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of SQL Server Professionals*

How to Perform a SQL Server Health Check

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My Goal for Today

- *I only have one main goal for this session, and that is to persuade you of the importance of **conducting regular health checks** on your SQL Server instances to ensure that they are *currently healthy*, and continue to *remain healthy*.*

“There is a SQL Server health pandemic.

Most organizations don't realize how sick most of their SQL Server instances really are.”

Can You Honestly Answer This Question

- Are *all* the SQL Servers you manage healthy, running *optimally* and providing the high *availability* your organization expects of them?
- If your answer is *yes*, how do you know this?
 - How would you “prove” this in an IT audit?
- If your answer is *no*, then you had better find out the answer quickly if you want to excel as a professional DBA (and keep your job long term).
 - Another goal of this session is to help you answer *yes* to the above question by providing you an easy way to determine if your servers are healthy, and to be able to prove it during an IT audit.

What We Are Going to Learn Today

- What is a SQL Server Health Check
- Why Perform a SQL Server Health Check
- When Should You Perform a SQL Server Health Check
- What Tools Should You Use to Perform a SQL Server Health Check
- Introduction to the SQL Health Check Spreadsheet

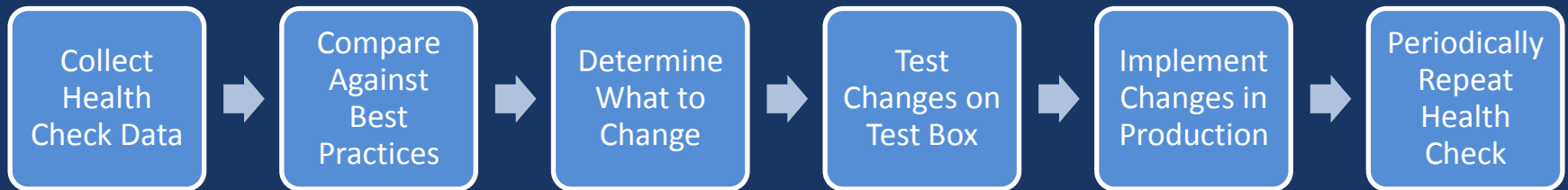
What is a Health Check



What is a SQL Server Health Check

- Gathering detailed information about your SQL Servers (in effect, documenting them and also creating a baseline of data for future comparison). *Use a checklist to be methodical.*
- Comparing collected data to established best practices to identify potential changes to your SQL Servers so that they meet these best practices. In other words, *identify any health issues.*
- Examining the differences and determining if the best practices should be implemented, or, because of special circumstances, should be ignored. *Not all SQL Server should be treated equally.*
- After determining what changes, if any, should be made, *test the changes on a test server* (in most cases).
- *Roll out the changes to production SQL Servers.*
- *Repeat* periodically as SQL Server instances aren't static.

SQL Server Health Check Flow Chart



Today's Focus

Where Does the Checklist Come From

- From past experience, and research on a new book, I have begun to put together an extensive checklist about SQL Server configurations, operations, and best practices.
- You can use this checklist as a basis for creating your own customized checklist that best meets the needs of your particular environment, and can be used as “proof” during an IT audit.
- It comes in the form of an Excel spreadsheet to make it easier for you to use and customize, and to store the health check data you collect.

Where Do The Best Practices Come From

- To compare the data you have collected during your health check, you must have a point of reference (best practices) to determine if your server is “healthy”.
- Ideally, you will have created your own *best practices standards guide* that you follow for your organization’s SQL Servers. If not, you should create one that acts as your point of reference.
- If you are at the point where you need to create your own best practice standards guide, then look to authoritative resources to begin creating the guide.

Authoritative Resources

- Books Online
- www.sqlcat.com
- www.sqlskills.com
- www.bradmcgehee.com
- Microsoft KB Articles
- Microsoft SQL Server Team Blogs
- Microsoft MVP Blogs
- Books, such as *Microsoft SQL Server 2008 Internals*, *Professional SQL Server 2008 Internals and Troubleshooting*, & my upcoming book.

Why Perform a SQL Server Health Check

- Provides *documentation and a baseline* for:
 - Performance Tuning
 - Troubleshooting
 - Rebuilding, Disaster Recovery
 - IT Audit
- To *identify potential problems & fix them early.*
- To *implement best practices (& help develop your own best practices standards guide).* This results in performance optimization and higher availability.
- Helps to *standardize* your SQL Server's configuration throughout your organization.

When Should You Perform a SQL Server Health Check

- If you currently administer any SQL Servers and *you have never documented* them before.
- If you *start a new job*, to quickly learn about the SQL Servers you have inherited and now “own”.
- If you are a *consultant*, and you need to get quickly up to speed on your client’s SQL Servers.
- Once an initial health check is performed, it should be *repeated regularly* to ensure the continued health of your SQL Servers. Follow-up health checks will be much faster because you already have collected the basics.

What Tools Should You Use to Perform a SQL Server Health Check

- OS tools, such as administrative tools and event logs
- SSMS, including Standard Reports
- T-SQL, PowerShell, DMVs, system views, system stored procedures, etc.
- SQL Trace/Profiler
- Performance Monitor (maybe Data Collector)
- CPU-Z (free tool)
- RML Utilities for SQL Server, PAL, & other freeware
- Create your own automated collection, reporting system
- Use vendor application: SCOM, SQL Monitor, etc.
- Check out the free eBook *SQL Server Tacklebox*

Where Should the Health Check Data be Stored

- If the number of SQL Servers you manage are few, then collecting and storing the data in a spreadsheet is probably the easiest and quickest way to collect and store the data.
- If you have many SQL Server instances, then you need to automate the health check process and store the data in a database. If you don't have the time to automate your health checks, then doing it manually with a spreadsheet is better than doing nothing at all.

Things to Keep in Mind When Performing a SQL Server Health Check

- When collecting data for a health check, keep the following in mind:
 - Not collection *enough* data can lead to bad choices
 - Not collecting the *right* data can lead to bad choices
 - Collecting *too much data* sometimes can make lead to the problem of “You can't see the forest for the trees”.
 - *Misinterpreting* the data can lead to bad choices
 - Not *acting* on the data is just inexcusable

Introduction to the SQL Health Check Spreadsheet

- Download the spreadsheet from:
www.bradmcgehee.com/healthcheck.zip.
- Not all of it applies to every SQL Server instance.
- Even if a check item does apply to you, you may determine that it is unimportant to you.
- Doesn't have to be completed in any special order.
- Not every possible checklist option is listed.
- Modify as necessary to meet your needs.
- Keep spreadsheet updated as changes are made.

SQL Server Health Check Checklists

- Hardware
- Operating System
- SQL Server Settings
- Database Settings
- Security
- Database Maintenance
- SQL Server Agent Jobs
- Logs
- Monitoring
- Performance (work in progress)
- High Availability (work in progress)

Health Checklist

- DEMO

Take Aways From This Session

- Obviously, this session has barely scratched the surface of what it takes to perform a complete SQL Server health check.
- Hopefully, I have persuaded you of the *importance* of performing SQL Server health checks.
- You should also now have *an idea of where to start* to begin performing your own SQL Server health checks.
- When you get back to your office, *download the spreadsheet* and begin slowly, as you have time, to perform a health check on each of your SQL Servers.

Q&A

- If I don't have time to answer your questions now, you can e-mail me at bradmckehee@hotmail.com.

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