Mastering the SharePoint Site Definition Provisioning Framework and Other Techniques for Deploying Large Hierarchies of SharePoint Web Sites

SPDEV335

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Clarity. Direction. Confidence.

About ME…

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  - SharePoint Solution Architect
    - SP Product Group Alumni
      - SPS 2001, SPS 2003, MOSS 2007
    - Mindsharp Developer Instructor
  - Cattle Rancher

Abstract

- Are there times when you'd like SharePoint to create an entire hierarchy of web sites instead of a single web site?
  - Would you like to make this an easily repeatable process?
- The SharePoint Site Definition Provisioning Framework is an in-the-box SharePoint capability that makes it easy to implement this without writing custom code.
- Other approaches and their trade-offs are also discussed. A case study is included.

Problem Statement

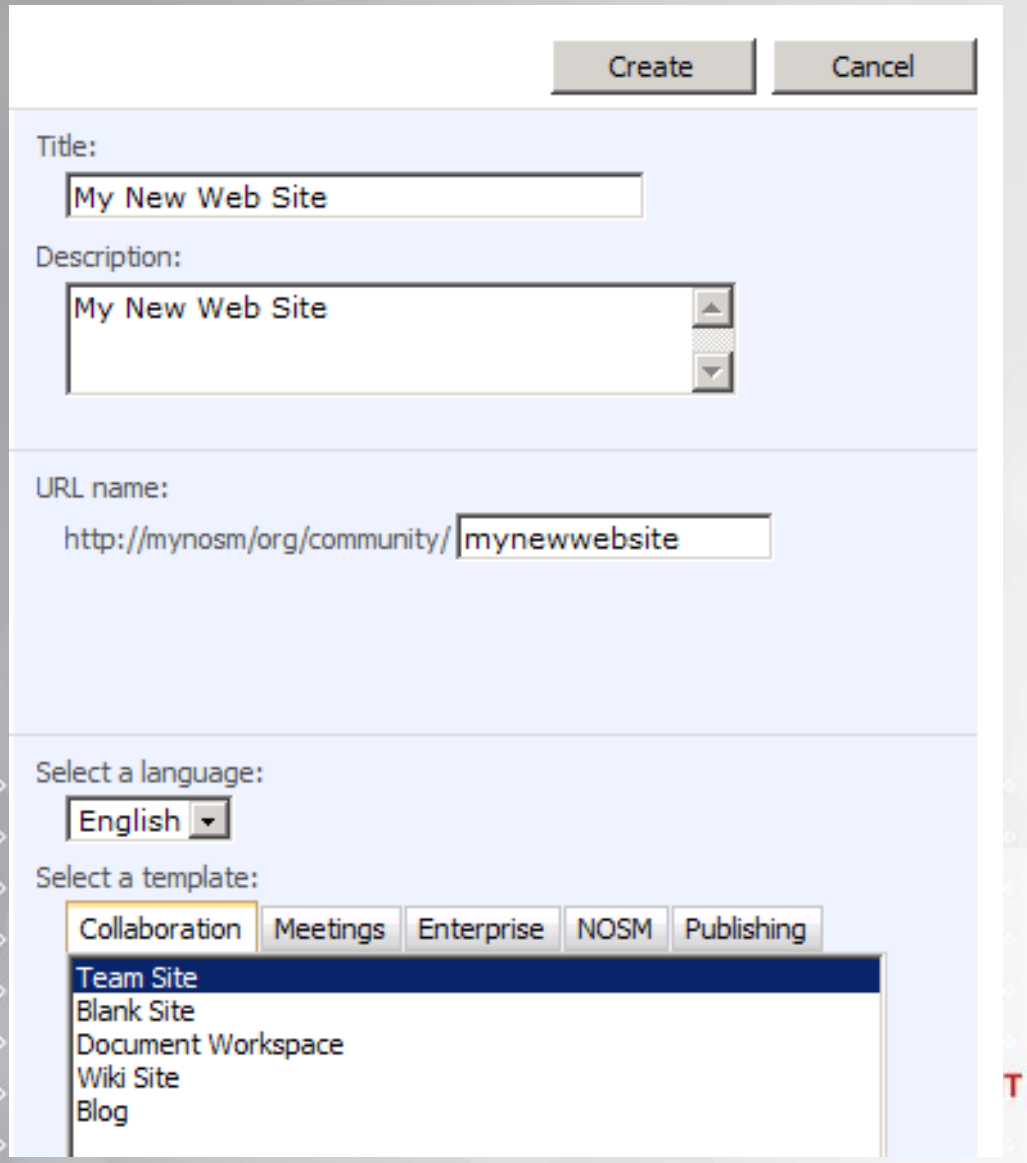
- Provision (create) large hierarchy of web sites
  - Each uses the same (or a different) web site template
  - Hierarchy deep enough (> 2-3 levels)
  - Hierarchy wide enough (> 4-5 child web sites)
  - Need to recreate the hierarchy few to many times
- Examples
  - Gov't: Division, Department, Branch, Team sites
  - Curriculum: Year, Module, Session, Topic

Case Study: Sample Hierarchy

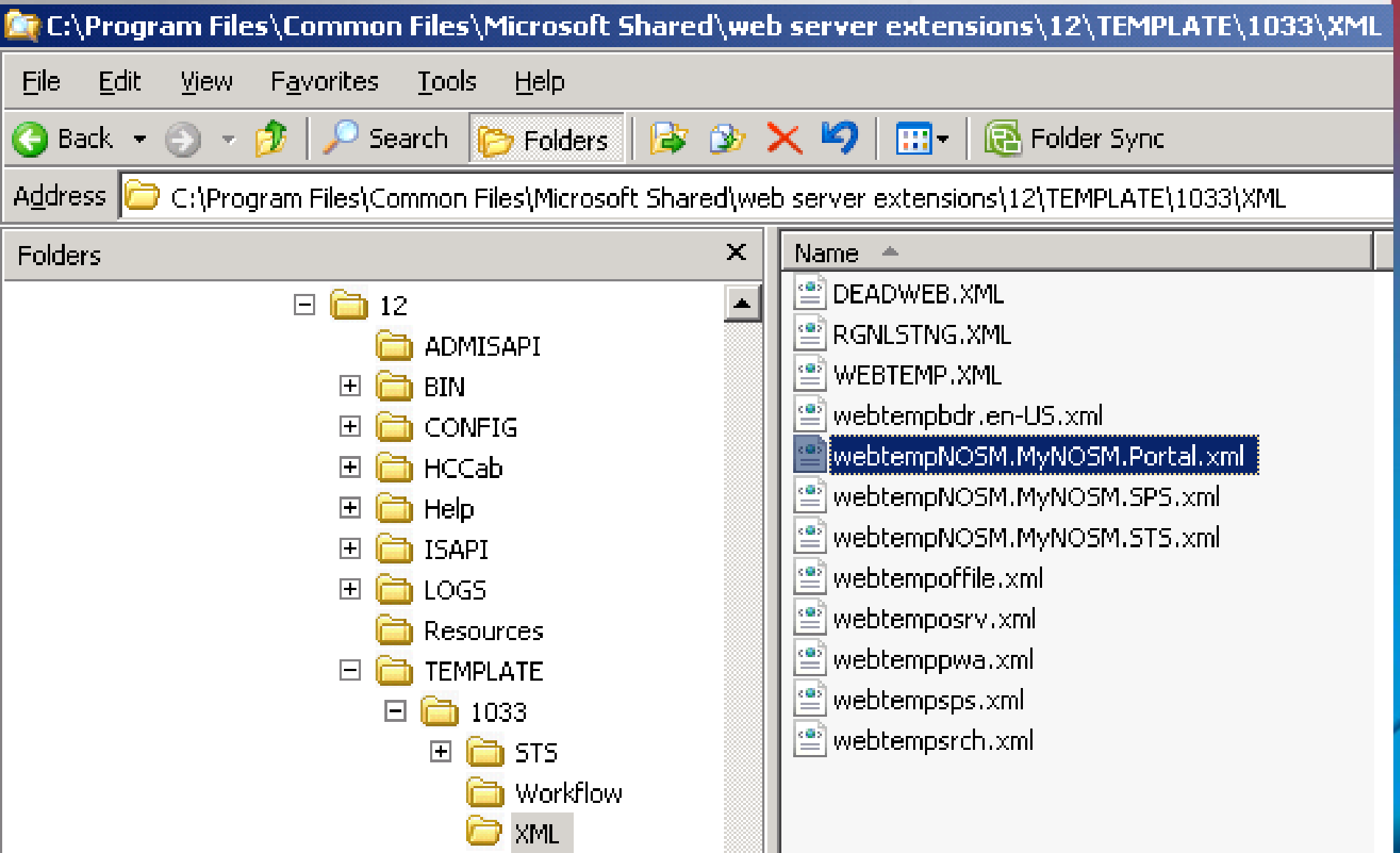
Assumptions

- Farm and Web Applications
  - Existing (Previously Created)
  - Best Practice: 100% Scripted Install
    - SharePoint Configuration Wizard (psconfig.exe)
    - Creation of Farm (psconfig.exe, stsadm.exe)
    - Creation of Web Applications (stsadm.exe)
    - See Ben Curry's Blog (http://blogs.mindsharp.com)

How Does SharePoint Work?



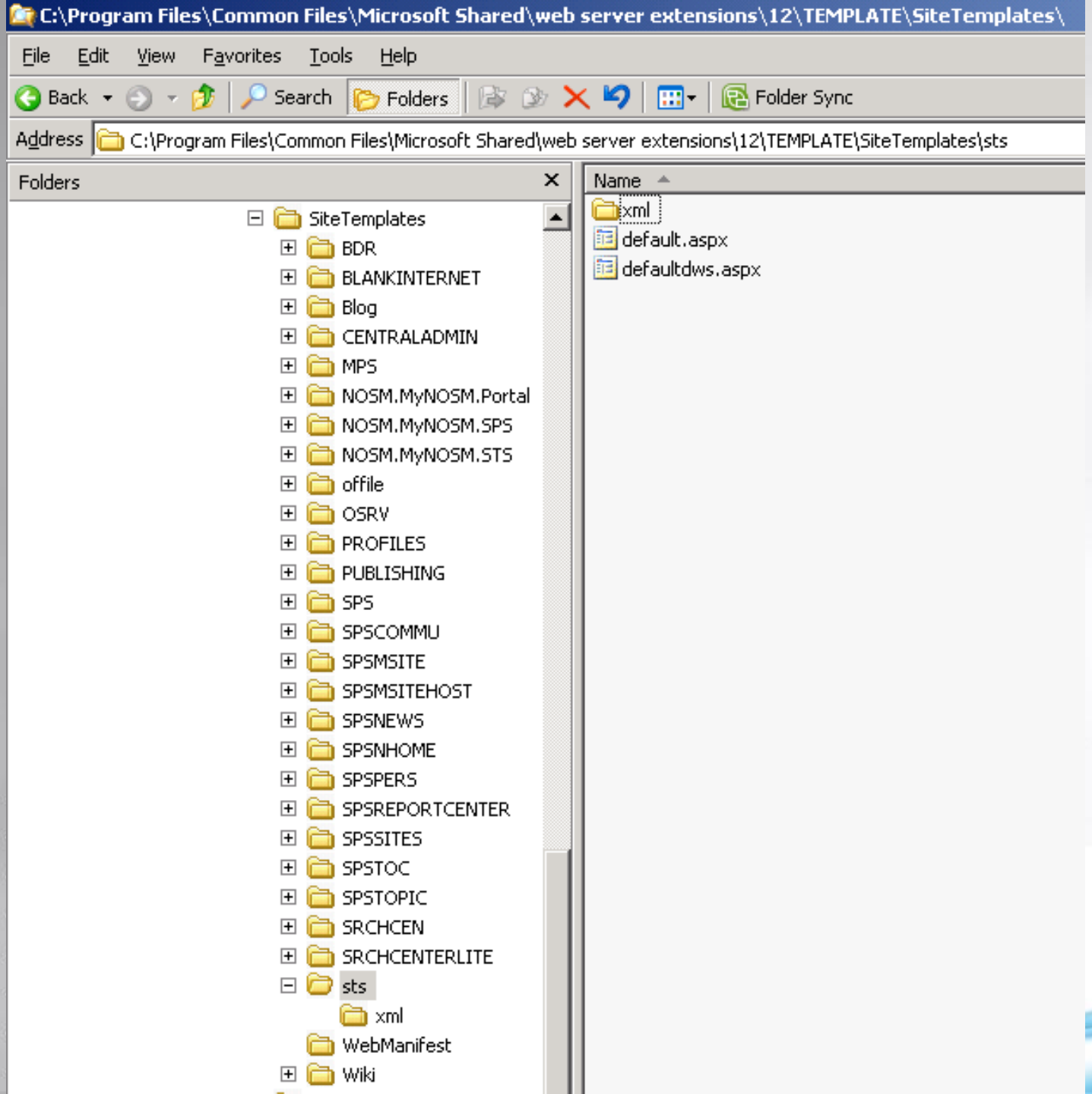
12/TEMPLATE/1033/XML/webtemp*



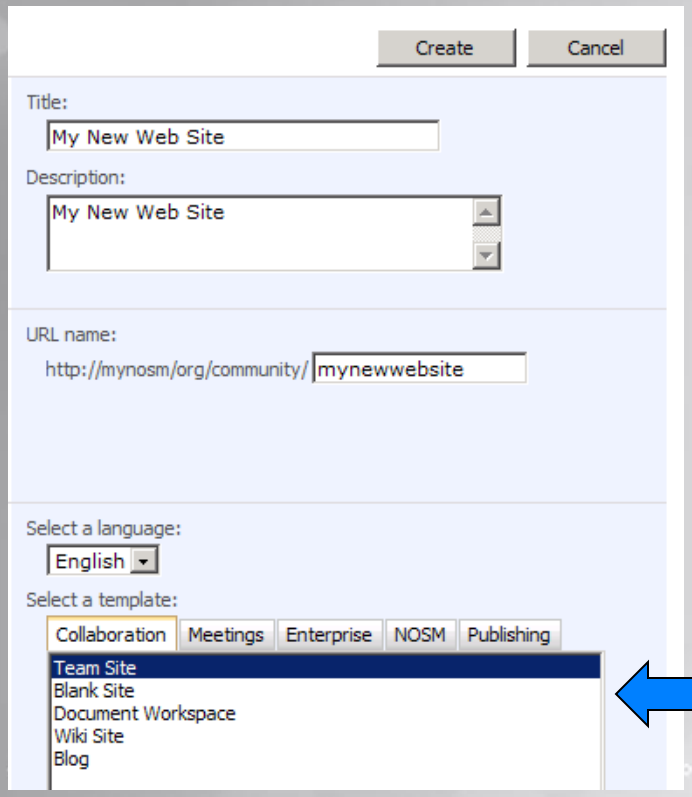
../1033/XML/webtemp.xml

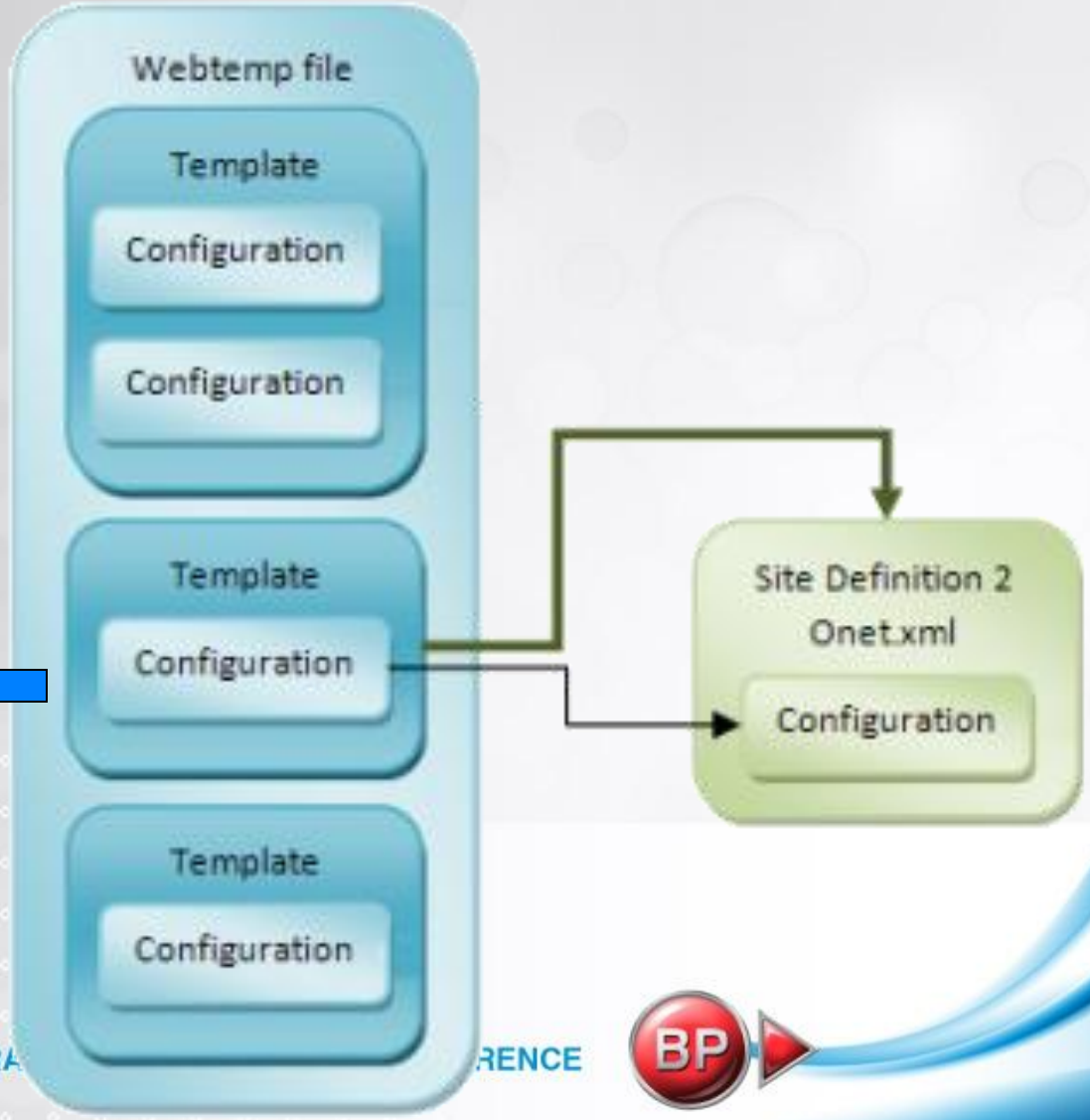
WEBTEMP.XML*

```
<?xml version="1.0" encoding="utf-8"?>
<Templates xmlns:ows="Microsoft SharePoint">
 <Template Name="GLOBAL" SetupPath="global" ID="0">
    <Configuration ID="0" Title="Global template" Hidden="TRUE" ImageUrl="" Description="This
template is used for initializing a new site." >   </Configuration>
 </Template>
 <Template Name="STS" ID="1">
    <Configuration ID="0" Title="Team Site" Hidden="FALSE" ImageUrl="/_layouts/images/stsprev.png"
Description="A site for teams to quickly organize, author, and share information. It provides a
document library, and lists for managing announcements, calendar items, tasks, and discussions."
DisplayCategory="Collaboration" >    </Configuration>

    <Configuration ID="1" Title="Blank Site" Hidden="FALSE" ImageUrl="/_layouts/images/blankprev.
png" Description="A blank site for you to customize based on your requirements." DisplayCategory=
"Collaboration" AllowGlobalFeatureAssociations="False" >    </Configuration>

    <Configuration ID="2" Title="Document Workspace" Hidden="FALSE" ImageUrl="/_layouts/images/
dwsprev.png" Description="A site for colleagues to work together on a document. It provides a
document library for storing the primary document and supporting files, a tasks list for assigning
to-do items, and a links list for resources related to the document." DisplayCategory=
"Collaboration" >    </Configuration>
 </Template>
 ...
</Templates>
```


C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\SiteTemplates\
File Edit View Favorites Tools Help
Back Search Folders Folder Sync
Address C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\SiteTemplates\sts
Folders
SiteTemplates
BDR
BLANKINTERNET
Blog
CENTRALADMIN
MPS
NOSM.MyNOSM.Portal
NOSM.MyNOSM.SPS
NOSM.MyNOSM.STS
offile
OSRV
PROFILES
PUBLISHING
SPS
SPSCOMMU
SPSMSITE
SPSMSITEHOST
SPSNEWS
SPSNHOME
SPSPERS
SPSREPORTCENTER
SPSSITES
SPSTOC
SPSTOPIC
SRCHCEN
SRCHCENTERLITE
sts
xml
WebManifest
Wiki
Name
xml
default.aspx
defaultdws.aspx

How Does SharePoint Work?





ITB Portal Provisioning Framework

Diagram Credit: http://blogs.syrinx.com/blogs/sharepoint

Case Study: Sample Site Model

View All Site Content

Organization

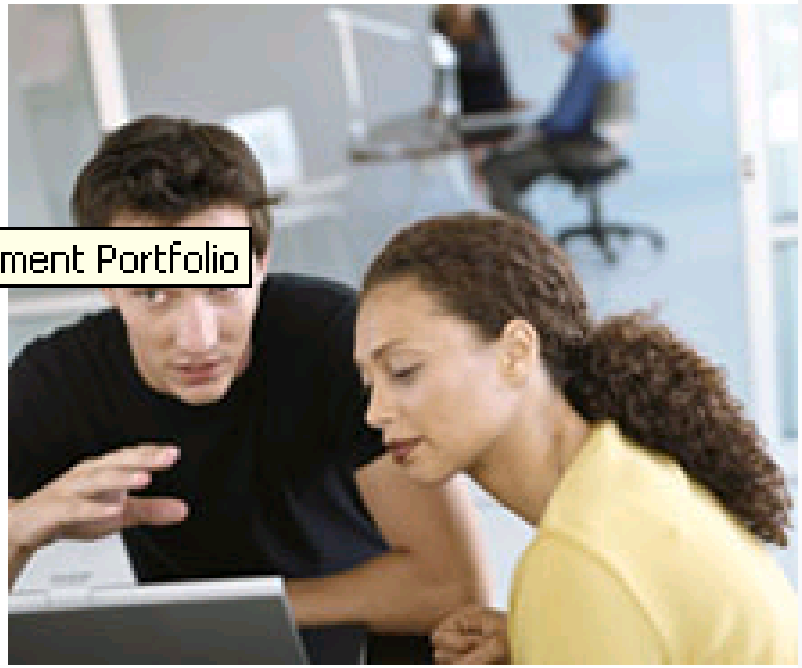
- Administration
- Community Engagement
- Continuing Health Professions
- Dean's Office
- Faculty Affairs
- Informatics
- Learner Affairs
- Postgraduate Education
- Research
- Undergradudate Medical Education

Projects

Search

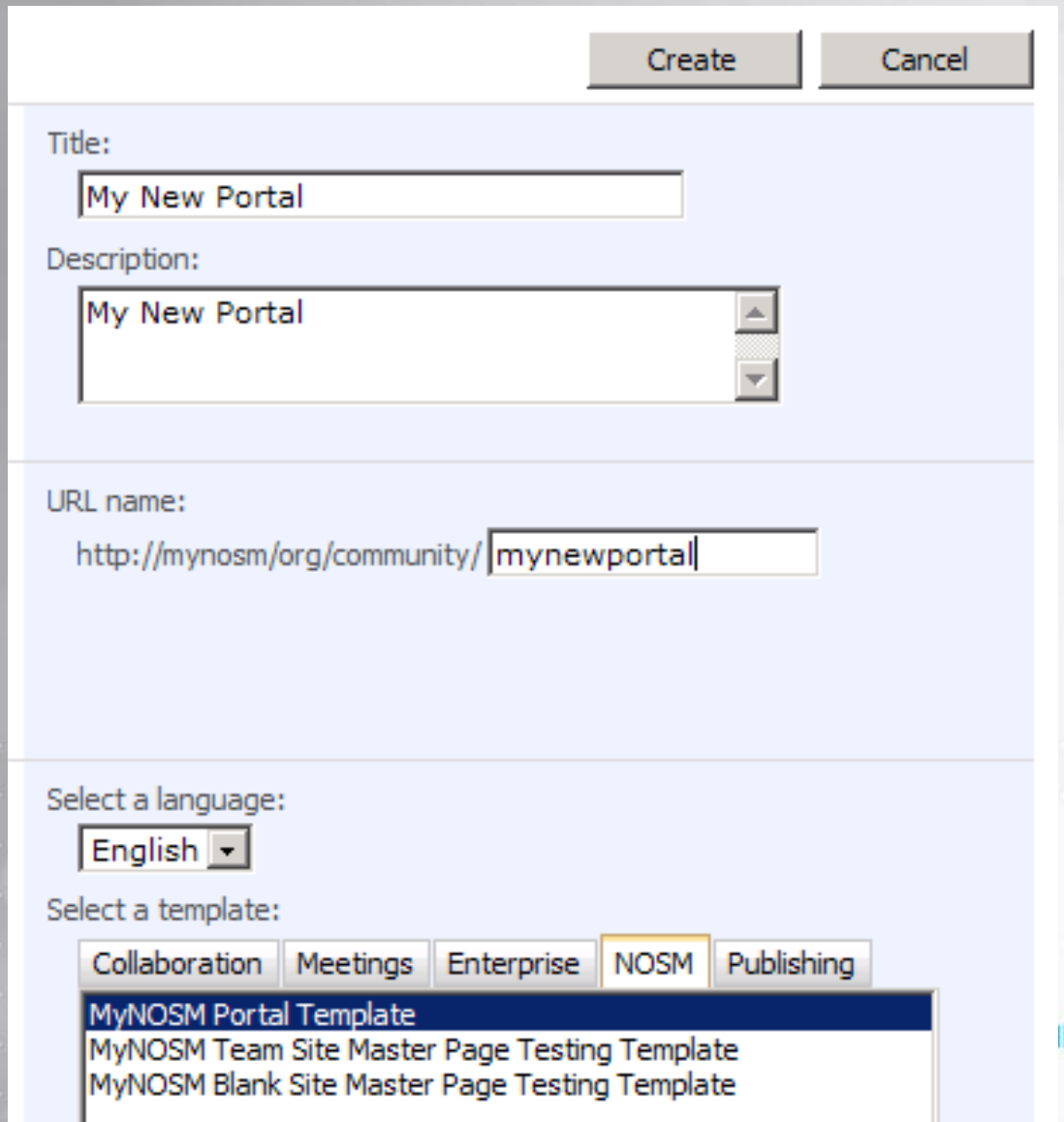
MyNOSM Home

Community Engagement Portfolio



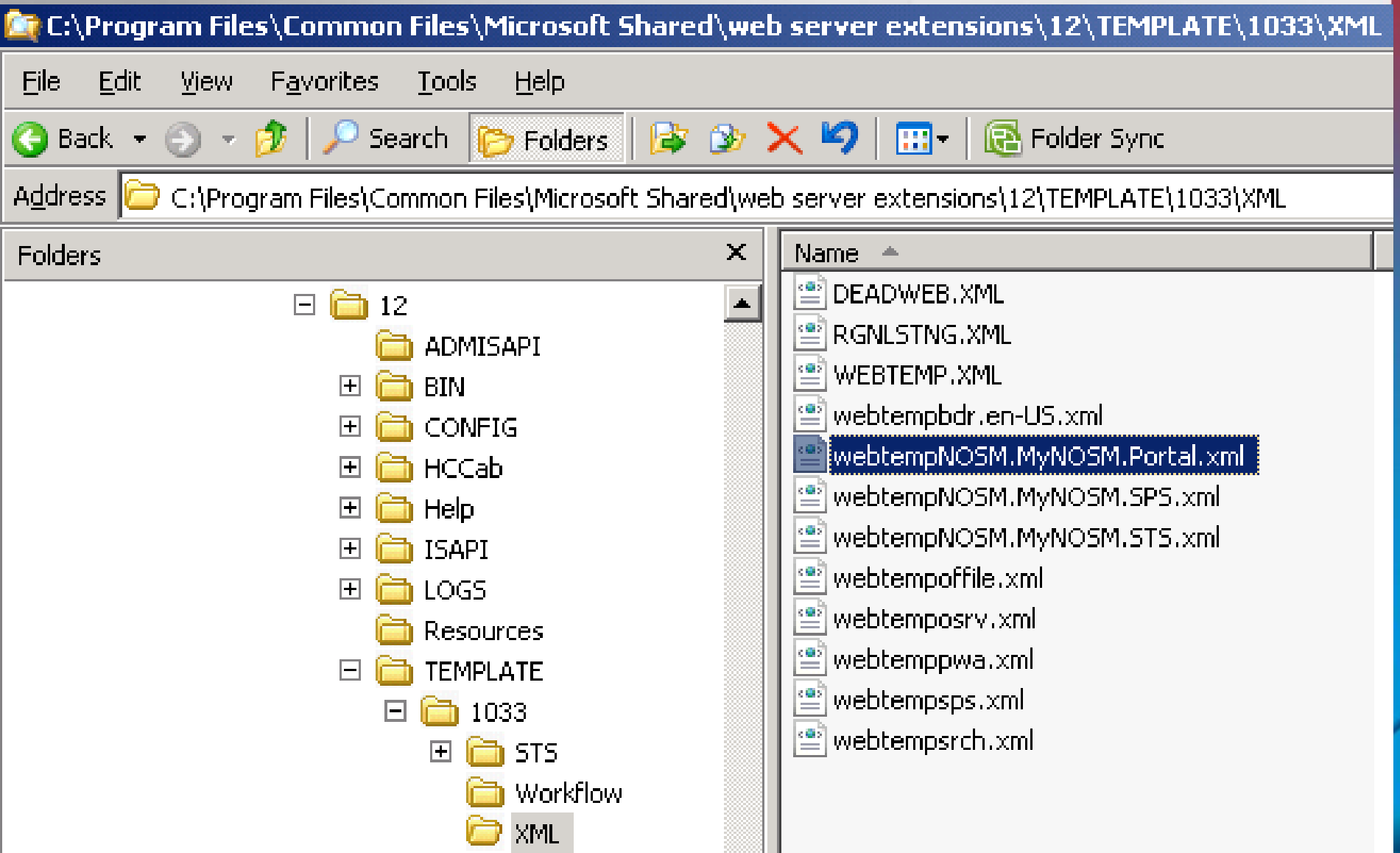
Case Study: Sample Site Model

How Does SharePoint Work?



FERENCE

12/TEMPLATE/1033/XML/webtemp*



Custom webtemp*.xml File

webtempNOSM....SM.Portal.xml

```
<?xml version="1.0" encoding="utf-8"?>
<!-- _lcid="1033" _version="12.0.4518" _dal="1" -->
<!-- _LocalBinding -->
<Templates xmlns:ows="Microsoft SharePoint">

    <Template Name="NOSM.MyNOSM.Portal" ID="22247">
        <Configuration ID="0" Title="MyNOSM Portal Template" Type="0" Hidden="FALSE"
          ImageUrl="/_layouts/1033/images/template_corp_intranet.png"
          Description="MyNOSM Intranet Template"
          ProvisionAssembly="Microsoft.SharePoint.Publishing, Version=12.0.0.0, Culture=neutral,
PublicKeyToken=71e9bce111e9429c"
          ProvisionClass="Microsoft.SharePoint.Publishing.PortalProvisioningProvider"
          ProvisionData="SiteTemplates\\NOSM.MyNOSM.Portal\\ProvisionData\\PortalWebManifest.xml"
          RootWebOnly="TRUE"
          DisplayCategory="NOSM"
          VisibilityFeatureDependency="97A2485F-EF4B-401f-9167-FA4FE177C6F6">
        </Configuration>
    </Template>

</Templates>
```

…enough background material

Best Practices: Options

- Completely ITB
  - In the Box: Manual or Scripted
- Custom (OTB)
  - Out of the Box: Site Model XML Console App
- Hybrid
  - ITB Provisioning Provider
    - Custom Web Template Provisioning XML File
  - OTB Custom Provisioning Provider
- Best Practice(s)? It will depend…

Completely ITB

- Manually
  - Tedious/Error Prone, Lots of Effort
- Scripting
  - Stsadm.exe
  - PowerShell

Custom (OTB)

- Custom Console Application
  - XML Site Model -> Console App -> SharePoint OM

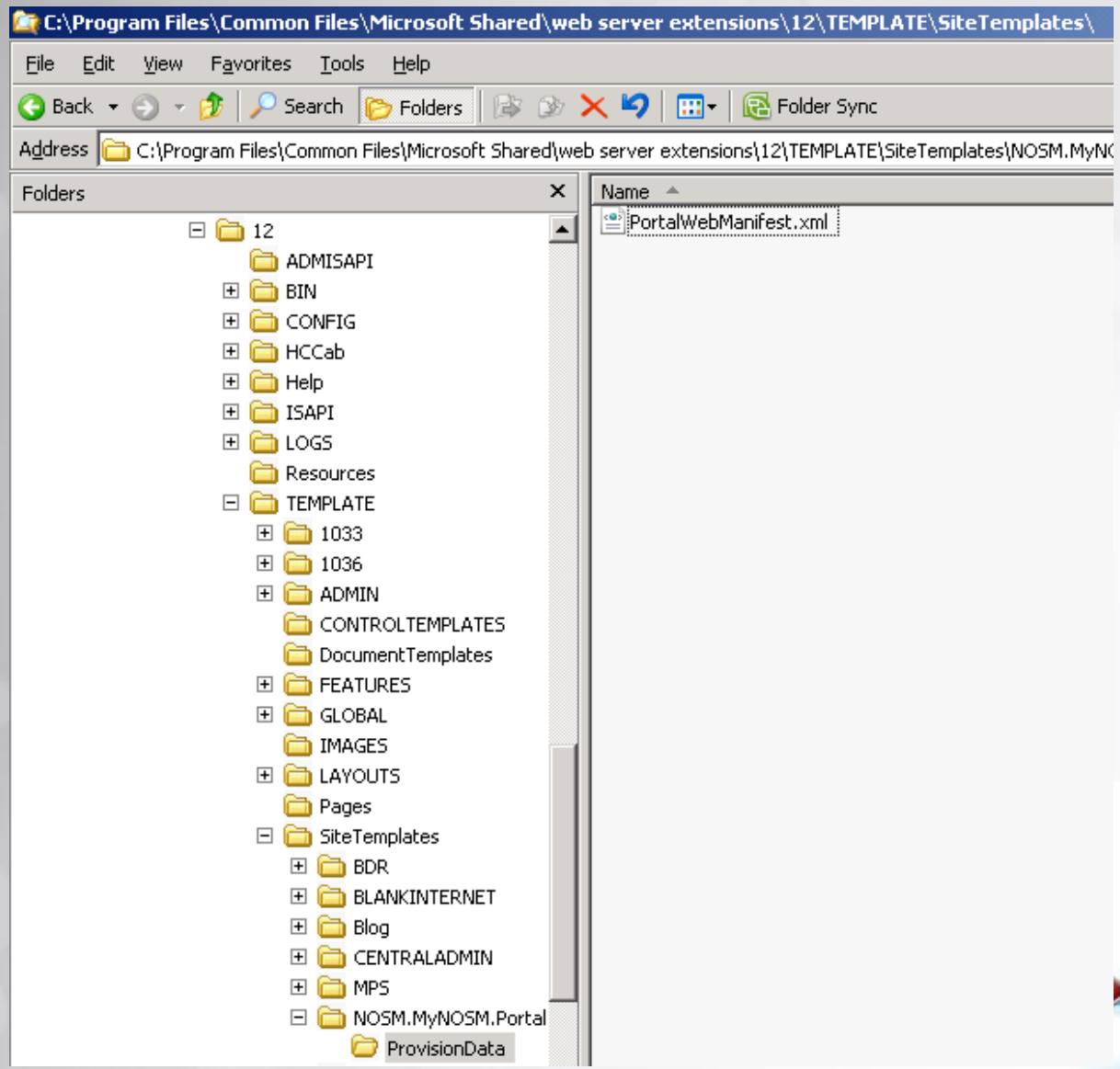
PublishingSiteModelData.xml*

```
<SiteModel>
    <SiteCollection>
        <SiteModelID>PublishingRootSC</SiteModelID>
        <Title>Publishing Root Web Site</Title>
        <URLPath>/</URLPath>
        <Template>Acme.CommComm.Publishing.BlankWebSite#0</Template>
        <WebSites>ApplicationSettings-1-0-1</WebSites>
        <DatabaseServerName>DBSERVER</DatabaseServerName>
        <DatabaseName>ACME-DEV-000_WSS_Content_PubdataRoot</DatabaseName>
        <ActivateFeature>Acme.CommComm,Acme.CommComm.DAL</ActivateFeature>
        <OwnerLogin>corp\johndoe</OwnerLogin>
        <OwnerName>johndoe</OwnerName>
        <OwnerEmail>johndoe@acme.com</OwnerEmail>
        <OwnerSecondaryLogin>corp\janedoe</OwnerSecondaryLogin>
        <OwnerSecondaryName>janedoe</OwnerSecondaryName>
        <OwnerSecondaryEmail>janedoe@acme.com</OwnerSecondaryEmail>
        <SecurityBindings>CommComm Authors:Contribute,CommComm Editors:Contribute,CommComm Approvers:Contribute</
SecurityBindings>
        <SecurityGroupMembers1>CommComm Authors,Authors,corp\Domain Users,Authors@acme.com</
SecurityGroupMembers1>
        <SecurityGroupMembers2>CommComm Editors,Editors,corp\SPDevContributors,Editors@acme.com</
SecurityGroupMembers2>
        <SecurityGroupMembers3>CommComm Approvers,Approvers,corp\SPDevContentManagers,Approvers@acme.com</
SecurityGroupMembers3>
    </SiteCollection>
    <SiteCollection>...
    <SiteCollection>...
    <SiteCollection>...
    <SiteCollection>...
    <WebSite>
        <SiteModelID>ApplicationSettings-1-0-1</SiteModelID>
        <Title>Application Settings</Title>
        <Description>Application settings web site - ApplicationSettings-1-0-1</Description>
        <URLPath>/applicationsettings</URLPath>
        <Template>Acme.CommComm.Publishing.BlankWebSite#0</Template>
        <Lists>ApplicationSettings-1-0-1,TrackingNumber-1-0-1,TrackingNumber09-1-0-1,TrackingNumber08-1-0-1,
TrackingNumber07-1-0-1,TrackingNumber06-1-0-1,TrackingNumber05-1-0-1,PortalAreaSettings-1-0-1,StoreSettings-1-0-1
</Lists>
        <WebSites>
        </WebSites>
    </WebSite>
```

Hybrid

- ITB Web Site Provisioning Provider
  - Custom Provisioning XML File
- Custom Web Site Provisioning Provider
  - XML Site Model -> Provider -> SharePoint OM
  - Call PowerShell (XML Site Model) -> SharePoint OM

Custom PortalWebManifest.xml File



PortalWebManifest.xml*

```
<?xml version="1.0" encoding="utf-8"?>
<!-- _lcid="1033" _version="12.0.4518" _dal="1" -->
<!-- _LocalBinding -->
<portal xmlns="PortalTemplate.xsd">
    <web name="Home" siteDefinition="NOSM.MyNOSM.SPS" displayName="Home" description="MyNOSM Home">
        <webs>
            <web name="SearchCenter" siteDefinition="SRCHCEN" displayName="$Resources:
spscore,PortalManifest_SearchCenter_DisplayName;" description="$Resources:spscore,
PortalManifest_SearchCenter_Description;" />
            <web name="org"
                 siteDefinition="CMSPUBLISHING"
                 displayName="Organization"
                 description="The Organization">
                <webs>
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web name="community"
                         siteDefinition="CMSPUBLISHING"
                         displayName="Community Engagement"
                         description="Community Engagement Portfolio" >
                        <webs>
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                        </webs>
                    </web>
                    <web ...
                    <web ...
                </webs>
            </web>
            <web name="projects"
```

PortalWebManifest.xml*

```
<?xml version="1.0" encoding="utf-8"?>
<!-- _lcid="1033" _version="12.0.4518" _dal="1" -->
<!-- _LocalBinding -->
<portal xmlns="PortalTemplate.xsd">
    <web name="Home" siteDefinition="NOSM.MyNOSM.SPS" displayName="Home" description="MyNOSM Home">
        <webs>
            <web name="SearchCenter" siteDefinition="SRCHCEN" displayName="$Resources:
spscore,PortalManifest_SearchCenter_DisplayName;" description="$Resources:spscore,
PortalManifest_SearchCenter_Description;" />
            <web name="org"
                 siteDefinition="CMSPUBLISHING"
                 displayName="Organization"
                 description="The Organization">
                <webs>
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web ...
                    <web name="community"
                         siteDefinition="CMSPUBLISHING"
                         displayName="Community Engagement"
                         description="Community Engagement Portfolio" >
                        <webs>
                            <web name="vicedean"
                                 siteDefinition="CMSPUBLISHING"
                                 displayName="Vice Dean-Professional Activities"
                                 description="Vice Dean-Professional Activities Unit" >
                                <webs>
                                </webs>
                            </web>
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                            <web ...
                        </webs>
```

Hybrid

- Custom Web Site Provisioning Provider

- Options to Consider
  - XML Site Model -> Provider -> SharePoint OM
  - Call PowerShell (XML Site Model) -> SharePoint OM

Custom Provisioning Providers

- Sample Site Model XML File

```
<rootWeb>
    <webs>
        <web url="Wiki" siteDefinition="WIKI#0" displayName="Our Wiki"
    description="Our teams wiki allows us to brainstorm online." />
        <web url="Blog" siteDefinition="BLOG#0" displayName="Our Blog"
    description="Our department's blog shows key updated information about our
    department." />
        <web url="Search" siteDefinition="SRCHCENTERLITE#0"
    displayName="Search" description="We need to be able to search don’t we" />
    </webs>
</rootWeb>
```

Custom Provisioning Providers

```
public class WebProvisionProvider: SPWebProvisioningProvider
{
    public override void Provision(SPWebProvisioningProperties
    props)
    {
        SPWeb rweb = props.Web;
        string data = props.Data;
        // Write code to provision lists, documents, sub webs, etc.
        // that are necessary for this web template.
    }
}
```

Custom Provisioning Providers

```
<Configuration ID="100"
    Title="My Site Template" Description="My Site Template"
    ImageUrl="/_layouts/images/stsprev.png"
    Hidden="FALSE"
    DisplayCategory="Publishing"
    ProvisionAssembly="MyAssembly, Version=1.0.0.0,
    Culture=neutral, PublicKeyToken=11df43608d33992f"
    ProvisionClass="MyAssembly.WebProvisionProvider"
    ProvisionData=""
/>
```

Custom Provisioning Provider Blogs

- HOW TO: Create a SharePoint Web Template Provision Class
  - http://consulting.ascentium.com/blog/sp/Post59.aspx
- Customizing SharePoint Site Creation
  - http://www.sharepointbriefing.com/features/article.php/3792601/Customizing-SharePoint-Site-Creation.htm
- How to build a custom site definition which has child sites (webs)
  - http://blogs.msdn.com/modonovan/archive/2008/09/11/how-to-build-a-custom-site-definition-which-has-child-sites-webs.aspx

Site Model Visual Designers?

- No purpose built solutions (that I know of)
- MS Visio
  - Possible
- Mindjet MindManager
  - Better
- MS Workflow Foundation 3.0 Design Control
  - Didn’t scale well

Best Practices Summary

- Depends on Requirements
  - Repeatability of Build Process
  - Command Line vs. Data-Driven
    - Easier to parse, process and save XML files (vs. command line files)
- Depends on Available Skill Sets (or Tools)
- Ability to Leverage Costs across Multiple Projects

Best Practices Summary

- Simple to More Complex
  - Browser-based Configuration
  - Command line (“batch”) files using stsadm.exe
  - PowerShell command files
  - ITB Portal Provisioning Provider – “no code”
  - OTB Site Model XML Console App
  - Custom Portal Provisioning Provider
    - Custom Site Model Input File Format (XML)
    - Site Model Visual Designer

Thank you for attending!

Please fill out your evaluation and turn it in on the back table!

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