**(March 17th, 2026)**

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

Note: As an Insider, you can read all prior Insider newsletters here.

**Quick Tips for our Insider friends!**

Well, I spoke too soon about Spring in the last newsletter! As I sit here writing this in Redmond on Friday 13th, several inches of snow blanket the ground and it's falling steadily. It's pretty rare for us to get snow in March – usually it's the first week of February.

If you're not subscribed to my blog you may not have noticed that I've started blogging a lot again. Recent posts include:

- The SQL Server Transaction Log, Part 3: The Circular Nature of the Log
- The SQL Server Transaction Log, Part 2: Log Architecture
- The SQL Server Transaction Log, Part 1: Logging Basics
- SQL101: Indexing Strategies for SQL Server Performance
- SQL101: Introduction to SQL Server Transactions

And the big news is…. the March Madness $699 Blackbelt Bundle sale continues!

**SQLskills News**

**Our signature Blackbelt Bundle** is hundreds of dollars off our lowest price:

- **$699 for one-year access**
- **$1,299 for Lifetime access**

If you have an existing or expired Blackbelt bundle, you can resurrect it and convert to Lifetime access with the $699 purchase. Both bundles include the SQL Server 2022 updates and Q&A sessions, for almost 170-hours of content. Shop here!

**Joe's two new courses are streaming now at a screen near you!**

(Hint, hint – in their podcasts, Kimberly and Joe mention the discount code 'podmarch', which gets you 50% off! Send this to your devs so they can consider vector search prototyping now!)

The courses cover SQL Server 2025's vector search functionality, fundamentals first and then real-world practical scenarios and production solutions. They're available singly or in a bundle, and the discount code 'newsai' will save you $50 off either course. Check them out, each with a long video trailer: AIVSE AIVSP!

**Kimberly and AIJoe continue their video podcast** with 9 available so far – watch them here.

**Joe's also available** for Proof-of-Concept, evaluation, and general consulting work around vector search. If you're interested, let us know here!

<u>**Book Review**</u>

Two books for you this time…

The first is Ursula Clare Fanklin's *Mission Penguin A Photographic Quest From The Galápagos To Antarctica*. It's a gorgeous photographic odyssey around the southern hemisphere in search of penguins. Franklin decided to do this to occupy the first few years after her husband unexpectedly died – very sad. Of all the 18 species, I've seen two: Galapagos penguins in 2018, and little penguins in Melbourne in 2009, both with Kimberly (and she's also seen African/'jackass' penguins near Cape Town in 2006). We both love penguins almost as much as owls! Highly recommended!

The second is James Scott's *The War Below: The Story of Three Submarines That Battled Japan*. Incredibly interesting book (and a real page turner!) about three of the top (by ships/tonnage

sank) US submarines in the WWII fight against the Japanese in the Pacific. From Amazon: "Focusing on the unique stories of three of the war's top submarines—Silversides, Drum, and Tang—The War Below vividly re-creates the camaraderie, exhilaration, and fear of the brave volunteers who took the fight to the enemy's coastline in World War II. Award-winning journalist James Scott recounts incredible feats of courage—from an emergency appendectomy performed with kitchen utensils to sailors' desperate struggle to escape from a flooded submarine—as well as moments of unimaginable tragedy, including an attack on an unmarked enemy freighter carrying 1,800 American prisoners of war." Highly recommended!

We actually toured the USS Silversides when we were at the *USS Silverside Museum* in Michigan 15 years ago, which I found \*incredibly\* interesting. I also wrote a blog post with a ton of photos from inside the sub. Little bulkhead hatches are definitely not optimal for people more than 6 feet tall!



**Ponderings…**

In the previous newsletter I talked about the trap of big numbers and how sometimes we see clients fixating on a big number when looking for performance problems just because it's a big number, and without understanding what the number represents and whether it's actually a problem.

At the other end of the spectrum from someone who tries to troubleshoot a poorly-understood metric is someone who has a performance issue and absolutely has to know exactly what the root cause was. This is very understandable, especially if the problem caused an issue that quantifiably affected the business (e.g. in downtime, lost orders, failed or poorly performing customer queries, and so on). However, sometimes there needs to be a limit..

A limit? Yes. A limit on how much time and effort is put into the root cause analysis (RCA).

Of course, there's an obvious desire to complete the RCA so steps can be taken to make sure the issue doesn't happen again, and I'm all for that, again, obviously. That's part of our job as a consulting company. Sometimes it takes a huge effort to figure out what the problem is, and it's immensely satisfying to solve the puzzle.

But sometimes the RCA is impossible. Why? Because sometimes there just isn't enough evidence to be able to pinpoint what the problem was after it's happened.

Take the case I describe in the Curious Case below. Jonathan could look in SQL Server and see it wasn't SQL Server causing the problem. He could also look in Windows and get clues and then use tools to diagnose the problem while it was happening.

Usually the key is 'while it was happening'. When the problem is ongoing, RCA is a whole lot easier. When the problem has stopped happening, often because SQL Server was restarted or failed over, RCA depends on what information was logged. Without enough information, it can be impossible to pinpoint the root cause.

Now let's say that the client had rebooted the server with the memory issue and then asked Jonathan for a RCA. The most he'd have been able to come up with was 'something outside SQL Server was using all the memory on the server'. If the client had pressed for a definitive answer in that case, the answer would have been that it's not possible. We would have to wait for the problem to reproduce because the problem indicators would have been lost and aren't commonly persisted anywhere. And then if the problem never reproduced, it would be impossible to prove anything except that a problem occurred.

Performance monitoring tools really help here, kind of like flight data recorders in aircraft, but they're not infallible. And sometimes, as with aircraft disasters, the answer is there is no definitive answer – only theories which can't be proven or disproven. This is why having a basic

diagnostic data collection available to run before restarting SQL Server is critically important for a true RCA.

We've had a few clients who've asked for the impossible – RCA without enough evidence to provide a definitive answer because the required depth of monitoring/logging hadn't been implemented before we were called in – and who just couldn't accept that fact and kept pressing and pressing for 'the answer'. 'The answer' becomes: you need to accept that we can't get any further, put in place more monitoring in case it happens again, and put in place safeguards to prevent the few theoretical root-causes from happening again. Just like how the aircraft industry works.

Some problems are also cost-prohibitive to collect the necessary data to do a RCA, which is where Microsoft Support and memory dumps become necessary for recurring issues to be diagnosed and fully solved. But be aware that kind of debugging isn't an overnight analysis so be prepared for engineers to take time to go through that process, and it still might not reach a firm conclusion!

**Call to action:** learn when it's necessary to say 'enough' when investigating a problem and accept that the answer can't be 100% proven with the data available. And don't have unrealistic expectations of a successful RCA at the drop of a hat – forensic analysis takes time, and sometimes a lot of time.

## The Curious Case of…

*This section of the newsletter explains recent problems we've helped with on client systems or been asked about online; they might be something you're experiencing too.*

Recently Jonathan had a client issue where a server had basically no memory available for either the OS or SQL Server – what was the culprit? You can read about it here…

## #TBT

*(Turn Back Time…) Blog posts we've published since the previous newsletter plus some older resources we've referred to recently that you may find useful.*

The #TBT this time is around stored procedures, so here are some resources for you:

- Kimberly's post: *SQLskills SQL101: Stored Procedures*
- Kimberly's course: *SQL Server: Optimizing Stored Procedure Performance*
- Kimberly's course: *SQL Server: Optimizing Stored Procedure Performance – Part 2*
- Kimberly's *Optimizing Procedural Code* blog post category

And some of my recent blog posts:

- [The SQL Server Transaction Log, Part 3: The Circular Nature of the Log](#)
- [The SQL Server Transaction Log, Part 2: Log Architecture](#)
- [The SQL Server Transaction Log, Part 1: Logging Basics](#)
- [SQL101: Indexing Strategies for SQL Server Performance](#)
- [SQL101: Introduction to SQL Server Transactions](#)

I hope you find these useful and interesting!

### Video Demo

In this older demo, Jonathan looks at how to appropriately track memory usage by SQL Server using Performance Monitor, and why Task Manager may not accurately report the total memory usage by SQL Server.

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

- In WMV format [here](#).
- In MOV format [here](#).

No demo code this time.

Enjoy!

### SQLskills Training

We have no plans for live, public classes in 2026, but we've already released the first of many new courses coming over the next year! And of course, all our recorded courses from the last few years are still as relevant as ever.

To help your manager understand the importance of focused, technical training, we've also added a few items to help you justify spending your training dollars with us:

- [Letter to your manager explaining why SQLskills training is worthwhile](#)
- [Community blog posts about our classes](#)

You can get all the details in our [shop](#).

### Summary

I hope you've enjoyed this issue – I really enjoy putting these together. If there's anything else you're interested in, I'd love to hear from you - [drop me a line](#).

Thanks,
Paul

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