



## Upgrading & Migrating to Microsoft Office SharePoint Server 2007

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 Microsoft®  
**Office SharePoint®  
Server 2007**

# Studying the current environment and knowing the capabilities of the future environment

“know thy enemy and know thyself; in a hundred battles you will never be in peril. When you are ignorant of the enemy but know yourself, your chances of winning or losing are equal. If ignorant both of your enemy and of yourself, you are certain in every battle to be in peril.”

-- The Art of War. Sun Tzu

# Session Objectives And Takeaways

- Session Objectives
  - Migration methodology
  - Upgrade and Migration Options
  - Tips and tricks from Real World experience
- Key Takeaways
  - Understand your options
  - Customization Considerations

# Agenda

- Product roadmap
- Process based approach to upgrades/migrations
- Show what's needed to plan an upgrade
  - Pre-upgrade tasks
  - Executing the upgrade
- Explain the upgrade alternatives
  - Understand the options & advantages
  - Understand options for handling customizations
  - Impact of special configurations
- Troubleshooting

# CMS/SPS/WSS Roadmap

Content  
Management  
Server 2002

SharePoint Portal  
Server 2003

Microsoft  
Windows SharePoint Services  
v2

Microsoft Office 2007  
SharePoint Servers

Microsoft  
Windows SharePoint  
Services 'v3'

# Upgrade/Migration Steps (for any upgrade/migration)

- Step 1: Study existing environment
- Step 2: Gap Analysis
- Step 3: Planning and Implementing
- Step 4: Export information
- Step 5: Map identities and metadata
- Step 6: Import information
- Step 7: Manual cleanup

# Studying the Existing Environment

- Discover the data entities and their dependencies in the source system.
  - Identifying the metadata
    - Mandatory fields
    - Classifications
  - Identifying the dependencies
    - Data relationships
  - Identifying the permissions on the entities
    - Item level permissions?
    - Container level permissions?
  - User management
    - Authentication
      - Against what directory are the users authenticated
    - Authorization
      - Who manages authorization (application or directory)

# Gap Analysis

- This will document the differences between the 2 systems and come up with recommendations
- Differences in user management
  - Examples:
    - LDAP users/groups/profiles need to be migrated to MS domain accounts
- Differences in data storage
  - Example:
    - In 2003 each library/list had its own set of Metadata, in 2007 with Content Types we can collapse multiple libraries into one

# Planning and Implementation

- The effort required to upgrade/migrate is depending on application type, complexity, and the target architecture.
- Plan how to implement the changes identified by the Gap Analysis
- UI design
- Data migration strategy
- User migration strategy
  - How to handle users/groups
- For WSS/SPS upgrades
  - Plan the upgrade definition files

# Upgrade Options

- In-Place Upgrade
  - Easiest approach, environment offline while it runs
- Gradual Upgrade: Upgrade Site Collections
  - Granular control, one to many site collections at a time
  - Side-by-side; rollback to 2003 supported
  - More complex & resource intensive
- Content DB Migration: Upgrade Into Separate Farm
  - Attach 2003 content db to 2007 farm & upgrade runs
  - 2003 farm stays available and untouched
  - Content only, requires new farm, has many manual steps
- Content Migration
  - Has best granularity – is most labor intensive,

# Preparing for Upgrade

- Scope and Plan your upgrade
  - Map your existing topology to MOSS topology
  - Redesign opportunities
  - Plan for capacity; disk space, memory, processor
  - Estimate your upgrade duration
  - Use a separate testing/staging environment
- Review customizations
  - Keep or Decommission customizations
  - Supportability Concerns

# 2003 Customizations

- Templates
  - Custom Site Definitions
  - Custom Site Templates
  - Page Templates
- Custom Code
  - Web Parts
  - Event Handlers
  - Client-side Scripts
  - ASP.NET apps in \_layout
- Branding and Layout Customizations
  - Stylesheets and Themes
  - FrontPage Customizations
- Non-SharePoint Elements
  - NT Services
  - Web services
  - IIS VServers
  - Custom DLLs

# Custom Site Definitions

- 2007 custom site definition is required for sites in "Compatibility mode"
- Upgrade your custom site definitions and page templates
  - Create and test new site definition and "features"
  - Create upgrade definition to map 2003 to 2007
- Deploy mapping file & 2007 site definition
  - Can be done post-upgrade using command line

# Upgrade Definitions

- Upgrade files deployed to \12\config\upgrade
  - WSSUpgrade.xml
  - SPSUpgradePremium.xml
- Upgrade Definition File Schema

Config

WebTemplate

Lists

List

Source

Files

File

AppliedSiteFeatures

Feature

AppliedWebFeatures

Feature

# Upgrading Site Definitions

- Not heavily customized site definition
  - Example: Add custom list, modified Default.aspx
  - Create new v3 site definition and re-apply customizations
  - Recommended approach
- Heavily customized site definition
  - Modify v2 site definitions to work in v3
  - ASPX Pages must contain Web Part Manager or use Master Pages
    - `<WebPartPages:SPWebPartManager id="m" runat="Server" />`
  - Onet.xml contains \$Resources
    - Remove base types, standard lists, deprecated list templates
    - Map document templates to v3 document templates
  - Replace List Templates with Feature references
  - Replace Form and View Pages with "`\pages\form.aspx`" and "`\pages\viewpage.aspx`"

# Custom Site Templates

- Locate .stp file
- Determine which site definition it is based on
- Determine whether it is customize/unghosted
- Upgrade Toolkit for Windows SharePoint Services Sites and Templates Guide
  - Steps
    - In 2003, create a site using the site template (.stp)
    - Install 2007 and upgrade site
    - In 2007, revert to site definition and reapply changes
    - Package the site into site template
    - Test by creating new sites using 2007 site template

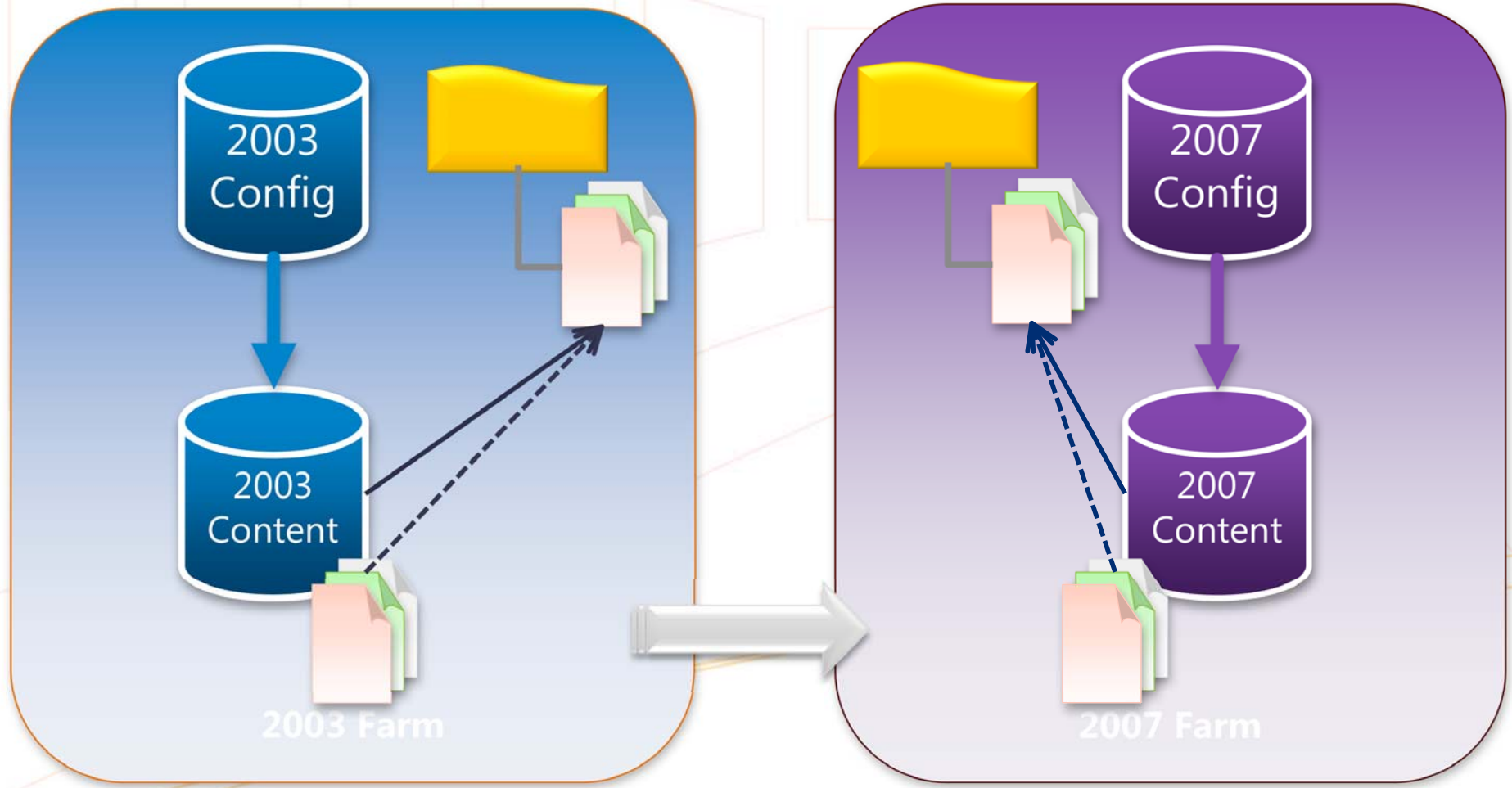
# Custom Web Parts

- Most will work post-upgrade
- Test in WSS 2003 SP2 with ASP.NET 2.0
- Must re-build custom parts if you used ASP.Net 1.1 "obfuscation" tools
- Must re-deploy web parts if
  - Moving to a new server farm (Content DB Migration)
  - Web part in the \bin (Gradual Upgrade)
- Deploying web parts
  - stsadm -o addwppack

# FrontPage Customizations

- Important consideration: keep customizations or move to 2007
  - Custom pages kept by default during upgrade
  - Be aware: customized pages do not match rest of site
- "Reset to Site Definition"
  - Returns page to layout in site definition
  - Option exists to reset all pages during Gradual upgrade
  - Available in site settings or within SharePoint Designer

# Resetting to Site Definition



# Preparing for Upgrade

- Investigate and Prepare your content
  - Large site collection and database sizes
  - Tools for analyzing your environment
    - SharePoint Utility, SharePoint Configuration Analyzer, SPReport
  - Backup, backup, backup...
- Run Pre-Scan tool is **required**
  - Comes with the product in \bin , available as download
  - Reports common issues that needs to be addressed
  - Updates WSS lists so they can be upgraded
  - Lists all custom site definitions used

# Running Prescan.exe

- prescan.exe /c preupgradescanconfig.xml /all
- PreScan Log and Summary created in \%temp%\

```
C:\WINDOWS\system32\cmd.exe
73%
74%
76%
77%
79%
80%
82%
83%
85%
86%
88%
89%
91%
92%
94%
95%
97%
98%
99%
100%
ERROR: Failure in the pre-upgrade scan t
-
File Name:C:\DOCUME~1\ADMINI~1\LOCAI
6437_Log.txt
File Name:C:\DOCUME~1\ADMINI~1\LOCAI
6437_Summary.xml
C:\Program Files\Common Files\Microsoft
```

```
C:\WINDOWS\system32\cmd.exe
51%
54%
57%
60%
63%
66%
69%
72%
75%
78%
81%
84%
87%
90%
93%
96%
99%
100%
Operation completed successfully.
File Name:C:\DOCUME~1\ADMINI~1\LOCAI
3052_Log.txt
File Name:C:\DOCUME~1\ADMINI~1\LOCAI
3196_Summary.xml
C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\BIN>
```

```

14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:37 Scanning SPweb: http://stargate/sitedirectory
14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:37 Scanning SPweb: http://stargate/strategy
14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:37 Scanning SPweb: http://stargate/support
14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:37 Scanning SPweb: http://stargate/topics
14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:37 Querying SPSite quota and locks on 31c036e4-ae8b-46bd-911e-eda69e91ee48
14/2007 12:37:37 Scanning SPweb: http://stargate/sites/ceng
14/2007 12:37:37 Updating list schema in web.
14/2007 12:37:38 Querying SPSite quota and locks on 1cc73b70-1daa-4bb0-bb01-6153c4716134
14/2007 12:37:38 Scanning SPweb: http://stargate/sites/ceng101
14/2007 12:37:38 web is using custom template "CLASS".
14/2007 12:37:38 Updating list schema in web.
14/2007 12:37:39 Querying SPSite quota and locks on 82a87070-0641-4dd1-8383-757be98350b5
14/2007 12:37:39 Scanning SPweb: http://stargate/sites/ceng201
14/2007 12:37:39 web is using custom template "CLASS".
14/2007 12:37:39 Updating list schema in web.
14/2007 12:37:39 Querying SPSite quota and locks on cb7175de-9c30-4345-9f47-0538bb0d32e4
14/2007 12:37:39 Scanning SPweb: http://stargate/sites/classtemplate
14/2007 12:37:39 web is using custom template "CLASS".
14/2007 12:37:39 Updating list schema in web.
14/2007 12:37:39 Querying SPSite quota and locks on 9fbf80cb-4e1d-49d0-be34-5d01168b3ef3
14/2007 12:37:39 Scanning SPweb: http://stargate/sites/departmenttemplate
14/2007 12:37:39 Updating list schema in web.
14/2007 12:37:39 Querying SPSite quota and locks on b1e2ec78-da4c-4b69-a865-4763bdb3a5d9
14/2007 12:37:39 Scanning SPweb: http://stargate/sites/econ201
14/2007 12:37:39 web is using custom template "CLASSOLD".
14/2007 12:37:39 Updating list schema in web.
14/2007 12:37:39 Cannot locate the list definition required for upgrade. Check to ensure you have all templates and
page packs installed.
14/2007 12:37:39 Error: Exception scanning web: http://stargate/sites/econ201
14/2007 12:37:39 System.IO.FileNotFoundException: The system cannot find the file specified.
at Microsoft.SharePoint.Library.SPRequestInternalClass.UpdateSchemaAllListsOfWeb(String bstrurl)
at Microsoft.SharePoint.PreupgradeReport.Scan.ScanOneSPWeb(SqlConnection connection, String vsurl, SPVirtualServer vs,
te site, SPWeb web)
14/2007 12:37:39 Querying SPSite quota and locks on 37e1bdcd-a16f-4419-9c44-8331aee17752
14/2007 12:37:39 Scanning SPweb: http://stargate/sites/Helpdesk
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/default.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Guidelines and Procedures/Forms/AllItems.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Guidelines and Procedures/Forms/DispForm.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Guidelines and Procedures/Forms/EditForm.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Guidelines and Procedures/Forms/Upload.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Guidelines and Procedures/Forms/WebFldr.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/AllItems.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/DispForm.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/EditForm.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/Name Only.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/Upload.aspx".
14/2007 12:37:39 Unghosted page: "http://stargate/sites/Helpdesk/Knowledge Base/Forms/WebFldr.aspx".

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04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Shared Documents/Forms/Upload.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Shared Documents/Forms/webFldr.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/AllItems.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/Combine.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/Company
: .aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/DispForm.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/EditForm.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/MyItems.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/repair.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/Travel Request
: us.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/Upload.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Agent Request Form/Forms/webFldr.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/AllItems.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/Combine.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/DispForm.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/EditForm.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/Iterary View.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/MyItems.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/repair.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/Upload.aspx".
04/2007 12:37:41 Unhosted page: "http://stargate/sites/travelrequestC/Travel Itinerary/Forms/webFldr.aspx".
04/2007 12:37:41 updating list schema in web.
04/2007 12:37:41 Checking if server="STARGATE";Database="ORIONSBe1_SITE";Trusted_Connection=yes;App="prescan.exe" is a WS
SP2 database.
04/2007 12:37:41 Checking if any site has not yet been scanned in
/er="STARGATE";Database="ORIONSBe1_SITE";Trusted_Connection=yes;App="prescan.exe".
04/2007 12:37:41 Error: The following site has not been scanned. Id = b1e2ec78-da4c-4b69-a865-4763bdb3a5d9 and Url =
: es/econ201
04/2007 12:37:41 Error: The following site has not been scanned. Id = 7d88d14a-2c90-42df-8ed3-830ab970bda9 and Url =
: rses/econ100
04/2007 12:37:41 Error: The following site has not been scanned. Id = 626431ea-f473-4a5d-bd0d-dbea5a20565f and Url =
: rses/econ101
04/2007 12:37:41 Checking if any list has not yet been scrubbed in
/er="STARGATE";Database="ORIONSBe1_SITE";Trusted_Connection=yes;App="prescan.exe".
04/2007 12:37:41 Error: Prescan has encountered sites or lists that were not updated because they cannot be accessed usir
SharePoint Products and Technologies object model. The most likely reasons for Prescan to skip a list are covered in the
vledge Base article at: http://go.microsoft.com/fwlink/?linkid=69958&clcid=0x409.
04/2007 12:37:41 scan finished with failure.
04/2007 12:37:41 =====Logs=====
04/2007 12:37:41 Log file: C:\DOCUME~1\ADMINI~1\ORI\LOCALS~1\Temp\PreupgradeReport_633061894377146437_Log.txt
04/2007 12:37:41 summary file: C:\DOCUME~1\ADMINI~1\ORI\LOCALS~1\Temp\PreupgradeReport_633061894377146437_Summary.xml
04/2007 12:37:41 =====Totals=====
04/2007 12:37:41 Number of sites skipped (already scanned): 0
04/2007 12:37:41 Number of sites scanned: 16
04/2007 12:37:41 Number of broken sites: 1 (6.25% of total).
04/2007 12:37:41 Number of webs scanned: 67
04/2007 12:37:41 Number of broken webs: 1 (1.49% of total).
04/2007 12:37:41 Number of webs using custom template: 4 (5.97% of total).
04/2007 12:37:41 Number of pages scanned: 1803
04/2007 12:37:41 Number of unhosted pages: 338 (18.75% of total).

```

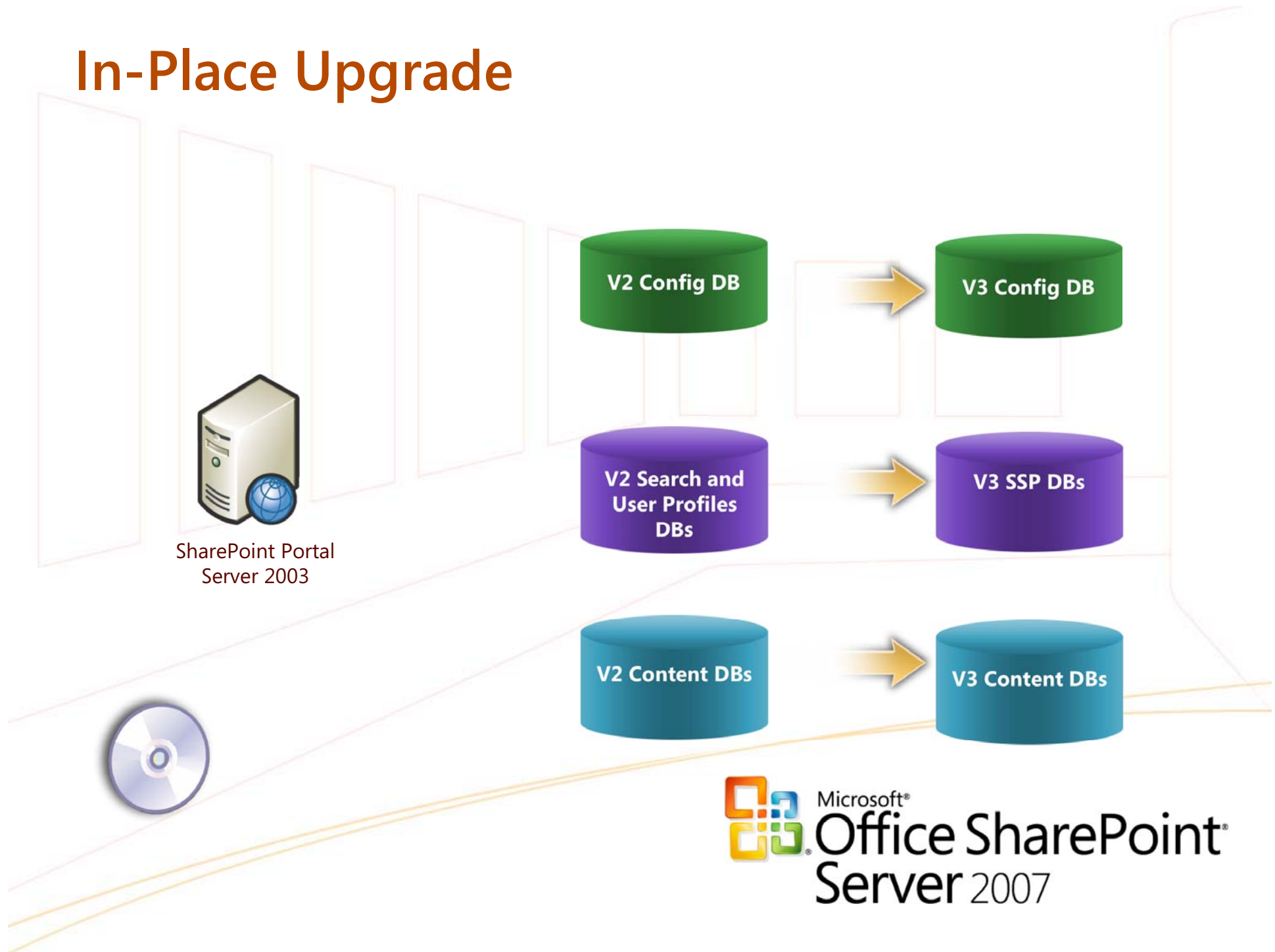
# Pre-Scan Common Issues

- Site/List not scanned error at the end of the log
  - Solution: Post SP2 Hotfix
- UpdateListSchemaInAllWebs() Method not found
  - Solution: Install SP2
- Various WSS OM method failure from SPRequest object with File not found error
  - Solution: Install custom site definitions
- Virtual server is not in a ready state
  - Solution: Run it against v2 Virtual server

# Orphaned Objects

- WSS Content DB Orphans
  - Post SP2 Hotfix, KB 918743 and KB 918744
  - *stsadm -o databaserepair -url http://WSSSite -databasename DatabaseName*
  - *stsadm -o databaserepair -url http://WSSSite -databasename DatabaseName -deletecorruption*
- SPS Config DB orphans
  - Post SP2 Hotfix, KB 918742
  - *spsadm -o repairorphans http://PortalSite*
- WSS Config DB orphans
  - Remove and then reattach the content databases on the virtual server

# In-Place Upgrade



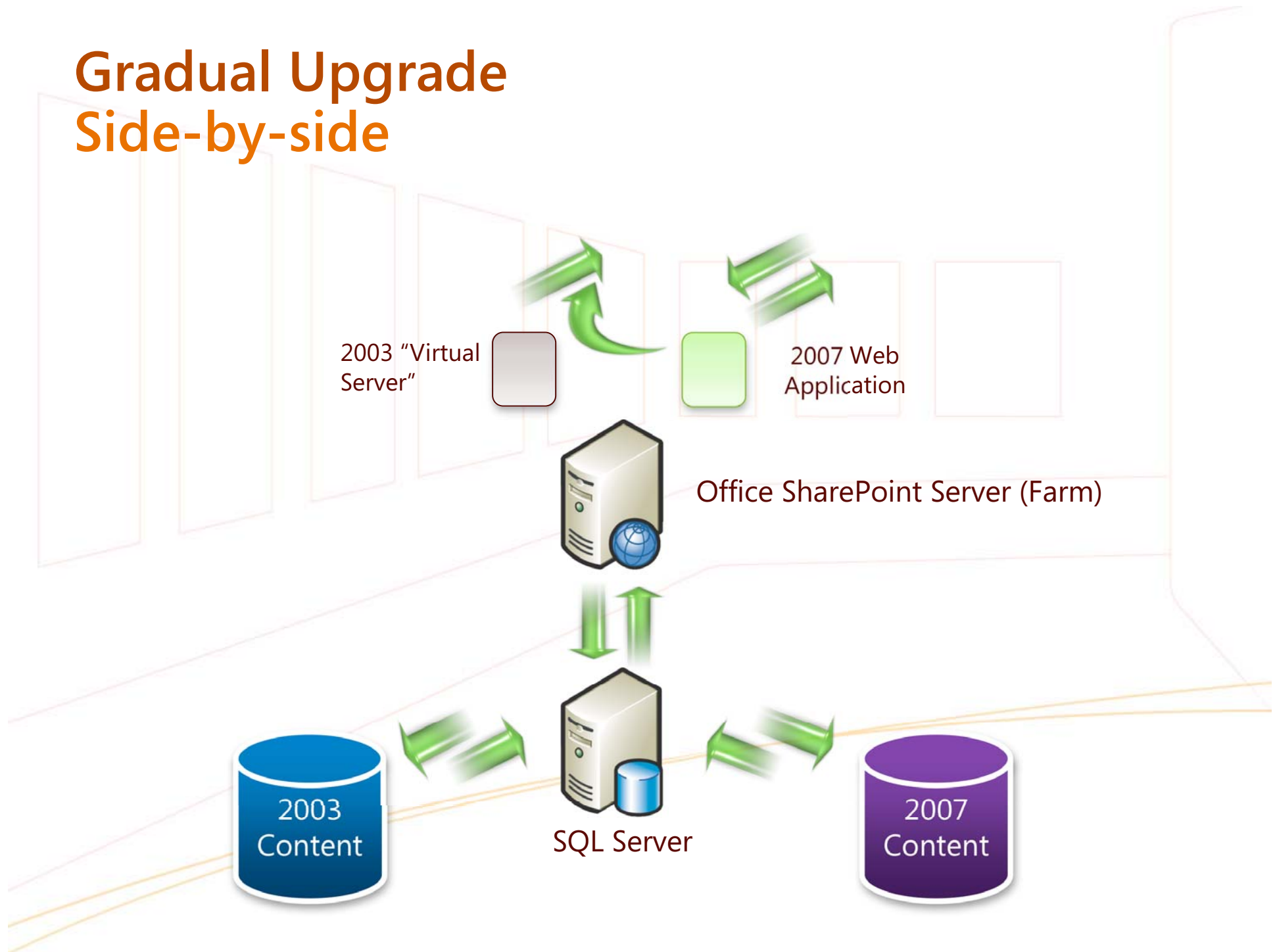
# In-Place Upgrade Steps

- On existing hardware, install prerequisites
- Run setup and choose "In-Place Upgrade"
  - Install language packs if needed
- Deploy Upgrade Definition, Site Definition and Feature Files
- Run Configuration Wizard and Upgrade one web server
- Review log files and resolve any issues
- Review upgraded content
- Reset pages (or site) to Site Definitions

# In-Place Upgrade Scenarios

- Works great for WSS standalone installations
- Single-server installations only
- Environments with minimum customizations
- Recommended for Development or Test Environments

# Gradual Upgrade Side-by-side



# Gradual Upgrade URL Redirect

**2003  
Site**

**2007  
Site**

**<http://stargate.orion.net>**  
**t**

**<http://stargatetemp.orion.net>**



# Gradual Upgrade

## Upgrade Steps

- On existing hardware, install prerequisites
- Prepare URL Redirect Domain
- Install Binaries and Choose Gradual Upgrade Option
- Run Configuration Wizard to setup a new farm
  - Install Language Packs
- Deploy Upgrade Definition, Site Definition and Feature Files
- Deploy Custom Web Part Packages and any other custom code (only if in Bin directory)

# Gradual Upgrade Upgrade Steps

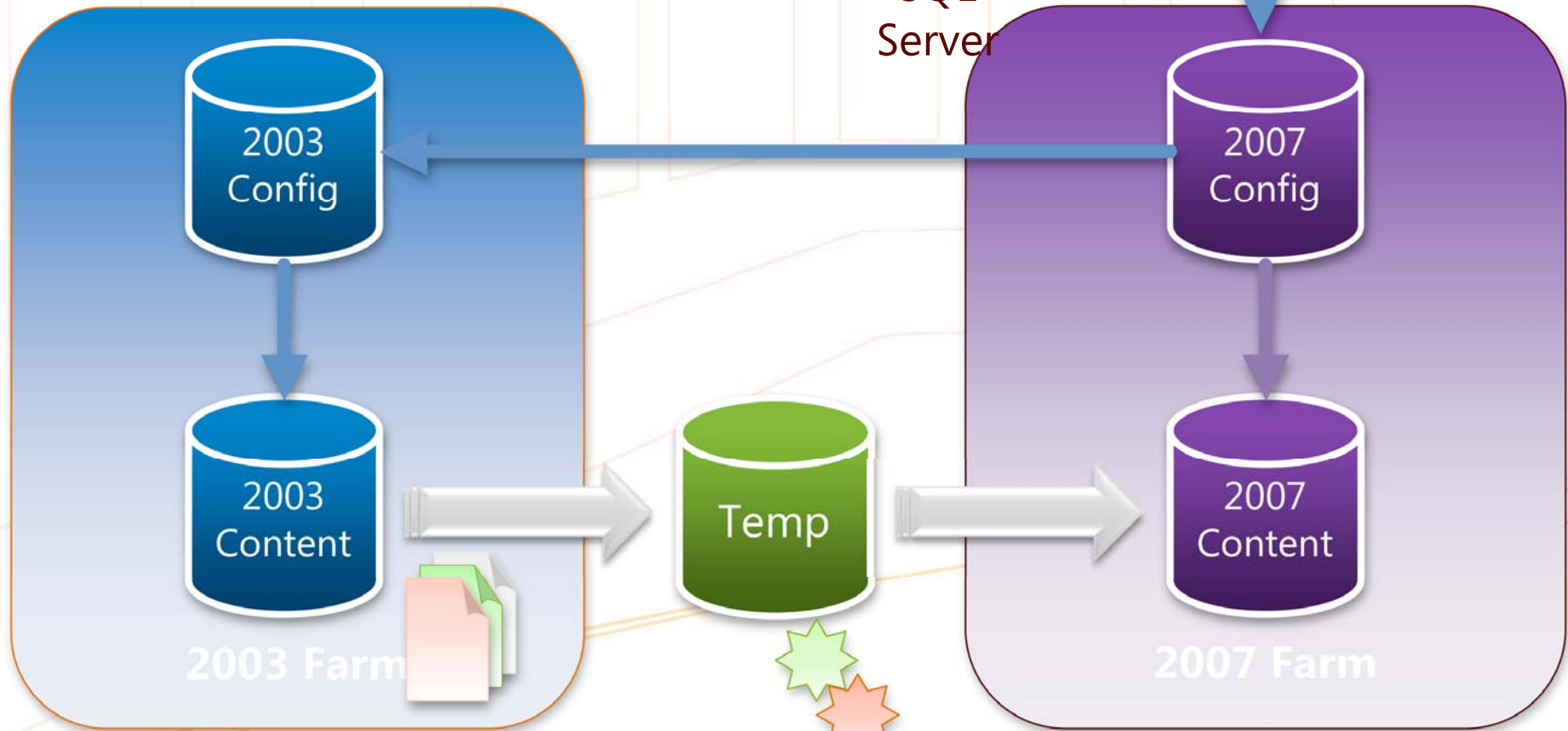
- Review log files & resolve any issues
- Repeat setup & upgrade on each server in the farm
- Start content upgrade thru UI or stsadm
- Review your upgraded content
  - If customized sites, reset pages to 2007 site definition versions
  - Fix issues and reapply customizations using SharePoint Designer
  - If upgrade result is undesirable, revert to 2003 site

# Gradual Upgrade Content Upgrade



SQL  
Server

- SQL CPU
- SQL Disk I/O



# Gradual Upgrade

## Revert to 2003

- When upgrade result is undesirable, "revert" deletes 2007 & resets redirect to 2003
- Confirm 2003 site still exists before reverting to it
- Revert to 2003 via UI or command line
  - UI: Select Sites for Upgrade > Revert Site
  - Command line: stsadm -o upgrade -revert
- Once complete, re-upgrade original
- Use SharePoint designer to merge changes from "fixed" & re-upgraded versions

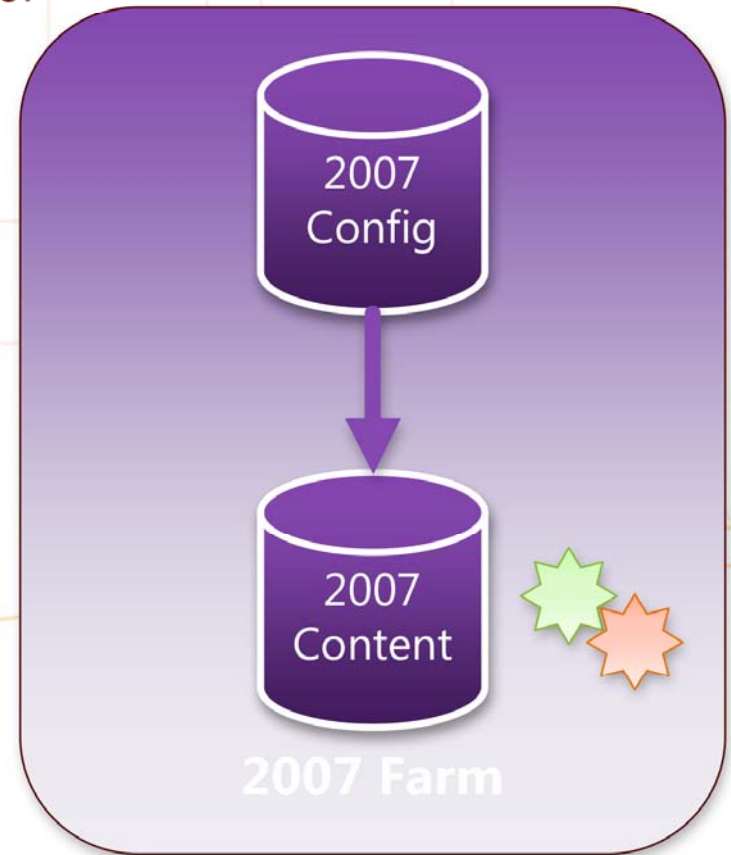
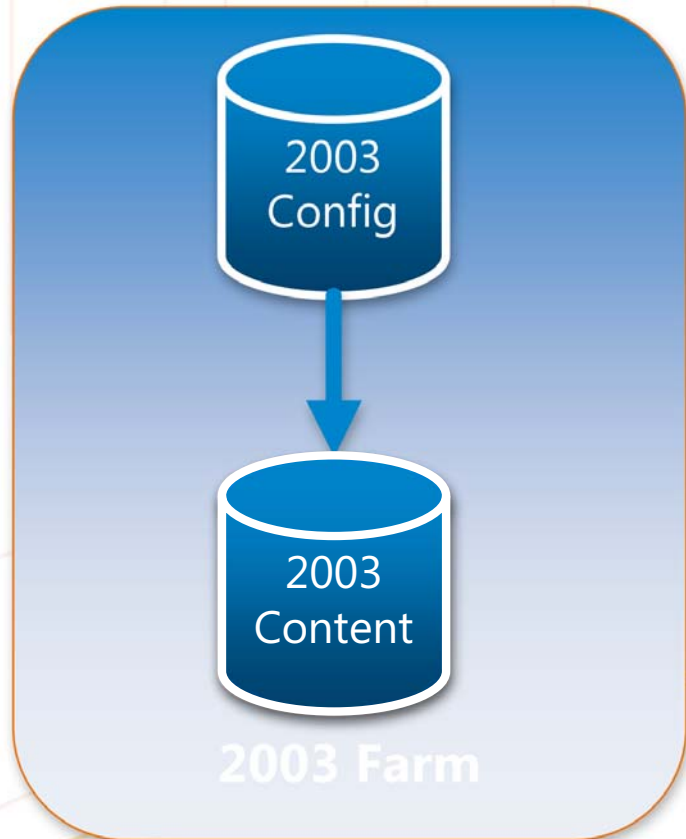
# Gradual Upgrade Scenarios

- Works best for Staging Environment
- Environments with Heavy Customizations
- Recommended for Large Databases and Site Collections
- Upgrade a subset of Site Collections only
- Environments requiring minimal migration window

# Content DB Migration



- SQL CPU
- SQL Disk I/O



# Content DB Migration Steps

- Create new 2007 farm on clean hardware
  - Install prerequisites
  - Configure farm-level settings
  - Create a new web application for each 2007 virtual server
- Manually re-apply configuration settings
  - Ensure all inclusions re-created in 2007 (required)
  - Deploy Upgrade Definition, Site Definition and Feature Files
  - Deploy custom web parts to GAC or BIN

# Content DB Migration Steps continued

- Back up 2003 content database using SQL
- Restore backup to copy in 2007 farm
- Add content db to web application via command line
  - Ensure root site included in first database
  - stsadm -o addcontentdb
- Upgrade triggers automatically, runs until it completes
  - For large databases, command line preferable
- Review log files for any issues
- Repeat for all additional content and search/user profile databases
  - stsadm -o restoressp

# Content DB Migration

## Additional Considerations

- Set 2003 content DBs to read-only
  - Avoids manual merging of updates post-upgrade
  - Note: Users will see warnings when DB is read-only
- Re-mapping URLs
  - Use ISA Server to remap URLs to 2007 farm
  - Use IIS Redirect
  - Use DNS
- Re-applying inclusions, custom web parts & custom site definitions are critical
  - Entirely manual process for moving them

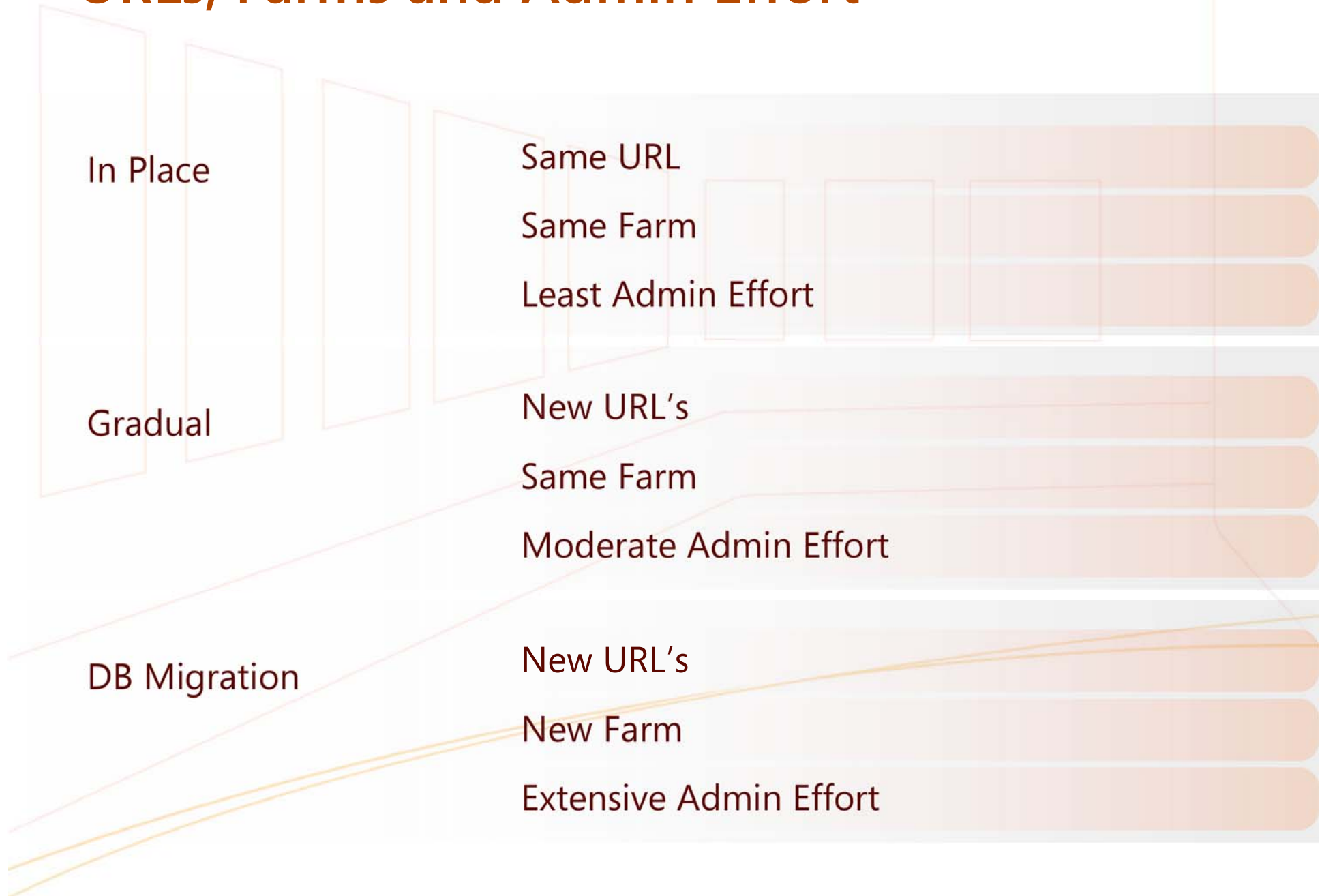
# Content DB Migration Scenarios

- Moving to new hardware or a new architecture
- Customers who need to maximize upgrade throughput.
- Required for Scalable Hosting Mode or Active Directory Account Creation Mode.
- Recommended for Large Farms

# Summary and Trade-offs

Upgrade Approach	In-Place:	Gradual	DB Migration
PROs	<ul style="list-style-type: none"><li>• Simple</li></ul>	<ul style="list-style-type: none"><li>• Upgrade smaller sets of data at a time</li><li>• SPS &amp; MOSS stay live</li><li>• Can revert to original</li><li>• Uses existing HW</li></ul>	<ul style="list-style-type: none"><li>• Upgrade &amp; move to new farm</li><li>• SPS is a separate farm, not affected</li></ul>
CONS	<ul style="list-style-type: none"><li>• Entire farm offline during upgrade</li><li>• No revert ability</li></ul>	<ul style="list-style-type: none"><li>• Hardware intensive: memory &amp; SQL storage</li><li>• Redirects for SPS URLs during upgrade</li></ul>	<ul style="list-style-type: none"><li>• Many complex manual steps required, higher risk of error</li><li>• Requires new farm, double the SQL storage</li></ul>

# URLs, Farms and Admin Effort



# Troubleshooting Tips

- Understanding the upgrade definition files
- Prescan logs
  - %temp%
  - Prescan.log
  - Prescan Report and Summary
- Log files
  - Upgrade and Server logs
  - Logs are in: \Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\Logs
- Event Viewer
- Psconfig command-line utility

# SharePoint Conference Hands-on Labs

The following is the list of Hands-on Labs available in SAAL C relevant to this presentation

- HOL101 What's New in Microsoft Windows SharePoint Services 3.0 Feature Walkthrough
- HOL111 What's New in Microsoft Office SharePoint Server 2007 Feature Walkthrough
- HOL202 Microsoft Windows SharePoint Services Installation and Configuration
- HOL203 Microsoft Windows SharePoint Services 3.0 Backup and Restore
- HOL213 Microsoft Office SharePoint Server 2007 Installation and Configuration
- HOL214 Microsoft Office SharePoint Server 2007 Enterprise Features Administration

# Sweepstake

Complete your Feedback form  
and have a chance  
to win a Zune



\* English US version