Re: SATA vs. SCSI, RAID?

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From: root (*postmaster_at_buchanangc.com*)
Date: 06/23/04

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"YeOldeStonecat" <anonymous@discussions.microsoft.com> wrote in message
news:1ff0201c4584f$d6ec2f40$a001280a@phx.gbl...
> Well, there's a non−trivial performance gain for multi−
> threaded reads using
> RAID 1.
> Yes, very non−trivial, so much as to be pretty much non−
> existant. Also this would depend on which controller is
> being used,

Well MS's intrinsic SW RAID 1 drivers using typical Intel mobo EIDE controllers for [S]ATA or Adaptec SCSI non−RAID cards do very well here. No hardware RAID 1 controller does much better.

>as benchmarks vary widely, and often not in
> the favor of entry level RAID controllers. Step up to
> enterprise level like HP/Compaq Smart−Array controllers,
> or Dell Percs, and we'll have some good numbers.

Not any better for RAID 1.

> But for
> a 10 node LAN, I doubt he's going to reach that deep into
> his pockets.
>
> >Three drive RAID 5 will not provide much improved
> performance over two drive
> >RAID 1 except in big file streaming situations. Four or
> more drive RAID 5
> >is where the added performance kicks in.
>
> Yes I realize that, I've built quite a few huge RAID 5
> setups. But do note that I only mentioned "3x drives
> minimum"...as he's most likely only going to deal with a
> smaller server.
>
> Another advantage to RAID 5, depending on the controller

> you get, is the ability to plug in another drive to add
> space (and performance) to the array and migrate your
> data. Running out of room? Plug in another drive, let
> the array "absorb" it and grow in size.
>
> >Right, personal experience using SCSI which says nothing.
>
> ///rolls eyes/// whatever.
>
> That's only slightly true. SCSI's advantage in this arena
> does not appear
> until the load is sufficient to make a SBS2003 server feel
> sluggish.
>
> I say it's very true. We're talking about a file server
> here dealing with up to 10 nodes. Add to this...we're
> talking about an application based database (MS Access).
> There's potential for quite a bit of load here as far as
> hard drive hits and network traffic. This of course
> varies in how the database was designed, wether some of it
> resides on the local workstations or not (we don't know
> this, but I'll assume for the worse...that it lives
> entirely on the server).
>
> >
> >> IDE/PATA/SATA cannot compete in this area.
> >
> >That's flat false.
>
> On the contrary, I'll challenge anyone to refer to any
> reputable hard drive benchmarking site...and read for
> themselves....that SCSI drives flat out DOMINATE
> IDE/PATA/SATA drives when it comes to performing well
> under concurrent user demands.

That's false. Go to any reputable storage site and one will see at the same RPM SCSI drives may realize up to a 50% advantage under saturated multithreaded loads.
Such loads are typical of transaction servers and also portend slower response times(sluggish).

The reason for this is that SCSI HDs can do onboard command queuing optimizations. Under such loads a SCSI HD may have onboard 10 or more independent I/Os queued. The drive chooses the optimal performance wise order to do the queued I/Os. In order for this optimization to contribute much to performance there must be 3 or more commands queued. Such a queue depth automatically means each I/O has to on the average 'WAIT its turn'...sluggish but high I/Os per second.

> Hold on...I have to go
> laugh for a while as your "that's flat out false"

> statement.

The real laughing is gonna start a little farther down.

> >> Even though
> >> their raw throughput is approaching SCSI performance,
> they
> >> crumble when you get concurrent demands.
> >
> >That's flat false.
>
> See above.

Yes, as anyone who reads has seen.

> >> 2) SCSI drives (at least the better brands/models) are
> >> built with enterprise in mind.
> >
> >As is the SATA Raptor.
>
> As I did state in my initial post. I'm posting from a rig
> running one right now.
>
> >
> >> This means the parts they
> >> are built with are designed to last the long haul.
> >> Translation into English...5 year life expectancy of
> 24/7

Go look at most any current ATA or SCSI HD and they all say component design life is 5 years.

> >> operation. IDE/PATA/SATA drives (all except 1 that I
> know
> >> of)...are "at best"...3 year drives...many of them are
> >> really only 1 year drives.
> >
> >Warranty length is simply a marketing price point choice
> and has nothing to
> >do with drive life expectancy.
>
> I'm getting a chuckle at that statement too.

Here's where the real laughing start.

> A maker will
> warranty their drives based on expected uptime in hours.
> MTBF...Mean Time Between Failures, some call it Mean Time
> Before Failures. Either way....quality "enterprise
> drives" are designed to run over 1,000,000 hours,

Do you have a clue what MTBF/MTTF means?
Do you have any idea how its determined for HDs?

"designed to run over 1,000,000 hours"....WACKO!

1,000,000 hours equals 1,000,000/(24*365) = ~114 YEARS!

You have now self impeached and self immolated so further response is unneeded.