SHAREPOINT

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M MANAGEMENT

Kicking the Tires on SharePoint 2010

The latest version of SharePoint offers some revolutionary improvements with just a couple of disappointments. BY PAUL GALVIN

I IMPLEMENTATION

The Importance of Capacity Planning for SharePoint

Sticking to the numbers is a good rule of thumb when planning SharePoint capacity. BY STEPHEN CUMMINS

G GOVERNANCE

How to Automate Governance

Sometimes a governance policy just isn't enough. Learn how to use SharePoint functionality to enforce the rules. BY BRIEN M. POSEY

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How Does SharePoint 2010 Rate?

BY CHRISTINE CASATELLI

Editor's Note

M Kicking the Tires on SharePoint 2010

I The Importance of Capacity Planning for SharePoint

G How to Automate Governance

THE PUBLIC BETA of SharePoint 2010 is now available, and there are some big improvements mixed in with a little frustration about what should have been fixed but wasn't. The good news is that Microsoft has loaded SharePoint Designer with functionality for mainstream development. For the first time, users will be empowered in SharePoint 2010 to create a wide variety of tools—from white board to production.

Now for the bad news: List and library views cannot be secured in SharePoint 2010. SharePoint administrators will have to put up with this little annoyance and a few others for a bit longer. Get the scoop on the latest release from SharePoint MVP Paul Galvin in "Kicking the Tires on SharePoint 2010."

With 2010 just around the corner, now is a good time to think about capacity planning for SharePoint. It won't be easy because SharePoint is a multi-layered application, so capacity planning can get complicated.

SharePoint MVP Stephen Cummins walks you through the process in "The Importance of Capacity Planning for SharePoint." Make a New Year's resolution to take care of this important task by keeping capacity limits and performance where they should be.

Here's another resolution you should make: Automate SharePoint governance. Why cross your fingers that users will follow the rules when you can use built-in mechanisms to keep them honest? Read "How to Automate Governance" by Brien M. Posey and lighten your workload in the new year.

What's your take on SharePoint 2010? Let me know at ccasatelli@techtarget.com. ■

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Editor's Note

M Kicking the Tires on SharePoint 2010

I The Importance of Capacity Planning for SharePoint

G How to Automate Governance

SHAREPOINT 2010 OFFERS big improvements over its younger sibling Microsoft Office SharePoint Server (MOSS) 2007. In this newest iteration of SharePoint, Microsoft has spiffed up some existing features in ways that are likely to bring smiles to SharePoint administrators and end users everywhere.

But even though Microsoft worked hard in SharePoint 2010 to correct some of the biggest and most irksome problems left over from MOSS 2007, it would have been nice if it could have taken care of some nagging smaller issues in this latest version.

In any event, SharePoint 2010 gets a round of applause for some major improvements. Let's start with them: One of the biggest changes in SharePoint 2010 has been the enhancements made to SharePoint Designer.

SHAREPOINT DESIGNER GETS A FACELIFT

In MOSS, SharePoint Designer has had a rocky reputation at best. Although it's a powerful tool, SharePoint Designer suffers from more than a few drawbacks.

Despite its power in MOSS, SharePoint Designer has been underused. That's partly because MOSS limits enterprise-scale development to highly trained IT staff who live in a world of Visual Studio projects. Some IT departments have even prevented anyone from using the old SharePoint Designer for several good reasons:

- **There was no proper software development lifecycle:** When working with SharePoint Designer in a site, changes you made were tied to that site. You couldn't easily package and transfer them to a production environment. It wasn't impossible, but it

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

was extremely difficult and not well supported. To do that properly, you needed to prototype with SharePoint Designer but use Visual Studio for proper implementation.

■ **It was possible to badly damage a website:** Even an experienced user could make a harmful change to a master page. If a user deleted an important component from a site, that would require the SharePoint administrator to execute a tedious restore operation to bring the site back from the dead.

Well, it's a whole new game now. In SharePoint 2010, Microsoft has solved the first problem and provided some relief to skittish IT departments for the second. At the same time, it has added an enormous amount of functionality to help SharePoint Designer get out of the shadow of its big brother Visual Studio for mainstream SharePoint development.

The most revolutionary change is that SharePoint Designer 2010 now supports solution deployment. That means developers, business analysts and even power users can take advantage of SharePoint Designer's functionality to create their own business tools and then easily create a portable deployment package. They take that package, do their testing and sign off on it and then move it to production. They can even hand the deployment package off to developers who can load it into Visual Studio for advanced customization.

This is revolutionary. With SharePoint 2010, SharePoint administrators can now build real tools that are portable from one environment to the next. Now, business analysts and power users can actually design and implement their own tools from white board to production. So in SharePoint 2010, developers may have to do less heavy lifting because their users will be empowered to implement a wide variety of tools that were once out of their reach.

In addition to providing powerful features in SharePoint Designer 2010, Microsoft has also provided new ways to lock it down. In MOSS 2007, there is relatively little granularity with SharePoint Designer. It's either "on" or it's "off." In SharePoint 2010, IT departments can implement more sophisticated "who is allowed to use it" and "what are they allowed to do" functionality.

WORKFLOW FOR THE MASSES

Visual Studio is still the top tool for developing workflow solutions, but SharePoint Designer workflow is vastly improved. Like SharePoint Designer's new and improved deployment process, workflow improvements are a close second in terms of practical day-to-day impact.

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

First, there are more actions. SharePoint Designer 2007 provides a nice library of functions, but there are still some serious limitations to which we would gladly like to say "good riddance." Here are some actions to welcome in SharePoint 2010:

- **String management.** Those include substring, length and so on.

- **Managing permissions.** You can detect and assign permissions to documents and list items directly from SharePoint Designer workflow.

- **Modifying out-of-the-box workflow solutions.** In MOSS, you can't change the behavior of out-of-the-box workflows. Now you can.

- **Creating tasks.** Improvement all over the place here.

More actions are nice, but this is the real gem: portable workflow solutions. In SharePoint Designer 2007, workflow solutions were always tied to a list, causing all kinds of heartache and frustration. This is no longer the case with SharePoint 2010 workflows created using SharePoint Designer.

Last but not least, SharePoint 2010 has a strong integration story with Visio. Using Visio, business analysts can actually create a workflow solution visually, load it into SharePoint Designer and voilà—you have a functioning workflow solution.

SOME NICE ADDITIONS

Here are several other improvements in SharePoint 2010 that are likely to become favorites for MOSS users everywhere:

- **Metadata managed services:** Content types can now span site collections. In fact, they can span Web applications and even farms. For the first time in SharePoint's history, it's possible to not only design that perfect information architecture you always dreamed of, but you can also get good tooling support from SharePoint to back it up.

- **Large lists:** The infamous "2,000-item limit" has had a stake driven through its heart once and for all. Lists and libraries can manage 1mm+ rows of data efficiently, quickly and with a user-friendly navigation interface. We shall never speak of 2,000-item limits again.

- **External lists:** How many times have you wished you could surface information from a SQL database or other external system in your SharePoint environment right alongside your regular lists and document libraries? After all, your users don't care if the data is in SharePoint's database or your custom SQL data-

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

base. They just want to see the data in a consistent manner.

SharePoint 2010 brings you the notion of an "external list." It looks and feels like a SharePoint list, but it's not in SharePoint. There was a version of this capability in MOSS Enterprise called Business Data Catalog. In SharePoint 2010, it is superior.

It looks like Microsoft has clearly heard its customers. But for all the improvements in SharePoint 2010, Microsoft has left out some obvious fixes that still leave SharePoint administrators scratching their heads and asking "why?"

STILL UNRESOLVED IN SHAREPOINT 2010

A lot of people will be disappointed to learn that list and library views cannot be secured. This issue seems to be a fairly easy technical problem to solve, yet it hasn't been fixed in SharePoint 2010.

There is no field-level security. This is ameliorated by the fact that InfoPath forms can easily replace the standard New and Edit item Web forms.

Site collections are still an annoyingly strong barrier. For instance, the content query Web still can't cross site collections. Sure, there are some third-party tools to assuage this need, but it would have been nice to see Microsoft step up and provide this out of the box.

Finally, Microsoft—at least as of now—won't support any kind of upgrade from the November public beta to the final RTM version released next year. That's obviously going to give pause to organizations as to whether they adopt this technology early. But SharePoint 2010 is so easy to use, a cave man could do it. The thing is, though, that you don't want cave men building your applications. Training is essential to harness all of SharePoint 2010's strengths.

Organizations need to bring all of the skills of experienced business analysts and IT professionals to be successful with the platform. So start preparing now to position your organization so that your human assets—be they highly trained IT people or enthusiastic users—are ready to use SharePoint 2010 to its best advantage. ■

ABOUT THE AUTHOR

Paul Galvin is a SharePoint MVP and co-founder of Arcovis, a SharePoint consulting organization providing services to clients in the New York metro area. Galvin has worked in the IT industry for more than 15 years in areas such as software development, consulting and SharePoint solutions design, where he works with clients to create business solutions using the SharePoint platform. He contributes to the SharePoint community through MSDN forums and his blog at http://paulgalvin.spaces.live.com.

The Importance of Capacity Planning for SharePoint

Sticking to the numbers is a good rule of thumb when planning SharePoint capacity. **BY STEPHEN CUMMINS**

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

THE BIGGEST MISTAKE most organizations make in terms of capacity planning for SharePoint is to do nothing. Why does that happen? There are plenty of excuses.

For one thing, SharePoint is a multilayered application, so capacity planning can be pretty complex. It's crucial to have knowledge of the different capacity limitations of your Windows file system, Active Directory, .Net framework, Internet Information Services and SQL Server. Knowing those limits can prevent a bottleneck that would slow down the performance, user experience or growth of SharePoint.

Some of the most common excuses for capacity planning lapses are that there isn't enough time because of an unrealistic deadline. Or, there is insufficient data available on current or past usage to make an intelligent prediction about the rate of future growth. Or perhaps there is a lack of knowledge about how SharePoint stores and manages information.

Whatever your reason, here are some guidelines that will help with the capacity planning process.

ACTIVE DIRECTORY CONSIDERATIONS

The first SharePoint capacity features to consider have to do with Active Directory. SharePoint uses Active Directory accounts and groups to authenticate users and then uses SharePoint group membership to authorize them.

AD limits that affect SharePoint are the capacity limitations of security principals per securable object. There is a limit to the number of users and groups you can associate with a site, library or list item if you want it to be indexed properly. It is approximately

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

2,000 users. This is because there is a limit to the size of an Access Control List (ACL) in Active Directory of 64 KB. Each user or group is about 32 bytes in size. When SharePoint indexes an item, if the 64 KB limit is reached, indexing of the item and all items below that scope will fail. So, you can have ACLs larger than 64 KB, but they just won't be indexed.

Remember that one Active Directory group counts as one security principal, and that AD group could have 100,000 users in it, so a document could still have well over 2,000 users associated with it, but only indirectly through AD group membership. Also, be aware that a user can be in no more than 1,015 groups.

The guidelines state that you can have 2 million users per website. Keep in mind, too, that in Microsoft Office SharePoint Server (MOSS) 2007, all site groups are cross-site

GUIDELINES FOR ACCEPTABLE PERFORMANCE

SITE OBJECT	GUIDELINES	NOTES	SITE OBJECT
Website	250,000 per site collection	You can create a very large total number of websites by nesting the subsites. For example, 100 sites, each with 1,000 subsites, is 100,000 websites. The maximum recommended number of sites and subsites is 125 sites with 2,000 subsites each, for a total of 250,000 sites.	Site collection
Subsite	2,000 per website	The interface for enumerating subsites of a given website does not perform well as the number of subsites surpasses 2,000.	Site view
Item	2,000 per view	Testing indicates a reduction in performance beyond 2,000 items. Using indexing on a flat folder view can improve performance.	List view
List	2,000 per website	Testing indicates a reduction in list view performance beyond 2,000 entries.	List view
Column	2,000 per document library, 4,096 per list	This is not a hard limit, but you might experience library and list view performance degradation as the number of columns in a document library or list increases.	Library and list view

SOURCE: MICROSOFT

groups. That is, in one site collection, every group can be used to grant rights in another group. And even though you can scale a site collection to 250,000 sites, watch out for the 2,000 security principals limitation.

Using folders breaks up the number of items into smaller chunks, but this leads to navigation issues and overly long URLs.

FOCUSING ON PERFORMANCE

The magic number 2,000 pops up again in MOSS capacity planning in relation to limits on lists and views. You can put 5 million items in a list, but performance of any view on that data will start to deteriorate at 200 items and grind to a halt by 2,000 because the underlying SQL queries are not paged or filtered.

This is something to watch out for especially in the grouped views because all of the data is loaded even though only a little of it is seen until a category is expanded. Using folders breaks up the number of items into smaller chunks, but this leads to navigation issues and overly long URLs. There is a limit of about 260 characters.

You should keep the number of subsites to below 2,000 because of performance issues when viewing the list. Also, keep the number of columns to less than 2,000 on a Library and 4,000 on a list. A site collection can have 250,000 sites in it, but the way you organize the sites is important. For example, 125 websites with 2,000 subsites might work OK, but breaking them out into even smaller groups will allow your architecture to scale better. Recycle bins also count toward capacity, so when planning, be sure they won't become too big.

To do capacity planning well, you should know the primary article on capacity planning published by Mi-crosoft. There is no excuse for saying the knowledge was not available. ■

Editor's Note

M Kicking the Tires on SharePoint 2010

I The Importance of Capacity Planning for SharePoint

G How to Automate Governance

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How to Automate Governance

Sometimes a governance policy just isn't enough. Learn how to use SharePoint functionality to enforce the rules. **BY BRIEN M. POSEY**

Editor's Note

M Kicking the Tires on SharePoint 2010

I The Importance of Capacity Planning for SharePoint

G How to Automate Governance

EVEN THOUGH SHAREPOINT governance is all the rage these days, the very concept of a SharePoint governance policy is fundamentally flawed. The majority of the SharePoint governance plans are monolithic documents full of technical jargon. The end result is that most people will never read them. Those who do will likely forget most of what they have read by the following week.

So how do you get users to adhere to a policy that they have never read? Simple, you automate your policy.

SharePoint contains numerous options that you can use to automate the enforcement of various aspects of your governance plan. Let's focus on some of the more useful mechanisms related to document libraries.

ENFORCING METADATA USAGE

The SharePoint Indexing process heavily considers metadata that is connected to individual documents. But this metadata is often a shining example of the "garbage in, garbage out" principle.

Most of the time, users don't even bother to populate document meta-

The majority of the SharePoint governance plans are monolithic documents full of technical jargon. The end result is that most people will never read them.

data. Worse yet, copying a document and then modifying the copy may lead to a document with completely inaccurate metadata. Thankfully, SharePoint allows you to assign various metadata fields to a document

library and then require those fields to be populated for each document.

To mandate metadata fields, open your document library and select the Document Library Settings option found on the Settings menu. When you do, Windows will take you to the Customize Documents page. If you look at **Figure A**, you will notice a section labeled Content Types, and a default content type named Document.

The required metadata is assigned on the basis of content type. Therefore, if you wanted to enforce metadata usage for the document content type, you must click on the Document link. When you do, you are taken to

Editor's Note

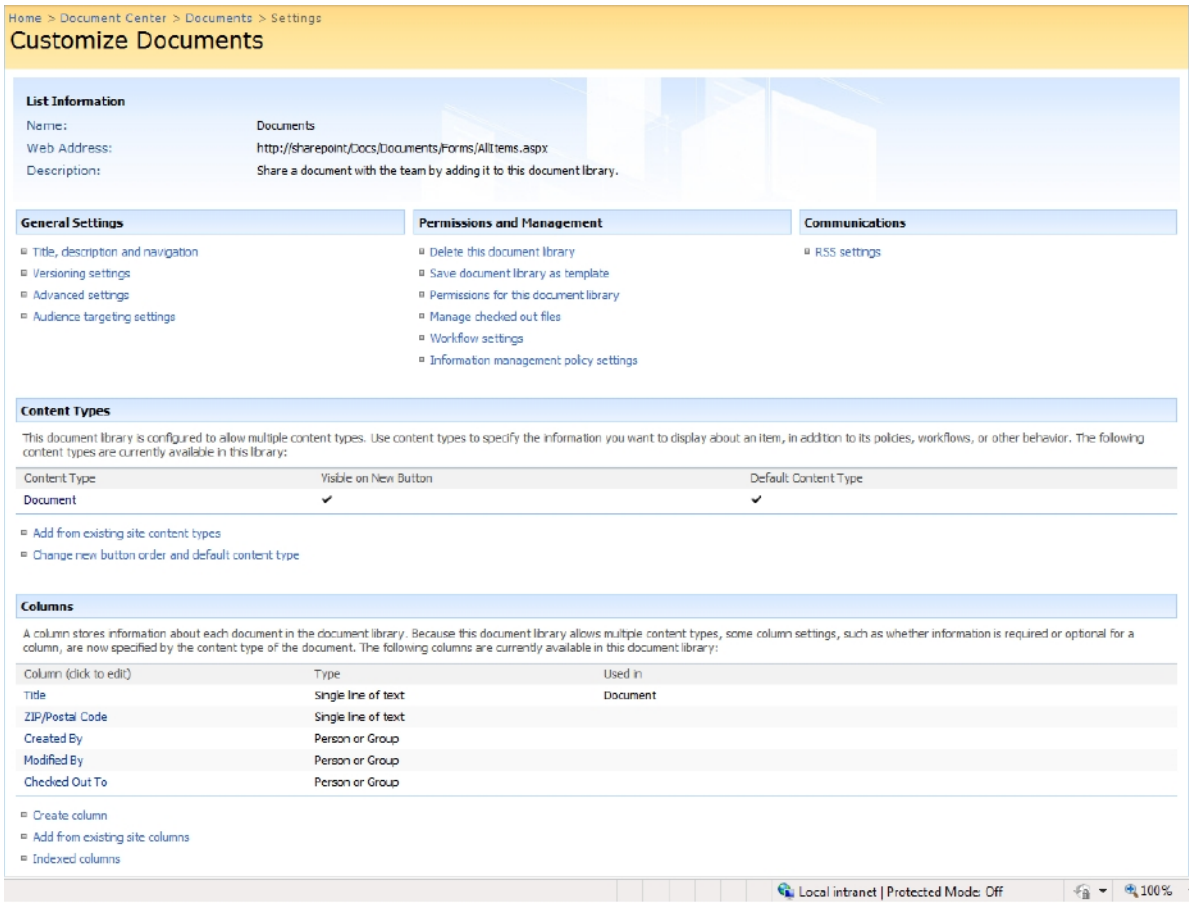
M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

Figure A

SharePoint allows you to define specific content types.



the List Content Type: Document page. As you can see in **Figure B**, SharePoint assigns various metadata columns to the document content type. By default, only the name is required, but you can change this behavior.

In Figure B, only the Name and Title metadata columns are assigned to the document content type. You can easily add additional metadata columns by clicking on the Add From Existing Site or List Columns link. Likewise, you can make it mandatory that users populate specific metadata columns by clicking on the column name and then choosing the Required option found on the following page.

Editor's Note

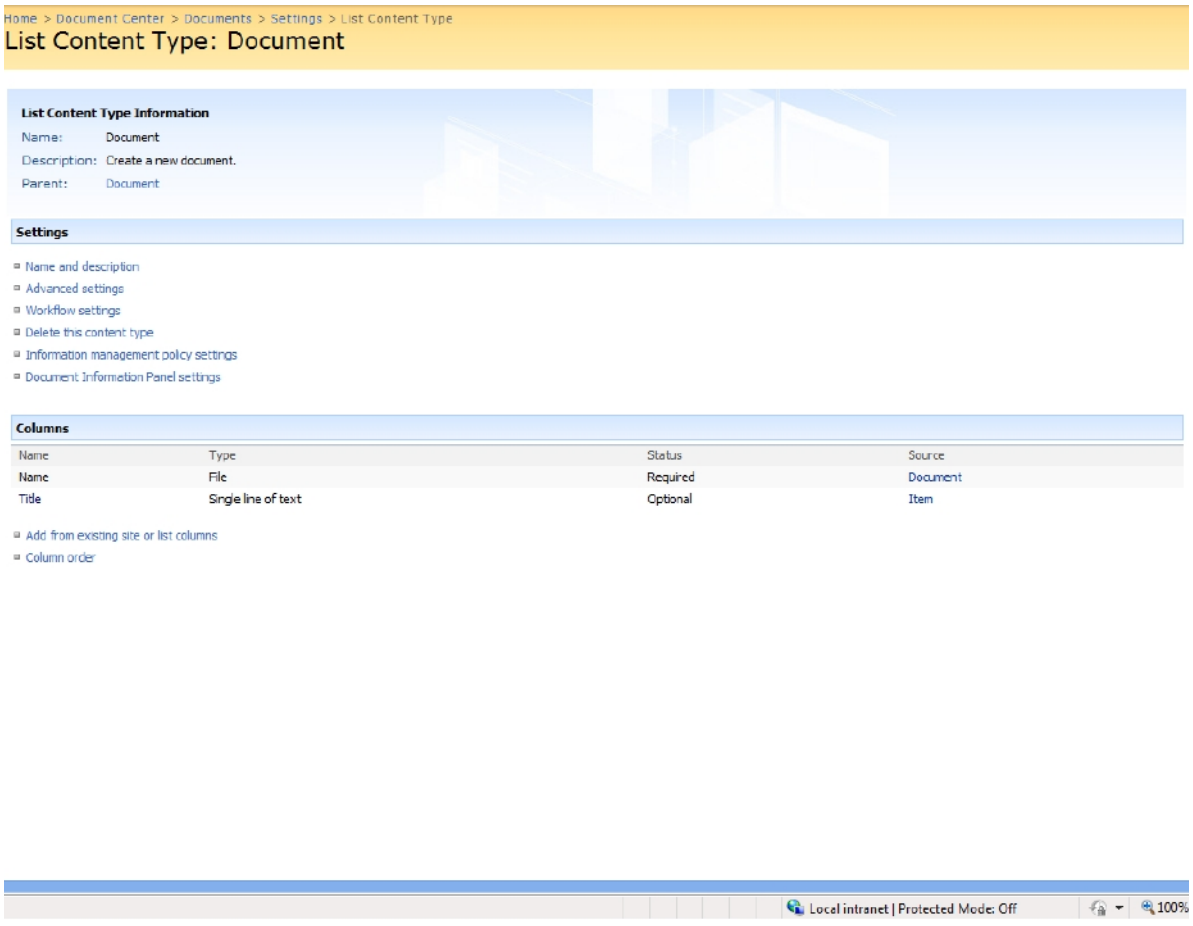
M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

Figure B

Control which metadata columns are assigned to a content type.



Editor's Note

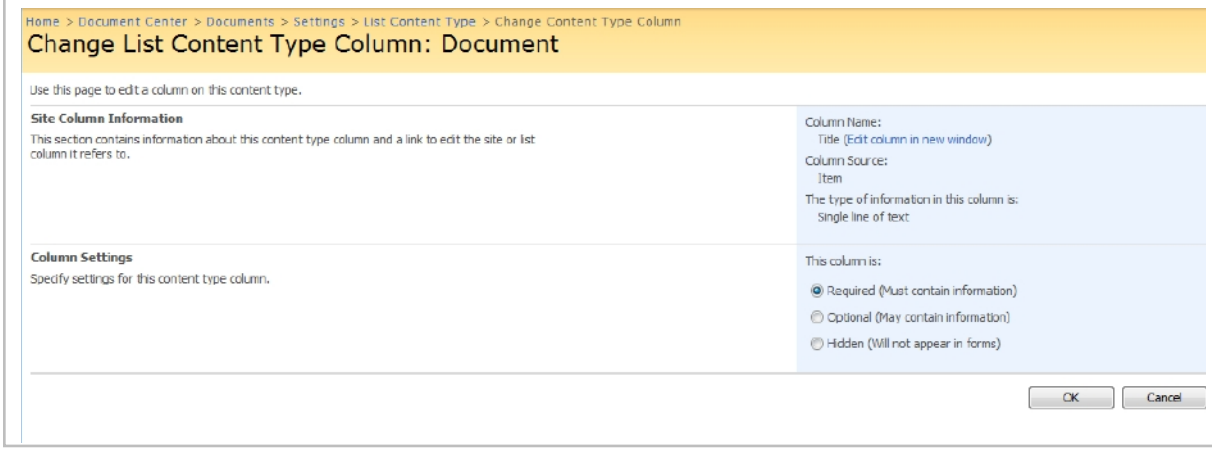
M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

FIGURE C

Make a metadata column mandatory by selecting the Required option.



You can see what this looks like in **FIGURE C**.

BLOCKING CONTENT TYPES

I once did a consulting project for an organization that was running low on server disk space and couldn't figure out why. Although implementing disk quotas would have been the easy solution, the organization wanted to figure out where their disk space had gone. To make a long story short, several users had uploaded their entire music library to the server.

SharePoint allows you to control which types of files users are and aren't allowed to upload to a document library. To do this, open the Central Administration console, and click on the Operations link. When Windows displays the Operations page, go to the Security Configuration section and click the Blocked File Types link. When you do, you will be taken to the Blocked File Types page, shown in **FIGURE D**, page 14.

In Figure D, the Blocked File Types page contains a large text box with a list of the file extensions that are blocked by default. You can block additional file types by adding them to the list, or you can remove a file type from the list to unblock it.

It is important to keep in mind that this is a global file extension list. There is a separate file extensions list that exists at the Web application level. If contradictions exist between the two lists, then the global list takes priority. The exception is that if a file extension is blocked at the Web

Editor's Note

M
Kicking the Tires on SharePoint 2010

I
The Importance of Capacity Planning for SharePoint

G
How to Automate Governance

application level, that block will remain in effect regardless of whether or not the extension is blocked at the global level.

SETTING DOCUMENT RETENTION PERIODS

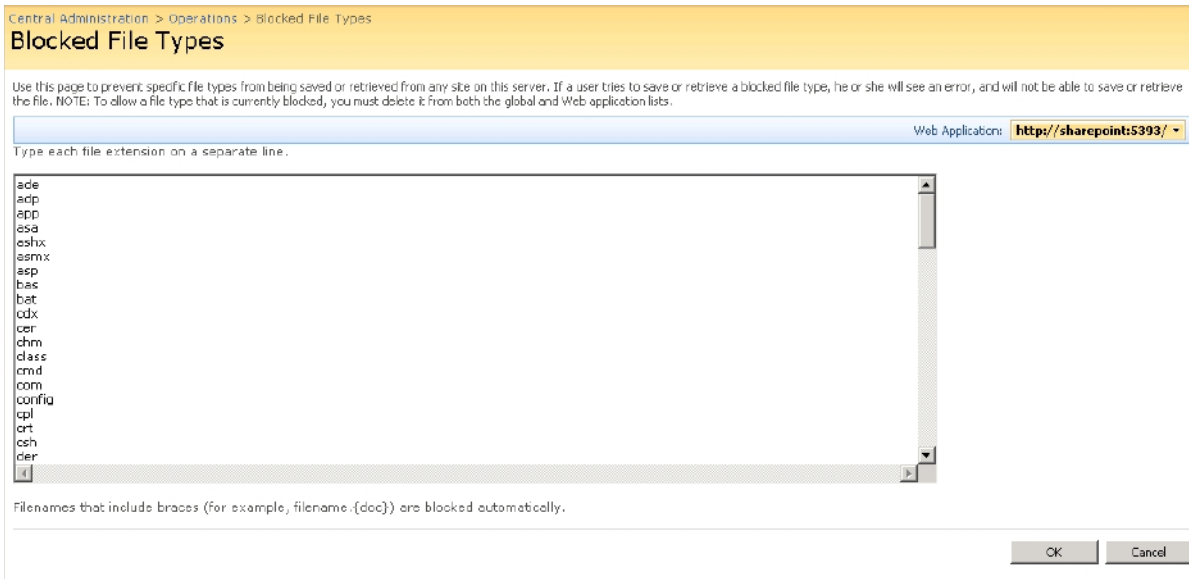
Although many of the federal regulations about how information systems are handled are known for requiring long-term archival of data, there are also provisions mandating when certain types of data must be purged. You can automate this behavior by setting SharePoint expiration policies.

To set an expiration policy for a document library, go to the Modify All Site Settings page and then click on the Site Collection Policies link. When the Site Collection Policies page appears, click the Create button to create a new policy. Now select the Enable Expiration check box, and set the retention period for the documents to which the policy applies. The retention time is usually based on the document's creation or modification date, but you can set the retention period programmatically, as shown in **FIGURE E**, page 15.

SharePoint 2007 is a flexible application that provides numerous ways to automate your governance policy.

FIGURE D

Control the file types that SharePoint blocks.



One easy way is to automate policies related to document libraries, but mechanisms exist for automating policies related to virtually all areas of SharePoint. Don't forget to check out third-party tools that can also help you to automate your SharePoint governance policy. ■

Editor's Note

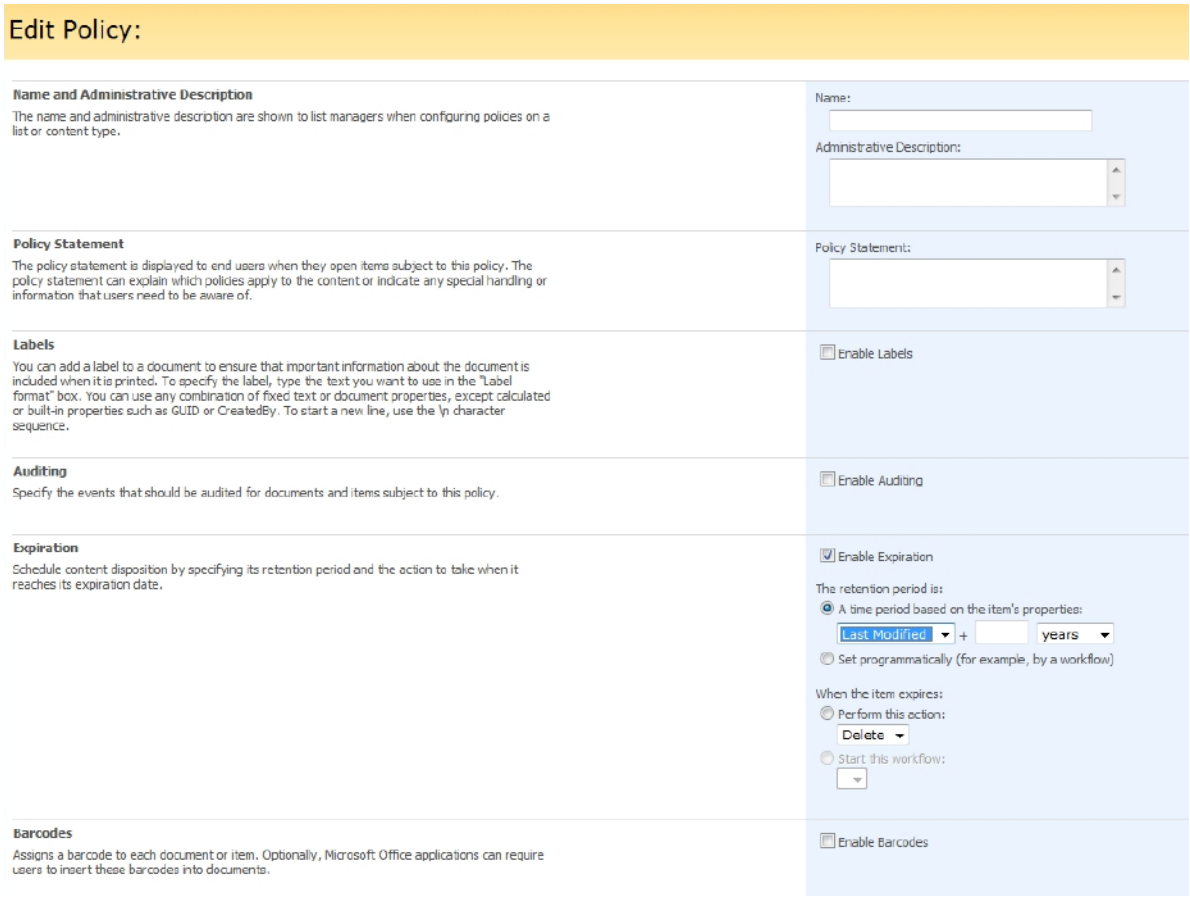
M Kicking the Tires on Share-Point 2010

I The Importance of Capacity Planning for SharePoint

G How to Automate Governance

FIGURE E

SharePoint gives you a number of options for setting an expiration policy.



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Brien M. Posey has received Microsoft's Most Valuable Professional award six times for his work with Windows Server, IIS, file systems/storage and Exchange Server. He has served as CIO for a nationwide chain of hospitals and healthcare facilities and was once a network administrator for Fort Knox.