

(November 12th, 2012)

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 bi-weekly Quick Tips is coming to you from Redmond where we've been chilling out and watching the PASS conference remotely and absorbing all the news from the keynotes. Glenn and Erin were there presenting and carrying the SQLskills community torch, the rest of us were having a well-earned rest after all our crazy travel and presenting through the year. Kimberly and I only ventured into Seattle once, drawn by promises of beer at Pike Place Brewery courtesy of our friends at SQL Sentry.

Of all the things announced at PASS this year by Microsoft, the most interesting to me is Hekaton, the in-memory database functionality coming in the next release of SQL Server. Don't think of this as a throw-back to the old DBCC PINTABLE that I removed from SQL Server 2005, it's not the same at all. And, remember, it's not going to be the final say for performance. It won't solve every problem and it will require design to fully leverage. Having said that, however, we're all really looking forward to getting our hands on it!

Our super-early-bird pricing for the US and UK Immersion Events ends December 31st, so if you want to save \$300 on your registration and use up that training budget in 2012, now's the time to talk to you manager!

And, for those of you who have already taken one of our Immersion Events, make sure you reply to the email I sent to you on October 5th for your free 30-day Pluralsight code.

The most recent book I've read is Jim Wark's *America: Flying High*. I have a passion for aerial photography books as it's a very different perspective from how I see the environment from 6 feet above the earth. This book shows images from all across America taken at low altitude from a single-prop plane. Another one to check out is *America From The Air: A Guide to the Landscape Along Your Route*. This is for frequent flyers and describes what you can see from 30,000 feet as you glide past in your window seat. It also comes with a CD so you can read it on a laptop. Both books are really cool and recommended.

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

Database mirroring has become very popular since it was introduced properly in 2005 SP1, but there's a pervasive problem I see on new client systems. Often there seems to be an assumption that as soon as database mirroring is implemented, it can safely be forgotten and relied upon to work perfectly when a failure occurs, bringing the protected database online on the mirror server with no loss of data and minimal downtime.

While this might be true in some cases, it's a very dangerous assumption.

To reduce the potential for disaster, it is absolutely essential that you monitor at least the SEND queue size and the REDO queue size of a mirroring session.

- The SEND queue size shows how much transaction log has been generated on the principal server but has not yet been sent to the mirror server. If it is non-zero, it means the mirroring state is not SYNCHRONIZED and an automatic failover cannot occur. Furthermore, the SEND queue size is an indication of the data loss that will occur if the principal database were to suffer a disaster. You need to monitor this to ensure the size of the SEND queue does not exceed your maximum allowable data loss SLA (or RPO) for the database being mirrored.
- The REDO queue size shows how much transaction log exists in the mirror database that has not yet been replayed on the mirror database. (Remember that log records just have to be hardened on the mirror database's log drive, not replayed – that is done as an ongoing process on the mirror server.) If a mirroring failover occurs, the mirror database cannot be accessed until all transaction log records in the REDO queue have been replayed on the mirror database - essentially crash recovery has to occur. The larger the REDO queue, the longer a failover will take. (Remember that in Enterprise Edition, fast recovery comes into play and the database becomes available after the REDO phase of recovery has completed and before the UNDO phase begins.) You need to monitor this to ensure the size of the REDO queue does not exceed your maximum allowable downtime SLA (or RTO) for the database being mirrored.

The oldest unsent transaction is another way to monitor the instantaneous amount of data loss you would suffer if the principal database suffered a disaster. It applies in all modes of database mirroring, because even if you are using synchronous mirroring, the principal and mirror can become disconnected, or you may pause mirroring.

You can monitor the SEND and REDO queues using the Database Mirroring Monitor in SSMS to set alerts, or directly using the Database Mirroring perfmon object counters Log Send Queue KB and Redo Queue KB.

Call to action: If you have database mirroring in your environment, make sure that the SEND and REDO queues are being monitored and that you have alerts in place for when their sizes approach the point where your RPO and RTO SLAs could be impacted.

I'm curious to hear your thoughts about database mirroring monitoring and any problems you may have had, so please feel free to [drop me a line](#), treated confidentially of course.

Video Demo

From Erin:

In the last Insider video I went through the steps to grant sysadmin access back to a login after it had been revoked from all logins on an instance. This option works great if you have the ability to take an outage, as the steps required two restarts of the instance. But what if you can't afford the downtime because you need access *right now*? If you're running SQL Server 2008R2 or earlier, and you are a local Administrator on the server, you *do* have another option. In this week's video I'll walk through the steps to restore the sysadmin privileges you need, and explain why that same method is no longer an option in SQL Server 2012. But, there still is a back door, and it's not Falken's maze (*WarGames*, anyone?). To understand how you can still access a SQL Server 2012 instance with elevated privileges, check out Argenis Fernandez's post [here](#).

The video is just over 6 minutes long and I produced the video in WMV and MOV formats so everyone can watch. You can get the videos:

- For WMV: [here](#)
- For MOV: [here](#)

And you can get the demo code [here](#).

Enjoy!

SQLskills Offerings

All of our 2013 public classes are now open for registration! Based on requests from people, attendee ratings of the hotels we used this 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.

- February 4-8, 2013: Internals and Performance (**IE1**) in Tampa, FL – USA
- 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 registrations received before January 1, 2013, and for all past attendees in the 12 months prior to registration, we will only charge the 2012 early bird price of US\$2,995 (the super-early-bird price). **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 super-early-bird and 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!

Summary

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

Paul@SQLskills.com and Kimberly@SQLskills.com