

Tuning Microsoft SQL Server for SharePoint

Daniel Glenn

SQL Saturday #392 Atlanta May 16th 2015

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<http://KnowSP.com>



- SharePoint and Collaboration Practice Leader @ InfoWorks, Inc. – www.InfoWorks-tn.com
- SharePoint Saturday Nashville - June 6th 2015
- PASS Nashville Business Intelligence (Nash BI) User Group
- SharePoint User Group President and Speaker





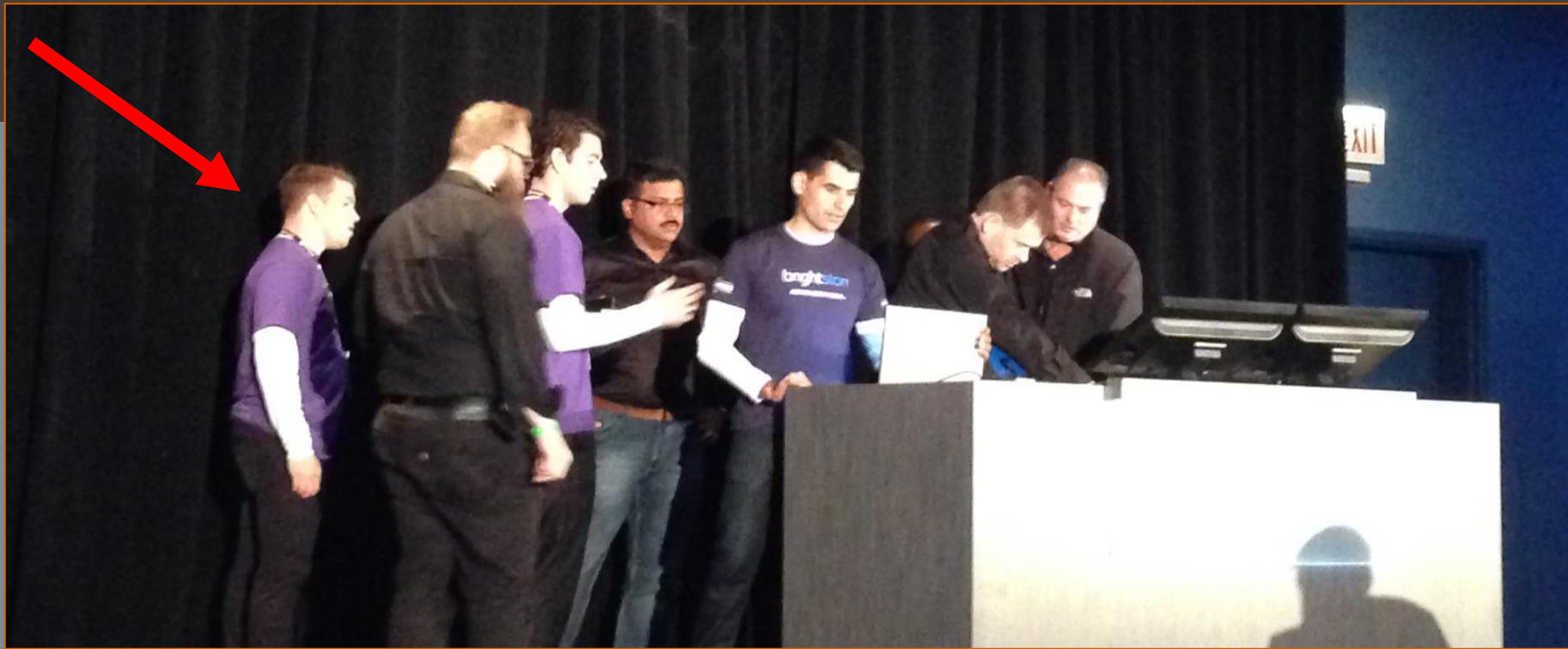
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Anyone at #MSIgnite last week?

Agenda

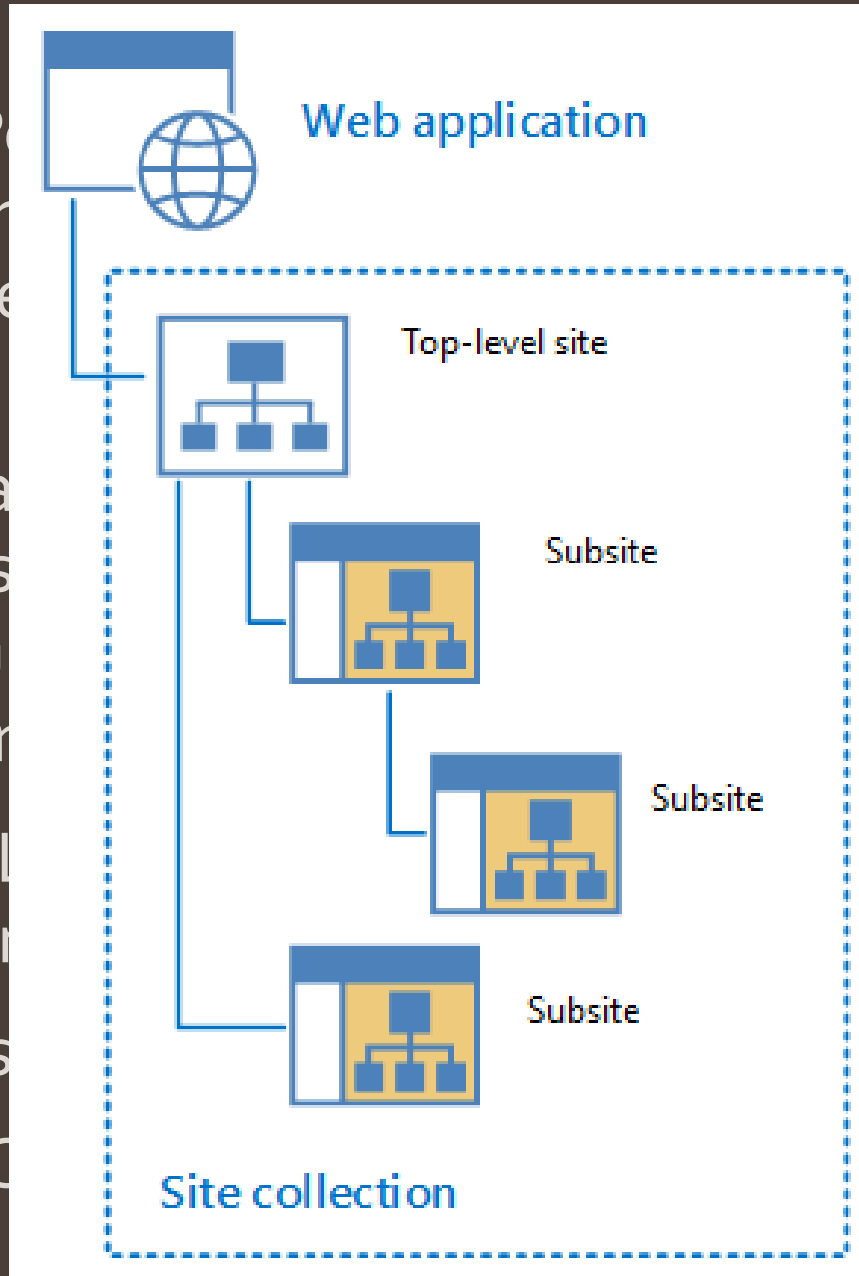
- What is SharePoint?
- SharePoint Databases
- SQL Configuration
- SQL Server Maintenance
- SharePoint Configuration
- SharePoint install demo



What is SharePoint?

SharePoint

- SharePoint delivers enterprise intelligence search, and business intelligence, and content management, and workflow, and deployment options
- There are four options for SharePoint deployment: on-premise; on-premise with Office 365; on-premise with Office 365 and Office 365; or almost all Office 365
- MS SQL Server is a component of SharePoint
- What is a Site Collection?
- A Site Collection is a group of sites that share the same content database



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Welcome to the Engineering Site. This site is where our Engineering Team collaborates on product designs, prototypes, documentation and other engineering tasks. Explore the site to find the latest in product design, product support, including product documentation and design drawings and much more!

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- Operations
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- Site Contents

XT1000 Test Results

Test Number

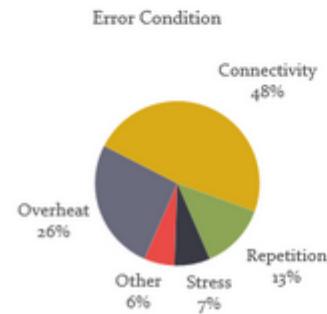
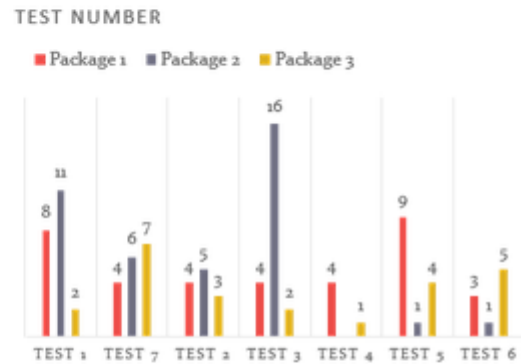
Package 1
Package 2
Package 3

Success Percentage

18-25	26-35
36-45	46-55
55-65	Over 65

Workaround?

No Wo... Worka...



Navigation controls for the XT1000 Test Results page, including back, forward, and search icons.

Engineering Team Calendar

May 2015

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27 2:00 am - 3:00 am Planning Meeting	28	29 7:00 am - 8:00 am Engineering Review Board	30	1 8:00 am - 8:00 am Presentations	2
3	4 2:00 am - 3:00 am	5	6 7:00 am - 8:00 am	7	8	9

Engineering Announcements

[new announcement](#) or [edit this list](#)

Title	Modified
Design Estimates for New QT Models	March 19
Troubleshooting Guide	March 19
Customer Specs	March 19

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Career development and continuous learning are key parts of what makes Contoso successful.

Congratulations! This year marks a significant milestone in your service to Contoso.

Molly Dempsey we will be presenting our European Expansion Dashboard to our marketing vendor (Kari) later this week.

SharePoint Install Demo

SharePoint Databases

SharePoint Databases

- For a full install of SharePoint 2013 Enterprise on-premises, there are over 20 databases

- Types:

- + AppMng_Service_DB_90f674e3646f4d85aab0c23b9c38e860
- + Bdc_Service_DB_bfc5c08e698a4f25ac95486e33506850
- + Managed Metadata Service_564c0640e56147959f728dc6db8e6b0e
- + PerformancePoint Service Application_1ed416f7799246859f145a4f645cfe67
- + Search_Service_Application_AnalyticsReportingStoreDB_1b6451de073449558b88f52c53ea41ad
- + Search_Service_Application_CrawlStoreDB_cd61ed2823f5409295d00336ffee7056
- + Search_Service_Application_DB_95259af374ba4796a816657039eb425f
- + Search_Service_Application_LinksStoreDB_fb244f8322a749a29bf6c21e3fa5c377
- + Secure_Store_Service_DB_12cacd1aadd54681a474dc9be6c814d3
- + SP13_Admin_Config
- + SP13_Config
- + SP13_MySite_Content
- + StateService_674490b7df264eee83e8ff6512a834ef
- + TranslationService_0f810e79221d4b5db15d90b07a98c8ff
- + WordAutomationServices_f4c1c1a13c3c49ed9150803919c1d82d

SharePoint Configuration

SharePoint Configuration

- Dedicated SQL instance
 - Watch those resources!
- DNS CNAME or SQL Alias for use with SharePoint
 - Before SharePoint install
- Keep your **collaboration** site content databases
< 200GB
- Monitor SharePoint content database I/O

SQL Configuration

SQL Configuration

- New Instance

The screenshot shows the 'Advanced' tab of the 'Database Settings' for a new instance. The 'Max Degree of Parallelism' setting is circled in red.

Property	Value
FILESTREAM Access Level	Disabl
FILESTREAM Share Name	MSSQL
Miscellaneous	
Allow Triggers to Fire Others	True
Blocked Process Threshold	0
Cursor Threshold	-1
Default Full-Text Language	1033
Default Language	Englis
Full-Text Upgrade Option	Rebuil
Max Text Replication Size	65536
Optimize for Ad hoc Workloads	False
Scan for Startup Procs	False
Two Digit Year Cutoff	2049
Network	
Network Packet Size	4096
Remote Login Timeout	10
Parallelism	
Cost Threshold for Parallelism	5
Locks	0
Max Degree of Parallelism	1

SQL Configuration

Permissions for SharePoint administrators & service accounts

- SharePoint admins themselves do NOT need permissions within SQL
- The **service account** used to install SharePoint needs:
 - **securityadmin** and **dbcreator** SQL Server roles during setup and configuration

SQL Configuration

Permissions for SharePoint administrators & service accounts (cont)

- The service account that is the Farm service account will be provisioned automatically during farm creation to have:
 - **dbcreator** and **securityadmin** fixed server roles.
 - It will also be the **db_owner** for all SharePoint databases.
- Other service accounts will be added to new roles on SharePoint databases

To learn more: [http://technet.microsoft.com/en-us/library/cc678863\(v=office.15\).aspx](http://technet.microsoft.com/en-us/library/cc678863(v=office.15).aspx)

SQL Server Maintenance

SQL Server Maintenance

- Database growth
 - Plan and pre-grow
 - Quotas, # site collections per database
- Low vs. High I/O databases
 - Lower I/O databases can be larger without performance issues
- Backups
 - Location
 - Test them!
- Simple vs. full recovery

SQL Server Maintenance

Examples of unsupported database changes include, but are not limited to, the following:

- Adding database triggers
- Adding new indexes or changing existing indexes within tables
- Adding, changing, or deleting any primary or foreign key relationships
- Changing or deleting existing stored procedures
- Calling existing stored procedures directly, except as described in the [SharePoint Protocols documentation](#)
- Adding new stored procedures
- Adding, changing, or deleting any data in any table of any of the databases for the products that are listed in the "Applies to" section
- Adding, changing, or deleting any columns in any table of any of the databases for the products that are listed in the "Applies to" section
- Making any modification to the database schema
- Adding tables to any of the databases for the products that are listed in the "Applies to" section
- Changing the database collation
- Running `DBCC_CHECKDB WITH REPAIR_ALLOW_DATA_LOSS` (However, running `DBCC_CHECKDB WITH REPAIR_FAST` and `REPAIR_REBUILD` is supported, as these commands only update the indexes of the associated database.)
- Enabling SQL Server change data capture (CDC)
- Enabling SQL Server transactional replication
- Enabling SQL Server merge replication


Summary

Best Practices & Summary

- Use SQL Server best practice guidance
- Use RAID disks and spread data and trans log files on multiple physical drives
- Auto growth and 'shrinking' causes fragmentation
- Defragment SQL drives that have SharePoint content databases
- Backup (with multiple copies) and test your backups
- Dedicated SQL Server or SQL Instance
- Create SQL Server alias or CNAME
- Content databases < ~200GB
- Monitor SharePoint content database I/O
- MaxDOP = 1
- Set dbcreator and securityadmin for SharePoint install account only

SharePoint Install Demo

Wrap-up

- SharePoint Saturday – June 6th 2015 – SPSNashville.org & [@SPSNashville](https://twitter.com/SPSNashville) 

Thank you!

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