

(November 14<sup>th</sup>, 2011)

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 home for a change, where we've finished the Fall conference-and-class craziness and are catching up with some client and writing work before heading off on our first dive-trip for almost 18 months. We're heading to Belize over Thanksgiving where we're really looking forward to diving the famous [Blue Hole](#).

The most recent book I've read is Mark Potter's *Outlaws Inc.* It's a fascinating book that dives into the world of international smuggling and mercenary flying. Mostly ex-Soviet flight crews with giant, aging Ilyushin or Antonov cargo planes fly around with world and in-and-out of some of the most dangerous places on the planet. It has lots of very exciting stories and I strongly recommend it.

Check out the final part of the newsletter for details of our **new remote DBA service**, plus our projected class schedule through August 2012. Our winter classes are now open for registration and our spring classes are coming soon! If you're planning your budget – our prices for US classes will remain the same for all of 2012.

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

### Paul's Ponderings

Before I start this week I'd like to draw your attention to my current blog series on index health. These posts are based on surveys where I provide you with some code to analyze and highlight inefficiencies in your indexes:

- [Survey: wasted space from cluster keys \(code to run\)](#) – please try to run this code and send me some results
- [Code to list index counts per table](#)
- [Over and under indexing - how bad is it out there?](#)

Now to this week's topic: the Resource Governor feature that was added in SQL Server 2008.

Most of you probably know that Resource Governor exists, and effectively allows CPU governing. It also has memory governing but is very limited with some pretty major v1 drawbacks. The most glaring limitation is that it doesn't do I/O governing and doesn't allow governing of buffer pool memory. This has improved somewhat in SQL Server 2012, but there are still many improvements yet to come.

Having said that, you might not realize there are some pretty interesting uses for Resource Governor (RG) if you think out-of-the-box a little bit and look past the major things it can and cannot do. I'm going to highlight two of them.

Firstly, RG allows selective control of MAXDOP. Many times I see people using a sledgehammer MAXDOP=1 for the instance to reduce parallelism issues. I don't like that as it's removing one of the best performance features that SQL Server has. Apart from the alternatives (like using a MAXDOP hint on every query, or messing with Cost Threshold for Parallelism), you can use RG to limit MAXDOP.

When you define workload groups in RG (essentially the 'buckets' that incoming connections are dropped into), you can specify a MAXDOP limit for all connections running in that workload group. And unlike the instance-wide MAXDOP, the RG MAXDOP *cannot* be overridden.

This means that if you have several distinct workload types that run on your server, you can leave the instance-wide MAXDOP at 0 and then define workload groups for each distinct workload and assign appropriate MAXDOP limits to them. This means you can limit, for instance, your OLTP workload to a lower MAXDOP without having to compromise the performance of maintenance, batch, reporting or DSS workloads.

Secondly, RG allows you to limit the number of concurrent connections allowed in any workload group. This means that you can effectively limit the ability of a person, group, or application to flood the server with connections. Any connections over and above the limit for the workload group will connect, but then be blocked. If you look in `sys.dm_os_waiting_tasks` (which I explained in the previous newsletter), you'll see the blocked connections have a wait type of `RESMGR_THROTTLED`. As soon as one connection finishes processing and disconnects, another will be allowed to start processing.

**Call to action:** RG isn't just about limiting access to resources when workloads are competing for them – it also has some lesser-known capabilities that can be very useful. If you've discounted RG because of what it can't do in v1, think again to see if you can make use of the two features I've talked about here.

I'm really interested to know your thoughts on using Resource Governor—feel free to [drop me a line](#), confidentially as always.

### **Video Demo**

One of the problems I see people struggling with sometimes is how to figure out where in a set of nested SPs a problem is occurring that causes a query timeout. It's really simple to troubleshoot this using Extended Events in SQL Server 2008 so I recorded a quick demo video for you using a simple example. The video is about 6 minutes long.

I produced the video in WMV and MOV formats so everyone can watch. You can get the videos:

- For WMV: [here](#)

- For MOV: [here](#)

I recommend downloading before watching. And you can get the demo code [here](#).

### **SQLskills Offerings**

We've just launched a new "remote DBA" service where we provide repeated mini-health checks on regular intervals (once a server has been initially health-checked) plus automated monitoring of SQL Server for problems – and what to do when a problem inevitably \*does\* arise. This is an excellent way to gain access to our team's incomparable expertise and experience – especially if you don't have a full-time DBA on staff. However, even if you do, this gives you an additional set of expert eyes to watch over your critical data.

See [here](#) for more details.

Registrations are continuing for our two remaining Immersion Events left this year in Atlanta, GA the week of December 5. During that week, we are running both our Internals and Performance (IE1) plus a \*new\* BI Immersion Event (IEBI).

For everyone that's been asking – YES – we will be offering all four of our Immersion Events in 2012 with these classes being added to our schedule starting in October. Here's a list of some of the classes and cities we're targeting:

- Available for registration **NOW**:
  - February 27 – March 2, 2012: Internals and Performance (IE1) in Tampa, FL
  - March 5-9, 2012: Performance Tuning (IE2) in Tampa, FL
  - March 12-16, 2012: High Availability/Disaster Recovery (IE3) in Tampa, FL
- Available for registration December/January
  - April 2012: IE1 & IE2 in Chicago, IL
  - May 2012: IE1 & IE2 in London, UK
  - August 2012: IE1-IE2-IE3-IE4 in Redmond/Bellevue (WA) again!

See [here](#) for all the details.

### **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