(February 4th, 2013)

If you know someone who you think would benefit from being an Insider, feel free to forward this PDF to them so they can sign up here.

Quick Tips for our Insider friends!

Hey Insiders!

This newsletter is coming to you from Tampa, FL where we've just started teaching the first of our 2013 Immersion Events to a sold-out class of 36 students. There are still a couple of spots available in next week's IE2 on Performance Tuning…

A while back I wrote a disaster-recovery flow-chart poster for SQL Server Magazine and it's finally seeing the light of day. Get your free copy from them here.

The most recent book I've read Peter F. Hamilton's *Great North Road*. Hamilton is one of my three favorite sci-fi authors (Iain M. Banks and Alastair Reynolds being the other two) and is a master of the grand space opera. His latest book is really excellent, with a complicated plot that you'd be best to read about on Amazon rather than me attempting to summarize it in 100 words here. Definitely check it out!

Please let us know if you liked what you read/saw here and/or have any suggestions for future Quick Tips.

Note: you can get all the prior Insider newsletters here.

Paul's Ponderings

The documented and supported 'surface' of SQL Server is vast, as we all know, but there are also a ton of undocumented options, trace flags, and commands that are not documented.

Many of these are for the test and development teams in the SQL Server Product Group at Microsoft and some of them are useful for helping CSS debug problems on customer servers. There are also quite a few that can be useful to general SQL Server users like all of you.

In 2011 I presented conference sessions on a few useful undocumented commands and I thought I'd share some of them with you in this newsletter.

Firstly, there are about 100 undocumented DBCC commands. Most people know about `DBCC PAGE` and `DBCC IND` (I've blogged about these extensively) but what about some of the truly useful things you can do with them?

For instance, if you want to know the last time a `DBCC CHECKDB` ran on a database without finding corruption then you need to look in the boot page using `DBCC PAGE (dbid/dbname, 1, 9, 3)` or `DBCC DBINFO`. Both of these need trace flag 3604 enabled first, and you look for the `dbi_dbccLastKnownGood` field.

There's also the `DBCC LOGINFO` command, which is the only way to examine VLF fragmentation in log files. The more rows of output you get from this command, the more VLFs are in your log file and the more likely you are to experience performance problems. See here for more details.

The undocumented functions `fn_dblog` and `fn_dump_dblog` let you look at the contents of the transaction log, and the transaction log in a log backup, respectively. These can be really useful during disaster recovery when you want to recover some deleted data. See Using fn_dblog, fn_dump_dblog, and restoring with STOPBEFOREMARK to an LSN.

Then there are some cool functions to get some internals info:

- `%%LOCKRES%%` tells you the lock resource for index keys, which you can use to figure out what's going on with unexpected deadlocks on unrelated data (see here).
- `%%PHYSLOC%%` tells you the physical location of a record, which you can use when dealing with corruption to figure out what you may lose by running repair (see here).

And then there are trace flags, with literally hundreds and hundreds of them that affect all aspects of SQL Server's behavior. Some of the better-known ones are:

- 661 to disable ghost cleanup if it becomes a performance problem.
- 1118 to disable single-page allocations to prevent some tempdb latch contention.
- 3226 to disable 'backup completed' error messages from flooding the error log.
- 3604 to allow undocumented DBCC commands to print output.
- 3608 to allow attaching and restoring of system databases during disaster recovery.
- 4199 that enables a bunch of query optimizer bug fixes (see KB 974006).

Watch my blog this week where I'll be blogging about some undocumented stuff I haven't mentioned before…

Call to action: There are lots of useful undocumented things you can do with SQL Server but you should be very careful which of them you choose to use on production systems. The very fact that they're undocumented and unsupported means you're on your own if something goes wrong, or the behavior changes from release to release. Make sure you've tested thoroughly before use and you got your information from a trustworthy knowledge source that explains the ramifications and possible side-effects of using the undocumented option.

I'm curious to hear your thoughts about undocumented commands, options, and trace flags, so please feel free to drop me a line, treated confidentially of course.

<u>Video Demo</u>

From Glenn Berry:

In this Insider video, Glenn talks about using a Microsoft Data Link file to quickly and easily troubleshoot database and network connectivity from any machine to a remote server. This is useful since it does not require that any development tools (such as SSMS or Visual Studio) be installed on the machine you are testing.

The video is 3 minutes long and you can get it:

- In WMV format here
- In MOV format here

Enjoy!

<u>SQLskills Offerings</u>

All of our 2013 public classes are now open for registration! Based on requests from people, attendee ratings of the hotels we used last year, and the ease of using hotels we know, we're using the same locations again. This means we cover both sides of the US, central US, and Europe.

Please know that these classes are final as the hotel contracts are signed, and the classes will not be cancelled or moved for any reason, nor will the dates change. We are not planning any other locations for 2013.

- February 11-15, 2013: Performance Tuning (**IE2**) in Tampa, FL – USA
- April 29-May 3, 2013: Internals and Performance (**IE1**) in Chicago, IL – USA
- April 29-May 3, 2013: Immersion Event for Business Intelligence (**IEBI**) in Chicago, IL – USA (co-located but in a different training room. Attendance is for one event or the other; these cannot be combined for one attendee where they move back/forth.)
- May 6-10, 2013: Performance Tuning (**IE2**) in Chicago, IL – USA
- May 13-17, 2013: High Availability & Disaster Recovery (**IE3**) in Chicago, IL – USA
- May 13-17, 2013: Immersion Event for Developers (**IEDev**) in Chicago, IL – USA (co-located but in a different training room. Attendance is for one event or the other; these cannot be combined for one attendee where they move back/forth.)
- May 20-24, 2013: Development Support (**IE4**) in Chicago, IL – USA
- June 3-7, 2013: Internals and Performance (**IE1**) in London – UK
- June 10-14, 2013: Performance Tuning (**IE2**) in London – UK
- June 17-21, 2013: High Availability & Disaster Recovery (**IE3**) in London – UK
- June 24-28, 2013: Development Support (**IE4**) in London – UK

- September 16-20, 2013: Internals and Performance (**IE1**) in Bellevue, WA – USA
- September 23-27, 2013: Performance Tuning (**IE2**) in Bellevue, WA – USA

One thing to note is that the course prices have increased slightly for 2013, reflecting increasing food, logistics, travel, and accommodation costs. We kept our prices the same for the last three years but now we have to raise them a little.

For US classes, the new early-bird price is US$3,295 and the full-price is US$3,795. However, for all past attendees in the 12 months prior to registration, we will only charge the 2012 early bird price of US$2,995. As an alumnus, send us an email prior to registering and we'll give you a code to use to access this special rate. And **be sure to get your registrations in early!**

For UK classes, the new early-bird price is US$3,795 and the full-price is US$4,295. There is a similar past-attendee price equal to the 2012 UK early bird price of US$3,495. **Again, be sure to get your registrations in early!**

See here for the main Immersion Event Calendar page that allows you to drill through to each class for more details and registration links.

So, that's it for now. We hope to see you soon!

<u>Summary</u>

We hope you've enjoyed this issue - we really enjoy putting these together.

If there is anything else you're interested in, we'd love to hear from you - drop us a line.

Thanks,
Paul and Kimberly

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