

Selecting and Protecting the Right SharePoint Backup Targets



SPTechCon
The SharePoint
Technology Conference



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About Cardinal



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Cincinnati Ohio



350+ FTEs
\$50M+ Revenue



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Application Dev
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Agile Coaching
Business Analysis
Project Management



What we'll cover

What we'll cover

- Define a backup target
- Identify the core SharePoint targets
- Examine related backup targets
- Identify some "potential" targets that move beyond the core farm
- Wrap it all up

CHECKLIST



but first, a story





Once upon a time, an admin
needed to back up a SharePoint
Online site collection ...

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Online site collection ...

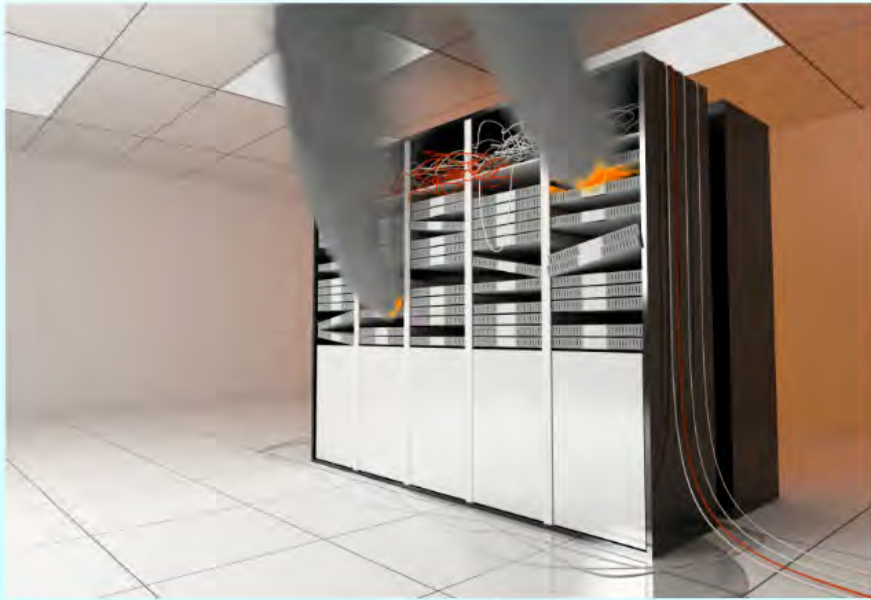


The cloud had
it covered.

end of story

oversimplification?

oversimplification?



Yes, but
we're talking
in on-prem
terms today.

SO ...

SO ...

Why am I talking
about disaster
recovery (DR)?



SO ...

Why am I talking
about disaster
recovery (DR)?



- I was a DR architect for a Cincinnati-based financial services and insurance company

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- I've co-authored two books on SharePoint disaster recovery

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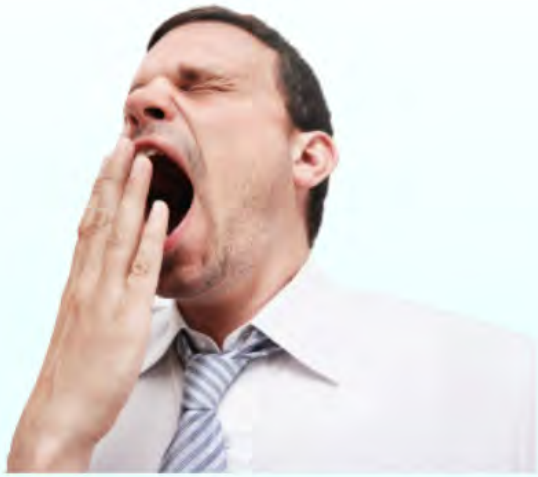


- I was a DR architect for a Cincinnati-based financial services and insurance company
- I've co-authored two books on SharePoint disaster recovery
- I'm fascinated by the sight of people yawning.





I'll do my best to
keep it interesting ...



I'll do my best to
keep it interesting ...

... without
getting too crazy.



Let's talk about

DIR

DIR

"How" vs "What"

D



"How" v

How to perform a backup and restore



"How" v



How to perform a backup and restore

How to establish high availability



"How" v

How to perform a backup and restore

How to establish high availability

How to clone a set of virtual machines



"How" v

How to perform a backup and restore

How to establish high availability

How to clone a set of virtual machines

"How" is about tools and procedures

R

What



What you should be protecting

R

What



What you should be protecting

What the viable strategies are for a target



What



What you should be protecting

What the viable strategies are for a target

What makes a target unique

What



What you should be protecting

What the viable strategies are for a target

What makes a target unique

"What" is all about backup targets

t backup targets



- They can be protected
- Tangible – typically file(s)
- Can be described and referenced in a plan
- Prioritized for protection and recovery

Different target types

- Some are common in all SharePoint environments
- Others depend on SharePoint version or platform technologies in-use



Two different pictures of backup targets



BCP* Picture

- This is how business stakeholders see targets
- Focuses primarily on use cases tied to business activities and data
- Somewhat abstract and less concretely defined



Example: "Systems for inventory tracking and control must be protected"

BCP = business
continuity plan

BCP*

BCP* Picture

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- Somewhat abstract and less concretely defined



Example: "Systems for inventory tracking and control must be protected"



DR Plan Picture

- Fits within the BCP
- Typically focuses on the platforms & technologies needed by business
- Targets typically defined more concretely than within the BCP

Example: “The ‘Inventory’ site collection, Excel services, and BCS connections to SAP must be protected”

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Our focus today

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The technical (DR plan) targets

- What are they?
- Where do they reside?
- When are they important?
- Protection approaches*
- Special considerations and watch-outs



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Important reminder:

Even though this presentation focuses on technical targets, the actual selection and prioritization of targets should be driven by the business.

?



Important reminder:

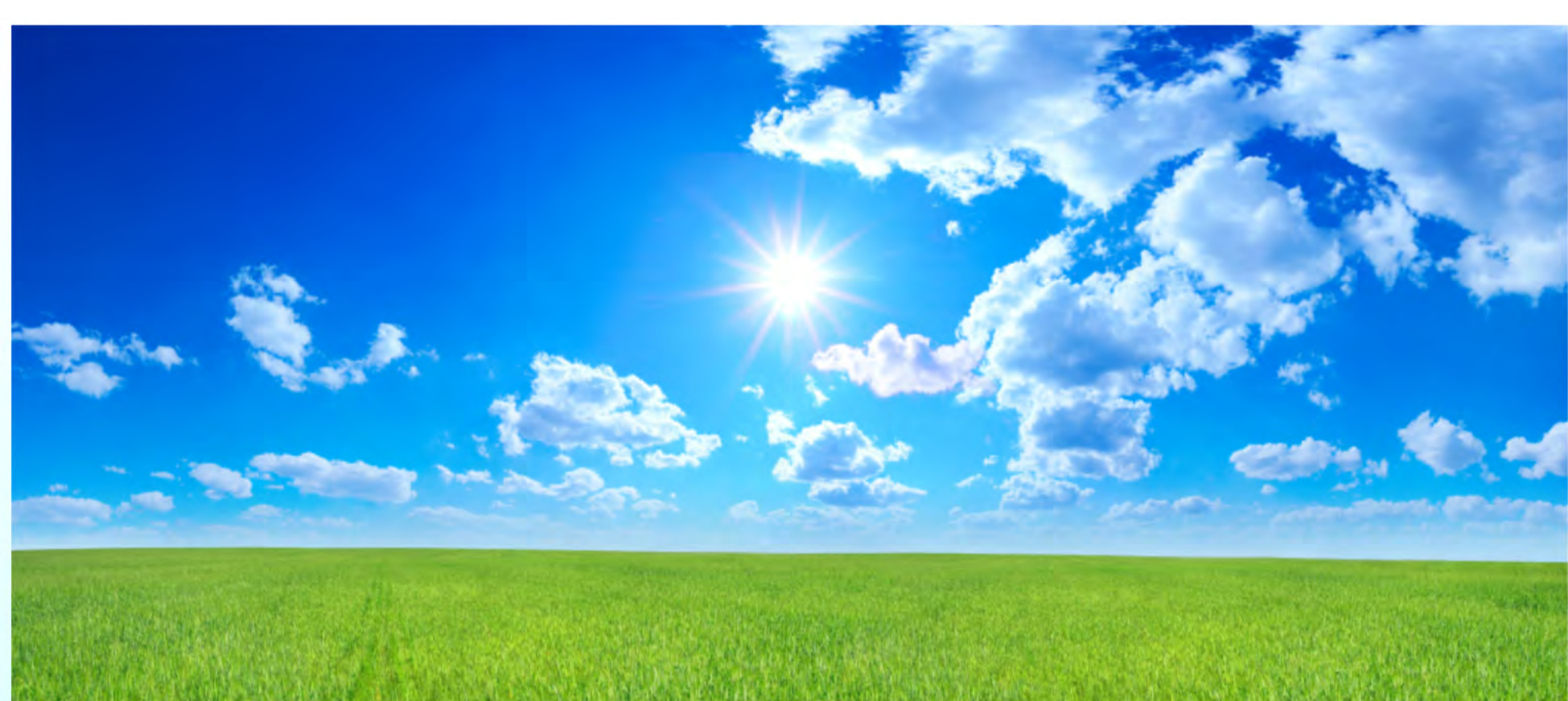
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DR plan



Business continuity strategy





DR Horizon

what we'll cover in this session ...



Core SharePoint targets aka, "the meat and potatoes"

- Content databases
- Central Admin (content) DB
- Farm Configuration database
- Service Applications
- Search



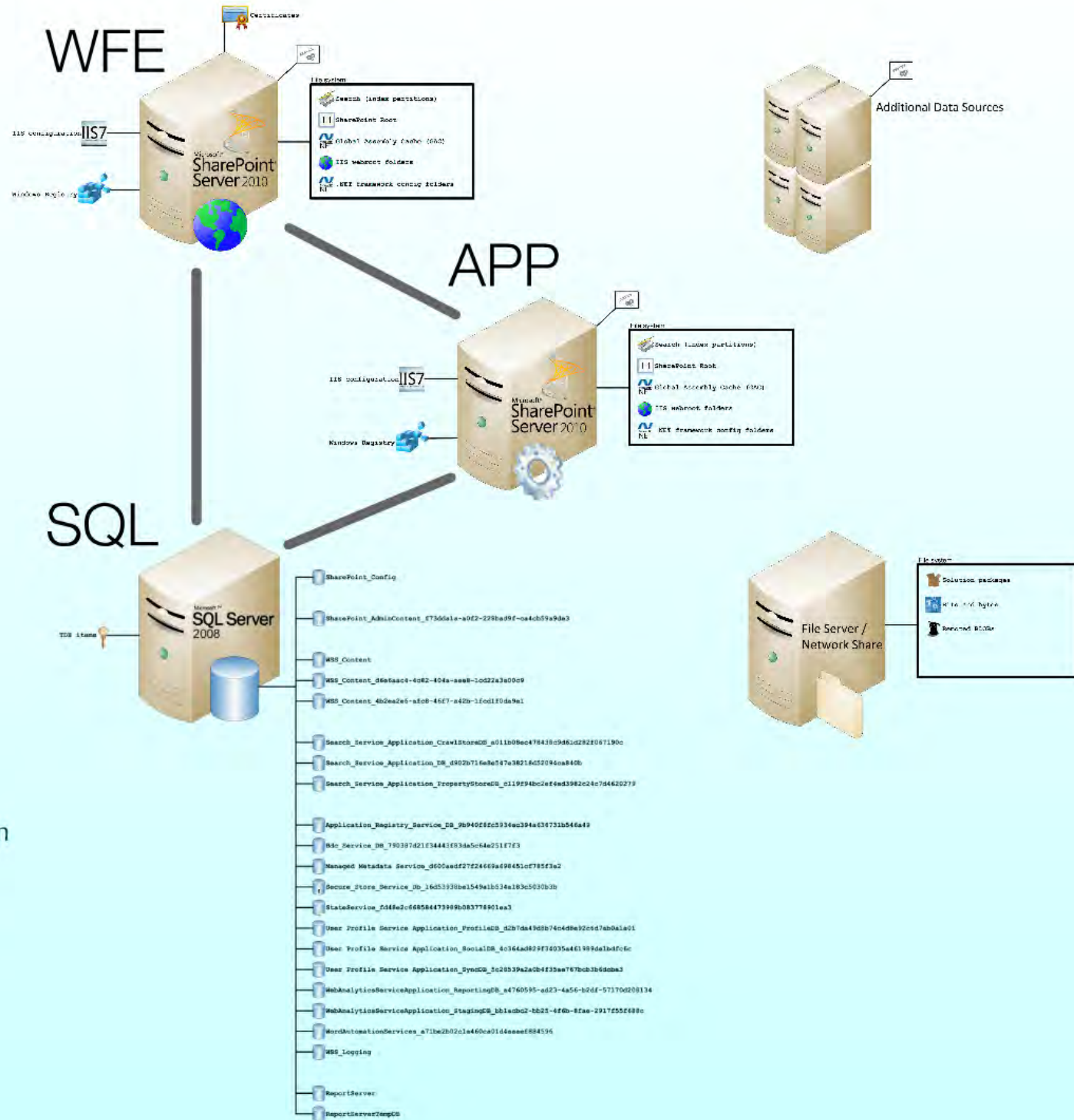
Related targets "important to remember"

- Solution packages
- SharePoint Root
- IIS Configuration
- Certificates
- IIS web root
- GAC
- Registry
- Bits and bytes



Potential targets beyond the farm sometimes confused with the dark arts ...

- .NET framework config folders
- Remote BLOB storage (RBS)
- SQL Server TDE
- External data sources







Core SharePoint targets

aka, "the meat and potatoes"

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Content databases

- Hands-down #1 protection target set
- Houses majority of your users' content
- Must protect; can't be recreated if lost



Content databases

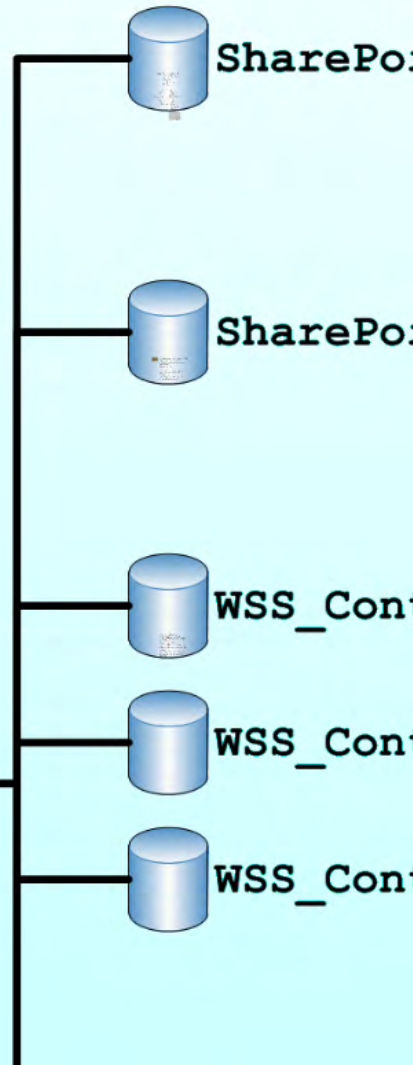
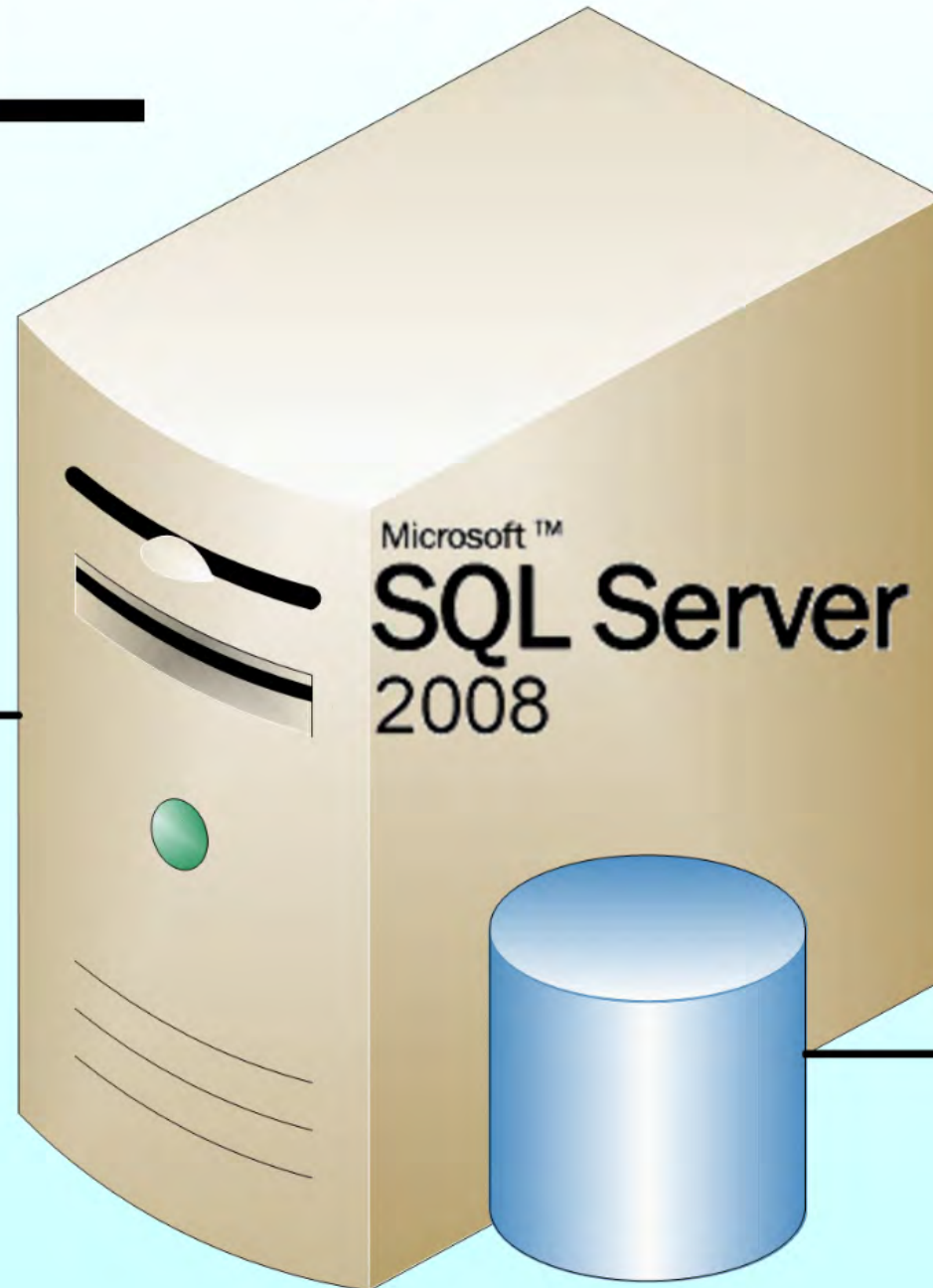
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Where are they?

- SQL Server (all those WSS_ databases)
- At least one database per Web application

SQL

TDE items





SharePoint_AdminContent_f73dda1a-a0f2-228bad9f-ca



WSS_Content



WSS_Content_d6e6aac4-4c82-404a-ae8-1cd22a3e00c9



WSS_Content_4b2ea2e6-afc8-46f7-a42b-1fcd1f0da9e1



Search_Service_Application_CrawlStoreDB_a011b08e



Search_Service_Application_DB_d902b716e8e547e382



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- SharePoint (farm) backups, SQL backups, high availability (HA) mechanisms, 3rd party tools



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Watch out for EBS/RBS ...



Central Admin content DB

- Simply another content database
- Houses Central Administration site and help collection



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Where is it?

- SQL Server
- Usually 1st content DB with a GUID



SharePoint_Config



SharePoint_AdminContent_f73dda1a-a0f2-2



WSS_Content



WSS_Content_d6e6aac4-4c82-404a-ae8-1cd



Central Admin content DB

- Simply another content database
- Houses Central Administration site and help collection

Where is it?

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Protection

- Farm provisioning creates a new one
- Not usually worth protecting*



Farm Configuration DB

- Repository for farm-wide configuration data, web application settings, services information, and more



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- Usually SharePoint_Config by default



SharePoint_Config



SharePoint_AdminContent



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Protection

- So, is it worth protecting?

Protection

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No ... and Yes!

No ...



Not portable or supported
for stand-alone restore ...

Yes!



... but usable for
configuration-only backups to
retrieve some settings and
the farm solution store

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Protection options

options

- SharePoint backups
- SQL Server backups
- HA mechanisms
- Documentation
- 3rd party tools

- 3rd party tools



A word about
consistency,
"restorability", and the
SharePoint VSS Writer ...



Service Applications

- A collection of services that are consumed by web applications and the site collections they contain

Excel services, Managed Metadata Service, BCS, User Profile Service, etc.



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Worth protecting?

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Worth protecting?

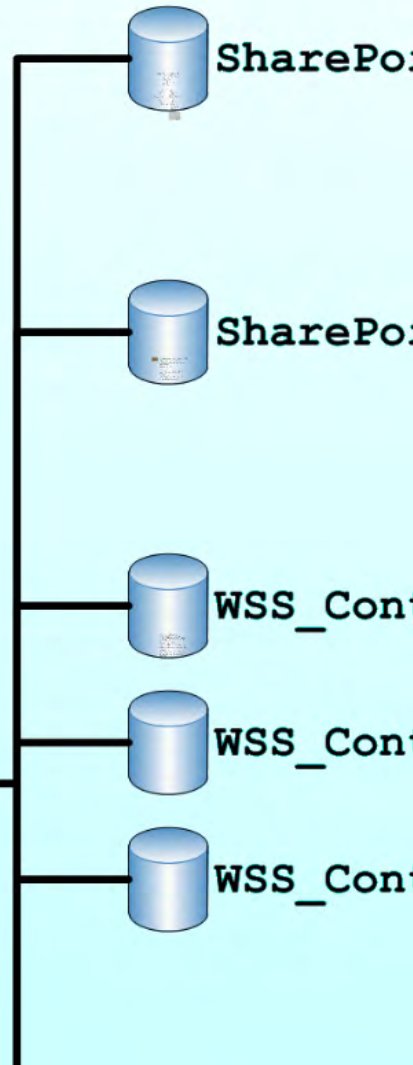
- For the majority of service applications, the answer is "yes."

Where are they?

- Simple answer: all over the place ...

SQL

TDE items





Application_Registry_Service_DB_9b940f8fc5934ec394a636731b546a49



Bdc_Service_DB_790387d21f34443f83da5c64e251f7f3



Managed Metadata Service_d600aedf27f24669a698451cf785f3e2



Secure_Store_Service_Db_16d53938be1549a1b534a183c5030b3b



StateService_fd48e2c668584473989b083778901ea3



User Profile Service Application_ProfileDB_d2b7da49d8b74c4d8e92c6d7ab0a1a01



User Profile Service Application_SocialDB_4c364ad829f34035a461989de1bdfc6c



User Profile Service Application_SyncDB_5c28539a2a0b4f35ae767bcb3b6dcba3



WebAnalyticsServiceApplication_ReportingDB_a4760595-ad23-4a56-b2df-57170d208134



WebAnalyticsServiceApplication_StagingDB_bb1acbc2-bb25-4f6b-8fae-2917f55f688c



WordAutomationServices_a71be2b02c1a460ca01d4aaaef884596



WSS_Logging

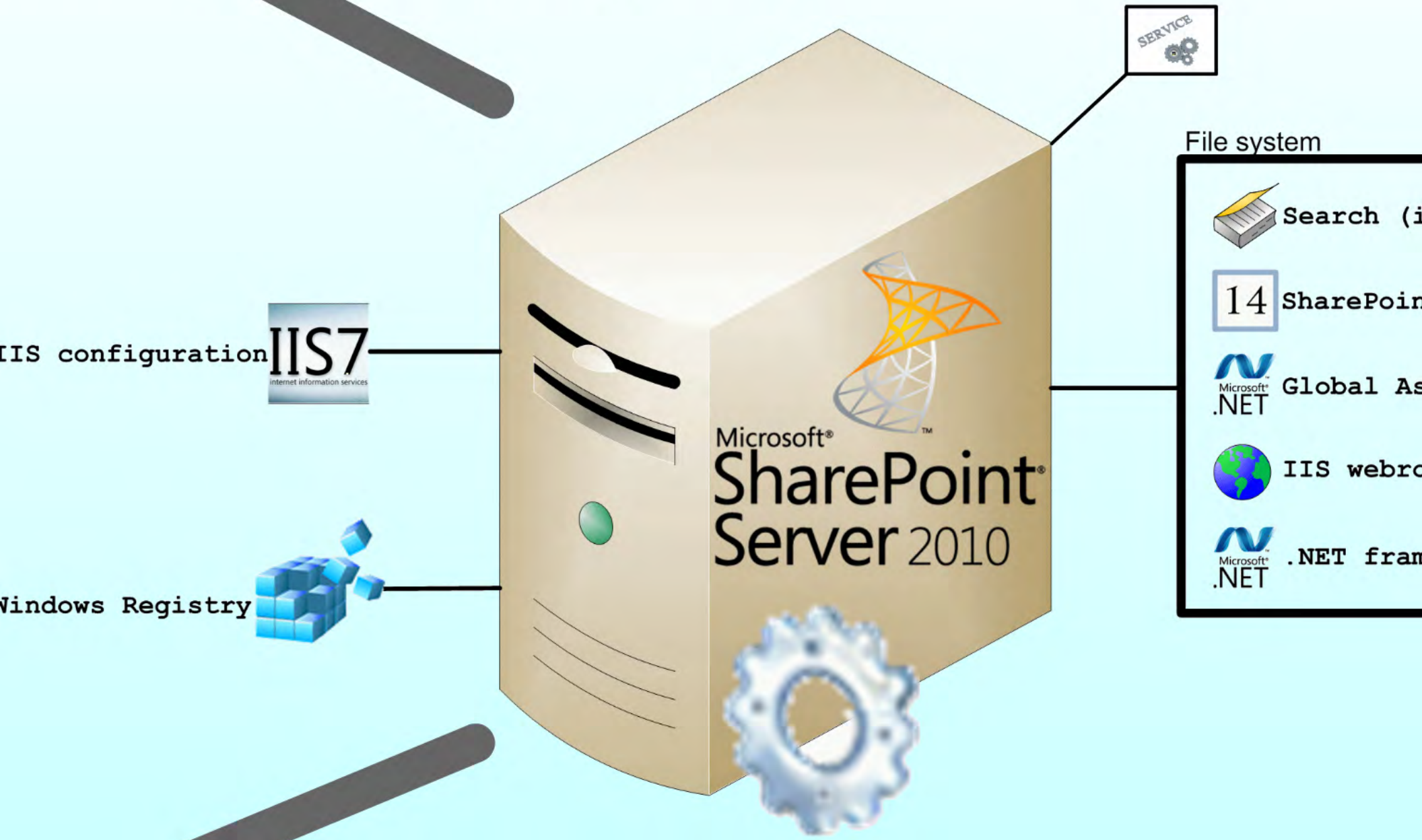


SharePoint_Config



SharePoint_AdminContent

APP



SERVICE



File system

Services (Local)

Select an item to view its description.

Name	Description	Status	Startup Type	Log On As
Windows Defender	Protection ...	Started	Automatic (D...	Local System
Windows Driver Foundation - User-mode Driver Framework	Manages u...		Manual	Local System
Windows Error Reporting Service	Allows erro...		Manual	Local System
Windows Installer	Adds, modi...		Manual	Local System
Windows Management Instrumentation	Provides a ...	Started	Automatic	Local System
Windows Modules Installer	Enables ins...	Started	Manual	Local System
Windows Process Activation Service	The Windo...	Started	Manual	Local System
Windows Update	Enables th...	Started	Automatic (D...	Local System
Wired AutoConfig	The Wired ...		Manual	Local System
WMI Performance Adapter	Provides p...		Manual	Local System
World Wide Web Publishing Service	Provides W...	Started	Automatic	Local System
ASP.NET State Service	Provides s...		Manual	Network Service
Cryptographic Services	Provides fo...	Started	Automatic	Network Service
Distributed Transaction Coordinator	Coordinate...	Started	Automatic (D...	Network Service
DNS Client	The DNS Cl...	Started	Automatic	Network Service
IPsec Policy Agent	Internet Pr...	Started	Manual	Network Service
KtmRm for Distributed Transaction Coordinator	Coordinate...		Manual	Network Service
Message Queuing	Provides a ...	Started	Automatic	Network Service
Net.Msmq Listener Adapter	Receives a...	Started	Automatic	Network Service
Network Access Protection Agent	The Netwo...		Manual	Network Service
Network Location Awareness	Collects an...	Started	Automatic	Network Service
Office Software Protection Platform	Office Soft...	Started	Manual	Network Service
Remote Desktop Services	Allows user...	Started	Manual	Network Service
Remote Procedure Call (RPC)	The RPCSS...	Started	Automatic	Network Service
Remote Procedure Call (RPC) Locator	In Window...		Manual	Network Service
RPC Endpoint Mapper	Resolves R...	Started	Automatic	Network Service
Software Protection	Enables th...		Automatic (D...	Network Service
Telephony	Provides T...	Started	Manual	Network Service
Windows Event Collector	This servic...		Manual	Network Service
Windows Remote Management (WS-Management)	Windows R...	Started	Automatic (D...	Network Service
Workstation	Creates an...	Started	Automatic	Network Service
Forefront Identity Manager Service	Forefront I...		Disabled	SPDC\svcSPFarm
Forefront Identity Manager Synchronization Service	Enables int...		Disabled	SPDC\svcSPFarm
SharePoint 2010 Timer	Sends notif...	Started	Automatic	SPDC\svcSPFarm
SharePoint 2010 User Code Host	Executes u...	Started	Automatic	SPDC\svcSPFarm
SharePoint Server Search 14	Provides e...	Started	Manual	SPDC\svcSPFarm
Web Analytics Service	Service for...	Started	Automatic	SPDC\svcSPFarm
SQL Server Agent (MSSQLSERVER)	Executes j...		Manual	SPDC\svcSQLAgent
SQL Server Analysis Services (default)	Supplies on...	Started	Automatic	SPDC\svcSQLAnalysis
SQL Server Integration Services 10.0	Provides m...	Started	Automatic	SPDC\svcSQLIntegration
SQL Server Reporting Services (MSSQLSERVER)	Manages, ...	Started	Automatic	SPDC\svcSQLReporting
SQL Server (MSSQLSERVER)	Provides st...	Started	Automatic	SPDC\svcSQLServer

Extended Standard

- ⚙ Telephony
- ⚙ Windows Event Collector
- ⚙ Windows Remote Management (WS-Management)
- ⚙ Workstation
- ⚙ Forefront Identity Manager Service
- ⚙ Forefront Identity Manager Synchronization Service
- ⚙ SharePoint 2010 Timer
- ⚙ SharePoint 2010 User Code Host
- ⚙ SharePoint Server Search 14
- ⚙ Web Analytics Service
- ⚙ SQL Server Agent (MSSQLSERVER)
- ⚙ SQL Server Analysis Services (default)
- ⚙ SQL Server Integration Services 10.0

IIS configuration



Internet Information Services (IIS) Manager

SPDEV > Sites > SharePoint Web Services

File View Help

Connections

- Start Page
- SPDEV (SPDC\s0ladmin)
 - Application Pools
 - Sites
 - Default Web Site
 - Enterprise Wiki Site
 - My Sites Host
 - SculptedSystemWebs (18380)
 - SculptedSystemWebs (80)
 - SharePoint Central Administration v4
 - SharePoint Web Services**
 - SITE_2
 - SPMcDonough.com Web

SharePoint Web Services Content

Filter: [Go] Show All | Group by: No Grouping

Name	Type
362117149a89431a843fbde049e7c85d	Application
3c5b31928c8b48868fc5a4e23cf0cc40	Application
4e1d83b1e3934923bfa058153b56fcdf	Application
57f71af18474478e98837752e20d7de1	Application
aspnet_client	File Folder
db0fd7202e0447dba868a80bcb13ae0d	Application
ed0e10aab1424719abbb532b52d5a907	Application
SecurityTokenServiceApplication	Application
Topology	Application
web.config	XML Configuration File

secure store

search admin

Features View Content View

Actions

'SharePoint Web Services' Tasks

Site

- Switch to Features View
- Explore
 - Edit Permissions...
- Add Application...
- Add Virtual Directory...
- Edit Bindings...

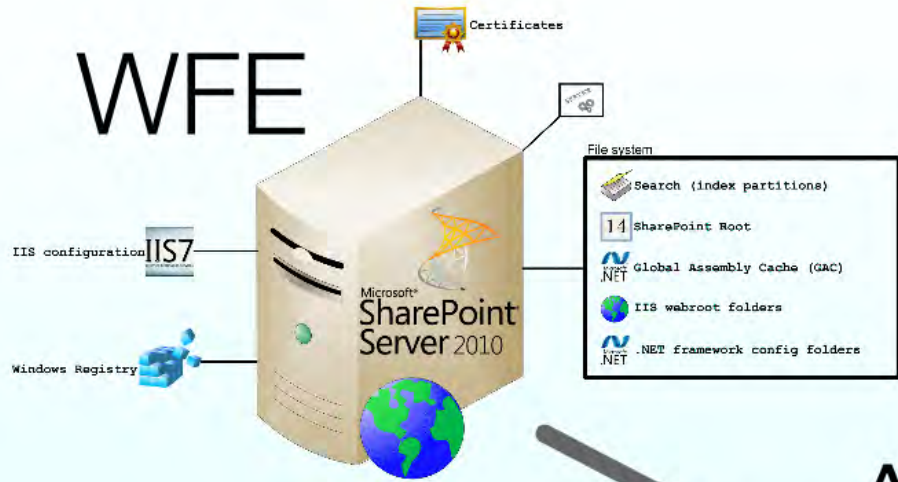
Manage Web Site

- Restart
- Start
- Stop
- Browse
 - Advanced Settings...
- Refresh
- Remove

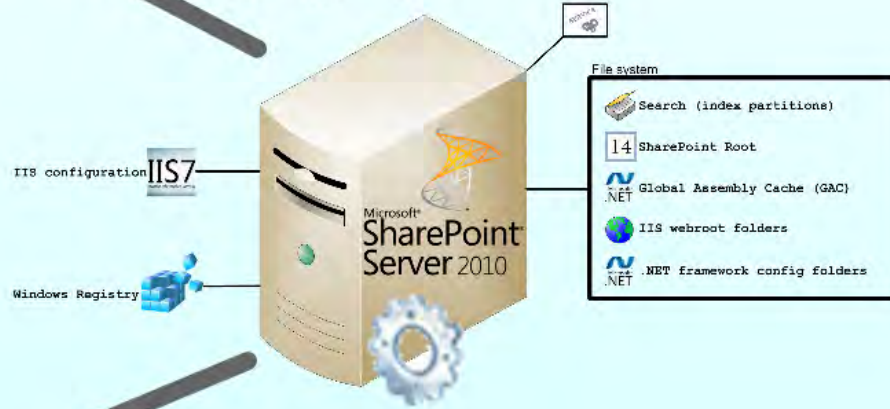
Deploy

- Export Application...
- Import Application...
- Delete Web Site and Content
- Recycle...
- Help
 - Online Help

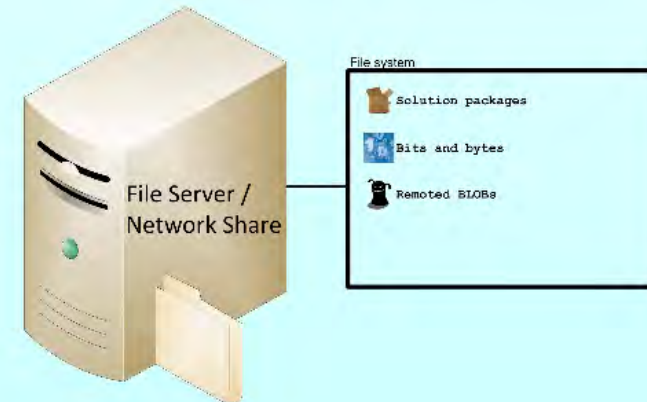
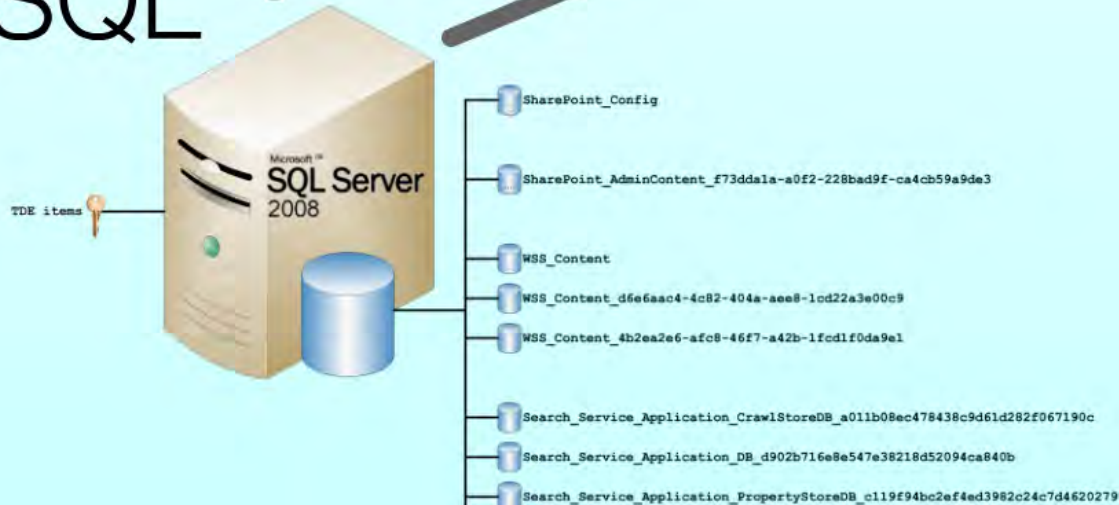
WFE



APP



SQL



Protecting them

- Full farm backup (ideal)
- By service application/group*
- 3rd party tools

or

- Protect databases and augment with documentation of config/settings

Test, test,
TEST!!!



Central Administration ▸ Perform a Backup - Step 1 of 2: Select Component to Back Up

Select the items you want to back up. Click **Next** to continue the backup process.



Central Administration

- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Configuration Wizards

Readiness

- No backup or restore in progress. [Backup and Restore Job Status](#)
- Timer service is running.
- Administration service is running.

Select component to back up

Select the top-level component to back up. You can also click the name of a Web application to browse its contents.

Select	Component	Type	Description
<input type="checkbox"/>	<ul style="list-style-type: none"> Farm SP2010_ConfigDB 	Farm Configuration Database	Content and configuration data for the entire server farm. Configuration data for the entire server farm.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> InfoPath Forms Services Settings Data Connections Form Templates Exempt User Agents 	Server Settings and Content Settings Data Connections Form Templates Exempt User Agents	Administrator-approved content and settings for the server farm. Settings Administrator-approved data connection files. Administrator-approved form templates. The collection of user agents that receive InfoPath forms instead of Web pages.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> SharePoint Server State Service State Service Application 	State Service State Service Application	Service for storage of temporary state information used by various SharePoint Server features.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Microsoft SharePoint Foundation Web Application Enterprise Wiki Site My Sites Host SculptedSystemWebs (18380) SPMcDonough.com Web 	Microsoft SharePoint Foundation Web Application Web Application Web Application Web Application Web Application	Collection of Web Applications Content and configuration data for this Web application. Content and configuration data for this Web application. Content and configuration data for this Web application. Content and configuration data for this Web application.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> WSS_Administration SharePoint Central Administration v4 	Central Administration Web Application	Collection of Web Applications Content and configuration data for this Web application.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> SharePoint Server State Service Proxy State Service Application Proxy 	State Service Proxy State Service Application Proxy	
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> SPUserCodeV4 [Solution Validators Group.] Sandboxed Code Load Balancer Provider using Popularity [Resource Measures Group.] [Execution Tiers Group.] 	Microsoft SharePoint Foundation Sandboxed Code Service Backup Group Sandboxed Code Load Balancer Provider using Popularity Backup Group Backup Group	Settings for the Sandboxed Code Service. Collection of components grouped together for backup and restore.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Microsoft SharePoint Server Diagnostics Service 	Microsoft SharePoint Server Diagnostics Service	Settings for the diagnostics service.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Global Search Settings 	Search object in configuration database	Crawler impact rules for the farm
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Application Registry Service 	Application Registry Service	Backwards compatible Business Data Connectivity API.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Microsoft Office Web Apps Diagnostics Service 	Microsoft Office Web Apps Diagnostics Service	Settings for the diagnostics service.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Microsoft SQL Server Reporting Services Diagnostics Service 	Microsoft SQL Server Reporting Services Diagnostics Service	Settings for the diagnostics service.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Microsoft SharePoint Foundation Diagnostics Service 	Microsoft SharePoint Foundation Diagnostics Service	Settings for the diagnostics service.
<input type="checkbox"/>	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Shared Services Shared Services Applications Shared Services Proxies 	Shared Services Shared Services Applications Shared Services Proxies	Shared Services of the server farm. Shared Services Applications of the server farm. Shared Services Applications of the server farm.

Next

Cancel

Application Registry Service

Microsoft Office Web Apps Diagnosti

Microsoft SQL Server Reporting Serv

Microsoft SharePoint Foundation Diag

Shared Services

Shared Services Applications

Shared Services Proxies

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Test, test,
TEST!!!

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TEST!!!

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Watch out for omitted config items and required external data. For example ...

Test, test,
TEST!!!










Managed Metadata



Secure_Store_Ser




StateService_fd

 New	 Delete	 Edit	 Generate New Key	 Refresh Key	 Set	 Set
Manage Target Applications	Key Management		Credentials	Permissions		

- Central Administration
- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Configuration Wizards

 Before creating a new Secure Store Target Application, you must first generate a new key for this Secure Store Service Application from the ribbon.

Generate New Key

 The credential database is encrypted by using a key. The key is generated based on the pass phrase. Please specify the pass phrase. [Help](#)

Warning: this page is not encrypted for secure communication. User names, passwords, and any other information will be sent in clear text. For more information, contact your administrator.

Generating new key requires encrypting the database by using a new key. This process may take several minutes.

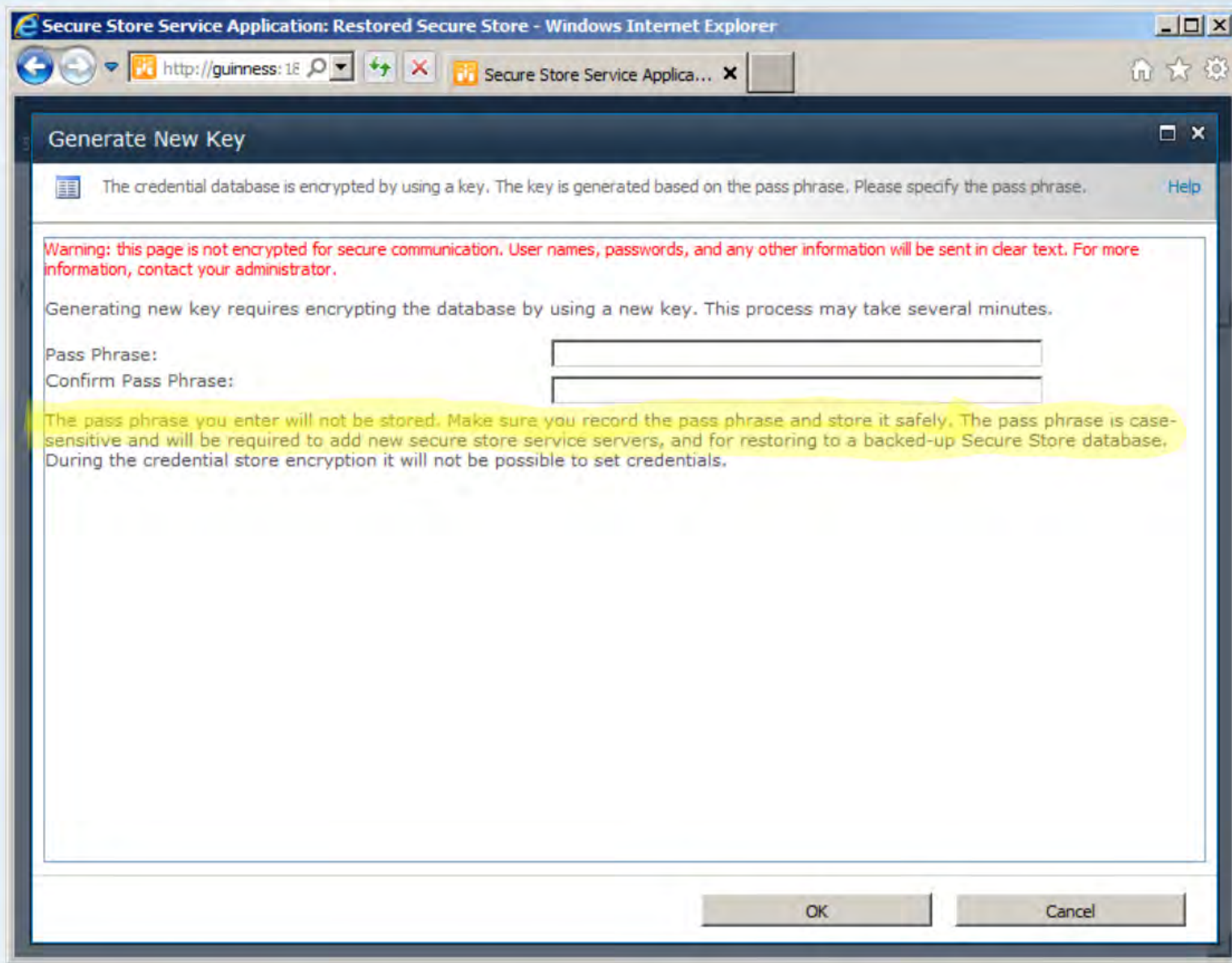
Pass Phrase:

Confirm Pass Phrase:

The pass phrase you enter will not be stored. Make sure you record the pass phrase and store it safely. The pass phrase is case-sensitive and will be required to add new secure store service servers, and for restoring to a backed-up Secure Store database. During the credential store encryption it will not be possible to set credentials.

OK

Cancel



Documentation in some form will be required for any protection strategy selected.

Search

- Yes, it's a service application ... but not like other service applications!



Search



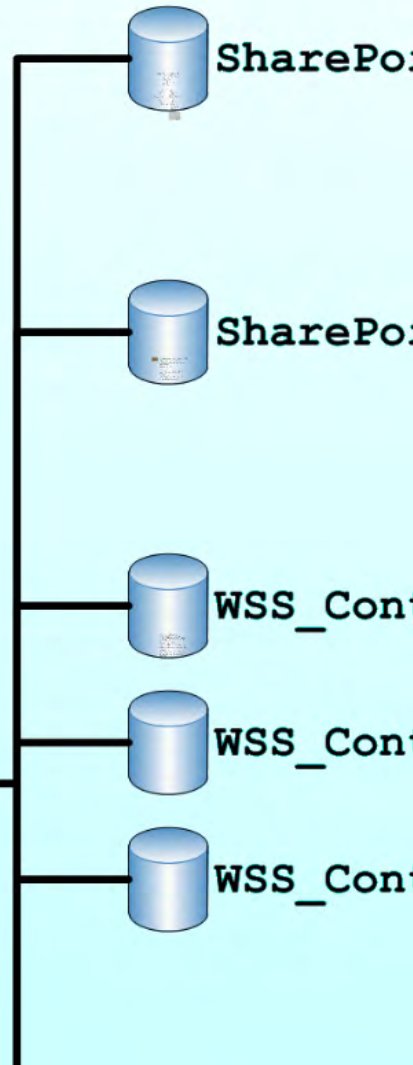
- Yes, it's a service application ... but not like other service applications!

Where is it?

- SQL Server houses several databases (admin, crawl, plus others by specific SP version)
- File system houses index partitions

SQL

TDE items





WSS_Content_4b2ea2e6-afc8-46f7-a42b-1fcd1f0c



Search_Service_Application_CrawlStoreDB_a011



Search_Service_Application_DB_d902b716e8e547

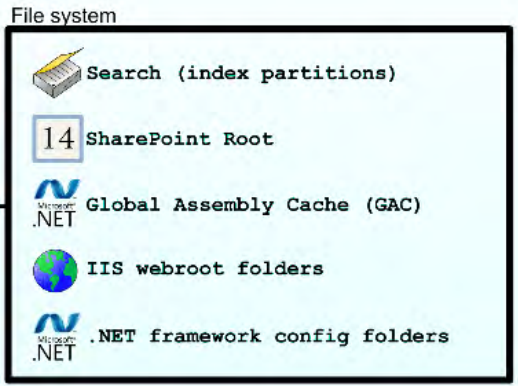
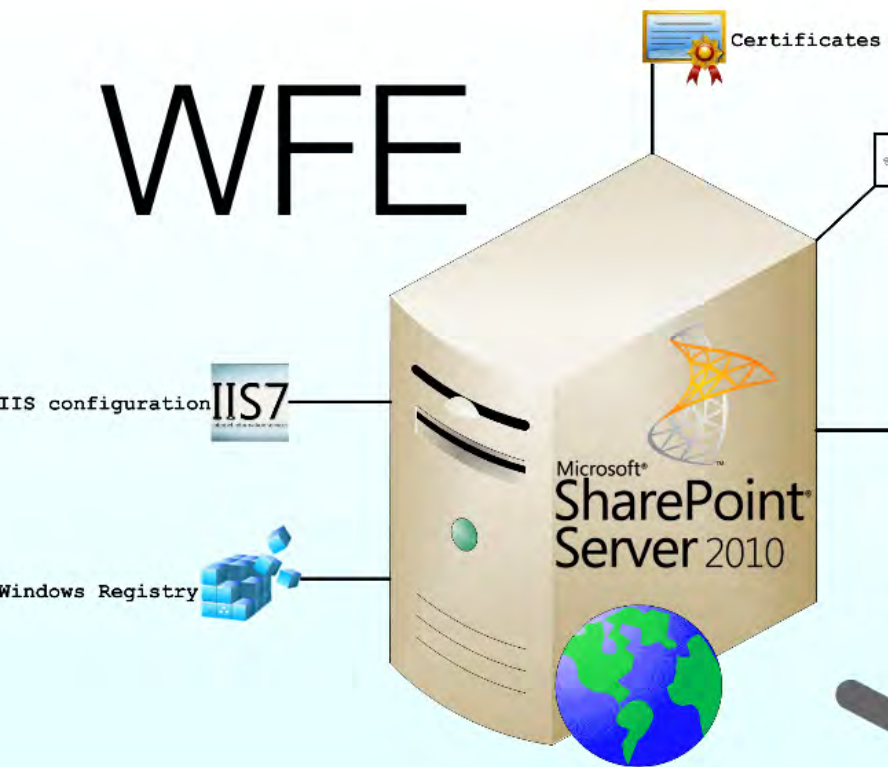


Search_Service_Application_PropertyStoreDB_c

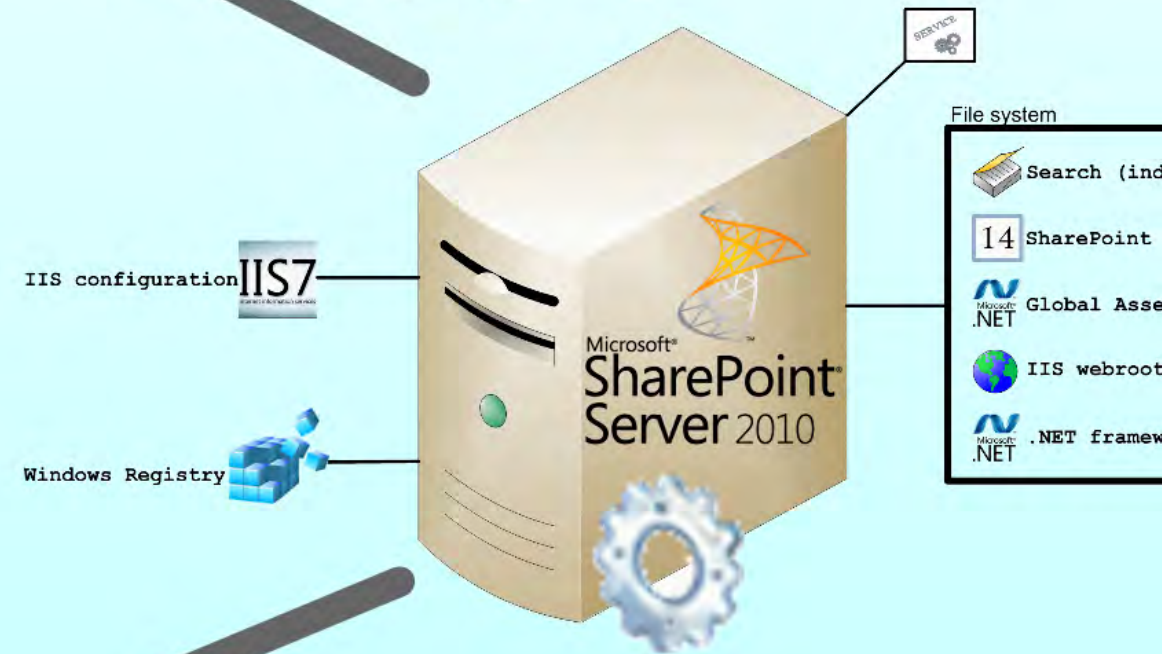


Application_Registry_Service_DB_9b940f8fc593

WFE



APP



File system



Search (index partitions)



SharePoint Root



Global Assembly Cache (GAC)



IIS webroot folders



.NET framework config folders

Applications

SharePoint > Search Index > Office Server > Applications

Search Applications

Organize Open Include in library Share with New folder

- Search Index
- Office Server
 - Applications**
 - 8953cc31-ccad-437a-802f-38e6629d76
 - 8953cc31-ccad-437a-802f-38e6629d76
 - Config
 - GatherLogs
 - Projects
 - AnchorProject
 - Portal_Content
 - 8953cc31-ccad-437a-802f-38e6629d76
 - 22659ada-6a7d-4d53-9d75-87ceff4762
 - 22659ada-6a7d-4d53-9d75-87ceff4762
 - 22659ada-6a7d-4d53-9d75-87ceff4762
- SP2010
 - ULS Logs
 - Usage Logs
- SPObjecIterator
- SQL Replic...

Name	Date modified	Type
8953cc31-ccad-437a-802f-38e6629d76a4	10/3/2010 3:06 PM	File folder
8953cc31-ccad-437a-802f-38e6629d76a4-crawl-0	10/3/2010 3:08 PM	File folder
8953cc31-ccad-437a-802f-38e6629d76a4-query-0	10/3/2010 3:09 PM	File folder
22659ada-6a7d-4d53-9d75-87ceff4762b5	4/25/2010 5:57 PM	File folder
22659ada-6a7d-4d53-9d75-87ceff4762b5-crawl-0	4/25/2010 5:57 PM	File folder
22659ada-6a7d-4d53-9d75-87ceff4762b5-query-0	4/25/2010 5:58 PM	File folder

8953cc31-ccad-437a-802f-38e6629d76a4-... Date modified: 10/3/2010 3:08 PM
File folder

Search



- Yes, it's a service application ... but not like other service applications!

Where is it?

- SQL Server houses several databases (admin, crawl, plus others by specific SP version)
- File system houses index partitions

Search



- Yes, it's a service application ... but not like other service applications!

Where is it?

- SQL Server houses several databases (admin, crawl, plus others by specific SP version)
- File system houses index partitions

Protection

- Can be configured for high availability OOTB
- SharePoint native or SPF VSS Writer-based backups
- 3rd party tools
- Sync between index partitions & crawl database is critical!



Core SharePoint targets

aka, "the meat and potatoes"

- Content databases
- Central Admin (content) DB
- Farm Configuration database
- Service Applications
- Search





Related targets

"important to remember"

- Solution packages
- SharePoint Root
- IIS Configuration
- Certificates
- IIS web root
- GAC
- Registry
- Bits and bytes



Solution packages

- .wsp files that are added to the farm to deploy custom code, Features, etc.

You are packaging
your customizations
this way ... right?

You are packaging
your customizations
this way ... right?

If you answered "no,"
then pay attention ...

You were doing it
wrong, but now you're
doing it "less wrong."

You were doing it
wrong, but now you're
doing it "less wrong."

Confused?



You were doing it
wrong, but now you're
doing it "less wrong."

Confused?



"No more feature framework?"

Correct

We recommend remote provisioning patterns rather
than feature framework usage

from Vesa Juvonen,
Senior Program
Manager for Office
365 Engineering

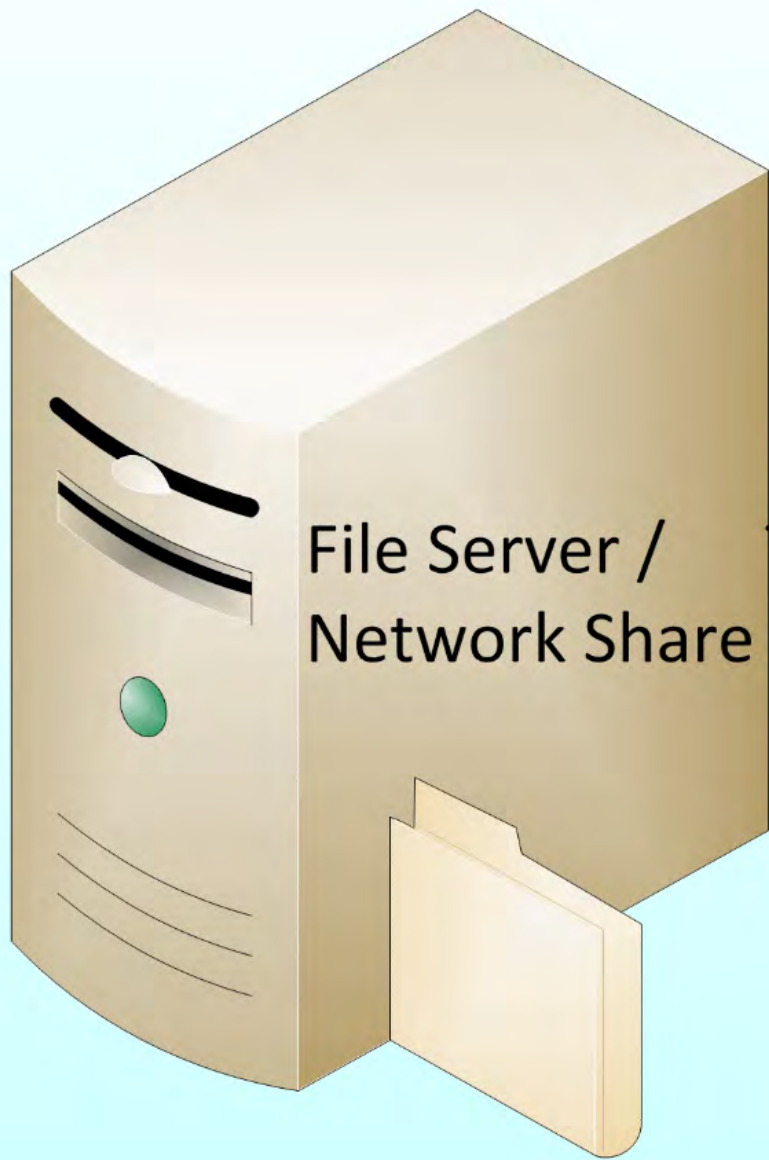


Solution packages

- .wsp files that are added to the farm to deploy custom code, Features, etc.

Where are they?

- Ultimately depends on your processes



File system



Solution packages



Bits and bytes



Remoted BLOBs



Solution packages

- .wsp files that are added to the farm to deploy custom code, Features, etc.

Where are they?

- Ultimately depends on your processes

Worth protecting?

- Absolutely. Backup is critical in most cases



Solution packages

- .wsp files that are added to the farm to deploy custom code, Features, etc.

Where are they?

- Ultimately depends on your processes

Worth protecting?

- Absolutely. Backup is critical in most cases

Protection

- For centrally managed solution packages, basic file protection/backup is common
- Alternative: configuration-only backup



SharePoint Root

- The guts of SharePoint's core file system
- Previously known as "hives" (e.g., "14-hive")



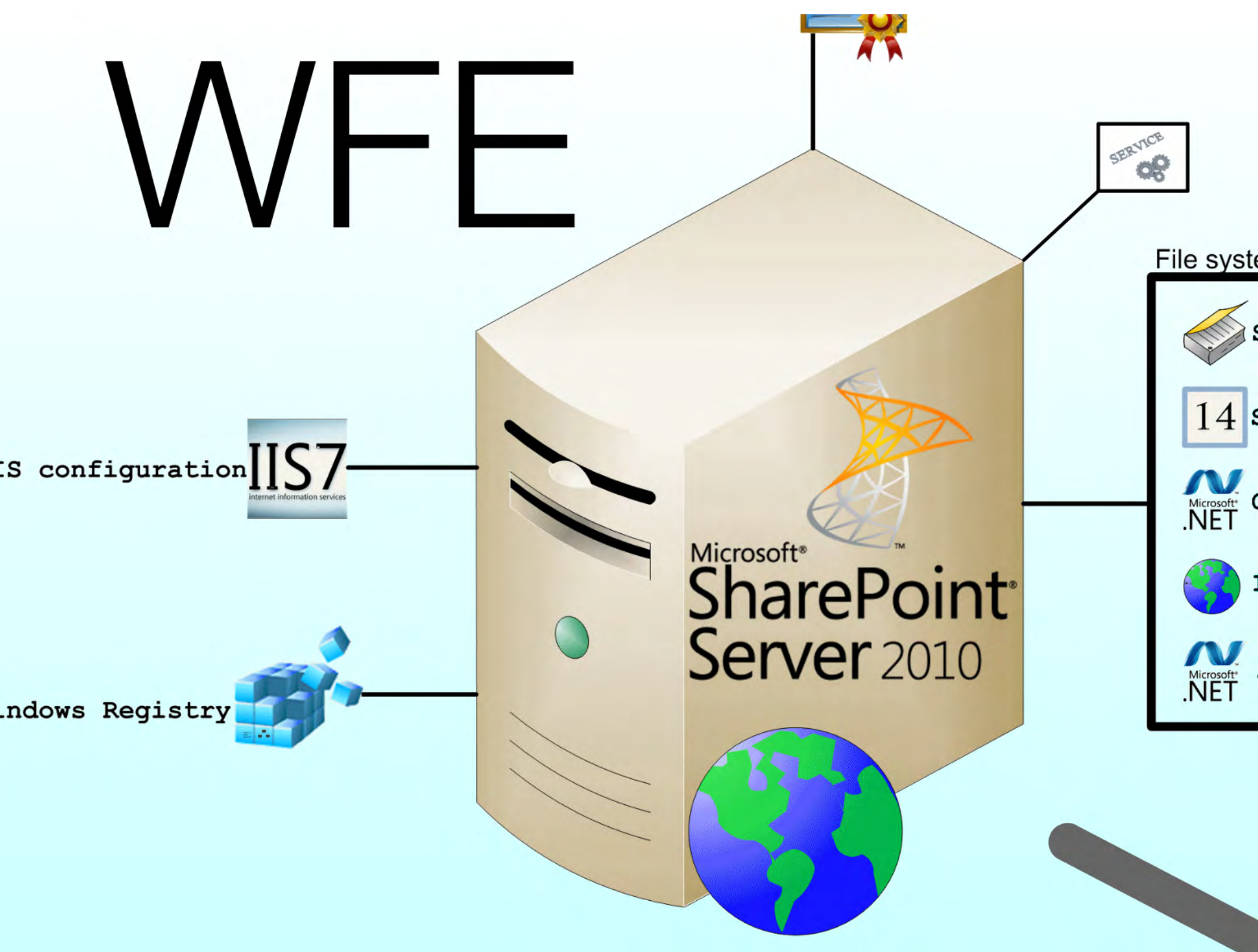
SharePoint Root

- The guts of SharePoint's core file system
- Previously known as "hives" (e.g., "14-hive")

Where is it?

- C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\"#\" (14, 15, etc.)

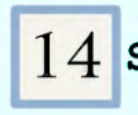
WFE



IIS7
Internet Information Services

SERVICE

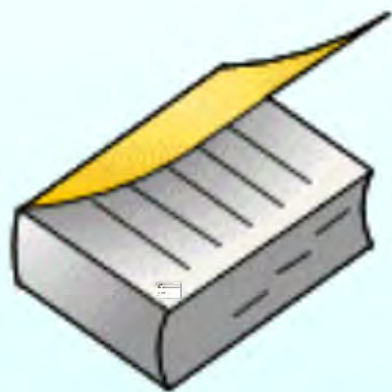
File system



IIS configuration

Windows Registry

File system



Search (index page)



SharePoint Root



Global Assembly

14

C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14

Search 14

Organize Include in library Share with New folder

Web Server Extensions

- 14
 - ADMISAPI
 - BIN
 - CONFIG
 - HCCab
 - Help
 - ISAPI
 - LOGS
 - Policy
 - Resources
 - TEMPLATE
 - UserCode
 - WebClients
 - WebServices
 - wpresources
 - WF
 - Services
 - SpeechEngines

Name	Date modified	Type
ADMISAPI	10/3/2010 2:48 PM	File folder
BIN	7/5/2011 10:40 AM	File folder
CONFIG	8/6/2011 4:31 AM	File folder
HCCab	4/25/2010 11:40 AM	File folder
Help	10/3/2010 2:43 PM	File folder
ISAPI	7/5/2011 10:57 AM	File folder
LOGS	10/3/2010 4:56 PM	File folder
Policy	7/5/2011 10:50 AM	File folder
Resources	7/5/2011 10:57 AM	File folder
TEMPLATE	10/3/2010 2:44 PM	File folder
UserCode	7/5/2011 10:26 AM	File folder
WebClients	5/17/2011 3:30 PM	File folder
WebServices	5/17/2011 3:29 PM	File folder

13 items



SharePoint Root

- The guts of SharePoint's core file system
- Previously known as "hives" (e.g., "14-hive")

Where is it?

- C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\"#" (14, 15, etc.)

Worth protecting?

- Depends heavily on customization deployment and usage patterns
- Strong "yes" for decentralized customizations



SharePoint Root

- The guts of SharePoint's core file system
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Protection

- File system backup



IIS Configuration

- Settings used to serve web pages by IIS
- Covers app pools, ports, protocols, etc.



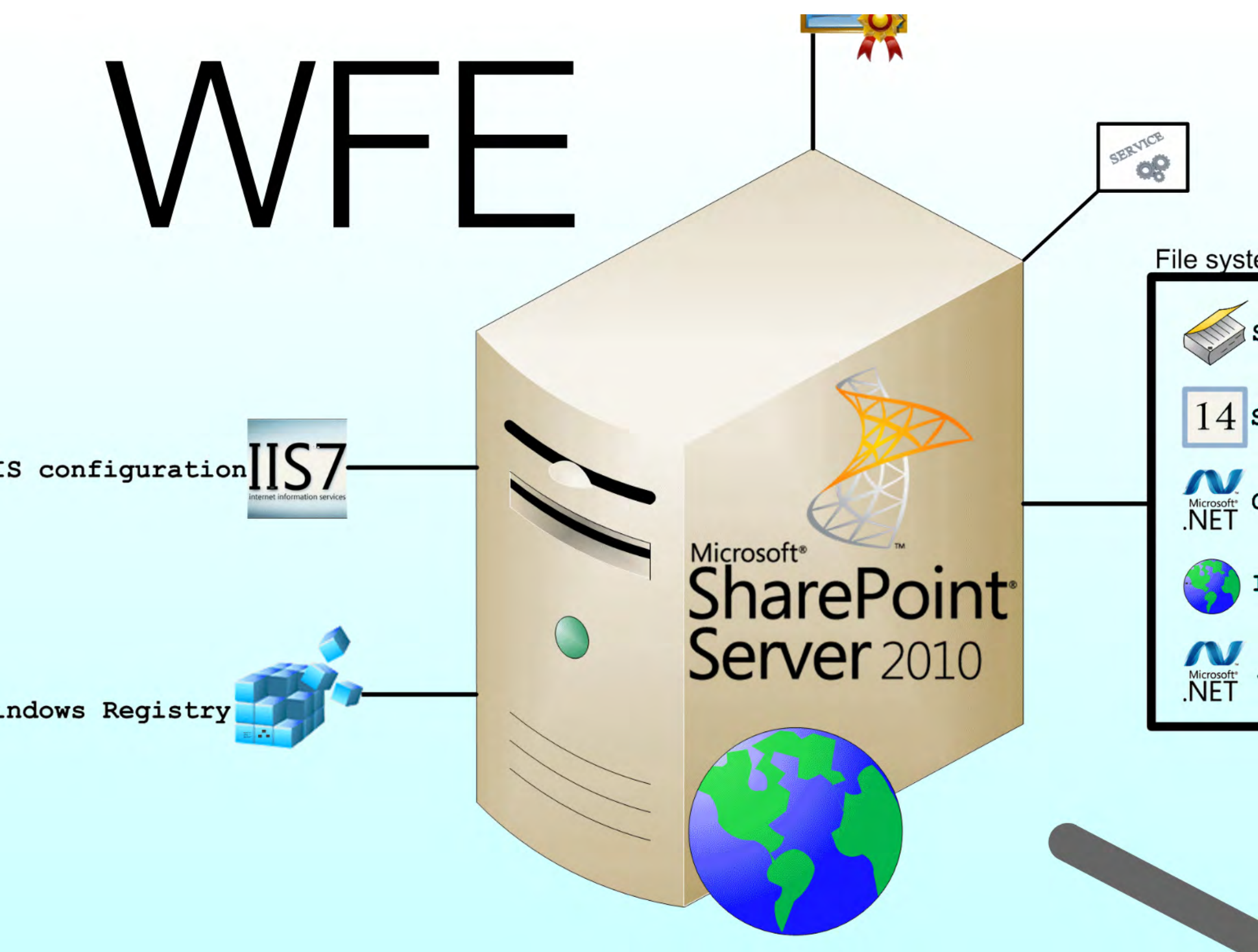
IIS Configuration

- Settings used to serve web pages by IIS
- Covers app pools, ports, protocols, etc.

Where is it?

- C:\Windows\system32\inetsrv\config
- Housed primarily in three .config files

WFE



V V I L

IIS configuration



config

C:\Windows\System32\inet_srv\config

Search config

Organize Include in library Share with New folder

inet_srv

- 0409
- config
- en-US
- History
- MetaBack
- Ipmi
- it-IT
- ja-JP
- ko-KR
- LogFiles
- lt-LT
- lv-LV
- manifeststore
- Microsoft
- migration
- migwiz
- Msdtc

Name	Date modified	Type
Export	4/25/2010 12:49 AM	File folder
schema	2/22/2011 4:33 PM	File folder
administration.config	2/22/2011 4:37 PM	XML Configuration
applicationHost.config	7/5/2011 11:11 AM	XML Configuration
redirection.config	4/25/2010 12:49 AM	XML Configuration

5 items



IIS Configuration

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Worth protecting?

- "Maybe"
- There is significant redundancy with .config file content and information that SharePoint stores



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- Housed primarily in three .config files

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Protection

- File copy*, appcmd.exe*, documentation of settings

backup

SYSTEM (C:) > Windows > System32 > inetsrv > backup

Search backup

Organize Include in library Share with New folder

Name	Date modified	Type	Size
20110809T222735	8/9/2011 10:27 PM	File folder	

et-EE
EventProviders
fi-FI
fr-FR
GroupPolicy
GroupPolicyUsers
he-IL
hr-HR
hu-HU
ias
icsxml
IME
inetsrv
0409
backup
config
Export
schema
1 item

Administrator: Windows PowerShell

```
PS C:\windows\system32\inetsrv> .\appcmd.exe backup /?  
Administration of server configuration backups  
  
APPCMD <command> BACKUP <identifier> <-parameter1:value1 ...>  
  
Supported commands:  
  
list      List existing configuration backups  
add       Create a configuration backup  
delete    Delete a configuration backup  
restore   Restore a configuration backup  
  
<To get help for each command use /?, e.g. 'appcmd.exe add site /?'>  
PS C:\windows\system32\inetsrv> .\appcmd.exe add backup  
BACKUP object "20110809T222735" added  
PS C:\windows\system32\inetsrv> _
```




IIS Configuration

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Protection

- File copy*, appcmd.exe*, documentation of settings

Certificates



- Commonly used for encryption (SSL) to sites and between farm members

Certificates

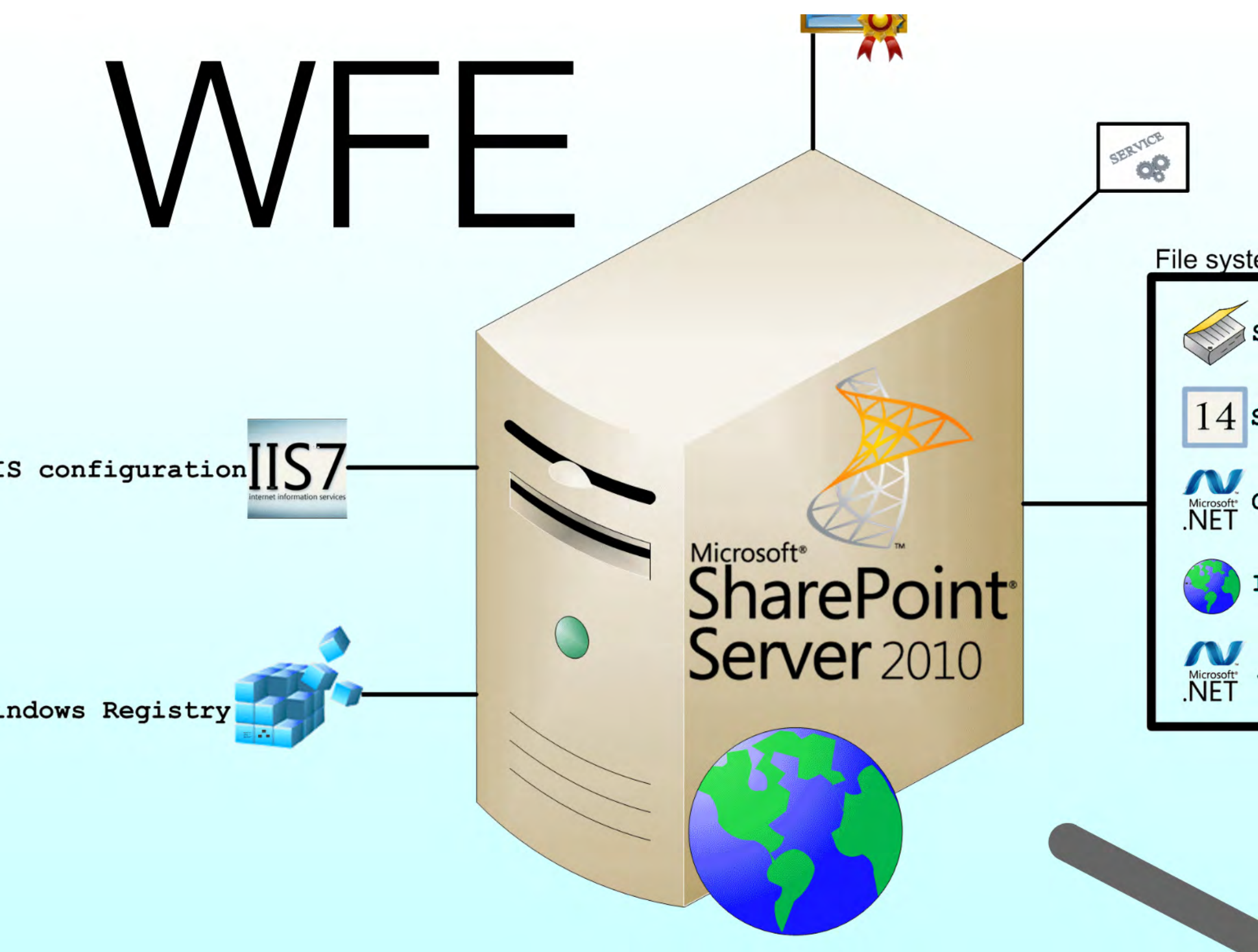


- Commonly used for encryption (SSL) to sites and between farm members

Where are they

- Local machine certificate store
- Accessible via MMC or IIS Manager

WFFE





Certificates

SER

Certs - [Console Root\Certificates (Local Computer)\Personal\Certificates]

File Action View Favorites Window Help

← → 📁 🔍 ✂ 📄 ✖ 📄 📄 ? 📄

Issued To	Issued By	Expiration Date	Intended Purposes	Actions
*.sculpted-system.com	Go Daddy Secure Certification Autho...	6/29/2013	Server Authenticatio...	Certificates ▲ More ... ▶
*.sculpted-system.com	Go Daddy Secure Certification Autho...	6/29/2016	Server Authenticatio...	*.sculpted... ▲ More ... ▶

Console Root
 Certificates (Local Computer)
 Personal
 Certificates
 Trusted Root Certification Authorities
 Enterprise Trust
 Intermediate Certification Authorities
 Trusted Publishers
 Untrusted Certificates
 Third-Party Root Certification Authorities
 Trusted People
 Operations Manager
 Remote Desktop
 Certificate Enrollment Requests
 Smart Card Trusted Roots
 Trusted Devices

Open
 All Tasks ▶ Open
 Cut Request Certificate with New Key...
 Copy Renew Certificate with New Key...
 Delete Manage Private Keys...
 Properties Advanced Operations ▶
 Help Export...

Export a certificate

Connections

- Start Page
- VMSS-SP2010 (SCULPTEDSYSTEMS)
- Application Pools
- Sites
 - Central Administration (IIS)
 - Central Administration IS
 - Internal Home Web (80)
 - Internal Home Web ISAF
 - My Site Host Web (80)
 - My Site Host Web ISAPU
 - Sculpted System Webs (IIS)
 - Sculpted System Webs I
 - SharePoint Central Admin
 - SharePoint Web Services
 - SPMcDonough Web (80)

Server Certificates

Use this feature to request and manage certificates that the Web server can use with Web sites configured for SSL.

Name	Issued To	Issued By	Expiration Date	Certificate
WMSvc-VMSS-SP2010	ForefrontIdentityManager	ForefrontIdentityManager	5/31/2020 4:03:50 PM	8575526...

- Import...
- Create Certificate Request...
- Complete Certificate Request...
- Create Domain Certificate...
- Create Self-Signed Certificate...
- View...
- Export...**
- Remove
- Help
- Online Help

Actions

- Import...
- Create Certificate Request...
- Complete Certificate Request...
- Create Domain Certificate...
- Create Self-Signed Certificate...
- View...
- Export...
- Remove**
- Help**
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Certificates



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Certificates



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Protection

- Interactive export from MMC or IIS Manager
- Export via PowerShell or code

Certificates



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Where are they

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- Accessible via MMC or IIS Manager

Worth protecting?

- Yes

Protection

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- Export via PowerShell or code

Pay attention to where SSL terminates to find certs



IIS web root

- Web files for each IIS site associated with a SharePoint Web application



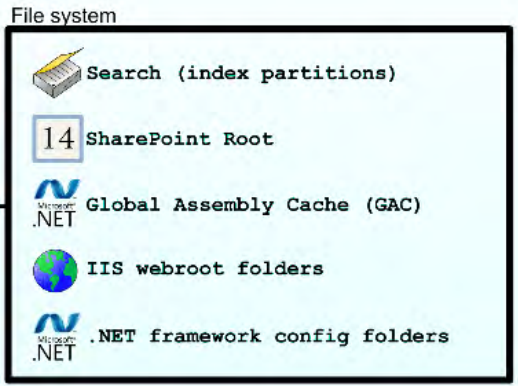
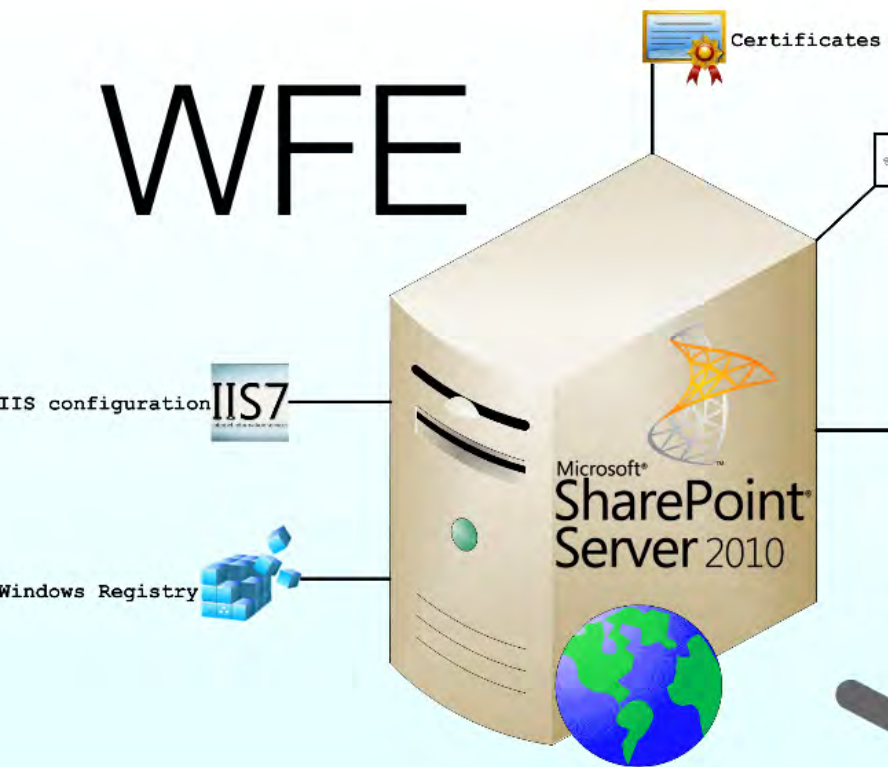
IIS web root

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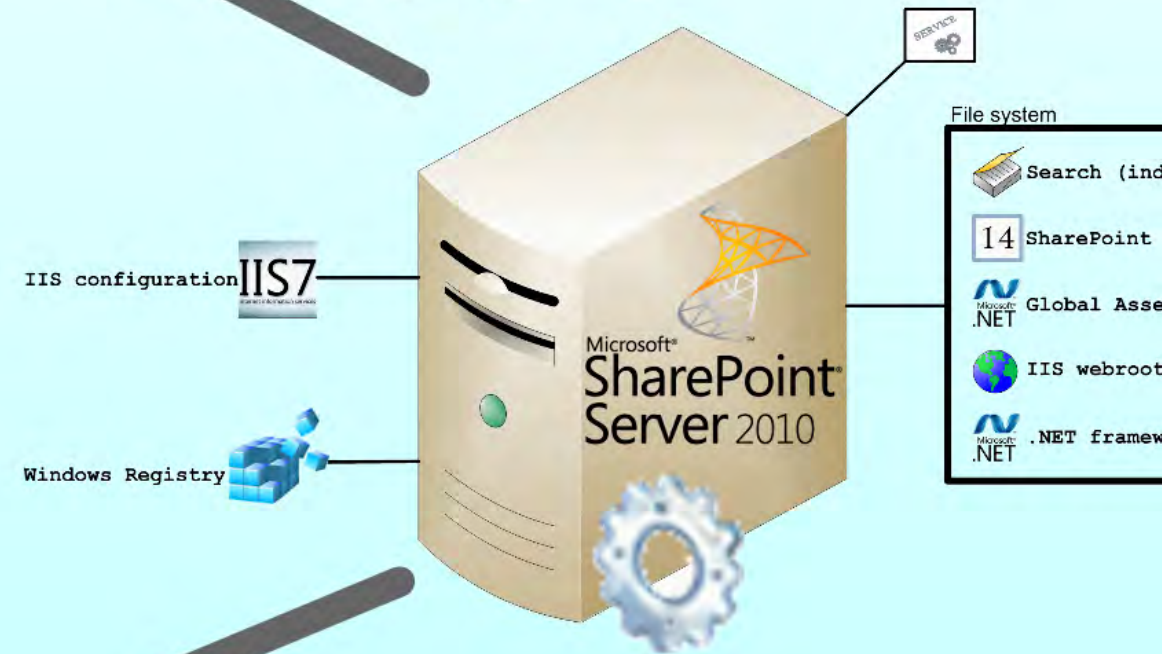
Where is it?

- C:\inetpub\wwwroot\wss\VirtualDirectories
- Other paths possible

WFE



APP



File system



Search (index partitions)



SharePoint Root



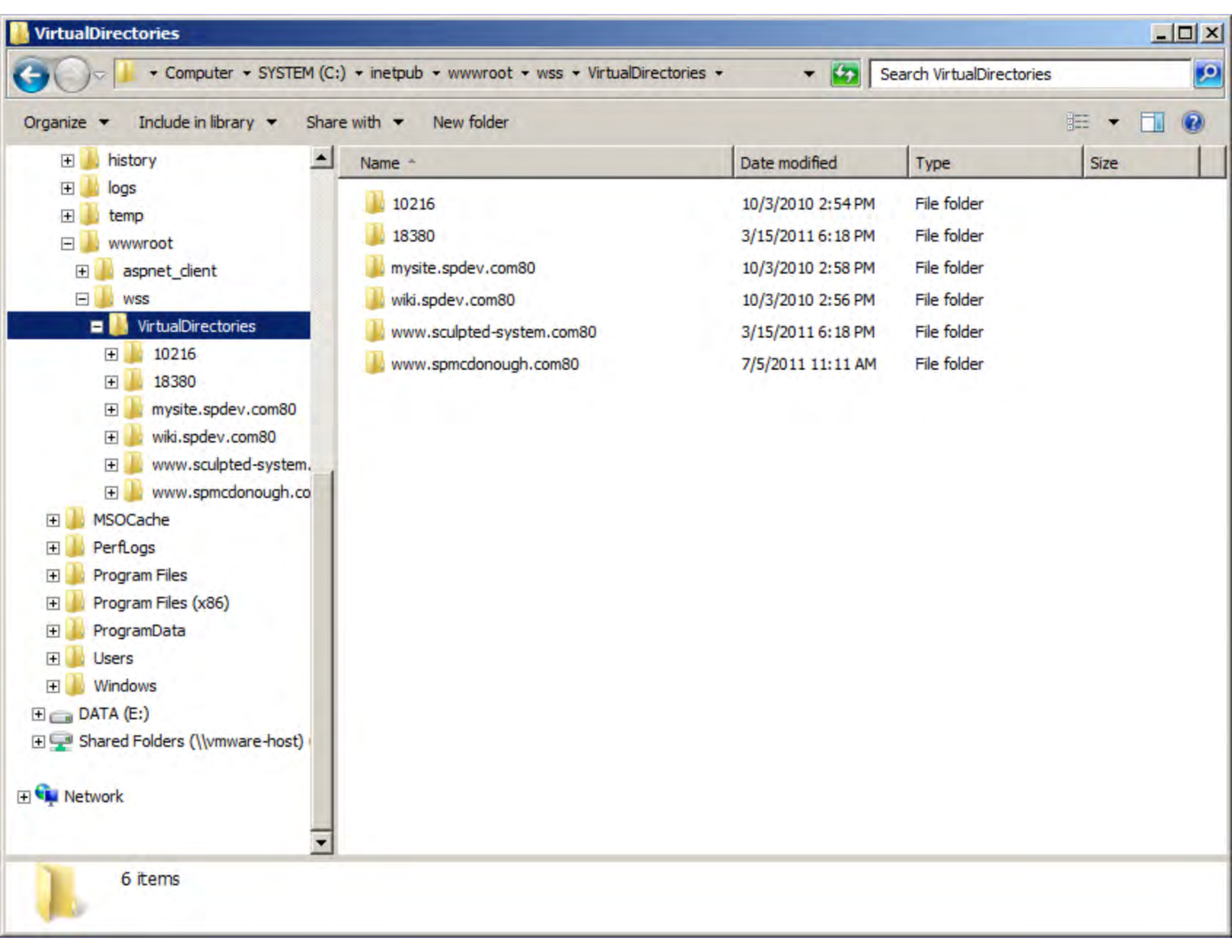
Global Assembly Cache (GAC)



IIS webroot folders



.NET framework config folders



Name	Date modified	Type	Size
10216	10/3/2010 2:54 PM	File folder	
18380	3/15/2011 6:18 PM	File folder	
mysite.spdev.com80	10/3/2010 2:58 PM	File folder	
wiki.spdev.com80	10/3/2010 2:56 PM	File folder	
www.sculpted-system.com80	3/15/2011 6:18 PM	File folder	
www.spmcdonough.com80	7/5/2011 11:11 AM	File folder	

6 items



IIS web root

- Web files for each IIS site associated with a SharePoint Web application

Where is it?

- C:\inetpub\wwwroot\wss\VirtualDirectories
- Other paths possible

Worth protecting?

- Usually for web.config files et al
- "Yes" for decentralized customizations



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Where is it?

- C:\inetpub\wwwroot\wss\VirtualDirectories
- Other paths possible

Worth protecting?

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Protection

- File system backup, documentation



Global Assembly Cache

- Microsoft .NET Framework GACs are repositories for shared libraries (DLLs) and native images



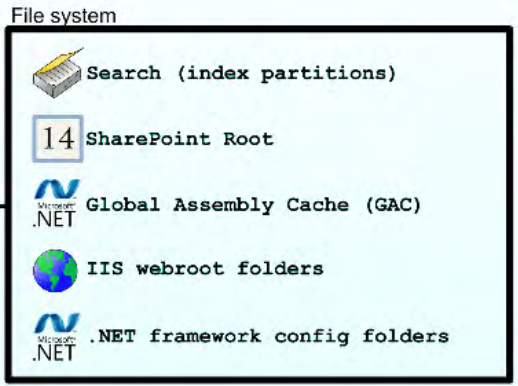
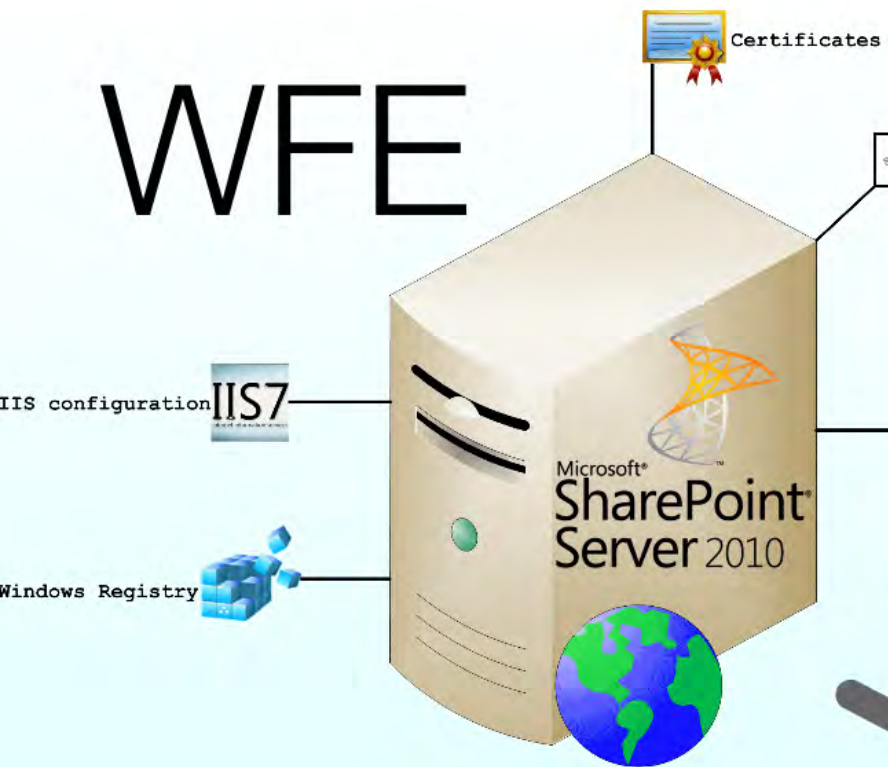
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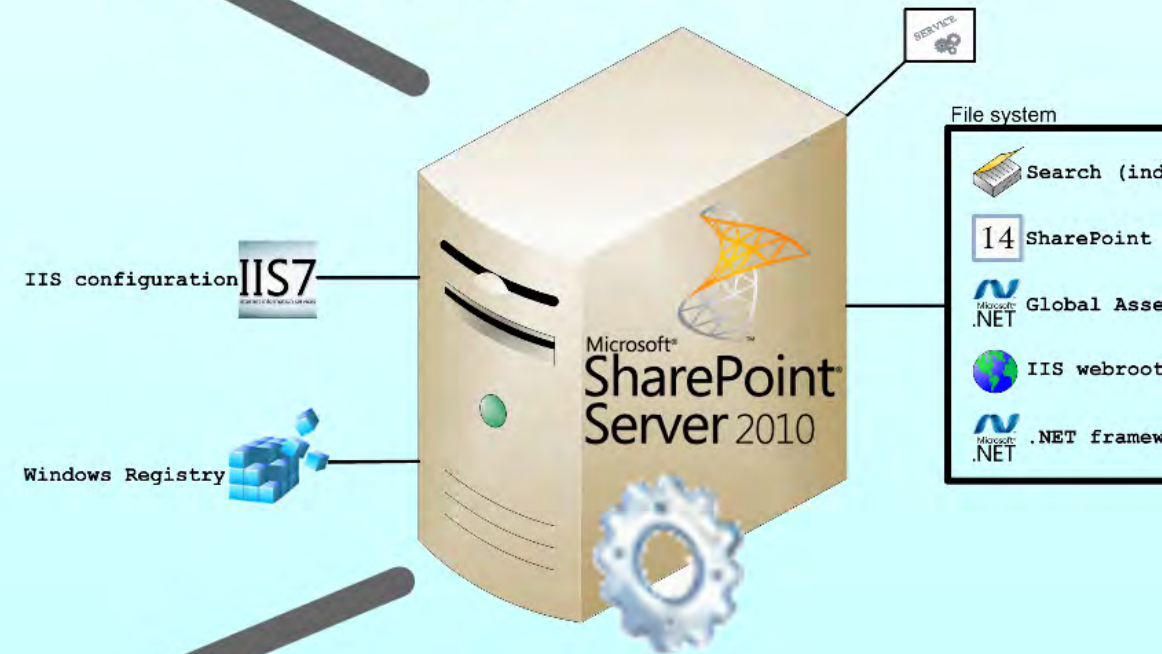
Where is it?

- C:\Windows\assembly (prior to .NET 4.0)
- C:\Windows\Microsoft.NET\assembly (.NET 4.0+)

WFE



APP



File system



Search (index partitions)



SharePoint Root



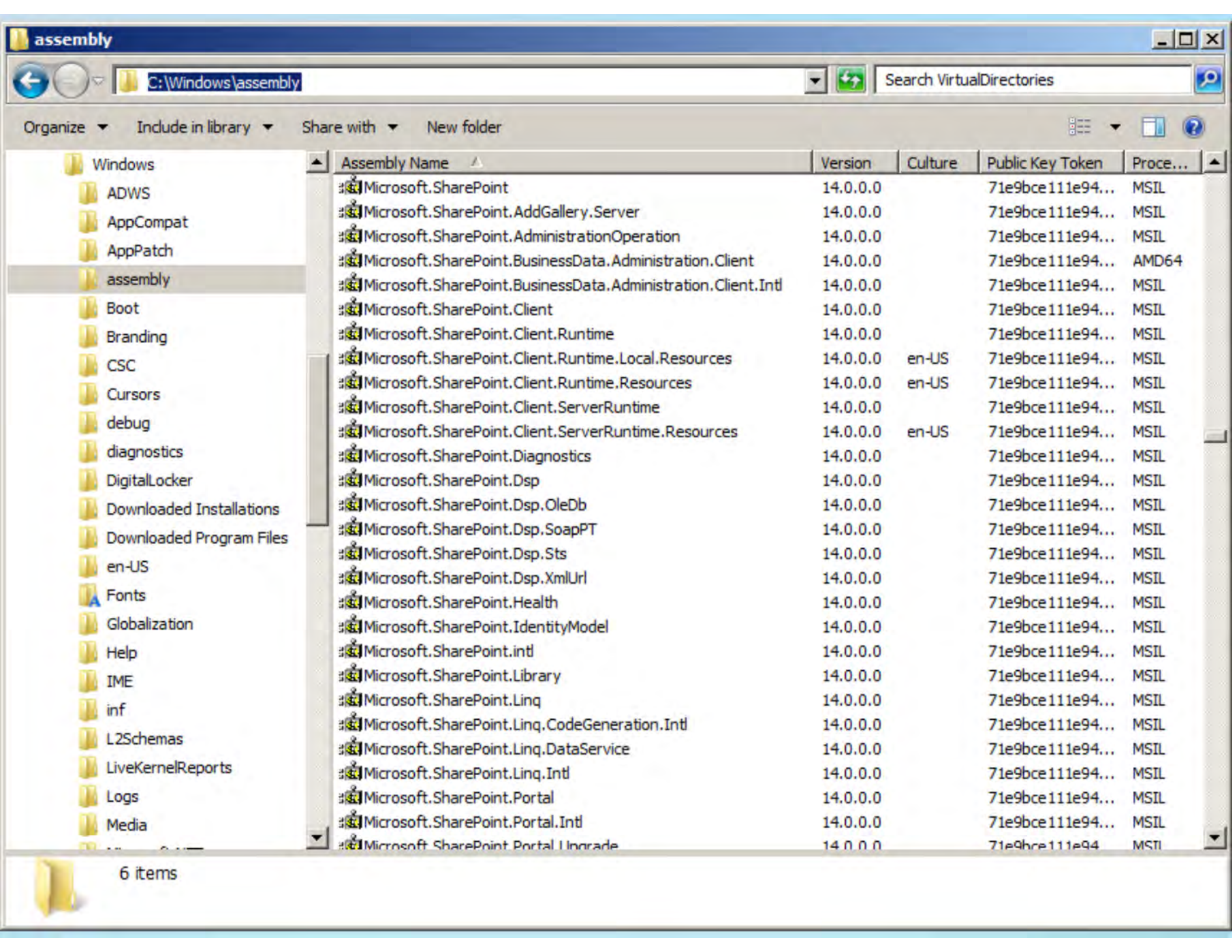
Global Assembly Cache (GAC)



IIS webroot folders



.NET framework config folders



- Windows
- ADWS
- AppCompat
- AppPatch
- assembly
- Boot
- Branding
- CSC
- Cursors
- debug
- diagnostics
- DigitalLocker
- Downloaded Installations
- Downloaded Program Files
- en-US
- Fonts
- Globalization
- Help
- IME
- inf
- L2Schemas
- LiveKernelReports
- Logs
- Media

Assembly Name	Version	Culture	Public Key Token	Proce...
Microsoft.SharePoint	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.AddGallery.Server	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.AdministrationOperation	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.BusinessData.Administration.Client	14.0.0.0		71e9bce111e94...	AMD64
Microsoft.SharePoint.BusinessData.Administration.Client.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime.Local.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.ServerRuntime	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.ServerRuntime.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Diagnostics	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.OleDb	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.SoapPT	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.Sts	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.XmlUrl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Health	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.IdentityModel	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Library	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.CodeGeneration.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.DataService	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal.Upgrade	14.0.0.0		71e9bce111e94...	MSIL

File Home Share View

Clipboard: Copy, Paste, Copy path, Paste shortcut

Organize: Move to, Copy to, Delete, Rename

New: New folder, New item, Easy access

Open: Properties, Open, Edit

Select: Select all, Select none, Invert selection

← This PC > SYSTEM (C:) > Windows > Microsoft.NET > assembly > Search assembly

- assembly
 - GAC_32
 - GAC_64
 - GAC_MSIL
 - Accessibility
 - ADODB
 - Attunity.SqlServer.CDCCControlTask
 - Attunity.SqlServer.CDCDesign
 - Attunity.SqlServer.CDCSplit
 - Attunity.SqlServer.CDCSrc
 - Attunity.SSIS.Odbc.Design
 - blbmmc
 - blbmmc.resources
 - blbproxy.resources
 - blbwizfx
 - blbwizfx.resources
 - CachingCodeSolutionExamples2013
 - ComSvcConfig
 - CppCodeProvider
 - dfsvc
 - DocumentFormat.OpenXml
 - EventViewer
 - EventViewer.Resources
 - FSharp.Compiler
 - FSharp.Compiler.Interactive.Settings
 - FSharp.Compiler.Settings

Name	Date modified	Type	Size
GAC_32	4/4/2014 4:29 PM	File folder	
GAC_64	4/6/2014 7:08 PM	File folder	
GAC_MSIL	4/8/2014 1:00 PM	File folder	

3 items 1 item selected





Global Assembly Cache

- Microsoft .NET Framework GACs are repositories for shared libraries (DLLs) and native images

Where is it?

- C:\Windows\assembly (prior to .NET 4.0)
- C:\Windows\Microsoft.NET\assembly (.NET 4.0+)

Worth protecting?

- Sometimes (typically for decentralized customizations)



Global Assembly Cache

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Where is it?

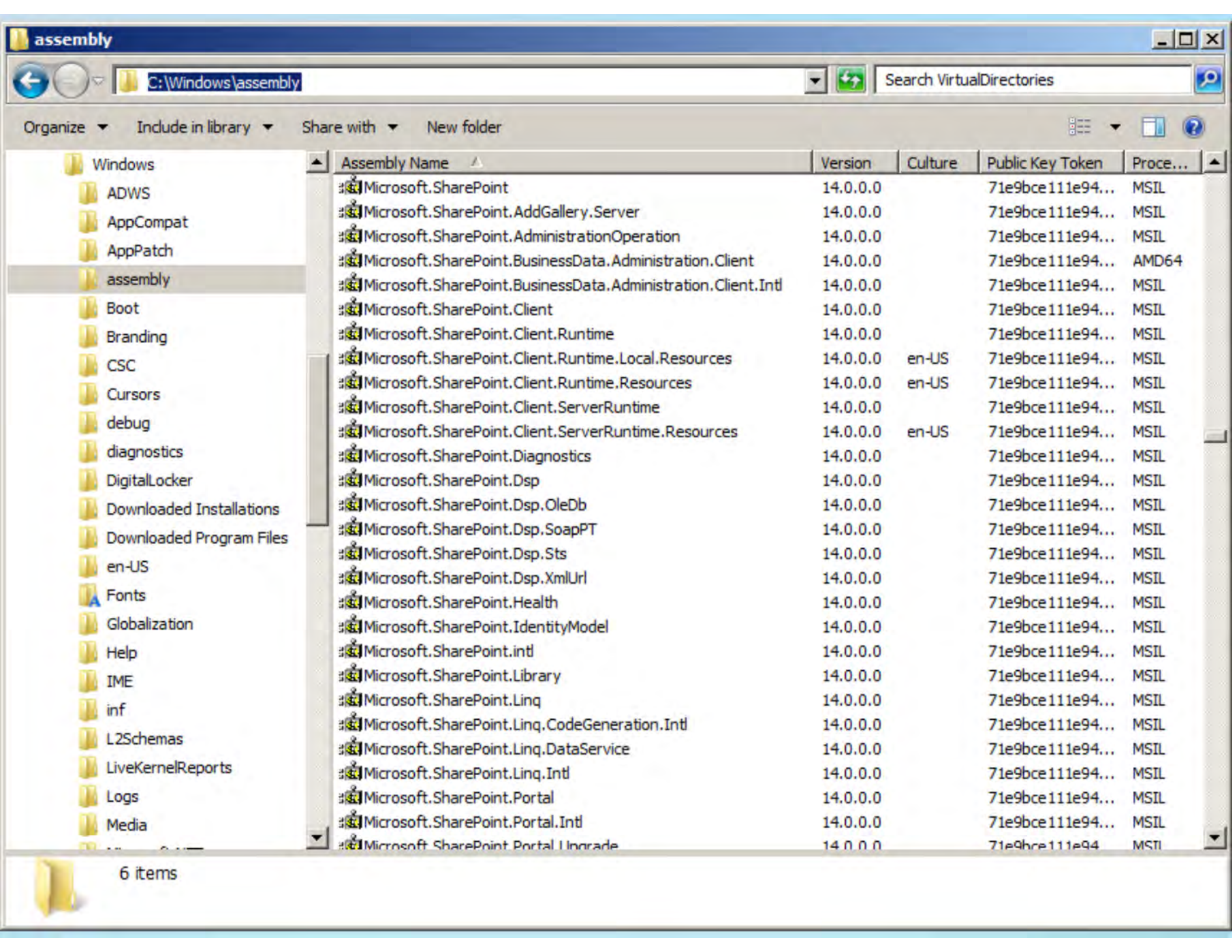
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Protection

- File system backup*



Assembly Name	Version	Culture	Public Key Token	Proce...
Microsoft.SharePoint	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.AddGallery.Server	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.AdministrationOperation	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.BusinessData.Administration.Client	14.0.0.0		71e9bce111e94...	AMD64
Microsoft.SharePoint.BusinessData.Administration.Client.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime.Local.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.Runtime.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.ServerRuntime	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Client.ServerRuntime.Resources	14.0.0.0	en-US	71e9bce111e94...	MSIL
Microsoft.SharePoint.Diagnostics	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.OleDb	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.SoapPT	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.Sts	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Dsp.XmlUrl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Health	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.IdentityModel	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Library	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.CodeGeneration.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.DataService	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Linq.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal.Intl	14.0.0.0		71e9bce111e94...	MSIL
Microsoft.SharePoint.Portal.Upgrade	14.0.0.0		71e9bce111e94...	MSIL

Administrator: Windows PowerShell

PS C:\windows\assembly> dir

Directory: C:\windows\assembly

Mode	LastWriteTime	Length	Name
d----	3/15/2011 6:03 PM		GAC
d-r--	7/1/2011 11:49 AM		GAC_32
d-r--	7/5/2011 10:57 AM		GAC_64
d-r--	8/8/2011 5:33 PM		GAC_MSIL
d----	7/5/2011 2:57 PM		NativeImages_v2.0.50727_32
d----	7/5/2011 10:54 AM		NativeImages_v2.0.50727_64
d----	7/1/2011 1:46 PM		NativeImages_v4.0.30319_32
d----	7/1/2011 1:20 PM		NativeImages_v4.0.30319_64
d----	8/8/2011 5:30 PM		temp
d----	8/8/2011 5:33 PM		tmp

PS C:\windows\assembly>



Global Assembly Cache

- Microsoft .NET Framework GACs are repositories for shared libraries (DLLs) and native images

Where is it?

- C:\Windows\assembly (prior to .NET 4.0)
- C:\Windows\Microsoft.NET\assembly (.NET 4.0+)

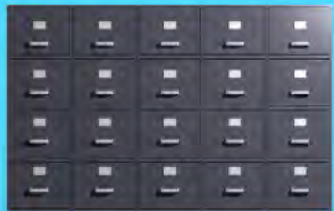
Worth protecting?

- Sometimes (typically for decentralized customizations)

Protection

- File system backup*

Be careful: do not overwrite entirely when restoring!



Registry

- Windows OS database for storage of system and program settings



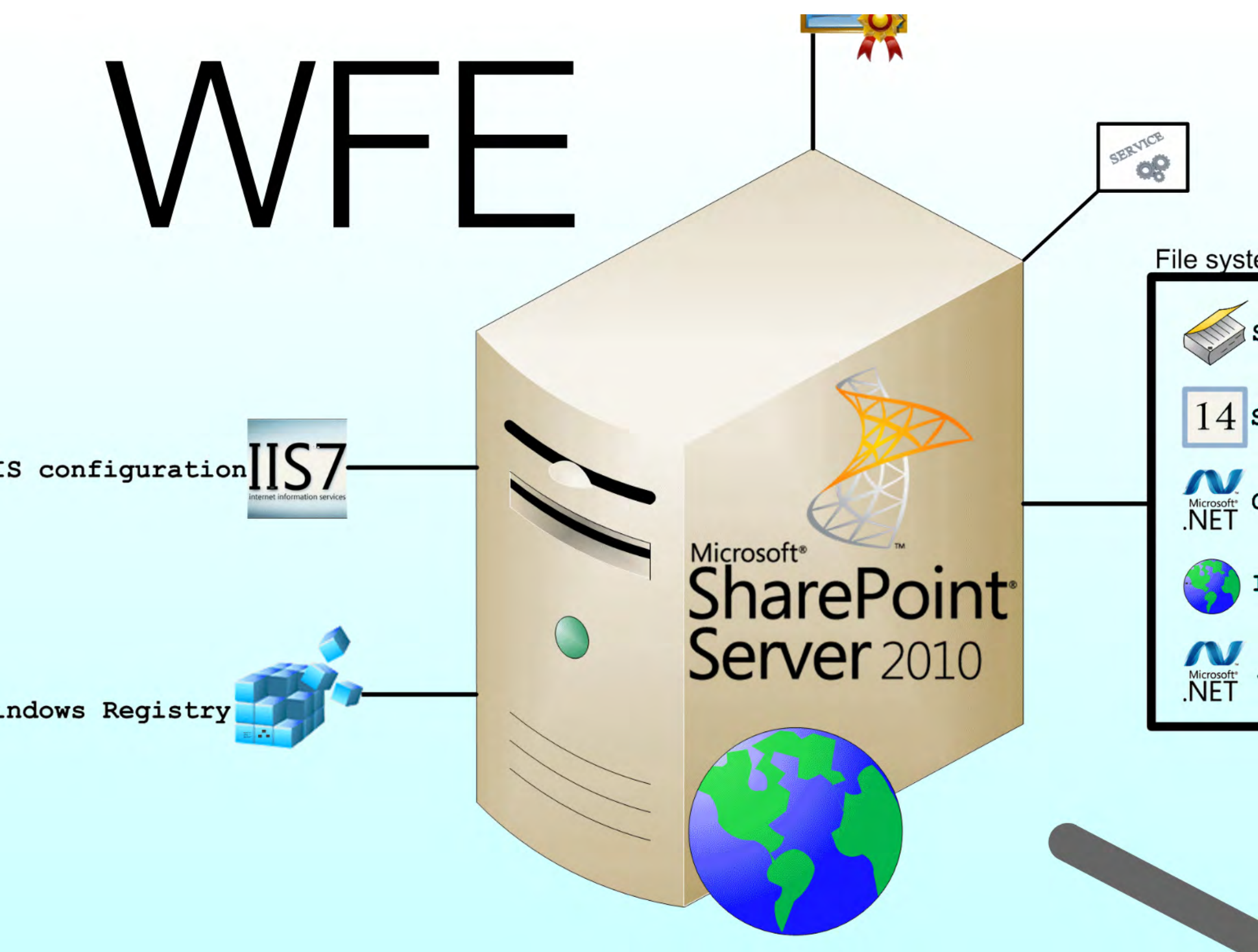
Registry

- Windows OS database for storage of system and program settings

Where is it?

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WFE



Windows Registry



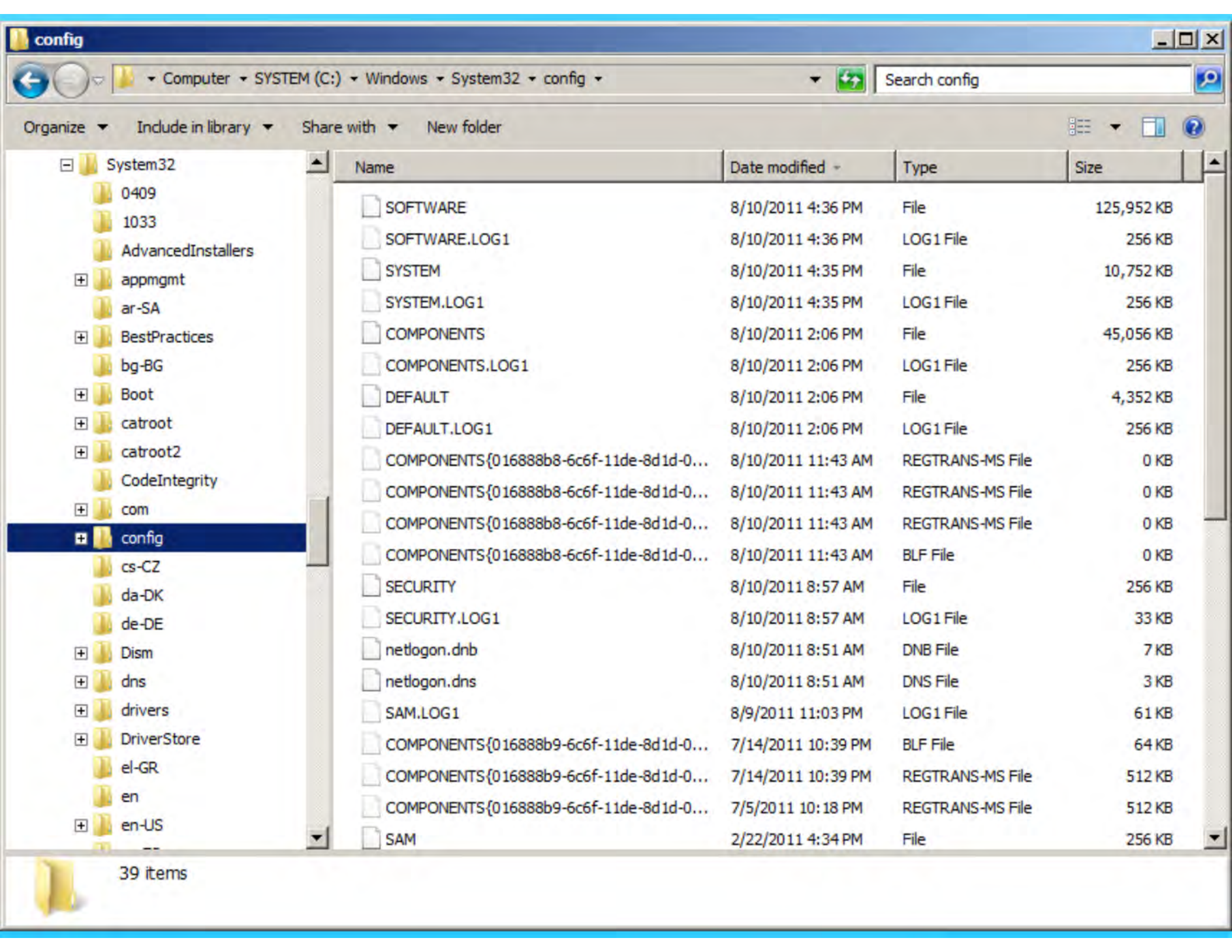
Registry Editor

File Edit View Favorites Help

- NET Framework Setup
- NetSh
- Network
- NetworkAccessProtection
- Non-Driver Signing
- Notepad
- NTDS
- ODBC
- Office
- Office Server
 - 14.0
 - Diagnostics
 - EvaluatorProvisioning
 - InstalledLanguages
 - LauncherSettings
 - LoadBalancerSettings
 - Search
 - Applications
 - Components
 - Global
 - Setup
 - ContentIndexCommon
 - Filters
 - ProtocolHandlers
 - ServerSettings
 - Wac
- OfficeSoftwareProtectionPlatform
- OLAP Server
- Ole
- Outlook Express
- PCHealth
- PLA
- PlayReady
- PowerShell
- Print

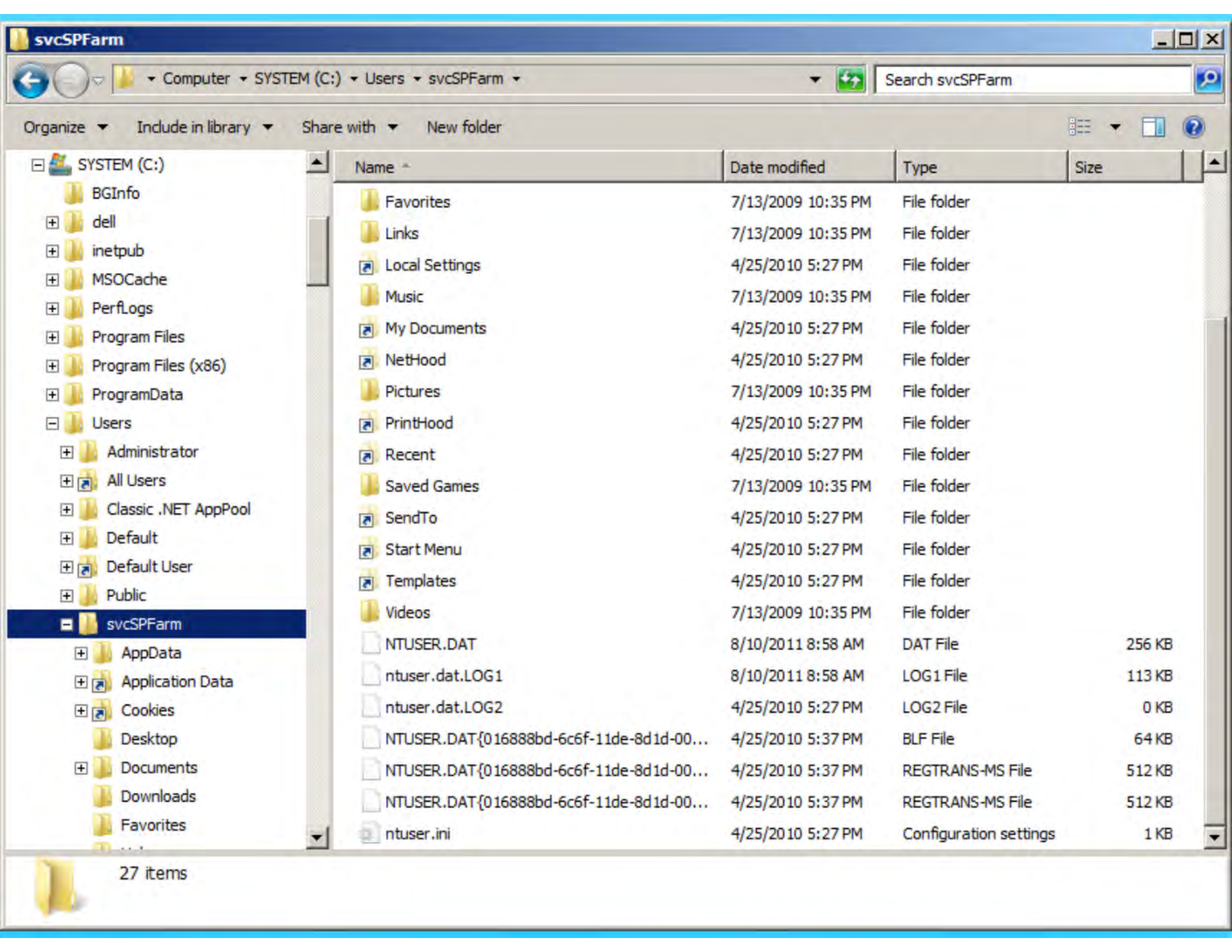
Name	Type	Data
(Default)	REG_SZ	
BinPath	REG_SZ	C:\Program Files\Microsoft Office Servers\14.0\Bin\
BuildVersion	REG_SZ	14.0.6029.1000
DownloadErrorRepor...	REG_DWORD	0x00000000 (0)
EventThreshold	REG_BINARY	28 b0 4c 0b 00 00 00 50 50 50 50 50 50 50 50 b1 6
FloodProtectionEnab...	REG_DWORD	0x00000001 (1)
FloodProtectionNotif...	REG_DWORD	0x00000005 (5)
FloodProtectionQuie...	REG_DWORD	0x00000002 (2)
FloodProtectionThre...	REG_DWORD	0x00000005 (5)
FloodProtectionTrigg...	REG_DWORD	0x00000002 (2)
InstallPath	REG_SZ	C:\Program Files\Microsoft Office Servers\14.0\
InstallPathRoot	REG_SZ	C:\Program Files\Microsoft Office Servers\
LogPath	REG_SZ	C:\Program Files\Microsoft Office Servers\14.0\Logs\
MUIPath	REG_SZ	C:\Program Files\Microsoft Office Servers\14.0\MUI\
OfficeServerSearch	REG_DWORD	0x00000001 (1)
PortalAppPool	REG_SZ	
SqlPath	REG_SZ	C:\Program Files\Microsoft Office Servers\14.0\Sql\
TemplatePath	REG_SZ	C:\Program Files\Common Files\Microsoft Shared\Web
TraceThreshold	REG_BINARY	32 b0 4c 0b 00 00 00 32 32 32 32 32 32 32 32 b1 6
WatsonEnabled	REG_DWORD	0x00000000 (0)

Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Office Server\14.0



- System32
 - 0409
 - 1033
 - AdvancedInstallers
 - appmgmt
 - ar-SA
 - BestPractices
 - bg-BG
 - Boot
 - catroot
 - catroot2
 - CodeIntegrity
 - com
 - config**
 - cs-CZ
 - da-DK
 - de-DE
 - Dism
 - dns
 - drivers
 - DriverStore
 - el-GR
 - en
 - en-US

Name	Date modified	Type	Size
SOFTWARE	8/10/2011 4:36 PM	File	125,952 KB
SOFTWARE.LOG1	8/10/2011 4:36 PM	LOG1 File	256 KB
SYSTEM	8/10/2011 4:35 PM	File	10,752 KB
SYSTEM.LOG1	8/10/2011 4:35 PM	LOG1 File	256 KB
COMPONENTS	8/10/2011 2:06 PM	File	45,056 KB
COMPONENTS.LOG1	8/10/2011 2:06 PM	LOG1 File	256 KB
DEFAULT	8/10/2011 2:06 PM	File	4,352 KB
DEFAULT.LOG1	8/10/2011 2:06 PM	LOG1 File	256 KB
COMPONENTS{016888b8-6c6f-11de-8d1d-0...	8/10/2011 11:43 AM	REGTRANS-MS File	0 KB
COMPONENTS{016888b8-6c6f-11de-8d1d-0...	8/10/2011 11:43 AM	REGTRANS-MS File	0 KB
COMPONENTS{016888b8-6c6f-11de-8d1d-0...	8/10/2011 11:43 AM	REGTRANS-MS File	0 KB
COMPONENTS{016888b8-6c6f-11de-8d1d-0...	8/10/2011 11:43 AM	BLF File	0 KB
SECURITY	8/10/2011 8:57 AM	File	256 KB
SECURITY.LOG1	8/10/2011 8:57 AM	LOG1 File	33 KB
netlogon.dnb	8/10/2011 8:51 AM	DNB File	7 KB
netlogon.dns	8/10/2011 8:51 AM	DNS File	3 KB
SAM.LOG1	8/9/2011 11:03 PM	LOG1 File	61 KB
COMPONENTS{016888b9-6c6f-11de-8d1d-0...	7/14/2011 10:39 PM	BLF File	64 KB
COMPONENTS{016888b9-6c6f-11de-8d1d-0...	7/14/2011 10:39 PM	REGTRANS-MS File	512 KB
COMPONENTS{016888b9-6c6f-11de-8d1d-0...	7/5/2011 10:18 PM	REGTRANS-MS File	512 KB
SAM	2/22/2011 4:34 PM	File	256 KB



- SYSTEM (C:)
 - BGInfo
 - dell
 - inetpub
 - MSOCache
 - PerfLogs
 - Program Files
 - Program Files (x86)
 - ProgramData
 - Users
 - Administrator
 - All Users
 - Classic .NET AppPool
 - Default
 - Default User
 - Public
 - svcSPFarm**
 - AppData
 - Application Data
 - Cookies
 - Desktop
 - Documents
 - Downloads
 - Favorites

Name	Date modified	Type	Size
Favorites	7/13/2009 10:35 PM	File folder	
Links	7/13/2009 10:35 PM	File folder	
Local Settings	4/25/2010 5:27 PM	File folder	
Music	7/13/2009 10:35 PM	File folder	
My Documents	4/25/2010 5:27 PM	File folder	
NetHood	4/25/2010 5:27 PM	File folder	
Pictures	7/13/2009 10:35 PM	File folder	
PrintHood	4/25/2010 5:27 PM	File folder	
Recent	4/25/2010 5:27 PM	File folder	
Saved Games	7/13/2009 10:35 PM	File folder	
SendTo	4/25/2010 5:27 PM	File folder	
Start Menu	4/25/2010 5:27 PM	File folder	
Templates	4/25/2010 5:27 PM	File folder	
Videos	7/13/2009 10:35 PM	File folder	
NTUSER.DAT	8/10/2011 8:58 AM	DAT File	256 KB
ntuser.dat.LOG1	8/10/2011 8:58 AM	LOG1 File	113 KB
ntuser.dat.LOG2	4/25/2010 5:27 PM	LOG2 File	0 KB
NTUSER.DAT{016888bd-6c6f-11de-8d1d-00...	4/25/2010 5:37 PM	BLF File	64 KB
NTUSER.DAT{016888bd-6c6f-11de-8d1d-00...	4/25/2010 5:37 PM	REGTRANS-MS File	512 KB
NTUSER.DAT{016888bd-6c6f-11de-8d1d-00...	4/25/2010 5:37 PM	REGTRANS-MS File	512 KB
ntuser.ini	4/25/2010 5:27 PM	Configuration settings	1 KB



Registry

- Windows OS database for storage of system and program settings

Where is it?

- C:\Windows\System32\config (non-user specific)
- User profile settings area (for each user's HKEY_CURRENT_USER settings)

Worth protecting?

- Potentially (e.g., HKLM\SOFTWARE\Microsoft\Office Server\"#") (where "#" is 14.0 or 15.0)



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Worth protecting?

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Protection

- Regedit export, PowerShell, documentation

Bits and bytes

- The (often-forgotten) files and installers need to rebuild a SharePoint environment: SharePoint setup files, SPs, CUs, iFilter packs, SQL client install, etc.



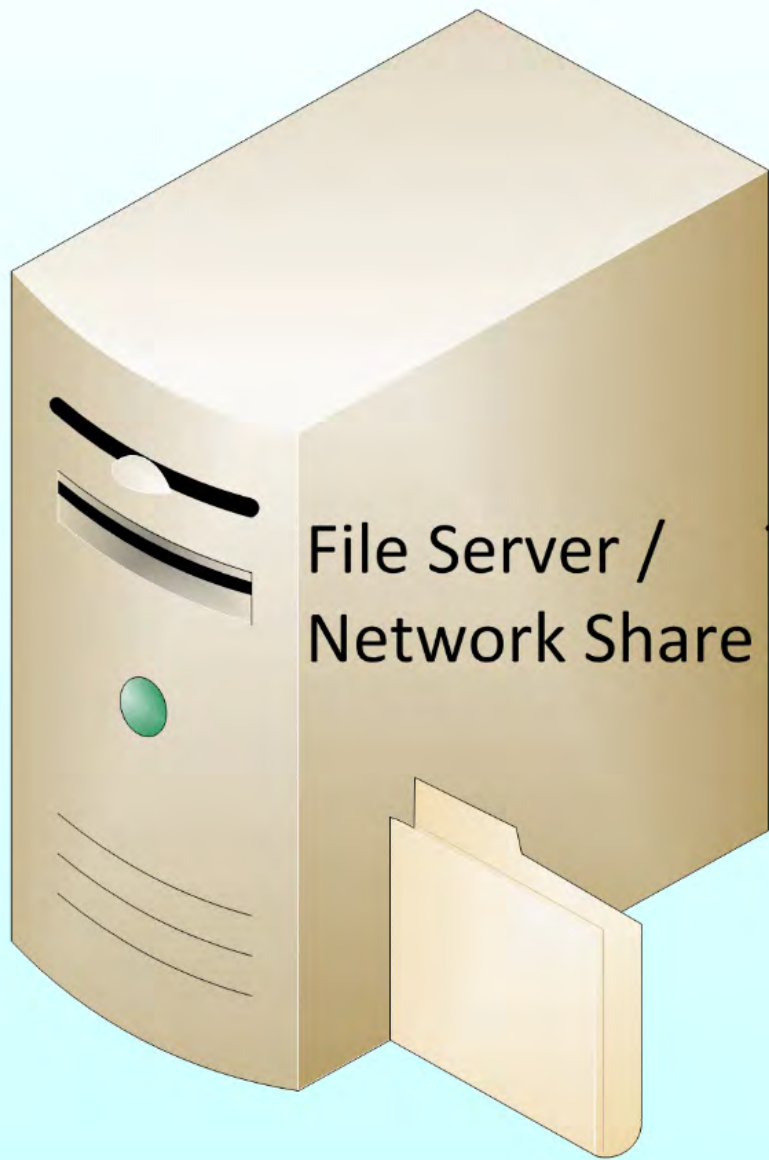


Bits and bytes

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Where are they?

- Typically scattered on shares or media



File system



Solution packages



Bits and bytes



Remoted BLOBs



Bits and bytes

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Worth protecting?

- If your DR strategy involves rebuilding the SharePoint farm from scratch, then yes

Protection

- External media/disks, replicated storage



Related targets

"important to remember"

- Solution packages
- SharePoint Root
- IIS Configuration
- Certificates
- IIS web root
- GAC
- Registry
- Bits and bytes





Potential targets beyond the farm

sometimes confused with the dark arts ...

- .NET framework config folders
- Remote BLOB storage (RBS)
- SQL Server TDE
- External data sources



.NET Framework config

- System-wide configuration files and defaults for .NET applications



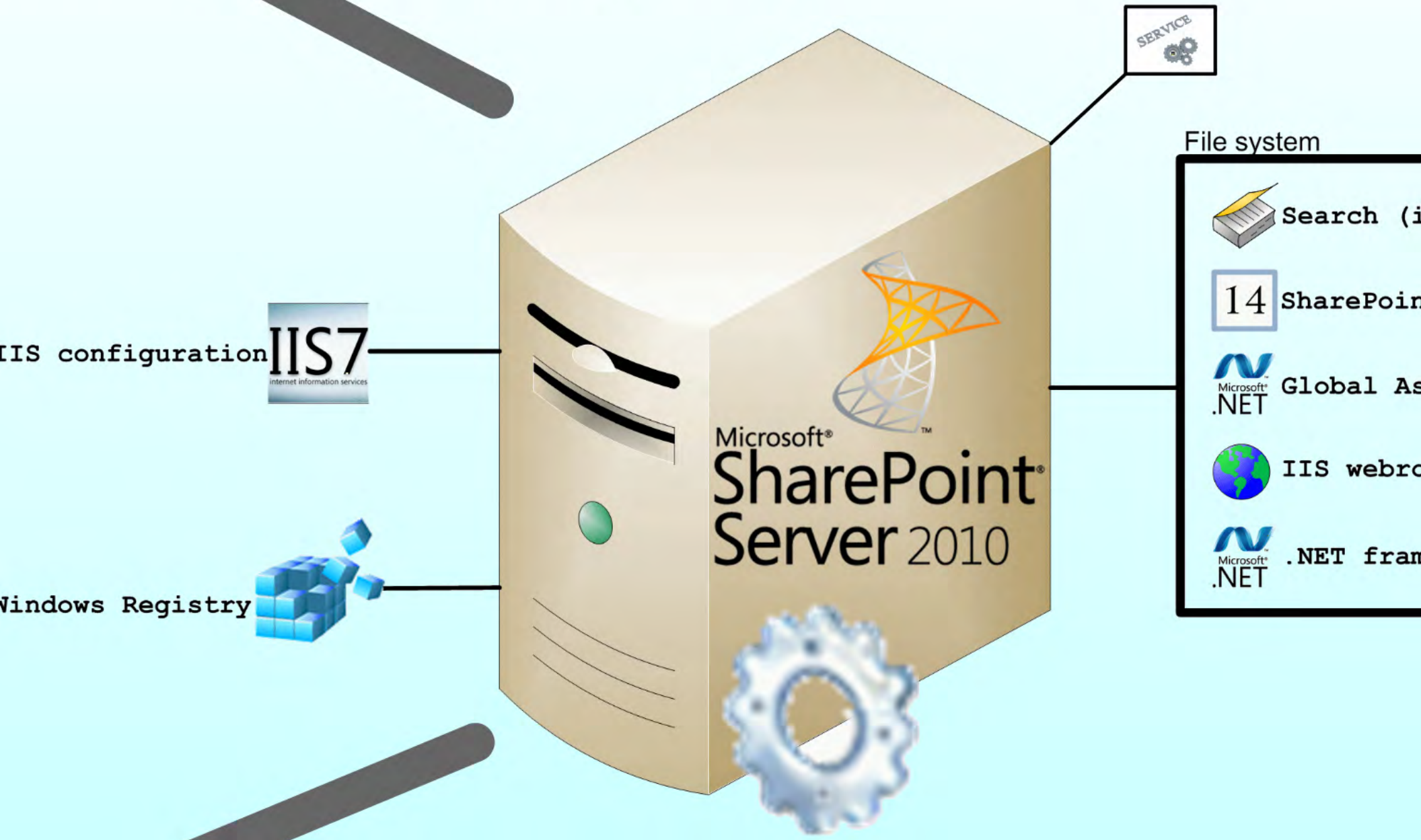
.NET Framework config

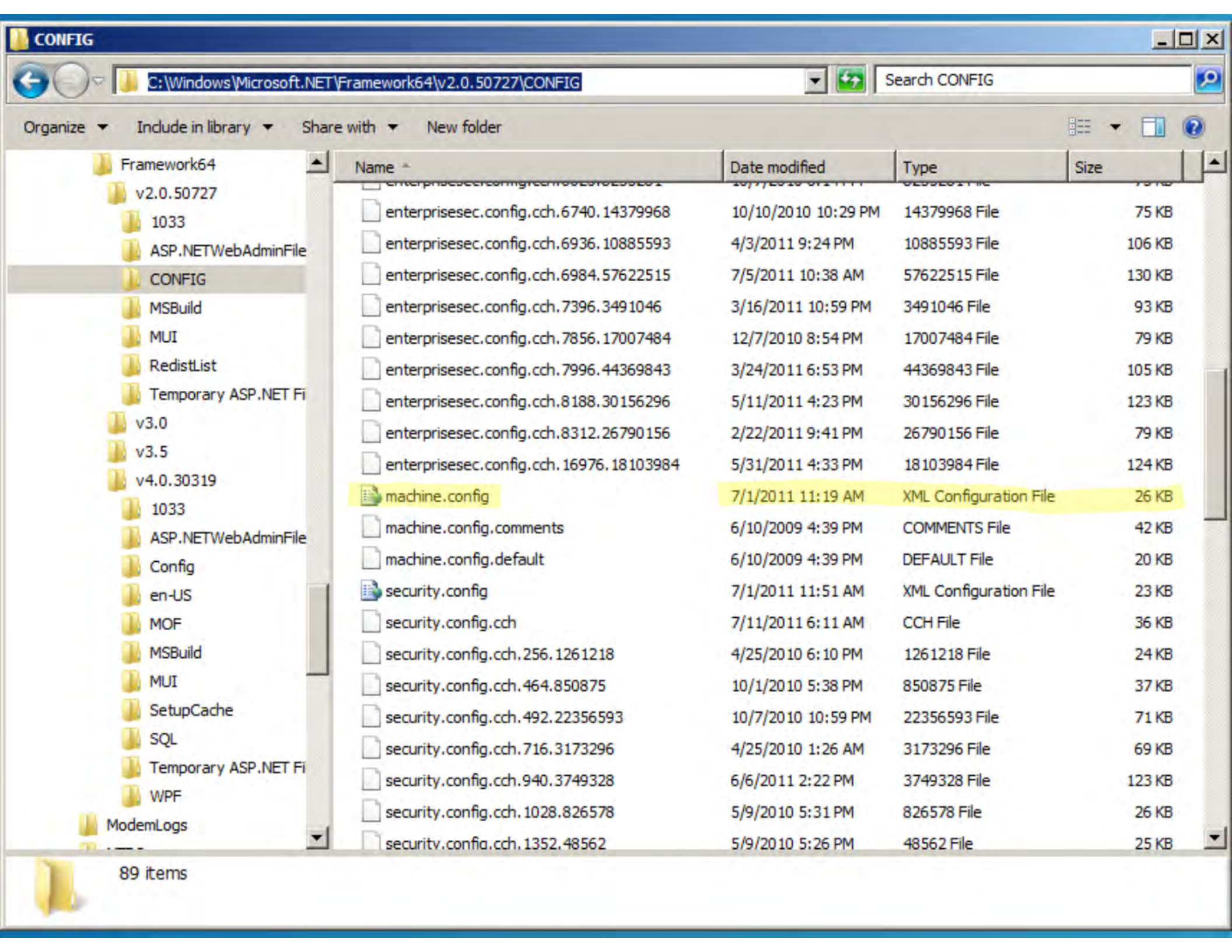
- System-wide configuration files and defaults for .NET applications

Where are they?

- C:\Windows\Microsoft.NET\Framework\
v...\Config and \Framework64\v...\Config

APP





CONFIG

C:\Windows\Microsoft.NET\Framework64\v2.0.50727\CONFIG

Search CONFIG

Organize Include in library Share with New folder

- Framework64
 - v2.0.50727
 - 1033
 - ASP.NETWebAdminFile
 - CONFIG
 - MSBuild
 - MUI
 - RedistList
 - Temporary ASP.NET Fi
 - v3.0
 - v3.5
 - v4.0.30319
 - 1033
 - ASP.NETWebAdminFile
 - Config
 - en-US
 - MOF
 - MSBuild
 - MUI
 - SetupCache
 - SQL
 - Temporary ASP.NET Fi
 - WPF
 - ModemLogs

Name	Date modified	Type	Size
enterprisesec.config.cch.6740.14379968	10/10/2010 10:29 PM	14379968 File	75 KB
enterprisesec.config.cch.6936.10885593	4/3/2011 9:24 PM	10885593 File	106 KB
enterprisesec.config.cch.6984.57622515	7/5/2011 10:38 AM	57622515 File	130 KB
enterprisesec.config.cch.7396.3491046	3/16/2011 10:59 PM	3491046 File	93 KB
enterprisesec.config.cch.7856.17007484	12/7/2010 8:54 PM	17007484 File	79 KB
enterprisesec.config.cch.7996.44369843	3/24/2011 6:53 PM	44369843 File	105 KB
enterprisesec.config.cch.8188.30156296	5/11/2011 4:23 PM	30156296 File	123 KB
enterprisesec.config.cch.8312.26790156	2/22/2011 9:41 PM	26790156 File	79 KB
enterprisesec.config.cch.16976.18103984	5/31/2011 4:33 PM	18103984 File	124 KB
machine.config	7/1/2011 11:19 AM	XML Configuration File	26 KB
machine.config.comments	6/10/2009 4:39 PM	COMMENTS File	42 KB
machine.config.default	6/10/2009 4:39 PM	DEFAULT File	20 KB
security.config	7/1/2011 11:51 AM	XML Configuration File	23 KB
security.config.cch	7/11/2011 6:11 AM	CCH File	36 KB
security.config.cch.256.1261218	4/25/2010 6:10 PM	1261218 File	24 KB
security.config.cch.464.850875	10/1/2010 5:38 PM	850875 File	37 KB
security.config.cch.492.22356593	10/7/2010 10:59 PM	22356593 File	71 KB
security.config.cch.716.3173296	4/25/2010 1:26 AM	3173296 File	69 KB
security.config.cch.940.3749328	6/6/2011 2:22 PM	3749328 File	123 KB
security.config.cch.1028.826578	5/9/2010 5:31 PM	826578 File	26 KB
security.config.cch.1352.48562	5/9/2010 5:26 PM	48562 File	25 KB

89 items



.NET Framework config

- System-wide configuration files and defaults for .NET applications

Where are they?

- C:\Windows\Microsoft.NET\Framework\
v...\Config and \Framework64\v...\Config

Worth protecting?

- Yes if you've made alterations to the machine.config or similar files



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- C:\Windows\Microsoft.NET\Framework\
v...\Config and \Framework64\v...\Config

Worth protecting?

- Yes if you've made alterations to the machine.config or similar files

Protection

- File system backup, documentation

Remoted BLOBs

- Alternate location where binary large objects (BLOBs) are stored when RBS is in-use within the farm.

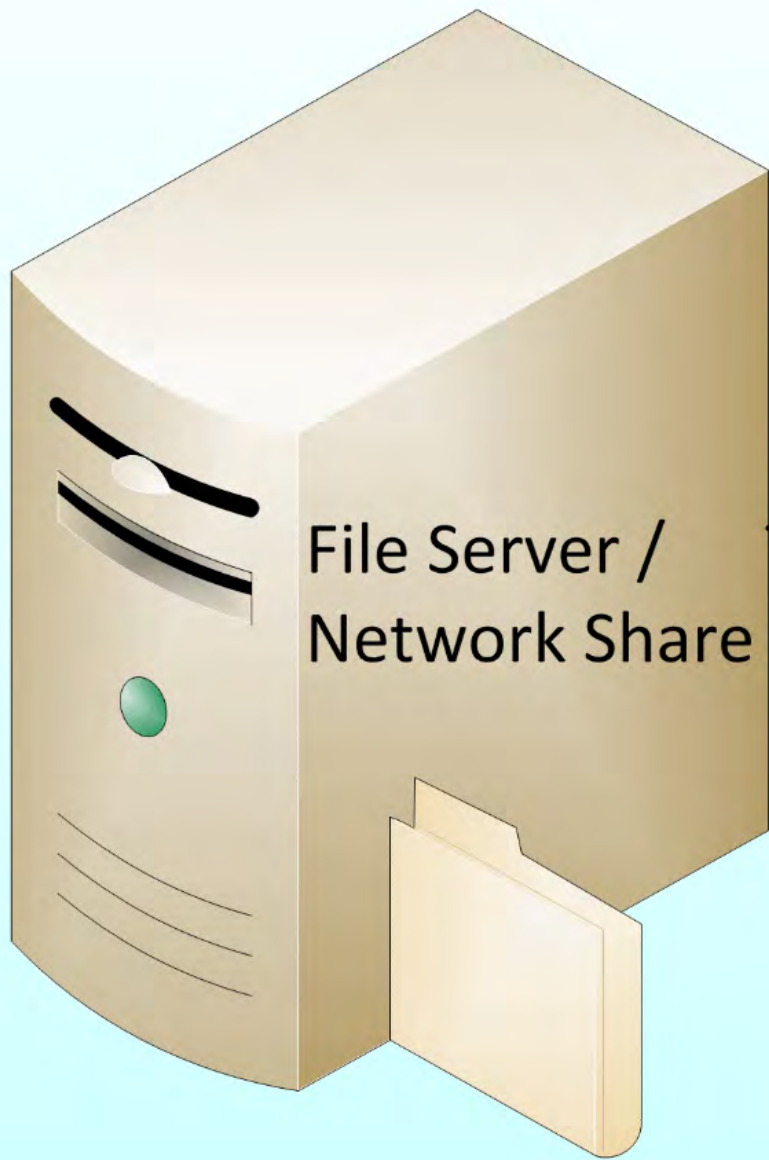


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Where are they?

- Varies and depends on RBS provider
- Some form of file storage is common



File system



Solution packages



Bits and bytes



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- Varies and depends on RBS provider
- Some form of file storage is common

Worth protecting?

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Protection

- Check RBS provider guidance.
- For file share RBS storage, backup of RBS store commonly follows content DB backup



SQL Server TDE

- TDE = Transparent Data Encryption
- Real-time encryption/decryption of SQL Server data and log files



SQL Server TDE

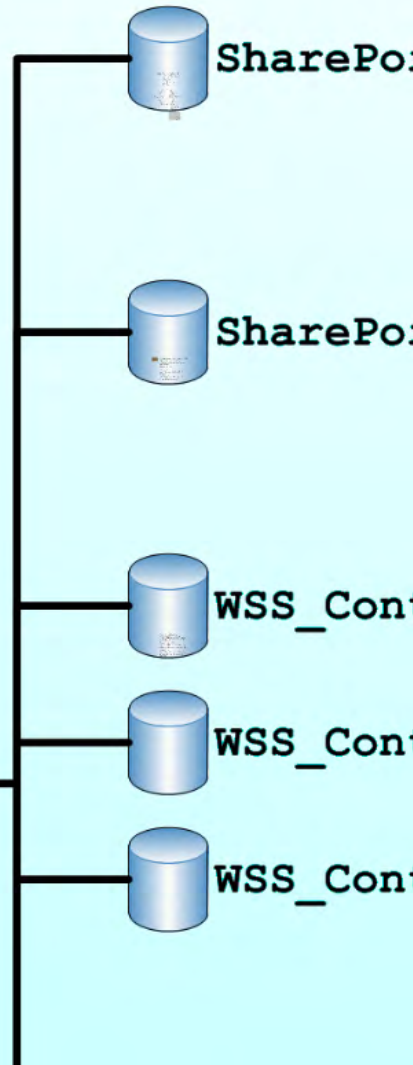
- TDE = Transparent Data Encryption
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Where is it?

- SQL Server master DB or EKM module
- EKM = extensible key management

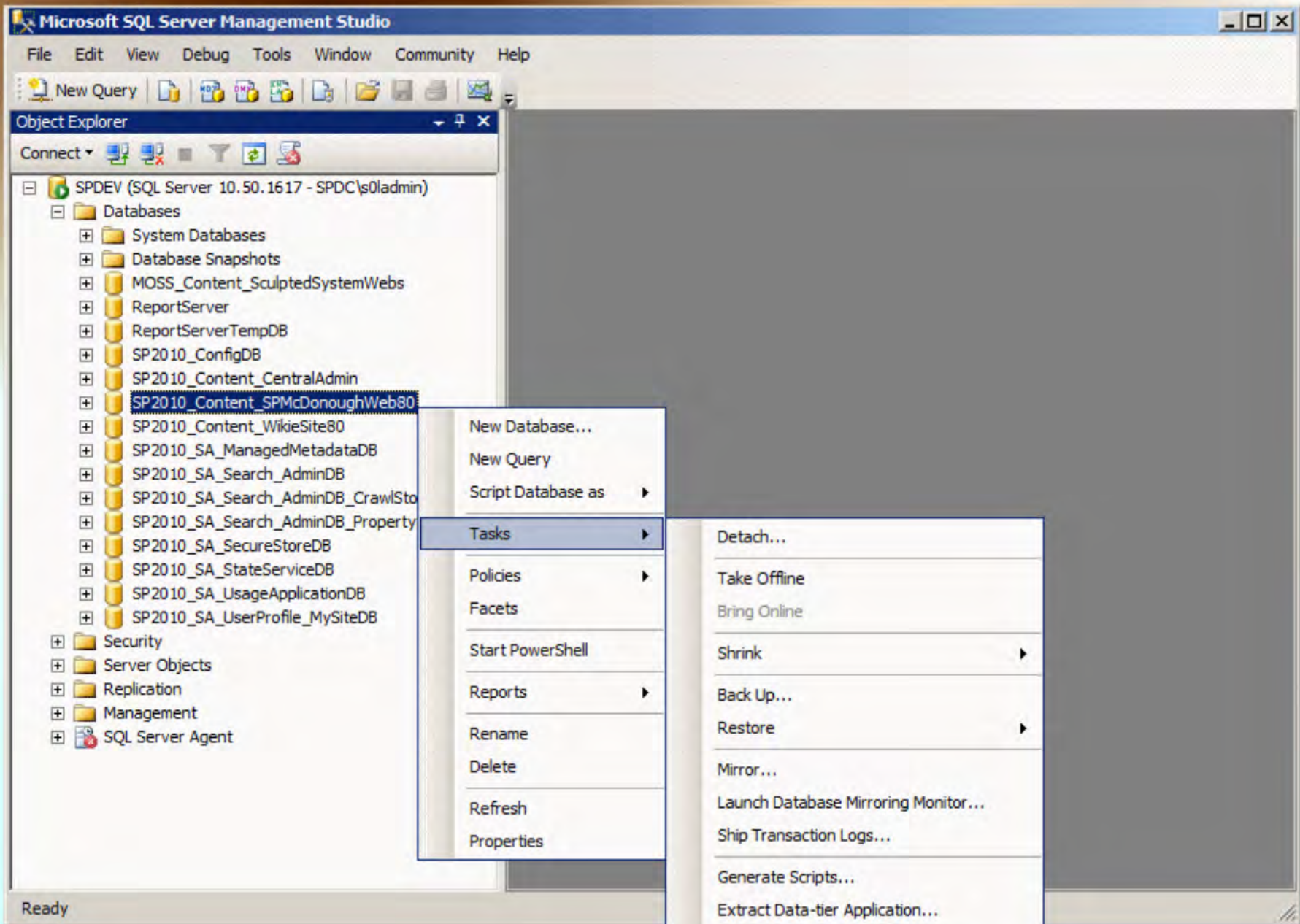
SQL

TDE items



TDE items







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Where is it?

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- EKM = extensible key management

Worth protecting?

- Yes

Protection

- Backup of certificate (from master DB) or asymmetric key (from EKM) yields 2 files
- Save files for later recovery or DB transport



External data sources

- Data that is consumed (and presented) by SharePoint but resident elsewhere



External data sources

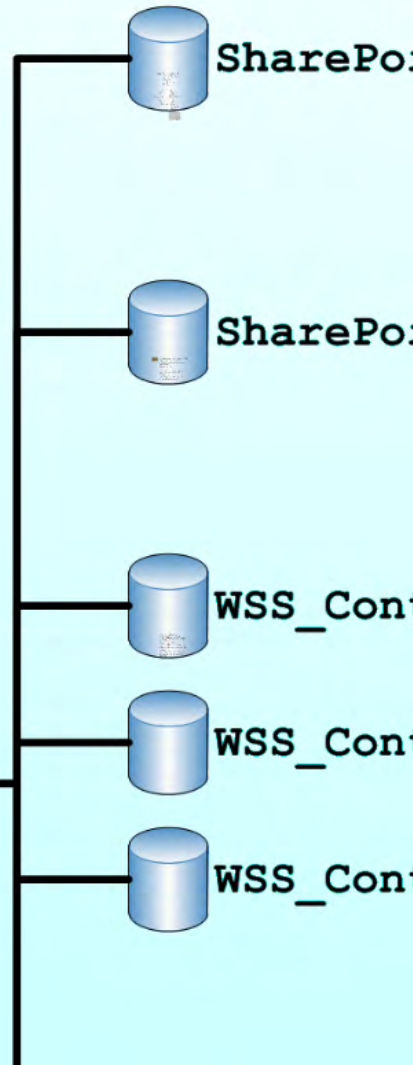
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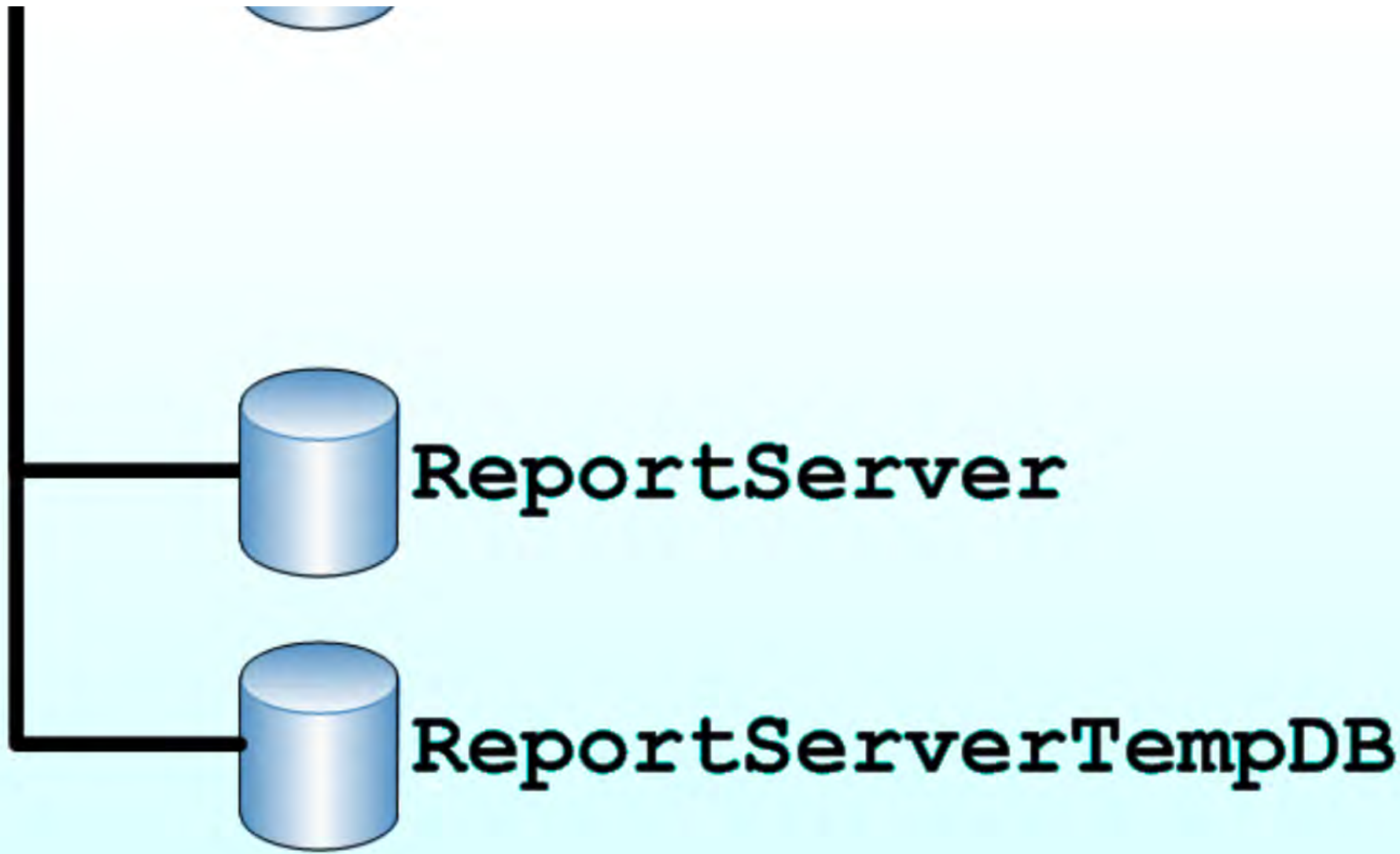
Where is it

- Depends on environment. Examples include BCS sources and SQL Server Reporting Services databases

SQL

TDE items







Additional Data Sources



External data sources

- Data that is consumed (and presented) by SharePoint but resident elsewhere

Where is it

- Depends on environment. Examples include BCS sources and SQL Server Reporting Services databases

Worth protecting?

- Highly variable and driven by business factors and SLAs - not technology



External data sources

- Data that is consumed (and presented) by SharePoint but resident elsewhere

Where is it

- Depends on environment. Examples include BCS sources and SQL Server Reporting Services databases

Worth protecting?

- Highly variable and driven by business factors and SLAs - not technology

Protection

- Varies by data source and platform



Potential targets beyond the farm

sometimes confused with the dark arts ...

- .NET framework config folders
- Remote BLOB storage (RBS)
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- External data sources



Core SharePoint targets aka, "the meat and potatoes"

- Content databases
- Central Admin (content) DB
- Farm Configuration database
- Service Applications
- Search



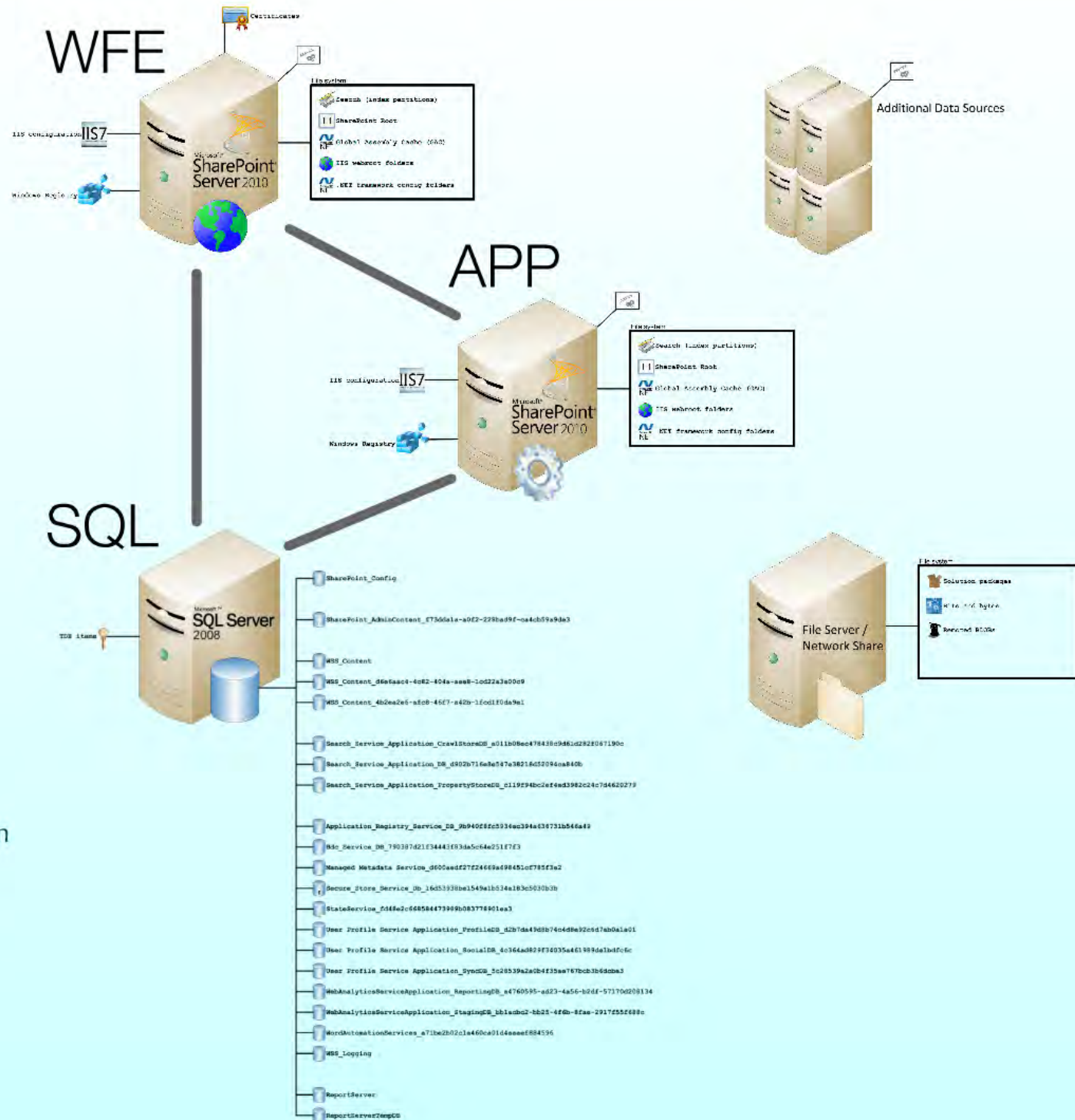
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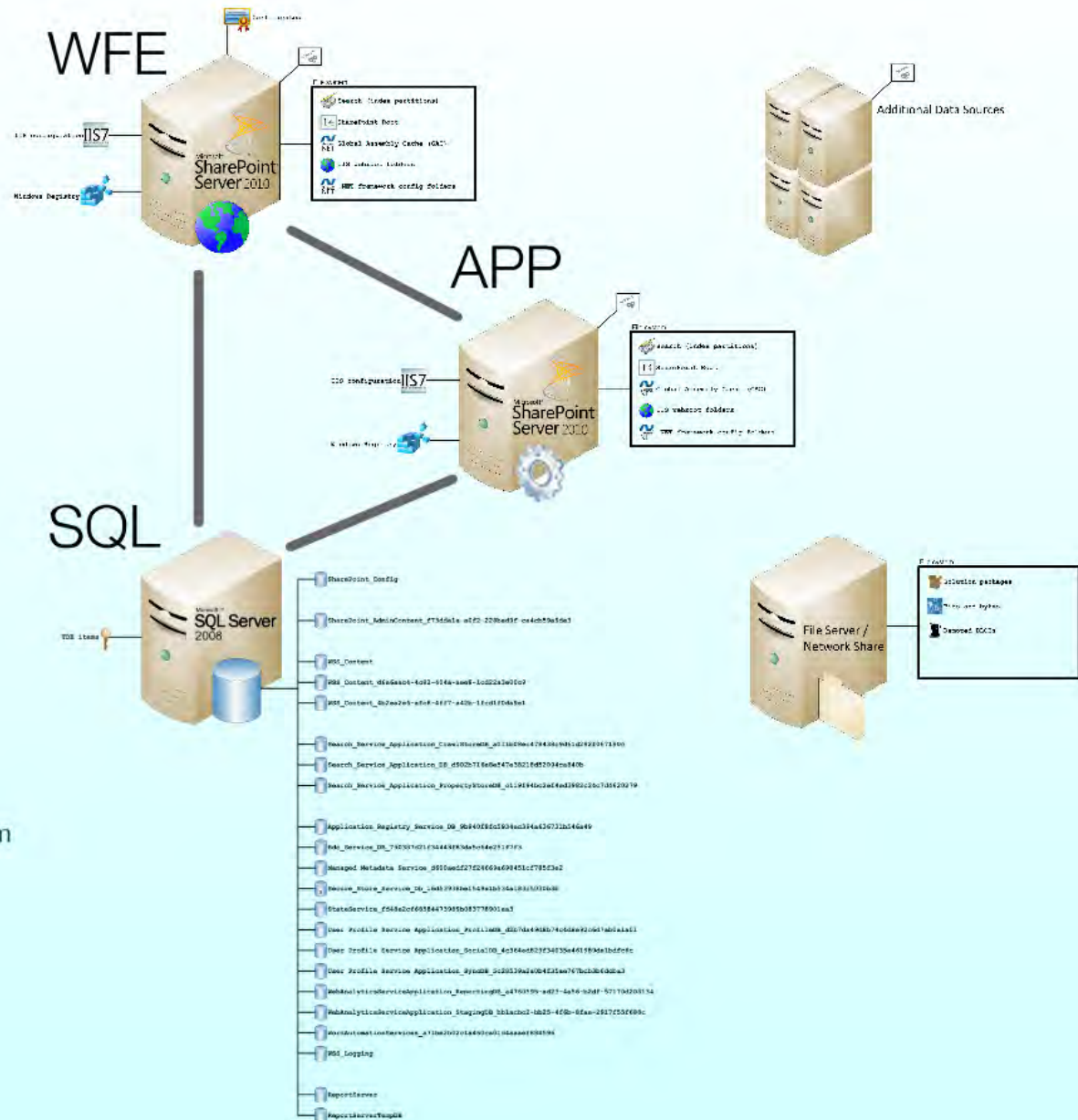
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Potential targets beyond the farm sometimes confused with the dark arts . .

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So that's everything ... right?

Each version of SharePoint has introduced new integration points and product extensions

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SharePoint 2007

- PerformancePoint and Project Server

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SharePoint 2013

- WAC (Web Applications Companion) - formerly Office Web Apps
- Workflow Manager Farms and Workflow Manager Client
- Cloud App/Add-In Model and external application servers

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SharePoint 2013

- WAC (Web Applications Companion) - formerly Office Web Apps
- Workflow Manager Farms and Workflow Manager Client
- Cloud App/Add-In Model and external application servers

Trend: SharePoint is no longer the "one platform" but an integration point that exposes a set of services. This complicates backup and restore.

Wrap-up

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Your targets are unique like your farm

- Understand how your SharePoint environment is used
- Use cases are a good starting point for technical targets

There's more than one protection strategy

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Your targets are unique like your farm

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- Realistically, not everything has to be backed up
- Documentation can be a viable choice in some cases

Protect your (important) data

Wrap-up

Your targets are unique like your farm

- Understand how your SharePoint environment is used
- Use cases are a good starting point for technical targets

There's more than one protection strategy

- Realistically, not everything has to be backed up
- Documentation can be a viable choice in some cases

Protect your (content) databases!

- Most important targets in your farm
- Critical protection takes minutes. Just invest a little time.

References

"Document farm configuration settings (SharePoint Server 2013)"

- <http://tinyurl.com/SPDRFarmDoc2010>

"Overview of SharePoint 2013 and the Volume Shadow Copy Service"

- <http://msdn.microsoft.com/en-us/library/cc264314.aspx>

"Backup and restore customizations (Windows SharePoint Services)"

- [http://technet.microsoft.com/en-us/library/ee216349\(office.12\).aspx](http://technet.microsoft.com/en-us/library/ee216349(office.12).aspx)

"Configuration-Only Backup and Restore in SharePoint 2010"

- <http://SharePointInterface.com/2010/09/10/configuration-only-backup-and-restore-in-sharepoint-2010/>

"Overview of RBS in SharePoint 2013"

- [http://technet.microsoft.com/en-us/library/ee748649\(v=office.15\).aspx](http://technet.microsoft.com/en-us/library/ee748649(v=office.15).aspx)

"Transparent Data Encryption (TDE)"

- <http://msdn.microsoft.com/en-us/library/bb934049.aspx>

"Plan for backup and recovery in SharePoint 2013"

- <http://technet.microsoft.com/en-us/library/cc261687.aspx>

"Scheduling SQL backups for SharePoint"

- <http://www.toddklindt.com/blog/Lists/Posts/Post.aspx?ID=248>

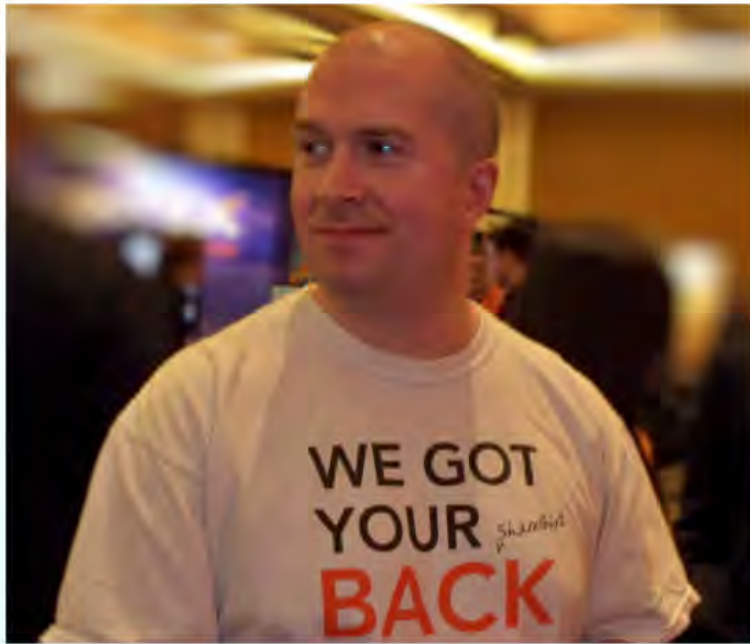
References

- "Backup and restore (FAST Search Server 2010 for SharePoint)"
- [http://technet.microsoft.com/en-us/library/ff460219\(v=office.14\).aspx](http://technet.microsoft.com/en-us/library/ff460219(v=office.14).aspx)
- "Backup and Restore Project Server 2007"
- <http://blogs.msdn.com/b/project/archive/2006/12/08/backup-and-restore-project-server-2007.aspx>
- "Disaster Recovery and Scope Restore in Workflow Manager 1.0"
- <http://technet.microsoft.com/en-us/library/jj730570.aspx>
- "Workflow Manager Disaster Recovery - Preparations"
- <http://www.wictorwilen.se/workflow-manager-disaster-recovery-%E2%80%93-preparations>
- "Okay, Really - What Can I Do With A SharePoint Farm Configuration Database Backup?"
- <http://blog.idera.com/sharepoint/backup-and-recovery-whitepapers/okay-really-what-can-i-do-with-a-sharepoint-farm-configuration-database-backup/>

References

"Deep Dive into Safe SharePoint Branding in Office 365 Using Repeatable Patterns and Practices"

- <http://ignite.microsoft.com/session/sessionmoreinfo/?topicid=a8a4e9fd-ac9a-e411-b87f-00155d5066d7#fbid=F6dO-EPqukE>



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