Enterprise Capacity Solution
User Guide

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Introduction

Microsoft SharePoint®-based document management solutions provide a feature-rich, easy to use and cost-effective platform for managing the complete lifecycle of your documents and files. Features, such as version management, metadata and item-level security, easily tilt your infrastructure selection deliberation towards SharePoint.

Unfortunately, there are built-in capacity limitations that could prove to be hazardous if not taken into account beforehand. SharePoint stores all of its data (e.g. files, metadata, site structure) in *content databases*. You can assign multiple content databases to a single SharePoint web application, but each site collection (a top-level site with the hierarchy of children sites) must reside in a single database, which can be shared by multiple site collections. When using SharePoint as your primary file storage, the database size grows very rapidly and could easily reach several hundreds of gigabytes within months. You need to keep in mind that all disaster recovery operations, such as backup and restore are performed at a single content database level at least. If the database grows too large, the chances of backup failure grow as well.

It is possible to create a system made up out of a combination of multiple site collections. Unfortunately, there are several key features that are not shared across site collections. These features include among others:

- Unified navigation system
- Permission inheritance
- Master page inheritance
- Site column and content type inheritance

Infowise Enterprise Capacity Solution allows you to overcome the most serious limitations, by providing a custom unified navigation, permission inheritance and master page replication (optional).

The solution wraps around the site creation process to give the end users the ability to seamlessly create sites in new site collections (and by extension in new content databases), while preserving the simplicity of the regular site creation. Your new site looks like a regular child site, is placed directly under your current site in the navigation menus and optionally inherits its users and master page.
ECS takes over the navigation and site creation components without changing the look and feel of the site and without introducing new visual elements.

As a result, your system appears to users as one unified structure, while in the background you decide how to split it into a set of content databases, which can be backed-up, moved and restored individually.

Installation

Note: as the product is installed as a SharePoint Solution, you need to install it only once, regardless of the number of your front-end servers.

Run the installation package from one of your front-end servers and follow the on-screen instructions. You do not have to change the default settings.

If you have purchased the product, use the Infowise license management page accessible through the Central Administration site. Enter the License Key under corresponding product. If no License Key is entered, the version is time-limited to 30 days. Both full and time-limited versions contain the same functionality.

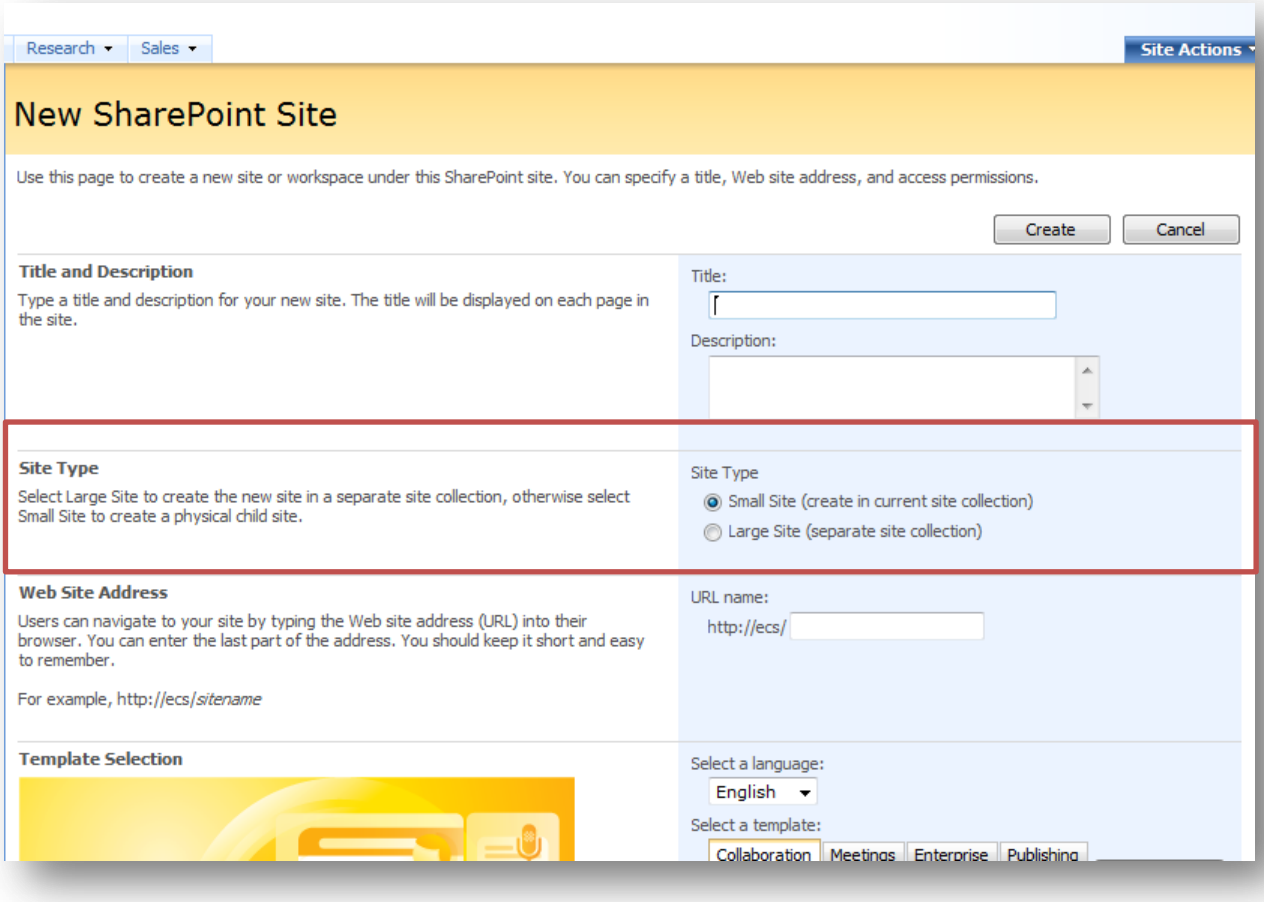
Usage

Note: ECS requires a separate web application, all of the navigation menus of all the sites collection of that web application will be managed by ECS.

- Activate the *Infowise Enterprise Capacity Solution* feature on the web application you want to manage using ECS. This feature transforms the regular navigation menus into ECS-managed centralized menus.
- Activate site level feature *Infowise Enterprise Capacity Solution* at the root site of the top site collection. The feature activates the custom site creation page and adds permission inheritance page to the site settings. When you create new sites using ECS the feature is activated automatically on those sites.

Once the features are activated you will see the following new capabilities:

- On *Create* page a new option "*New Subsite*". Use this option to create all of your new sites. The "*New Subsite*" page is similar to the regular site create page, with a new option of create "Large" or "Small" site.
    - Large sites are actually separate site collection, created automatically
    - Small sites are just regular subsites.



- At Site Settings you will see two new options:
  - *Inherit permissions* – activates the permission inheritance job that enables copying permission cross site collections
  - *ECS Child Sites* – link to the list containing links to subsites located in separate site collections. You can edit this list to manage the link and the permission inheritance settings.

Permission inheritance takes place in following case:

- When a new *Large* site is created and the permission inheritance is selected.
- When the administrator invokes the manual permission inheritance
- Periodically by the timer (by default, checked every 15 minutes).

Creating New Sites

You should always use the new *New subsite* option available in *Site Settings* and on the *Create* page. If you use the built-in option, you will need to link the new site manually to its parent, otherwise it will not be visible in the navigation bar.

You can either create a Small or a Large site. Small sites are basically the regular subsites of SharePoint, created directly underneath the current site. Once created, the new site will optionally use the master page and the CSS file link of the parent site (if the option to inherit master pages is selected in the ECS settings in Central Administration). Additionally, the Top Link Bar of the current site will have a link to the new site added to the end of the list and the navigation bar will be updated to show the new site.

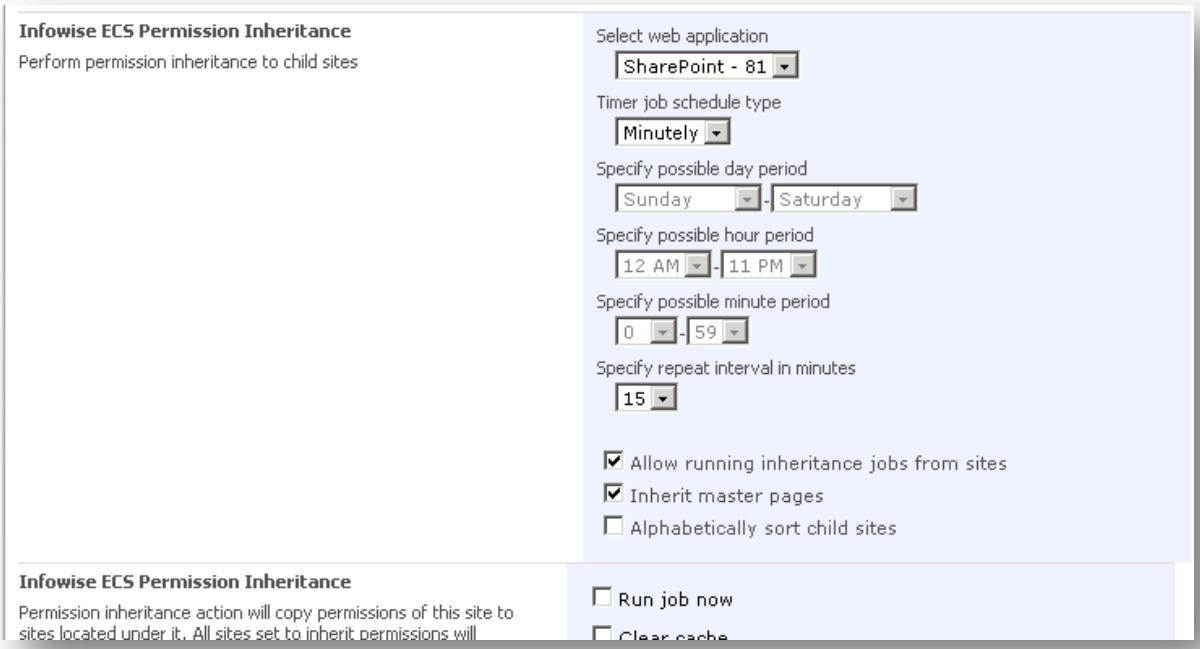
Permission Inheritance

ECS is capable of managing permission inheritance of sites located in the same or different site collections. This includes automatic creation of groups and management of group membership.

When you create a new site, you specify whether or not you want the site to inherit permissions from its parent. If set to inherit permissions, the new site will receive its parent's permissions upon creation.

The permissions across site collection boundaries are copied by a timer job. By default this job runs every 15 minutes, but you can set your own schedule or cancel the job altogether, if you only want to perform permission inheritance manually.

1. Go to Operations tab in Central Administration (System Settings under SharePoint 2010).
2. Open Infowise ECS Permission Inheritance page
3. Select the relevant web application
4. Select schedule type and set the relevant settings



Setting Navigation Node Order

By default, all sites are sorted alphabetically. If you want to create a manual order, you need to change the Top Link Bar settings of each parent site.

The Top Link Bar is accessible through the Site Settings page. If the Publishing Infrastructure site collection feature is activated, this menu item is hidden. You can still access the page through the link on the ECS Permission Inheritance page also accessible from the Site Settings page.

When you create Small sites, a link is generated in the Top Link Bar of the parent site. If you create a new Large site, it is added to the ECS Child Sites list, but not to the Top Link Bar. If you want to sort both Small and Large sites together, you need to add a link to each Large site to the Top Link as well.

To sort all sites manually:

5. Go to Operations tab in Central Administration (System Settings under SharePoint 2010).
6. Open Infowise ECS Permission Inheritance page
7. Select the relevant web application
8. Uncheck the *Alphabetically sort child sites* checkbox
9. Check *Run job now* and *Clear cache*.

10. Save page.

At this point, the sort order of sites will be changed so that for each site, the small sites are shown first, in order of creation, then the large sites in the order of creation as well. At this point, the Top Link Bar contains only the links to the small sites. If you want to mix the large sites and the small sites, you need to add links to the large sites to the Top Link Bar as well.

Once all the links are created, change the order of the links in the Top Link Bar using the built-in functionality. Perform the steps for each site you want to re-order its child sites.

Once you are done, you need to clear the cache for the settings to take effect.

1. Go to the root site of the top-level site collection (usually *http://yourserver*)
2. Go to Site Settings
3. Go to Infowise *ECS Permission Inheritance* page
4. Check *Run job now* and *Clear cache* checkboxes
5. Save page.

Inheriting Master Pages

Master page inheritance feature makes sure all the sites managed by ECS have the same look and feel. For Small sites, that means that they are set to use the master page of the top-level site of the relevant site collection, whereas for the Large sites, the content of the active master page is copied automatically from the parent site collection to the current one. The name of the master page file could remain different, as only the contents themselves get replaced. Note that for performance reasons only when the parent master page file is newer than the child master page file the contents are copied.

To enable Master Page Inheritance:

1. Go to Operations tab in Central Administration (System Settings under SharePoint 2010).
2. Open Infowise ECS Permission Inheritance page
3. Select the relevant web application
4. Check *Inherit master pages*
5. Optionally check *Run job now* checkbox to immediately perform inheritance.
6. Save page.

Enabling Custom Breadcrumbs

The majority of product's functionality is enabled automatically by the installer. This includes custom navigation, custom site creation and permission inheritance. The product also allows you to customize the breadcrumbs to enable showing the new logical paths. For example, when creating a new item in *Marketing* department's website, you will see the breadcrumbs as *Home* > *Marketing* > *Events* > *New Event*,

despite the fact that *Marketing* department's web site is actually located in a separate site collection and the breadcrumbs by default are *Marketing* > *Events* > *New Event*.

SharePoint 2007

To enable this functionality you need to replace the SiteMapProvider property value of the ASP.NET control that renders the breadcrumbs. This needs to be done for each master page of each site you want to use this functionality functionality (unless master page inheritance is activated).

- Open the site in *SharePoint Designer*
- Open the *_catalogs* folder
- Open the *Masterpages* gallery
- Edit the master page (usually *default.master*, but it could be your custom master page as well)

- Locate the following tag:

```
<asp:ContentPlaceHolder id="PlaceHolderTitleBreadcrumb" runat="server">
  <asp:SiteMapPath SiteMapProvider="SPContentMapProvider"
id="ContentMap" SkipLinkText="" NodeStyle-CssClass="ms-sitemapdirectional"
runat="server"/>  
</asp:ContentPlaceHolder>
```

- Change the SiteMapProvider value to **ECSNavigationProvider:**

```
<asp:ContentPlaceHolder id="PlaceHolderTitleBreadcrumb" runat="server">
  <asp:SiteMapPath SiteMapProvider="ECSNavigationProvider " id="ContentMap"
SkipLinkText="" NodeStyle-CssClass="ms-sitemapdirectional" runat="server"/>  
</asp:ContentPlaceHolder>
```

Note: there are two *SiteMapPath* controls on the default master page, the first one being the global navigation at the top of the page, you need to edit the second one.

- Save the master page and publish it.
- Observe the updated breadcrumbs.

SharePoint 2010

SharePoint 2010 replaces the breadcrumbs functionality of 2007 with Up Folder arrow located in the top left corner of the default v4 master page.
To enable full ECS path in the arrow control, you need to update the *SiteMapProviders* property value of the control that renders the arrow. This needs to be done for each master page of each site you want to use this functionality (unless master page inheritance is activated).

- Open the site in *SharePoint Designer*
- Open the *_catalogs* folder
- Open the *Masterpages* gallery
- Edit the master page (usually *v4.master*, but it could be your custom master page as well)
- Locate the following tag:
  <SharePoint:ListSiteMapPath …
- Set the following property value

SiteMapProviders="**ECSNavigationProvider**"

- Save the master page and publish it.
- Observe the updated breadcrumbs.

Enabling Tree View

You can optionally enable tree-view representation of the navigation menu in the side bar of your site. The tree includes the complete hierarchy of sites of your ECS-enabled web application, but does not include any items under the site level, but you can combine the global tree with the local site tree to show the complete picture to the users.

To enable this functionality you need to insert a tree view control and a data source control into your master page. You can use the master page inheritance feature of ECS to propagate this change across the web application.

1. Open the site in *SharePoint Designer*
2. Open the *_catalogs* folder
3. Open the *Masterpages* gallery
4. Edit the master page (usually *default.master*, but it could be your custom master page as well)
5. Enter the following HTML in any suitable location on the page (in our example we placed it just under the built-in tree view control, ending with the tag **</Sharepoint:SPNavigationManager>**

```
 <asp:SiteMapDataSource
  ShowStartingNode="True"
  SiteMapProvider="ECSNavigationProvider"
  id="treeEcs"
  runat="server"
/>
<style>
div.iw-treeviewcontainer
{
      overflow: auto;
      width: 150px;
 }
div.iw-treeviewcontainer table td
{
      border-top-width:0px;
}
</style>
<div class="iw-treeviewcontainer">
  <asp:TreeView
            id="ecsTreeView"
```

```
            runat="server"
            ShowLines="false"
            DataSourceId="treeEcs"
            NodeStyle-ImageUrl="/_layouts/images/stsicon.gif"
            ExpandDepth="1"
            SelectedNodeStyle-CssClass="ms-tvselected"
            NodeStyle-CssClass="ms-navitem"
            NodeStyle-HorizontalPadding="2"
            SkipLinkText=""
            NodeIndent="12"
            ExpandImageUrl="/_layouts/images/tvplus.gif"
            CollapseImageUrl="/_layouts/images/tvminus.gif"
            NoExpandImageUrl="/_layouts/images/tvblank.gif"
        />
    </div>
```

6. Save the master page and publish it.

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