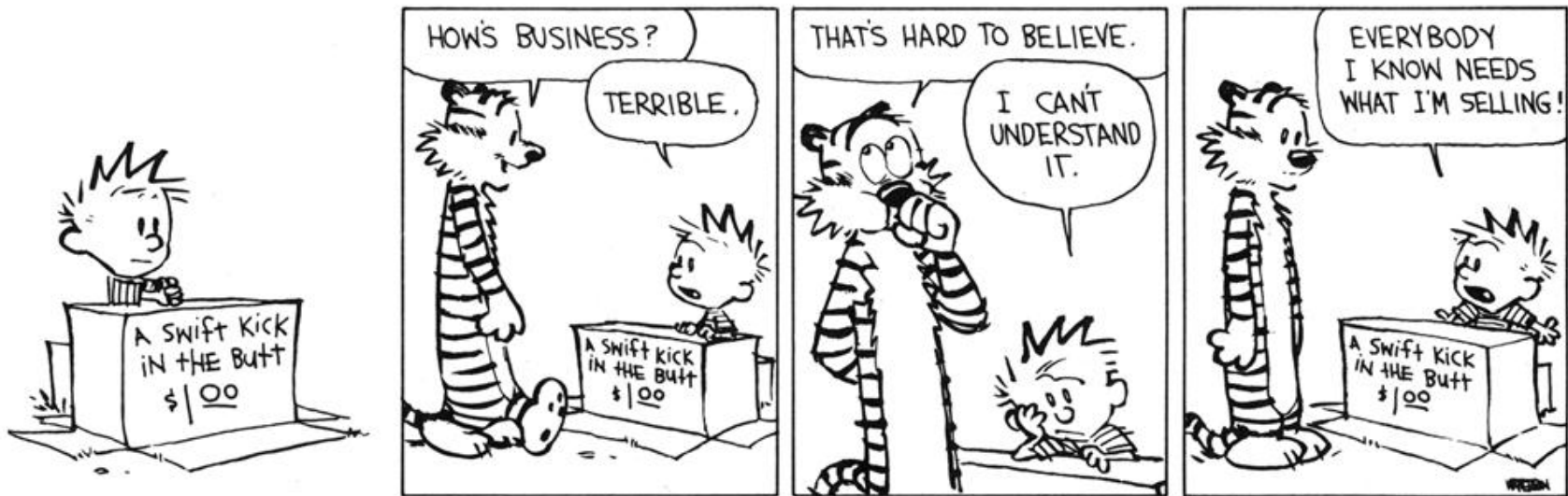




Saving SharePoint

Sean P. McDonough



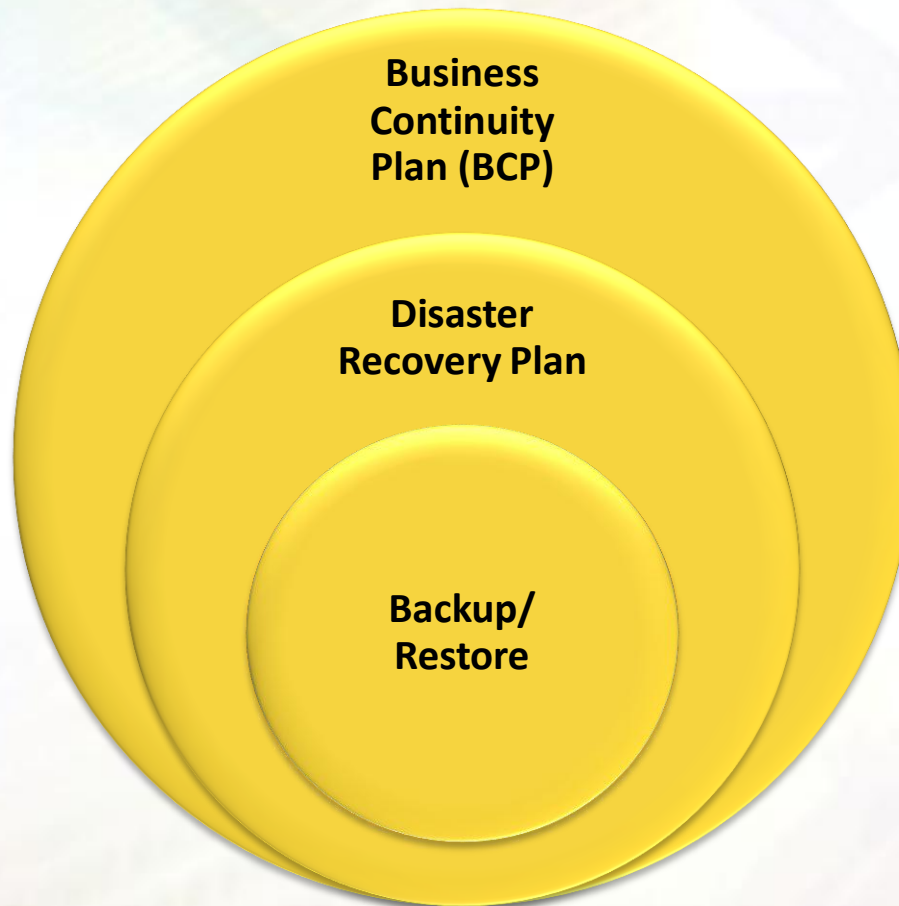
DISASTER RECOVERY (DR):
SOMETHING EVERYBODY NEEDS,
BUT NEVER WANTS TO USE

What Do I Mean By “Disaster?”¹



- Natural (hurricane, tornado, flood, fire ...)
- Human (operator error, sabotage, implant of malicious code, terrorist attacks ...)
- Environmental (equipment failure, software error, telecom network outage, electric power failure ...)

My Pet Peeve: DR vs. Backup/Restore



- Disaster Recovery is not the same as backup/restore
- DR (within a BCP) deals with technical and non-technical aspects of bringing back functionality
- Backup/restore is largely a “how to” technical concern

SMB DR Preparedness Survey Results²

- 82% report satisfaction with their DR plans
- 84% report IT systems are protected to some extent
- Average SMB experienced 3 outages in past 12 months due to human, power, and natural causes
- 47% report no plan to handle such disruptions
- Only 1 in 5 do daily backups
- 40% execute backups monthly or less often!

The SharePoint DR “Commandments”

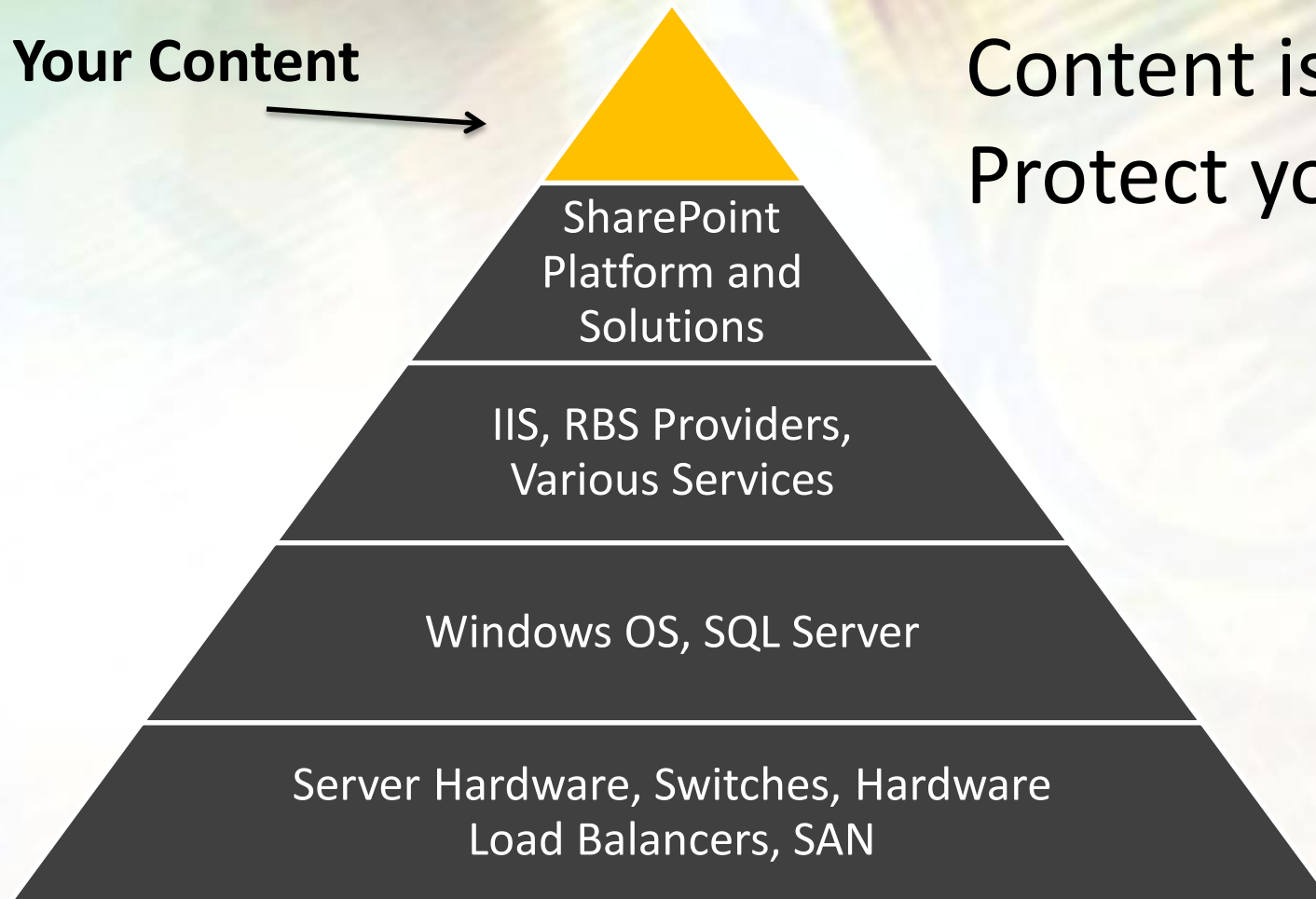
or, all the “c” words

- Protect your content
- Speak a common language
- Cover SharePoint
- You can't do it alone!
- Track your changes
- Constantly be testing

Your Content

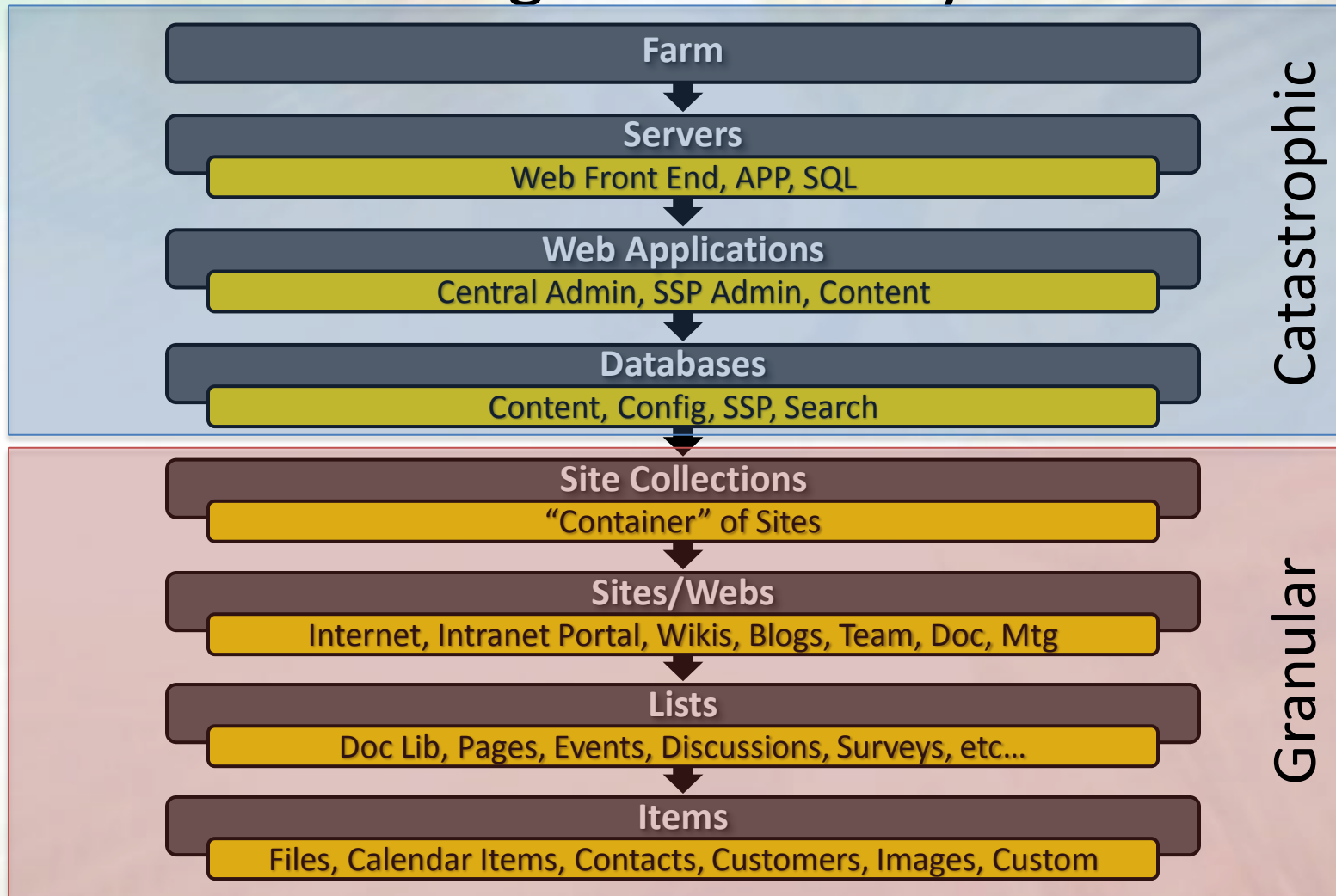


**Content is king.
Protect your king.**



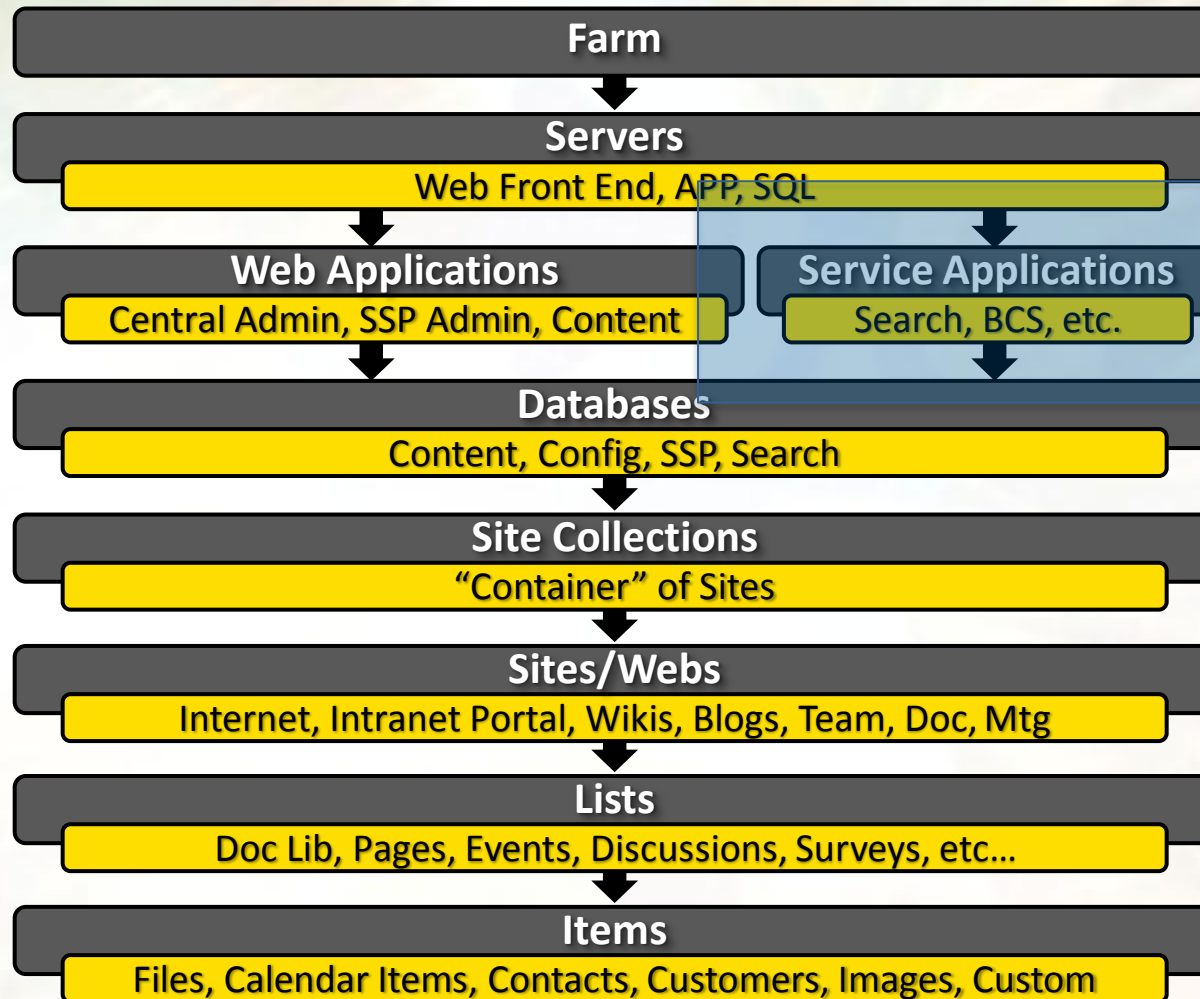
Protecting Content: Architectural Hierarchy

SharePoint's Logical Hierarchy



2010 Alert!

SharePoint's Logical Hierarchy



Speaking a Common Language



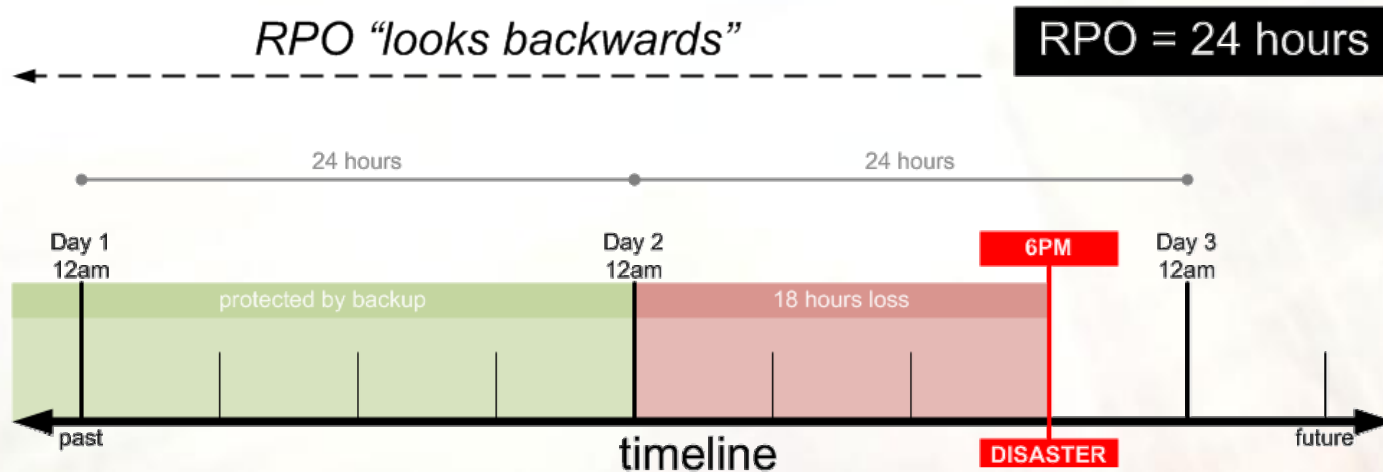
- “DRPlan” is an acknowledged (and tricky to learn) foreign language infrequently used by IT professionals
- Common terms are the starting point for successful DR planning, implementation, and measurement

DR Plans Begin With Targets

- DR is driven by business owners and stakeholders as part of a larger strategy
- The ultimate measure of a DR plan's success is whether or not it hits business-supplied targets
- $\text{Targets} + \text{Costs} + \text{Resources} = \text{Constraints}$
- DR targets and plans are described in DR terms

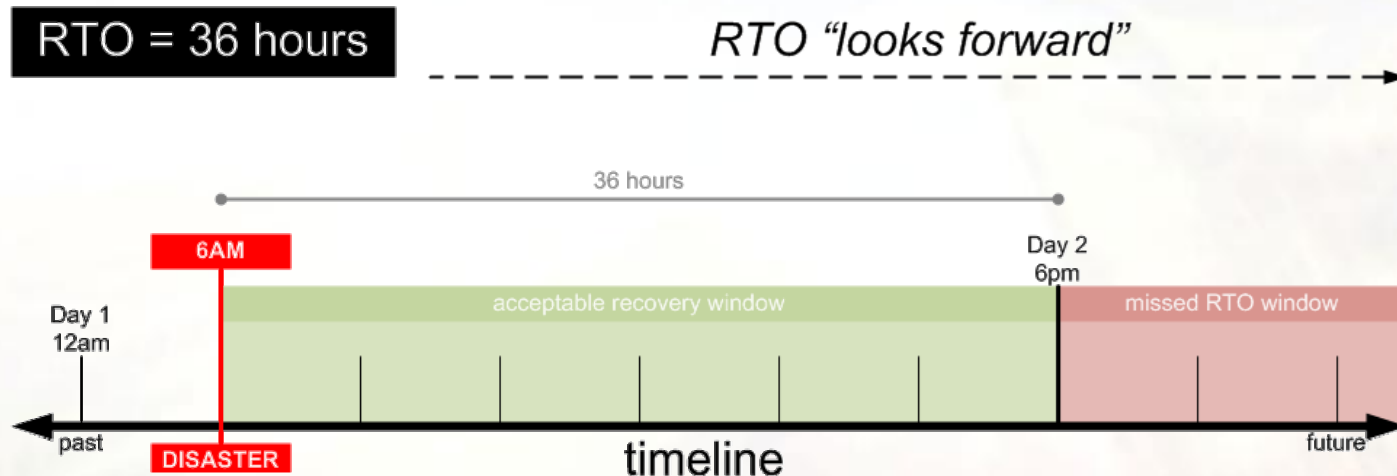
RPO

- The full term is “Recovery Point Objective”
- measured in time
- Describes maximum amount of acceptable data loss



RTO

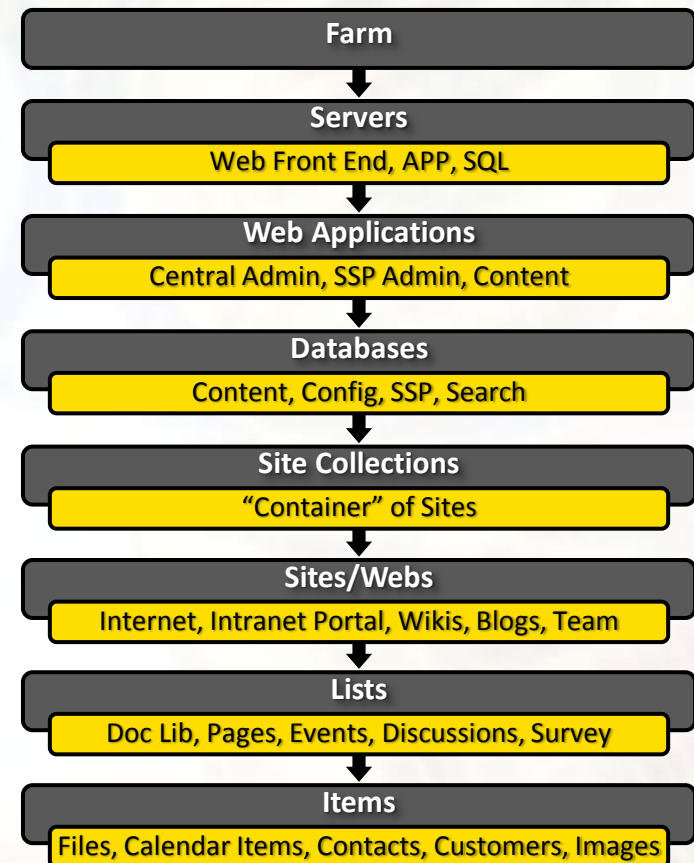
- The full term is “Recovery Time Objective”
- Also measured in time
- Describes maximum amount of time that can be taken to restore a system or functionality



RLO

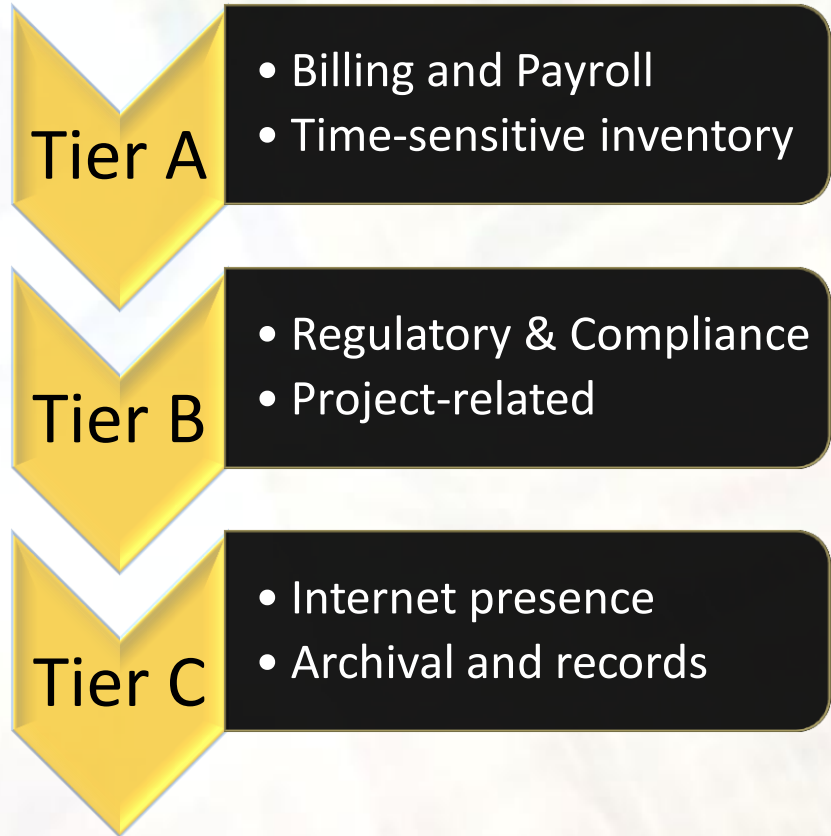
- Acronym for “Recovery Level Objective”
- Defines the granularity or depth of data that must be recovered (e.g, “to the content DB level” or “to the list level”)
- Deeper RLOs translate into greater complexity & cost
- RLO is more of a Microsoft term ...

Increasing RLO



Recovery Targets

- Rather than RLO, think in terms of recovery targets
- Areas to be recovered are typically ordered or tiered to prioritize recovery ops
 - Business critical
 - Important
 - Lower priority
- Recovery priorities driven by business based on \$\$\$



Tier A

- Billing and Payroll
- Time-sensitive inventory

Tier B

- Regulatory & Compliance
- Project-related

Tier C

- Internet presence
- Archival and records

Cover SharePoint: Tools and Techniques

- What do they cover?
- What don't they cover?
- Granularity
- How are they used?
- Viability (with given RPO & RTO targets)

Commonly Available Tools (OOTB)



- SharePoint Designer
- SharePoint Workspace
- Central Administration backup/restore
- Command line backup and restore (STSADM/PowerShell)
- SQL Server database backups

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SharePoint Designer



Product Activated

Microsoft SharePoint Designer 2010
This product contains Microsoft SharePoint Designer.

About Microsoft SharePoint Designer

Version: 14.0.5128.5000 (64-bit)
[Additional Version and Copyright Information](#)

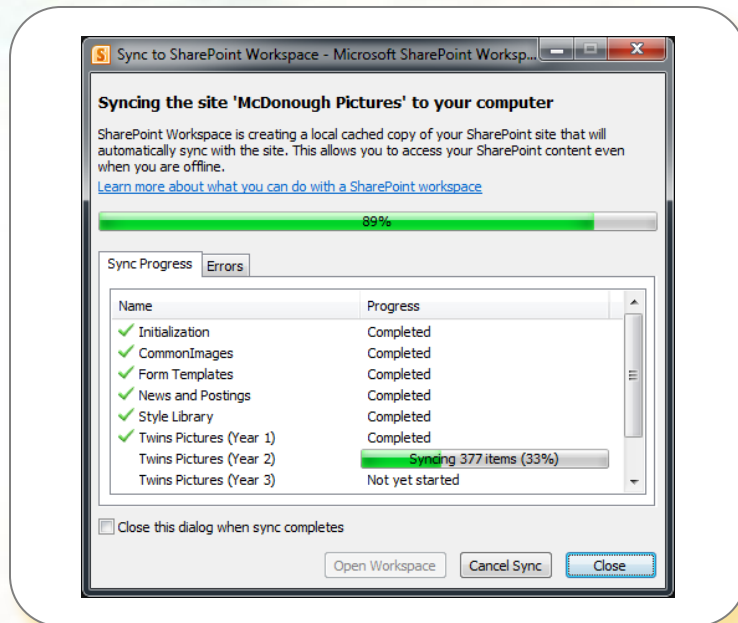
© 2010 Microsoft Corporation. All rights reserved.
[Microsoft Customer Services and Support](#)
Product ID: 02275-001-0000601-49652
[Microsoft Software License Terms](#)

- The admin's nemesis
- What can it cover?
 - Structural migration
 - Site template creation
 - Content migration
- Best case: end user content protection

Migration support removed

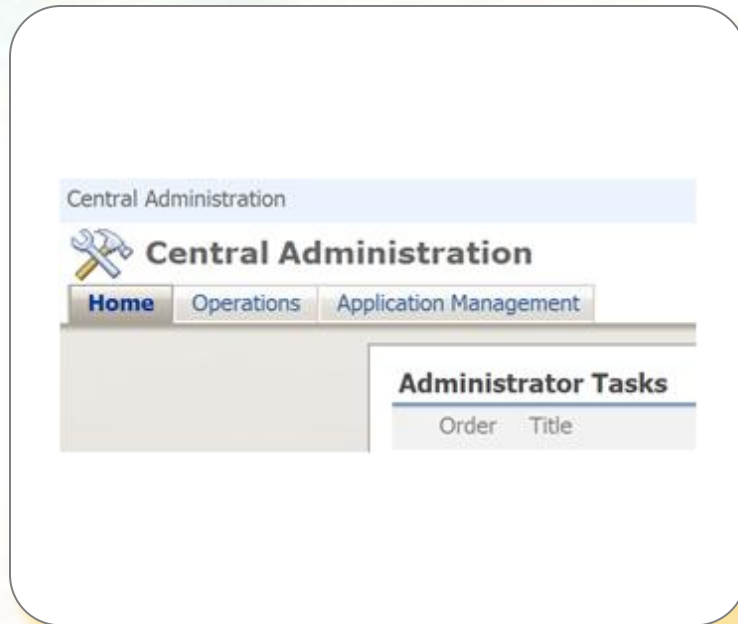
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SharePoint Workspace



- What can it cover?
 - Lists and Libraries
- Provides synchronization and replication for offline use
- Like SharePoint Designer in use-case scenarios
 - Builds user confidence

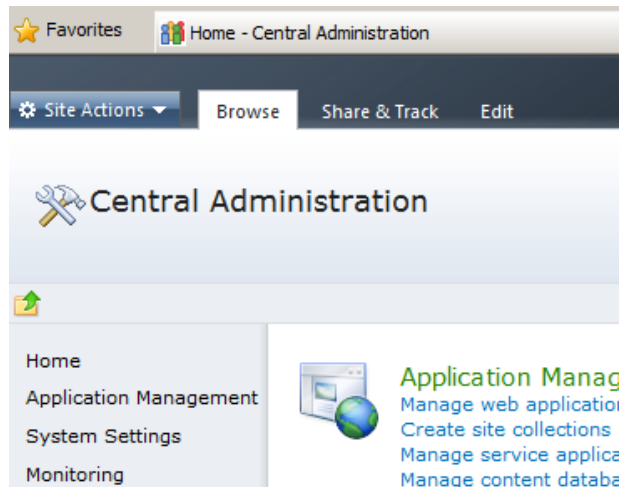
Central Administration Backup/Restore



- What can it cover?
 - Farm
 - Services & Service apps
 - Web applications
- Use case: one-off backup and restore operations
- Remember, content is king

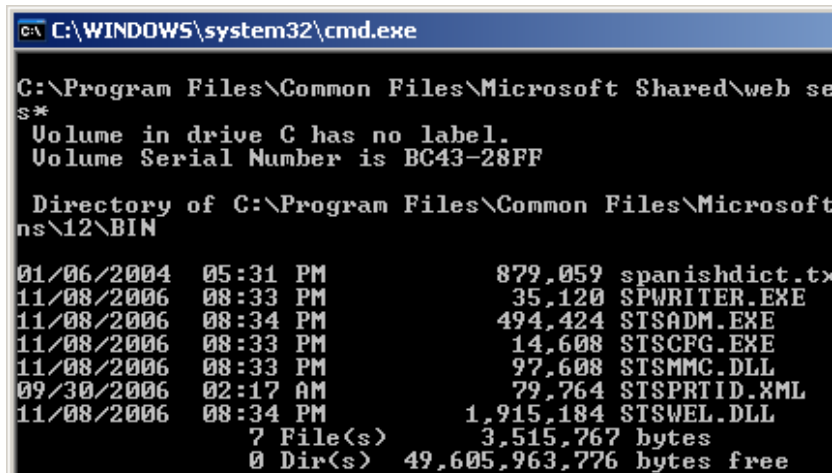
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Central Administration Backup/Restore



- Site collection backups
- Unattached DB recovery
 - no more recovery farms
- Granular export support
 - to the list level
- Still no scheduling built-in

Command Line Backup/Restore: STSADM



```
C:\WINDOWS\system32\cmd.exe

C:\Program Files\Common Files\Microsoft Shared\webservices\12\BIN
01/06/2004 05:31 PM      879,059 spanishdict.txt
11/08/2006 08:33 PM       35,120 SPWRITER.EXE
11/08/2006 08:34 PM    494,424 STSADM.EXE
11/08/2006 08:33 PM     14,608 STSCFG.EXE
11/08/2006 08:33 PM     97,608 STSMC.DLL
09/30/2006 02:17 AM     79,764 STSPRTID.XML
11/08/2006 08:34 PM    1,915,184 STSWEL.DLL
       7 File(s)      3,515,767 bytes
       0 Dir(s)  49,605,963,776 bytes free
```

- What can it cover?
 - Farm
 - Services & service apps
 - Web applications
 - Site collections
- Use case: regularly scheduled backups

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Command Line Backup/Restore: PowerShell

```
PS C:\Users\Administrator> get-spsite ! format-list  
  
ApplicationRightsMask : FullMask  
ID : 5021e567-94  
SystemAccount : SHAREPOINT  
Owner : SP2010\s01  
SecondaryContact :  
GlobalPermMask : FullMask  
IISAllowsAnonymous : False  
Protocol : http:  
HostHeaderIsSiteName : False  
HostName : bestofspc  
Port : 80  
ServerRelativeUrl : /  
UpgradeRedirectUri : http://bes  
Zone : Default  
Url : http://bes  
UserCodeEnabled : False  
Impersonating : False  
Audit : Microsoft.  
TrimAuditLog : False  
AuditLogTrimmingCallout :
```

- STSADM still supported, but...
 - Probably on its way out
 - PowerShell is the future for administration
 - SP2010 cmdlets make admin operations easier
 - Powerful, object-based
 - Generally more efficient

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SQL Server Database Backups



- What can it cover?
 - (Content) databases
- Great complement to other backup techniques
- Use case: scheduled backups for larger farms
- Support for SQL snapshots

Alternative Tools and Techniques

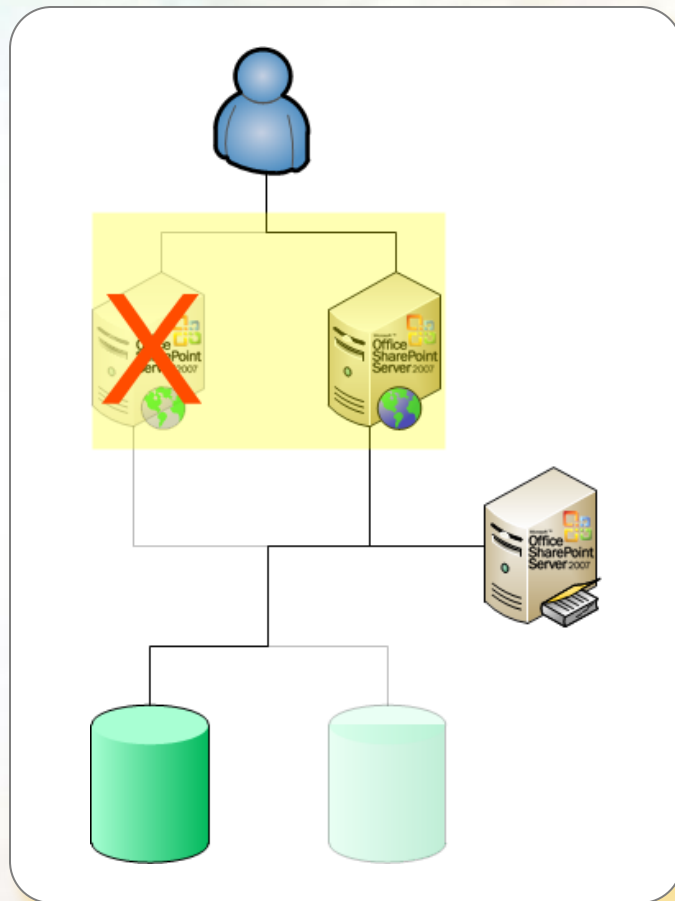
- Remember: backup/restore is just one way of addressing business continuity requirements
- Other common approaches
 - Use of virtual machines
 - High-availability within a farm
 - High-availability (multiple farms)
- Third-party tools and solutions

Virtual Machine Snapshots & Clones



- Virtual machine snapshots
 - Not a DR solution
- You can use VM clones, but ...
 - How many farm members?
 - Are the farm members running or down when cloned?
 - Are the farm members cloned at the same time?
- Remember: consistency is key!

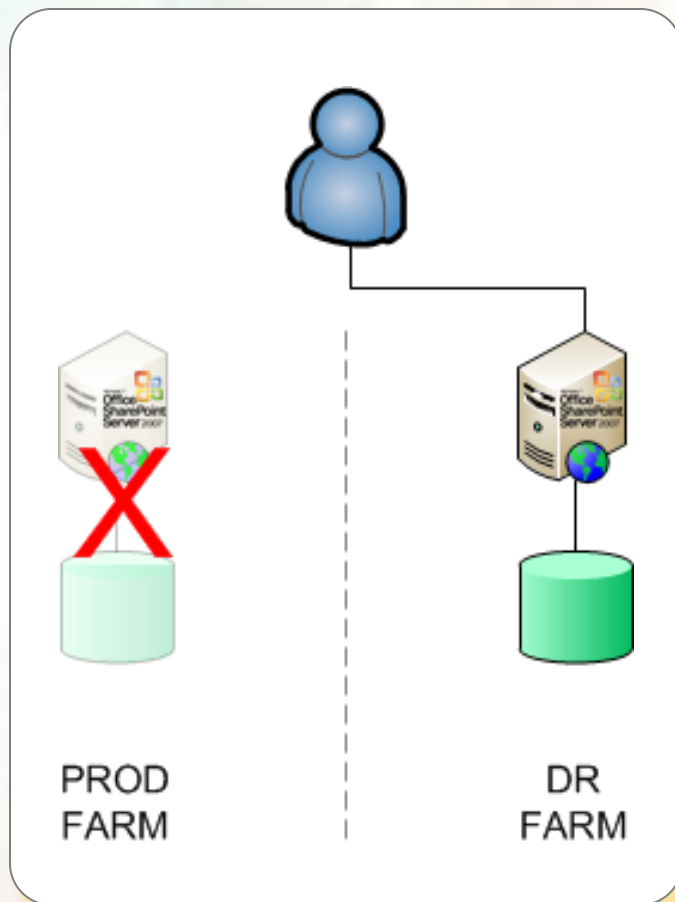
High Availability Options (within farm)



- SQL Server Clustering
 - Two or more physical servers present as a single virtual server
 - Failure of one node results in other node(s) taking over
- Load Balancing
 - Web requests are balanced between two or more WFEs
 - Failed WFEs stop receiving web requests

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High Availability Options (between farms)



- Database Mirroring
 - SQL DB data is synchronized between PROD and DR
- Transaction Log Shipping
 - SQL transaction logs are copied from PROD to DR regularly
- In the case of PROD outage, steps are taken to bring the DR farm online and redirect traffic to it.
- SharePoint 2010 is mirroring-aware

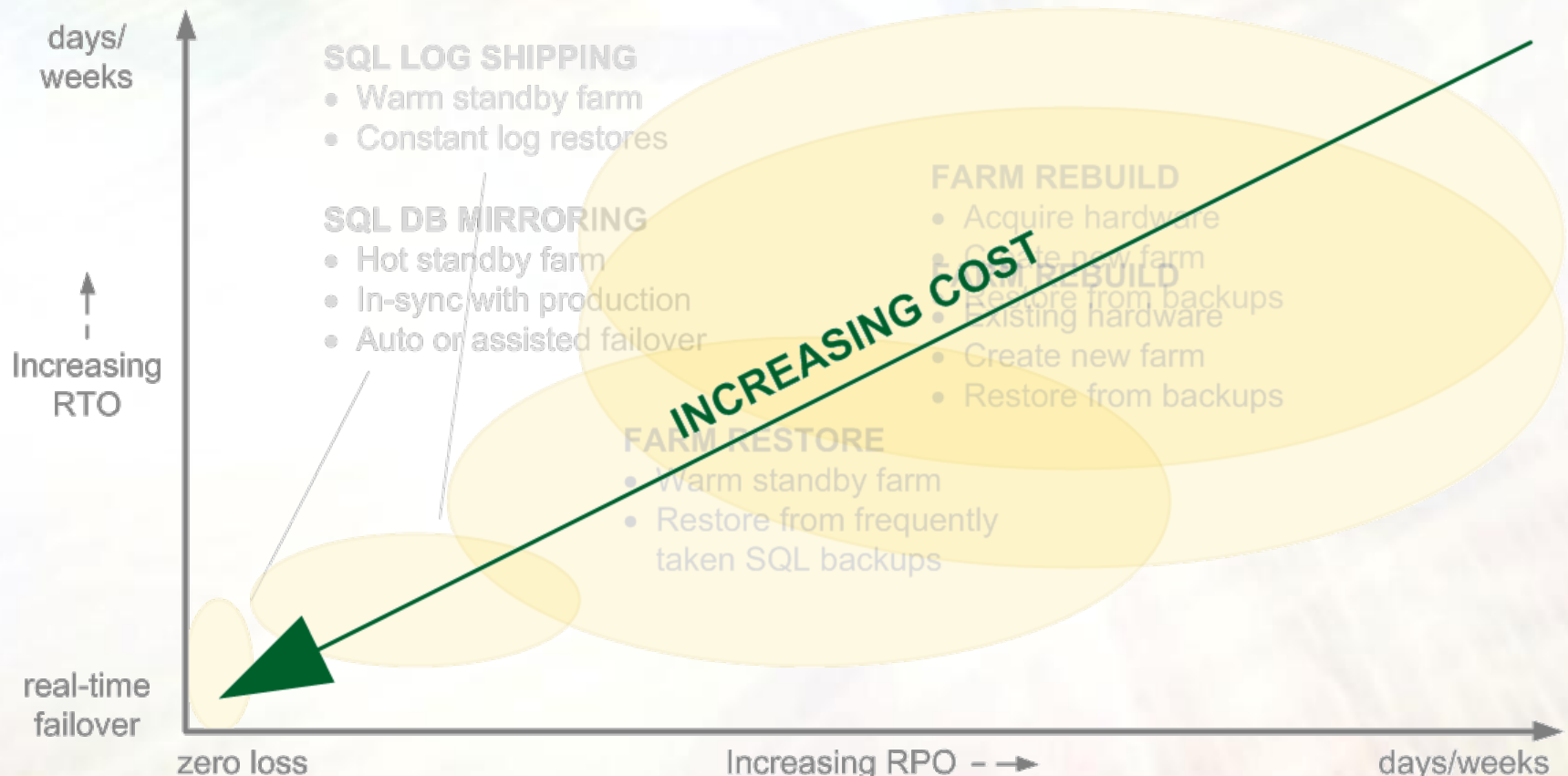
Third-Party Tools



- Each tool has different strengths and weaknesses
- Can they do everything?
- How low (into your farm) can they go?
- <http://tinyurl.com/SPDRProducts2010>

The RPO And RTO Continuum

- Every solution has a different RPO & RTO footprint



You Can't Do It Alone: The Human Factor

- Who do you need?
- Know the role each person plays
- When do you need them?
- People need backups, too
 - In disaster scenarios, people may not be around
- Get the correct stakeholders involved

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Track your changes!

- Document your original configuration
- Document ALL configuration changes
- A restore will require some or all configuration changes to be re-executed
- Record steps needed to re-execute changes
- Configuration-only backup/restore
- Let SharePoint do some of the heavy lifting
 - <http://tinyurl.com/SPDRFarmDoc2010>

Constantly Be Testing

- The only constant is Change
- Track and control your changes
- Test
- Test
- Validate results and create more baselines
- Test some more ...
- ... because complacency kills

Putting It All Together

- Content is king. In the end, your users care about their content. Make sure you do, too.
- Know your constraints and expectations. These drive your choice of DR solution(s).
- You don't know how good your backups are until you actually try to do something with them.
- Have confidence in your solution. Confidence is only gained through testing.

References

1. National Institute of Standards and Technology (NIST) Special Publication 800-34. "Contingency Planning Guide for Information Technology Systems." June 2002
<<http://www.stayarlington.com/docs/NIST.pdf>>
2. Symantec. "Symantec 2009 SMB Disaster Preparedness Survey." Web. 29 January 2010
<<http://tinyurl.com/SPDRSurvey2009>>



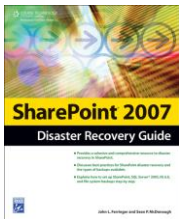
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Email: sean@SharePointInterface.com

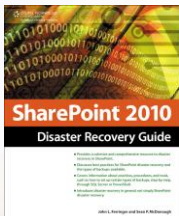
LinkedIn: <http://www.linkedin.com/in/smcdonough>

Twitter: @spmcdonough



The SharePoint 2007 Disaster Recovery Guide

<http://tinyurl.com/SPDRGuide2007>



The SharePoint 2010 Disaster Recovery Guide

<http://tinyurl.com/SPDRGuide2010>