Sitecore Best Practices - War Stories From the Trenches

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Agenda

• What are Sitecore best practices & what makes Sitecore unique in a production environment?

• “War Stories”.

• Best practice scan results.

• Q&A
# Sitecore Best Practices

**What are they?**

- IIS & SQL best practices are Sitecore best practices.
- 7.5 and above add MongoDB.
- Review current install docs before installing Sitecore.

**What makes Sitecore unique?**

- Sitecore caching.
- Sitecore Remote Events.
- Much more…

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Sitecore User Group Conference 2015
War Story 1

Missing cache clear events after content publish on some servers
War Story 1 – The Symptoms & Settings

- Production CDs are in a load balancer.
- CD1 works but CD2 shows stale content.
- Deployed the code to all servers last evening.
- Web root was synced with robosync so DB connections and code should be the same.
## War Story 1 – The Evaluation

<table>
<thead>
<tr>
<th>The Logs</th>
<th>The Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Publish occurs on CM.</td>
<td>• Property table shows events are being processed by both servers.</td>
</tr>
<tr>
<td>• CD1 clears cache post publish.</td>
<td></td>
</tr>
<tr>
<td>• CD2 does not clear cache post publish.</td>
<td></td>
</tr>
</tbody>
</table>

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War Story 1 – The Results

• There was an extra w3wp.exe running.

• We suspect that the w3wp process on CD2 didn’t completely shutdown during the deployment the night before.

• The rouge w3wp on CD2 was stealing event from the active w3wp.

• IISReset resolved the issue.
Frequent website pauses and high SQL server load
War Story 2 – The Symptoms & Settings

- Heavy SQL load, that occasionally hits the DB very hard especially after publishes.
- Website frequently “pauses”.
- Slow index updates.
- 3 Frontend CDs with a lot of ram.
## War Story 2 – The Evaluation

<table>
<thead>
<tr>
<th>The Logs</th>
<th>The Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Multiple ACTIVE log files.</td>
<td>• Event processing sometimes gets very behind then catches up.</td>
</tr>
<tr>
<td>• Event processing visibly slow and sporadic.</td>
<td></td>
</tr>
</tbody>
</table>
War Story 2 – The Results

- There were multiple IIS websites and AppPools running on the CD servers ALL POINTING TO THE SAME WEBROOT.
- Sitecore documentation explicitly says “DON’T DO THIS”.
Understanding Sitecore
Remote Event Processing
Remote Events Processing Model

• Events are written to EventQueue table. Usually in Core, but they can be written for other databases

• A property in the Property table tracks the last event seen by a server using a property called EQStamp_[MachineName]

• Every 2 seconds (by default) each server scans all databases for new events

• Property changes raise “PropertyChanged” events so other servers know properties have changed

• What are remote events used for?
Remote Events & Search Indexes

• Lucene Index Updates are kicked off by remote events.
• Lucene Updates reads the history table & use properties in Property Table to track index updates.
• Can get overloaded with servers hitting the DB too frequently for updates.
• Use SOLR or Coveo for larger installs.
War Story 3

Once or twice a day, each CD server crashes with errors in the Lucene DLL
War Story 3 – The Symptoms & Settings

- 3 load balanced CDs.
- Sync tool to keep webroot folder in sync across servers.
- Once a day or so, each of the 3 front end CD’s have a failure in w3wp.exe that brings down the CD with nothing in the Sitecore logs.
- Windows event log shows the failures in Lucene.net.
## War Story 3 – The Evaluation

<table>
<thead>
<tr>
<th>The Logs</th>
<th>The Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Failure deep in the Lucene.net DLL.</td>
<td>• No issues within the database.</td>
</tr>
<tr>
<td>• That error only shows up in the Windows Event Log.</td>
<td>• Remote Event processing is working correctly.</td>
</tr>
<tr>
<td>• Error indicates corrupted memory.</td>
<td></td>
</tr>
</tbody>
</table>

War Story 3 – The Results

• A sync tool was used to sync the webroot (good) and the data folder (bad).

• Lucene index files were updated & synced to other servers which confused the Lucene dll’s.

• Stopped syncing process and rebuilt the Lucene index on all servers.
War Story 4

Automated Deployments slowing down the CD
War Story 4 – The Symptoms and Settings

• Have a CM & CD in test environment.
• Environment was in a remote facility.
• While TDS was deploying items to the CM, the CD server would run very slowly.
<table>
<thead>
<tr>
<th>The Logs</th>
<th>The Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Build logs look normal.</td>
<td>• Events were being processed correctly, but the CD was seeing Item Serialization events.</td>
</tr>
<tr>
<td>• CM logs indicate that ~2000 items deployed to the CM.</td>
<td></td>
</tr>
<tr>
<td>• CD logs indicate ALL CACHES cleared EVERY TIME an item was deployed!</td>
<td></td>
</tr>
</tbody>
</table>
War Story 4 – The Results

• The CD still had a connection to the Master database and was clearing its caches every time an item was serialized into the master database.

• Sitecore best practice dictates that the master database should not be connected to the CD.
Our “Wellness” Statistics

<table>
<thead>
<tr>
<th>Critical Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove link to Master DB</td>
<td>86%</td>
</tr>
<tr>
<td>Restrict access to Sitecore client on CD</td>
<td>50%</td>
</tr>
<tr>
<td>Web content expiration is set to 30</td>
<td>95%</td>
</tr>
<tr>
<td>Data folder inside the Web root</td>
<td>48%</td>
</tr>
<tr>
<td>Database index fragmentation</td>
<td>85%</td>
</tr>
<tr>
<td>Use only Sitecore roles to give access</td>
<td>47%</td>
</tr>
<tr>
<td>Users in Roles are also set as admins</td>
<td>85%</td>
</tr>
<tr>
<td>Nodes with more than 100 items</td>
<td>87%</td>
</tr>
</tbody>
</table>
Take Aways

• Read Sitecore Documentation for your version before doing a production installation.
• Follow IIS & SQL best practices.
• Schedule frequent checks of your installation.
• Script automatic scans.
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