

# Monitoring the SQLServerCentral.com & Simple-Talk Backend SQL Server Cluster

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# SQLServerCentral.com & Simple-Talk.com Old Infrastructure

- ISP #1: For SSC Only
  - Two physical SQL Server boxes and instances (independent of each other)
  - Two Dual Core AMD 2GHz Opteron CPUs, 4 cores available, 4GB RAM
  - Three mirrored arrays (146GB each), MDFs, LDFs, and backups were not properly separated. All drives were local.
  - Windows 2003 & SQL Server 2005, 32-bit.
  - Log shipping between each server for high availability
- ISP #2: For ST Only
  - One physical box, one dual core CPU, 2 cores available, 4GB RAM
  - Two mirrored arrays (146GB each), MDFs, LDFs, and backups were not properly separated.
  - Windows 2003 & SQL Server 2005, 32-bit.

# Some of Our Upgrade Goals

- To use a single ISP
- To reduce number of instances and licenses
- To upgrade to latest versions of OS and SQL Server
- To upgrade to more, faster cores, plus more RAM
- To implement active/active clustering for higher availability
- To use SAN for greater IO flexibility, throughput and capacity
- Properly separate out MDFs, LDFs, tempdb, and backups

# SQLServerCentral.com & Simple-Talk.com

## New Infrastructure with Single ISP

- Active/Active Cluster, two instances running Windows 2008 and SQL Server 2008 (64-bit).
- SSC on one instance & ST on the other instance.
- Each node has:
  - Two, 2.26Hz Quad Core Intel CPUs (a total of eight cores).
  - 24GB RAM.
  - Two, locally-attached RAID 1 arrays (array 1 holds the system files and SQL Server binaries, and array 2 is used to make local backups. Backups are also mirrored to Red Gate's office.
  - Two, RAID 10 SAN arrays (array 1 holds the MDF files, and array 2 holds the LDF files). Six drives per RAID 10 array.
  - One, RAID 1 SAN array (used exclusively for tempdb).
  - One, RAID 1 SAN array for clustering

# Server Settings and Maintenance

- Tempdb has 8 equal data files on its own array.
- Ola.hallengren.com script is used for most database maintenance. All maintenance runs in a 20 minute window every day.
- Full backups are made nightly, and transaction logs are made every 30 minutes.
- SQL Backup is used for backup to disk locally, and over the network at the same time to another location so we have both local and remote backups available if necessary.

# Remote Monitoring

- Because the servers are hosted and not local, they were not initially actively managed as they should have been due to a lack of IT resources. Alerts were created for monitoring jobs only.
- When SQL Monitor became available, it was installed on the cluster to monitor the two instances, allowing the local IT staff to better monitor the instances via any computer (iPad) with a web browser.
- Anybody can monitor the two instances at:  
[monitor.red-gate.com](http://monitor.red-gate.com)

# What SQL Monitor is Telling Us About The Two Instances

- Since the servers were installed, I have not been involved in their management, but I have been recently asked to use SQL Monitor, and other tools to perform a health check on the two instances.
- As a first step, I wrote an article in SSC, asking the SQL Server community to help me out, taking small steps, rather than tackling everything at once.
- In the next screen is some of the initial feedback we received, along with what action we decided to take.

# What Was the Feedback We Received?

- Windows & SQL Server build level are outdated
- Why are eight files used for tempdb
- Little use of filegroups and multiple files
- Restricted file growth sizes
- Older database compatibility levels
- Page verify settings
- Database collation settings
- Database autogrowth settings
- **Demo:** Show some of these using SQL Monitor
- **Demo:** Spreadsheet with changes made

# OS & Server Properties

## Properties

Name:	252314-SQL1.lon.intensive.int
OS:	Microsoft® Windows Server® 2008 Enterprise without Hyper-V
Service Pack:	1.0
Local Time:	07 Apr 2011 8:33 AM
Local Time Zone:	Mountain Daylight Time (UTC-06:00)
RAM:	24.0 GB

## Server properties

Edition:	Standard Edition (64-bit)
Version:	10.0.2714.0 SP1
Collation:	Latin1_General_CI_AS

# Databases Per Instance

## Databases

Name	Status	Availability
master	✓ OK	ONLINE
tempdb	✓ OK	ONLINE
model	✓ OK	ONLINE
msdb	✓ OK	ONLINE
ips_notifications	✓ OK	ONLINE
Prettifier	✓ OK	ONLINE
SQLServerCentralForums	✓ OK	ONLINE
CommunityServer	✓ OK	ONLINE
DatabaseWeekly	✓ OK	ONLINE
SQLServerCentral	✓ OK	ONLINE
SingleSignOn	✓ OK	ONLINE
ws_ftp_server	✓ OK	ONLINE

# Database Properties

## Properties

Status:	ONLINE
Recovery model:	FULL
Date created:	26 Nov 2009 16:09
Collation:	Latin1_General_CI_AS
Compatibility level:	100
Auto create statistics:	True
Page verify:	CHECKSUM
Auto shrink:	False

## Files

Name	Type	Path	Autogrowth	Current size (MB)	Max size (MB)
sqlservercentral	Rows	S:\SQL Server\Data\SQLSe...	1,024.0 MB	23,492.0	Unlimited
sqlservercentral_log	Log	T:\SQL Server\Logs\SQLSe...	512.0 MB	3,054.0	2,097,152.0

# Database Autogrowth Settings

Servers & Databases	Old Setting	Old Setting	New Setting	New Setting
ins1	MDF Autogrowth	Log Autogrowth	MDF Autogrowth	Log Autogrowth
master	10%	10%	10%	10%
tempdb	100MB	250MB	128MB	256MB
model	1MB	10%	1MB	10%
msdb	10%	10%	10%	10%
ips_notifications	1MB	10%	1MB	1MB
Prettifier	1MB	10%	1MB	1MB
SQLServerCentralForums	10%	10%	512MB	128MB
Community Server	10%	10%	128MB	128MB
Database Weekly	1MB	10%	128MB	128MB
SQLServerCentral	1MB	10%	1024MB	512MB
SingleSignOn	1MB	10%	128MB	2MB
ws_ftp_server	1MB	10%	1MB	1MB
ins2				
master	10%	10%	10%	10%
tempdb	100MB	100MB	128MB	128MB
model	1MB	10%	1MB	10%
msdb	10%	10%	10%	10%
apps_excuse	10%	10%	1MB	1MB
apps_prettifier	10%	10%	1MB	1MB
distribution	1MB	10%	1024MB	128MB
Simple-Talk	10%	10%	1024MB	128MB

# Help Us Out

- The project to perform a health check (albeit a slow one) on the SSC and ST servers is an on-going project.
- I will continue to be writing up our findings on the SSC and ST servers at [SQLServerCentral.com](http://SQLServerCentral.com).
- If you like, please follow the article series to see what we are doing and to offer any feedback you have.
- Check out [monitor.red-gate.com](http://monitor.red-gate.com) to follow along.

# More Details on the SSC & ST Setup

- <http://www.bradmcgehee.com/2009/12/upgrading-the-ssc-sql-servers-part-1/>
- <http://www.bradmcgehee.com/2010/01/upgrading-the-ssc-sql-servers-part-2/>
- <http://www.bradmcgehee.com/2010/01/part-3-creating-the-ssc-maintenance-plan/>
- <http://www.sqlservercentral.com/articles/SQLServerCentral/72541/>

# E-books, websites, slides & more

- Free E-books on SQL Server:

- [www.sqlservercentral.com/Books](http://www.sqlservercentral.com/Books)

- Check these websites out:

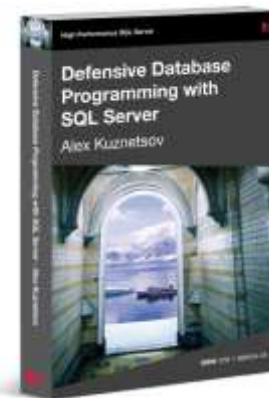
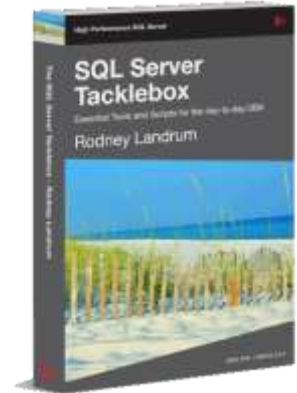
- [www.SQLServerCentral.com](http://www.SQLServerCentral.com)
- [www.Simple-Talk.com](http://www.Simple-Talk.com)

- Blogs:

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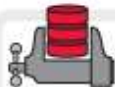
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"Booyaa! Just finished adding all my databases to SVN using SQL Source Control. Amazing UI/UX experience."

**Dave Dustin, SQL Server MVP**



"Red Gate's tools are generally considered to be the gold standard....I wouldn't bother messing around with anything else."

**Adam Machanic, SQL Server MVP**

