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SQL Server Database Corruption, Part XIII: RECAP

overachiever | Jun 14, 2012

One of the things I wish I had done a bit better in my previous 'series' of posts on SQL Server database corruption was provide better links and cohesion between posts—or a 'table of contents' at the top or bottom of each post—just because I always appreciate similar efforts when I stumble upon a series of posts via a set of keywords I'm searching for and so on.

SQL Server Database Corruption Series – All Posts

And while I'm sure anyone interested in this topic can easily navigate through past posts, I figured it would just be easier (and hopefully beneficial) to provide a 'round up' of all of these posts in a single location. So here goes.

- Part I: What is Corruption**.** An overview of what corruption is, how it is caused and why its something DBAs really DO need to account for.
- Part II: Simulating Corruption**.** An example of how to gain hands-on familiarity with what corruption looks like and how it 'works'.

- Part III: Preventing Corruption. An overview of how preventing corruption isn't possible – along with an overview of what that means from a continuity standpoint in terms of responding to corruption when it happens.

- Part IV: CHECKSUM Page Verification. An overview of why all databases should be set to CHECKSUM Page Verification as a means of helping enable early detection of corruption.

- Part V: Storage Problem Alerts. A step by step overview of how to enable alerts for situations where SQL Server detects problems with the underlying storage system.

- Part VI: Regular Corruption Checks. Guidance on how to set up and best use regular DBCC CHECKDB() checks of key production databases.

- Part VII: Backups. Overview of how to include backups in the process of regularly checking for corruption by means of the CHECKSUM option.

- Part VIII: The Importance of Backups. Overview of how backups are essential in responding to and recovering from corruption of all sorts and types.

- Part IX: Responding to Corruption. A comprehensive check-list of what to do WHEN corruption occurs.

- Part X: Page Level Restore Operations. A set of step by step instructions that help showcase the process of using Page Level restore operations to respond to 'small' amounts of corruption.

- Part XI: Full Recovery Operations. A set of step by step instructions that outline the order of operations to use when recovering from large amounts of corruption or corruption against key pages.

- Part XII: Recovery Sample. A soup-to-nuts set of examples and T-SQL that you can use to simulate the generation and correction of corruption within your own environment.

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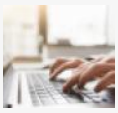
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```
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SELECT STRING_AGG(CHAR(n), '')
  WITHIN GROUP (ORDER BY CHAR(n) COLLATE Latin1_General_BIN
FROM dbo.GetNums(0, 255)
WHERE CHAR(n) COLLATE Latin1_General_BIN LIKE '[A-Z]';
```

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The Challenge Is on: Maintain a Custom Letter-Based Sequence

If you need to implement a custom sequence solution, and you want it to perform as well as possible, you need to ask yourself which guarantees the solution needs to provide versus which it doesn't.

Itzik Ben-Gan | Apr 01, 2018

Recently I delivered an advanced T-SQL class in Europe, and one of my students, Nicolas Barreau of Avanade France SAS, presented a nice little puzzle. The task wasn't very complex, but it was interesting and fun to work on, and I hope you will enjoy working on it, too.

The Challenge

The challenge Nicola presented was to maintain a custom, letter-based, cycling, gap-allowing, sequence, with values in the form LLL, where L is an alphabet letter in the range A through Z (26 symbols). Nicola's company uses the sequence value as a match flag for settlement, for instance, between payment and invoice. The first value produced should be AAA, and it should advance as if

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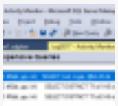

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Apple Is Ready for the Tech Backlash

The only real guarantee that companies won't go overboard in invading customers' privacy is that they have large revenue streams which make it an unnecessary risk.

Bloomberg | Mar 30, 2018

(Bloomberg View) --It's easy to understand Apple CEO Tim Cook's somewhat self-righteous comments on the Facebook-Cambridge Analytica scandal: His company has never emphasized customer data monetization, and privacy has been one of its persistent selling points. Apple still collects our data — and reserves the right to share it — but the company has a much better track record than newer tech titans.

"The truth is, we could make a ton of money if we monetized our customer — if our customer was our product," Cook said on Wednesday. "We've elected not to do that." Asked what he'd do if he were in Facebook CEO Mark Zuckerberg's shoes, he replied, "I wouldn't be in this situation."

In reality, Apple collects more information about its customers than Facebook because it offers more products and services. It knows everything from an iPhone's location to its owner's taste in movies and music. It's all in the company's privacy statement, including the frank admission that Apple will share the data with "strategic partners that work with Apple to provide products and services, or that help Apple market to customers" and with law enforcement. Apple also lets applications that run on its platform (including Facebook) hoover up data. And it does have a small ad platform that allows targeted advertising.

Apple's closest equivalent in terms of data collection, sharing and "pass-through" to app developers is Google, which offers roughly the same array of services (plus search) and also owns mobile and desktop operating systems. The difference is that Apple has imposed some voluntary restrictions on itself: For example, it anonymizes location data (unless you're using the "Find My iPhone" feature) and generally employs "differential privacy" — a cryptography-based practice of obtaining usage and preference data without linking it to specific users. Google and Microsoft also use that to some

degree, and a co-inventor of differential privacy, Cynthia Dwork, has even worked for Microsoft Research, but Apple was the first to market the technique as an advantage for its customers.

Cook clearly thinks of these self-restrictions as a good way of staving off external regulation. On Wednesday, he scolded Facebook for not being as far-sighted. "I think the best regulation is no regulation, is self-regulation," he said. "However, I think we're beyond that here."

As a user, however, I wouldn't put much trust in any company's ability to regulate itself. Cook has been wary of monetizing Apple's user base, but he won't be CEO forever. And people do change their mind, especially when it comes to picking up money that's there for the taking. Regulation — such as the EU's General Data Protection regulation, launching in May — is a more reliable way to ensure a level playing field. That's why Google, Apple and Microsoft all have good, convenient privacy controls which allow the user to turn off various kinds of data collection, erase data that companies already have and opt out of targeted advertising. Facebook, too, promises to put such controls in place soon.

But even external regulation isn't a reliable guarantee of privacy. Most people won't fiddle with the controls because they may not even realize what all the fuss is about. And by default, companies with advertising-based business models will want to collect as much information as they can and anonymize as little of it as they can. Neither Google nor Facebook, for example, will make the same commitment as Microsoft that no ads will be targeted based on your email and chat contents. Nor will they make it as easy as Apple and Microsoft make to shut off ad personalization.

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