

Re: Installing SQL Server 2005 on Windows 2003 Server (RAID 5) – need advice

Source:

<http://www.tech-archive.net/Archive/SQL-Server/microsoft.public.sqlserver.setup/2007-11/msg00087.html>

- *From:* Ekrem Önsoy <ekrem@xxxxxxxxxxxxx>
 - *Date:* Wed, 14 Nov 2007 10:54:51 +0200
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I used to think "RAID5 is great at reading and RAID1 is great at writing etc." directly, however, through the passing time, I saw that it depends. So now I don't say you better use RAID5 for your data files and RAID1 for your log files directly. Because me and noone here knows your configuration, your needs and your hardware. That's why I believe it would not be the best answer to say general things here because a directly ignorant answer could ruin your work and put you in trouble and we don't want this to happen.

As you saw in my previous comment, I repeated "test" and stressed it. Because there is a guy around here named Linchi, he changed my mind about this RAID thing => He and his tests... Thanks to him by the way =>

If you want me to make a general comment, yes putting your data files on a RAID5 array and putting your log files on RAID1 array is a good practice. However, I wouldn't do this without performing and determining the best RAID array for my specific environment which depends on your needs (using heavily OLTP\OLAP) and hardware.

In your case as I mentioned earlier, if you'll have to put your log and data files together on the same array then search about RAID10 which is recommended for mixed environment like this.

From the documents you read, you'll see that people say different things

according to their tests. So this will confuse you and you'll learn the best practice is to test your own hardware and implement the best array for your needs.

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Ekrem Önsoy

"Learner" <pradev@xxxxxxxxxx> wrote in message
news:1194987108.098598.77350@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
HI,

Thanks for the response. I appreciate your lengthy answer. But I was just going through an article

http://www.sql-server-performance.com/faq/raid_1_raid_5_p1.aspx

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and it tells me that (if I understand it right) in my scenario with available disks and set up I can put the data files (.mdf) on D: drive on RAID 5 which has a greater read performance and put the .ldf files (Log files, by their nature, are mostly written to, which means that often RAID 1 is your best choice for performance.) on C: drive as RAID 1 has grater write performance over RAID 5. And the other point is

'In addition, it is a good idea to locate log files on an array that does not have data files because you don't want to risk losing both your data files and your log files should an entire array fail. '

But as you mentioned

I know, you do not have enough disks to set another RAID1 for your log files. However this is the preferred method locating log files. In your situation, I would locate my data and log files on that RAID5 desperately .

putting the data and log files on the RAID 5 (D: drive) kinda differs to it says in the above article

I am not sure if I am missing some thing here will you please respond one more time.

I guess our budget is limited and we can't effort to for any hard disks.

Thanks,

-L

On Nov 13, 3:27 pm, Ekrem Önsoy <ek...@xxxxxxxxxxxx> wrote:

Answer in lines...

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Ekrem Önsoy

"Learner" <pra...@xxxxxxxx> wrote in message

news:1194980139.488765.137430@xx

> Hi,

> We are currently running our databases on Sql server 2000. As an
> upgrade to move our databases we bought a brand new machine and unlike

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> the regular machines with just one hard disk this machine has the
> following hard disk configuration.

> It has 6 physical hard disks of 72 GB each (is it called RAID
> machine?)
> 2 of the hard disks are mirrored (I guess it is called RAID1 please
> correct me if I am wrong) and these two made C: drive.

I've never heard something "RAID machine". RAID = Redundant Array of Independent disks. There are different versions of RAIDs. You'll be familiar with them in time. Mirrored Disks called RAID1. Which gives you redundancy and performance. (Performance depends on the hardware and environment, you should test)

> The remaining 4 hard disks made D: drive and are setup at RAID 5.

RAID5 needs at least 3 disks. It gives you redundancy and performance according to some tests. There are lots of tests about RAIDs and they all confuse but help to understand which one is the best fit for certain situations. So you better test your own stuff.

> We just installed Windows 2003 Server OS on C: drive (on RAID 1 or
> mirrored hard disks) and I guess this good. Please advise if not.

This is a standard. Windows and SQL Server binaries are installed on C: (which is RAID1 usually)

> Now the next step is to install SQL Server 2005 and here is our idea
> on how where to install it on:

> 1).Install the Sql Server 2005 Enterprise version on D: drive (RAID 5)
> 2).Put the .mdf fiile on D: drvie (RAID 5) itself
> 3).Put the .ldf file on C: drive (RAID 1)

As I mentioned above, you better locate your SQL binaries on C:. You should think of your databases' data and log files. If you are looking for performance and redundancy then you can plan locating your log file on RAID1 and locate your data files on RAID5\RAID10

I know, you do not have enough disks to set another RAID1 for your log files. However this is the preferred method locating log files. In your situation, I would locate my data and log files on that RAID5 desperately .

If you have a chance, buy another disk and set up a RAID5 from that 3 disks and set up a RAID1 from the other 2 disks. Put your data files on the RAID5

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and put your log file on the RAID5 and locate your Windows and SQL binaries on the other RAID1. (Totally 7 disks)

However, I'm not sure if all of this performance fear is rightful? Test your needs and go for them.

And the last thing, I'd probably setup a RAID10 instead of RAID5 if I had to use these disks and could not be allowed to buy another one for another RAID1. RAID10 is more appropriate for mixed situations (according to tests I've seen...) Test all the possibilities for best performance.

> I need to mention here that I am new to this RAID stuff so would like
> to take advice on where to install the Sql server 2005 as a software,
> and where to pu the .mdf files (fiile groups), and where to put
> the .ldf files.

> Hope my explanation above gives a clear idea of what we have and what
> we are trying to do

> Please take a moment to advise me in the right direction.

> Thanks,

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- Show quoted text -