SQL SERVER BACKUP ARENA
BY
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How to Evaluate Database Backup Software

WHO AM I?

- First of all, I'm nobody special.

- But I've been ating and reviewing software at an enterprise level professionally for around 6yrs.

- Contributing Editor and resident DB expert for InfoWorld Magazine.

- I've also written for SQL Server mag, SQL Server Standard mag, SSWUG.org, SQLServerCentral.com and others.

BLOGS

- http://weblog.infoworld.com/dbunderground/
- http://dbarant.blogspot.com/
- http://www.ITBookworm.com
- http://MidnightDBA.ITBookworm.com

WHY 3RD PARTY SOLUTION?

- Native solutions don't have OLR.
- Native solutions don't have variable compression.
- Native solutions don't have central mgmt.
- Native solutions don't have auto-restore.
- Native solutions don't have hetero mgmt.
- Native solutions don't have decompression.
- Native solutions don't have encryption.
- Native solutions typically charge a fortune for their compression technology.

CATEGORIES OF BACKUP SOLUTIONS

- ✖ Network Backups – These are solutions like Backup Exec, and ArchServe. They're network backups because they aren't meant to be managed by network admins, not DBAs.

- ✖ Native Backups – These are both SQL Server native and 3rd party backups. These are meant to be managed by DBAs.

WHAT'S THE DIFFERENCE?

- Network backups don't have OLR.
- Network backups not flexible. You can't move the files around (to different systems, or even external customers), code your backups, or check on the backups in code.
- Network backups are managed from the 3rd party GUI and that's it.
- Network backups don't have little restore flexibility and no resource or compression flexibility.

WHAT'S IMPORTANT?

- With all the different products, the features are all over the board.

- So what you have to do is establish a functionality baseline.

- You can figure out what's important to you, but that won't effect the baseline.

HOW TO CREATE THE BASELINE

- Look at the functionality in each of the areas you want to evaluate and if most of the products have the same functionality, then that can be considered an industry standard.

- Example: So if All of the vendors have remote install, and HyperBac doesn't, then it's safe to say that Hyperbac is behind the industry standard for installations.

BASELINE CONT.

- ✖ As well, if Hyperbac doesn't have remote install, but it does have another cool feature that the others don't, then that's considered an extra feature.

- ✖ So while the vendors will all meet in the middle on some of the functionality, they'll also go out on their own past that. Those features are considered extra.

- ✖ If all the features you're interested in are the same, then you can either go by extra features, price, and even company strength.

BRIEF HISTORY OF BACKUP SPACE

LITESPEED

- In the native backup compression market, LS came first in 2001
- LS was originally written by Douglas Chrystall and Paul Delekta (and some others) in Melbourne, Australia.
- It took approximately ... lines of code, was written in ... and took about ... time to get the first usable version.
- In Jan 2004, Insight Venture Partners put $9mill into LS and brought in Walter Scott and spun the whole thing off into Imceda and brought LS into focus.

LITESPEED

- Walter then turned around and sold LS to Quest for ~ $60mill.
- Walter Scott is now CEO of Acronis and has another SQL backup util on the market to try to compete with LS.
- Jeff Aven also has another backup util that he's pitting against LS and the others. He's teamed up with Paul Delekta from the LS team.
- It took both of them a while to develop not only because of development, but also because their non-compete agreements had to time-out.

RED-GATE SQL BACKUP

- Red-Gate's product was developed originally by a guy in Malaysia named Peter Yeoh.
- It was called MiniSQLBackup.
- Originally when I was putting together my first backup roundup it got halted because Red-Gate bought MiniSQLBackup around 11/2004.
- You can still see some of their DB products at www.yohz.com

- Red-Gate has some very talented developers who have taken the product very far.

RED-GATE

- MiniSQLBackup was originally written in C++.
- Its core engine consisted of the variants of the LZW and ZLib compression algorithms.

THE BACKUP WARS

- The backup wars officially started around Sept in 2004 when Idera came out very aggressively against LiteSpeed (then Imceda).

- I started getting calls from people I knew asking who this company was and what they had against LS.

- I had the LS people telling me that the Idera people were going to customers and telling them... let's just say unsavory things.

THE BACKUP WARS

- Unfortunately, I decided to do a roundup review of the backup utils on the market and I included LS, Idera, and MiniSQLBackup.

- MiniSQLBackup bailed because it was bought by Red-Gate so that left me with LS and Idera.

- On my first tech briefing with Idera I slated an hour and I got my first taste of their dealings when I stopped them after the 1st 40mins and asked them if they were ever going to talk about their product or just beat up LS all day. And what they were saying was just false to begin with.

THE BACKUP WARS

- The significance of the backup wars is that it greatly cheapened the DB backup market.
- And at the same time, it didn't drive the market as much as you think it should have. There haven't been nearly the improvements in the space as I expected from such a bitter rivalry.
- The only thing it really did was control price a little bit because LS was more expensive than everyone else and were forced to lower their prices to keep up.
- But there haven't been any REAL improvements to functionality by anyone in a long time… but things are starting to change.
- At this time the wars were really only between Idera and Imceda.

THE BACKUP WARS

- When RG finally hit the market with their version of their product, the viciousness of the war was over.

- RG created a new problem for both LS and Idera in that it was much cheaper than either of them and started stealing customers based off of having a decent product for much less.

- Now they just had to come up in functionality.

EVALUATING BACKUP SOFTWARE

- Evaluating BS actually requires more effort than anyone puts into it.

- I'm always amazed at the features vendors get away with touting and DBAs just eat them up.

- And if they don't eat them up they at least fall for the marketing hype for features that nobody really cares about.

BACKUP BENCHMARKS

- ✖ It's difficult for vendors to qualify their benchmarks because there's been no standard released.
- ✖ Vendors know the variants involved, yet they usually ignore them when publishing benchmarks.
- ✖ It's kind of a game they play to see how stupid the DBA their selling to is.
- ✖ Basically you shouldn't listen to any benchmark numbers that show one vendor that much ahead of the others.

BACKUP BENCHMARKS

- Their have been 3 notable benchmarks in the past few years.
- Mine.
- Idera's
- Red-Gate's.

MY BENCHMARK

- My benchmark was part of my initial roundup review and caused a huge ripple in the market.

- There were lawsuits threatened, techs almost coming to blows, and my ultimate resignation from IW... we made up in the end.

- I took several data sets and tried to find the sweet spot for all vendors and published my numbers for all to see.

IDERA'S BENCHMARK

- Idera's benchmark was ridiculous at best, and openly deceitful at worst.
- They ran their backups on super systems with SSDs, and without running anyone else's backups on the same system, declared themselves the world record backup holders.
- They then touted their victory to every customer they met.
- Then I got a hold of the benchmark and ripped it to pieces in blog.
- They've since taken the benchmark down, but it can still be seen at http://www.byteandswitch.com/document.asp?doc_id= 89726

THE TOLLY GROUP BENCHMARK

- In Sept. '06 Red-Gate commissioned the Tolly Group to do a comparison benchmark with them, LS and Idera.

- TG then released their findings that surprisingly put RG ahead of everyone else in speed.

THE TOLLY GROUP BENCHMARK

- The benchmark had something notable in it though.

- It completely invalidated Idera's phony benchmark because when put on equal footing with its competitors, Idera came in last.

- So I was able to use this to further discredit Idera's benchmark.

- What can I say, I don't like it when companies try to deceive us on purpose.

THE TOLLY GROUP BENCHMARK

- TG also carried with it something else... a fallacy that skewed its results in Red-Gate's favor.
- At the time, RG wasn't multi-threaded so TG tried to make up for this by striping the backup files for RG and leaving the others as single file backups.
- This doubled the I/O for RG making it run faster... duh!
- The point of such tests is to see what the products can do, not to make it even so they all feel good about themselves. If RG wasn't multithreaded, then that should've been part of the test.
- But since RG paid for the test, that's what happened. It's not RG's fault though. I honestly believe they had nothing to do with that part of the test.
- TG refused to comment. So did Idera.

EVALUATING BACKUP SOFTWARE

- One of the biggest tricks is to know how you work, and know how your organization works.
- If someone advertises a web GUI admin option and your company either doesn't allow them, or you don't work that way, then I don't care what the salesman says, it's not a factor for you.
- If someone offers you an Oracle option but you're a dedicated MS shop, then don't even consider that in your process.
- Way too often DBAs allow themselves to be taken in my a slick sales guy and it's just infuriating.

EVALUATION AREAS

- Installation – how easy does it deploy to 100 boxes.
- Licensing – how easy is it to license 100 boxes.
- Configuration – how easy is it to setup on 100 boxes.
- Admin – how easy is it to admin backups and restores as well as report on 100 boxes.
- Upgrade – how easy is it to push upgrades to 100 boxes.

INSTALLATION

- Let's get started with installing some of the products to see how they meet our requirements.

- What we'd like in a big enterprise environment is a nice remote installer.

INSTALLATION NOTES:

- HyperBac installs locally, but has no remote installer. So it's not really meant for enterprise installs.

- Red-Gate has a remote installer, but it doesn't install fully. It only installs the objects.

- LS has an excellent installer when it bothers to work. It has the most options of any of them.

- Idera has always had problems with their remote install. And it doesn't install fully when it does work.

IDERA'S REMOTE INSTALL PROBLEM

- Idera has always had remote install problems. They've spent weeks at some client sites re-writing their code to get it to work with little to no results.
- This is why recently they've tried to OEM a 3rd party product that does this type of install rather well.
- The results they've gotten from this have stablized their remote install, as well as their cluster install, which they've also always had lots of problems with.
- But the 3rd party app is expensive and will add a lot of cost to something you could just do by hand.

A COOL LS LICENSING TRICK

- There's a cool trick you can use to get an enterprise-wide license to LS.
- When it's time to enter the key, just copy the keys from an existing system and paste them into the registry.
- Since LS only checks that the keys match each other and not the system they're on, it accepts them just fine.
- I probably shouldn't tell you that, but since I've been telling them about it for years, I just assume they don't mind people knowing this.
- Disclaimer: This is in no way meant to get you to stop paying for licenses. It's merely stating a fact about the software.

DOCUMENTATION

- Since we're having problems with remote installs, this is a good time to talk about documentation.
- None of the products have awesome docs.
- The LS docs haven't changed significantly in years. And the remote install stuff isn't documented at all anyway.
- Of course, that's not all there is to documentation, but they'll all receive their first ding for not documenting their remote install requirements.
- Then again, if nobody does it, then that's an industry standard.

KATMAI COMPRESSED BACKUPS

- Of course, what discussion would be complete w/o talking about katmai?

- MS is giving us compressed backups in katmai, but it's not all its cracked-up to be.

- It's only available in the Ent. Version, which I've dinged them in blog for many times.

KATMAI CON'T.

- ✖ Problems with using Katmai compression are:
- ✖ No centralized reporting.
- ✖ No resource throttling.
- ✖ Only 1 compression ratio.
- ✖ No OLR.
- ✖ No backup trading with other units.
- ✖ Need multiple mgmt strategies.