Expert Office 365

Notes from the Field

Nikolas Charlebois-Laprade,
Evgueni Zabourdaev, Daniel Brunet,
Bruce Wilson, Mike Farran, Kip Ng,
Andrew Stobart, Roger Cormier,
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Apress®

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To the Make-A-Wish Foundation: May this book help put some smiles on the faces of kids in need.

—Nik

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A Word from the Editor

As part of the Business Productivity group inside Microsoft, I have had the chance to collaborate with some of the smartest people the planet has to offer. During my first year in my role as a Premier Field Engineer within Microsoft Canada, I've been able to observe several of my colleagues help others solve problems in areas of expertise they simply mastered. This book is a realization of a crazy idea I had to capture that deep knowledge that these talented people possess. Whether we want it or not, even if it feels like today's IT world is forcing us to become more generalists than specialists, we all possess this area of knowledge we prefer or excel at. The current book captures these niches of knowledge my colleagues in Microsoft Canada possess into what is one of the most complete sources of knowledge on Office 365 there is out there. May it be a motivation for you to step out of your comfort zone and learn things in an area you don't feel comfortable in.

The simple fact that the authors' revenues from this book are entirely going to the Make-A-Wish Foundation for kids in America should be a great indication of the passion the authors have for the technology. I want to thank each and every one of them for the hard work they put in making this project a reality. Evgueni, Shawn, Rhoderick, Roger, Colin, Daniel, Mike, Andrew, Bruce, and Kip, thank you for responding to the call and stepping up to the plate. A special thank you also to James Parkes, Neil Hodgkinson, and Bob Fox for helping out with the technology review for this book. Last but none the least, thank you to all of you the readers for taking the opportunity to invest time in improving your skill set and to open your horizons to the wonderful opportunities offered by Office 365.

—Nik

About the Contributors

Nikolas Charlebois-Laprade Nik is a software engineer with a background in management. He is always trying to think outside the box, and he's a fervent early adopter of anything worth a try. Nik has the rare ability of being able to see the bigger picture, identify gaps, and envision creative solutions to bridge those gaps. This ex-PowerShell MVP joined the ranks of Microsoft Premier Field Engineers in 2015. Based in Gatineau, Quebec, he focuses on the latest development technologies and on PowerShell Automation.

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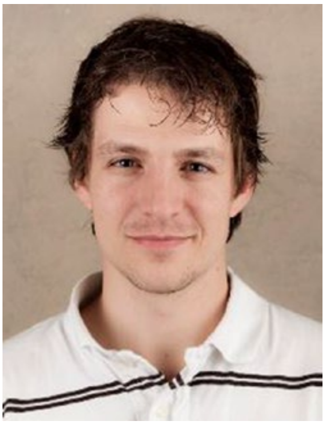
A proud French Montrealer, **Daniel Brunet** has a career that is highly focused on content management. After ten years at a law firm managing many flavors of enterprise content management, he found love, with all its challenges, when SharePoint 2007 was introduced. It was only natural to join Microsoft and work with this product for the following ten years. Today, Daniel is still at home coaching customers on content-management strategies, of which a big part is, of course, recovery. Known by the nickname Dano at Microsoft, when he is not with customers, Daniel can be found on his boat or motorcycle, on which he can stop thinking about governance.

Bruce Wilson Since early 2000, **Bruce Wilson** has been supporting customers with troubleshooting various technical issues. After joining Microsoft in 2007, he supported each of the mail filtering cloud offerings provided by the company. Over the years, Bruce has developed multiple techniques to identify where breakdowns and failures occur during mail flow. He trusts that you will find this book helpful as you use the cloud services offered by Microsoft.

Mike Farran His true passion is in produce; however, he's been sidetracked in the IT industry for more than 20 years. He likes to say his focus is on learning and helping others to learn and improve their skills and knowledge. This pursuit of knowledge has lead him to a Help Desk for an Oil & Gas company, various consulting companies, programming, managing a data center, and then finding his second love, SharePoint, in 2006. Microsoft boosted his ego six years ago by hiring him as a Premier Field Engineer, whereby his thirst for knowledge never goes unquenched.

Kip Ng Kip has more than 20 years of working experience in IT consulting, IT delivery, and IT technical leadership. Kip has strong global exposure. He can speak four languages and has worked with hundreds of organizations worldwide. He currently manages and runs the Business Productivity delivery team at Microsoft Canada, focusing on driving digital transformation and leading the cloud strategy and delivery.

Andrew Stobart Andrew is currently a Support Escalation Engineer for Exchange Online and lives with his family in Winnipeg, Manitoba, Canada. He is a dedicated and passionate professional with more than 20 years of experience in IT consulting, support, and operations. He has expertise and an in-depth technical skill set in Windows client and server, Active Directory, Microsoft SQL, Exchange, Office 365, MySQL, IIS, SCCM, SCOM, Hyper-V, Visual Studio (C#), PowerShell, and many others. He is recognized for his strong client relationships and exceptional communication abilities with diverse audiences. Andrew has been with Microsoft since 2011.



Roger Cormier Roger has worked with SharePoint since March of 2004 and has been learning about SharePoint since that day. He enjoys working with people and leveraging technology to deliver business solutions. Aside from IT, Roger enjoys playing guitar and strength training.

Colin Hughes-Jones Colin started providing support for SharePoint as a contractor at Microsoft in December 2005. He joined Microsoft in Texas as a Support Escalation Engineer in June 2007. In November 2007, he moved back to Canada and assumed the role of Premier Field Engineer. He recently celebrated his ten-year anniversary working at Microsoft.

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Shawn Cathcart His 20-years career has seen him excel at the architecture, implementation, and operational management of Microsoft technologies. While he has covered a wide array of the Microsoft product stack, his primary focus is on universal communication and messaging. That mix of operational management and project implementation experience gives Shawn a very honest and practical approach to the utilization of Microsoft technologies. Shawn has been a Microsoft Premier Field Engineer since 2014. Prior to that, he worked as a consultant for a Microsoft Gold Partner for ten years. He lives in Edmonton, Alberta, Canada, with his wife, Stacey, and son, Nolan.

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To all my mentors in life, for helping me shape the professional that I am today.

—Nik Charlebois-Laprade

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—Evgueni Zabourdaev

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—Daniel Brunet

I would like to thank my family and coworkers who supported me through this time.

—Bruce Wilson

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—Mike Farran

First and foremost, I would like to thank God. You gave me the opportunities to meet and work with all the highly talented experts who have authored this book. A special thanks to Nik, who has been so patient, professional, and dedicated to this book project. It has been a joy for me to work with all of you!

—Kip Ng

Dedicated to my incredible family, for their amazing love and support of me.

—Andrew Stobart

I would like to thank my wife and children for supporting me while I was working on this project. I would also like to thank each of the authors and reviewers who have contributed to this book, though there are too many of them to name individually. I also have to thank Neil Hodgkinson. His constant community contribution and his willingness to propagate his knowledge have profoundly affected my work.

—Roger Cormier

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—Colin Hughes-Jones

Thanks to all the outstanding people who have helped me grow over the years, both personally and professionally. Thank you to my wife for insisting I do the Exchange MCM and to my Parents who demonstrated what is possible with passion and hard work. To Charles and Andy who took the opportunity to hire someone for racking servers at the top of a 42U rack, you provided unsurpassed opportunities. I tried adding a reference to Turkish oil wrestling to the book, but it was denied… To my managers and colleagues at Microsoft - you all rock!

—Rhoderick Milne

Secial thanks are due to my wife Stacey, whom both encourages me to think outside the box and to get outside my comfort zone. And who supports me through the ensuing chaos whenever I step out on a new limb. And to my son Nolan, whose kind heart, gentle smile and infectious laughter remind me every day that joy in life is found in the simple things.

—Shawn Cathcart

CHAPTER 1

Records Management in SharePoint Online

BY EVGUENI ZABOURDAEV

A record, in a nutshell, is a piece of content (with its associated metadata) that serves as evidence of an activity and, therefore, requires special treatment, such as distinct security and storage considerations, dedicated routing rules, and retention for a certain period.

Records management is generally considered to be part of a broader Information Lifecycle Management (ILM) discipline. While ILM covers formal creation, management, storage, and disposition of all information across its life cycle, not all content has to become records (Figure 1-1).

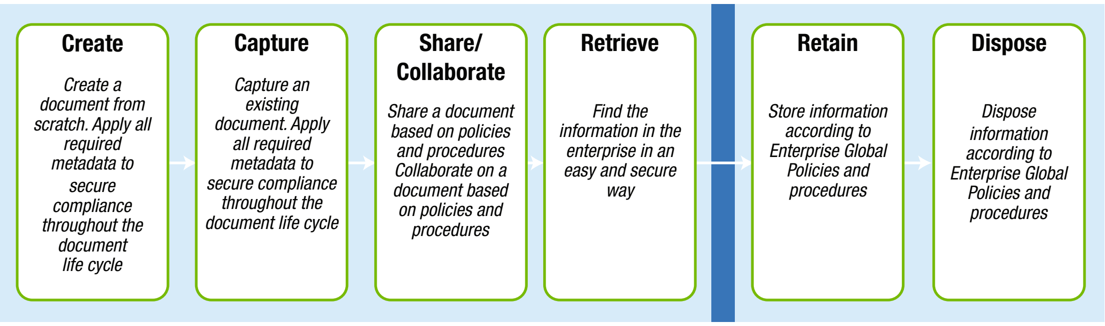
Create
Create a document from scratch. Apply all required metadata to secure compliance throughout the document life cycle
Capture
Capture an existing document. Apply all required metadata to secure compliance throughout the document life cycle
Share/ Collaborate
Share a document based on policies and procedures Collaborate on a document based on policies and procedures
Retrieve
Find the information in the enterprise in an easy and secure way
Retain
Store information according to Enterprise Global Policies and procedures
Dispose
Dispose information according to Enterprise Global Policies and procedures

Figure 1-1. *Content life cycle*

Records management is only concerned with certain types of information, and its processes are typically applied on a selective basis to manage security, declaration, routing, retention, and disposition for specialized use cases, such as legal, finance, human resources, etc. (Figure 1-2).

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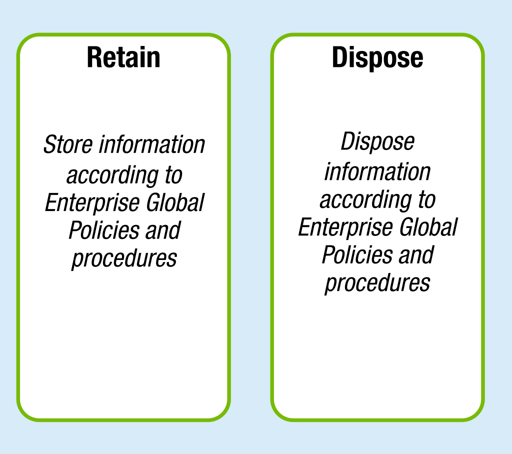
Retain
Store information according to Enterprise Global Policies and procedures
Dispose
Dispose information according to Enterprise Global Policies and procedures

Figure 1-2. *Records-management phases*

Enterprises have been embracing SharePoint as a records management platform since SharePoint 2007. While many companies are evolving their IT environments into the cloud with Office 365 and hybrid deployments, records management itself has been transforming. Some organizations still have (or choose) to play by the "paper era" rules and continue to deal with increasingly complex requirements for their records management systems (RMSs). Others, however, strive for a more agile and streamlined world of electronic records and are willing to simplify their requirements for records management. For the latter, SharePoint offers a great opportunity to create a highly usable solution that covers document management, collaboration, and records management with a common user interface and information classification, all of which helps organizations quickly realize value. Being part of Office 365, with its unified Governance, Risk and Compliance, and eDiscovery mechanisms positions, SharePoint Online is an overall enterprise content-management solution, rather than a solitary records management tool.

With SharePoint, you can technically set up a working proof of concept for records management within days, which allows you to iteratively test the solution through the shorter feedback loops and quickly find out what SharePoint can and cannot do for your organization. Often, you might realize that for your company, there is no real need to pursue more complex records management systems with strict certification standards, such as DoD 5015.2,[1] because SharePoint might make it possible to meet most requirements in a more practical, cost-effective, and user-friendly way.

The goal is to keep this chapter as practical as possible and to only introduce theoretical complements on an as-needed basis. Instead of merely listing all the relevant features and their descriptions in an academic manner, I will go through the process of building an end-to-end sample records management solution. Also, while records might include both physical and digital content, I will be focusing on electronic information. The concepts covered in this chapter are demonstrated using SharePoint Online (Office 365); however, most of the information discussed should also be valid for SharePoint 2016 and even SharePoint 2013 on-premises. Finally, for all the demonstrations in this chapter, only the Classic user interface (UI) is being used. However, the gap between Classic and Modern sites is rapidly getting narrower, so we may soon be able to use the Modern UI without any limitations.

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[1] Department of Defense, Executive Service Directorate, "DoD Directives Division," www.dtic.mil/whs/directives/corres/pdf/501502p.pdf.

Sample Scenario

To make it practical, I will organize this chapter around a sample scenario that is close to a situation you might come across in the real world. Of course, it will be a simplified scenario. However, I will go through all the necessary steps required to design and build a fully functional records management system.

Let's start. Imagine, we have a customer who would like to try SharePoint for their records management needs. As a pilot, they chose two types of documents for the initial test. Here is the pilot content, along with some initial requirements for each document type.

- Manuals
    - No change or relocation is allowed after the final review.
    - Records should still be accessible among active documents until destroyed.
    - Delete all previous version history two years after declared as a record.
    - Final review state is triggered by end users manually.
- Company Guidelines
    - Only records managers should have access to records.
    - No artifacts should be left behind among active documents, once declared as a record.
    - Delete all previous version history at the time of record declaration.
    - Documents are active until finally approved.

Equipped with these requirements, we are ready to start planning our new system design.

Records Management System Design

Before we dive into the architecture activities, let's define some general rules about the overall approach. The three guiding principles we will be following to design our records management system are the following:

- The interest of the company comes first. After all, it is the company compliancy requirements that drive the whole RMS project.
- Ease of use for end users is optimized. The solution should be as transparent to the end users as possible. The easier it is to deal with, the higher the chances it actually will be used. How many greatly (over-) engineered solutions were stalled by end users, by their finding more convenient workarounds or plainly sabotaging the new system altogether? We definitely want a different fate for our solution.
- Only SharePoint Online standard functionality is used. "Out of the box" is a mantra we hear more and more often, and rightfully so.

Essentially, to design a records management system, we would have to answer the following four questions:

1. Who? Who the main stakeholders are and why they should care
2. What? What information should become records and what the retention and disposition policies are

3. How? How active content should become records
4. Where? Where records should be stored

Let's proceed with the system-design activities, by tackling those questions one by one.

Who?

Creating requirements for a records management solution is particularly difficult, because they originate from the overall business needs and there are many stakeholders, so multiple aspects have to be looked at thoroughly. Therefore, records managements should not be undertaken as merely an IT project. Let's make it clear: implementation with SharePoint is just the final step of the journey.

By defining the roles and understanding the needs of the different stakeholders, we also indirectly answer the "Why" question—Why should they care? Why are we doing it at all? As mentioned before, this kind of projects is always driven by the needs of the organization (Figure 1-3).

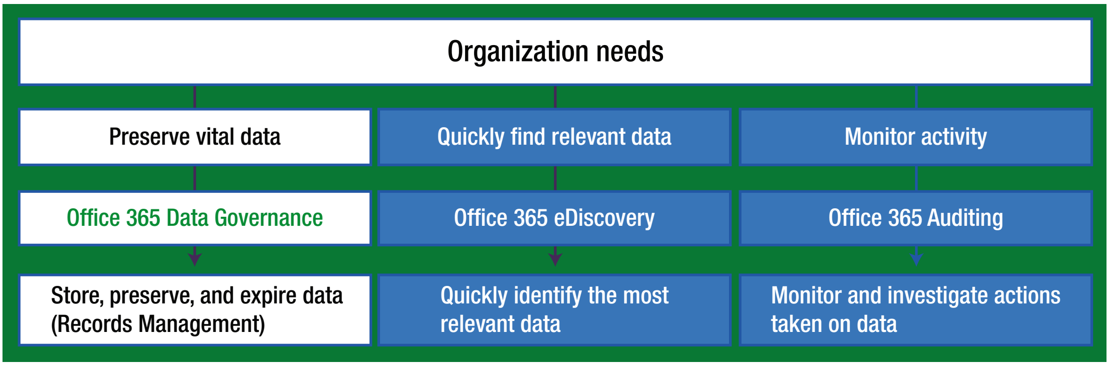

Organization needs
Preserve vital data
Quickly find relevant data
Monitor activity
Office 365 Data Governance
Office 365 eDiscovery
Office 365 Auditing
Store, preserve, and expire data (Records Management)
Quickly identify the most relevant data
Monitor and investigate actions taken on data

Figure 1-3. *Organizational data compliance needs*

Preserving vital data is covered by the broader Office 365 Data Governance capabilities, under which falls the SharePoint Online records-management functionality. You would require the following organizational roles around the table, to have a discussion (or, most likely, a series of discussions) about the RMS design:

- Records managers and compliance officers to categorize the records in the organization and to oversee the overall records management process
- IT personnel to implement the systems that efficiently support records management
- Content managers to find where organizational information is kept and to make sure that their teams follow records-management practices
- General users who work with content daily, to get honest feedback on the system's usability

Now, when all the right people are engaged, we can have the remaining three questions answered as accurately as possible.

What?

We will first have to find out what information should become records and what the retention and disposition policies are. That is, how long each record type should be retained and how records should be disposed.

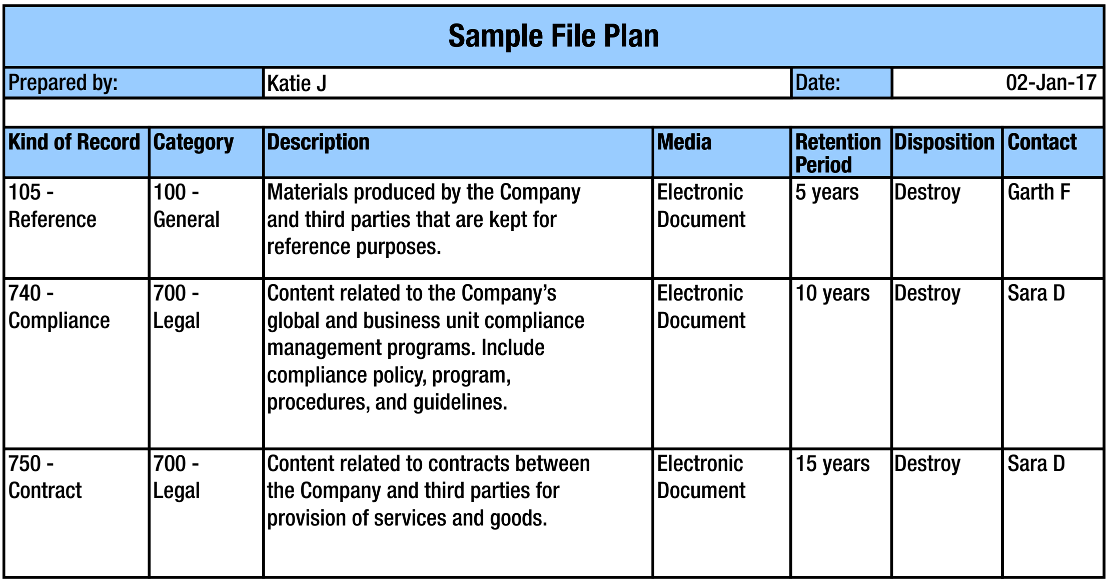
Records and content managers will survey document usage in the organization to determine which documents and other items should become records. This content-analysis exercise, along with the compliance requirements documentation, usually results in the Holy Grail of the records management—the File Plan, also known as a Retention Schedule. What information does it usually capture?

- Types of items for records
- Retention periods for records
- Who is responsible for managing the various kinds of records

For each record type, the File Plan determines

- When this type of content is no longer active
- How long it should be retained after that
- How it should ultimately be disposed of

File Plan is typically owned by records managers and in our sample scenario looks like this (Figure 1-4).



Sample File Plan

Prepared by:	Katie J			**Date:**	02-Jan-17	
Kind of Record	**Category**	**Description**	**Media**	**Retention Period**	**Disposition**	**Contact**
105 - Reference	100 - General	Materials produced by the Company and third parties that are kept for reference purposes.	Electronic Document	5 years	Destroy	Garth F
740 - Compliance	700 - Legal	Content related to the Company's global and business unit compliance management programs. Include compliance policy, program, procedures, and guidelines.	Electronic Document	10 years	Destroy	Sara D
750 - Contract	700 - Legal	Content related to contracts between the Company and third parties for provision of services and goods.	Electronic Document	15 years	Destroy	Sara D

Figure 1-4. *Sample file plan*

We are also told that from the records-management perspective, Manuals fall under the Reference type, and Company Guidelines are considered the Compliance kind of record. Records managers then additionally asked for a "soft delete" functionality in case of Manuals. They would like to have a "back door" and be able to un-delete any purged records of this kind within a short period of time following the disposition. On the contrary, for all Legal records (including the guidelines), they want permanent destruction without any recovery option. Let's update the requirements based on the "What?" information from the File Plan.

Refined Requirements

- Manuals (Record Type: 105—Reference)
    - Retain for five years as a record, then move to Recycle Bin.
    - No change or relocation is allowed after the final review.
    - Records should still be accessible among active documents until destroyed.
    - Delete all previous version history two years after declared as a record.
    - Final review state is triggered by end users manually.
- Company Guidelines (Record Type: 740—Compliance)
    - Retain for ten years as a record, then destroy permanently.
    - Only records managers should have access to records.
    - No artifacts should be left behind among active documents, once declared as a record.
    - Delete all previous version history at the time of record declaration.
    - Documents are active until finally approved.

How?

We now have a good idea about what type of records we are dealing with as well as their retention and disposition needs. But how should we convert active documents into records? In SharePoint, we can use the following techniques for records declaration:

- Records can be declared manually by end users.
- Records can be declared automatically
    - via Information Management (IM) Policies
    - or by creating a workflow that sends a document to a Records Center

Let's have a closer look at those methods.

Manual Declaration

This technique can be a good fit for low-volume content that should be converted on an ad-hoc basis triggered by the end users' decision.

Information Management Policy

An information management (IM) policy specifies actions to take on documents at certain points in time. Policy actions occur automatically, so users do not have to manually start them. Two available policy actions relate specifically to managing records and are therefore of particular interest to us:

- Transferring a document to another location
- Declaring a document to be a record

If a connection to a Records Center site exists, you can create a policy that sends documents to it. The policy also specifies whether to copy the document to the Records Center site, move it, or move it and leave a link in the document library.

I'll be discussing in-place records management later, but if it is enabled for the site, you can create a policy that declares a document to be a record.

Also, it is important to know that each information management policy can have multiple stages. For example, you could create a policy that deletes all the earlier versions of a document one year after the document creation date and then transfer the document to a Records Center five years after the document was last modified.

For a centralized approach, it is a good idea to add an information policy to a content type. It makes it easy to associate policy features with multiple lists or libraries. You can choose to add an existing information management policy to a content type or create a unique policy specific to an individual content type.

In addition to associating a policy with content types, you can define a location-based retention policy that applies only to a specific list, library, or folder. Note that each subfolder inherits the retention policy of its parent, unless you choose to break inheritance and define a new retention policy at the child level. If you create a retention policy this way, however, you cannot reuse this policy on other lists, libraries, folders, or sites.

If you want to apply a single retention policy to all types of content in a single location, you will most likely want to use location-based retention. In most other cases, including our sample scenario, you will want to make sure that a retention policy is specified for content types.

Workflows

When creating a workflow, you can add an action to send an item to a repository. By using this action, you can create workflows that send documents to a Records Center site. You can also include other actions in the workflow. For example, you could create a workflow that sends an e-mail message requesting approval to a document's author and then send the document to a Records Center site. You could even combine policies and workflows, by creating a retention policy that runs the new workflow one year after a document is created.

Please note that even though the workflow option is what you would most likely end up with in the real-world implementation, in this chapter we will be using IM policy just to keep our focus on the records management features.

Site Retention

In our scenario, we will not be dealing with site retentions; however, it is worth mentioning this additional type of policy, which is now available in SharePoint and defines a retention policy for the whole site.

Refined Requirements

When looking at the requirements, it seems like manual declaration would be a good conversion method for Manuals. Also, because this content type is subject to the less strict rules, we were asked to allow records to be "undeclared" by the content owners.

For Company Guidelines, on the other hand, we would have to define an information management policy that declares records based on the Final Approval Date metadata. Alternatively, a workflow can be created that would take care of the approval process, eventually converting a document to a record.

Now, after answering the "How?" question, let's further update the requirements, as follows:

- Manuals (Record Type: 105—Reference)
    - Retain for five years as a record, then move to Recycle Bin.
    - No change or relocation is allowed after the final review.

  - Records should still be accessible among active documents, until destroyed.
  - Delete all previous version history two years after declared as a record.
  - Declare as records manually by end users.
- Company Guidelines (Record Type: 740—Compliance)
  - Retain for ten years as a record, then destroy permanently.
  - Only records managers should have access to records.
  - No artifacts should be left behind among active documents, once declared as a record.
  - Delete all previous version history at the time of record declaration.
  - Declare as a record automatically, using information management policy triggered by Final Approval Date.

Where?

Phew! We have crossed three questions off our design list. There is now the last "Where?" question remaining unanswered before we can get to the most exciting part of the project: implementation.

Location-wise, SharePoint provides two strategies for managing records:

> In-place records management allows you to archive content directly in your site. That is, the site can contain both active documents and records. SharePoint blocks in-place records, as a result of which they can no longer be manually altered, removed, or relocated. You can even specify different retention policies for active documents and records.

■ **Note** One limitation is that you cannot use in-place records management with document sets.

> Records Center site collection(s) can serve as a content vault. The last version of the source "active" library (whether this is a major or minor version) becomes the first version in the target "record" library.

The fundamental attribute of in-place records is that the records stay in the same location and exist alongside active documents. All previous versions remain visible and accessible. From the end user perspective, in-place records largely act as active documents, still have the same permissions, and don't disappear anywhere, therefore fully preserving the context. On the other hand, downsides for this management approach are an increased difficulty of records discovery and a weaker security model. Also, by combining active content and records in the same library, we cause its size to grow more rapidly.

For a Records Center, structure and security are on its strong side. All records are distinct and easily accessible by records managers in a centralized and secured manner. Stricter rules are applied, and the records cannot be altered or deleted for the duration of the retention period. The drop-off library and its routing rules enforce structure. On the flip side of the advantages coin, there is a reduced visibility for the end users: documents are removed from the original libraries and context.

Refined Requirements

While reading the preceding characteristics of each method, you had probably already made a mental note of the approach that is most appropriate for each content type we deal with. The requirements here are pretty straightforward and don't leave much room for guesswork. You've got it: In-place for Manuals and Record Center for Guidelines.

Here is how our complete design requirements now look:

- Manuals (Record Type: 105—Reference)
  - Retain for five years as a record, then move to Recycle Bin.
  - No change or relocation is allowed after the final review.
  - Records should still be accessible among active documents, until destroyed.
  - Delete all previous version history two years after declared as a record.
  - Declare as records in-place manually by end users.
- Company Guidelines (Record Type: 740—Compliance)
  - Retain for ten years as a record, then destroy permanently.
  - Send to Records Center and restrict access only to records managers.
  - No artifacts should be left behind among active documents, once declared as a record.
  - Delete all previous version history at the time of record declaration.
  - Declare as a record automatically, using information management policy triggered by Final Approval Date.

Other Things to Keep in Mind

At each point, you should thoroughly document your records management guidelines, plans, and any defined metrics. If your enterprise becomes engaged in any records-related litigation, you might be obliged to present this type of documentation. Make sure you also have the auditing, monitoring, and reporting covered.

Records Management System Implementation

Enough of the paperwork! Now that we have our design components finalized, let's get to our SharePoint Online tenant and begin the implementation.

Solution Elements

We will be working with a few SharePoint components, among which the following major ones:

- Content Type Hub (sometimes also referred to as Content Type Publishing Hub), to centrally manage Enterprise Content Types
- Document Collaboration site, which is just a classic team site with the following document libraries:
    - "Manuals" library (with in-place records management enabled)
    - "Legal" library
- Records Center site

Of course, there are other components involved, such as the Taxonomy Term Store for Managed Metadata, but they are not directly specific to the RMS solution we are implementing and, therefore, will be considered generic SharePoint elements in the context of this chapter.

Be aware that the implementation process is not linear and will require us to frequently switch between different sites, so bear with the progression and stay focused. You will see that, logically, all the steps are nicely aligned and, at the end, should make total sense to you and your customers.

Create Records Center

We will start our implementation activities with the Document Center site collection creation (Figure 1-5).

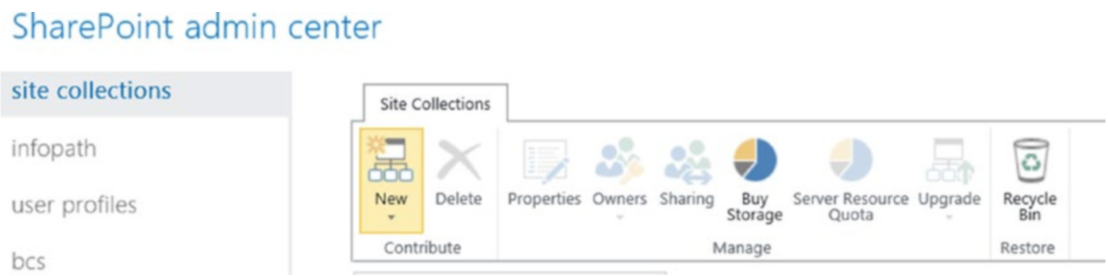

SharePoint admin center
site collections
infopath
user profiles
bcs
Site Collections
New
Delete
Properties
Owners
Sharing
Buy Storage
Server Resource Quota
Upgrade
Recycle Bin
Contribute
Manage
Restore

Figure 1-5. *Create New Site Collection*

In SharePoint admin center, create a new site collection.

■ **Note** If you want to quickly navigate to the SharePoint admin center, use its URL, which should be similar to `https://contoso-admin.sharepoint.com`.

Select a Records Center template under the Enterprise tab (Figure 1-6).