack.com/forums/p/11363/46604.aspx>

<http://thwack.com/blogs/geekspeak/archive/2008/07/21/tips-and-tricks-for-improving-sql-performance.aspx>

Tips and Tricks for Improving SQL Performance

SQL Server performance is a hot topic these days, especially if you're leveraging your SQL Server for a high performance NMS. This can become even more critical when you add applications like NetFlow which tend to carry a significant I/O burden.

In some organizations you can rely on the DBA team to own/maintain/optimize the database servers for you. Unfortunately, for many of us this isn't an option either because we don't have a DBA team or because it's such a political mess trying to work with them. This causes us to have to implement and maintain our own database servers to support our apps.

The thing is, most of us network engineers don't know diddly about database servers. So, with that in mind, here are a few tips for optimizing your SQL Server:

Head Geek's Top 5 Tips for Improving SQL Performance

#5 - Add more RAM. Doesn't really matter how much you have, adding more will almost always help. Be sure that your SQL instance and OS are capable of consuming the additional RAM and if not make it so.

#4 - Just say "no" to RAID 5. It's great for application servers but horrible for database servers where I/O performance is important.

#3 - Place the data and log files (.mdf and .ldf) on separate logical drives and separate channels or controllers.

#2 - Unless your SAN is optimized for high I/O vs. large I/O stick with a locally attached disk array.

#1 - Buy disk controllers with battery backed-up write-back cache. The more the better, but at least 256MB.