E-Mail Records Management in Microsoft Office SharePoint Server 2007

"Outlook on Retention and More"

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September 2007

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Purpose

The primary purpose of this whitepaper is to explain how to implement e-mail records management using the Exchange 2007 managed folders feature and the Microsoft Office SharePoint Server 2007 records repository feature. This paper explains how to drag and drop e-mail directly into the SharePoint Records Center when using managed folders. Those e-mails are subject to the same management policies as site collection documents that are sent to the records repository. The paper also discusses the core SharePoint records repository functionality, how the records repository works, and key configuration factors.

This whitepaper is not about planning for records management. Instead, this paper focuses on how to configure end-to-end e-mail record management. We streamline the configuration process on Exchange 2007 and show how managed folders are deployed to a user's Outlook client. We explain the differences between how the records repository record router interprets an e-mail's record type and how to route e-mails to specific document libraries in the records repository. We also discuss the configuration of the various functions in the records repository such as missing properties, and how those functions work with e-mail and other records.

This paper explains the various record repository Web services that SharePoint exposes. However, we do not explain how to consume and develop those Web services. In addition, this whitepaper does not explain how to programmatically create record repository workflows. Instead, related references are included at the end of this whitepaper for your review.

The style of this whitepaper is largely based on my experiences moving to Exchange 2007 and integrating new features into my existing SharePoint Server 2007 environment.

Intended Audience

Listed below are the primary audiences that will be interested in this whitepaper.

- IT administrators
- SharePoint Server 2007 and Exchange 2007 administrators
- Architects involved in upgrading an existing Exchange 2003 organization to Exchange 2007 and integrating an existing or new SharePoint Server 2007 implementation
- Records and information management personnel

If you are new to SharePoint Server 2007 or are contemplating deploying SharePoint Server 2007, this whitepaper provides a good overview of the records management aspect of the product.

Terminology

Throughout this whitepaper, we commonly use the term *records repository* when referring to the records management functionality in SharePoint sites. By default, the term *Record Center* is used in parts of the SharePoint user interface. However,

we deal with government and other large organizations that readily identify with the generic term "records repository" when discussing records management. Therefore, we decided to use the "records repository" throughout this whitepaper.

As a point of reference, the terms listed below are used when discussing configuration of the records repository.

Records Center – Name of the site template used to create the records repository.

Records Repository – Core term used to describe the records management functionality throughout SharePoint sites.

Repository –Designated name for the central SharePoint records repository that appears in the drop-down contextual menus in document libraries throughout site collections. In other words, this is the name end users see when using the "Send To" menu option to send documents to the records repository.

> **Note**: SharePoint administrators or developers reading this whitepaper should be aware that although the term "Records Center" is defined in parts of the SharePoint user interface, the term "records repository" is used in the SharePoint command line tool (STSADM.EXE) and in the associated Web services/operands that are discussed later in this paper.

Contact Information

If you have further questions about information contained in this whitepaper, you can contact me at khughes@mindsharp.com. Alternatively, you can contact me through my blog at http://mindsharpblogs.com/kathy/. Since I am currently working on a number of records management initiatives, I would be interested in any feedback or your experience with records management using SharePoint Server 2007 and Exchange 2007.

Environment Used

Along with explaining how to configure e-mail records management in SharePoint Server 2007, we thought it would be useful to explain the various components involved in developing and writing this whitepaper. Therefore, we elected to mention the domain and servers that were used, as well as the process involved in preparing our existing environment and deploying Exchange 2007. When upgrading to Exchange 2007 or moving an existing SharePoint Server 2007 implementation into an Exchange 2007 environment, it is important to have a 64bit machine on which Exchange 2007 can be installed. If your organization currently has a multiple forest/Exchange 2003 running in 32bit mode, you may also want to investigate introducing 64bit machines. This paper does not provide details in preparing your Active Directory for Exchange 2007, but it does include some pointers you may want to consider upfront.

Note: The Reference section at the end of this whitepaper includes a number of useful references about upgrading or moving to Exchange 2007.

The features and functionality discussed in this whitepaper assume a base deployment of:

- SharePoint Server 2007 Enterprise
- Exchange 2007 Enterprise (or Exchange 2003 moving to Exchange 2007)
- Outlook 2007

Note: Outlook 2003 SP2 recognizes and works with the Exchange 2007 managed folders. However, it will not include some of the associated user interface features in the Outlook client such as the label information bar (see "Labels"). Also, it will not highlight in red the managed folders for which the set folder quota has been exceeded.

Scenario

The scenario used in this whitepaper is as follows:

- Single Active Directory 2003 domain/forest with an existing Exchange 2003 organization.
- All servers in the domain are running on 32bit machines on a base operating system of Windows 2003 Enterprise, Service Pack 1.
- The Exchange 2003 Enterprise server is running with Service Pack 1.
- SharePoint is configured to use the Exchange 2003 server for its incoming and outgoing e-mail.

A number of document libraries throughout the SharePoint deployment are e-mailed-enabled. The contacts for each library are available in the Exchange 2003 server global address list (GAL). The Exchange 2003 server is used to manage the existing SharePoint incoming and outgoing e-mail. There is an existing Record Center (records repository site). One goal is to enhance record management functionality by including e-mail records. The IT Department has decided to move to Exchange 2007. Part of the migration plan includes leveraging the Exchange 2007 managed folder feature (also known as Messaging Records Management) to integrate e-mail records management into the existing SharePoint Records Center.

Preparation

For this whitepaper, Exchange 2007 should be installed in the existing Active Directory (AD) domain/forest/Exchange 2003 organization. Listed below are some of the key preparation factors involved:

- First, we built a new 64bit machine that met the minimum system requirements for Exchange 2007 Enterprise server. (See the References

section at the end of this whitepaper for details on Exchange 2007 system requirements.)

- We needed Exchange 2007 Enterprise Server for the additional functionality we desired including the Exchange Messaging Records Management (MRM) functionality, which is also referred to as *managed folders*.
- We had already deployed SharePoint Server 2007 Enterprise Server, which included an existing Records Center site.
- We raised the AD forest functional level to Windows Server 2003, which is the minimum requirement for Exchange 2007.
- We raised the AD domain level to the functional level of Windows 2000 Server native, which is the minimum requirement for Exchange 2007.
- We changed the existing Exchange 2003 organization to native mode, which is a requirement for installing Exchange 2007.
- We applied Service Pack 2 to the Exchange 2003 server, which is a requirement for installing Exchange 2007.
- We configured our new 64bit server with a base operating system of Windows 2003 server, Service Pack 1 (64bit Enterprise).
- The Exchange 2007 server pretest wizard alerted us to the other main system requirements, which included installing the following:
    - IIS (WWW services must be running)
    - DOTNET 2.0 (64 bit)
    - Microsoft Management Console (MMC) 3.0 (64 bit)
    - Microsoft Windows Powershell (64 bit)
    - Key Microsoft Knowledge Base (KB) updates
- We chose to have the Exchange 2007 installer update our AD schema.
- We scheduled an upgrade for the legacy mailboxes.

Reconfigure SharePoint Incoming E-mail Settings with Exchange 2007

The Exchange 2007 installation was a success - event logs were clear (!) and Outlook/OWA clients were able to successfully connect to mailboxes. Our next chore involved checking that the e-mail alerts and incoming (document library) e-mail was still working in our SharePoint Server 2007 sites.

The outgoing e-mail settings remained the same. By outgoing e-mail settings, we are referring to the settings as defined in the SharePoint **Central Administration > Operations > Outgoing E-Mail Settings** page. In our case, the address (server) of the Outbound SMTP server remained the same. The e-mail alerts worked seamlessly.

However, the real change involved adding a new configuration to the Exchange 2007 server for the SharePoint incoming e-mail settings. In other words, the settings that ensure e-mail enabled document libraries and lists can receive e-mails. The setting for Exchange 2007 is slightly different than Exchange 2003. We did not need to modify the actual settings on the SharePoint **Central**

Administration > Operations > Incoming E-Mail Settings page. The existing SharePoint organization unit (OU) in our AD was still viable and the existing SharePoint contacts, which are all the addresses to our site collection document libraries, were recognized by the newly installed Exchange 2007. However, we did need to configure a new *Send Connector* in our Exchange 2007 Hub Transport.

> **Note:** This process is documented in a whitepaper titled "How to Configure E-mail-Enabled Lists in SharePoint Server 2007 RTM Using Exchange 2007" that is available on the Combined Knowledge Web site (http://www.combined-knowledge.com/Downloads/How%20to%20configure%20Email%20Enabled%20Lists%20in%20Moss2007%20RTM%20using%20Exchange%202007.pdf). If you have not previously configured incoming e-mail for SharePoint with Exchange 2003 server, an equivalent paper on Exchange 2003 is available on the same site.

Once we configured our new Exchange 2007 server with the Send Connector, everything was fully functional including outgoing and incoming e-mails working and full integration with the GAL and Outlook/OWA clients. Figure 1 provides an overview of our new server architecture following the integration of Exchange 2007.

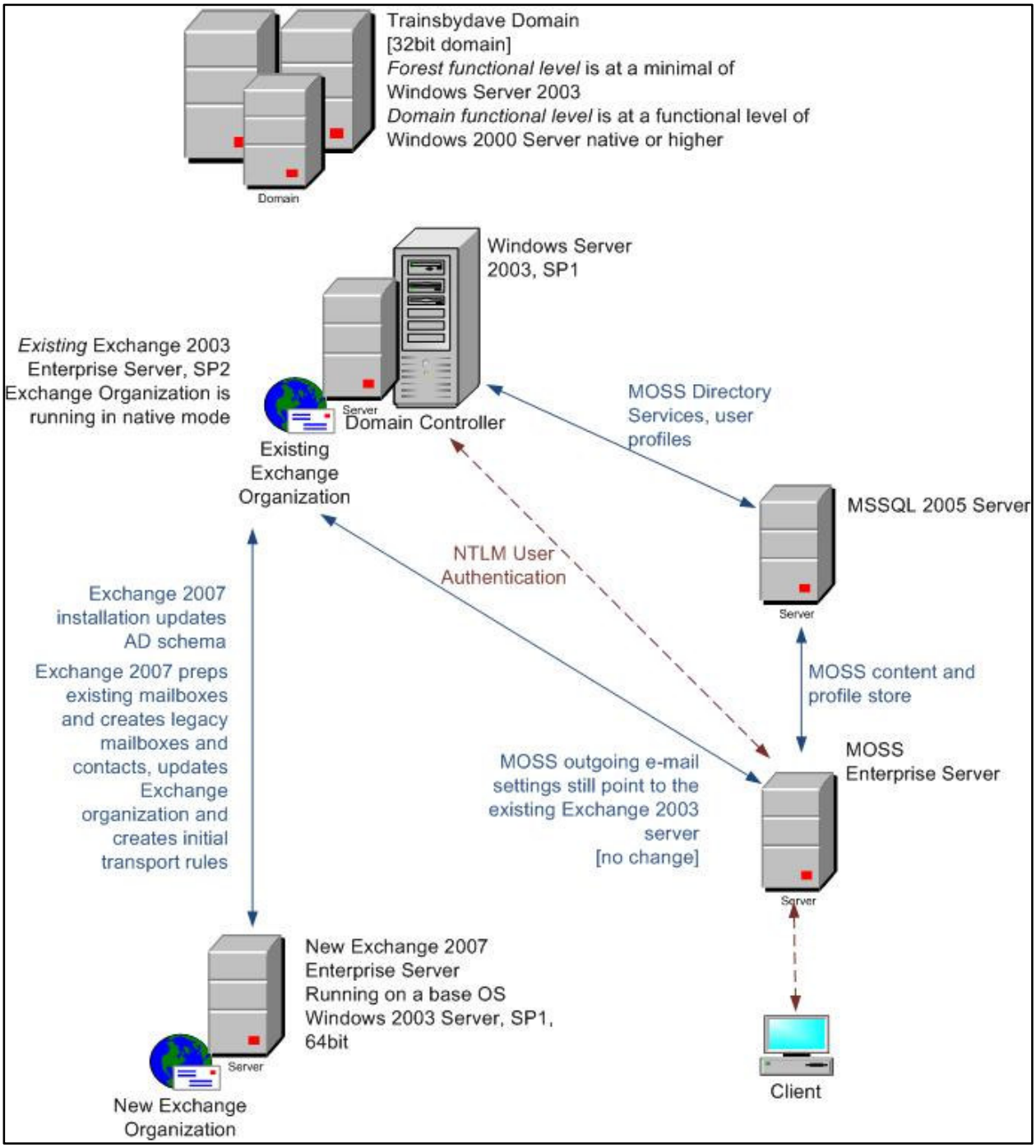

Figure 1 - Updated environment post-Exchange 2007 integration

Our next chore involved configuring managed folders on our new Exchange 2007 server and reviewing the existing records repository document libraries and record routing. For those who are not familiar with the configuration of the records repository in SharePoint Server 2007, we will first cover how to create a Records Center and define that Record Center as the main records repository for an entire SharePoint farm.

Configure SharePoint Records Repository

In our case, we decided to create our records repository under the SharePointRus Web application. We ended up with a URL of http://sharepointrus/repository/, which is directly accessible n the application. In SharePoint, a **records repository** is defined as a site created from the Records Center site template that is only available in the SharePoint Server 2007 Enterprise version. Figure 2 shows the home page of the Records Repository site that was provisioned using the Records Center site template.

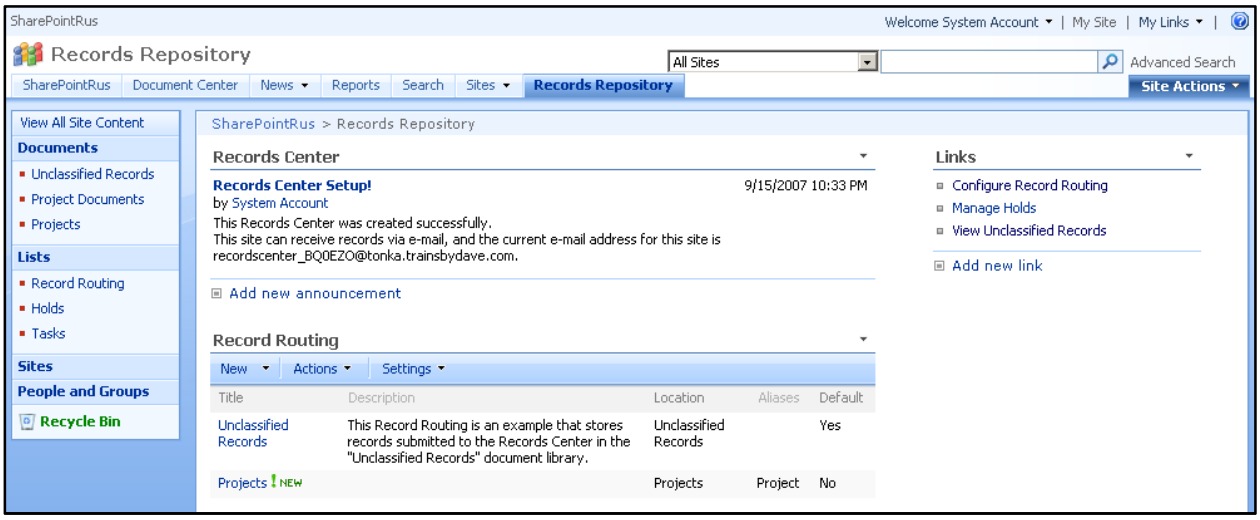

Figure 2 - Home page of site provisioned using Record Center site template

The Records Center site template includes special functionality to manage records such as legal holds and information management policies that help determine a records period of retention. The Records Center acts as the "hub" for routing all different kinds of record types. It is based on the content type of the content/documents being routed to the Records Center. For example, all documents of content type "Legal" can be configured to a Legal records repository document library that includes custom information management policies.

Instead of creating a separate records repository for each Web application, we wanted to ensure that all other Web applications in our farm could also access the records repository. To do this, we configured the records repository address in the SharePoint **Central Administration > Application Management > External Service Connections > Records Center**. On the Configure Connection to Records Center page (see Figure 3), under Connect to a Records Center, we entered the URL we created under our SharePointRus Web application. We suffixed this URL with the records repository Web service:
http://sharepointrus/repository/_vti_bin/officialfile.asmx
The Display name, Repository, is the name that will be seen in site collection document libraries when users go to "Send To" the records repository.

Figure 3 - Configure Records Center connection in Central Administration

SharePoint Records Repository Web Services

The officialfile.asmx Web service exposes several operations (see Figure 4) that developers can work with to enhance records management and integrate other features such as records management workflow throughout site collections. The OfficialFile operations can be accessed by entering http://servername/[recordcentername]/_vti_bin/officialfile.aspx into the browser address line.

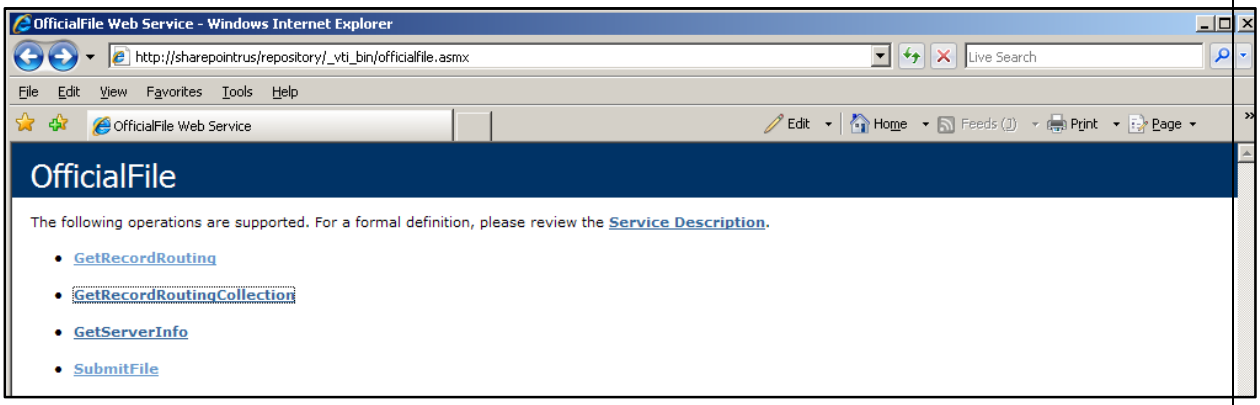

Figure 4 - OfficialFile Web service showing related operations

Records Repository E-Mail Address

When creating a records repository using the Records Center site template, an e-mail address is dynamically created for the Submitted E-mails Records list in the Records Center site.

> **Note:** This assumes the SharePoint incoming e-mail settings have been correctly configured in SharePoint Central Administration.

This e-mail address, shown in the Exchange 2007 Mail Contact list of Figure 5, is the address to which all e-mail records should be sent so the special built-in record routing functionality can trigger and route the e-mail according to the e-mail type.

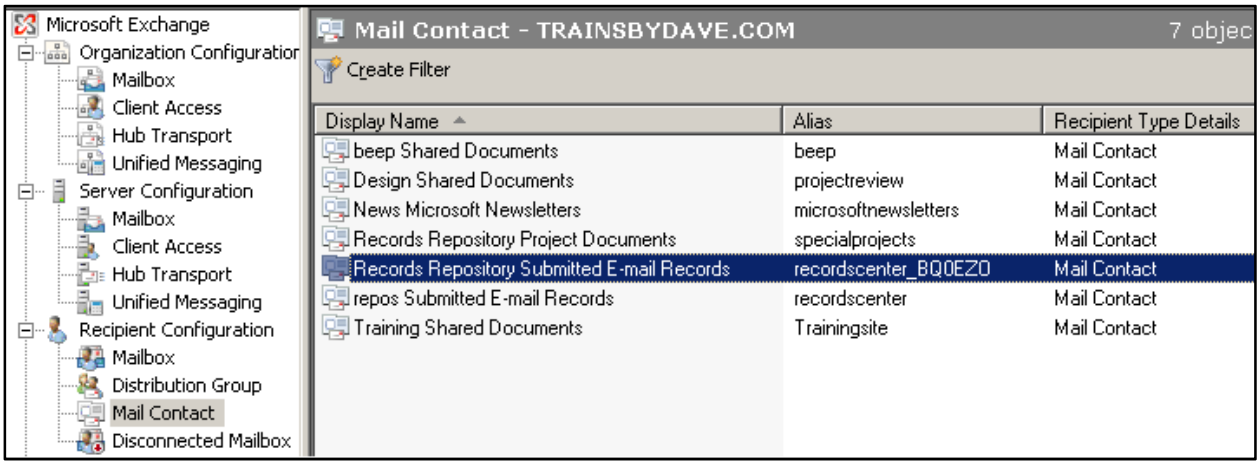

Figure 5 - SharePoint Mail Contacts shown in the Exchange 2007 Management Console

Note: It is possible to e-mail enable other document libraries in the records repository. However, e-mails sent to other document libraries bypass the special routing functionality activated when received by the main Records Center e-mail address such as any missing properties associated with the record.

Best Practice for Records Repository E-Mail Address

While we want to retain e-mail records, we do not want our record repository to be "spammed." Therefore, we suggest hiding the Records Repository Submitted E-mail Records e-mail from the global address list (GAL) so end users cannot see it. This can be done in the Exchange 2007 **Management Console\Recipient Configuration\Mail Contact** section by right-clicking the Submitted E-mail Records display name and choosing properties. Check the Hide from Exchange address list check box (see Figure 6), especially when choosing to leave the e-mail send access to the Submitted E-mail Records list as anonymous.

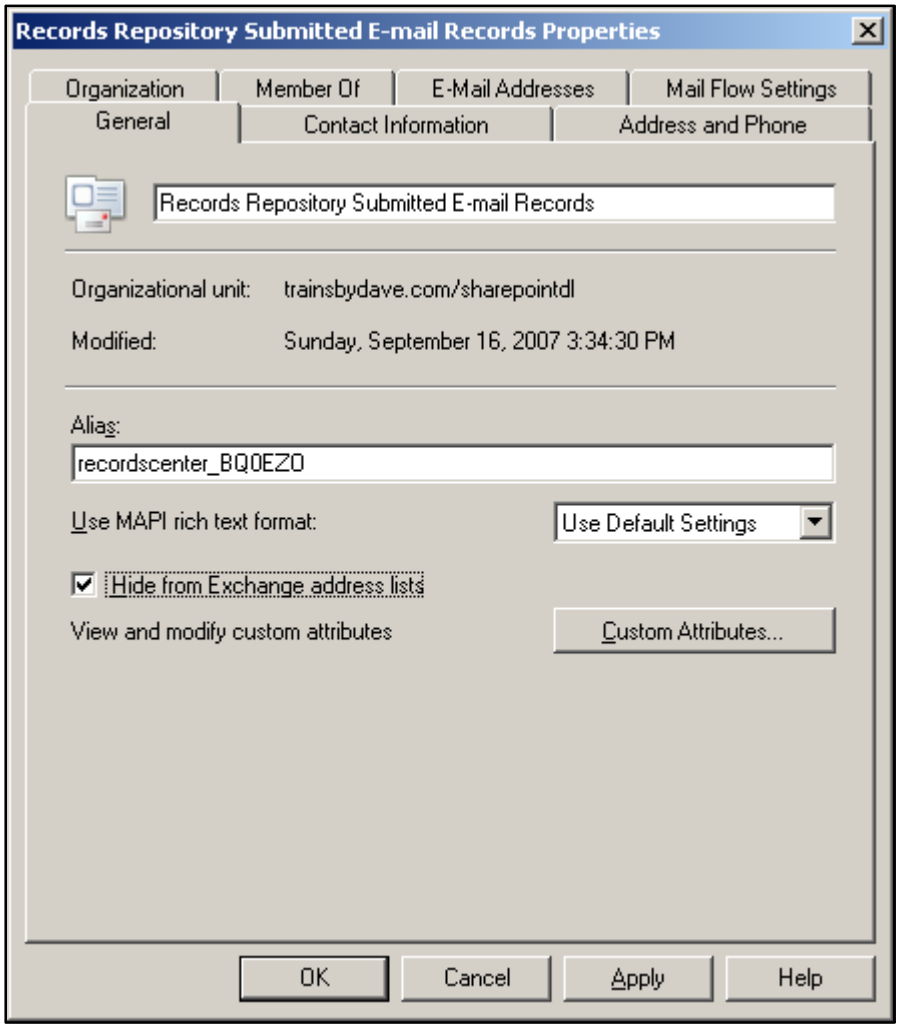

Figure 6 – Option to hide Submitted E-mail Records e-mail address from the GAL

> **Note**: By default, the incoming e-mail settings on the Submitted E-mail Records list allow e-mail to be received anonymously. This can be changed so the list only receives e-mail from authenticated users.

Set Records Repository Schedule

The record repository schedule determines how often SharePoint checks the record routing table and route records. This process includes assigning those records with missing properties to the Records Pending Submission document library and creating an entry in the Missing Properties document library. Sometimes it is useful to have the schedule set to check every five minutes, especially during development and testing. However, in a production environment scheduling can be minimized to once or twice per day.

Use the SharePoint STSADM.EXE command line tool to modify the Records Repository schedule. The format is:

```
stsadm.exe -o setrecordsrepositoryschedule -schedule <recurrence
string>
```

For example, the schedule shown in Figure 7 has been modified to run every 5 minutes, denoted by "every 5 minutes between 0 and 59." In a production environment, consider setting this parameter to "daily at 10:00:00" to run the schedule at 10:00 a.m. each day.

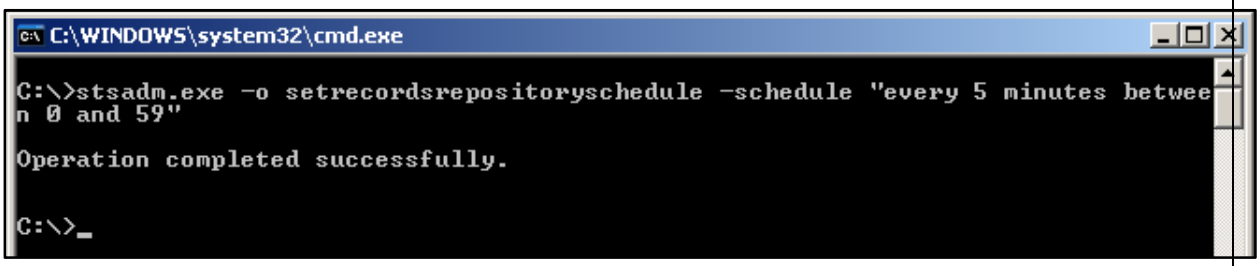

Figure 7 - Set records repository schedule using STSADM.EXE command line tool

Note: To find out more about using the SharePoint stsadm.exe command line tool, refer to the Mindsharp whitepaper titled "Manage SharePoint Products Using the SharePoint STSADM.EXE Command Line Tool-Part 1". This whitepaper can be accessed on the Premium Content section of Mindsharp's Web site at https://www.mindsharp.com/Default.aspx?page=Login&destPage=Default. Registration is required to access this portion of Mindsharp's Web site. However, no cost is associated with registration or accessing whitepapers.

Records Repository Functions

The Records Center site template includes workflow functionality, as well as a collection of default document libraries and lists that manage the initial lifecycle of documents and content submitted to the records repository. Table 1 lists each of the document libraries and lists, and describes the role they play in managing records.

Table 1 – Default records repository functions

Document Library/List	Function in Managing Records
Hold Reports	Generates XML reports on any holds configured in the records repository and lists the items associated with holds. XML hold reports can be opened in Excel 2007.
Missing Properties	When records such as documents and e-mails are submitted to the records repository and the destination document library includes "required" columns (metadata), users who submitted those records are alerted and directed to the missing properties document library to complete the outstanding information.
Records Pending Submission	Affiliated with the Missing Properties document library, a temporary storage location for documents awaiting

	completion of outstanding metadata.
Unclassified Records	Storage document library for any records sent to the records repository that do not match any of the record types as defined in the Record Routing list.
Holds	Holds records that need to avoid disposition such as certain legal records. When a record is removed from a hold, it becomes subject to any associated information management policies such as record deletion after a certain period of time. Hold movements throughout the records repository are audited.
Links	Includes links to the common functions throughout the records repository.
Record Routing	"Hub" for determining routing of incoming records. All records sent to the records repository are checked against the Record Routing list. This includes checking the record "type" and routing the record to its designated location (document library). When the record type can not be determined, the router routes the record to the Unclassified Records document library. When the location document library includes required columns, those records are routed to the Missing Properties and Records Pending Submission document libraries. **Note**: The location identified in the Record Routing must be a document library - it can not be a list.
Records Center Announcements	General announcements list on the home page of the records repository site.
Submitted E-mail Records	List that initially receives incoming e-mail records that are sent to the records repository e-mail address. E-mail records are subject to the record types added to the Record Routing document library and routed to the designation location based on the e-mail type.
Tasks	List used for any workflow used in the records repository such as workflows associated with information management policies.

Create Document Libraries in the Records Repository

Aside from the default document libraries that are used for the initial record processing, we need to create our own document libraries to store the various record types that will be submitted to our records repository. In our scenario, we chose to create a new document library named "Projects" to store records related to projects throughout our organization, adding some additional columns during the creation process. To ensure that metadata was captured along with any submitted records, we made several of these columns *required columns*. This action triggers the built-in records repository workflow to prompt the user submitting the record to complete the missing record properties.

Record Routing – *Define Record Types*

The record routing list is used to define the various record types that will be received and stored in the SharePoint records repository. Content types, which

will be discussed in the next section, play a major role in defining records and assigning records to locations in the records repository such as the "Projects" document library.

A new record "router" is created for each record type that is stored in the records repository. For example, if an organization has certain legal documents they want stored in the records repository, then a "legal" record type should be created. Table 2 summarizes the record routing list and reviews the various components involved in establishing a record type.

Table 2 – Record Routing list functionality

Component	Function in Establishing Record Type
Title	The title is equivalent to the name of the content type of the associated content being submitted to the repository. For example, a title of "legal" recognizes content (documents and e-mail) submitted with a legal content type. In SharePoint, content types are defined in the site collection and/or site levels and then documents created based on a particular content type. Exchange 2007 includes a special feature associated with managed folders/journaling named **labels** that is equivalent to a site collection/site content type. So: • The record title for documents submitted to the records repository from within a site collection is equal to the related document content type. • The record title for e-mails submitted via an Exchange 2007 managed folder is equal to the label defined in the journaling tab of the managed folder content settings.
Description	A textual description about the record type.
Location	The designated location (document library) where the record (document or e-mail) is routed once the type (title) has been assessed. For example, to store legal documents, a legal document library should be created in the records repository. Any documents submitted to the records repository where the content type is equal to "legal" are routed to the legal document library. If the document type can not be resolved, that is, no content type matching any of the defined record types in the record routing list, then the record routes to the unclassified records document library.
Aliases	Any other content types that might be associated with the record type. For example, if a title of "legal" is defined and a "conveyancing" content type is also associated with the same record type, then enter "conveyancing" in the Aliases section of the record type.
Default	This is the designated document library where all unclassified records are routed. By default, the "unclassified records" are the default unclassified records document library. However, this can be changed to an alternate document library.

Figure 8 shows a record routing configuration for "Projects" defined in the Location field. This means all records submitted to the records repository with either a SharePoint content type of "Projects" or an Exchange 2007 managed folder / journal label of "Projects" will be routed to the Projects document library.

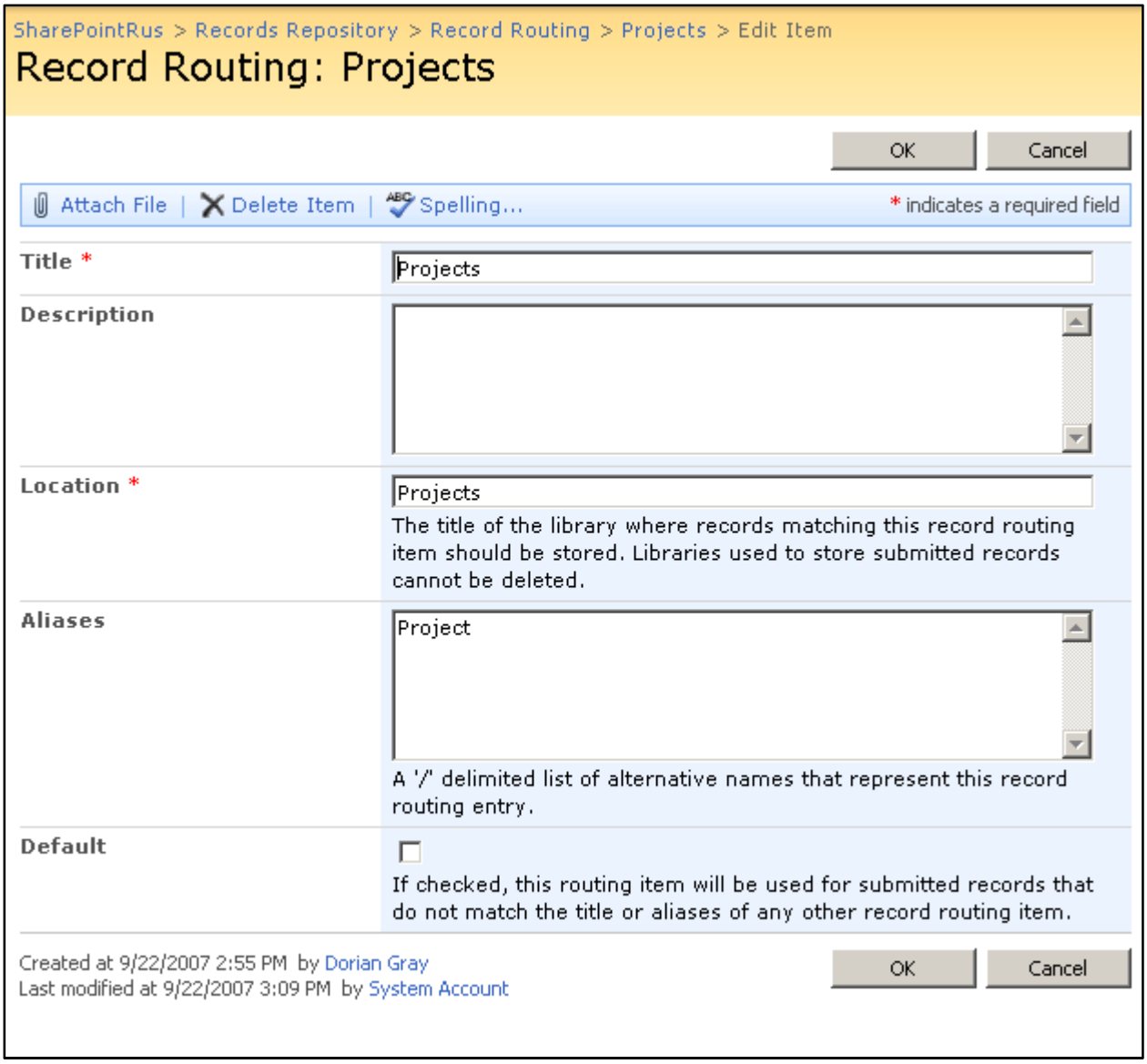

Figure 8 - Record routing configuration

Content Types and Relevance to Records Repository

Content types in SharePoint centrally define metadata and other properties such as management information policies and workflow, as well as a custom document template. For example, a content type of "Marketing" can be defined in the root site of a site collection. This content type can be used to define content and information throughout the SharePoint site collection regardless of location. For instance, a marketing content type might have several columns (metadata). Rather than recreating the content type and metadata for each individual library, it can be inherited along with the columns and any other properties associated with the content type available in that document library. Content types throughout a SharePoint deployment greatly enhance search functionality by enabling custom search scopes and concatenated search configurations.

There are a number of out-of-the-box content types in SharePoint Server 2007. However, custom content types can be created in the Site Content Type gallery - **Site Settings > Galleries > Site Content Types**. The **document content type** is the content type readily associated with document libraries such as the Shared Document Library. Figure 9 shows a section from the home page of a document library that includes multiple content types, denoted by a different template for each type. For example, the Document template is associated with the Document content type, while the Expenses template is associated with the Expenses content type.

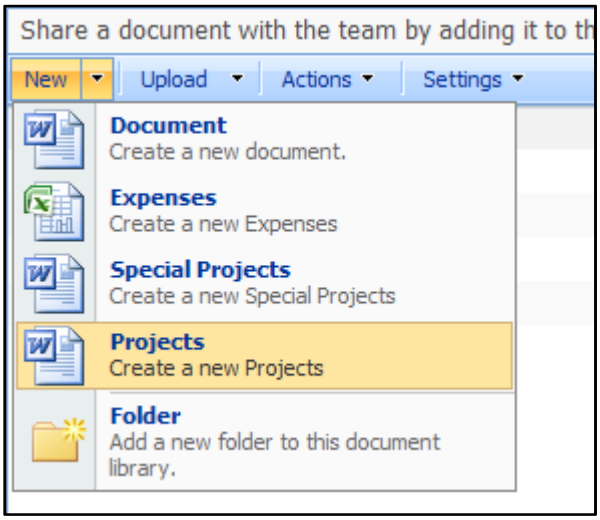

Figure 9 - Multiple content types in document library

The records repository checks the content type of documents and e-mails so they can be matched to a routing type identified in the record repository record routing list and routed off to the designed location (document library).

In addition, a document's content type is used in part to create a document library's missing properties page in the record repository missing properties list. For example, a project's content type is configured to filter the page view (see Figure 10). In other words, all records are displayed that have missing properties added to the missing properties list where content type equals projects.

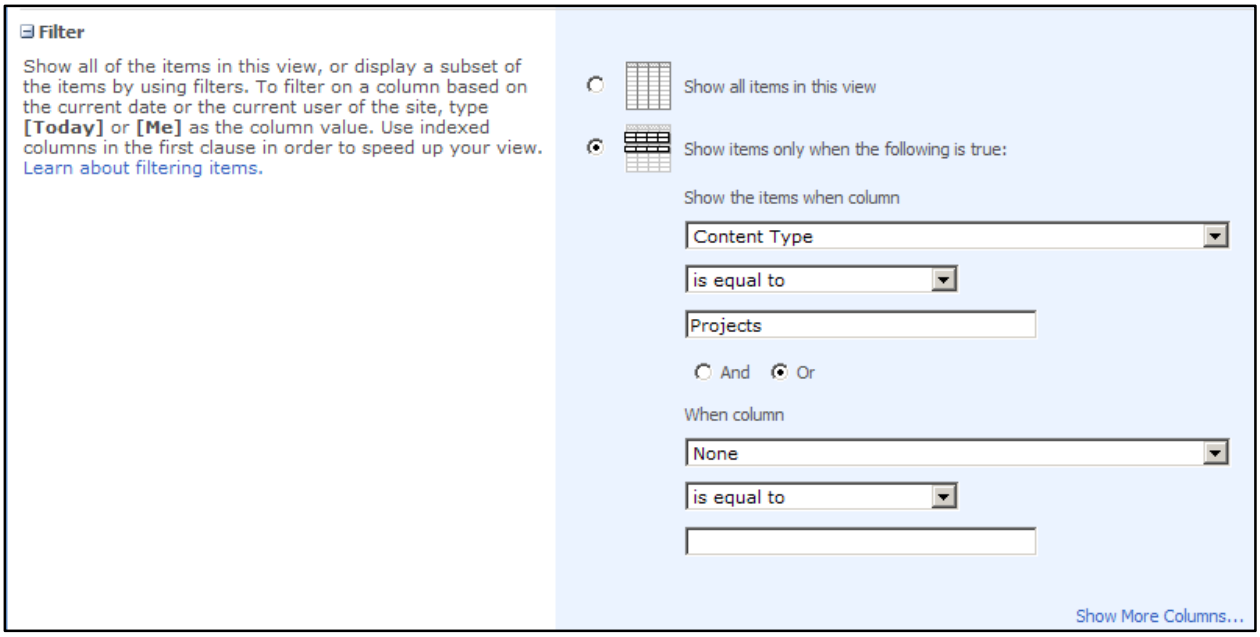

Figure 10 - Missing Properties records page defined by content type

Exchange 2007 Managed Folders: Other Part of the Equation

Managed folders are a new concept introduced with Exchange 2007. Managed folders can be configured with a range of different policies such as quotas. They are then deployed to certain groups of users throughout an organization. Users can access the managed folders within their Outlook 2003 SP2, or Outlook 2007 clients. Users can also route e-mails and attachments to the managed folders as another way of categorization and storage/retention. Managed folders include a number of configuration parameters such as journaling, which enables the contents in a managed folder to be forwarded to another location or e-mail recipient.

This whitepaper focuses on managed folders in relation to integrating e-mail with the SharePoint Server 2007 records repository. If you are not familiar with Exchange 2007, it is important to know that the main configuration is done within the Exchange Management Console. This includes configuring the Exchange server hub transport and transport rules, mailbox configuration including distribution groups, and default and custom managed folders. Figure 11 shows the console configuration options in the left-hand menu and the Managed Custom Folder in the right-hand pane. When the Managed Custom Folders tab is selected, several custom managed folders are created. The Project Documents managed custom folder is expanded and shows the folder's managed content settings, which will be discussed shortly.

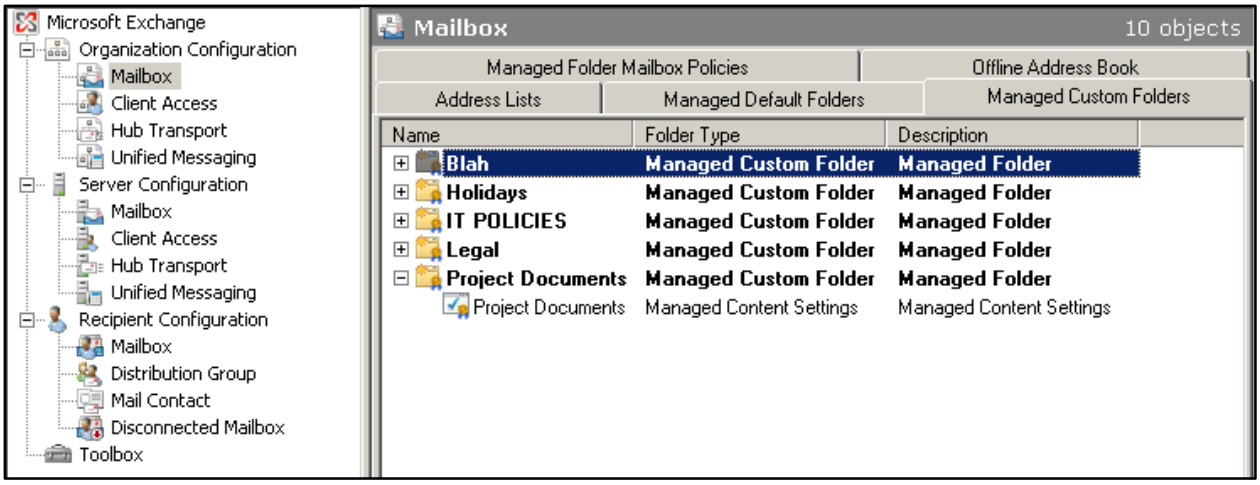

Figure 11 - Exchange Management Console configuration

Create Managed Folders

To create a managed custom folder, simply choose to create "New Managed Custom Folder" in the Exchange Management Console\Managed Custom Folders tab. Figure 12 shows the default dialogue for the newly created Project Documents managed folder. In this dialogue, we chose to show the managed folder as "Projects" within Outlook. In other words, the "Projects" name is displayed when the folder is viewed in Outlook. There is an optional setting for a quota that we chose not to apply in this instance. For example, we could add a quota of 500MB or less for a specific managed folder, which limits the end user to how much they can add to that folder in their Outlook client. The comment entered in the folder properties is also displayed in Outlook 2007. However, the comment will not be displayed in Outlook 2003 SP2.

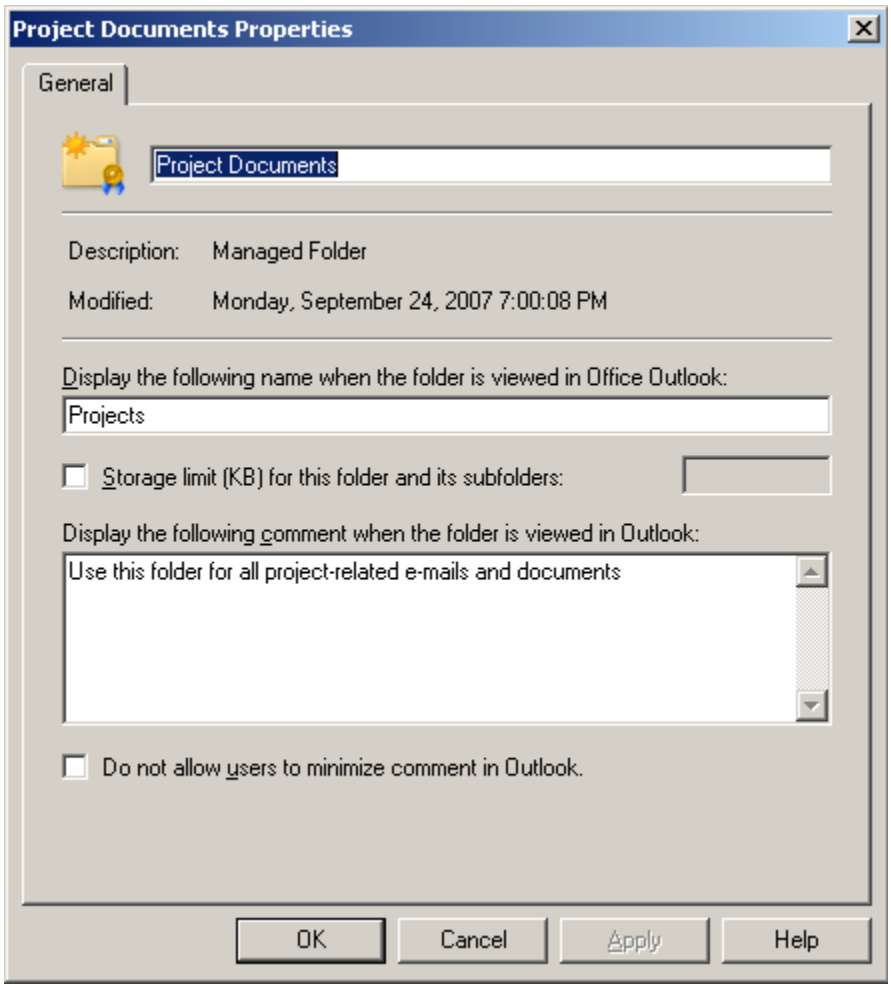

Figure 12 - New managed custom folder dialogue

Set Quotas on Managed Folders

Figure 13 shows the IT Policies managed folder, where we chose to set an unrealistic quota of 20KB on the folder. This was done for testing purposes only!

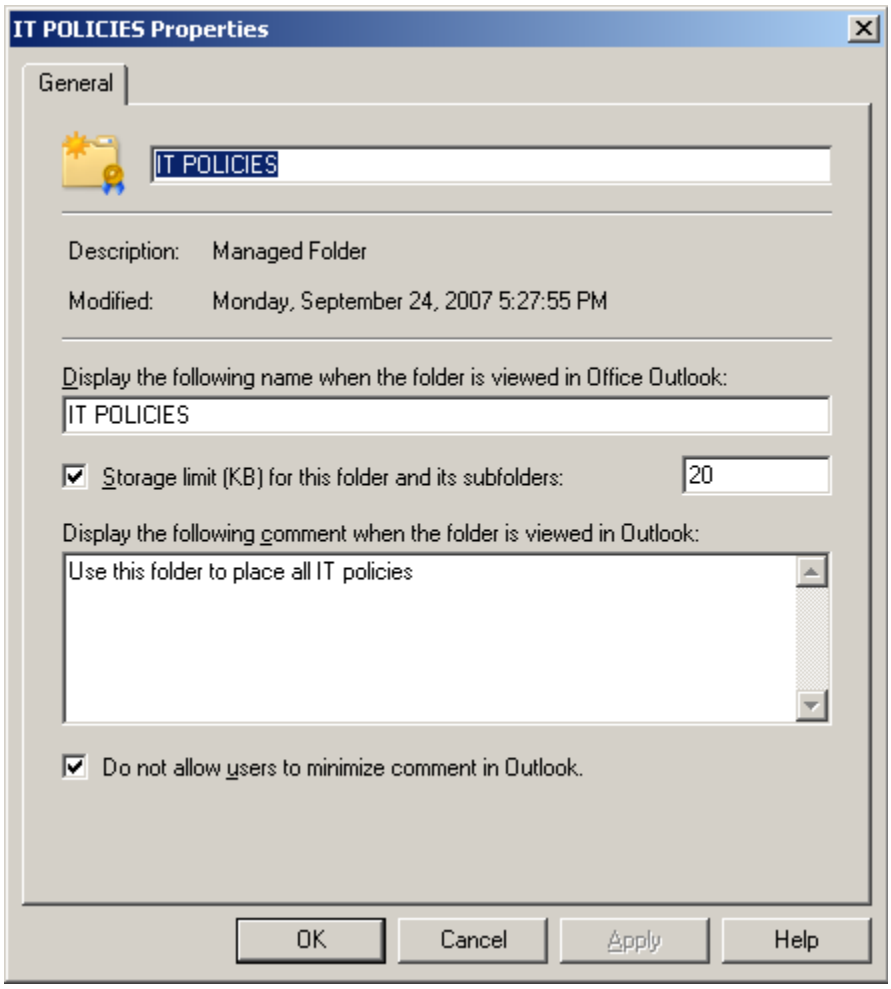

Figure 13 - Managed folder quota enabled

Figure 14 shows the application and result of that quota in Outlook 2007. The user has exceeded the 20KB limit, which caused the name of the managed folder (IT POLICIES) to be highlighted in red. In addition, the text "Folder quota exceeded" is displayed in the top right-hand corner of the pane.

> **Note:** In our testing, Outlook 2007 failed to register the exact number (quota size limit) in the folder quota exceeded message. Instead, we only saw "0 MB" displayed instead of "20 MB".

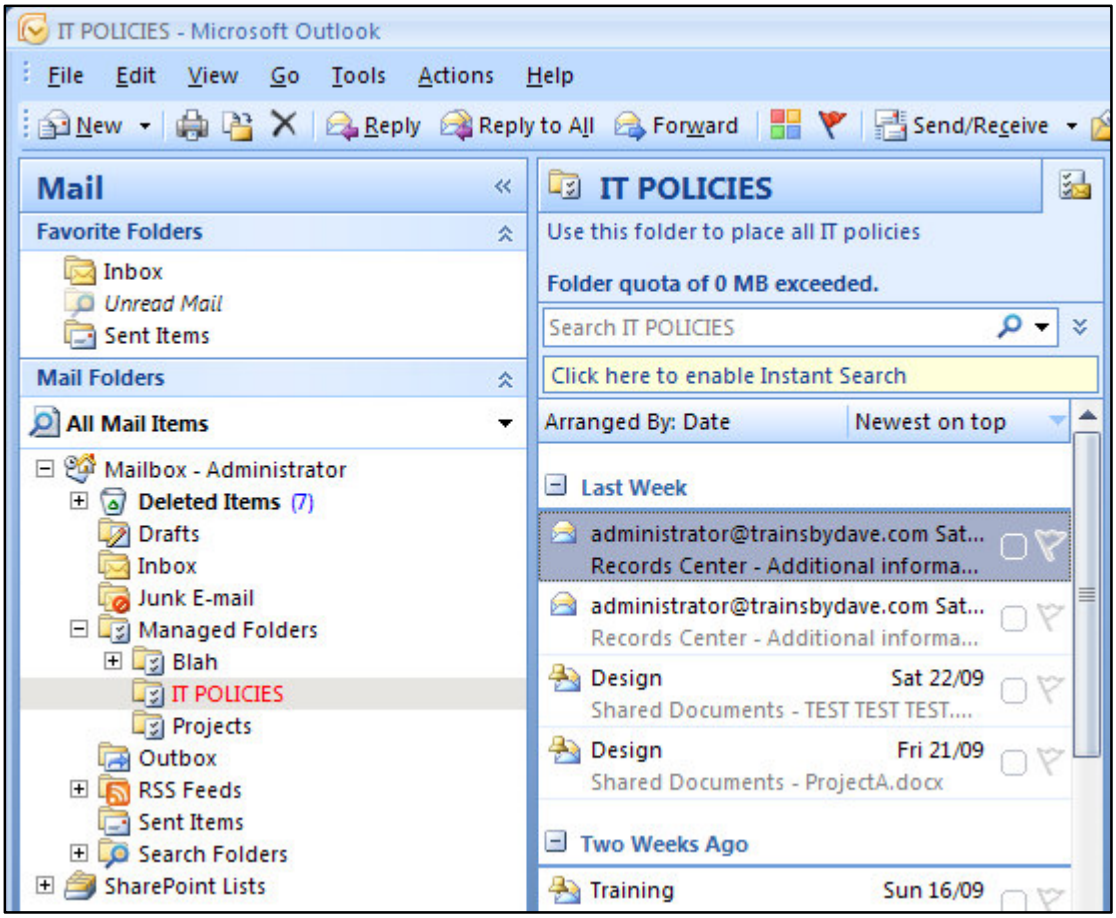

Figure 14 - Managed folder quota limit reached as seen in Outlook 2007

Figure 15 shows another managed folder named "Legal" within Outlook Web Access. In this case, the quota limit is clearly seen in the top right-hand of the page – 0% of 20 KB. The user will receive another alert with a Mailbox Cleanup dialogue.

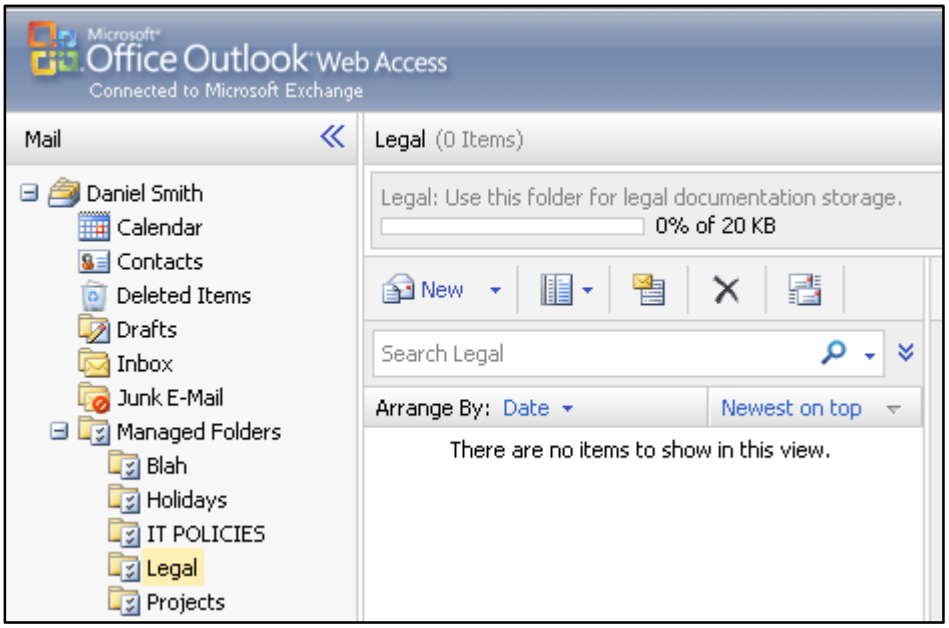

Figure 15 - Managed folder quota limit as seen in OWA

Configure Managed Folders

Once a new managed folder has been created, other settings such as retention and journaling can be configured.

Create New Managed Content Settings

Figure 16 shows the main dialogue for the managed folder content settings. Here, the folder's retention and actions to take can be configured based on the retention period. For instance, the contents from a managed folder can be moved to another managed folder. Alternatively, contents can be deleted once a certain period of retention is reached. For example, we can indicate that e-mails should be deleted 30 days after receipt.

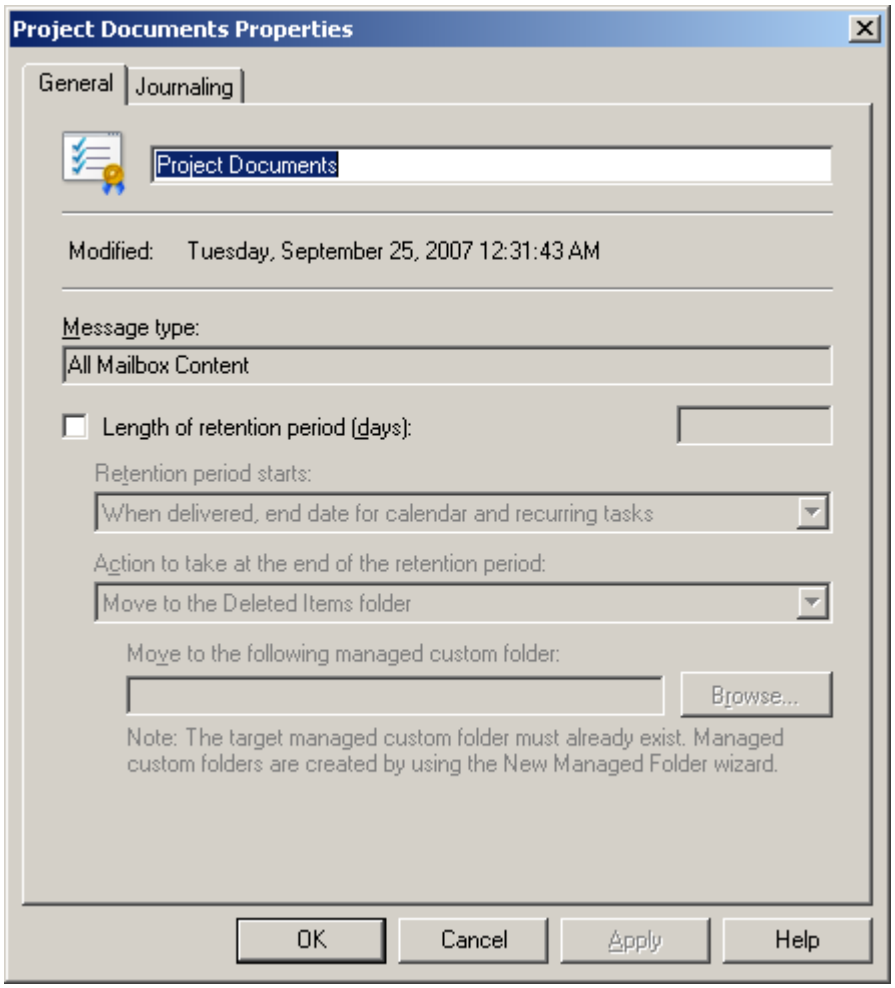

Figure 16 - Managed folder content settings dialogue

Important Journaling and Label Features

Another part of the managed folder content settings is the journaling feature. In terms of the managed folder relationship with the SharePoint Server 2007 records repository, the managed folder journaling feature is our "best friend" because it includes something called a **label**. The text added to the label is how the record routing list located in the records repository determines how to route the e-mail. For example, in Figure 17 we added the word Projects to the label in the journaling dialogue. This label is interpreted by the record routing list in our records repository. We also chose to forward copies to the Records Repository Submitted E-mail Records e-mail address, which is the main address for our records repository. This e-mail address was created when the records repository site was created.

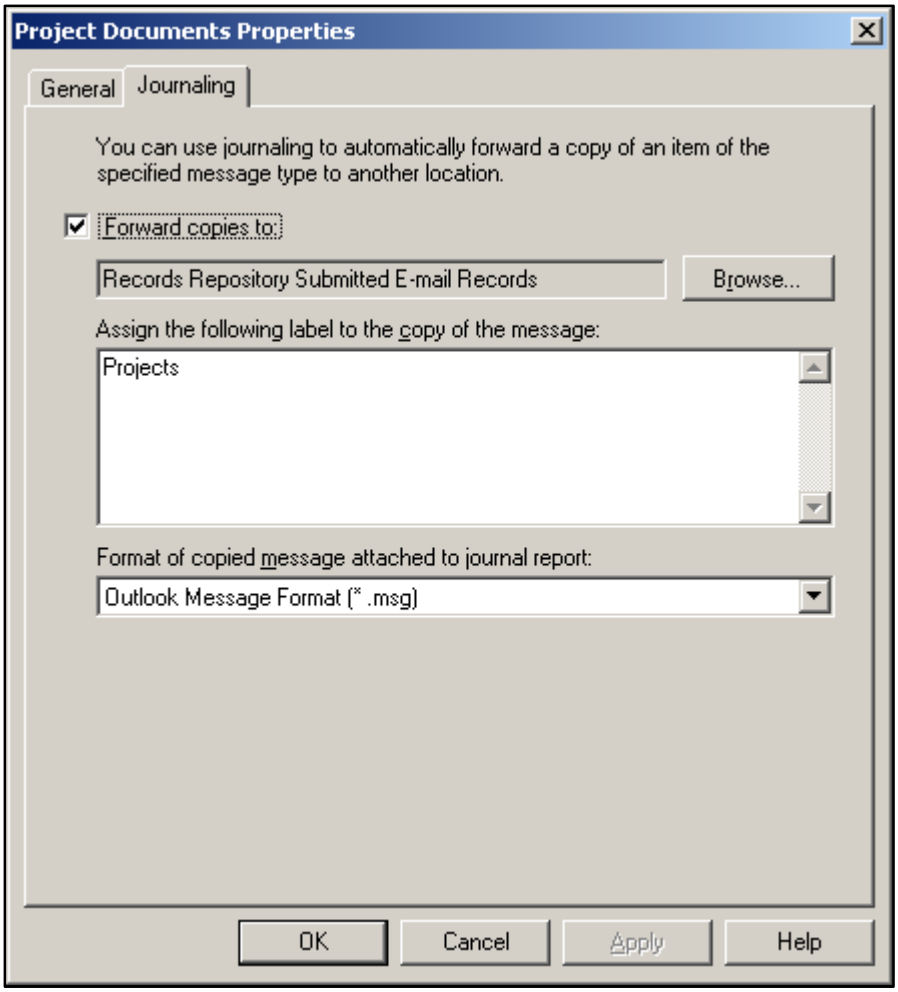

Figure 17 - Managed folder journaling dialogue showing journaling options

Create Managed Folder Mailbox Policies

When deploying our managed custom folders to end users, the final piece of the puzzle is to create our managed folder mailbox policies. Using these policies, we can add a number of managed folders to a policy and then assign that policy to a user or group of users. For example, in Figure 18 we created a policy named Projects. Next, we chosen to add the IT Policies, as well as the Legal and Project Documents managed folders to that policy.

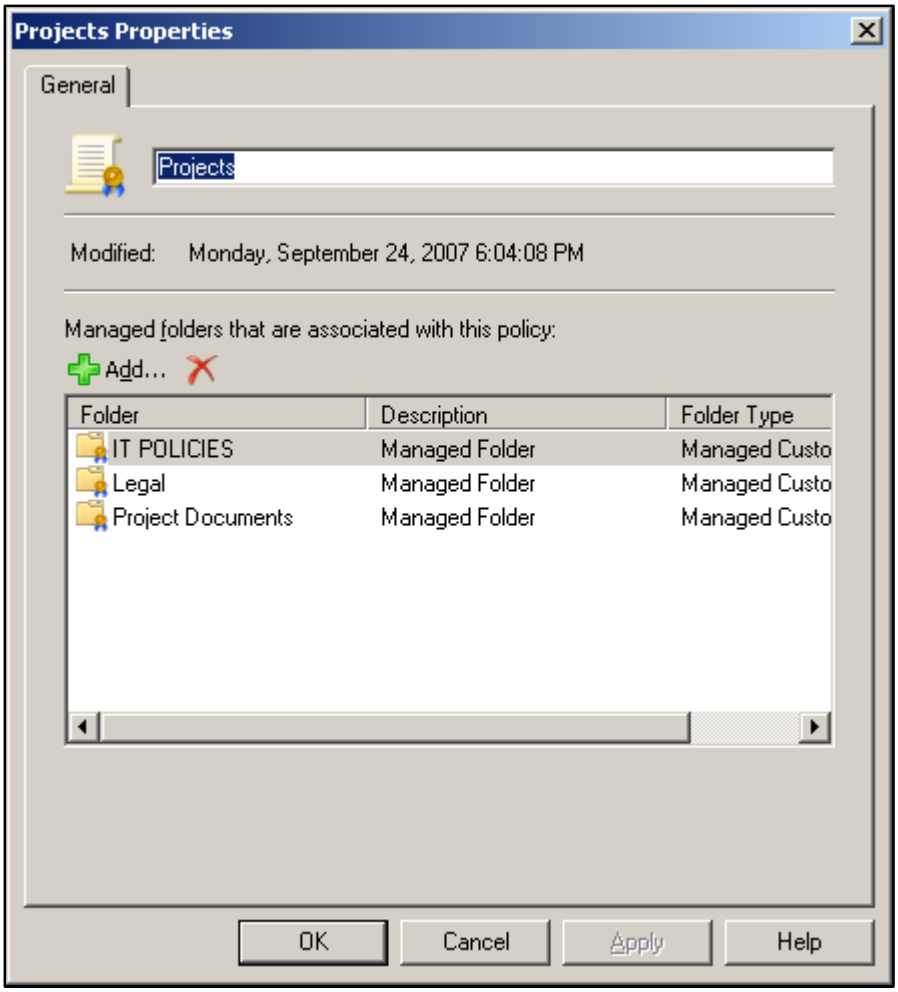

Figure 18 - Managed folder mailbox policy

Deploy Managed Folders to Users

Once the managed folder mailbox policies have been defined, the managed folders can be deployed to a user or group of users using either the Exchange 2007 Management Shell or the Exchange Management Console.

Exchange Management Shell

The Exchange Management Shell, which is a command line tool used to run Exchange commands, is accessed on the Exchange 2007 server – **Start > All Programs > Microsoft Exchange Server 2007 > Exchange Management Shell**. Figure 19 shows the command for deploying the Projects managed folder mailbox policy to a single user named “dorian":

```
set –mailbox dorian –ManagedFolderMailboxPolicy projects
```

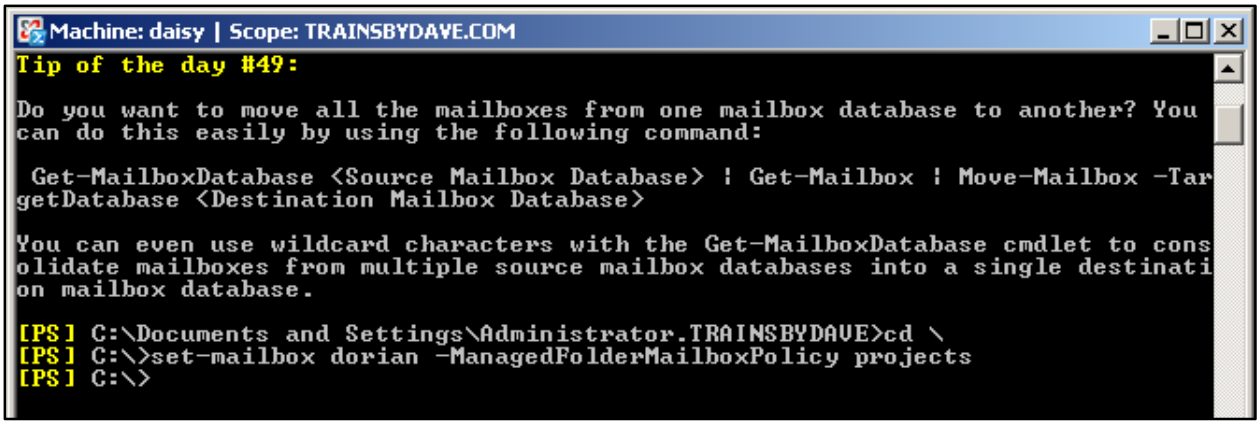

Figure 19 - Deploy managed folder mailbox policy using Exchange Management Shell

Use the following command to apply a mailbox policy to all users:

```
get-mailbox -server SERVER_NAME | set-mailbox -
ManagedFolderMailboxPolicy POLICY_NAME
```

Exchange Management Console

The Exchange Management Console can be launched on the Exchange 2007 server – **Start > All Programs > Microsoft Exchange Server 2007 > Exchange Management Console**. Figure 20 shows the Mailbox Settings dialogue for a user named "Dorian Gray." Messaging Records Management (MRM) is highlighted, which is where the mailbox policy for this user will be assigned.

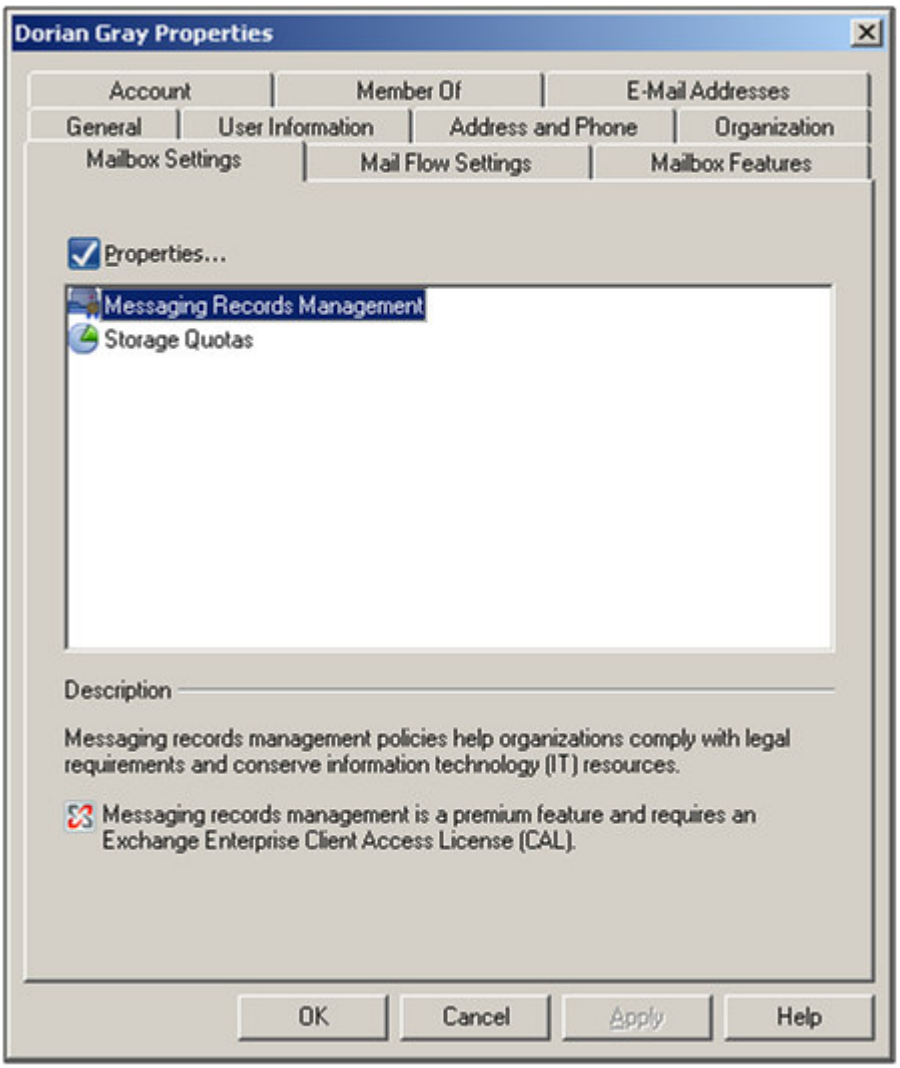

Figure 20 - Mailbox (user) properties/section for entering managed folder mailbox policy

With Messaging Records Management highlight, click **Properties…** to access the dialogue (see Figure 21), which is where we entered the Projects policy.

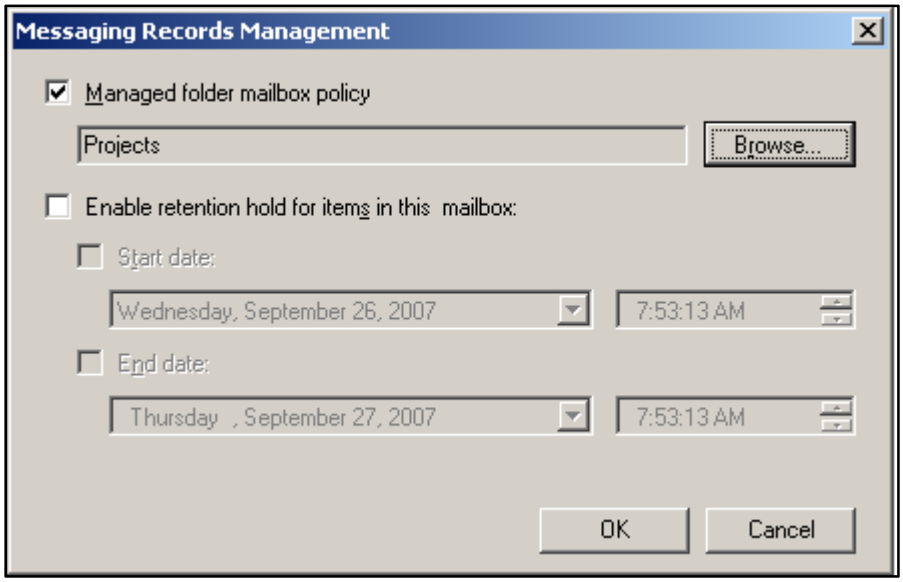

Figure 21 - Messaging Records Management dialogue showing addition of Projects policy

The dialogue shown in Figure 22 may be received when a policy is assigned to a mailbox. This dialogue is a warning about redundant client access, which are clients older than Outlook 2003 SP2.

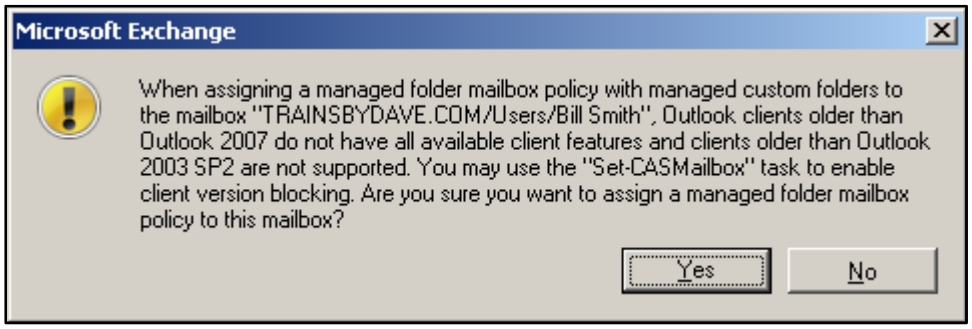

Figure 22 - Warning dialogue when assigning a mailbox policy with managed custom folders

Set Managed Folder Schedule

The managed folder scheduling on the Exchange 2007 server should be enabled to ensure that e-mails added to the managed folders in Outlook are forwarded to the records repository e-mail address by the journaling feature.

Note: By default the managed folder schedule is disabled.

Exchange Management Shell

For immediate scheduling or for testing purposes, use the Exchange Management Shell command: *start –managedfolderassistant* (see Figure 23).

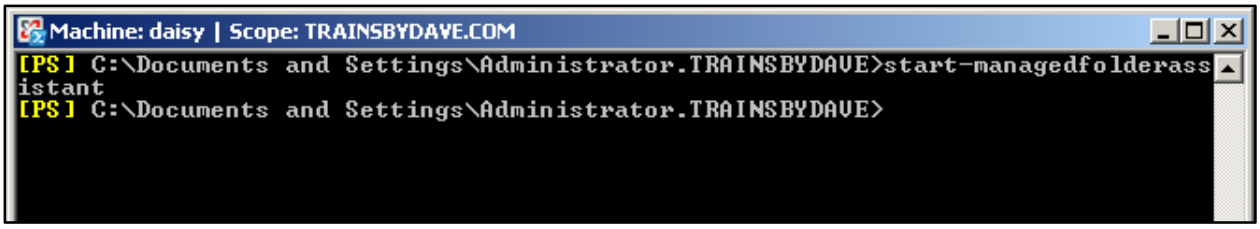

Figure 23 - Start managed folder assistant by using Exchange Management Shell

Exchange Management Console

To access the managed folder assistant by using the Exchange Management Console, in the console expand Server Configuration and click Mailbox. In the middle section of the console, under Database Management, click the mailbox database on which the managed folder assistant should be set. Next, in the right-hand Actions pane, under the server name, click Properties. In the server properties dialogue, click the Messaging Records Management tab and proceed to set a custom schedule (see Figure 24).

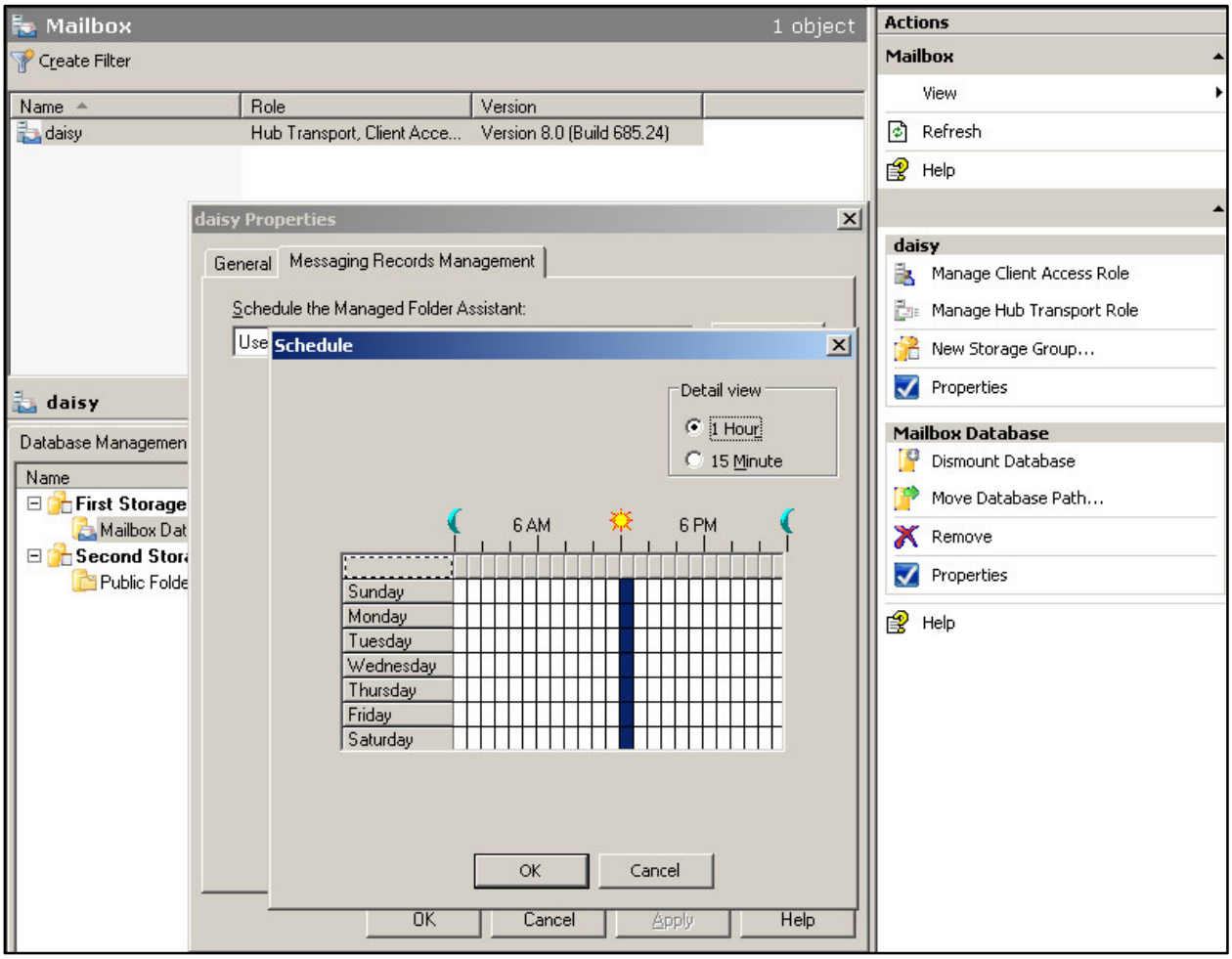

Figure 24 - Configure the managed folder assistant schedule in the Exchange Management Console

Send Records to Records Repository

Listed below are the three main ways to collect records in a SharePoint deployment.

1. Manually send content from a Web site based on SharePoint Server 2007.
2. Use managed e-mail folders in Exchange Server 2007.
3. Use custom solution based on the Windows SharePoint Services 3.0 object model such as a custom workflow.

In this whitepaper, the first two options are used when discussing how to submit records.

> **Note:** For more information on collecting records, refer to the whitepaper titled "Plan How Records are Collected" that is listed in the Reference section at the end of this whitepaper.

Send Site Collection Documents to Records Repository

Earlier in this paper we discussed content types and their relevance to the records repository functionality n SharePoint. The content type of a document sent to the records repository determines the routing of that document. In Figure 25, we see the document named "test test test" is of content type Projects. This means when we send this document to the records repository, the record routing list associates it with the Projects record type, and then routes the document to the Projects document library.

> **Note:** Appendix A of this whitepaper includes a flowchart overview of the process to use when submitting a document from within a SharePoint site collection to the records repository.

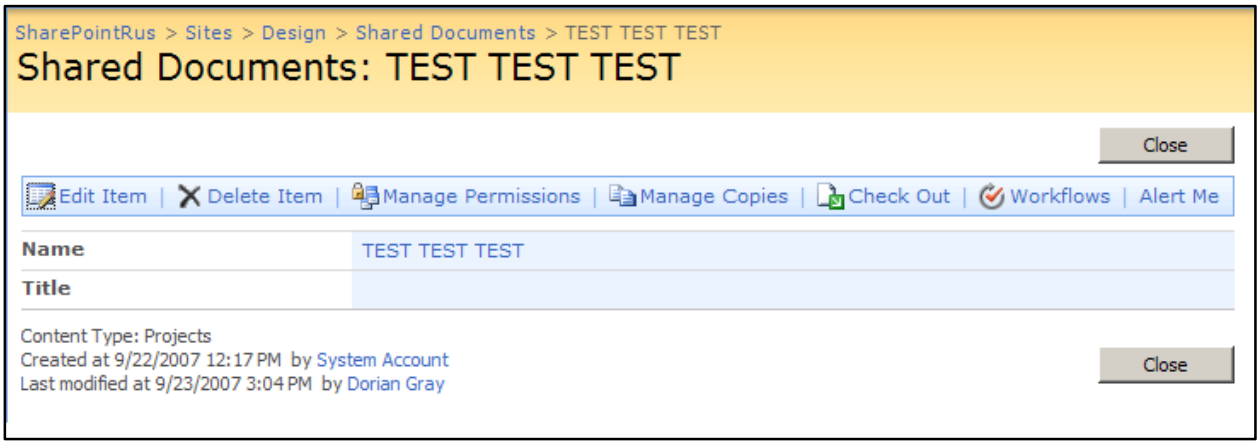

Figure 25 - Document content type that the record router identifies when document is sent to records repository

To send a document to the records repository, select "Send To" from the document library contextual drop-down menu (see Figure 26).

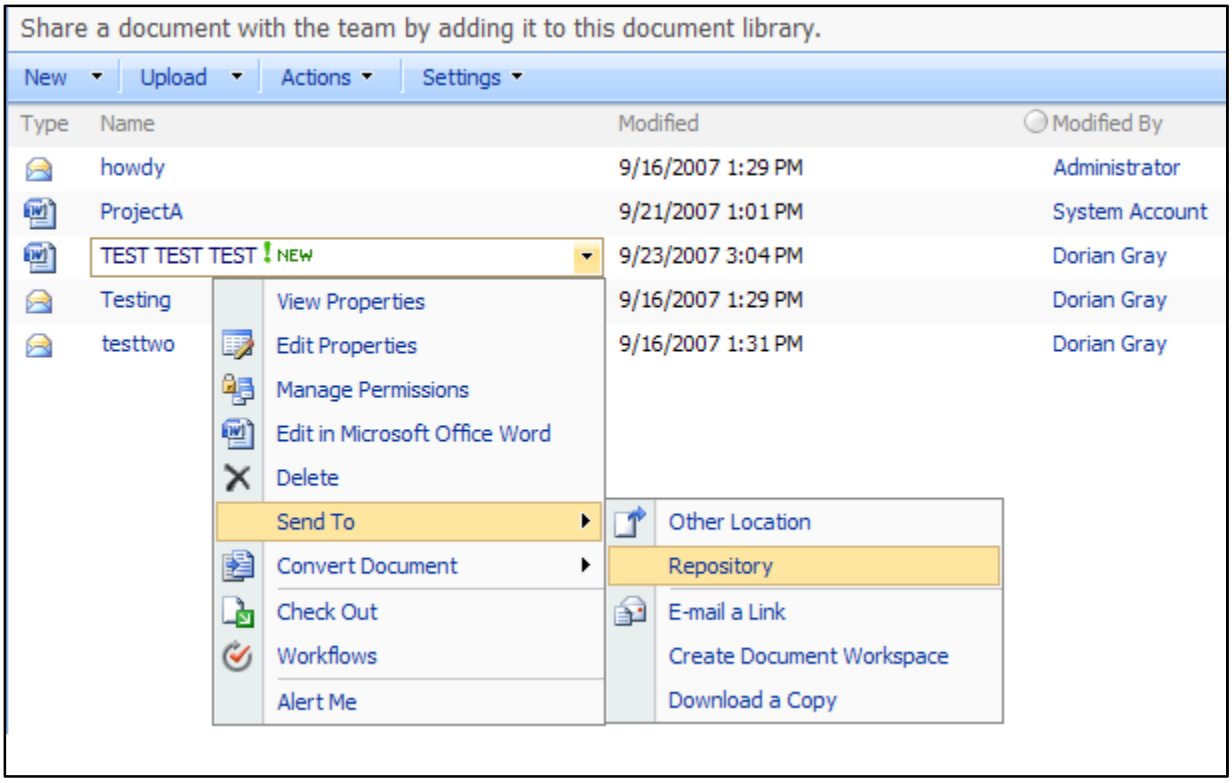

Figure 26 - Send document to records repository

Missing Properties Form

Before a document can be submitted, the column(s) must be created in the record repository document library where the document will be routed. If the required columns have not been created, SharePoint generates a Missing Properties form (see Figure 27) so the required columns (metadata) can be completed. In Figure 27, the required column is denoted by a red asterisk to the right of the column title "Strategy." Once all required columns are populated, the document can successfully be sent to the records repository for final routing to the designated location (document library).

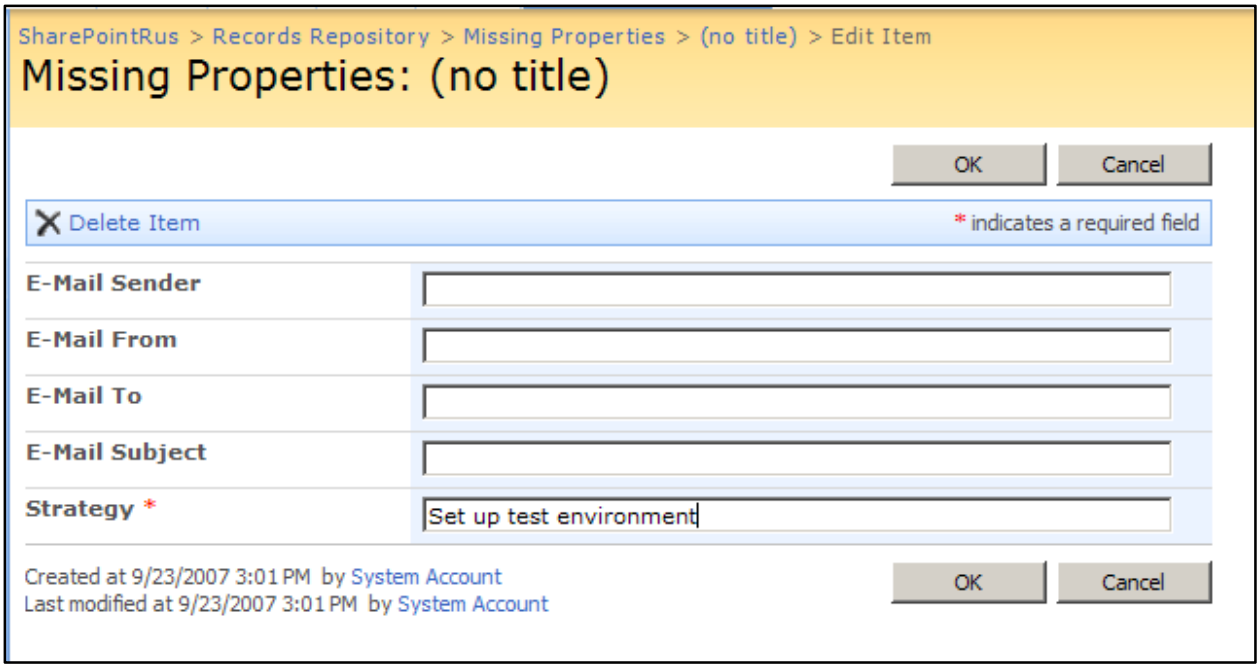

Figure 27 - Missing Properties form presented when required columns are missing

When the document is added to the designated document library, a confirmation form is presented (see Figure 28).

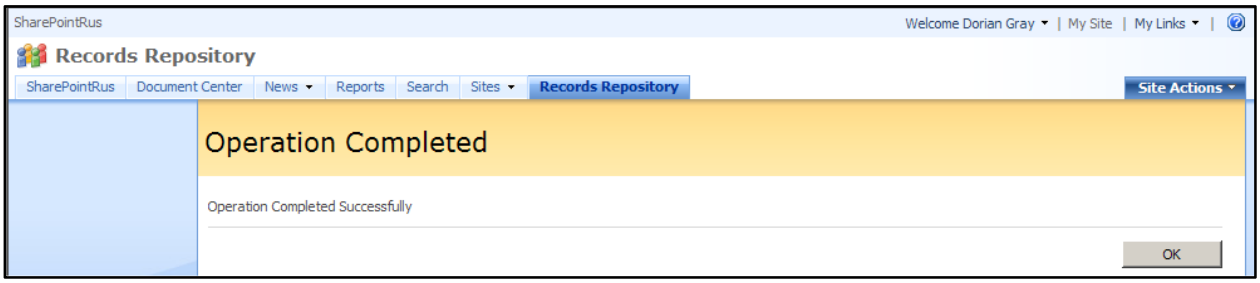

Figure 28 – Confirmation that document successfully sent to records repository

If a user chooses not to complete the form or populate required columns, the document will not be successfully sent to the records repository. When this occurs, a message requesting further information is presented (see Figure 29).

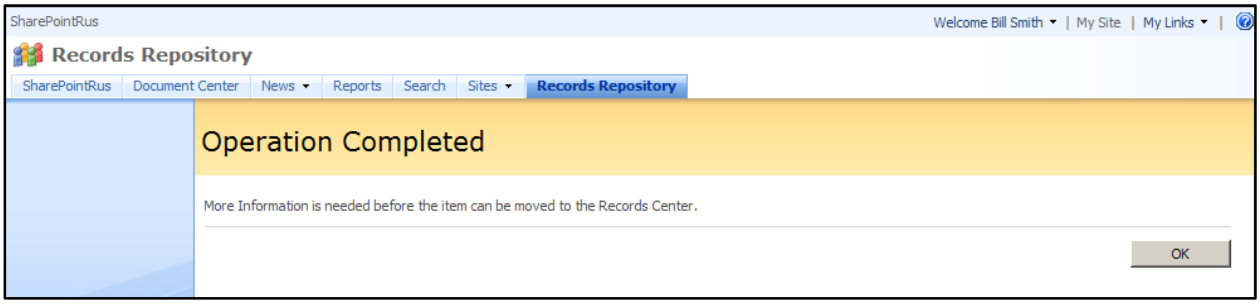

Figure 29 – Feedback that document not successfully sent to records repository

Send E-Mails to Records Repository

Sending e-mails to the records repository involves negotiation between the Outlook 2007 (or Outlook 2003 SP2) client, the Exchange 2007 managed folders, and the records repository itself. At this point it is assumed the Exchange 2007 managed folders have been created and journaling has been configured for each managed folder. This includes adding the **label** to each folder that matches the record type in the records repository. Managed folders should also be deployed to end users through managed folder mailbox policies. If these tasks have been completed, we are ready to begin integrating the company's e-mails into the records management strategy.

> **Note:** Appendix B of this whitepaper includes a flowchart overview of the process to use when submitting an e-mail to the records repository.

Figure 30 shows an Outlook 2007 client and the records repository site side-by-side. The Outlook client on the left includes the Projects managed folder. The records repository site on the right includes a Projects document library. Because we completed the two steps listed below, any e-mails and their attachments added into the Projects managed folder in Outlook will be sent to the Projects document library in the records repository:

1. Configured our Projects (Exchange) managed folder with a label of "projects".
2. Instructed the contents of the managed folder to be forwarded to the records repository e-mail address.

It is important to note that this process occur only if the steps listed below have been completed.

1. Configure the Managed Folder Assistant schedule on the Exchange 2007 server to ensure that e-mails and their attachments added to the managed folder in Outlook get e-mailed to the records repository.
2. The records repository schedule ensures that submitted e-mails and their attachments go through the record routing list, and then are processed and routed into their location/document library.

Figure 30 - From Outlook to records repository

Figure 31 shows that the e-mail message has been received by the records repository. The label (Label: Projects) is clearly identified in the e-mail header. The message has been routed to the Projects document library, denoted by the "Projects" parameter in the URL in the browser address line.

Figure 31 - E-mail message received by records repository and label successfully identified

Handling E-Mail Attachments

We have discussed what happens when e-mails are sent to the records repository. But what happens when e-mails include attachments such as Word documents, which is a common scenario? One consideration with managed folders

configuration is that the format we choose for e-mails determines the way attachments are formatted in the records repository.

Send Format – TNEF or MSG

There are two default formats in the Exchange 2007 managed folder content settings:

1. Exchange MAPI Message Format (TNEF)
2. Outlook Message Format (MSG)

Figure 32 shows the journaling dialogue for the Projects managed folder with both format options exposed.

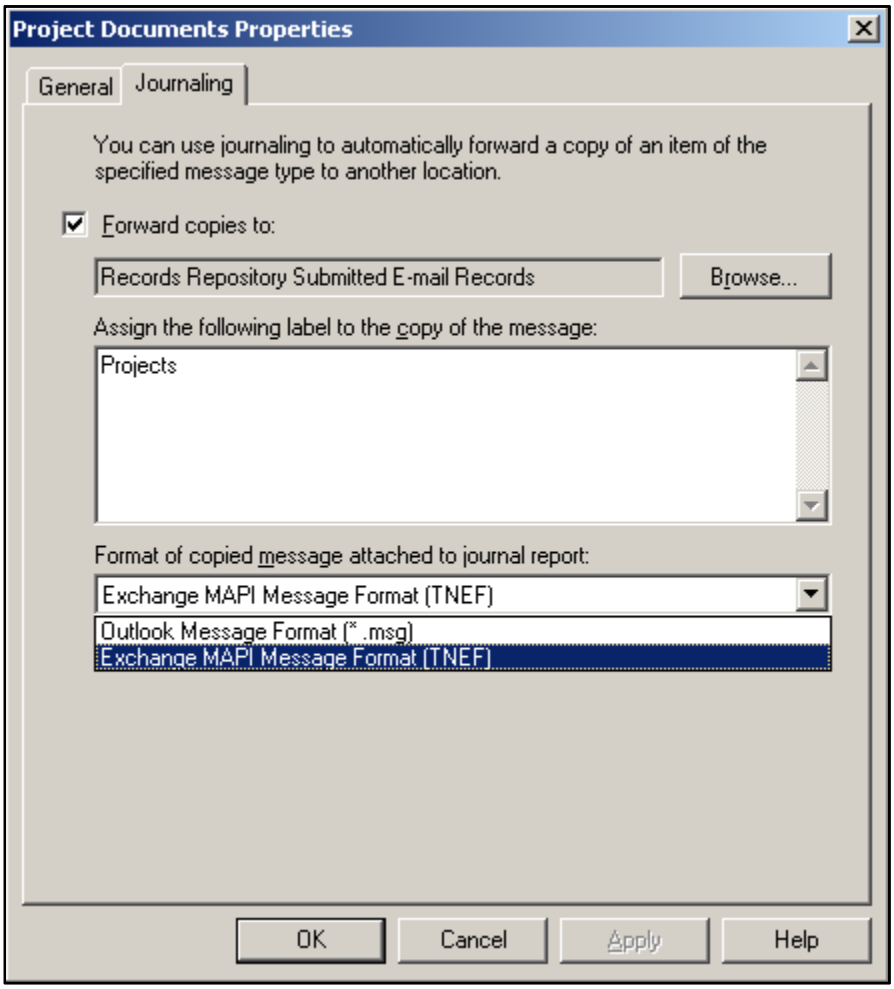

Figure 32 - Journaling dialogue showing message format options

If the **TNEF format** is chosen, then the original e-mail message is converted into a MHTML format/Web page. For each e-mail message sent to the records repository, two entries are created. When the TNEF format is used to send e-mails, two MHTML pages are created in the records repository. From my testing this assumes one of those pages is the original journal report sent from the managed folder with e-mail header. The other page contains the original e-mail

body along with any attachments. Figure 33 shows the MHTML encoded output that includes an attachment (X-MS-Has-Attach: yes).

Figure 33 - MHTML encoded output of e-mail message sent to record repository using TNEF format

If we look at the immediate receipt of the e-mail messages sent to the record repository (Submitted E-mail Records) using SharePoint Designer 2007 (see Figure 34), we can see both MHTML pages. Figure 31 showed the OriginalMessage.mht included in the e-mail header along with the label, while Figure 33 shows the AlernateFORMAT1.mht contained in the information including the e-mail attachment.

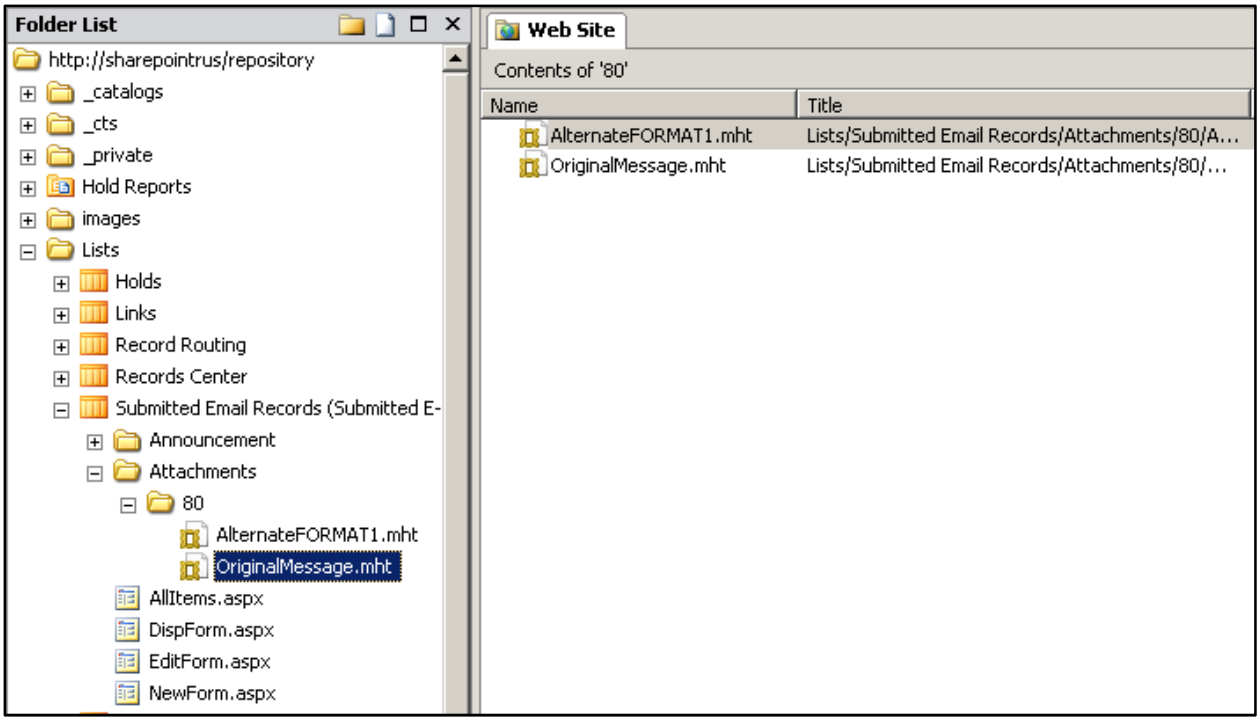

Figure 34 - TNEF file format shown in the Submitted E-mail Records list

If the **MSG format** is chosen, then our original e-mail message and its attachments stay in MSG format in the records repository. As with the TNEF format, an additional MHTML page is created and associated with the MSG file. However, the MSG format makes it is easier to access the original e-mail contents. Figure 35 shows the e-mail message has been received by the Submitted E-mail Records list in the records repository when the MSG format was used.

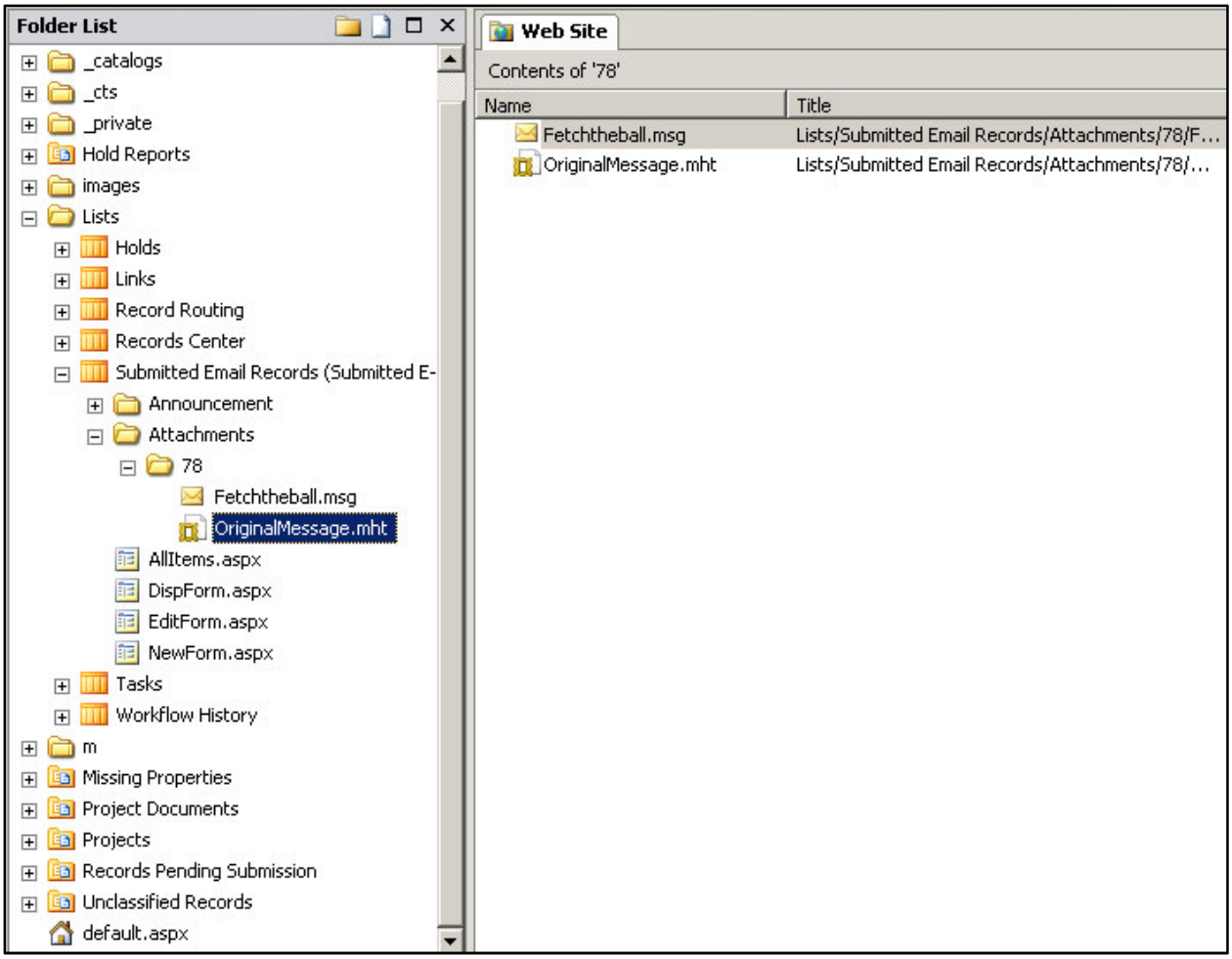

Figure 35 - MSG file format shown in Submitted E-mail Records list

Missing Properties E-Mail

Earlier in this paper we discussed the concept of including required columns in records repository document libraries and how this enforces population of metadata. We also discussed what happens when a user sends a document from a site collection document library to the records repository that includes required columns in the document library location. As discussed, this requires completing a form before the document can be successfully submitted to the records repository.

The same applies to e-mail records, but the process is slightly different. Instead of receiving a Web form, the e-mail submitter receives an e-mail notification indicating additional properties are required before the e-mail can be submitted. The e-mail shown in Figure 36 includes a link back to the missing properties list in the records repository site.

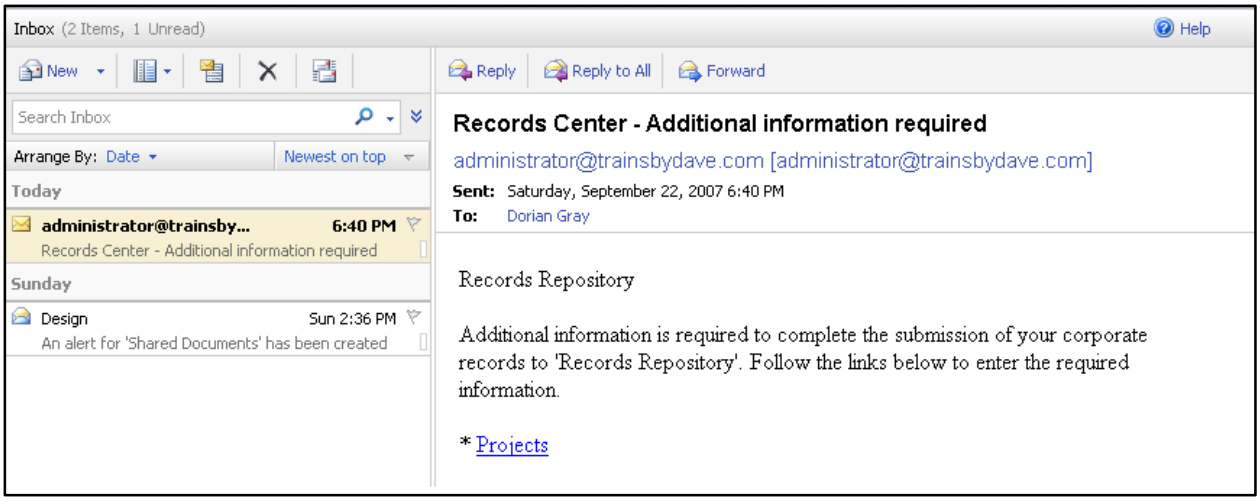

Figure 36 - E-mail with missing properties sent to submitter requesting additional information

Missing Properties View Page

When the e-mail submitter clicks the link in the "Additional Information required" (see Figure 36), they are directed to the record type missing properties page in the records repository Missing Properties document library.

Basically, whenever a new document library is created in the records repository and that library includes a required column(s), a new *view* page is created in the Missing Properties document library *when* a document or e-mail is submitted (to the repository) that matches the record type/document library location. For example, in Figure 37 a new view named Projects has been created in the Missing Properties document library. The Projects view relates to the Projects document library, which includes required columns.

> **Note**: The view name in the Missing Properties document library relates to the name of the document library rather than the content type. For example, if we have a document library named ABC and a record type named EFG using that document library as the routing location, the view page will be named ABC.

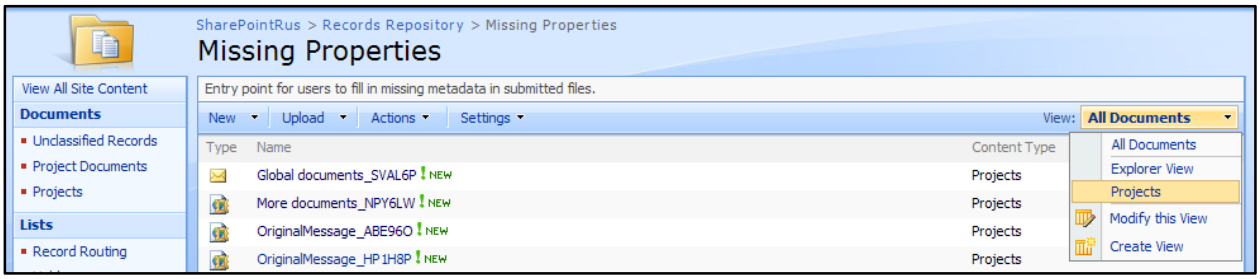

Figure 37 - Missing Properties document library showing drop-down of dynamically create view pages

New views dynamically created by the routing functionality are created based on a datasheet view (see Figure 38). Here, the user has accessed the missing properties page (Projects view) for Projects.

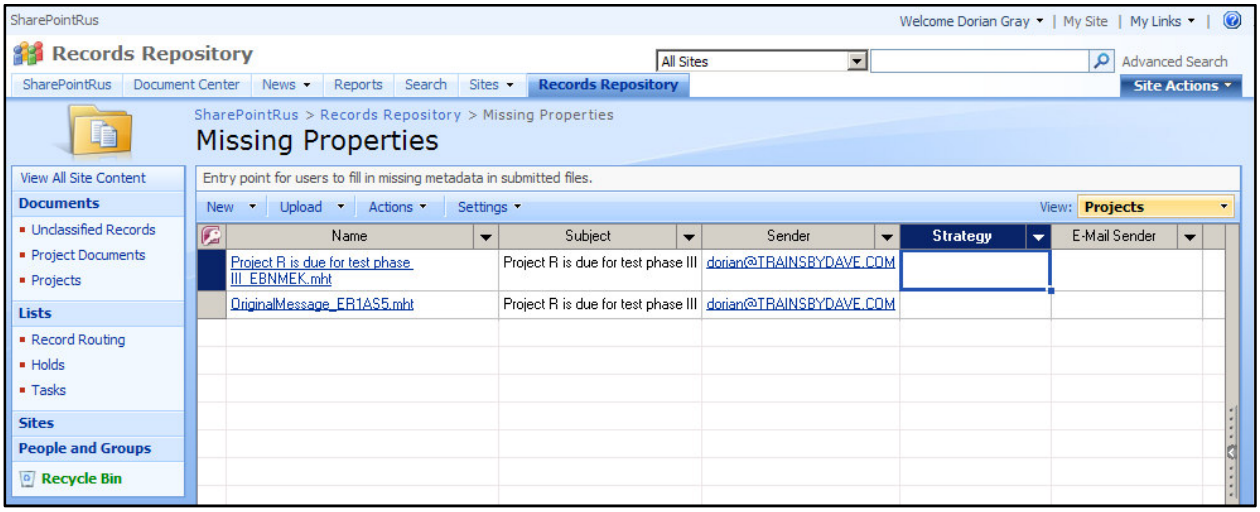

Figure 38 - Missing Properties datasheet view

Permissions for Missing Properties

An error like the one shown in Figure 39 may be received when attempting to submit a document to the records repository where the destination document library includes required columns.

> **Note**: The error shown in Figure 39 may also be experienced when using the *System Account* user.

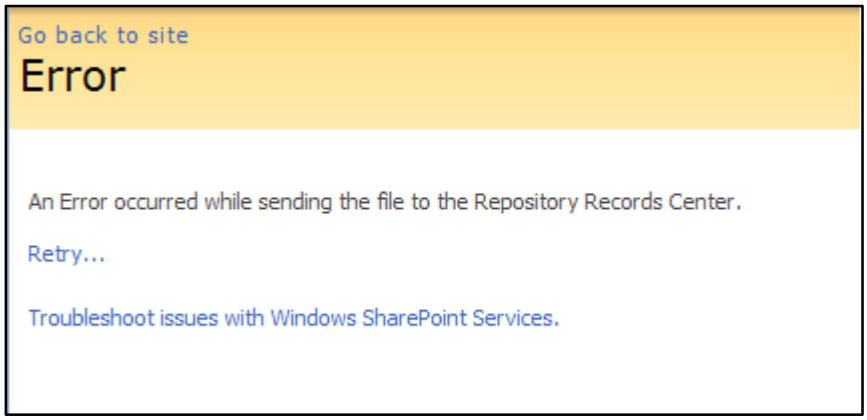

Figure 39 - Error dialogue when accessing missing properties form from document library

When the destination document library includes required columns, it is necessary to ensure that users submitting documents to the records repository have "Records Center Submission Completion" rights to the Missing Properties document library (see Figure 40).

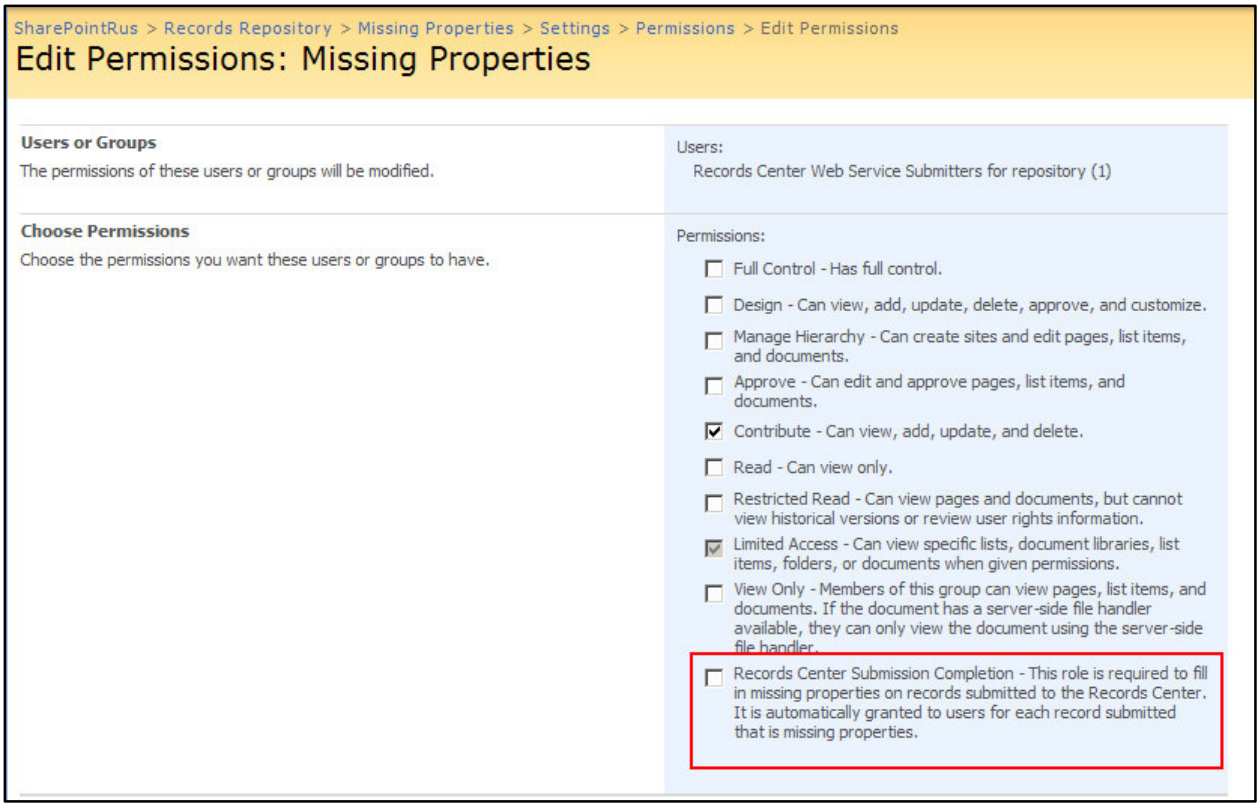

Figure 40 - Required permissions to complete missing properties

In my testing, when using the default permissions assigned when creating the records repository from the Records Center site template, users assigned reader and/or contributor roles were able to "Send To" the records repository from document libraries throughout the site collection. The users were also able to submit e-mails and attachments via the managed folders in Outlook 2007. When sending from a document library, each user was presented with a missing properties form that needed to be completed before the document could be successfully routed to the records repository. When sending an e-mail via a managed folder, and where the destination document library included required columns, the user received an auto-generated e-mail from the site collection administrator that included a link back to the missing properties page in the records repository. Users who submitted records to the records repository were granted the permission level of "Limited Access."

> **Note**: The e-mail security for the incoming e-mail settings on the Submitted E-mail Records list was set to "Accept e-mail messages from any sender", which is equivalent to "anonymous." This can be changed so the list only accepts e-mails from authenticated users.

Storing Records

The first time a document or e-mail is submitted to the records repository and routed to the document library location, a new folder is created in the document

library (see Figure 41). The name of the folder is formatted as YYYY-MM-DD [alpha/numeric suffix]. The date is the time/day the initial document or e-mail was received. The suffix is a unique identifier to avoid any collision of data in the library. For example, if the library is configured for multiple content types and then multiple record types in the Record Routing document library point to the same document library as the location for those record types, a new folder will be created for each content type.

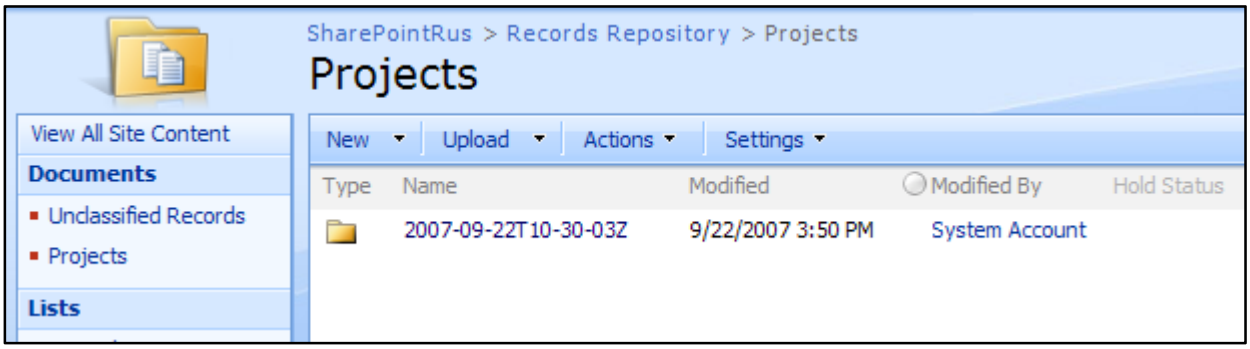

Figure 41 - Folder format in record repository document library

Within each folder are two additional folders that the records repository creates simultaneously with the parent folder – Audit History and Properties. The Audit History folder contains any audit logs associated with the record type such as holds reports or information management policy changes. The Properties folder contains XML files for each record type submitted to the library. If sent as an e-mail, each XML file contains information about the record such as the name of the name of the label. If a document is sent from within a site collection, the XML file contains the name of the content type. It can also contain logs about other properties such as attachments, submitter details, originating location, workflow, and virus status. Original files such as the e-mail body and e-mail page are added to the root of the main folder (see Figure 42).

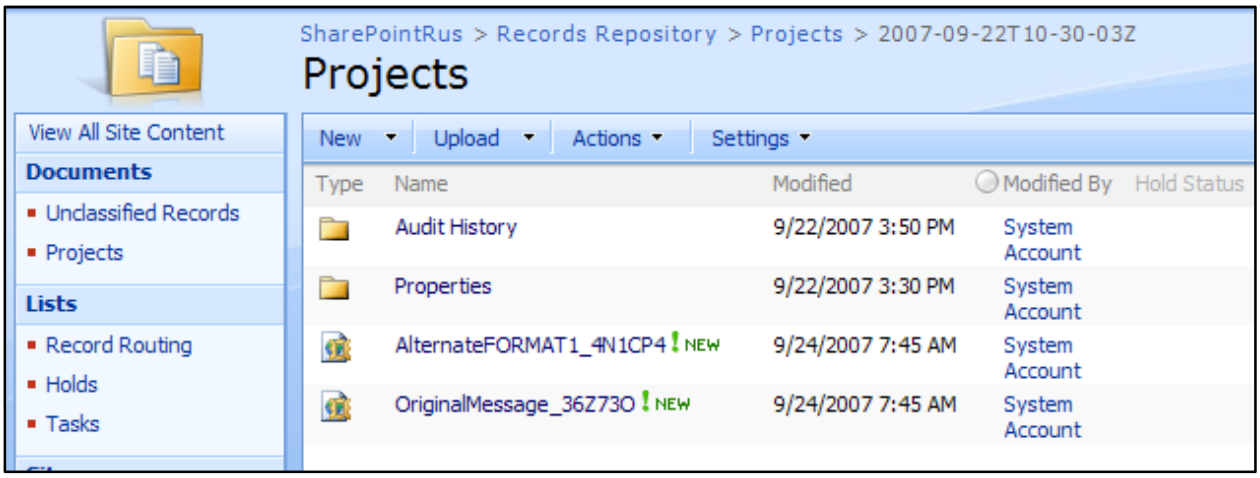

Figure 42 - Folder contents in records repository document library

Figure 43 shows the typical format of an XML file that is generated from a submitted e-mail record. The label Projects is highlighted, along with the <RecordRouting> tag that identifies the routing as type Projects. In other words, the label name of Projects is interpreted by the recording routing as type Projects and is sent to the associated document library/location, Projects.

```
    </Property>
  - <Property>
      <Name>Label</Name>
      <Value>Projects</Value>
      <Type>Text</Type>
    </Property>
  - <Property>
      <Name>_dlc_Mailbox</Name>
      <Value>Administrator@TRAINSBYDAVE.COM</Value>
      <Type>Text</Type>
    </Property>
  - <Property>
      <Name>Mailbox</Name>
      <Value>Administrator@TRAINSBYDAVE.COM</Value>
      <Type>Text</Type>
    </Property>
  - <Property>
      <Name>To</Name>
      <Value>bill@TRAINSBYDAVE.COM</Value>
      <Type>Note</Type>
    </Property>
  - <Property>
      <Name>Cc</Name>
      <Value>Administrator@TRAINSBYDAVE.COM</Value>
      <Type>Note</Type>
    </Property>
  </Properties>
  <RecordRouting>Projects</RecordRouting>
  <SourceUrl>http://sharepointrus/repository/Lists/Submitted Email Records/Attachments/48/Task assigned to Bill
    Smith on 452007 is overdue.mht</SourceUrl>
  <UserLoginName>TRAINSBYDAVE\administrator</UserLoginName>
</RecordsRepositorySubmission>
```

Figure 43 - XML file format for submitted e-mail record

Set Outlook Rules to Move E-Mail to Managed Folder

End users can configure rules in their Outlook client to route incoming e-mails to a managed folder. For example, in Figure 44 all e-mails sent from the IT distribution group are moved to the IT POLICIES managed folder. From the IT POLICIES managed folder, these e-mails can be journaled to the SharePoint records repository.

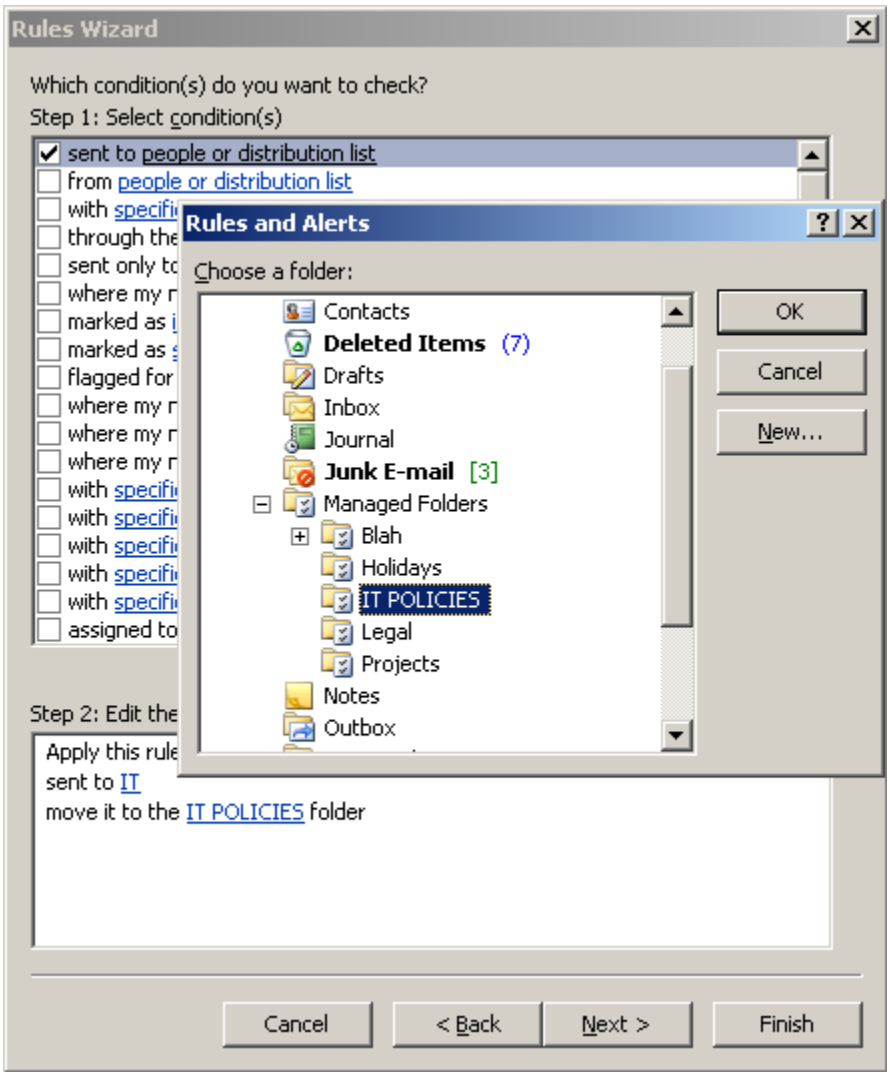

Figure 44 - Routing incoming e-mails to managed folder

Additional Information

This whitepaper has touched on Exchange 2007 and managed folder configuration. We have also outlined the key components for configuring both e-mail and document record managed in SharePoint Server 2007. There are many more opportunities for working with record management throughout SharePoint sites and site collections including some of the programmatic methods mentioned at the outset of this paper. Indeed, Exchange 2007 offers many possibilities for securing and enforcing data rules within mailboxes and managed folders.

One topic that was not covered in this whitepaper is information management policies in document libraries that are located in the records repository. However, this is something that should be evaluated as part of an overall record management strategy. Information management policies can extend the records management functionality by enabling auditing and expiration on content.

If you are at the outset of considering records management as part of your SharePoint Server 2007 deployment, do not forget to include records management as part of your overall design strategy.

> **Note:** The References included at end of this whitepaper include some useful links about records management.

DoD 5015.2 Certification

In May 2007, SharePoint Server 2007 received the U.S. Department of Defense (DoD) 5015.2 records management certification. More information about DoD can be found at the Joint Interoperability Test Command Records Management Application (RMA) at http://jitc.fhu.disa.mil/recmgt/

Planned Microsoft Add-On Pack

Microsoft plans to release a Records Center Add-On Pack in late 2007. More information about this Add-On Pack can be found at http://jitc.fhu.disa.mil/recmgt/mcmosps/index.html

Third Party E-Mail Integration Tools

An alternative to Exchange 2007 managed folders is the Colligo Contributor for SharePoint, which provides similar functionality to managed folders. A free 30-day trial copy of this product can be downloaded from the Colligo site at http://www.colligo.com/products/sharepoint/outlook_add-in.asp

References

1. Develop the File Plan (Office SharePoint Server), http://technet2.microsoft.com/Office/en-us/library/f3fae102-5b20-4c9f-9707-ab76c68be9371033.mspx?mfr=true
2. Exchange Server 2007 and the Active Directory:
   Part 1:
   http://blogs.dirteam.com/blogs/sanderberkouwer/archive/2006/07/28/Exchange-Server-2007-Beta-2-and-the-Active-Directory.aspx
   Part 2:
   http://blogs.dirteam.com/blogs/sanderberkouwer/archive/2006/10/03/Exchange-Server-2007-and-the-Active-Directory_2C00_-Part-2.aspx
   Part 3:
   http://blogs.dirteam.com/blogs/sanderberkouwer/archive/2006/11/07/Exchange-Server-2007-and-the-Active-Directory_2C00_-Part-3.aspx
3. Exchange Server 2007 System Requirements:
   http://www.microsoft.com/technet/prodtechnol/exchange/2007/evaluate/sysreqs.mspx
4. Hands-on Lab: Microsoft Office SharePoint Server 2007 Records Management Deployment and Configuration,
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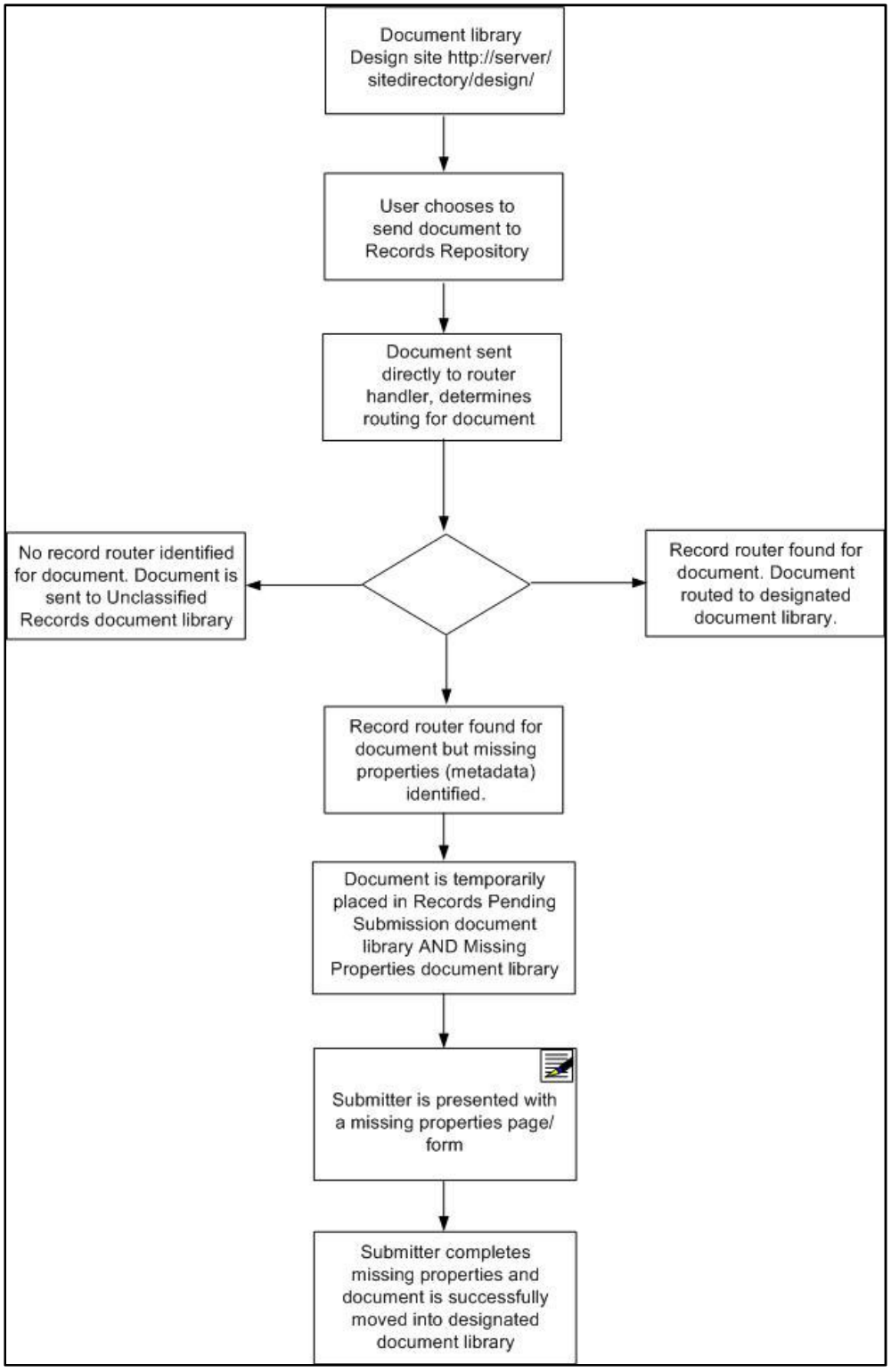
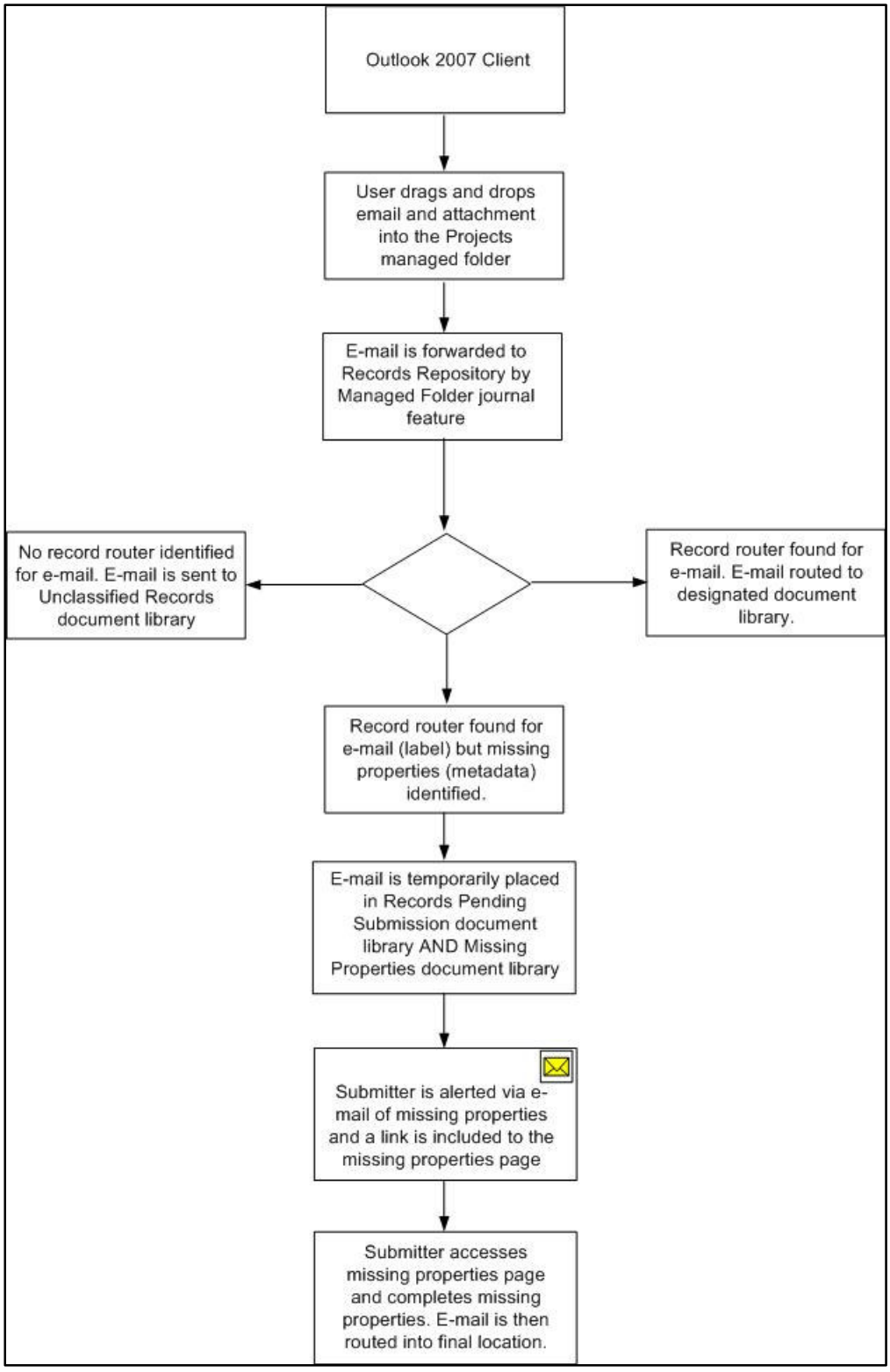
5. How to Configure E-mail-Enabled Lists in MOSS2007 RTM Using Exchange 2007, http://www.combinedknowledge.com/Downloads/How%20to%20configure%20Email%20Enabled%20Lists%20in%20Moss2007%20RTM%20using%20Exchange%202007.pdf
6. Introduction to the Records Center Site, http://office.microsoft.com/en-us/sharepointserver/HA101735961033.aspx
7. Microsoft Records Management Team Blog, http://blogs.msdn.com/recman/
8. Microsoft Exchange Server 2007 Compliance Tour Introduction, http://www.microsoft.com/exchange/evaluation/compliance/compliance-tour.mspx
9. Plan E-mail Message Records Retention, http://technet2.microsoft.com/Office/en-us/library/8f752e21-b5af-4ed1-b48e-26a72a6d3eaf1033.mspx?mfr=true
10. Plan How Records are Collected, http://technet2.microsoft.com/Office/en-us/library/f3fae102-5b20-4c9f-9707-ab76c68be9371033.mspx?mfr=true
11. SharePoint Server 2007 SDK: Software Development Kit that includes Records Management and Policy Samples, http://www.microsoft.com/downloads/details.aspx?familyid=6d94e307-67d9-41ac-b2d6-0074d6286fa9&displaylang=en
12. Using Record Repository Features in Windows SharePoint Services 3.0 and SharePoint Server 2007, http://www.officezealot.com/downloads/moss/OfficialFileConceptualBeta2.pdf

Appendix A: Flowchart for Document Submitted "Send To"



Appendix B: Flowchart for Submitted E-mail



The Author

Kathy Hughes is a SharePoint consultant based in Sydney, Australia. She consults for Mindsharp, a major North American Microsoft training company based in Minnesota, and Unique World, a Microsoft Gold Partner based in Sydney. Her main area of interest is architecting and customizing SharePoint and .NET deployments, specifically from a usability and design perspective.

Kathy has developed and designed Web technologies for over 15 years and has worked with Microsoft collaborative technologies since SharePoint 2001. She has globally deployed and customized SharePoint Portal Server 2003 since beta inception and has customized and deployed SharePoint Server 2007 since beta release. She recently co-authored *Microsoft Office SharePoint Server 2007 Administrator's Companion* (Microsoft Press, ISBN 0735622825, January 2007). Kathy also designed and wrote a 5-day SharePoint Designer 2007 course for Mindsharp that is used globally.

Kathy is in her final year of earning her Master of Interactive Multimedia at University of Technology, Sydney, where she majors in Web site usability and design. Kathy blogs at http://mindsharpblogs.com/kathy/ and writes whitepapers on SharePoint and collaborative technologies.