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SharePoint Security 101

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TITUS Introduction





Data Security & Classification Market Leader

- Over 500 Enterprise Customers
- Over 2 Million Users Deployed
- SharePoint Security
- Email and Document Marking
- Data Loss Prevention

Introduction

Goal - Inform and educate on key SharePoint security features

- Focus on SharePoint 2010 and SharePoint 2013
- Security is built into many aspects of SharePoint
- Sometimes an after thought for deployments... Requires good planning
- Critical consideration in government and military deployments
- Driven by Regulations & Compliance, Reporting Obligations, Secure Information Sharing...

Topics

- Deployment planning & managed accounts
- Authentication
- Web Application Policies
- Anonymous Access & Public Facing Sites
- Data Governance
- Permissions
- Other...
 - Information Rights Management
 - User License Enforcement
 - Privileged Users

SharePoint Hierarchy



Deployment Planning/Managed Accounts

- SharePoint is a web application built on top of SQL Server
- Best Practice: specific managed accounts for specific purposes with least privileges... Planning required
- Benefits: Separation of Concerns
 - Separation of data
 - Multiple points of redundancy
 - Targeted auditing of account usage
 - Minimize risk of compromised accounts
 - Minimize risk of information leaks
- Review SharePoint deployment guide before you install (at least this section)

Examples of Managed Accounts



1. SQL Server Service Account

- Purpose: Assign to MSSQLSERVER and SQLSERVERAGENT services when you install SQL Server (ex: domain\SQL_service)
- No special domain permissions given required rights on the SQL Server during setup

2. Setup User Account

- Purpose: Used to install SharePoint, run Product Config Wizard, install patches/updates
- login with this account when running setup (ex: domain\sp_setup_user)
- Must be local admin on each server in SharePoint farm (except SQL Server if different box)

3. SharePoint Farm Account (Database Access Account)

- Purpose: the service account used to run the SharePoint farm; not just for database access (ex. domain\sp_farm_user)
- After Product Config Wizard is run, prompted to provide the Database Access Account misnamed in UI, this is really the farm service account
- Should all be AD domain accounts
- Do not use personal admin account , especially for Farm Account
- Configure central email account for all managed accounts

Authentication



- Determine that users are who they say they are (login)
 - Configured on each web app
 - Multiple authentication methods per web app
- SharePoint 2010 Options
 - Classic Mode Authentication (Integrated Auth, NTLM, Kerberos)
 - Claims Based Authentication
 - Forms Based Authentication available- done through Claims Based Auth.
 - UI configuration only available in UI upon web app creation
 - To convert non-claims based web app to claims will require PowerShell
- SharePoint 2013 Options
 - Claims Based Authentication default
 - Classic Mode Configuration UI has been removed only configurable through PowerShell

Claims Based Authentication



Claims Based Authentication

Customization



Web Application Policies



- User Permissions
 - Permissions available within permission levels at site collection level
- Permission Policies
 - Define groups of permissions (similar to permission levels)
 - Control if site collection admins have full control on any object in site col.
 - Only place with a "Deny" capability (default: deny write, deny all)
- User Policies
 - Assign permission policies to users and groups for the entire web app
 - Ex. Deny group from deleting items within an entire web app applicable to public facing web app
- Blocked File Types
 - Prevent specific files types from being added to libraries within web app

Web Application Permission Policies

Application Management > Manage Web Applications

	Add Permission Policy	Level 🗖	×	
Site Actions • <table-cell> Browse</table-cell>	Name and Description Enter a name and description for this permission policy level.	Name: Description:	Anonymous Policy Policy	AMDEMO\administrator -
Central Administration Na Application Management Sh System Settings Sh Monitoring Backup and Restore Security Upgrade and Migration General Application	Site Collection Permissions Choose the site collection level permissions the policy level should have.	Site Collection Administrator - Site collection administrators have Full Control over the entire site collection and can perform any action on any object. Site Collection Auditor - Site collection auditors have Full Read access for the entire site collection including reading permissions and configuration data.	34540/	Port 80 34540
Settings Configuration Wizards	Permissions Choose which permissions to grant or deny in this permission policy level. Granting permissions gives users this permission. Denying permissions prevents users from ever having this permission.	Select the permission to grant or deny in this permission policy level. Grant Deny All All List Permissions Grant Deny Manage Lists - Create and delete lists, add or remove columns in a list, and add or remove public views of a list. Override Check Out - Discard or check in a document which is checked out to another user.		

Web Application User Policies

Application Management > Manage Web Applications

Site Actions 👻 😏 Brow:	se Web	Applications				AA	1DEMO\administrator 👻
New Extend Delete	General ettings 🗸 💽	Manage Featur Managed Paths Service Connect	es Authentication Sel	f-Service Site	ile Types hissions Security	Anonymous Permissi Policy	on
Contribute		Manage		Security		Policy	
Central Administration	Name	Policy for W	eb Application			□ × □	Port
Application Management	SharePo	·		г			80
System Settings	SharePo			l	ОК		34540
Monitoring							
Backup and Restore		Ta Add Users	X Delete Selected	Jsers 📝 Edit Permiss	sions of Selected	Users	
Security		Zone	Display Name	User Name	Permissions		
Upgrade and Migration			ыт	NT	Full Dead		
General Application Settings		zones)	AUTHORITY\LOCAL SERVICE	AUTHORITY\LOCAL SERVICE	Full Reau		
Configuration Wizards		(All zones)	Search Crawling Account	AMDEMO\Farm.admin	Full Read		

Anonymous Access Public Facing Sites



- Turn on or off for web application only making available for sites
 - Central Admin> Manage Web Apps> Authentication Providers
 - Edit an Authentication Provider
 - Check on 'Enable Anonymous Access' for that provider
 - Select "Anonymous Policy" for the web app
 - Select zone and policy for anonymous access

Select the Zone The security policy will apply to requests made through the specified zone. To apply a policy to all zones, select "(All zones)". All zone policies are only valid for Windows users.	Zones: Default
Permissions Choose the permissions you want anonymous users to have.	Anonymous User Policy: None - No policy C Deny Write - Has no write access C Deny All - Has no access
	Save Cancel

Anonymous Access Public Facing Sites



- Site Owners must explicitly enable on each site (this is a good thing)
- Site Settings> Site Permissions

		Permission	I Tools		
Site Actions 👻 过	Browse	Edit			
Grant Create Permissions Group Grant Libraries Site Pages	Edit Use Permissio	er Remove U ns Permissio Modify Name	Anonymous Access Anonymous Access Specify what parts of your Web site (if any) anonymous users can access. If you select Entire Web site, anonymous users will be able to view all pages	Anonymous users can access: O Entire Web site O Lists and libraries Nothing	ion Levels ite
Shared Documents	,] Demons	in your Web site and view all lists and items which inherit permissions from the Web site. If you select Lists and libraries, anonymous users		trol
Calendar Tasks] System] Viewers	will be able to view and change items only for those lists and libraries that have enabled permissions for anonymous users.		Access ly
				OK Cancel	

Anonymous Access

Risks of Incorrect Configuration

- Risk: Inadvertent exposure of internal data on a public web site
- All form pages and _vti_bin web services are accessible PUBLICLY
- Modify the URL of a public facing SharePoint site: http://www.mypublicsite.com/SitePages/Home.aspx_to http://www.mypublicsite.com/_layouts/viewlsts.aspx
- View All Site Content page is now exposed, typically in SharePoint branding, with all site content visible
- Desired behavior: user is presented with a login page, or an HTTP error
- Accessible pages
 - /_layouts/adminrecyclebin.aspx /_layouts/bpcf.aspx /_layouts/create.aspx /_layouts/listfeed.aspx /_layouts/managefeatures.aspx /_layouts/mngsiteadmin.aspx /_layouts/mngsubwebs.aspx

- /_layouts/policy.axpx
 /_layouts/policyconfig.aspx
 /_layouts/policycts.aspx
 /_layouts/policylist.aspx
 /_layouts/mcontent.aspx
 /_layouts/sitemanager.aspx
 /_layouts/stor_man.aspx
- /_layouts/recyclebin.aspx
 /_layouts/wrkmng.aspx
 /_layouts/vsubwebs.aspx
 /_layouts/pagesettings.aspx
 /_layouts/settings.aspx
 /_layouts/newsbweb.aspx
 /_layouts/userdisp.aspx

Anonymous Access

Lockdown Feature & Web.Config

- Purpose: Removes View Application Pages permission & Use Remote Interfaces permission from Limited Access permission level (which is what's used for anonymous users)
 - Prevents anonymous users from accessing form pages
- Setting Lockdown Feature:
 - Remove all anonymous access from the site
 - open command prompt and go to the folder C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\BIN
 - Check whether the feature is enabled or not (If ViewFormPagesLockDown is listed, it's enabled):

get-spfeature -site http://url

- If not listed then we must enable it using: stsadm -o activatefeature -url -filename ViewFormPagesLockDown\feature.xml
- To disable it:

stsadm -o deactivatefeature -url -filename ViewFormPagesLockDown\feature.xml

- Reset anonymous access on the site
- Available in MOSS2007, SharePoint 2010 and SharePoint 2013
 - On by default for Publishing Portal Site Template for other site templates must turn it on manually

Anonymous Access Lockdown Feature & Web.Config

• To prevent access to _layouts pages and web services we must also:

```
<add path="configuration">
  <location path="_layouts">
   <system.web>
    <authorization>
     <deny users="?" />
    </authorization>
   </system.web>
  </location>
<location path=" vti bin">
   <system.web>
    <authorization>
     <deny users="?" />
    </authorization>
   </system.web>
  </location>
<location path="_layouts/login.aspx">
   <system.web>
    <authorization>
     <allow users="?" />
    </authorization>
   </system.web>
  </location>
```

<location path=" layouts/error.aspx"> <system.web> <authorization> <allow users="?" /> </authorization> </system.web> </location> <location path=" layouts/accessdenied.aspx"> <system.web> <authorization> <allow users="?" /> </authorization> </system.web> </location>

Permissions



- Permissions can apply to any information object or container in SharePoint
 - Determine who gets access to what information objects and what type of access
- Applying permissions include selecting a permission level (ex. Full control) and a user or group and assigning it to information object (ex. document, item, etc.)
 - Can apply to SharePoint user/group or AD user/group

Finance AD Group has Full Control on Library ProjectXContractor SharePoint Group has Read access on site Antonio.Maio AD user has Contribute access on Document

Permission Levels are created at Site Collection Level

Permissions and Security Scopes

 Hierarchical permission model: permissions are inherited from level above

or

- Can break inheritance and apply unique permissions
- Breaking inheritance is a manual process
- See my detailed whitepaper on this "Effectively Manage Permissions..." at <u>http://www.titus.com/re</u> <u>sources/sharepoint.php</u>



Fine Grained Permissions

- Trend: sensitive content sitting beside non-sensitive content
- Leads to customers exploring fine grained permissions
- Recommendation:
 - Use metadata to identify which data to protect
 - User attributes (claims) to determine who should have access
 - Implemented automated solution to manage fine-grained permissions





Other Security Features

- Information Rights Management
 - ADRMS Integration Encrypts documents when opened/saved from SharePoint (so content is still searchable)
 - Sets information rights (do not print, do not forward, etc.)
 - Granularity limited to library
 - Supports MS Office documents (+PDF in SharePoint 2013)
 - See my detailed blog: <u>www.titus.com/blog</u>
- User License Enforcement
 - New in SharePoint 2013 support for mixed mode licensing
 - Some users can be on Standard and some on Enterprise
 - Managed through AD Groups and PowerShell
 - Elegantly deals with standard users accessing a page with an enterprise web part
 - See my detailed blog: <u>www.titus.com/blog</u>
- Privileged Users
 - What if your farm or site collection admins are consultants or not TS Cleared







TITUS Prize Giveaway



- See us at TITUS booth today
- Come to TITUS Vendor session this afternoon (Rm. 123 @ 4pm)
 - TITUS SharePoint Security Suite
 - More SharePoint Security, Less Effort
 - Ensure the right people are accessing the Right Information
 - Raise Awareness about Sensitive Data
 - Promote End User Accountability for Sensitive Data





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