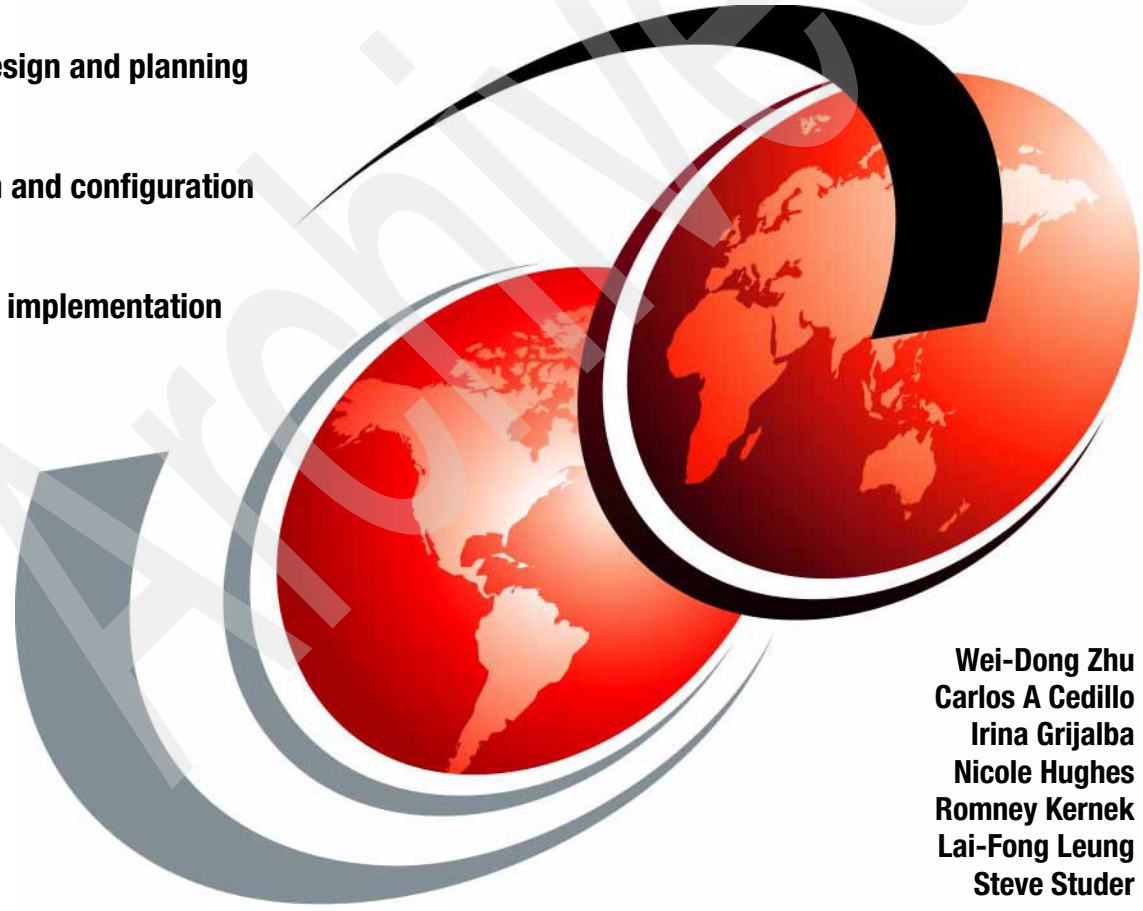
IBM DB2 Document Manager with IBM Records Manager Solution Guide

- Solution design and planning
- Installation and configuration
- Case study implementation



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Note: Before using this information and the product it supports, read the information in “Notices” on page xxi.

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Preface

IBM® DB2® Document Manager Version 8.3 (Document Manager) is one of the newest members of the IBM Enterprise Content Management portfolio. Document Manager provides a secure and robust platform to manage the complete life cycle of business documents. It helps ensure accurate and up-to-date documents are available on demand. When configured with IBM Records Manager Version 4.1.2 (Records Manager), the Document Manager solution also provide records management capability.

This IBM Redbook provides a general solution guide for the records-enabled document management solution using Document Manager and Records Manager. The solution uses Document Manager to manage the documents, Records Manager to manage the declared records, and IBM DB2 Content Manager Version 8.3 (Content Manager) as the back-end content repository for the documents and declared records. This redbook helps you to plan and design the solution, perform end-to-end product installation and configuration, and implement the solution using a practical case study as an example.

This redbook is logically divided into two parts. The first part consists of the first six chapters of the redbook focusing on solution overview, concept, and theory. The second part consists of the last six chapters of the redbook focusing on practical end-to-end solution installation, configuration, implementation, and deployment.

In Chapter 1, we introduce the overall integrated solution and the products involved, including IBM DB2 Content Manager Records Enabler Version 8.3 (Records Enabler). We discuss what Document Manager is, the benefits of Document Manager, the Document Manager components, the need for records management, and overviews of Records Manager and Records Enabler.

The best way to learn a new product or a solution is to work with related demonstrations and case studies. In Chapter 2, we introduce a case study to help you get a quick start. We demonstrate the capabilities of the Document Manager solution along with Records Manager through various screen shots of the sample application created for the case study. We intend to help you understand, from a practical view point, what a Document Manager solution can do for your company and how you can operate in the Document Manager system environment.

In Chapter 3, we discuss how to design and plan a Document Manager solution. In Chapter 4, we discuss different options available to integrate the Records

Manager functions into a Document Manager system. Specifically, we concentrate on different ways of declaring and classifying documents within a Document Manager system using Records Manager.

In any document management solution, it is important that the solution protects the business assets. Using the security features provided by Document Manager, Records Manager and the back-end content repository, Content Manager, we can guard the system against unauthorized access, control what users can do once they are in the system, and ensure that the security management of the records comply with the record keeping mandates and regulatory guidelines. In Chapter 6, we discuss security measures you can apply in the solution.

In Chapter 7, we describe end-to-end product installation and configuration for the solution, including the associated fix packs installation.

In Chapter 8, we provide the design overview and configuration steps you need in order to implement the basic Document Manager solution for the case study described in Chapter 2. In Chapter 9, we show you how to implement advanced Document Manager features, including application integration, property exchange, e-mail notification, rendition, dynamic search folders, and document templates.

To add records management functions to the Document Manager solution, in Chapter 10, we describe the practical steps involved in creating a file plan, and associating security and classification rules. We show you how to enable an item type for record declaration and how it is configured within Document Manager. We show you how to configure Document Manager classes for various record declaration options. In Chapter 11, we provide additional Records Manager configuration options. We show you different Document Manager and Records Manager configuration options. We cover the automation service declaration and Records Manager link and set creation.

In Chapter 12, we describe how to deploy a Document Manager system integrated with the Records Manager engine. We describe how to move your configuration from a development or testing system to a production system.

This redbook is intended for IT architects and specialists who will be responsible for planning, designing, and implementing a records-enabled document management solution using Document Manager and Records Manager. In this redbook, we focus on important areas that are related to the overall end-to-end solution. For product-specific information such as detailed installation steps, we recommend reading the existing product manuals in conjunction with this redbook.

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1

Solution overview

IBM DB2 Document Manager (Document Manager) is one of the newest members of the IBM Enterprise Content Management portfolio. Document Manager provides a secure and robust platform to manage the complete life cycle of business documents. It helps ensure accurate and up-to-date documents are available on demand. When integrated with IBM Records Manager (Records Manager), the Document Manager solution also provides records management capability.

The records-enabled document management solution we cover in this redbook consists of Document Manager, Records Manager, IBM DB2 Content Manager (Content Manager), and IBM DB2 Content Manager Records Enabler (Records Enabler).

In this chapter, we introduce Document Manager, Records Manager, Records Enabler, and the overall integrated solution.

We cover the following topics:

- What is Document Manager?
- Benefits of Document Manager
- Document Manager components
- The need for records management
- Records Manager overview
- Content Manager Records Enabler (CMRE) overview
- Integrated solution overview

1.1 What is Document Manager?

IBM DB2 Document Manager (Document Manager) addresses the origination, approval, distribution, and revision of unstructured information. In the simplest terms, Document Manager enables electronic files to be reused or repurposed by multiple individuals.

Document Manager applies a discipline called *library sciences* to catalog corporate information which can be in the form of hard copy (physical documents), electronic files generated by desktop applications, or just metadata or XML information created internally or externally. In any form, Document Manager is an application that allows you to index and file corporate information in a uniform and centralized way.

Document Manager focuses on *cataloging* key corporate information, the majority of which is unstructured material that often includes memos, word processing files, spreadsheets, presentations, faxes, scanned images, audio files, invoices, and XML-based information. However, unstructured material can also include three-dimensional objects, such as paper documents or drawings, videotapes, or any physical objects (which do not have to be in electronic form).

Cataloging is only the first step in Document Manager; to be successful in enterprise-wide deployment, Document Manager must tightly integrate into other business applications. In today's corporate environment, the majority of desktop computers use some form of the Microsoft® operating system and Microsoft applications to generate information. While there are other operating systems and other applications, there are many personal computers that are Microsoft driven and use Microsoft Office or mail applications to create information.

Document Manager as it pertains to Microsoft

The Microsoft operating system stores electronic files in a flat file structure. A flat file structure means files are bound to a single folder (directory) and files cannot have the same file names within that directory. Because of the flat file structure, users may struggle to locate and manage different versions of the electronic files. Just remembering the file name is not the only challenge. Sharing files is a real challenge because users must have the foresight to know where the files should be located, as well as what to do when updating documents. In many cases, keeping the original version is extremely important. (We discuss this versioning concept in detail later).

1.2 Benefits of Document Manager

Eighty percent of the information generated within a corporation is in an unstructured form, and analysts estimate that 40% of a user's time is spent waiting for information. Corporations looking for a competitive edge see major savings by just reducing information retrieval time by a small percent. Corporations that have effectively used Document Manager have seen a tremendous improvement in their competitiveness and operational efficiency.

Document Manager helps employees make better decisions in a more timely fashion, because Document Manager helps catalog information and track version history while maintaining access control throughout the document life cycle process.

Easier document storage and retrieval

One important aspect of Document Manager is how it helps information producers, approvers, and consumers. The *information producers* are those who contribute to the information. The *information approvers* are those who need to sign off on the information. And the *information consumers* are those who review the material and act on the information.

Document Manager works by tying file names and file locations to a set of index attributes (catalog) maintained in a database. This methodology is commonly called a *library sciences approach* to filing documents.

Using this library sciences approach, you can store or retrieve files based on more than just the file names. Another advantage is that you can store files in such a way that the versions are maintained with the same file name, which becomes extremely important when maintaining file relationships.

Integrated access control

Document Manager maintains access control through the document life cycle process. No one can access the files, attribute tables, or the library catalog directly without authorization. In addition, users never access an original file; instead, users work with copies that are delivered as new versions. This way, users cannot corrupt, damage, or delete the original file, or any of its versions.

Users can have a quick, simple, and constant way to find all files stored in the network anywhere in the network (as long as they have at least view access). The Document Manager interface provides a familiar file folder structure where users can navigate to documents via folders that maintain pointers to files. Users can run search queries on system attributes, user attributes, and content. Users can in turn save these queries as files to create *dynamic search folders* and then reuse them. (We discuss dynamic search folders in more detail later in the redbook.)

Greater access control through life cycle process

In many organizations, document updates may require approval before view access is granted to the general audiences. Typically once a document is completed, the access control remains static for the most part. Users and groups typically only need view access. However, during an update or approval process, the access control changes as the document is circulated for approval. To automate the access control, Document Manager uses state-based change control.

State-based change control has three key states:

- It provides producers access to documents so they can edit the documents.
- It can remove their access when the producers submit the documents for approval.
- Once the information approvers approve the documents, the access changes once more to allow the consumers to view the final version of the documents.

We discuss document life cycle state in more detail later in the redbook.

Version control

At the heart of any document management system is *version control*. Version control ensures that every time a user edits a document, the originating document is still available in some form. This ensures that users can track changes made and roll back to the original document if necessary.

A common method of managing version control is through the checkout and checkin processes. The checkout process flags the originating file so users can tell that a particular file is being edited by another user. The user that checks out a document has the only copy that can be checked back in. Checking in creates a new version of the document. In most document management systems, a version is nothing more than a copy of the original that also includes changes that the user made to the file. Each version is stored in a way that it has some link to the originating file.

Version versus the revision process

In many cases, documents are considered *living* documents. This means that these documents are constantly updated, approved, and distributed. When working with the living documents, it is a common practice that while these documents are undergoing changes and approval, the original versions of the documents still need to be accessible by the consumer.

It is typical in the process of updating the original document that several *versions* may be created before it is finally approved. Consequently, only the final approved version is actually considered an official *revision* or the approved amended version. In other words, a new revision can contain multiple versions.

But the approved version, the one that actually replaces the original one is commonly considered the new revision of the document.

Document Manager provides a key benefit because it allows users to manage both revisions and versions.

The Document Manager Revise process creates a working copy of a document from the original, whereby access controls to the working copy can be distinct from the original document. This process ensures that edits do not impact the accessibility of the released version.

By maintaining the relationship to the original document and the revision, Document Manager allows the revision to be approved and provides provisions about what to do with the original once the final version of the revision is approved. This feature is critical especially when you consider that these documents can be components of other documents.

Application integration

Document Manager integrates common desktop applications with the content, where you can access documents and even build components from within their native application. In other words, Document Manager can provide you with access to simple Microsoft Office files from within the application or can provide access to the Office files that have OLE links or are composed as XML documents. Document Manager also tightly integrates into Microsoft Outlook® and Lotus Notes® to provide you the ability to save messages and any attachments. Furthermore, Document Manager integrates into the two most popular desktop CAD applications (Bently MicroStation and AutoDesk AutoCAD), providing native compound document support for any reference file attached through these applications.

Information repurposing

With Document Manager, you can automatically transform documents written in one format into another format through document renditions, print/plot, and XML transformations. Using this technology, you can easily transform documents produced in one application into a non-editable format, such as TIF or PDF, or using XML transformed from one Web format to another.

When you combine these technologies with the others we have mentioned previously, you can get an idea of how powerful Document Manager is. You can easily distribute documents, that are generated in their native application, to all consumers in the appropriate context and format once they are approved.

Take the example of a common procedure that is used in an organization. The procedure is likely made up of several documents. Each document requires review and approval before you can update it. Once you update it, it may be

found in printed form, in a Web page, or as a distinct document maintained by the records group. Using Document Manager, you can automate the process of updating and disseminating the document to all the various formats using a structured business process that follows corporate guidelines.

1.3 Document Manager components

Document Manager is built on a three-tier model. The model consists of:

- Document Manager clients
- Document Manager server and services
- Content repository

The content repository for a Document Manager solution is Content Manager. If you need to provide records management to the solution, you need Records Manager and Content Manager Records Enabler.

Note: In this redbook, we use the wording *Document Manager* solution/ system interchangeably with the wording *document management* solution/ system. In addition, when we write that we are *records enabling* a solution, we mean to provide records management to the solution.

Document Manager clients

There are three types of Document Manager clients:

- Document Manager Desktop
- Document Manager Designer
- Document Manager Item Loader

In this redbook, we focus on the first two.

The Document Manager client applications are accessed and installed directly from a URL configured at the system installation time.

The *Document Manager Desktop* is a client interface provided to users to access and manage documents within Document Manager. It enables users to add, delete, and modify documents in the system. In addition, users can search and view documents from the Desktop. Other activities users can perform in the Desktop include checking in and checking out documents, and transitioning documents through their life cycles.

The *Document Manager Designer* is a client interface provided for system administrators and the designers of Document Manager. It enables administrators and designers to configure the Document Manager environment, the system setup, and the Document Manager Desktops. Without programming,

the designers can use the interface to customize Desktops for different users, and control what users can see and do once they are in a Document Manager system.

Document Manager server and services

The *Document Manager server* (also known as the Document Manager Library Server) is the core component of a Document Manager system. It services requests from Document Manager applications and it serves as the communicator between the content repository and the Document Manager applications. It comprises a set of dynamic link libraries (DLLs).

Other basic components of Document Manager are:

- Cache server
- Life cycle service
- Notification service

The *cache server* is responsible for maintaining the system's cache configuration files up-to-date. Document Manager uses these cache files to reduce server to client communication and to communicate with Document Manager clients about changes in the Document Manager system configuration, such as users, menus, views, states, users' folder creation and modification. The cache manager runs at a configurable interval basis, pooling changes from the server repository and preparing the cache file for the next user connection. In addition, each Document Manager Desktop maintains its own cache file based in the server cache file. The Desktop copies the cached information on the cache server to the local server each time it connects to the Document Manager server if the information has been changed since its last copy.

The *life cycle service* manages documents' life cycle. It is responsible for processing document actions submitted from the Document Manager Desktop, the Item Loader, or Automation Services. Examples of these actions include sending an e-mail notification, creating a printing job, and starting a rendition process.

The *notification service* processes e-mail notifications and sends e-mails to the designated users. The notification process is triggered by a Document Manager life cycle process and can either attach the document or include the document link to the e-mail.

Document Manager also offers the following optional services:

- Print/plot service
- Rendition service
- Automation service

The *print/plot service* controls a print job queue and is responsible for sending documents to printers for printing in the system. You can manually define the print/plot jobs or you can automatically create them by a life cycle trigger. This service also allows users to print documents, even if they do not have the original application in their own workstations, because the print/plot service directs the print jobs to the printer/plotter attached to a server that has the necessary application to open and print the document in the required format.

The *rendition service* is responsible for rendering documents in PDF or TIFF format for document security or distribution purposes. Because renditions are usually created in popular formats, users can view the renditioned documents even if they do not have the applications that created the original documents or the necessary applications to view the documents in their original format.

The *automation service* is responsible for processing predefined, time-based, automatic actions. Examples of actions include delete, send to print, archive, transition documents, or trigger external applications.

Content repository

The *content repository* is responsible for physically storing the documents for a Document Manager system. For the records-enabled document management solution we cover in this redbook, Content Manager serves as the content repository for the documents in the system.

1.4 The need for records management

Document Manager addresses the origination, approval, distribution, and revision of unstructured information, but it does not address the record keeping needs of a business. Historically, the focus was on document creation and capture, and we often overlooked when and how to get rid of some information while preserving other information. This is why you need a records management component in your solution. Records management provides the ability of your solution to declare documents as records and apply retention and disposition rules to the records. Records management provides a structured means of preserving needed content and destroying that which is no longer needed. The rules for record keeping are based on regulations, laws, and business policies which usually are unique for every organization.

Each record has a life cycle associated with it. Life cycle specifies a collection of phases a record must go through from the time it is declared a record to the time it is disposed of. Retention schedule, also known as retention rules, specifies how long a record stays (is retained) in a phase and when the record transitions to the next phase. Retention rules are time, event, or event and time-based. It is

important to keep records as long as required and destroy them as soon as possible. Properly disposing of records reduces storage costs and liability of an organization.

A structured records management system simplifies record keeping and improves operational efficiency by reducing the retrieval time of records. A system that maintains records properly helps a business to prove compliance with regulatory and legal obligations. Litigation risk is reduced as compliance is increased.

In the records-enabled document management solution we cover in this redbook, it is mainly a Document Manager solution that integrates with Records Manager and Content Manager Records Enabler to provide records management functions.

1.5 Records Manager overview

IBM Records Manager (Records Manager) is an application and also an embedded engine that enables the management of enterprise's electronic and physical records throughout their records' life cycles. Records Manager delivers the record keeping functions through the embedded engine technology. It is integrated with applications such as IBM DB2 Content Manager, IBM DB2 Document Manager, IBM DB2 CommonStore for Lotus Domino, and IBM DB2 CommonStore for Exchange Server. Records Manager APIs facilitate the integration with any application that requires its record keeping capabilities.

Records Manager provides the following record keeping functions:

- Corporate records declaration and classification
- Records life cycle management
- Record metadata management
- Record content searching, retrieval, and viewing (including text search)
- Document auditing and reporting
- Users and security management

Some of the reasons why you might want to integrate Records Manager with your business applications include:

- Meet compliance requirements.
- Support required business processes, procedures, and standards.
- Embedded engine technology seamlessly integrates with other applications.
- Web-based administration client.
- API integration using Java, C++, and .Net.
- Scalable architecture.
- Flexible file plan design.

- Content is maintained in the host application's repository.
- DoD 5015.2 and PRO-certified.

With Records Manager, you can declare and classify records from using fully automatic procedures to manual processing.

1.5.1 Records Manager components

Records Manager has five components:

- Records Manager engine
- Records Manager database
- Records Manager APIs
- Records Manager administration client
- Import export utility

Records Manager engine

The *Records Manager engine* provides all the functions required for record keeping and life cycle management. The engine allows system integrators to customize a solution for any type of application. This records enabling technology is already integrated into IBM Enterprise Content Management solution.

Records Manager database

The *Records Manager database* stores the file plan data, schema, and stored procedures for use with the engine. Only metadata about the records is stored in the Records Manager database; the associated document content is maintained in the application repository.

Records Manager APIs

The *Records Manager application programming interface* is used to manage records programmatically. With the APIs, the business applications can embed the electronic records process, so that users can declare and classify documents within the business applications. The APIs can be called from most programming environments, including Java, C++, and .Net. You can access all engine functions through the APIs.

Records Manager administration client

The *Records Manager administration client* is a Web browser-based application that allows administrators to perform all record keeping activities. The Records Manager administration client is fully customizable and uses the Records Manager APIs.

Import export utility

Use the *import export utility* to efficiently manage the transfer of file plan data. Use the utility to transfer data from an existing Records Manager system's file plan into another one. This is useful when you want to deploy the Records Manager configuration from a testing or development environment to a production environment. The utility is an application that uses the Records Manager APIs.

1.6 Content Manager Records Enabler (CMRE) overview

Content Manager Records Enabler provides comprehensive records keeping to any content placed in Content Manager (regardless of how), and integrates record management features into all the clients and access methods that can create and capture content in Content Manager.

Records Manager is an engine that, when integrated with a business application, enables the business application to provide records management. *Content Manager Records Enabler* (Records Enabler) provides the integration needed for a Content Manager application to integrate with Records Manager to provide this records management capability. Together with Records Manager's record management functions, and Content Manager's content repository, CMRE delivers the records management function to all Content Manager applications and clients. This complete record keeping solution is available through clients such as the Content Manager Client for Windows®, eClient, Document Manager, Lotus Notes, and Microsoft Outlook. Working with Document Manager, the solution provides extensive record creation and management capabilities.

With Records Enabler, you can declare corporate documents or content as corporate records within Content Manager, Document Manager, or CommonStore. Once a document is declared as a record, the content and associated document metadata remain in the original content repository (which is Content Manager) and the document can no longer be edited or deleted. Some of the document's metadata and records-related information are also stored in the Records Manager database. The access permissions and life cycle of the record and its content are governed by Records Manager. Only authorized users, such as the record's administrators, can process or manage the life cycle of records.

Records Enabler provides the following functions for Content Manager users:

- Automatically or manually declare and classify Content Manager objects.
- View record information.
- Search, retrieve, and view record contents.

- Perform text search on documents (including declared records) in the repository.

Records Enabler provides the following functions for records management:

- Perform on-demand and scheduled permission synchronization.
- Undeclare records.
- Import Content Manager user and group accounts into Records Manager.
- Perform text search on items stored in the Content Manager repository.
- Life cycle management, including record destruction.
- Provide defaults for record declaration and classification.

1.6.1 Content Manager Records Enabler components

Records enabler consists of the following components:

- Records Enabler Server
- Records Enabler Host Interface Server
- Records Enabler Permission Synchronization Server
- Records Manager Extensions

Records Enabler Server

Records Enabler Server provides a centralized base for handling Records Enabler user requests and their appropriate actions.

Records Enabler Host Interface Server

Records Enabler Host Interface Server implements the Records Manager Host Interface application program interface (API) for Content Manager to enable communication between Records Manager and Content Manager.

Records Enabler Permission Synchronization Server

Records Enabler Permission Synchronization Server performs on-demand and scheduled permission synchronization tasks from the latest file plan components that have their permission policies changed since the previous synchronization and the corresponding items in Content Manager or Records Manager.

Records Manager Extensions

Records Manager Extensions extends the Records Manager installation to support Records Enabler. It provides the notification service for permissions synchronization between Records Manager and Content Manager. You must install this subsystem on a Records Manager server.

1.7 Integrated solution overview

The records-enabled document management solution on which we focus in this IBM Redbook comprises the products we introduced in the previous sections and Content Manager:

- Document Manager
- Records Manager
- Content Manager
- Content Manager Records Enabler

Figure 1-1 shows the system architecture of the integrated system.

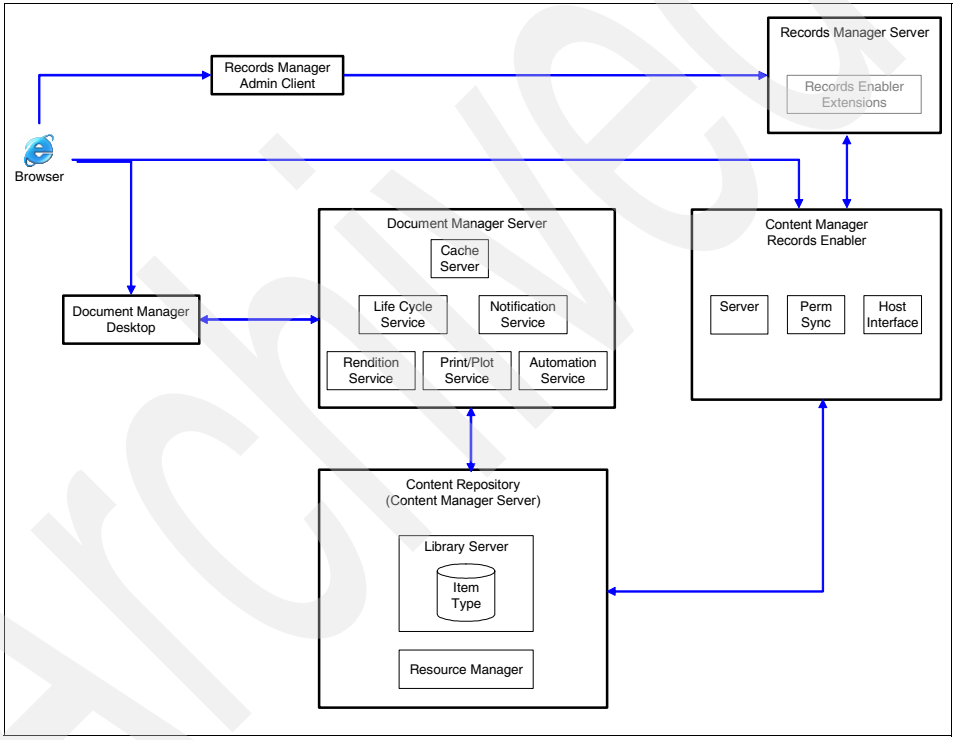

Figure 1-1 Records-enabled DM solution system architecture

Note, Records Enabler Extension is a part of the Content Manager Records Enabler (CMRE).

The integrated solution offers the following functions:

- Using the Document Manager Desktop, you can:
  - Add, delete, or modify documents in the Document Manager system.

  - Search, retrieve, and view documents.
  - Manage documents through their life cycles (non-records related).
  - Declare and classify documents.
  - View records management information.
  - Search and retrieve declared records.

- Using Records Manager administration client, you can:
  - Declare electronic and physical documents as records.
  - Destroy or undeclare records.
  - Search, import, retrieve, and view record contents.
  - Retrieve record contents from Content Manager repository.
  - Query records or generate record reports.
  - Perform record's life cycle management.
  - Perform the administration for users who work with records.
  - Perform other records-related management.

2

Quick start with case study

The best way to learn a new product or a solution is to work with the related demonstrations and case studies. To help you get a quick start with the records-enabled document management solution, we introduce a case study in this chapter that we use throughout this redbook. For this case study, we use a hypothetical company, ZXY Technologies. We discuss the company's requirements for a document management solution, and demonstrate the capabilities of Document Manager along with Records Manager through various screen shots of the sample application that we create for the solution. We intend to help you understand, from a practical view point, what a Document Manager solution can do for your company and how you can operate in the Document Manager system environment. In later chapters of this redbook, we show you the steps involved in implementing the sample solution.

We cover the following topics in this chapter:

- Case study overview
- Sample solution demonstration

2.1 Introduction

The purpose of the case study is to identify common, non-industry specific, document management applications, to demonstrate the Document Manager (along with Records Manager) capabilities, and to illustrate ways to create a solution that translates into any industry or corporation.

We begin by describing the requirements of a document management solution for the ZXY Technologies Company (see 2.2, “Case study overview” on page 16). We then show you what the final system looks like and what you can do with it (see 2.3, “Sample solution demonstration” on page 19).

In later chapters, we show you:

- How to apply the requirements to design a solution for the ZXY Technologies Company (see Chapter 3, “Document Manager solution design and planning” on page 47).
- How to install the products for the solution (see Chapter 7, “Installation and configuration” on page 151).
- How to fulfill the requirements by creating a Document Manager system (see Chapter 8, “Basic Document Manager implementation” on page 239 through Chapter 11, “Other record declaration options in Document Manager solution” on page 399).

2.2 Case study overview

The case study involves a hypothetical company, ZXY Technologies. It sells hardware, software, and services to its clients.

2.2.1 Requirements

ZXY Technologies needs an enterprise-wide, document management solution to help the company with the *proposal* creation processes and keep track of all the *correspondence* related to the proposals.

We examine the requirement for proposals and correspondence in this section. In addition, we briefly review the requirements for records and confidential documents.

Proposals

Every month, ZXY Technologies handles hundreds of requests for proposals from its clients.

Proposals are commonly used both to request information and to submit information. Customers issue *proposal requests* seeking pricing or product information. The ZXY Technologies Company issues *proposal responses* providing pricing or product information.

Proposal requests are sources of unstructured data. They contain information critical to a project or critical to serving a customer. They can come in the form of an e-mail, phone call, fax, or a business letter.

With *proposal responses*, ZXY Technologies delivers the required product and pricing information to customers based on the customers' proposal requests. There are multiple steps in the proposal response creation process: response creation, review, approval, and delivery to the customer.

ZXY Technologies needs a solution to manage all documents involved in the proposal creation process from end-to-end. This includes managing documents from the beginning, when the requests for proposals come in from customers as e-mails, faxes, phone calls, or letters, until the end, when the formal proposal responses are delivered back to the customers.

The company has a different department that creates each type of proposal.

There are three types of proposals:

- **Sales proposals:** These are proposals related to selling hardware and software to external customers. Salespeople create them and deliver them to customers.
- **Services proposals:** These are proposals related to selling services to external customers. Consultants create them and deliver them to customers.
- **Marketing proposals:** These are proposals related to marketing campaigns for ZXY Technologies. Marketing people create them and deliver them to internal clients within the company.

ZXY Technologies wants to manage different proposals with separate controls, so that each department is responsible for the final proposal delivery. It also wants a system that can automatically send e-mails to people who must review or approve the proposals to accelerate the entire proposal creation process.

Generally, the proposal process goes through the following steps:

1. The external or internal client sends a request for proposal.
2. The sales, consulting, or marketing people create a proposal using a predefined proposal template. The proposal creator then sends the proposal for review.

3. The reviewers are the department managers and financial people that control the proposal before it goes to the approved state.
4. Depending on the type of the proposal, usually, the manager of the department is responsible for final approval or rejection of the proposal.
5. If approved, the formal proposal is sent to the external or internal customer.

In addition, ZXY Technologies wants to automatically generate a unique ID for each proposal so that it is easier to keep track of the proposal. They can also use the unique IDs as references in other administrative documents.

The employees in ZXY Technologies use Microsoft Word to create proposals, but they use PDF as the standard delivery format for the final proposals to customers.

Correspondence

Every day, there are hundreds of pieces of correspondence coming in and out of ZXY Technologies. The correspondence helps in the completion of sales. For example, the account manager uses information received from the sales manager (e-mails with pricing approvals) and information received from the customer (courier delivery of a request for proposal) to deliver a completed price proposal and to close a sale. Correspondence can also hinder the company if correspondence is not managed properly, quickly, and efficiently. For example, if the account manager references information from an old e-mail with out-of-date price information and delivers the incorrect price information to the customer, ZXY Technologies can lose money in the price quoted to the customer. The account manager can lose the sale if the request for proposal does reach the account manager's desk in time to respond, or if the account manager is out of the office and no one sees the request for proposal in time to respond by the deadline.

ZXY Technologies must have a document management system that can help it capture, control, and access the selected data coming in and out through the basic correspondence channels of the organization.

In addition, ZXY Technologies requires employees to store project-related e-mails and attachments (based on their discretion) in the system.

Records and confidential documents

Due to regulations and company policies, employees must make all finalized proposals of ZXY Technologies official company records. ZXY Technologies therefore is looking for a document management system that can automatically declare these finalized proposals as records. In addition, ZXY Technologies needs to have the ability to manually declare special documents, such as reference documents or correspondence used for the proposals, as records.

2.3 Sample solution demonstration

In this section, we demonstrate a sample Document Manager solution designed for ZXY Technologies using screen shots. Through the demonstration of the sample application, we introduce the various Document Manager functions and capabilities, and show how they apply to ZXY Technologies' business requirements, and therefore potentially to your company's business needs.

We feature the following Document Manager functions and capabilities in the case study solution:

- Easy to use Web interface for users
- Full text indexing using Net Search Extender
- Unique document numbering
- Role-based life cycle management
- Revision
- Microsoft Word and Lotus Notes integration
- E-mail notification
- PDF rendition
- Information organization using dynamic search folders
- Document templates
- Records Management integration, including:
  - Manual declare
  - Quick declare: Automatically and by selection
  - Version history declare

We examine each portion of the case study solution through screen shots, so you have a practical understanding of exactly what the final solution looks like and how a Document Manager application generally operates.

2.3.1 User interface: Introducing Document Manager Desktop

Users interface with a Document Manager (DM) system through the *Document Manager Desktop*. The Document Manager Desktop is a *Web client*. All user interface configurations exist on the Document Manager server rather than on the local computers.

Note: The Document Manager solution enables quick application deployment and modification. No administrator has to go through every user's workstation to make changes to the application and desktop.

You use the Document Manager Desktop to define the user experience.

Desktop templates control the look and feel of Desktops. You assign different Desktop templates to different users or groups of users, enabling a different Document Manager Desktop “look and feel” or template for various users.

For ZXY Technologies, we created three Desktop templates for the Document Manager system. Each Desktop template has unique menus and icons that those users need for their daily work.

The three Desktop templates are:

- **Admin template**: We designed this template for users whose primary function is to perform Document Manager system administration.
- **Content producers template**: We designed this template for users whose primary function is to create and contribute content and to manage the life cycles of that content through revisions and approvals.
- **Viewers template**: We designed this template for users whose primary role is to access and view information.

Figure 2-1 provides an example of the Desktop of a viewer.

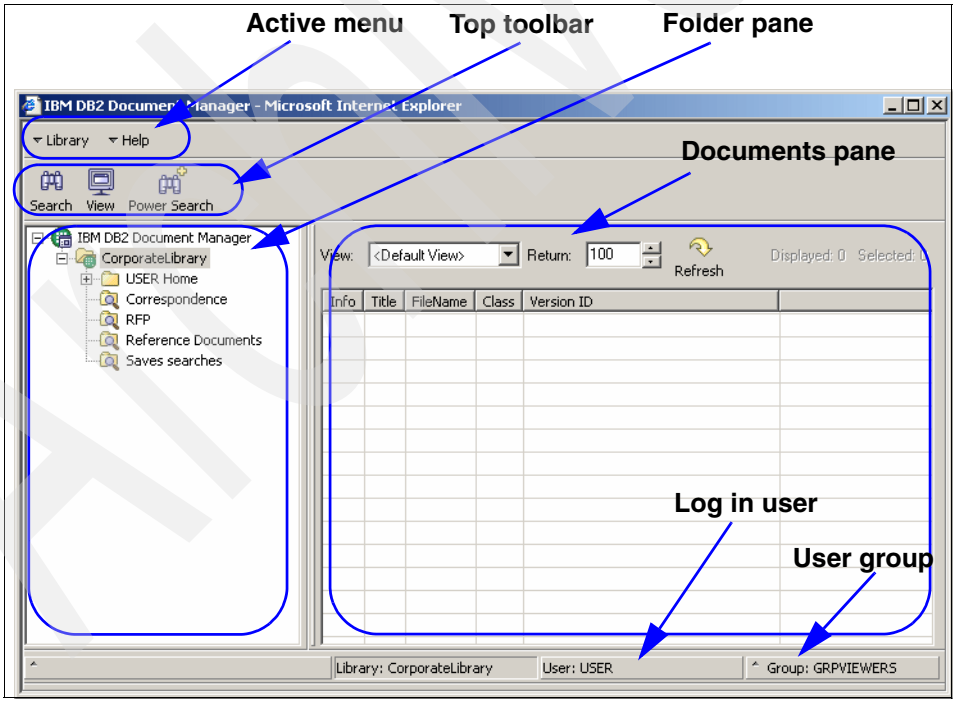

Figure 2-1 Example of a DM Desktop for a Viewers Template

A Desktop consists of five main sections:

- **Active menu**: Provides access to the global actions in the system (for example, login, logout, and the about menus). In this redbook, we also refer to the active menu as the main menu.
- **Top toolbar**: Provides quick access to actions available to the users in the system (for example, the **Add Document, Search**, and **Delete** icons for content producers).
- **Bottom toolbar**: Provides quick access to actions available to the users in the system on the bottom of the window (not shown in Figure 2-1).
- **Folder pane**: Provides access to users' folders and saved searches.
- **Documents pane**: Displays search results. You can use different views to see results. For example, one view may show all the attributes of the documents, while another view shows only certain attributes of the documents with filters. Depending on your configuration, there is a default view, and you can select from other views to see information if the views are available.

Figure 2-2 provides an example of the Desktop for content producers.

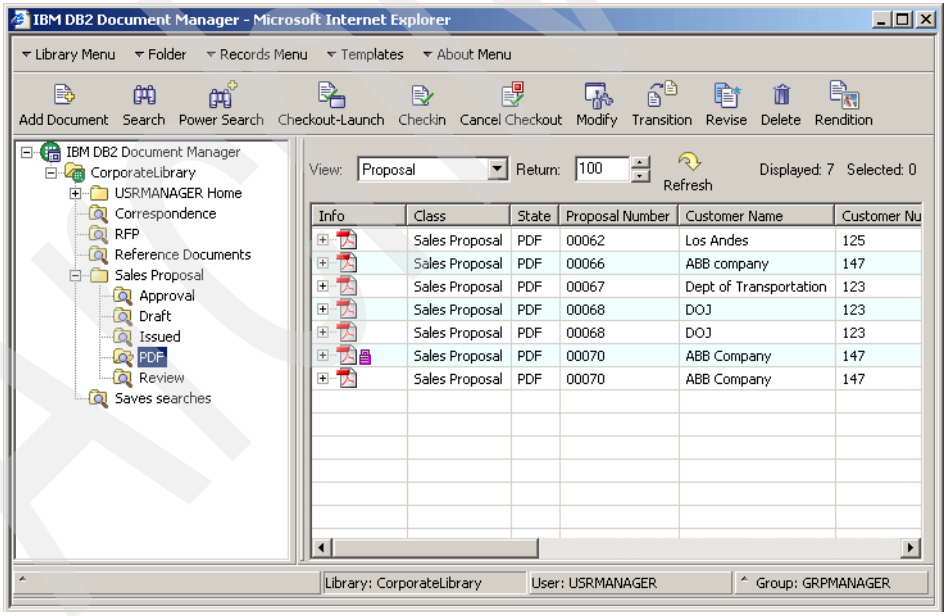

Figure 2-2 Example of a DM Desktop for a Content Producers Template

Note, the Content Producers Desktop contains more icons, such as **Add Document, Modify, Revise**, and **Delete**, than the Viewers Desktop.

2.3.2 Adding documents

Users can add documents into a Document Manager system in many ways, such as:

- Document Manager Desktop
- Microsoft Word integration
- Lotus Notes integration

Depending on your business requirement, you can configure the system to create a full text index on the added documents.

In addition, once you add the documents, Document Manager gives you the option of checking out the document for edit, or checking out the document *and* launching the application with the document in edit mode.

Adding documents using the Document Manager Desktop

Usually, there is an **Add Document** icon or a menu selection in the Desktop that enables you to add a document to the system.

For the sample application, use the following steps to add a sales proposal:

1. Launch the Document Manager Desktop from Internet Explorer using the following URL:

   `C:\Program Files\IBM\DB2 Document Manager\default.htm`

2. Open the login window by clicking **CorporateLibrary**. Log in as `usrSale`, using `password` for the password.
3. Click **Add Document** from the Desktop's top toolbar.
4. Browse through the file system and find the document to add. Double-click the document or select the document and click **Open**.
5. Select **Class** → **Sales Proposal**. A dialog box appears (see Figure 2-3).
6. Enter the necessary information, such as the Customer Name, Customer Number, Request for Proposal Number, Proposal Subject, and check the date box under the Create Date field.

   Full text indexing of a document is available through DB2 Net Search Extender. In Figure 2-3, the **Search index** option is checked. With this option checked, the system creates full text index for the entire document in the Document Manager system.

7. Click **Apply** to import the document into the system.

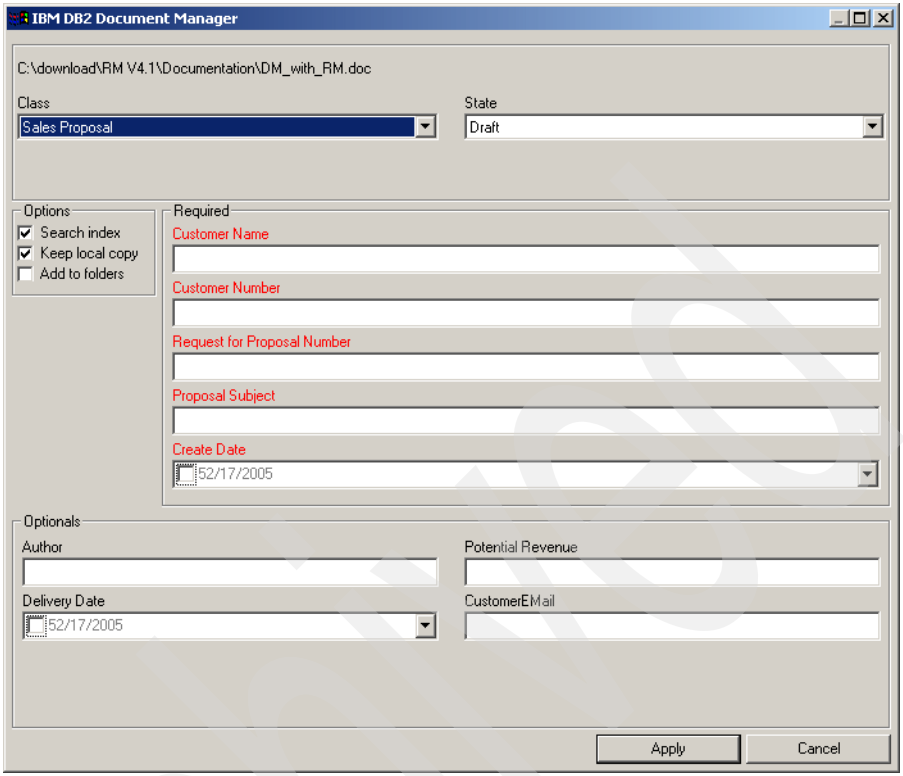

Figure 2-3 Add dialog box

8. Once you import the document, the system displays the **Process document checkout** dialog box as shown in Figure 2-4. There are three choices implemented in the sample application:

   – **Checkout:** Check out the imported document from the system.
   – **Checkout Launch:** Check out and launch the document in edit mode.
   – **Cancel:** Import the document to the system only and do nothing else.

   Select **Cancel** for this exercise.

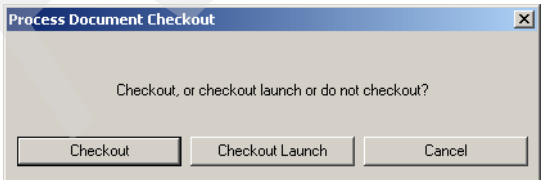

Figure 2-4 Process Document Checkout window

Once you import a document into a Document Manager system, you can locate it by a manual search or via the dynamic search folder. We discuss document searching in 2.3.3, “Searching documents” on page 24 and 2.3.10, “Dynamic search folders” on page 36.

Adding documents using Word or Lotus Notes integration

Document Manager enables you to customize the Microsoft Word or Lotus Notes user interface (both menus and icons) for seamless application integration.

For example, you can customize the applications so that, when you save a new or an existing document or e-mail, you can choose to add the document to the Document Manager system. In addition, you can customize the application so that additional actions are available (through menus and icons) to users to manually import the document to the Document Manager system.

We discuss this more in 2.3.7, “Microsoft Word and Lotus Notes integration” on page 31.

2.3.3 Searching documents

Once you add documents to the Document Manager system and optionally index them, users can search the documents via their attributes or their content.

Document Manager provides two search functions:

- **Basic search:** Search by document attributes and optionally by document content.
- **Power search:** In addition to the basic search function, power search enables users to use complex search queries to search for documents.

Both options usually appear as icons on the Desktop depending on the users role. To activate the searches, simply click the **Search** or **Power Search** icon.

Figure 2-5 shows the basic search window when the user clicks the **Search** icon. The **General** tab is the default tab. In this window, you can enter the attributes of the documents for which you want to search. Figure 2-6 shows the **Document Content** search tab. You can search documents via their contents and combine with the previous search tab criteria.

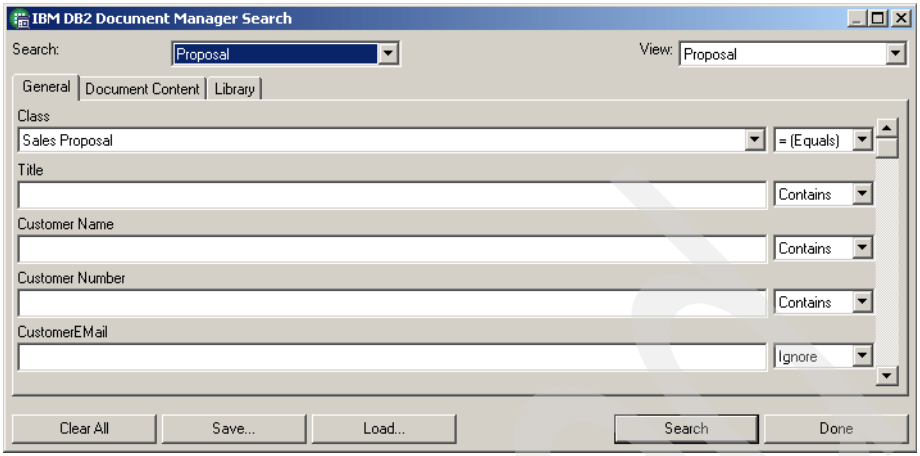

Figure 2-5 General search tab

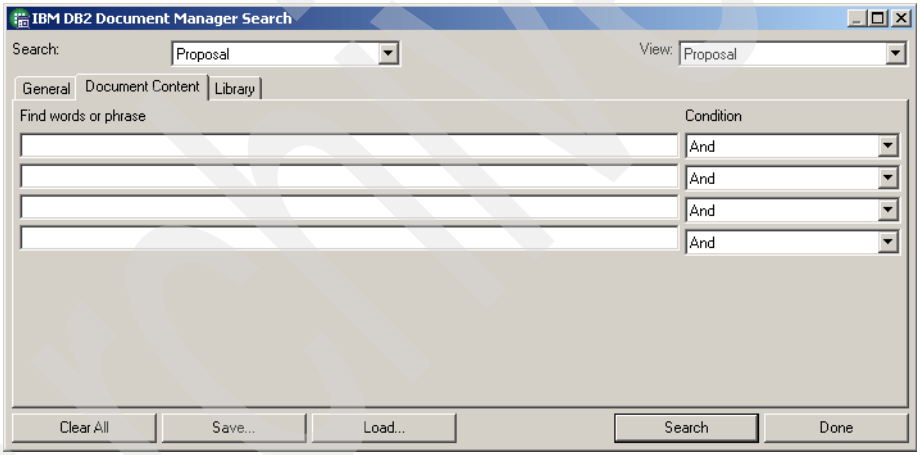

Figure 2-6 Document Content search tab

The search results appear in the documents pane. To open the document, you can double-click the document entry or right-click the document and select an action from the context menu (see Figure 2-7).

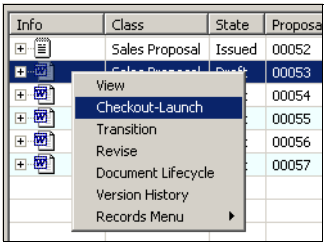

Figure 2-7 View documents

Note, the Checkout-Launch option is available from the context menu of the resulting document. Here you can check out the document, launch it in the edit mode, and start modifying the document. If the document is written in Microsoft Word, Document Manager can automatically open the document in Word for you to edit - a seamless integration with Word.

2.3.4 Unique document numbering

Document Manager offers a *unique document numbering* feature, also known as *item numbering*. You can use it to assign a unique number to each document in the Document Manager system. The unique number can be numeric, alpha, alphanumeric, or a Globally Unique Identifier.

For the sample application, we use this function to automatically generate the proposal numbers and e-mail tracking numbers when we import proposals and e-mails into the Document Manager system (see Figure 2-8).

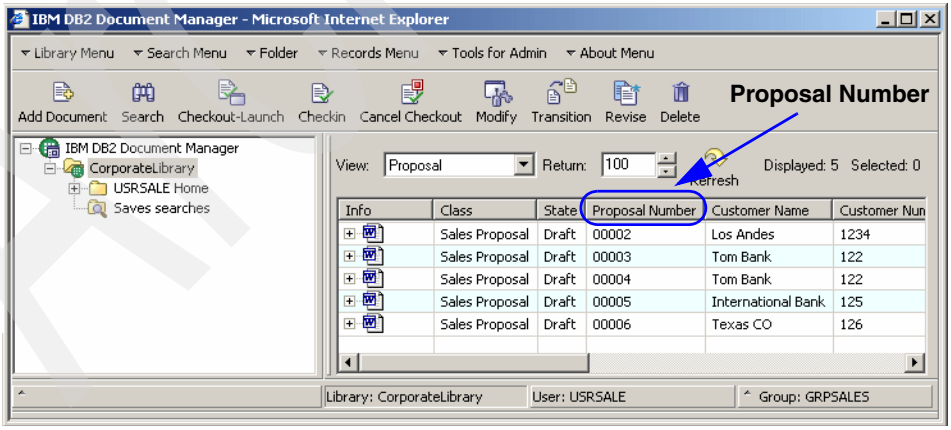

Figure 2-8 Unique document numbering (item numbering) function

2.3.5 Compound documents

Because a document can be an aggregate of other documents, the management of the individual document and the awareness of other associated documents are critical. Document Managers *compound document* management provides the capability to manage the relationships among Microsoft Office documents and their linked objects, CAD drawings and their references, complex parent-child document relationships, and peer-to-peer relationships.

You can associate documents with each other and create a compound document as shown in Figure 2-9. In the example, the ECM Solution Document also contains two child documents: the ECM Architecture Diagram and the ECM Price List.

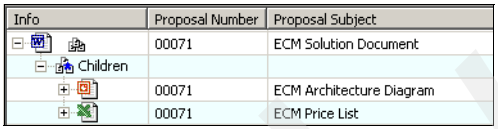

Figure 2-9 Compound documents

Creating a compound document

To create a compound document, this is the general procedure:

1. Select the parent document first.
2. Right-click and select **CpDoc Manager** from the context menu (see Figure 2-10).

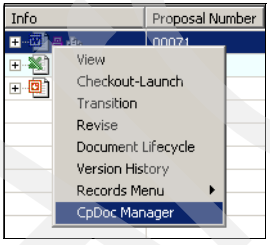

Figure 2-10 Add compound document

3. The Compound Document Manager window appears (see Figure 2-11, except there are no child documents associated with it yet).

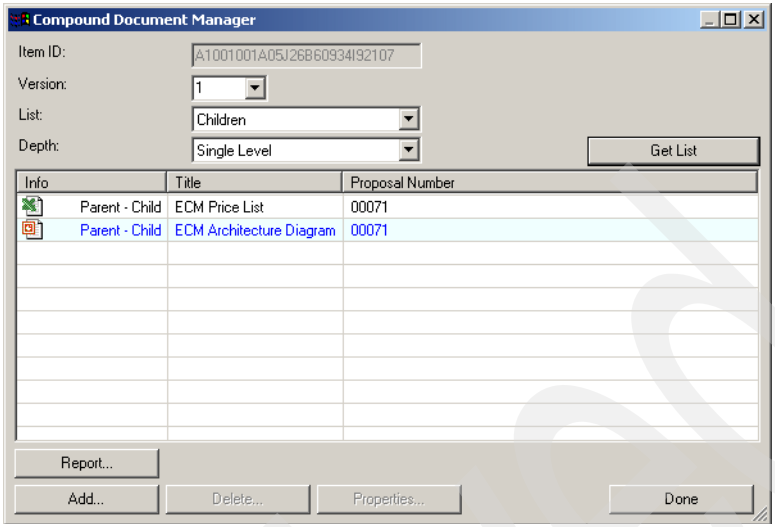

Figure 2-11 Compound Document Manager window

4. Click **Add**, **Apply**, and then select the document that you want to make a part of the compound document. For the example, we select the ECM Price List to be part of the compound document. Click **OK** to add it to the list.
5. Repeat Step 4 for other documents that you want to add to the compound document. For the example, we add one more document, the ECM Architecture Diagram. There are a total of two additional documents in the compound document (see Figure 2-11).
6. Click **Done**.

When you expand the parent document, the child documents display beneath it (see Figure 2-9 on page 27).

2.3.6 Role-based life cycle management

In the Document Manager system, a document can go through various states in a *life cycle*. Depending upon the business requirements, different types of documents go through different life cycles.

For the sample application, there are four states in a proposal's life cycle: Draft, Review, Approval, and Issued.

From the Document Manager Desktop, you identify the current state of a document and can transition a document to the next step in the document life cycle.

Viewing the current state of a document in its life cycle

Users view the current state of documents in two ways:

- From the Document Manager Desktop (see Figure 2-12). The State column has the current document state (assuming the view contains the column).
- From a document's life cycle map (see Figure 2-13). Do this by right-clicking the document and selecting **Document Lifecycle from the context menu**.

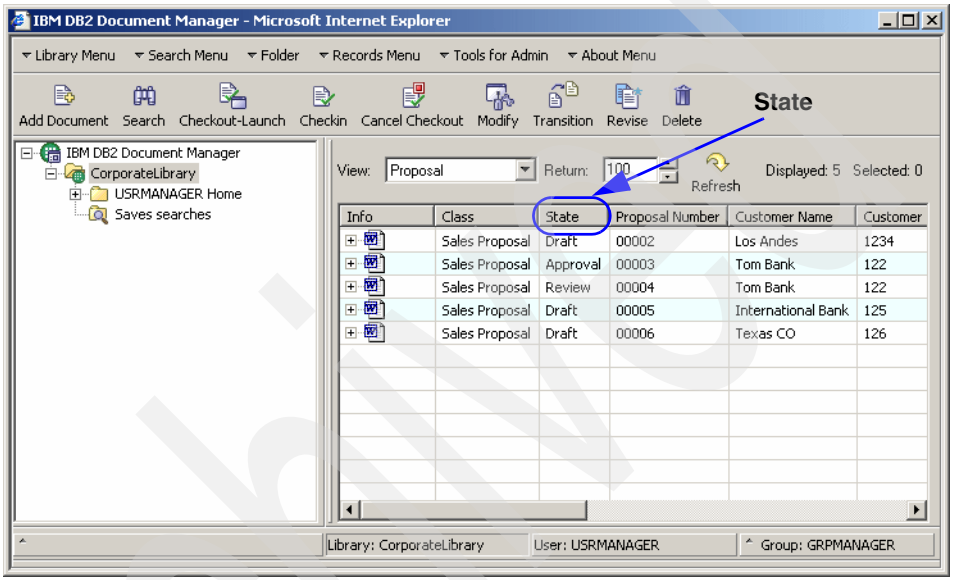

Figure 2-12 Current state in view

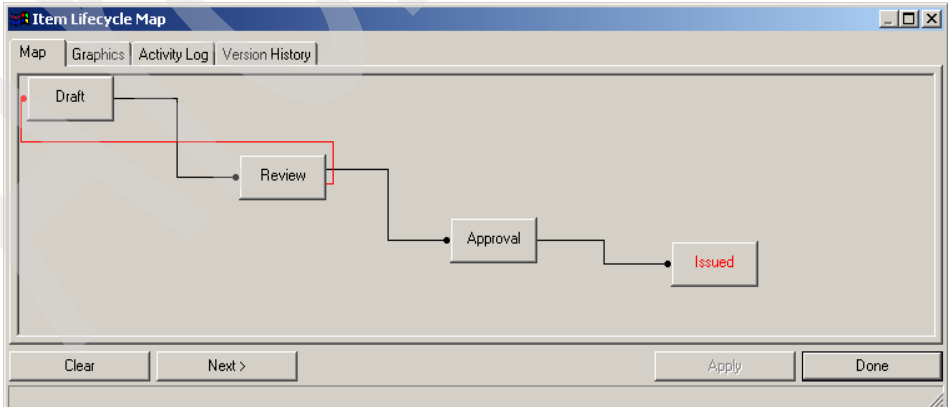

Figure 2-13 Current state in life cycle

Note, the current state has a different color that distinguishes it from the rest of the states in the life cycle. For Figure 2-13, the current state is the Issued state which is **red**.

By selecting the **Activity Log** tab, you can view the entire life cycle's activity logs (see Figure 2-14).

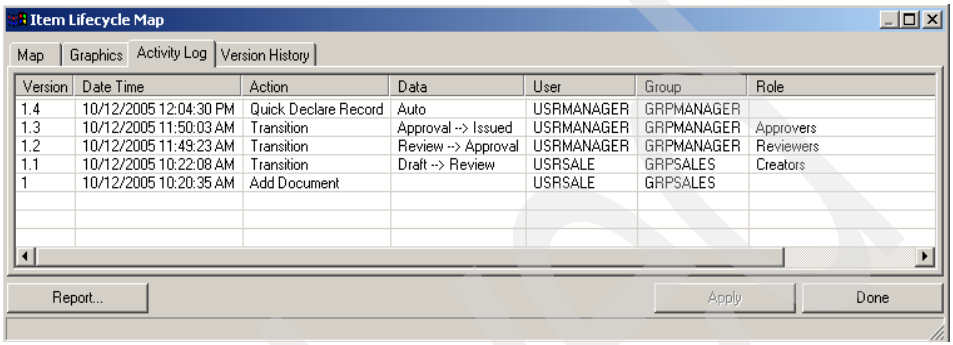

Figure 2-14 Life cycle Activity Log window

Transitioning a document from one state to another

To *transition* a document from one state to another within its life cycle, there are two options. You can select the document and click the **Transition** icon in the Desktop toolbar, or select the document, right-click it, and select the Transition option from the context menu (see Figure 2-7 on page 26).

Both actions display the Transition Controlled Items window (see Figure 2-15).

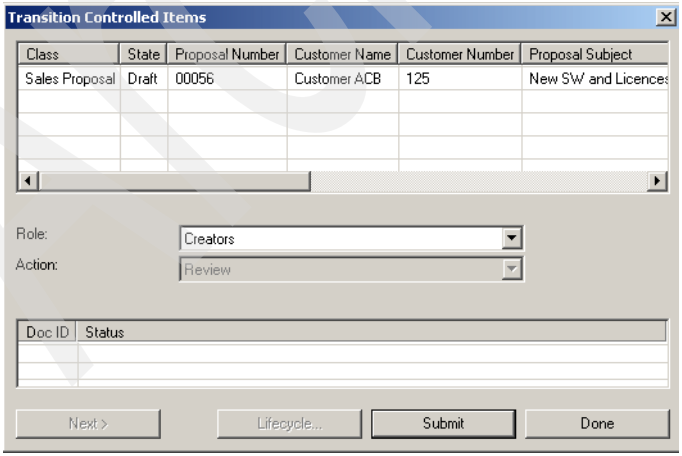

Figure 2-15 Transition Controlled Items window

In the dialog box, you can transition the document from the Draft state to the Review state by selecting the document (optional) and clicking **Submit**. Note, you can transition multiple documents from one state to another.

2.3.7 Microsoft Word and Lotus Notes integration

Document Manager has the capability of integrating with other applications such as Microsoft Word and Lotus Notes. Users can perform Document Manager functions within these applications, when integrated. For example, after the user finishes working on a document in Microsoft Word, the user can check the document into the Document Manager system immediately while still in the Microsoft Word application. Document Manager provides easy access, retrieval, and management of the document for users.

Note: Document Managers application integration feature enables users to work on the same applications (for example, Word or Lotus Notes) that they use when they create content (for example, a Word document or an e-mail). This reduces the learning curve for the users of the new system and provides users easy access to the system.

In this section, we show application integration with Word and Notes. Examples of other applications with which Document Manager can integrate include Microsoft Excel® and Power Point.

Document Manager also provides a property exchange feature that enables you to copy document properties (attributes) from the integrated application to the Document Manager system (also called the library) or vice versa.

Integration with Microsoft Word

For the case study, the ZXY Technologies users are familiar with the Microsoft Word interface and use Word to create proposals. We configure Document Manager to integrate with Word to provide easy access for users.

Figure 2-16 shows how a Document Manager menu integrates within a Microsoft Word application. In the Word main menu, we add a Document Manager menu. Within the Document Manager menu, users can add the current document to the Document Manager system using the **Update Library Item** action, view the document life cycle using **Document Lifecycle**, and update its information using **Update Library Item**.

Depending on your business requirements, you can integrate any number of actions in Word via the main menu, submenus, actions, or icons.

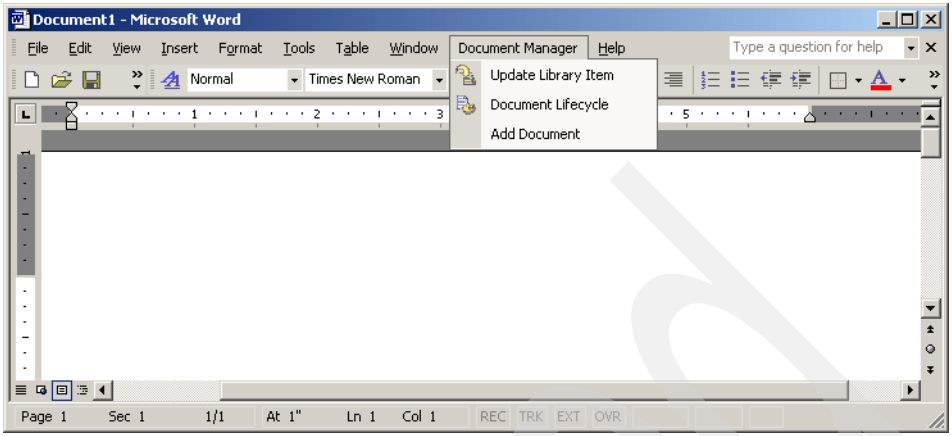

Figure 2-16 Microsoft Word integration

Integration with Lotus Notes

You can add the Document Manager add-on menus in the Notes Actions menu. The options include **DM Insert**, **DM Attach**, **DM Save**, and **DM Import**. See Figure 2-17.

Note, for the case study, users use the Lotus Notes e-mail application to store e-mails received from and sent to ZXY Technologies.

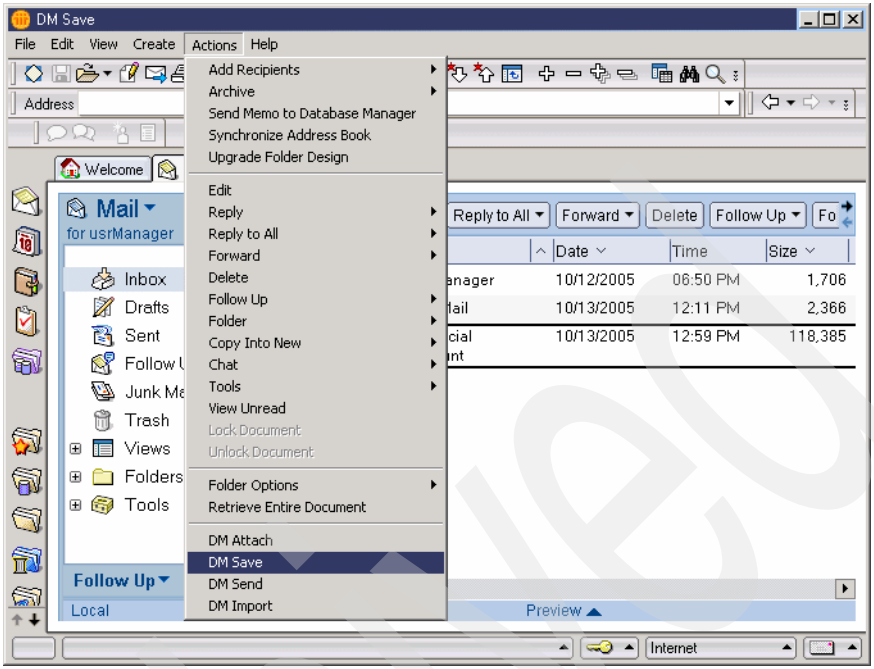

Figure 2-17 Lotus Notes integration

Property exchange

Document Manager provides the *property exchange* feature when integrating with other applications. For example, if you map the attributes of an e-mail in the creating application (Notes) to the Document Manager system, you can configure the Document Manager system to automatically fill these attributes in the Document Manager system when you import an e-mail to the system. In addition, you can set up the system so that it automatically reflects any changes to the attributes in the Document Manager system in the originating application (in this case, Notes).

Examples of exchanged attributes include To, From, and Subject from an e-mail, and Author from a Word document.

2.3.8 E-mail notification

Document Manager supports automatic *e-mail notification*. This is useful if you want to notify people when certain events happen. For example, when you create a sales proposal, you want to notify the reviewers immediately so they can review the proposal as soon as possible.

In the sample application, we use the e-mail notification at two points of a document's life cycle: When it is first created and when it is ready for review.

When we create a new proposal, the system sends an e-mail notification to a project manager. The project manager uses the e-mail information to create a new classification path in the company's file plan for records management. This classification path will be used to store all information related to the proposal, including the request for proposal, the final proposal, and the correspondence.

Figure 2-18 shows a sample of the e-mail that a project manager receives.

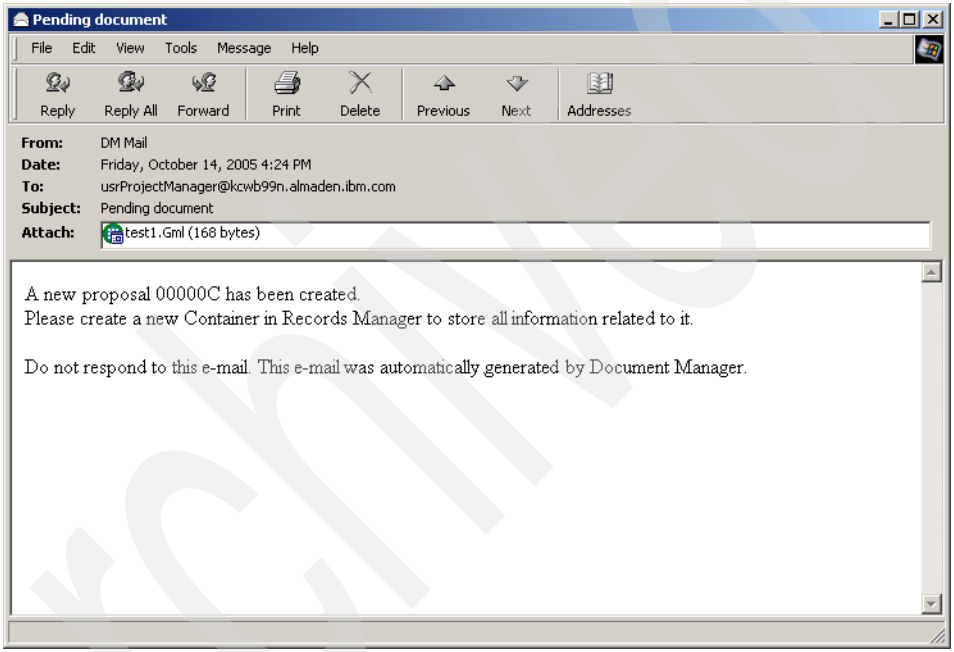

Figure 2-18 Project Manager notification

You can configure the body and subject inside the Document Manager designer. We also use a variable to add the new proposal number inside the e-mail. For the sample application, the project manager does not need to see the actual proposal request; rather, the project manager only needs the proposal number to create the new classification path in the company's file plan.

What we show here is what you can do with a Document Manager system. The actual implementation depends on your business requirements.

The other point in the document's life cycle when we use the e-mail notification feature is when a document is ready for review. In this scenario, the system automatically sends an e-mail to the appropriate reviewers. Reviewers need to

read, review, and control all the proposals, before the proposals are sent for approval.

Figure 2-19 shows a sample of an e-mail that a reviewer receives.

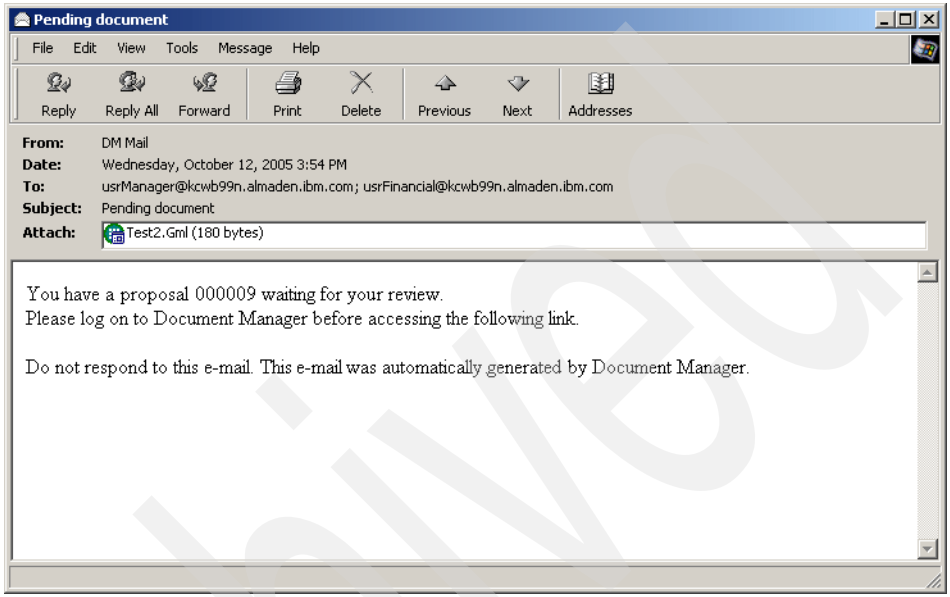

Figure 2-19 Reviewers notification

The body of the e-mail has a direct link to the proposal that the reviewer has to review and read. This accelerates the review process, because this alerts the reviewer that the proposal is ready and reminds the reviewer to review the proposal as soon as possible. It also saves the reviewer time because the e-mail provides the link to the proposal, and the reviewer does not have to search for the proposal in the system.

2.3.9 PDF rendition

Often, when you review, approve, and finalize a document, you want to create a *PDF rendition* of the document to distribute to others. This is important if you do not want viewers to have access to the source document or the capability to modify the document in any way. PDF renditions are also useful if the viewers do not have the application to view the document in its original format. Document Manager provides the PDF rendition service to accommodate these business requirements.

For the sample application, when the approver has finalized and approved the proposal in Microsoft Word format, and the approver is ready to issue it to others,

the proposal enters the *Issued* state. When this happens, the Document Manager automatically creates a PDF rendition of the Word document, saves the new PDF rendition in a PDF state, and automatically creates a PDF relationship type.

The first entry in Figure 2-20 shows the original Microsoft Word document of a sales proposal in the Issued state. The proposal number is 00062. The second one is the PDF version of the same sales proposal with the same attributes, and is in the PDF state. These documents are related to each other. The PDF rendition object that we define in the Document Manager system establishes the relationship. As a result of this relationship, the system assigns the same attributes from the Word document to the PDF document when the PDF file is renditioned. Document Manager also allows duplication of the unique attribute, the proposal number, to both the Word document and to the PDF document.

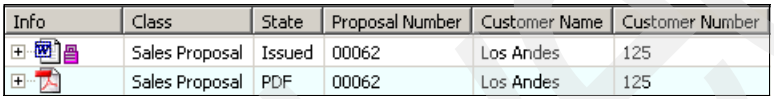

Figure 2-20 Document PDF rendition

2.3.10 Dynamic search folders

In a Document Manager system, you can create *dynamic search folders* to quickly search for frequently used documents. A dynamic search folder is a folder that is associated with a predefined query. Selecting a dynamic search folder is similar to executing a saved search.

Figure 2-21 shows the Desktop with dynamic search folders. The left folder pane shows the PDF dynamic search folder. The right document pane shows all files in PDF states.

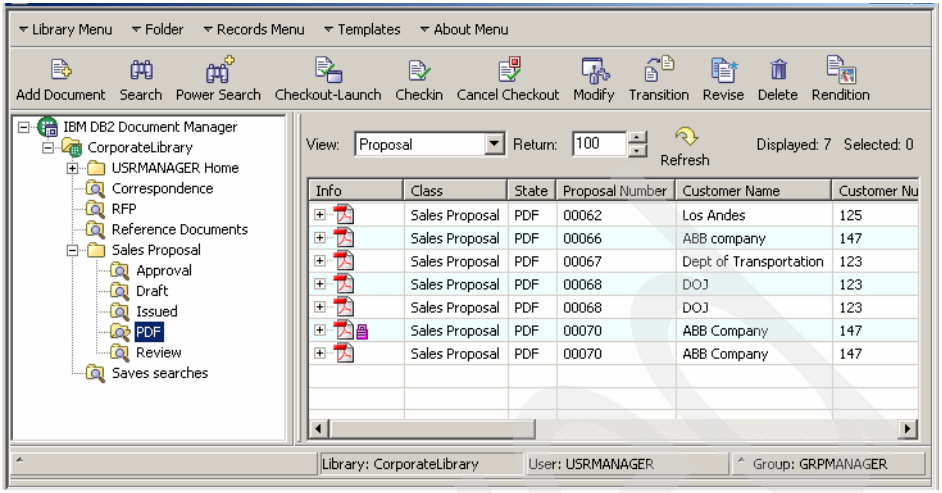

Figure 2-21 Dynamic search folders

The visible difference between standard folders and dynamic search folders is that the dynamic search folders have a magnifying glass visible over their folder icons.

2.3.11 Adding documents from document templates

As we mentioned earlier, there are many ways to add (or import) a document into the Document Manager system. Document Manager offers the document template feature that enables you to standardize the user input and content format of a new document into the system.

Document templates are also a place to consider records pre-classification. The best records solution is transparent and touchless (or no user interaction) for the user *and* provides repeatable, accurate record creation and classification. Sometimes, it is possible to define the classification and type of record in the document template (or life cycle) that can be used later to automate record actions.

For the case study, ZXY Technologies uses the document template to standardize the proposal document across the company and to accelerate the creation process. Each department has its own proposal document template.

For the sample application, you can add a new proposal from a template by selecting **Template** → **Create Sales Proposal** (see Figure 2-22). Figure 2-23 shows the template with pre-filled attribute information.

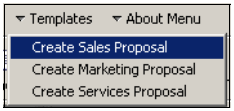

Figure 2-22 Create Sales Proposal

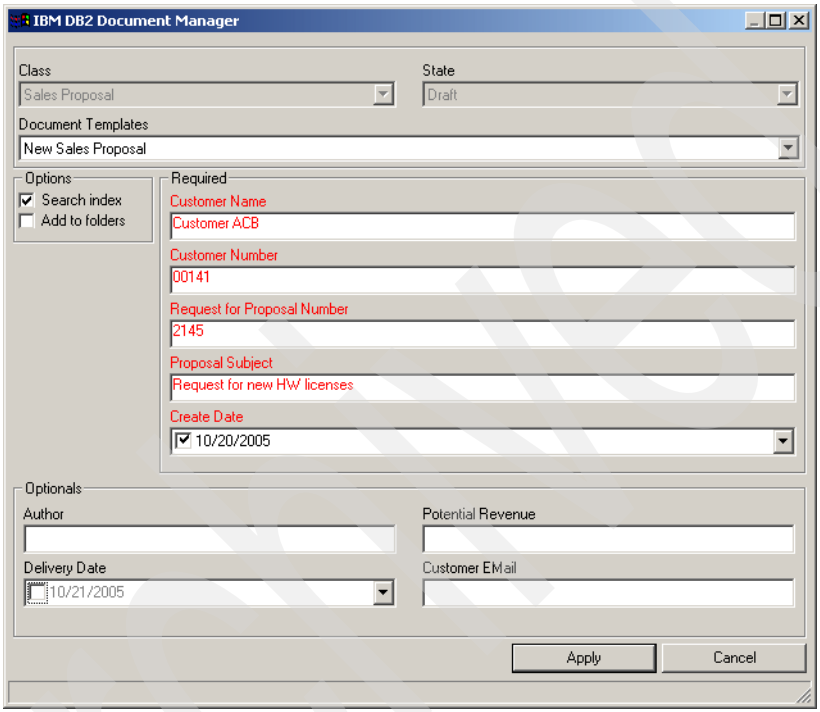

Figure 2-23 Add document from document template

With a document template, users do not need to create a new document from scratch. The document template command automatically creates a new proposal document from the standardized template.

2.3.12 Revision

Document Manager supports document revision management.

In the sample application, we demonstrate the revision capability by revising an already issued proposal. An issued proposal has already gone through its life cycle and is at the Issued state.

The original documents have revision number 01. If an issued document needs to be revised, the user can select the document, click **Revise**, and this creates a new document with revision number 01-0A. The new document begins at the Draft state again and it goes through the document's life cycle until it is also in the Issued state.

Figure 2-24 shows the Revise Proposal dialog box when you click the **Revise** icon on the toolbar.

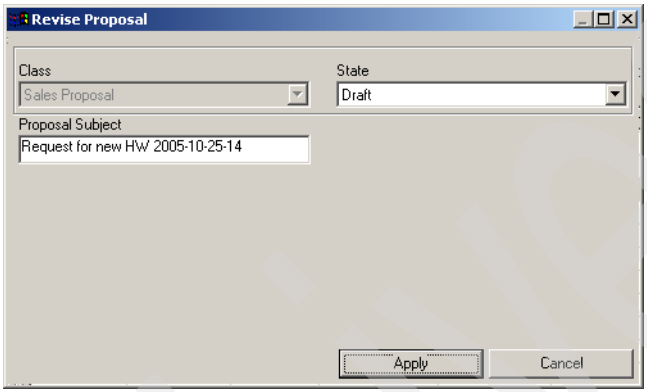

Figure 2-24 Revise Proposal window

On the dialog box, you can modify the proposal subject for the new revision and click **Apply**.

Once you create a new revision, the system looks similar to Figure 2-25. The sales proposal with proposal number 70 has two revisions. The original one is in the Issued state and the working revision is in the Draft state.

Info	Class	State	Proposal Number	Customer Name	Create Date	Revision	IsRecord
	Sales Proposal	Issued	00070	ABB Company	10/25/2005	01	yes
	Sales Proposal	PDF	00070	ABB Company	10/25/2005	01	no
	Sales Proposal	Draft	00070	ABB Company	10/25/2005	01-0A	

Figure 2-25 New revision and original revision

After the new revision goes through its life cycle (that is, after it is reviewed and approved) and is in the Issued state, the revision number of the new document becomes 02. The original document with revision number 01 is moved to the Superseded state. See Figure 2-26.

Info	Class	State	Proposal Number	Customer Name	Create Date	Revision	IsRecord
	Sales Proposal	Superceded	00070	ABB Company	10/25/2005	01	yes
	Sales Proposal	PDF	00070	ABB Company	10/25/2005	01	no
	Sales Proposal	Issued	00070	ABB Company	10/25/2005	02	yes
	Sales Proposal	PDF	00070	ABB Company	10/25/2005	02	no

Figure 2-26 New revision in Issued state and original in superseded state

Newer revisions increase the revision number. You can configure Document Manager to use a mixture of numbers and letters to indicate new revisions.

2.3.13 Records Management integration

Document Manager integrates with Records Manager to add the record management function to the Document Manager system. You can declare and classify records in many ways depending on your business needs. For example, you can automate the creation of a record based on the final approved life cycle step for a document.

Within a Document Manager system, you can implement the automatic quick declare function, so that when a certain event happens (for example, when a document enters or leaves a state), the system automatically declares the document to be a record. On the Document Manager Desktop, you can also configure quick declare and manual declare options for users to declare records.

When working with versioned documents, Document Manager enables you to declare earlier versions of the document to become records in addition to declaring the latest version of the document as a record.

Automatic quick declare within the system

The automatic quick declaration capability enables documents to be declared as records without user intervention. In a production environment, automatic records declaration is the preferred way to do this because it reduces human errors and ensures that the key documents get declared as records.

In the ZXY Technologies case study, the proposal documents, requests for proposal documents, and correspondence related to the proposals must be declared as records because of regulations and company policies.

Figure 2-27 shows that all the proposals in the Issued state have a small padlock in the first column. This padlock represents that they are records.

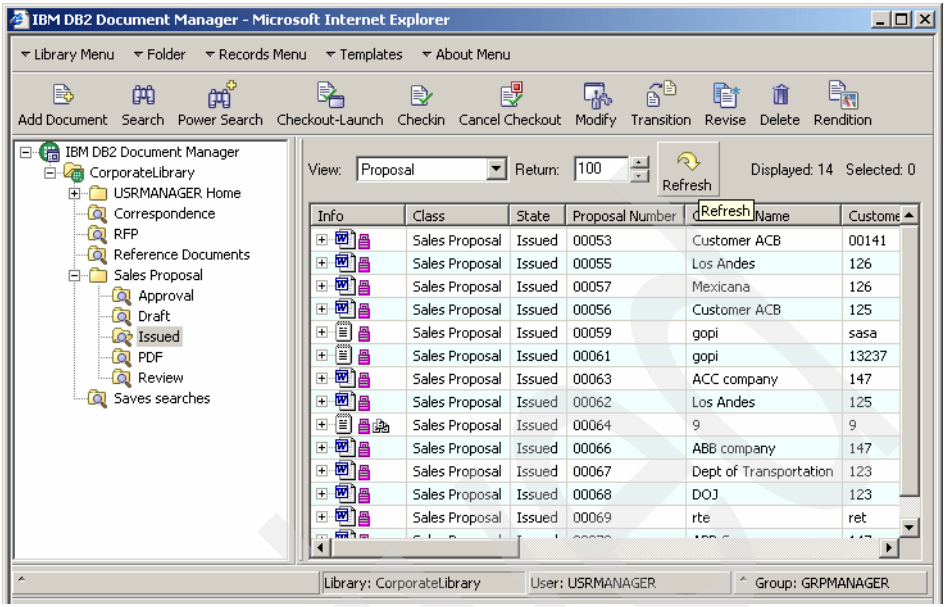

Figure 2-27 Records Manager automatic declare functionality

In our sample application, we implement Records Manager so that for any document in the Issued state, the system automatically declares it as a record and classifies it according to predefined rules.

Note: Document Manager is extremely flexible. You can configure record declaration any way you want depending on your business requirements. What we have shown with the sample application only demonstrates *some* of the potential function you can have in a Document Manager solution.

Quick declare and manual declare from the Desktop

From a Document Managers Desktop, you can provide quick declare and manual declare options to users.

For the sample application, Figure 2-28 shows the available records management options you can choose when you right-click a selected document. Users with the proper rights can declare and classify records at this interface.

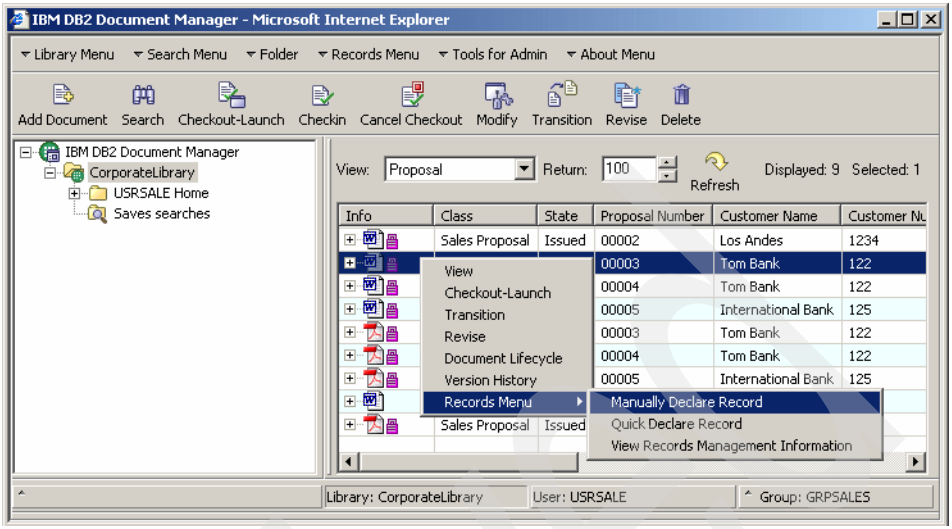

Figure 2-28 Records Manager menu

Quick declare

Quick declaration provides a user with several options for classification of documents.

To use quick declare from the sample application, you need to select the document you want to make into a record, right-click the entry, and select **Records Menu** → **Quick Declare Record**.

Figure 2-29 shows a sample window that appears when a user is quick declaring a record using the selection option. The user needs to select from a short list of file plan locations and click **Declare** and then **Done**. No attribute values can be changed through quick declare in this sample.

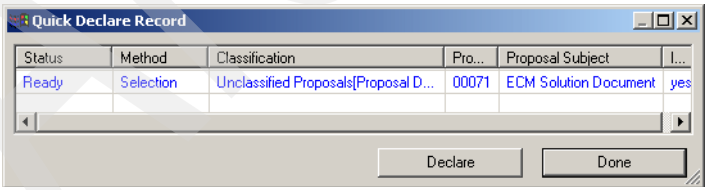

Figure 2-29 Records Manager quick declare function

If the document is a compound document, the related pieces of the compound document can be automatically declared if that option is configured in Document Manager. See Figure 2-30 as an example.

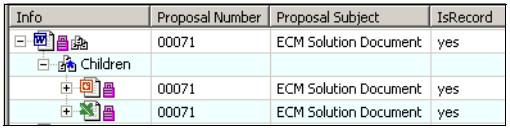

Figure 2-30 Declare compound documents

These files are considered to be one record in Records Manager. Figure 2-31 shows what they look like in the Records Manager client interface.

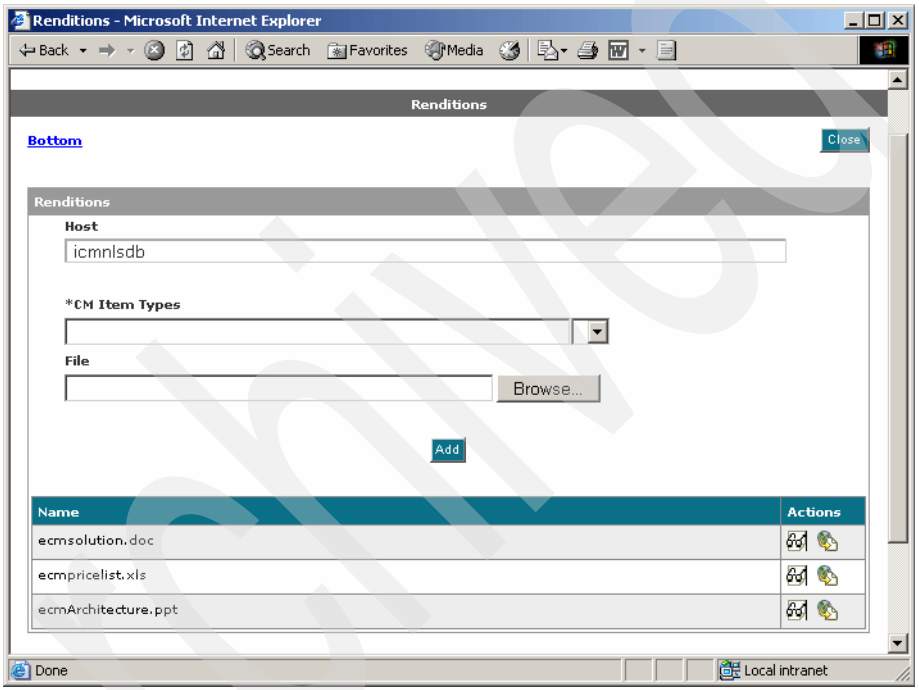

Figure 2-31 Compound document record in Records Manager

Manual declare

Manual declare provides users with complete control over the record declaring process. Users determine where in the file plan to classify a record and what values to enter for each attribute for the record (provided that users have the proper rights to perform this function and proper rights to the corresponding Records Manager's file plan).

To use manual declaration from Document Manager, you need to select the document you want to make into a record, right-click the entry, and select **Records Menu** → **Manually Declare Record**.

Figure 2-32 shows the records profile window that appears when a user selects **Manually Declare Record**. In this sample, all the values are automatically filled in due to Records Manager's auto-classification rules and attribute mapping in Records Enabler. Users can change any of the values. To complete the declaration and classification of the record, click **Finish**.

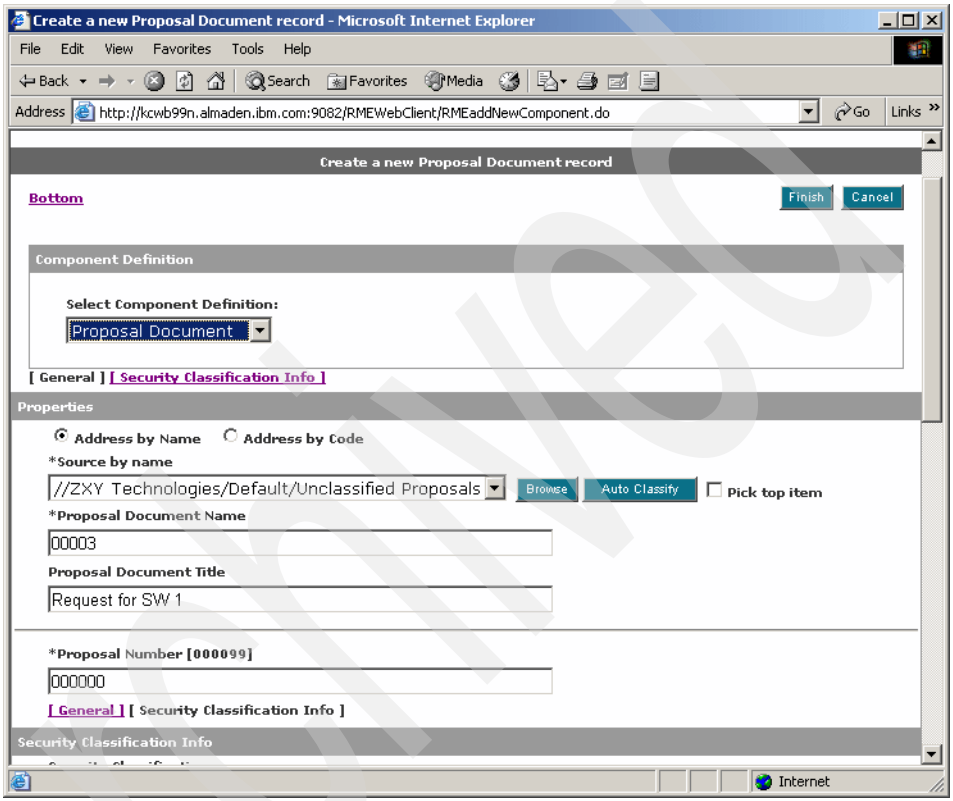

Figure 2-32 Records Manager manual declare functionality

Version history declaration

A document can have multiple versions. Document Manager allows users to declare the latest version and any of the older versions of a document to be a record. You can implement this feature from the Document Manager Desktop.

To declare any of the older versions of a document to be a record, right-click the document, and select **Version History** menu.

The version history window (see Figure 2-33) shows all the versions of the document. Any version of the document can be declared from this version history window. At this window, select an older version of the document, right-click it,

and select **Records Menu** → **Quick Declare Record** to declare it as a record. Note for the sample application, you can also manually declare the record by selecting the **Manually Declare Record** option from the menu.

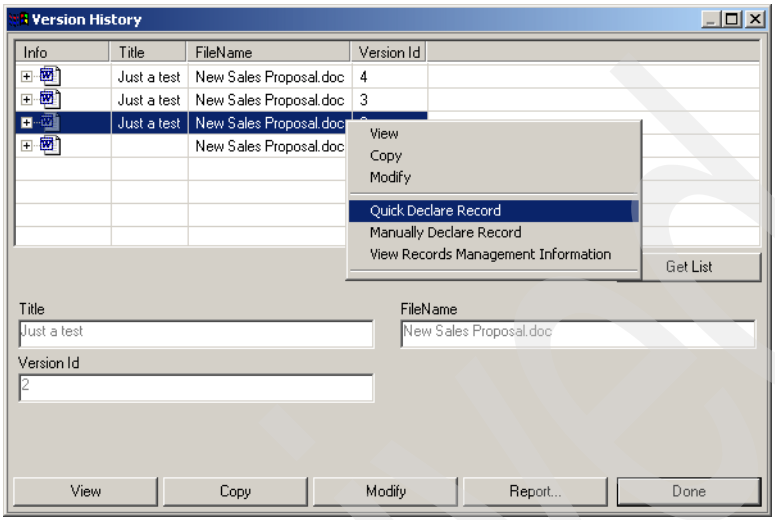

Figure 2-33 Version history declaration

2.4 Summary

By using a case study and a sample application, we intend to quickly get you familiar with what Document Manager together with Records Manager can do from a practical view point.

We cover the following specifics:

- Document Manager Desktop
- Adding documents to a Document Manager system
- Searching for documents within the system
- Unique document numbering (item numbering)
- Compound document support
- Role-based life cycle management
- Microsoft Word and Lotus Notes integration (including property exchange)
- E-mail notification
- PDF rendition
- Dynamic search folders
- Adding documents from a document template
- Revision
- Records Management integration:

- From the Document Manager system side, automatic quick declare
- From the Document Manager Desktop: quick and manual declare
- Version history declare

Document Manager enables you to control and manage documents with many more functions than what we show you in the sample application. Depending on your business needs, you can easily and quickly configure a Document Manager system to fulfill your business requirements.

In the next chapter, Chapter 3, “Document Manager solution design and planning” on page 47, we discuss how you can plan and design a Document Manager solution.

3

Document Manager solution design and planning

In this chapter, we discuss how to design and plan a Document Manager solution and extend it to incorporate records management function.

We cover the following topics:

- Planning for a Document Manager solution
- Designing a Document Manager system
- Designing the Document Manager user interface

Appendix A, “Case study” on page 469 applies the principles and theories discussed in this chapter to a practical case study. We recommend you read through the appendix once you complete this chapter.

3.1 Planning for a Document Manager solution

In this section, we discuss the general process and considerations in planning for a Document Manager solution.

The general planning process includes:

1. Identify document types.
2. Identify producers, approvers, and consumers of documents.
3. Identify document characteristics and document life cycle.
4. Define documents that should be records.

3.1.1 Identify document types

The first step in planning for your Document Manager solution involves *identifying the types of documents* you must manage. These include the documents that you should store, share among others, search, and retrieve within the solution.

For our case study, we identify the following types of documents:

- The RFP documents that customers send us
- The correspondence we receive from and send to our customers
- The sales proposal documents
- The marketing proposal documents
- The services proposal documents
- References documents, such as minutes, budgets, graphics, Microsoft PowerPoint presentations, and so on
- Standard document templates

3.1.2 Identify producers, approvers, and consumers of documents

To plan for a Document Manager solution, you must have a clear understanding of the participants and their interaction and responsibilities within the application. In this step, you need to identify the information producers, approvers, and consumers of these documents.

The *information producers* are those who contribute to the information. The *information approvers* are those who must sign off on the information. The *information consumers* are those who locate, view, use the completed information, and possibly act on the information. The producers and consumers can be users and business applications.

The producers can tell you how the documents are created and how they should be organized. The approvers can tell you the process a document has to go through (if any) according to existing business policies. The consumers can give you insight about how they use the documents and what they do with the documents.

Identifying these people or applications is crucial for the next step of the Document Manager system planning process.

3.1.3 Identify document characteristics and document life cycles

Part of the planning process involves understanding the type of documents a Document Manager system manages and the life cycle process associated with the documents according to the business processes and policies.

To plan for your solution, you should interview the document producers (creators), approvers, and consumers to find out the following information:

- What software do you use to create the documents?

  For example, they can create documents with Word or CAD.

  Knowing how users create documents helps you plan the necessary integration Document Manager needs with these software products. Application integration enables producers to continue to use the software with which they are already familiar to create, view, and modify documents, and therefore have a shorter learning curve with the new system. It is also important to obtain this information for planning document printing using the print/plot service Document Manager provides.

- Will any documents be composed of multiple parts?

  If some documents are, you need to find out what they are. A document can be composed of a spreadsheet, some graphics, a logo, and different document sections. Or it may be composed of several different documents. Knowing how the documents are assembled helps you to determine the links between the documents for compound document relationship management.

- What are some of the attributes of the documents?

  Document Manager can tie document file names and locations to a set of index attributes (catalog) for easy document storage and retrieval. With attributes associated with the documents, users can search against these attributes.

  You need to find out from producers how to classify documents and the key information that can be used to represent and identify the documents. For example, in the case study we use for this redbook, some of the attributes of

a sales proposal are customer ID, product ID, proposal number, and proposal subject.

Some attributes can uniquely define a document. Are there any attributes like that? If so, do you need to enforce the uniqueness of these attributes among documents?

- What are the users' search requirements for documents?

  Will users only search on the document's attributes to locate the documents or on the document's content as well? This helps you to decide, when designing the data model, what attributes should be indexed, and whether you need to enable a text search index for the document content. Document Manager enables users to search documents by metadata or by content. Be sure to ask all the representative users to ensure you know all their potential requirements.

- What is the entire business process for a document?

  Some documents go through multiple states (*life cycle*) in Document Manager. Depending on the business requirements, different types of documents go through different life cycles.

  For the case study we use in the redbook, there are four stages (also known as *states* in Document Manager) in a sales proposal's life cycle: Draft, Review, Approval, and Issued.

  Some documents can never go through any life cycle, and some do.

  For each document type, you work with the producers and approvers to identify whether the documents go through a life cycle or not. For the document types that go through a life cycle, identify what the stages are, and who can do what to the documents at each stage. This includes who can transition a document from one state to another, and under what conditions before a document of the type can transition to another state.

  Will there be any automated process executed during any stage of a document's life cycle? For the case study, when a proposal transitions into the Review state, the system automatically sends an e-mail notification to the reviewers to inform them the document is waiting for them to review.

- Do you need control document version and revision?

  Version control ensures that every time a user edits a document, the originating document is still available in some form. This ensures that users can track changes made and roll back to the original document if necessary.

  Will people update this type of document in the system? Is it possible that multiple users can work on the same document at the same time? If this is possible, you must consider planning for *version* control for documents of this type.

In addition, is it possible that several versions of a document can be created and updated by different people? If this is the case, usually, only one of the versions will replace the original version. Document Manager provide the *revision* function, so that you can promote only the approved version to become the next revision of the document to replace the original document or the previous release of the document.

- Is there any special numbering requirement for the document that Document Manager can do for the system?

  Document Manager offers the document numbering feature (also known as *item numbering* in Document Manager) so that the system can create a unique number for a document. You can base this number on numeric, alpha, alphanumeric, or a Globally Unique Identifier. This is the time to review your current business process to see if it makes sense for Document Manager to create the number automatically instead of relying on users to do so.

3.1.4 Define documents that should be records

If you need to implement records management capability into your Document Manager system, this is the time to identify the documents that you must declare as your company's official records to comply with the record keeping mandates and regulatory guidelines.

The users may not necessary know about the business regulations. Make sure to work with your records staff and legal staff to identify the documents that you need to keep as records.

To get more information about what records management options are available for a Document Manager solution, refer to Chapter 4, "Records Manager options design and planning" on page 73.

3.2 Designing a Document Manager system

In this section, we discuss the general steps in designing a Document Manager system.

The steps include:

1. Define users, groups, and roles.
2. Define a data model for your document system.
3. Define document life cycles.
4. Design a Document Manager application interface.

You do not have to follow these steps in a strict order. They are a guideline for you to evaluate and work through to help you start designing your system.

We do not cover records management-related design here. We discuss it in Chapter 4, “Records Manager options design and planning” on page 73.

3.2.1 Define users, groups, and roles

Part of designing a Document Manager system is defining the system’s users, user groups, and roles.

Users are the people who use the Document Manager system. In the planning section, we identified the information producers, approvers, and consumers. In this step, you *define users* based on the identified users.

You need to decide how these users are created. Does your company use LDAP or does your company have an SSO requirement? This can affect how you want to define and set up the users.

Group definition

You also need to *define user groups*. The criteria for mapping users into groups is based on users’ access requirements and their responsibilities. You place users who have similar access requirements and responsibilities into the same group.

In our case study, we define six groups as you see in Table 3-1.

Table 3-1 User groups in the case study

Groups (Group name)	Description
Managers (grpManagers)	This group of users is the managers of the various departments. They have the responsibility to review and approve the proposal documents.
Sales (grpSales)	Users in this group are the employees in the sales department. They receive requests for proposals from customers. They are responsible for preparing the sales proposal documents and delivering the approved ones to customers.
Marketing (grpMarketing)	Users in this group are the employees in the marketing department. They receive requests for proposals from internal departments. They are responsible for preparing the marketing proposal documents and delivering the approved ones to internal departments.

Groups (Group name)	Description
Consultants (grpConsultants)	Users in this group are the employees of the services department. They receive requests for proposals from customers. They are responsible for preparing the services proposal documents and delivering the approved ones to customers.
Financial Analysts (grpFinancials)	This group of users are the company's financial analysts. They are responsible for reviewing all the proposal documents to ensure that the financial information in the proposals is correct.
Viewers (grpViewers)	Users in this group are the company employees who are not directly involved with the proposal creation process, but they are interested in viewing the delivered proposals.

Role definition

Roles define the Document Manager actions that users (such as information producers, reviewers, approvers, and consumers) can have.

There are many actions a user can perform on a document. When defining a role, you can specify whether users with a role can do any or some of the following:

- Add items: Add items to the system.
- Checkout: Check out an item from the system.
- Copy: Copy an existing item to another.
- Revise items: Revise existing items.
- Modify properties: Modify the attributes or metadata of items.
- Print: Print capability.
- Transition: Transition items from one state to another.
- View: View items.
- Markup: Mark up items.

Note: In a Document Manager system, an *item* includes any type of a document or other type of content, such as a graphic file, an audio file, or a video file.

For simplification, in this redbook, we sometimes use the word *document* interchangeably with the word *item*. Other words we use interchangeably with document or item include: *content* and *information*. Most of the time, they mean the same thing in the redbook.

For our case study, we determine that the solution needs four user roles:

- Approvers: Information approvers who can approve the content (for example, sales proposal documents).
- Creators: Information producers who can create the content.
- Reviewers: Users who review the content.
- Viewers: Information consumers who may read the content.

Table 3-2 lists the actions each role can perform. For example, only users in the Creators role can add items into the system.

Table 3-2 Role definitions in the sample application

	Approvers	Creators	Reviewers	Viewers
Add items		X		
Checkout	X	X	X	
Copy		X		
Revise items	X	X		
Modify properties		X	X	
Print	X	X	X	X
Transition	X	X	X	
View	X	X	X	X
Markup	X	X	X	

Groups to roles mapping

Once groups are defined and roles are defined, you need to map the groups with the appropriate roles.

Table 3-3 shows the mapping of the user groups to the roles. A group can have multiple roles. For example, users in the grpManager group have Approvers, Creators, and Viewers roles.

Although you can assign users to roles, we recommend that you always create user groups and only assign groups to roles for easier system maintenance.

Table 3-3 Role mappings to user groups in the sample application

Groups	Approvers	Creators	Reviewers	Viewers
grpManager	X		X	
grpConsultants		X		

Groups	Approvers	Creators	Reviewers	Viewers
grpMarketing		X		
grpSales		X		
grpFinancials			X	
grpViewers				X

Attention: You assign groups to the appropriate roles, and you associate roles with the appropriate document classes and states.

We discuss classes and states in the next section, Define data model. Once you have read that section, you may want to return to this section to redefine your groups and roles to ensure that your design meets your business processes and requirements.

3.2.2 Define data model

In the planning session, you identified the types of the documents your Document Manager solution must handle. At a very high level, they are correspondence documents, proposal documents, and reference documents.

In this section, we discuss the document data model that controls how you want to store the documents in the repository and how you want to retrieve them. Specifically, you need to define the following data model elements for the documents:

- Attributes
- Item types and document classes

Attribute (library property) definitions

An *attribute* (also known as *library properties* in Document Manager) stores a unit of data or values that describe a certain characteristic or property of an item (an item can be a document or some other type of a content file). Examples of attributes are proposal number and customer name. You use attributes to search for an item. In the planning session, the process included identifying the characteristics of a document type. You can use what you identified from that session here.

Sometimes you can end up with different attributes for different document types. Some of the attributes store similar information and they should not be created twice for different documents. Attribute groupings and reuses help simplify the system and avoid potentially creating too many attributes. Early consolidation or

separation of the right attributes help avoid problems later in the implementation phases.

In our case study, we defined sales, marketing, and services proposal documents to have the following common attributes: Customer Name, Customer Number, Request for Proposal Number, Proposal Subject, Create Date, Author, Potential Revenue, Delivery Date, and From (customer e-mail). We defined the correspondence documents to have the following document attributes: Customer Name, Customer Number, From, To, Date Received, Request for Proposal Number, and Mail Subject.

Table 3-4 shows the attribute definitions for the sample solution.

Table 3-4 Attributes (library properties)

Name	Display name	Attribute type	Character type	Character length
Customer Name	Customer Name	Variable character	Extended alphanumeric	32
Customer Number	Customer Number	Variable character	Extended alphanumeric	32
RequestPropNum	Request for Proposal Number	Variable character	Extended alphanumeric	32
Proposal Number	Proposal Number	Variable character	Extended alphanumeric	32
Proposal Subject	Proposal Subject	Variable character	Extended alphanumeric	32
Author	Author	Variable character	Extended alphanumeric	32
Potential Rev	Potential Rev	Variable character	Extended alphanumeric	
CreateDate	Create Date	Date		
DeliveryDate	Delivery Date	Date		
eMailNumber	eMail Track Number	Double		
From	From	Variable character	Extended alphanumeric	64
To	To	Variable character	Extended alphanumeric	256

Name	Display name	Attribute type	Character type	Character length
MailSubject	Mail Subject	Variable character	Extended alphanumeric	256
DateReceived	Date Received	Date		

Item types and document class definitions

An *item type* is a structure (template) you use to define a type of the documents that will be stored in a Content Manager repository. In an item type definition, you specify authorization schema, repository characteristics, where, and how you store documents of this type. In addition, you define the attributes (characteristics) of the documents.

Internally, Content Manager defines an item type as a physical database table and attributes are defined as columns in that table. How you define item types can have a performance impact on your system.

From the item type definitions, you can define multiple *document classes* associated with each item type. Document Manager uses classes to model a business process for managing documents.

There are two types of Document Manager classes, controlled and stateless. *Controlled classes* are for documents which need to go through one or more states in their life cycles. *Stateless classes* are for documents which do not need to go through any life cycle.

Document Managers class is derived from an item type. You use Document Manager classes to logically separate different kinds of documents inside a single item type.

Tips for defining item types

Depending on the type of documents you have for your solution, you can define one item type for each document type, define one item type for all document types, or be somewhere in the middle.

Defining one item type for all document types is the easiest way to set up a Document Manager system. However, there are many instances when you do not want to do that. Some of them include the following:

- If the document types do not have any common attributes or share very few common attributes, you may want to define one item type per document type. If you lump all document types with different attributes together under one item type, you end up with an internal database table with too many columns. Space can be wasted and not used efficiently.

- If searches will always be performed against one type of the documents or another, but never against all these document types together at the same time, you may want to consider separating the document types into item types (thus different tables internally) for better system performance. This is practical if you expect high volume of documents will be added into the system every day or eventually.
- The text search indexing requirement also determines how many item types you should define. If users only perform text search index on one document type, but not the others, you should consider defining an item type especially for this document type.
- For security reasons, you can define different item types. This way, you can associate a different ACL for each item type.

Tips on classes versus item types

We provide tips to help you determine if you need to define more than one class within an item type:

- If some documents have to go through a life cycle and some do not, you want the document types that do not go through a life cycle to be in one class (the *stateless class*) and those that must go through a life cycle to be in a different class (*controlled class*).
- If the documents that require life cycles go through different states in their life cycles, you must define one class for each type of life cycle because each class can have only one life cycle associated with it.
- If there are different access control requirements for the document types (for example, each type of document must be accessed by a different set of user groups), you must separate the document types with different access control into different classes.
- If you want to sequentially enumerate different types of documents with an independent serial number and you want the system to automatically create it, you need to define separate classes for different document types. This is because one class can only have one item numbering assigned to it.
- If different types of documents need distinct version or revision numbering, then you must define different classes for different document types.

In our case study, we define two different item types: CustomerData and LibraryObjects. The item type *CustomerData* stores proposals and proposal-related files, all of which have similar attributes. The item type *LibraryObjects* stores saved searches and document templates, which have completely different attributes from the proposals and proposal-related files. See Table 3-5.

Table 3-5 Item type definition summary

Item types	Comments
CustomerData	Store proposal-related files because all of them have similar attributes. The CustomerData item type stores the following document types: ► Customer Request for Proposal (RFP) ► Sales proposal ► Marketing proposal ► Services proposal ► Correspondence ► Reference documents
LibraryObject	Store predefined queries (saved searches) and standard document templates, because the saved search and document templates have different attributes from the proposal-related files. Note, the predefined queries are specific to Document Manager. We store them so that users can reuse them.

We further define multiple classes under the *CustomerData* item type and two classes for the *LibraryObjects* item type.

Table 3-6 shows the classes that we define to model different type of documents represented by the *CustomerData* item type. See the description of each class to get a better understanding of how you can define item types and classes for your business requirement.

Table 3-6 CustomerData classes for the sample case study

Classes	Description
Correspondence	Store the correspondence documents received from and sent to customers.
RFP	Store the Request for Proposal (RFP) documents received from customers.
Marketing Proposal	Store the marketing proposal documents.
Sales Proposal	Store the sales proposal documents.
Services Proposal	Store the services proposal documents.

Classes	Description
Reference Documents	Store reference documents, such as meeting minutes, budgets, presentations, and video. This is a stateless class because the documents of this type do not go through a life cycle. All other classes are controlled classes that go through a life cycle.

Table 3-7 shows the classes that we define for documents we store under the *LibraryObject* item type.

Table 3-7 LibraryObject classes for the sample case study

Classes	Description
Document Template	Store company standard document templates.
Saved Search	Store Document Manager predefined queries.

To manage who can access what documents in the system, you need to define *Access Control Lists (ACL)*. An ACL is a mapping between users or user groups and privilege sets. Access control lists are authorization schemas that define who can read, write, and delete items from the content repository. We cover this topic in more detail in Chapter 5, “Security” on page 91.

3.2.3 Defining life cycle processes

For documents that go through different states (Document Manager controlled classes), you identify the states that the documents go through and model them in Document Managers’ life cycles.

The process of translating the different states that your documents go through into Document Managers life cycle consists of the following steps:

1. Identify the classes that are control classes.
2. Define the states that a document goes through during the change and approval processes. Example of states are Draft, Review, and Approval.
3. Map roles to states. This defines who (having the role) can access the document when the document is at that state. For example, in the sample application, users with the *Approvers* role are mapped under the *Approval* state of a document class *Sales Proposal.* This means that users belonging to this role can access the sales proposal documents when the documents are at the *Approval* state.

We discussed roles in 3.2.1, “Define users, groups, and roles” on page 52. This is a good time to go back and review what you have defined and refine your design.

4. Graphically create the document process model using the Document Manager Designer tool.

In the case study, a person receives a request for a sales proposal creates a new sales proposal document and adds it into the Document Manager system. When the document is first added into the system, it starts out in the *Draft state*. After the salesperson finishes writing the proposal, the salesperson transitions the document to the *Review state*. A team member in the Reviewers role reviews the document and transitions the document to the *Approval* state. Then, a supervisor in the Approvers role approves the document and transitions it to the *Issued* state. At the Issued state, the document is automatically declared as a record and the document is rendered into a non-editable PDF document. Once the PDF version of the proposal is available, the salesperson can send it to the customer. At this point, the life cycle of the document, as defined in Document Manager, is complete.

Based on the business process, we define the following states that the sales proposal documents must go through in their life cycle:

- Draft
- Review
- Approval
- Issued

We also define the following roles for the sales proposal document life cycle (or you can define this earlier and redefine at this stage):

- Creators: Users who create the proposal.
- Reviewers: Users who review the proposal.
- Approvers: Users who approve the proposal for publication.
- Viewers: Users who can view the proposals.

We map the roles to the states, see Table 3-8.

Table 3-8 Mapped roles to states for a sales proposal document class

State	Role
Draft	Creators, Viewers
Review	Reviewers, Viewers
Approval	Approvers, Viewers
Issued	Approvers, Viewers

We graphically create the sales proposal document's life cycle map using the Document Manager Designer tool. Figure 3-1 is an illustration of the sales proposal document's life cycle map.

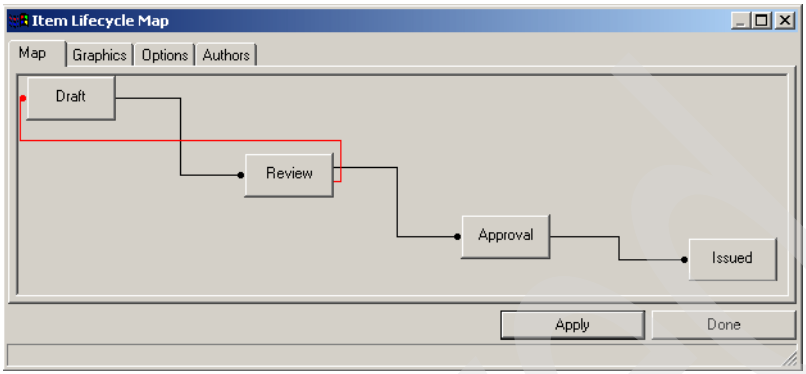

Figure 3-1 Sales proposal life cycle

Note: It is important to consider the consequences of a record declaration within a document's life cycle. When a document is declared as a record, Records Manager restricts access to the document by changing its ACL in Content Manager. This effectively ends the document's life cycle in Document Manager, until a new version or revision of the document is created. The final state in a document's life cycle is probably to the most appropriate place for the record declaration to occur.

Also, note that there is a difference between a Document Managers life cycle and a Records Managers life cycle. Prior to a document becoming a record, the life cycle in Document Manager controls which states a document has to go through. As soon as a document becomes a record, Records Manager takes over the control and puts the document in the record's life cycle, which is related to the record keeping policies of the company.

We cover more Records Manager-related discussion in Chapter 4, "Records Manager options design and planning" on page 73.

3.3 Designing the Document Manager user interface

After defining users, groups, roles, document item types, document classes, and document life cycles as covered earlier in this section, we design the Document Manager application user interface.

Document Manager application interface design comprises the following tasks:

1. Define actions and dialogs.
   a. CVL lists and links
   b. Item templates
2. Define Desktop templates.
   a. Menus
   b. Views
   c. Searches
   d. Property exchanges
   e. Application integration
3. Define folder structure.

3.3.1 Define actions and dialogs

In previous sessions, you identified the types of the documents to be managed by the Document Manager system. In addition, you defined item types and classes for these document types. Now, you need to decide what actions can be performed on each class and define the dialog boxes that will be used when a particular action is performed on a document. In Document Manager, you define the actions and dialog boxes by configuring the *actions and dialog objects*.

Table 3-9 shows the Document Manager actions that you can configure. The Dialog box column indicates whether a dialog object is required for that action or not. It is possible that an action is available to a document but no dialog box is necessary for the action.

Table 3-9 Document Manager actions and dialog object options

Action	Dialog box options	Description
Add	Required	Add an item to the content repository.
Check in	Optional	Check in one or more items.
Check out	Optional	Check out one or more items.
Copy	None	Copy one or more items to a specified location.
Modify	Required	Modify an item's attributes (properties).
Revise	Optional	Create a revision of an item.
Transition	None	Transition one or more items from the current state to a new state.
Version History	Required	View all versions of a selected item.
View	None	Display one or more items.

In the case study, the Document Manager system needs to manage sales proposals. When you add a document of the *Sales Proposal* class to the system, you need to enter document attributes (to categorize, search for, and allocate the document later). In this scenario, we need an *add* action and a dialog box associated with the action. We therefore configure an action and dialog object, *Sales Proposal - Add,* and associate the object to the *Sales Proposal* class. In the *Sales Proposal - Add* action and dialog object, we configure the user interface and the attributes users enter when adding a sales proposal to the system. This involves no programming.

Once you configure all the actions and dialog objects, you assign them to the appropriate classes.

In the case study, we create a set of actions and dialog objects for each class (see Table 3-10). As you can see, under the item type *CustomerData*, the class *Sales Proposal*, there are four actions and dialog objects:

- Sales Proposal - Add
- Sales Proposal - Modify
- Proposal - Checkin
- Proposal - Revise

Note, you can use an action and dialog object (such as *Proposal - Revise*) by more than one class; however, a class cannot have multiple objects of similar type. For example, if we have a new action and dialog object, *Proposal - Add,* we cannot assign this object along with the *Sales Proposal - Add* object to the *Sales Proposal* class, because both of these objects are of the add action. The *Sales Proposal* class can have only one add action and dialog object type.

When you create the action and dialog object, you must also assign users or groups to the actions and dialog objects for security control. Users who are not on the list or who do not belong to any of the groups that are assigned to the action and dialog object cannot perform the action specified in the object.

In the case study, users in the group *grpSales* can add a document of class *Sales Proposal,* using the *Sales Proposal - Add* action and dialog object. Other users cannot do that. Users in the groups *grpFinancials, grpManager,* or *grpSales,* can modify a document of class *Sales Proposal*, using the *Sales Proposal - Modify* action and dialog object.

Although you can assign users to actions and dialog objects, we highly recommend assigning only groups to the actions and dialog objects.

Table 3-10 Actions and dialogs for the sample case study

Item type	Class	Action and dialog object	Associated groups
Customer Data	Correspondence	Correspondence - Add	grpConsultants grpMarketing grpSales
		Correspondence - Modify	All five groups[a]
	RFP	RFP - Add	grpConsultants grpMarketing grpSales
		RFP - Modify	All five groups
	Marketing Proposal	Marketing Proposal - Add	grpMarketing
		Marketing Proposal - Modify	grpFinancial grpManager grpMarketing
		Proposal - Revise	grpManager
	Sales Proposal	Sales Proposal - Add	grpSales
		Sales Proposal - Modify	grpFinancials grpManager grpSales
		Proposal - Checkin	All five groups
		Proposal - Revise	grpManager
	Services Proposal	Services Proposal - Add	grpConsultants
		Services Proposal - Modify	grpConsultants grpFinancials grpManager
		Proposal - Revise	grpManager
	Reference Documents	Reference Document - Add	grpConsultants grpFinancials grpManager
		Reference Document - Modify	Same as above
Library Objects	Document Template	DocTemplate - Add	All five groups + Admin
	Saved Search	Saved Search - Add	All groups

a. The five groups include: grpConsultants, grpMarketing, grpSales, grpManager, and grpFinancials.

CVL lists and links

CVL lists and links are used by dialog windows to present to users with the predefined list of options to fill an attribute value.

For example, in the case study, we create a CVL list, *Proposals*. The list contains three document proposal types: *Sales Proposal, Service Proposal,* and *Marketing Proposal*. We link the list to the *Class* field in the *Proposal search template*. When you perform a search using the *Proposal search template,* you select a proposal type from the drop-down list of the *Class* field and search only documents of this proposal type.

CVL lists can be static or dynamic. *Links* link the CVL lists to attribute fields. You can integrate multiple CVL lists and links to generate lists, so that a list of values depend on the selected option from another list.

For example, we have the CVL list, Proposal:

- Sales Proposal
- Service Proposal
- Marketing Proposal

Each proposal type has a list of different accounting control codes:

- Sales Proposal has the following corresponding accounting control codes:
  - SA1-001
  - SA1-002
  - SX2-004
  - SX3-005
- Service Proposal has the following corresponding accounting control codes:
  - SE1-001
  - SE1-002
  - SPX-004
  - SPX-005
- Marketing Proposal has the following corresponding accounting control code:
  - MKZ-103

You can create three accounting control code CVL lists, one for each proposal type, and link the accounting control code CVL list to its corresponding proposal type. In an action and dialog object, you can define a proposal type and an accounting control code field. Associate the Proposal CVL list to the proposal type, and the special accounting control code/proposal type link to the accounting control code field. When a user selects a proposal type (for example, Sales Proposal) in the proposal type field, the accounting control code field will

display only the accounting codes associated with that proposal type in the drop-down list (in this example, they are SA1-001, SA1-002, SX2-004, and SX3-005). If user changes the proposal type (for example, to Service Proposal), then the accounting control list will again change to the codes for the Service Proposal type (in the example, they are SE1-001, SE1-002, SPX-004, and SPX-005).

Use CVL lists and links in search templates and all actions and dialog objects, except in the View action because the View action does not have a dialog associated with it.

Using CVL lists and links can simplify your user interface, reduce user input errors, and ensure consistent user input.

Item templates

Use *item templates* to generate predefined values for dialog boxes in much the same way that lists generate predefined values for fields. The difference is that a list is for a particular field, and an item template is for an entire dialog box. With the item template, you can predefine values of multiple fields in a dialog box.

Using item templates simplifies the user interface. You can configure several item templates with different populated values. When a user wants to create a sales proposal, default values related to the sales proposal can be pre-filled. If the user wants to create a service proposal, you can use another template with different sets of pre-filled fields to present to the user. This makes the Document Manager interface more user friendly, reduce input errors, and ensure more consistent and accurate data input.

In the case study, we created an item template called *New Sales Proposal* that automatically fills out the *Customer Number* and *Class* fields in the add dialog for the Sales Proposal class.

3.3.2 Define the Document Manager Desktop

Document Manager users access the Document Manager system through the Document Manager Desktop. The Document Manager Desktop is completely configurable. This requires no programming. As a Document Manager administrator or designer, you configure the Desktop for each user or user group through the Document Manager Designer tool. Alternatively, you can use the Designer tool to import a pre-configured Desktop design.

When you design a Document Manager Desktop, consider what interface a user requires and what responsibilities the user has in the system.

Figure 3-2 shows a sample Document Manager Desktop of a user who belongs to the *usrSales* group and can create content in the system. Figure 3-3 shows a Desktop of a user who belongs to *usrViewers* group and can only view the content in the system.

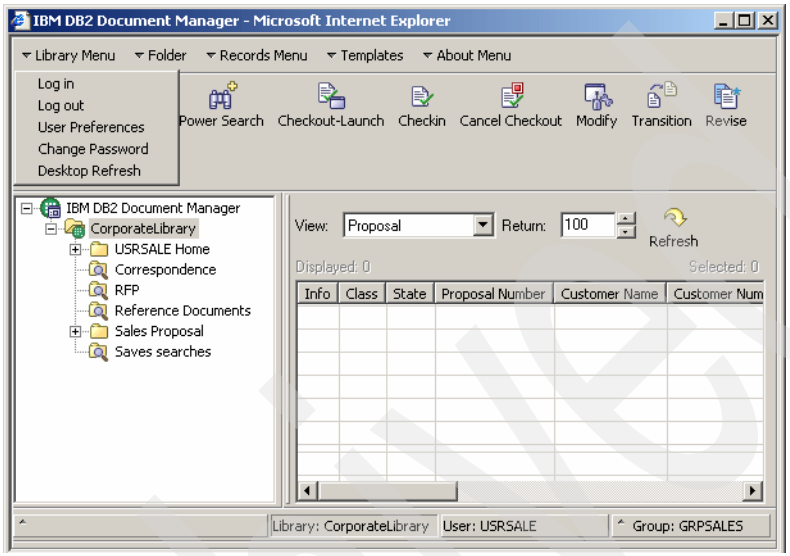

Figure 3-2 A Content Creators Document Manager Desktop

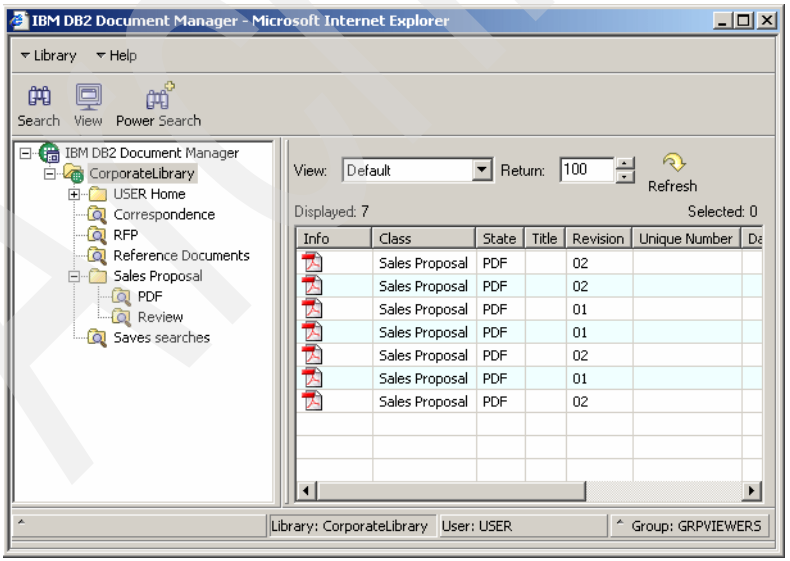

Figure 3-3 A Content Viewers Document Manager Desktop

The first user has a lot of commands (icons and menu items) available to use. The second user's Desktop is simpler, with only search-related commands. You can set the views to present to users differently depending on business requirements.

The process of designing a Document Manager Desktop involves configuring:

- Menus
- Views
- Searches
- Property exchanges
- Application integration
- Desktop templates

Table 3-11 provides a brief description of each Desktop object.

Table 3-11 Document Manager Desktop objects

Desktop objects	Description
Menus	The Document Manager *menus* are designed to fit the requirements of each user and group. They provide the user with the tools to work with documents and information within the system. Menus are assigned to Desktop templates. A menu can be composed of one or more submenus. For example, on Figure 3-2, the active menu (main menu) consists of the following submenus: ► Library Menu ► Folder ► Records Menu ► Templates ► About Menu In addition, the Library Menu consists of the following Document Manager commands: ► Log in ► Log out ► User Preferences ► Change Password ► Desktop Refresh
Views	The Document Manager *views* display the document property information on the Document Manager Desktop. For example, on Figure 3-4, the Proposal view displays property information such as State, Proposal Number, and Customer Name. The View drop-down box shows that the user has multiple views from which to choose. Each view represents data in a different way.

Desktop objects	Description
Search dialogs	The Document Manager *search dialogs* are search templates that users can use to search on attribute values (properties) to retrieve documents. The properties included in the search template contain item-specific information to help users identify the items that they are looking for in the Document Manager system. For example, Figure 3-5 shows a search dialog for a proposal type document. The search drop-down box shows that the user has been given multiple search templates from which to choose. Each template is relevant to a type of document because the template contains properties that are relevant to that specific document type.
Desktop templates	The Document Manager *Desktop template* is used to configure the Document Manager Desktop for users. You typically create a Desktop template for each user group or groups. For example, the Document Manager administrative user group has its own template. The content creators, reviewers, and approvers can share the same template that is different from the administrator's template. The Desktop template pulls together the previously defined Desktop objects, such as menus, views, search dialogs, and more to form the Document Manager Desktops for users.

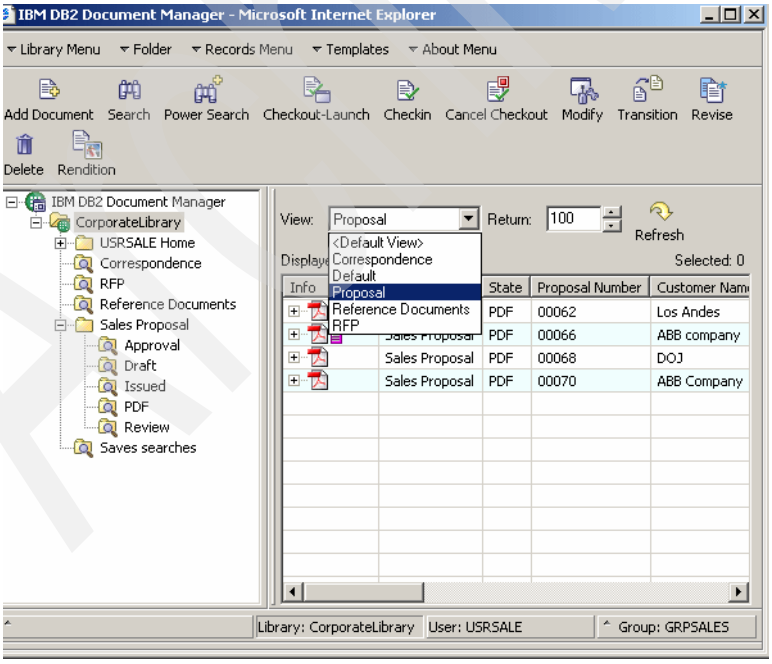

Figure 3-4 Document Manager views

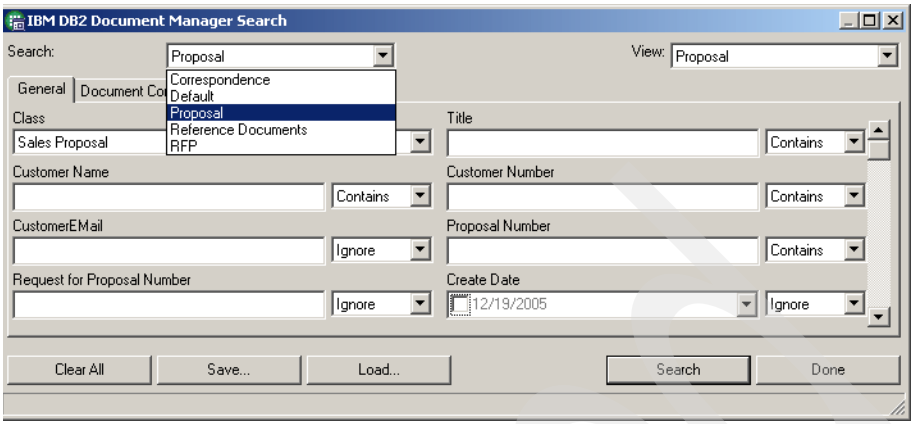

Figure 3-5 Document Manager search dialogs

In later chapters of this redbook, we show you how we create the sample application for the case study.

For more details about designing a Document Manager Desktop, also refer to the *IBM DB2 Document Manager V8.3 System Administration Guide*, SC18-9254.

3.3.3 Define folders structures

You do not define *Folders* in the Document Manager Designer tool but they can be created in the Folder Administrator utility that is part of the Document Manager menu actions. You create folders to organize documents into directory-like structures so users can easily find documents without performing a document search action.

There are two types of folders, standard and dynamic folders. With *standard folders*, you can manually drag and drop documents to the folders. The *dynamic folders*, also known as the *dynamic search folders* are linked to saved search documents. The saved search documents store saved queries. Every time a user opens a dynamic search folder, an associated saved search to the dynamic search folder is executed and the folder content is refreshed. Dynamic search folders are useful for quick lookup of certain groups of documents, without having users manually drag and drop the documents there.

Use folders appropriately. Do not overuse them or else you can impact system performance.

You can configure the folder security so only specific users have access to folders.

Note: The Export/Import utility does not export or import a folder from one system to another. If you create the folder in the testing environment, you must either manually recreate it in the production environment or drag and drop it to the new environment.

4

Records Manager options design and planning

In this chapter, we discuss different options available to tailor the Records Manager functions into Document Manager. Specifically, we concentrate on different ways of declaring and classifying from Document Manager.

We cover the following topics:

- General Records Manager planning and design
- Records Manager options in Document Manager
- Choosing the optimal records declaration process

4.1 General Records Manager planning and design

Adding Records Manager function to a Document Manager solution involves the following planning and design steps:

1. Identifying corporate records
2. Reviewing or defining the records retention schedule
3. Identifying how documents are organized
4. Defining file plan
5. Defining a record's life cycle
6. Defining users and security
7. Planning for records destruction

We assume you already have experience working with Records Manager in general. The section provides a general overview for Records Manager planning and design.

It is beyond the scope of this redbook to provide detailed information about how Records Manager works, how to set up a Records Manager solution from end-to-end, and to repeat the materials (publications) that have already been published.

If you are not familiar with Records Manager, Chapter 3 of the following redbook provides a good overview:

- *E-mail Archiving and Records Management Integration Solution Guide: Using CommonStore and Records Manager*, SG24-6795.

For a quick review of the basic terms and concepts related to records management, refer to the Technote at the following Web site:

`http://www.redbooks.ibm.com/abstracts/tips0595.html?Open`

For more detailed information about Records Manager, refer to the following Records Manager product publications:

- *IBM Records Manager: Administrator's Guide*, SC18-9180
- *IBM Records Manager: Technical Reference Guide*, SC18-9181

4.1.1 Identifying corporate records

Before adding any Records Manager function to your solution, *identify* the types of the documents to declare as *corporate records* as mentioned in 3.1, "Planning for a Document Manager solution" on page 48.

The main tasks here are *what* are corporate records, *when* they can be declared, and *how* to declare and accurately classify them.

4.1.2 Reviewing or defining the records retention schedule

After identifying the types of the documents that should be corporate records, review the retention schedule for these corporate records according to regulatory rules and your company policies. The *record retention schedule* specifies how long you keep a record in the system once the document becomes a record. If there are multiple stages a record goes through, review:

- How many stages there are in a record's life cycle.
- How long the record stays in each stage.
- What to do with the record when it is in the stage.
- How to move the record from one stage to another.
- How to dispose of the record in the end.

If your company does not have a pre-established retention schedule, the records management staff and legal staff in your company get together and define the retention schedule for each type of corporate records.

4.1.3 Identifying how documents are organized

Once the retention schedule is established, review how your company currently organizes all the physical files and electronic files. Every organization uses certain ways to organize its information, such as by files, prefix, section, folder, and volume. This helps you define a file plan for the solution.

4.1.4 Defining file plan

A *file plan* specifies how to organize records hierarchically in a Records Manager environment. Establishing an effective file plan is crucial to both the ease of use as well as to the retention schedule that you apply to records managed by Records Manager. Usually, a Records Manager's file plan maps to the existing physical and electronic file organization scheme of your company that you identified earlier.

A file plan consists of multiple file plan components. Much like a drawer contains a collection of related documents in an old-fashioned file cabinet, a file plan component stores a collection of related records. In the old fashioned file cabinet, each drawer has multiple folders, and each folder store documents of similar subjects or the same projects. Some file plan components can store actual records, while others like the drawer can be further divided into multiple subcomponents indefinitely. In the end, a file plan component stores the actual records.

When you declare a document as a record, you classify the record at the same time. Classifying a record is assigning a record to one of these file plan components.

4.1.5 Defining a record's life cycle

A *life cycle* is a collection of phases a record goes through from the time a document is declared as a record until the time it is discarded. A life cycle can consist of one or more phases. A *retention schedule* specifies how long a record is retained in a phase and when the record transitions to the next phase.

When you define a record's life cycle, consider the retention schedule associated with each record type. Each file plan component (where a record is assigned) has a life cycle code associated with it. The life cycle code corresponds to the retention schedule you reviewed or defined earlier. Each life cycle code represents a specific set of retention schedules that you apply to a file plan component.

Do not confuse the record's life cycle with the Document Managers life cycle. The process a document goes through prior to its becoming a record is the life cycle in Document Manager. The process a document goes through from the time it becomes a record until the time it is destroyed is the life cycle in Records Manager.

4.1.6 Defining users and security

Identify record users, those who can declare and classify records, and those who can view documents once the documents become records.

Document Manager is the core application that manages all the documents in the system in the records-enabled document management solution we cover in this redbook. Content Manager is the back-end content repository. Records Manager is the records management engine that enables the system to support the records management function. In the system, you create the users in Content Manager and import the users into Document Manager. When you identify the users who can declare and classify records, and the users who can search and view records, you import these users from Content Manager into Records Manager. In addition, you import users who log on to a Document Manager administration client (for example, DDMSERVICE) and the administrative user for CMRE (in the example, ICMADMIN) into Records Manager.

Note: Ensure that all IDs imported into Records Manager conform to its naming rules, or declaration fails due to failed logins.

The Content Manager users, who perform record declaration and classification, need at a minimum the *File Plan Administration* function access right to access the file plan. In addition, the users need the privileges to the file plan hierarchy

locations where they classify documents. Administrative users need additional rights and privileges to perform other Records Manager functions.

For more detailed discussions about users and security, refer to Chapter 5, “Security” on page 91.

4.1.7 Planning for records destruction

Planning for records destruction is very important in a records-enabled system. Records Manager does not automatically delete the records once they reach the last stage in their life cycles. You work with the legal staff and records management staff to determine how and when to destroy records.

Refer to Chapter 10 of the following redbook for a high level discussion about this topic:

- *E-mail Archiving and Records Management Integration Solution Guide: Using CommonStore and Records Manager*, SG24-6795.

4.2 Records Manager options in Document Manager

The process of declaring and classifying Document Manager documents as records should be made appropriate to the skill and knowledge level of the users. Integrating with Records Manager, Document Manager provides a number of methods to create records in the solution:

- Quick declare
- Manual declare

4.2.1 Quick declare

Quick declare provides users with an option for automatic classification of documents. *Touchless* (or no user interaction) declaration and classification of documents provide a seamless way to enforce record keeping without burdening users.

Document Manager provides three options for quick declare (see Figure 4-1):

- Auto
- Selection
- By Property

All three options vary in degrees of user interaction at record declaration time. An option is specified for each document class and it determines the classification method for that class.

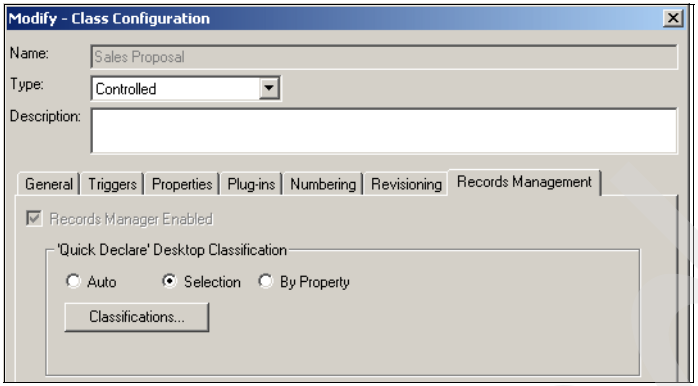

Figure 4-1 Quick declare configuration

Quick declare option: Auto classification

The *Auto classification option* works in conjunction with Records Manager's auto classify rules and CMRE settings to automatically classify a document. The Records Manager's auto classify rules are invoked to identify any candidate file plan locations that meet pre-established criteria. If there are multiple or no candidates identified, the CMRE settings arbitrate the final file plan location and the classification occurs. The *IsRecord* attribute of the declared document is set to *auto* and CMRE processes it based on the polling interval.

The user sees a dialog box similar to the one in Figure 4-2 when the auto option is used for classification.

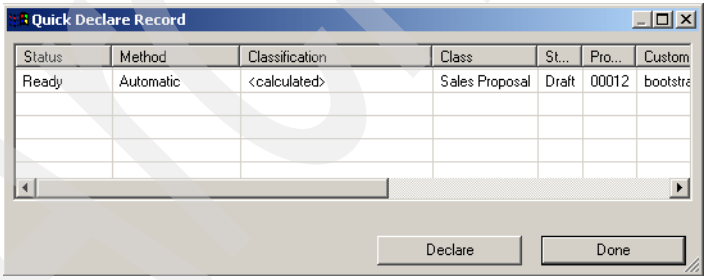

Figure 4-2 Classification using auto option of quick declare

Quick declare option: Selection classification

The *Selection classification option* is a low touch classification option. This option requires the Document Manager Designer to designate a set of file plan locations (including a default location) into which you can classify documents. When you declare a document, you see a short list of possible file plan locations for classification (see Figure 4-3). You must choose one to complete the process.

With the selection option, should a document be declared during a Document Manager process, such as a state transition, the default file plan location is used for classification. In addition, all attribute values required by Records Manager must be provided through a means such as attribute mapping in CMRE; otherwise the classification will fail.

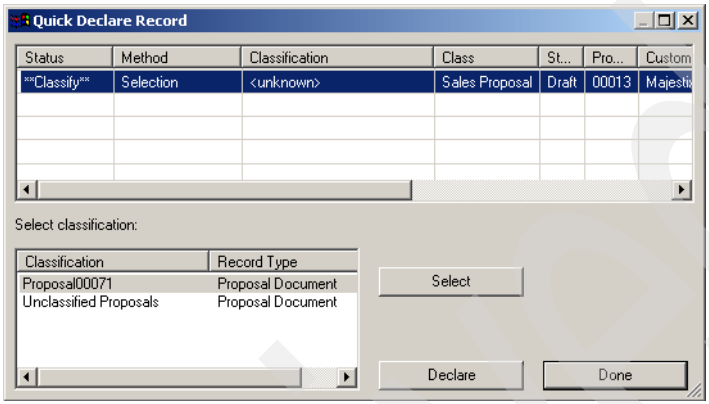

Figure 4-3 Classification using selection option of quick declare

Quick declare option: By Property

The *By Property option* is a low touch method for classification. This option allows the Document Manager Designer to create attributes (library properties) that collect values for record types and file plan locations. You can then use these properties in dialogs to specify the values for a record declaration and classification. At quick declare invocation, these values are used to complete the process.

To facilitate entry of correct values, you can create CVL lists (picklists) to contain all the valid values, and users can choose from the lists. You can set up default values in the CVL lists and use the CVL lists for automatic declare processes in Document Manager also. Figure 4-4 shows two fields in a dialog box used for the *By Property declaration*, the record types, and the file plan declaration fields. Using CVL lists can speed up record declaration, the classification process, and reduce human input errors.

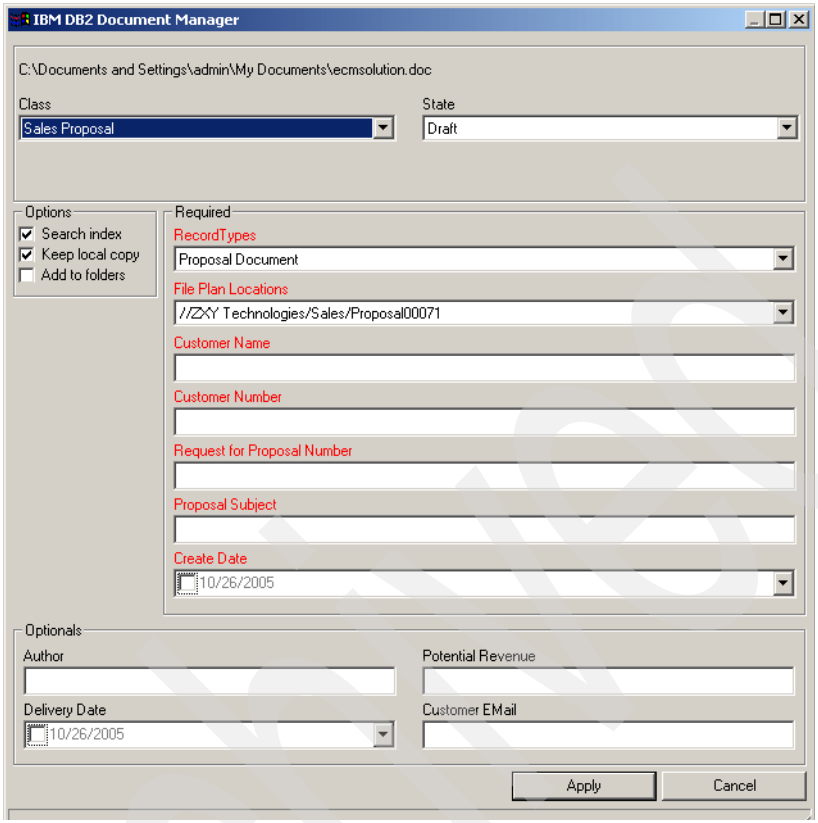

Figure 4-4 Quick declare with the By Property option

4.2.2 Manual declare

The basic type of record declaration is *manual declare.* This method allows for complete control of the process by a sophisticated user. The process requires you to know the precise location in the file plan to classify a document, and this process allows you to enter values for all the attributes for the record. You perform a manual declaration in Document Manager by selecting the **Manual Declare** command on a menu or having it optionally start automatically upon completion of an action.

When selecting the Manual Declare command, the Manual Declare profile appears. See Figure 4-5.

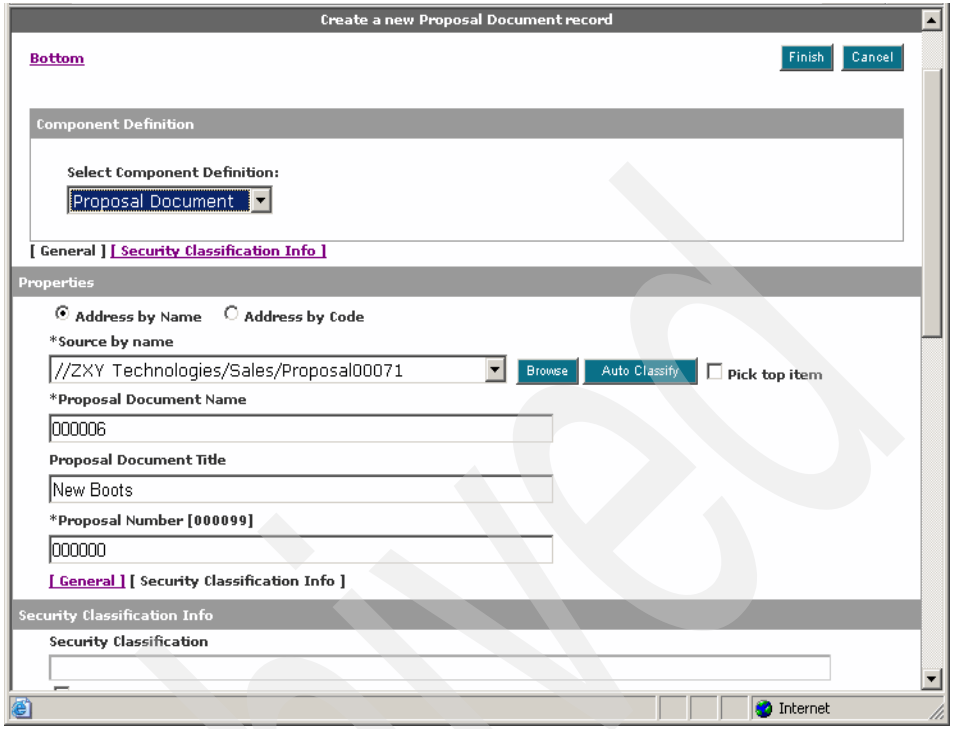

Figure 4-5 Manual Declare profile

Records Manager generates this window. This window is common to all products that use CMRE.

Tips about manual declare

You can do a number of things to simplify the manual declare operation and reduce potential user input errors, such as:

- Prepopulate the required fields.
- Limit the fields the user has to deal with via tailoring the records profile.

In the manual declare dialog box (Figure 4-5), populate the Source by name field by using settings in CMRE.

The manual declare and classify configuration dialog box (Figure 4-6) has a setting for Should classification be filled in automatically. Setting this to **yes** invokes the auto classification rules defined in Records Manager and lists them by weight in the Source by name field.

Used in conjunction with the auto declare and classify configuration (Figure 4-7), specify a default value for the Source by name field if there are no candidates identified through the auto classify rules.

This configuration can also provide a default value for the record type (Select Component Definition) field.

If you do not use the CMRE settings, once the manual declare dialog box displays, pressing **Auto Classify** invokes the auto classify rules and populates the field with any candidates.

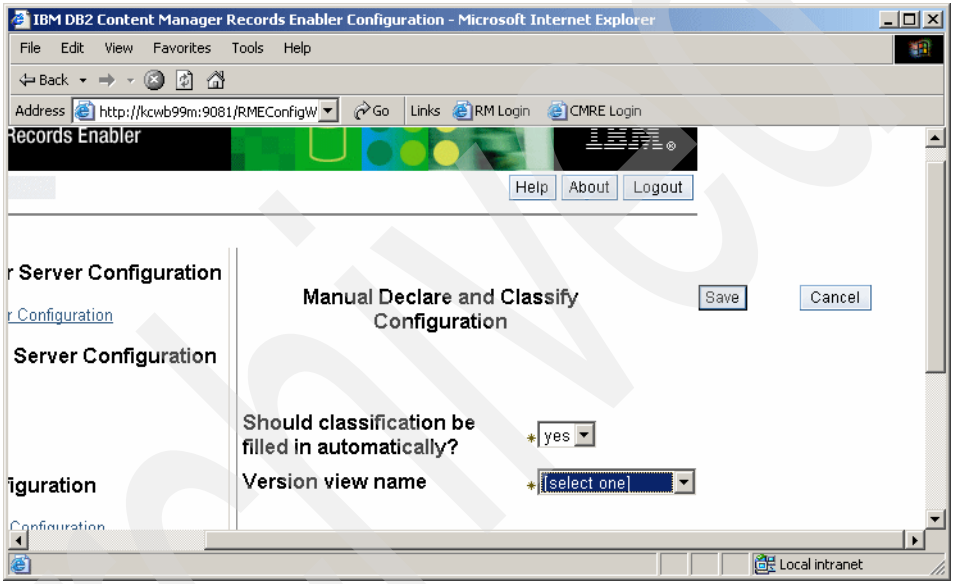

Figure 4-6 Manual declare and classify configuration in CMRE

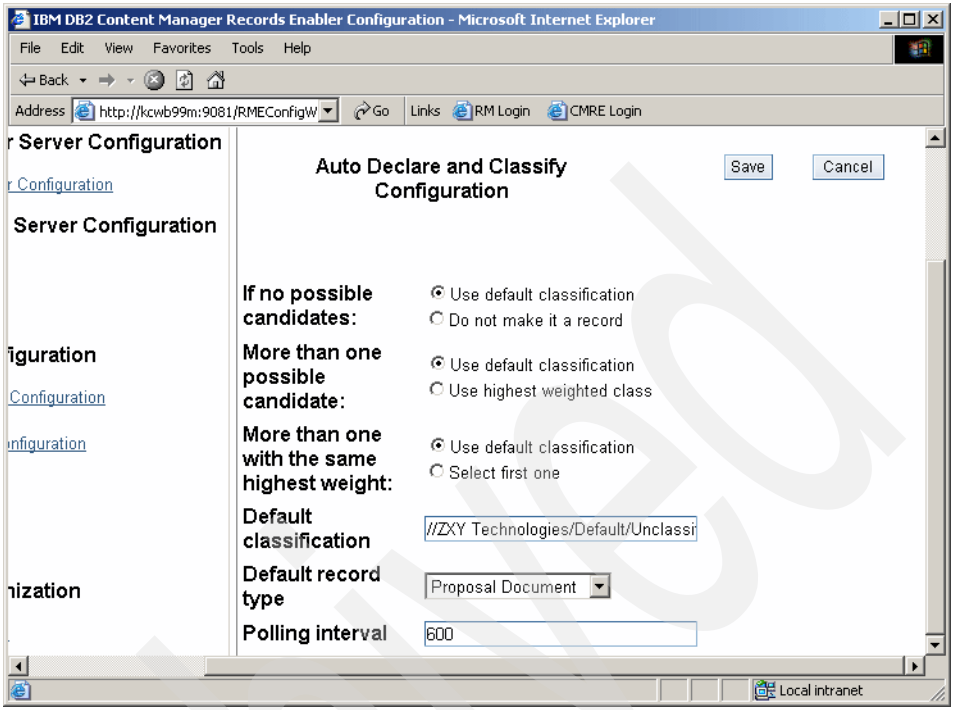

Figure 4-7 Auto declare and classify configuration in CMRE

In the manual declare dialog box (Figure 4-5 on page 81), other required fields are designated with an * preceding the label. You can populate the fields using the Defaults feature of Records Manager.

Find the Defaults dialog (Figure 4-8) through **File Plan Design** → **Defaults** in Records Manager. As shown in Figure 4-8, you can assign defaults to all the attributes in the component, not just the required ones.

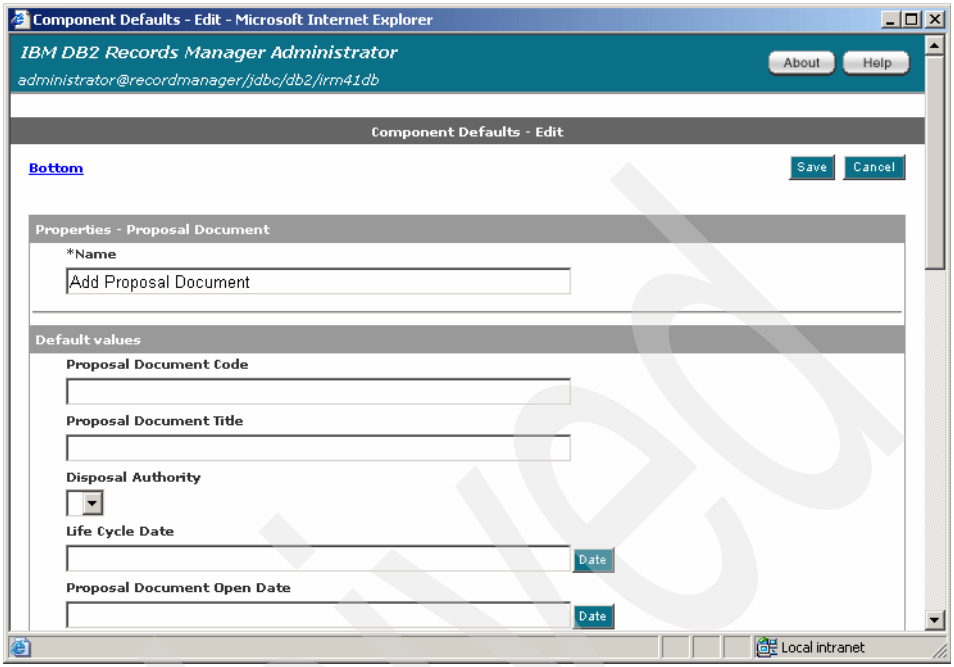

Figure 4-8 Setting defaults in Records Manager

Fields can also be assigned values that are set through Document Manager dialogs. Through *Attribute Mappings* in CMRE, values can be mapped from Content Manager attributes to Records Manager attributes, thus prepopulating the fields in the manual declare dialog.

An example of the attributes mapped for the *proposal document* record type is shown in Figure 4-9.

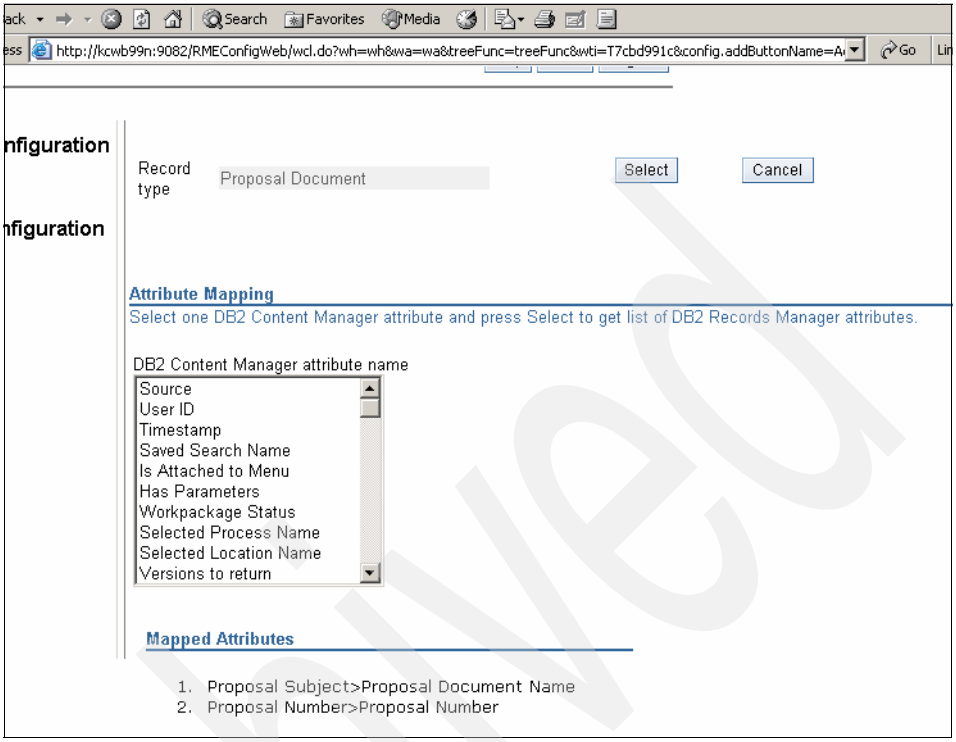

Figure 4-9 Attribute mapping in CMRE

In addition to prepopulating the fields in manual declare, you can also limit the fields the user has to deal with via tailoring the records profile.

At times, the number of component attributes displayed on a record declaration and classification window can be overwhelming to users. You can create a *profile* for the component to limit the number of the fields shown (see Figure 4-5 on page 81).

You define a profile through **File Plan Design** → **Profiles** in Records Manager. You create a profile (Figure 4-10) by selecting attributes from a list of all fields of a component and adding only the desired ones to the selected field list.

A good practice for setting up a profile is to only show the fields that pertain to users.

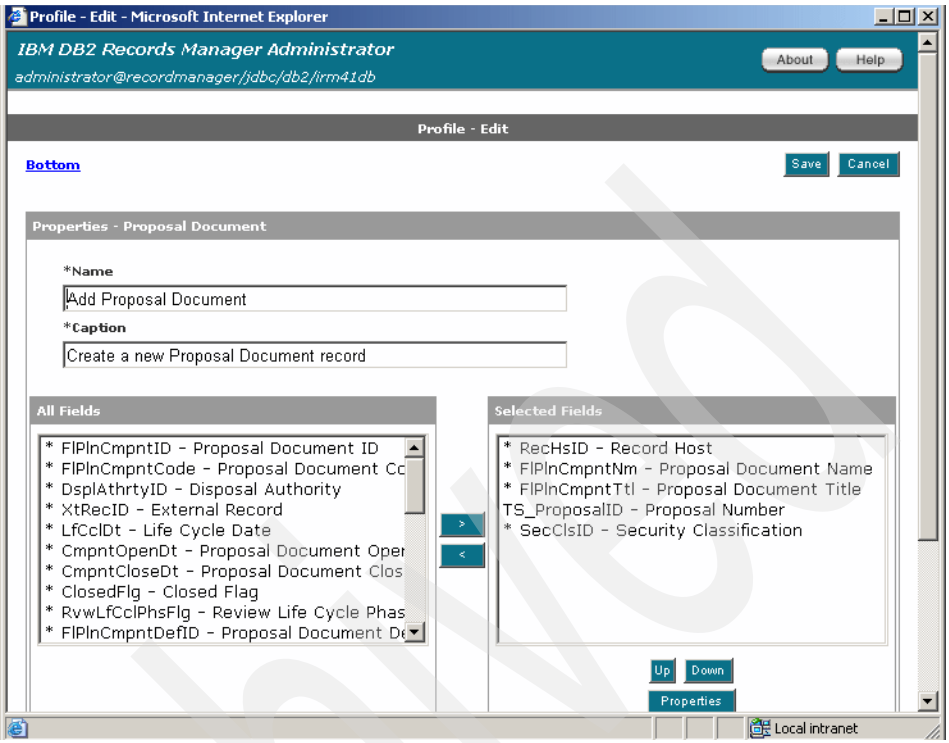

Figure 4-10 Setting profiles in Records Manager

4.3 Choosing the optimal records declaration process

Base the process you use to declare and classify records in your environment upon your unique requirements. All the methods for records declaration in Document Manager are valid, but all are not necessarily optimal for your environment. As a general guideline, it is best to use a simple low touch process that fits naturally into the users' normal work sequence. For example, if a user normally works in a AutoCAD environment, it may be best to allow the declaration to occur when a user adds or checks a document into the system. You should not force the user to go to the Document Manager Desktop to declare the document.

Consider these suggestions for designing your record keeping process:

- Ensure that whatever process you choose meets the five second rule (an operation taking five seconds or less) for record declaration and classification.
- Make the process a part of the users' normal working environment.

- The less interaction you require to classify a document, the better. Completely automatic is best.
- If you require manual declaration and classification, use the Records Manager and CMRE tools, such as defaults, profiles, and attribute mapping to assist in the classification.
- Use auto classification rules whenever possible.
- A file plan that is relatively fluid, requires regular updates to the auto classification rules. It can be less burdensome and easier to use low touch classifications, such as selecting By Property, if you are updating Document Manager components.
- For a high document volume environment, consider using the Document Manager automation service to declare and classify records during off-peak hours.
- If declaring documents during a Document Manager life cycle, consider that the document gets locked down at the point of declaration. This effectively ends the document's life cycle in Document Manager. So, a declaration at the final state in a Document Managers life cycle is prudent.
- Use the Document Manager auto declare option for simple, single document declaration. Use other quick declare options (or manual declare) to include all parts of a compound document in a single declaration or to include related documents in a single declaration.

4.3.1 Records management implementation in the sample solution

The records management portion of the solution consists of designing a file plan that meets the needs of the Document Manager solution and deciding what documents should be records and when to declare these documents as records. We also establish a retention schedule and consider user setup.

File plan

Our file plan is a simple one; but in your environment, the file plan design process is a complex one. Plan on months to years of development for a file plan.

Figure 4-11 displays the file plan design for our solution. The file plan consists of:

- Five file plan components:
  - Component-type: Department
  - Component-type: Proposal
  - Record-type: Proposal Document
  - Record-type: Request for Proposal
  - Record-type: Correspondence

- One custom attribute (in all record-types):

  ProposalID, to allow auto classification of all related documents into the correct proposal container

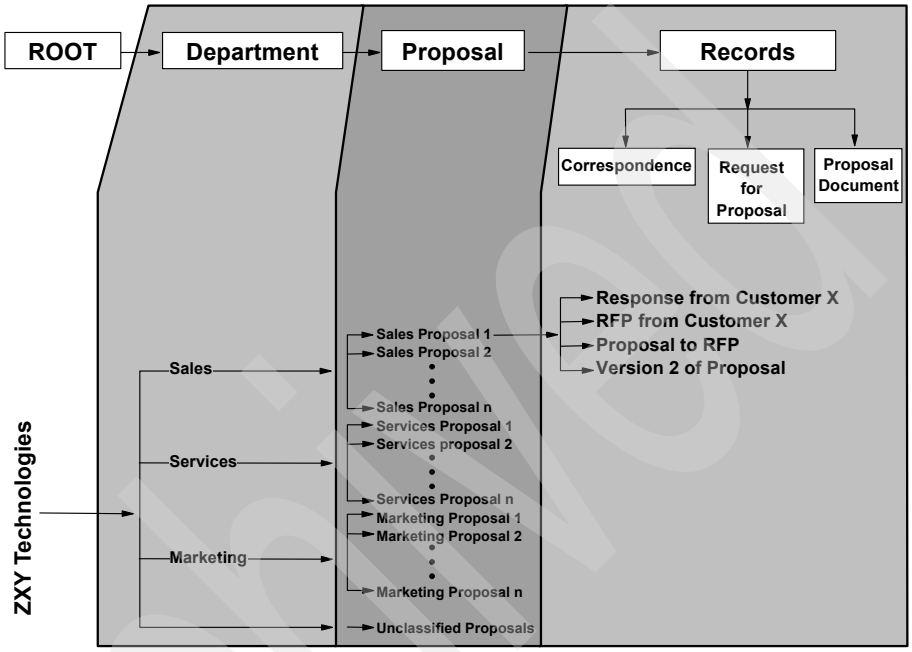

Figure 4-11 Solution file plan

Records declaration

For the sample solution, proposal documents that have been approved and go to the Issued state automatically become records. Any correspondence that enters the Incoming or Outgoing states also automatically becomes records. Other non-automatic records declaration is also configured in the Desktop for users to use.

For all the reference documents, users can decide whether the reference documents should be made to be records or not. Users can declare reference documents as records in their Desktops, using selection declaration with a predefined list of file plan destinations.

Retention schedule

For the sample solution, we define a single retention schedule that applies to all of the proposal-related documents. This rule, shown in Figure 4-12, retains the proposal in active status for one year (at which point we close the proposal) and then we retain the proposal for seven years in a completed status. After seven years, we destroy the proposal.

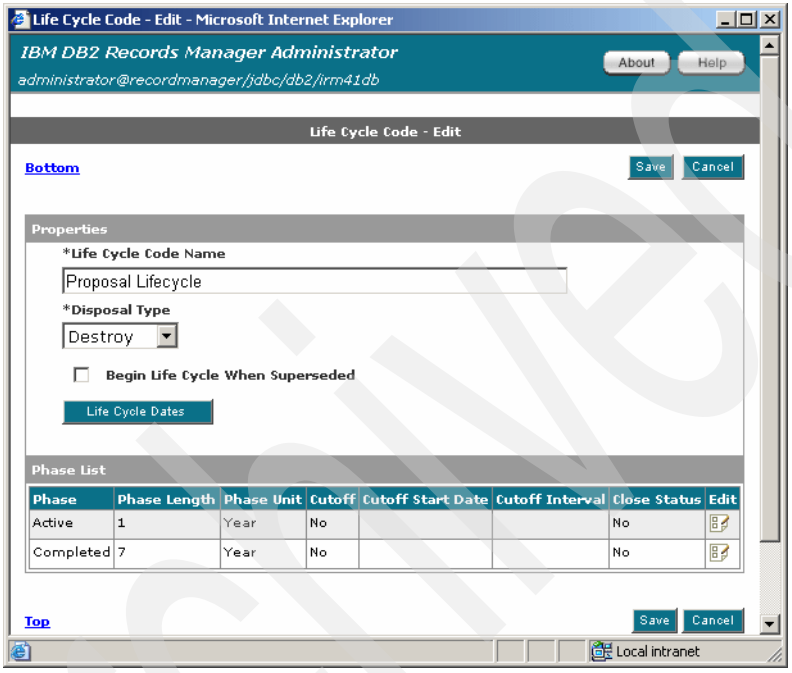

Figure 4-12 Life cycle code for proposal documents

Users' setup

We import users who perform record declaration and classification from Content Manager into Records Manager. We import DDMSERVICE into Records Manager, because this user needs access to the file plan when performing quick declare configurations. We import ICMADMIN into Records Manager, because it is the user that administers CMRE. ICMADMIN logs into the CMRE administrator client and sets the options. We add ICMADMIN to the Records Manager administrators group.

We give the *File Plan Administration* function access right to all the Content Manager users and provided the privileges to the file plan hierarchies. Table 4-1 shows the function access rights and privileges given to the users.

Table 4-1 Permissions and function access rights given to users

User	Function Access Right	Privileges
usrSale	File Plan Administration	Add, View, and Link for entire file plan
usrConsultant	File Plan Administration	Add, View, and Link for entire file plan
usrMarketing	File Plan Administration	Add, View, and Link for entire file plan
usrProjectManager	File Plan Administration	Add, View, and Link for entire file plan
usrManager	File Plan Administration	Add, View, and Link for entire file plan
usrFinancial	File Plan Administration	Add, View, and Link for entire file plan
ICMADMIN	All - through administrator group	All - through administrator group
DDMService	File Plan Administrator	View entire file plan

5

Security

In any document management solution, it is important that the solution protects the business assets. Document Manager, Records Manager, and the back-end content repository, Content Manager, all provide security features. Using these features, we can guard the system against unauthorized access, control what users can do once they are in the system, and ensure that the security management of the records complies with record keeping mandates and regulatory guidelines.

In this chapter, we discuss the security measures you can apply in a records-enabled document management solution.

We cover the following topics:

- Document Manager security overview
- Records Manager security overview
- Access control of a declared record document

5.1 Document Manager security overview

This section provides an overview about how IBM DB2 Document Manager manages security. The topics we cover are:

- Authentication and authorization
- Document access control
- Security through document life cycle
- Security through actions and dialogs
- Security through Document Manager Desktop design

5.1.1 Guarding against unauthorized access

In the records-enabled document management solution we cover in this redbook, Content Manager is the back-end content repository for the solution. Document Manager leverages the security infrastructure of Content Manager to handle user authentication and authorization. *Authentication* is the process by which the system determines if users are who they claim to be. *Authorization* is the process of establishing if users have the permissions to perform the requested action. Both are required to properly guard the system against unauthorized access.

Authentication

When a user logs on to Document Manager, Document Manager passes the user logon ID and password to Content Manager. Content Manager performs authentication. If the user passes Content Manager's authentication, the user logs on to Document Manager successfully. Otherwise, the user is denied access.

When planning for your Document Manager solution, as described in 3.1, "Planning for a Document Manager solution" on page 48, one of the steps is to identify users and groups that will use the system. You must create these users and groups in Content Manager.

Note: When using Content Manager as the back-end repository for Document Manager, use Content Manager's system administration client to perform all Content Manager user and group management.

If your Document Manager system requires Lightweight Directory Access Protocol (LDAP) support, only configure Content Manager to use LDAP for user management and authentication. Refer to the *Content Manager Version 8 Release 3 System Administration Guide*, SC27-1335, for instructions about how to configure Content Manager to use LDAP technology. There is no additional configuration required in Document Manager to support LDAP.

If your Document Manager system requires Single Sign On (SSO) capability, this requires configuring both Content Manager for SSO and Document Manager to support SSO. Refer to the *DB2 Document Manager Version 8 Release 3 Installation Guide*, GC18-9272, for instructions about how to set up Document Manager for SSO.

In the case study, there is no LDAP or SSO requirement. We use the Content Manager server authentication method. We define the user IDs, passwords, and group information in Content Manager. When a user logs on to the Document Manager client Desktop, Document Manager passes the user ID and password to Content Manager. Then, Content Manager uses the user ID and password information stored in the Content Manager Library Server to authenticate the user.

Authorization

Once Content Manager authenticates users, they can only access documents for which they have permissions (or privileges) to access.

To set up the proper access for an user, perform the following steps in Content Manager using the Content Manager system administration client:

1. Create privilege sets.
2. Assign a privilege set to the user to indicate the maximum privileges the user has in the system.
3. Create access control lists to restrict access to objects, such as item type.

Privileges and privilege sets

Privileges grant the right to perform a specific action on a specific item in a system. Examples of privileges include *ItemAdd* that grants the right to create an item and *ItemDelete* that grants the right to delete an item.

A *privilege set* consists of privileges. A privilege set usually combines a list of related privileges.

When you create a user, you define the *maximum privilege set* the user has by assigning a privilege set to the maximum privilege set field. A user's access rights do not exceed the maximum privileges defined within the privilege set.

Access control lists

The *access control list* (*ACL*) is a list consisting of one or more individual user IDs or user groups and their associated privilege sets. ACLs are used to control user access to objects in the Content Manager system (such as items and item types). When defining a user, you specify the maximum privilege set the user has for the system. When defining an ACL, the privilege set associated with the

user restricts the user's access wherever this ACL is used. An ACL does not grant additional privileges to an user, even if the privilege set associated with a user in the ACL contains more privileges than the maximum privilege set associated with the user. An ACL limits user access, it does not grant more access.

For more information about Content Manager's authorization process, refer to Chapter 9, "Managing user access", in *Content Manager V8.3 System Administration Guide,* SC27-1335, or Chapter 8, "Security", in *Content Manager Implementation and Migration Cookbook*, SG24-7051.

Special consideration in a records-enabled system

When working with a records-enabled document management system, do not grant the *ItemSuperAccess privilege* to users, because if the system detects that a user has the *ItemSuperAccess* privilege, the system bypasses any ACL checking for that user.

For example, when a document is declared as a record, your permission settings in Records Manager control your right to view and modify the declared document. However, if you have *ItemSuperAccess* privilege, the system bypasses any ACL checking and allows you to modify the record, regardless of the permission settings in Records Manager.

Note: Content Manager comes with default privilege sets. One of them is the *ClientUserAllPrivs*. Do not use this privilege set for a records-enabled document management system because it contains the *ItemSuperAccess* privilege.

When you install Content Manager Records Enabler (CMRE), it creates a default privilege set *RMEUserAllPrivs,* and a default ACL *RMEClientACL.* If you do not know which privilege set or ACL to use, start with these defaults. When you create a user in Content Manager, assign the value *RMEUserAllPrivs* as the user's **Maximum privilege set** and assign the value *RMEClientACL* as the **Default item access control list**. In order for the user to see the declared document and view the record information, the user must be able to access the *RMEconfig* item type. To allow the user access to *RMEconfig* item type, add the user (or the user's group) to the *PublicReadACL,* because the *RMEconfig* item type is assigned the *PublicReadACL* when Records Enabler creates it during the installation.

Table 5-1 summarizes the user settings in Content Manager as a starting point for setting up a records-enabled document management system if you are not familiar with or have not decided which privilege set or ACL to use.

Table 5-1 Content Manager default settings for users who can declare records

Setting	Value	Comment
Maximum privilege set	RMEUserAllPrivs	Default privilege set provided by Records Enabler
Default item access control list	RMEClientACL	Default ACL provided by Records Enabler
PublicReadACL	Add the user or the user's group	Must have access to RMEConfig item type, which is assigned to PublicReadACL

5.1.2 Managing security through document access control

In Document Manager, document access control is based on Content Manager's access control model.

A user can only gain access to the Document Manager system when the user has a login ID and password defined in Content Manager. The login ID has a set of privileges associated with it. That set specifies the maximum actions the user can perform in the system.

Any document that you add to the Document Manager system is associated with a Document Manager class. A *Document Manager class* is derived from an item type. When you create an *item type*, you specify the ACL to which it is bound. A Document Manager class derived from the item type inherits the ACL of the item type. A document by default inherits the ACL of the Document Manager class.

When you initiate an operation on a document in Document Manager, the system checks your privileges and the ACL that is bound to the document. The system allows you to proceed if you have the privilege to perform the action. For example, if you initiate a search action, the search result only returns documents that you have the right to see. Furthermore, you can only check out documents that you have the right to edit.

There are two ways you can bind ACL to an item type, at the item type level or at the item level. You can also change the ACL setting of a document in Document Manager objects if the ACL is bound at the item level.

Binding ACL to an item type at item type or item level

When defining an item type, you bind the ACL to the item type at the item type level or at the item level.

If you bind the ACL at the *item type level*, all documents created under that item type inherit the item type's ACL. You cannot change the ACL of any individual

document because the system only checks the access right at the item type level and not at the individual document level.

If you bind the ACL at the *item level*, documents created under that item type by default inherit the item type's ACL; however, you can change the ACL of an individual document because the system always checks the access right at the individual document level.

Figure 5-1 shows the Access Control tab of an item type configuration window using the Content Manager system administration client. You select the ACL to bind the item type from the drop-down list. You also select whether you want the ACL checking to be at the item type level or item level. In the sample window, the ACL *PublicReadACL* is bound to the item type at the item level.

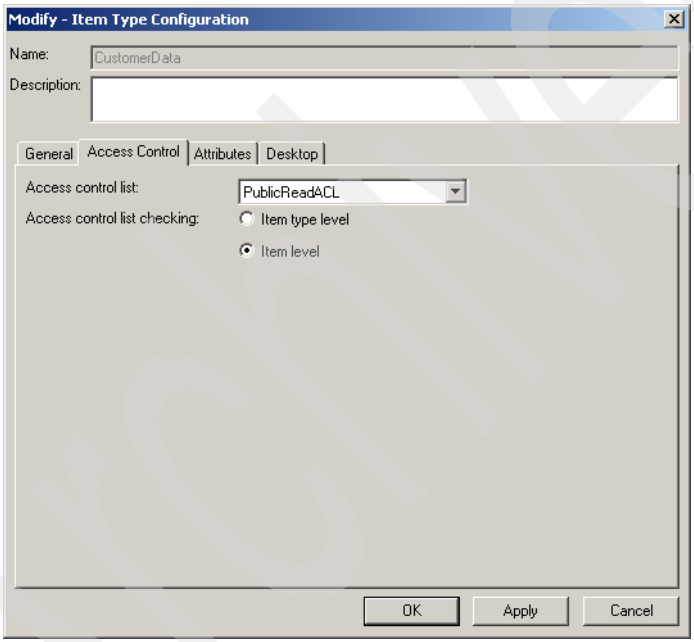

Figure 5-1 Item type ACL selection

Note: When you enable an item type to store records, if at the time the item type's ACL checking is set at *item type level*, Records Enabler automatically changes the ACL checking to *item level*. Records Enabler does this because it manages the access control of a record at the individual item or document level.

Changing the ACL setting of a document

In Document Manager, there are several places where you can change a document's ACL. This works only if the item type of the document has its ACL bound on the item level.

Table 5-2 lists the Document Manager objects where you can change the ACL setting of a document. You change the settings through the Document Manager Designer. Refer to the *DB2 Document Manager V8.3 System Administration Guide*, SC18-9254, for detailed instructions about how to change the ACL setting for each of these objects.

Note: The behavior you expect from changing the ACL setting only works if you create the document's item type with the ACL bound at the *item level*.

Table 5-2 Document Manager objects where you can change the ACL setting

Document Manager objects	Description
New item templates	The *new item templates* object provides you the ability to specify default information for properties, security, and standard folders for new items being added to a system. The security section is where you can specify ACL setting. If you specify an ACL setting at the state object, this setting overrides the ACL setting that is bound to the item type. Otherwise, the item that you create using this new item template inherits the ACL setting of the item type.
State	The *state* object has a security section for you to specify the ACL you want an item to have when it transitions into this state. If you specify an ACL setting at the rendition object, this setting overrides the ACL setting that the item has before it transitions into this state. Otherwise, the item ACL setting remains unchanged.
Rendition destination configuration	You can specify ACL settings when you define a *rendition destination configuration* object. If you specify ACL settings, the rendition object is bound to the ACL settings that you specify. Otherwise, the rendition object has the ACL of the item type under which it is created.
Action process object	The *action process object* falls under the Document Manager automation services. There are different types of action process objects. The *Modify ACL* action type is one of them. The action modifies the ACL of the item.

Document Manager objects	Description
Security menu command	The *security menu command* is a Document Manager Desktop command. This command enables you to change the ACL setting of an item.

Document access control in the sample solution

In the sample solution (described in Chapter 2, “Quick start with case study” on page 15), we create the *CustomerData* item type with the ACL bound at the item level. From the *CustomerData* item type, we create the following classes:

- Marketing Proposal
- Sales Proposal
- Services Proposal
- Correspondence
- RFP

Since we create these classes from one item type, the documents created for these classes share the same ACL.

We have the following groups of users who can create proposal documents:

- Sales group creates sales proposal documents.
- Marketing group creates marketing proposal documents.
- Services group creates services proposal documents.

All three groups have read, write, and delete privileges in their user ID profiles. Subsequently, they all have read, write, and delete rights to the three types of proposal documents because all documents share the same ACL.

If there is a security requirement to limit the access right of the sales proposals to the sales group, we must change the ACL of every sales proposal document to limit the marketing and services group from accessing the sales proposals. This is possible because Document Manager provides ways to change the ACL of an individual item (in this example, the sales proposal). However, this design is cumbersome and there is a performance impact to pay as well.

If the design requires different access control for different types of the documents, a better data model is to create three different item types. One item type is for the sales proposal, one for the marketing proposal, and one for the services proposal. Each item type has its own ACL and has one class associated with it. Subsequently, we can set up an ACL for the sales proposal item type so that the marketing and services groups do not have access to the sales proposal item type. The same is done for the marketing proposal item type and services proposal item type.

5.1.3 Managing security through document life cycle

Document Manager provides you with building blocks so you can model your organization's business rules that govern document life cycle without any programming. The life cycle building blocks have security features to help protect your business documents. The building blocks are:

- Users and groups
- Roles
- States
- Classes

We have already discussed users, groups, and classes. In this section, we focus on roles and states.

Roles

Roles allow you to define the actions that users or groups of users can perform on documents of a particular class or state. When you define a role, you decide what actions you want the person in this role to be able to do on the document.

The actions that users can perform on a document include:

- Add items
- Checkout
- Copy
- Revise items
- Modify properties
- Print
- Transition
- View
- Markup

Figure 5-2 shows you the Role Configuration window for the Creator role from the Document Manager Designer.

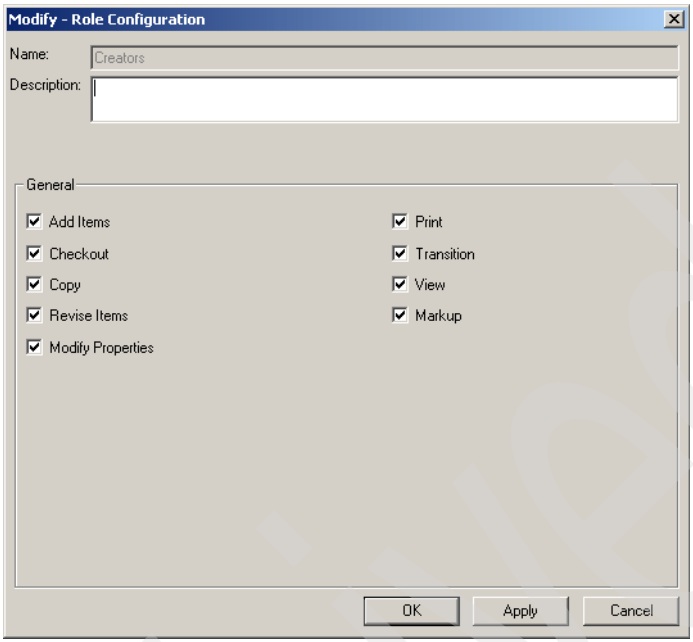

Figure 5-2 The Role configuration window

You can create a role to include any number of actions. After you define the role, you can associate users or groups to this role. This enables the users or groups associated with this role to perform a list of the actions set in the role. For example, if you did not select the *Checkout action* for the role Creators, the users of the Creators role will not be able to checkout the document, even though the user has the right to edit the document based on the user's privilege set and the document's ACL.

State

In a document life cycle, a document goes through multiple states. When you define a state, you specify what actions users can perform at the state.

Basic security actions include:

- Items can be added as this state.
- New revisions can be created as this state.
- Apply all access privilege modifications to single-parent children of same or stateless class.

The *Items can be added as this state* option in the state definition allows you to add a document into the system at this state of a document life cycle. For

example, in the sample application, we define the Draft state with this option selected. This means that users can add a new sales proposal in the system with its state set to Draft. You can choose not to add documents into just any state. For example, the Issued state usually represents documents that have gone through the approval process and are published for general consumption. For the Issued state definition, you do not want to check this option because you do not want users to add proposal documents with Issued state; otherwise, the proposals have bypassed the approval process set by company policy.

The *New revisions can be created as this state* option allows you to start a revised copy of a document at this state. This is a security feature because you want to be selective where in the document life cycle you allow the user to start a revised copy of the document. For example, in the sample application, the life cycle of a sales proposal is: from Draft to Review to Approval to Issued. We want the revise sales proposal document to begin its lifecyle at the Draft state because that is the business rule. It is a violation of the business rule to allow a revised copy to begin at another state. In the Draft state definition, we select this option. In any other states, this option is not selected.

The last option, *Apply all access privilege modifications to single-parent children of same or stateless class*, allows the system to apply the parent's security setting to the children if the children have only one parent (the current item) with the same class affiliation as the parent or are of a stateless class.

Figure 5-3 shows you the State Configuration window for the Draft state from the Document Manager Designer.

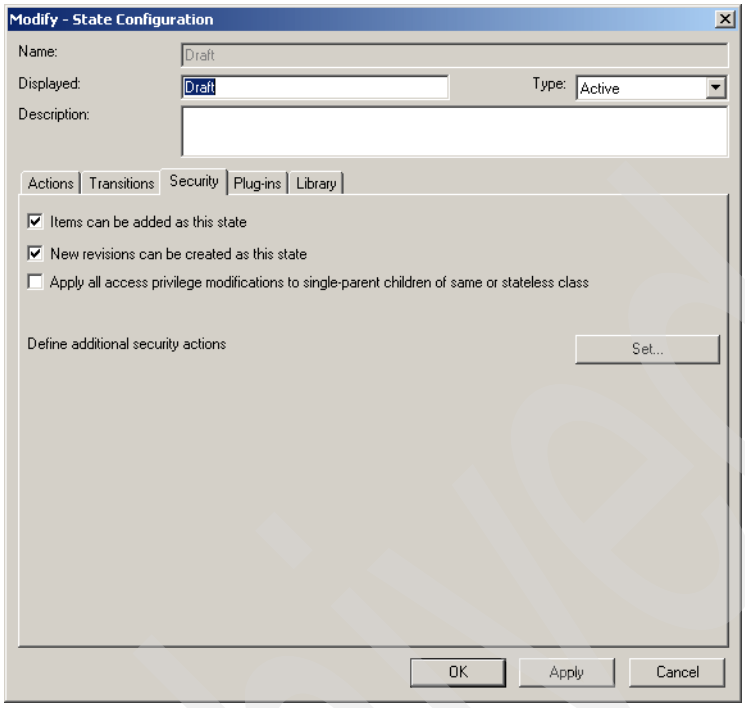

Figure 5-3 The security tab of the Modify State Configuration window

You can select any of the three options. In addition, you can set additional security actions by clicking **Set** from the window. This displays the Security Action Definitions window as shown in Figure 5-4.

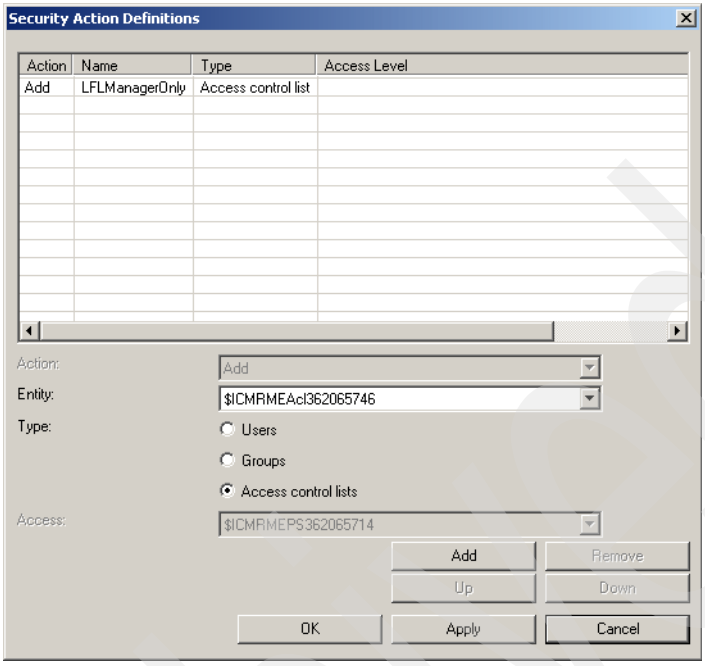

Figure 5-4 Security Action Definitions window

In this window, you can specify the ACL setting for the document that is in transition into this state. If you do not specify anything, the document retains whatever ACL setting it has prior to transitioning into this state.

Note: Once again, we must emphasize that the only way you can change a document's ACL here is if the document is created from an item type that has an ACL bound at the *item level*. If the ACL of the item type is bound at the item type level, the document's ACL will not change.

Pulling it all together in the life cycle map

Figure 5-5 shows a life cycle map of the sales proposal class from our sample solution. There are four states in this life cycle: Draft, Review, Approval and Issued. The life cycle starts from the Draft state, to the Review state, to the

Approval state, and finally to the Issued state. At the Review state, the document can be moved back to the Draft state for rework.

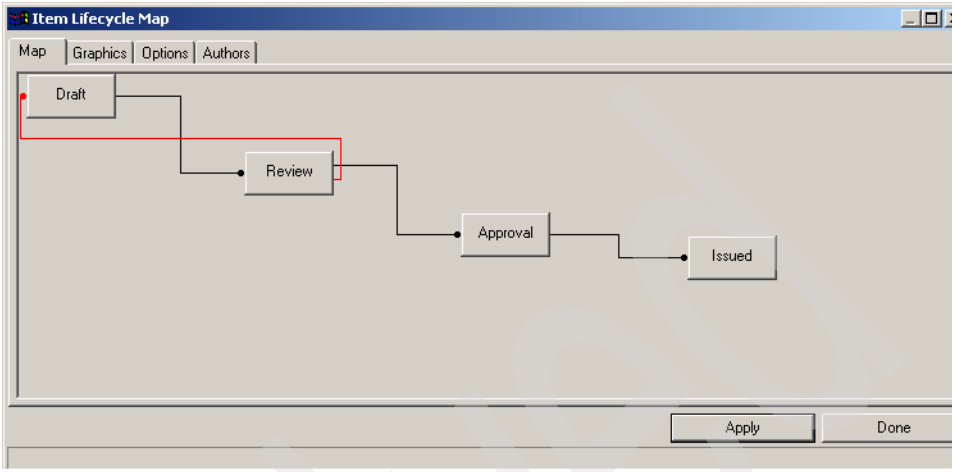

Figure 5-5 The life cycle map of the Sales Proposal Class

Figure 5-6 shows you an expansion of the Draft state object as it appears on the Document Manager Designer.

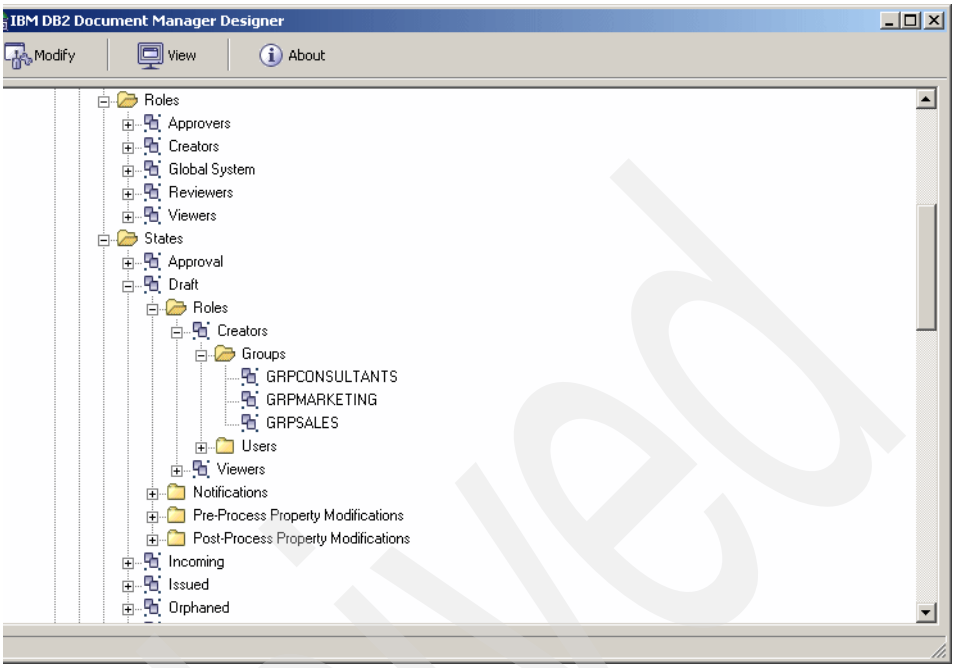

Figure 5-6 Expansion of the Draft state object

The Draft object is associated with the role, Creators. The Creators role is associated with the groups: grpConsultants, grpMarketing, and grpSales. At the Draft state, only users who are in the role Creators can carry out the actions permitted by the role Creators (see Figure 5-2 for the actions selected for the role Creator). Users who are in the Creators role are users who are defined in the grpConsultants, grpMarketing, and grpSales user groups.

If your user's privilege allows you to edit a document, but you are not in the Creators role, you can read the document, but the system does not allow you to checkout the document or transition it from the Draft to the Review state.

Transition authentication option

When defining the life cycle map, you can require a user to authenticate when the user transitions a document from one state to another. The system prompts the user to enter their user name and password. This can serve as an electronic signature. Figure 5-7 shows an example of state transition from Approved to Issued, which requires authentication.

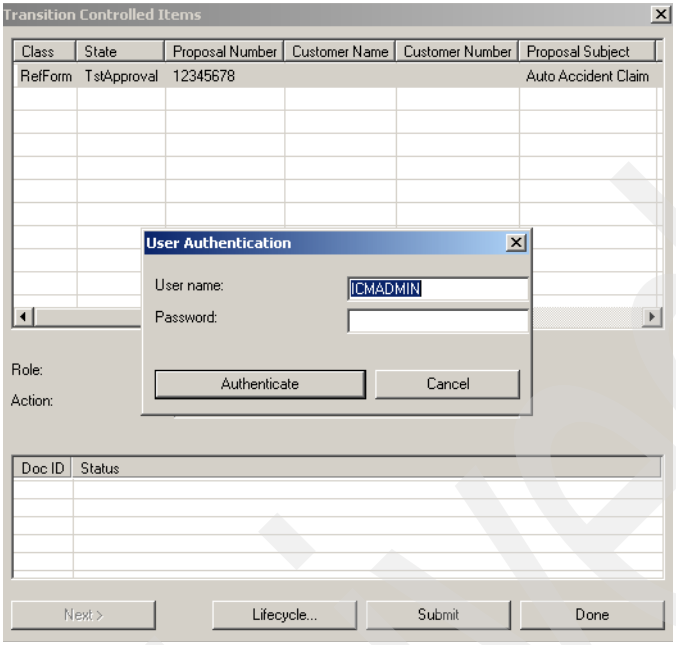

Figure 5-7 User authentication required during a transition

This is an optional feature. You set up the transition authentication option when you configure the life cycle map using Document Manager Designer. Refer to Chapter 7, “Configuring a life cycle”, in the *IBM DB2 Document Manager V8.3 System Administration Guide*, SC18-9254, for detailed instruction about setting up this option.

5.1.4 Managing security through the actions and dialog objects

Actions and dialog objects provide interfaces for managing documents (items) in a Document Manager system. Actions result from interactive menu command selections, which can or cannot display a dialog, depending on the configuration. Dialogs are displayed for the user to input or update document attribute information.

Document Manager has the following type of configurable actions and dialog objects:

- Add
- Check in
- Check out
- Copy
- Modify

- Revise
- Transition
- Version History
- View

Table 5-3 shows which Document Manager actions require configuration, which are optional, and which have no requirement.

Table 5-3 Configurable actions and dialogs

Actions	Dialogs	When used
Add	Required	Add an item to the content repository.
Check in	Optional	Check in one or more items.
Check out	Optional	Check out one or more items.
Copy	None	Copy one or more item to a specified location.
Modify	Required	Modify an item's attributes.
Revise	Optional	Create a revision of an item.
Transition	None	Transition one or more items from the current state to a new state.
Version History	Required	View all versions of a selected item.
View	None	Display one or more items in the configured viewer.

Depending on your system requirements, you can create actions and dialog objects for the desired actions and associate them with a class. When you create these objects, you need to specify the users or groups that have access to them. If a user is not part of the users or groups who are associated with the actions and dialog objects, the user cannot perform the actions.

For example in the case study, users need to:

- Add a sales proposal document
- Modify the properties (attributes) of a sales proposal document
- Revise a sales proposal document

In the sample application, the sales proposal class has three actions and dialog objects (see Figure 5-8):

- Proposal - Revise
- Sales Proposal - Add
- Sales Proposal - Modify

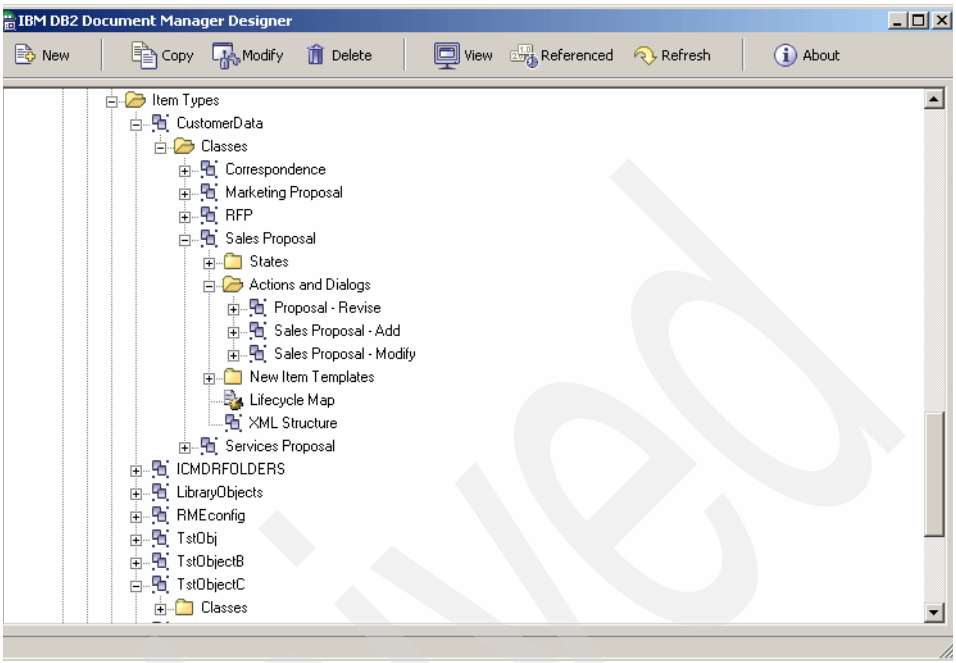

Figure 5-8 Mapping actions and dialog objects to Sales Proposal Class

Each object has its associated groups mapped to it. See Figure 5-9.

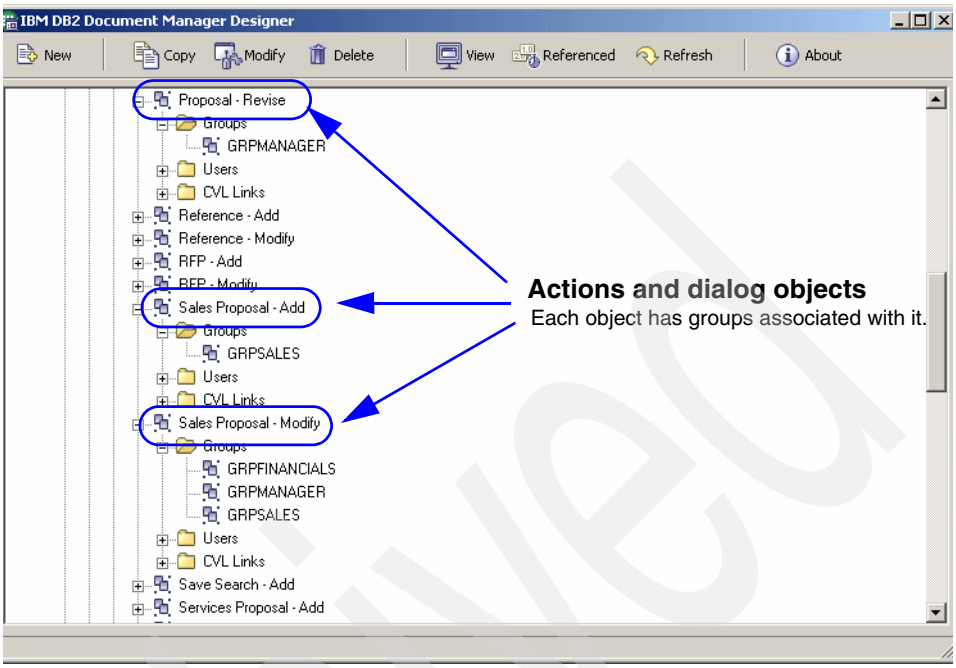

Figure 5-9 Document Manager actions and dialog objects

In the sample application, the user group grpSales is associated with the *Sales Proposal - Add* action and dialog object. This means that users who are in the grpSales group can add a sales proposal document to the system. Users who are not in the grpSales group will not be able to add a sales proposal document even if the ACL for the sales proposal class permits them to add documents for this class.

5.1.5 Managing security through the Desktop design

Users interface with a Document Manager system using the Document Manager Desktop client. Document Manager enables you to customize the Desktop client to provide security to the system.

You can create different Desktops for different users. You can control the menus and the icons available to users, and you can control the folder pane users see to control users' views, folders, and searches.

For illustration purposes, we show you the Document Manager Desktop view of two types of users, the administrative user (ICMADMIN) and an occasional Document Manager user (USER).

Figure 5-10 and Figure 5-11 show the Document Manager Desktop view of an administrator user whose user ID is ICMADMIN.

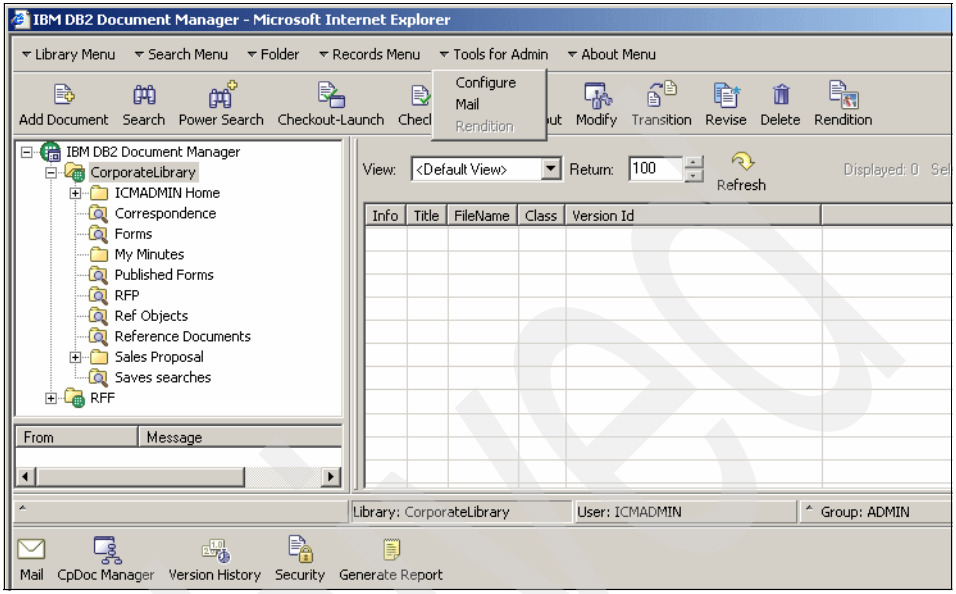

Figure 5-10 An administrator's Document Manager Desktop (part 1 of 2)

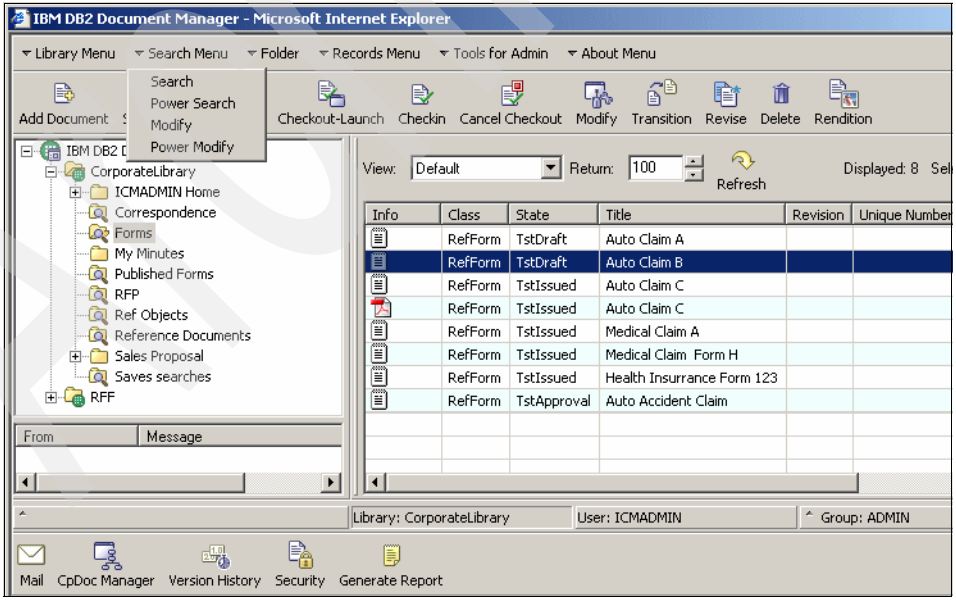

Figure 5-11 An administrator's Document Manager Desktop view (part 2 of 2)

Figure 5-12 shows the Document Manager Desktop view of an occasional Document Manager user whose user ID is USER.

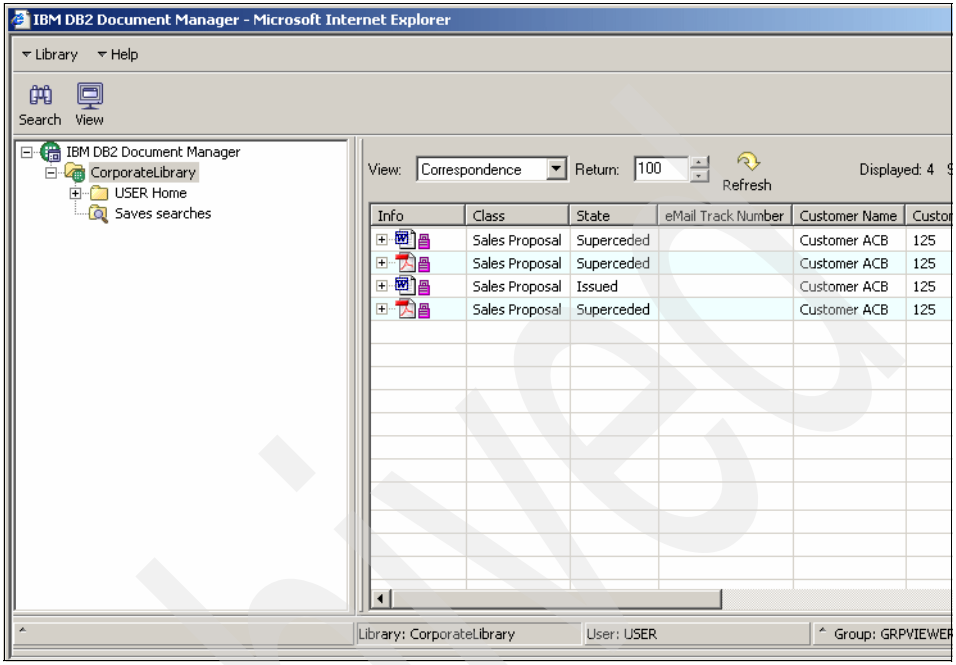

Figure 5-12 An occasional Document Manager user's Desktop view

If you compare the ICMADMIN's Document Manager Desktop to the USER's Desktop, you see that ICMADMIN has many more commands on its Desktop than the USER's Desktop. One way for you to manage system security is to decide what menu commands users can have on their Document Manager Desktops.

For example, the ICMADMIN user has menu commands such as **Configure** and **Power Modify**. The **Configure** command starts the Document Manager Designer from the Document Manager Desktop. Users who have the **Configure** command on their Desktop can change the Document Manager configuration. You probably only want to give the **Configure** command to users who have Document Manager administrative responsibility.

The **Power Modify** command allows the user to change the value of the library properties in a Document Manager system. For example, users who have the **Power Modify** command on their Desktop can change the value of a document's state property. Users can change a document's state from Draft to Issued. They can also change the class value from sales proposal to marketing proposal. You

need to be selective deciding who can have the **Power Modify** command on their Document Manager Desktop.

> **Note:** Every aspect of the Document Manager Desktop is configurable. You need to examine each command and decide which ones are appropriate to which user groups.

Security in folder

Document Manager folder has security parameters to enable you to specify who has access to the folder that you create.

You create a folder through the **Folder Administration** command which is a Document Manager Desktop command. When you select **Folder Administration** → **New**, the New Folder Configuration window displays (see Figure 5-13).

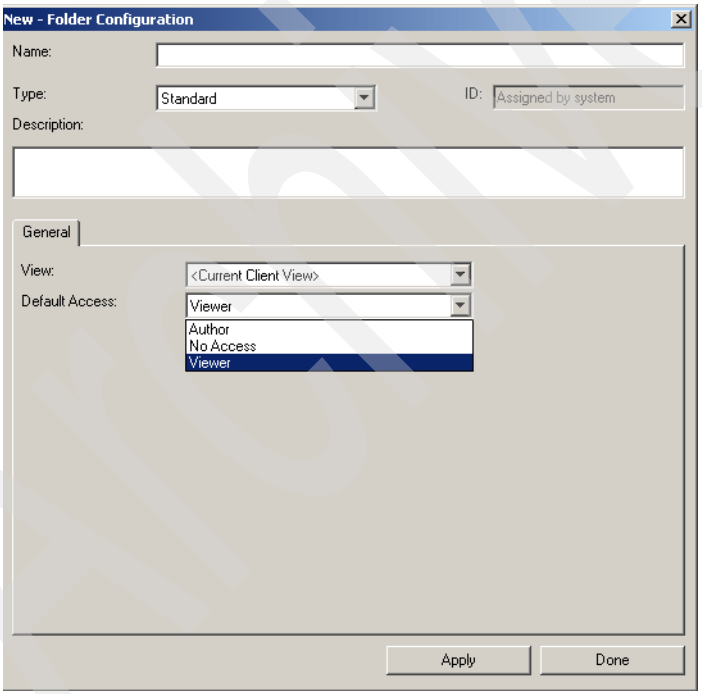

Figure 5-13 Folder configuration window

You specify the type of folder you want to create on the **Type** drop-down box. There are two types of folders: Standard and Dynamic. *Standard folder* is similar to a normal Windows folder; a user or a Document Manager service can add documents to it. A *dynamic folder* behaves like a query. When you create a

dynamic folder, you associate a predefine query to the folder. When a user selects the dynamic folder, the system executes the predefined query that is associated with the dynamic folder and returns the search result in the documents pane.

You specify the default view on the **View** drop-down box. When a user selects the folder, the system displays the result in the default view that is associated with the folder.

You specify the default access control for the folder on the Default Access drop-down box. The choices are listed in Table 5-4.

Table 5-4 Default access control choices for folder

Access control choices	Description
Author	Give users the ability to open the folder, add items to the folder, and delete items from the folder.
No access	Prevent users from seeing the folder on the Desktop or seeing the folder with the Folder Administration command. This does not apply to the person who creates the folder. The creator of the folder has owner access control.
Viewer	Give users the ability to open the folder and see the result list.

After you create a folder, you can further refine the folder's access control by modifying the folder security information through the **Folder Administration** menu command from the Document Manager Desktop. To do that:

1. From the Document Manager Desktop menu, select **Folder** → **Folder Administration**. A Client Folder Administration window displays.
2. Right-click the folder you want to modify, and select **Modify** from the context menu.
3. Select the **Security** tab. See Figure 5-14.
4. Specify the type of access control you want certain users or groups to have. The access control choices are Owner, Author, Viewer, or No Access. We explained them in Table 5-4.

Owner access gives the users the ability to open the folder, add items to the folder, delete items from the folder, and modify the folder configuration with the Folder Administration menu command. By default, the folder creator has owner access.

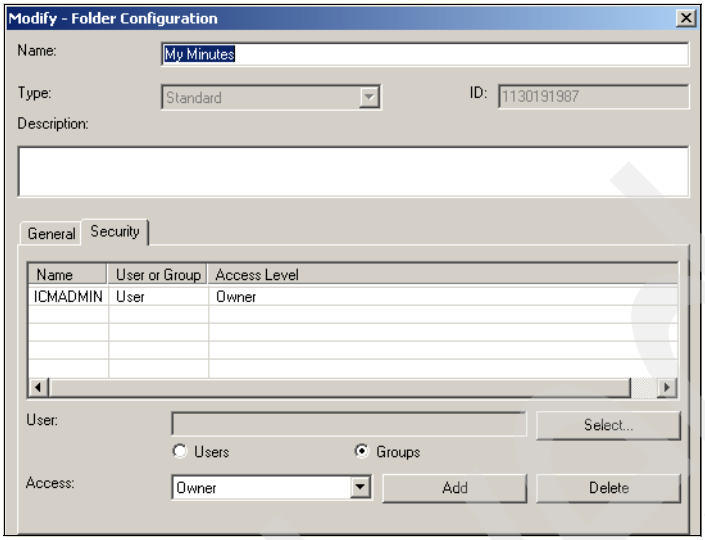

Figure 5-14 Modify Folder Configuration window

Figure 5-15 shows that two additional groups, tstGrp and tstGrp2, are added with owner access level control to the folder *My Minutes*. Users who are in the tstGrp and tstGrp2 groups can now see the *My Minutes* folder on their Desktops. They can also open the folder, add items to and delete items from the folder, and modify the folder configuration with the Folder Administration menu.

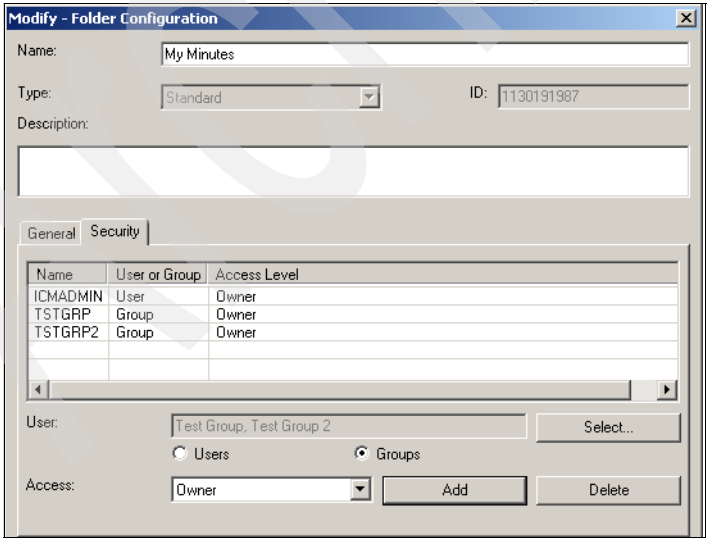

Figure 5-15 Granting selected groups access to folder

5.2 Records Manager security overview

This section provides an overview about how IBM Records Manager manages security. The topics we cover are:

- Security basics
- Local and host Records Manager users
- Function access right basics
- Permission basics

The objective is to provide you with information about how Records Manager handles security from the perspective of performing records declaration and classification. The intent is to give you enough information to help you get started setting up Records Manager for your Document Manager solution. There is much more to Records Manager security and administration than what we cover here. For an in-depth discussion of Records Manager security and administration, refer to Chapter 10, “Security”, of the *IBM Records Manager: Records Administrator’s Guide*, SC18-9180.

5.2.1 Security basics

Records Manager’s security revolves around two elements:

- Function access rights
- Permission

Every user who wants to access Records Manager needs a user account in Records Manager. Having a user account in Records Manager only enables you to log on to Records Manager. To perform any task in Records Manager, you must have the appropriate access rights to the Records Manager’s application features. Records Manager calls this type of access rights *function access rights*. For example, if the user needs to declare records, the Records Manager’s user account needs the function access rights, *File Plan Administration*, assigned to it.

If the user’s task involves the file plan components, the user also must be granted the appropriate access *permissions* on the individual file plan objects. For example, the *File Plan Administration* function access right gives a user the ability to do records declaration; but to declare a record successfully, the user’s account also needs to be given access permission on the individual objects that made up the file plan.

Before we examine function access rights and permission in detail, let us examine the different types of users in Records Manager.

5.2.2 Local and host Records Manager users

There are two types of users in Records Manager: local users and host users. In a records-enabled document management solution, host means the Document Managers content repository. In this solution, the host is Content Manager.

Local users

Local users are user accounts that are defined exclusively for Records Manager. Content Manager does not know about the Records Manager's local users. If you, as a local user, log on to Records Manager, you only need to enter your user ID, password, and the Records Manager database. You do not need to enter the host name. Records Manager performs authentication on local user accounts.

You may want to create local user accounts for those who need to perform Records Manager, Records Administrator, and Records Technical Administrator tasks. The local users do not need to access contents in the host application.

Examples of Records Manager tasks are:

- Prepare and run reports in Records Manager.
- Link retention rules to file plan components.
- Initiate suspensions (audit, compliance, legal, or tax holds).
- Execute life cycle management functions, including record dispositions.

Examples of Records Administrator tasks are:

- Maintain and assign security, permissions, and function access rights.
- Perform audits.
- Create file plan components.
- Create the file plan structure.
- Apply changes to user group definitions.

Examples of a Records Technical Administrator's tasks are:

- Create and maintain style sheets for generating reports (using XML).
- Back up the database.
- Perform database maintenance.
- Address performance issues.
- Add indexes.
- Schedule tasks.

Host users

Host users are users who have accounts in the application that hosts Record Manager.

In the records-enabled document management solution, Document Manager is the application that enables users to manage documents. Content Manager is the back-end content repository that stores Document Manager's documents. Users in Content Manager need to be imported to both Document Manager and Records Manager. The Content Manager users are considered the host users in Records Manager.

Unlike local users, Records Manager does not authenticate host users. Records Manager relies on the host application (Content Manager) to perform the authentication.

Note: Although you can import *user groups* from the host system (Content Manager) into Records Manager, that is insufficient. You have to also import the *users* from the host system into Records Manager.

Host users access Records Manager in one of two ways:

- Through the host application

  For example, users can access Records Manager functions through Content Manager. In this scenario, Content Manager is the host application.

- Through logon to Records Manager directly

  A host user can log on to Records Manager directly. To do so, you enter the user ID, password, the Records Manager database name, and the host name. Records Manager passes the user ID and password to the host application and relies on the host application to do the authentication.

  Note, in the records-enabled document management solution, because Content Manager is the back-end content repository for the system, and the host users are imported from Content Manager, the host name the user enters should be the Content Manager Library Server name.

Only users who have user accounts in Records Manager can access Records Manager and perform records-related functions in the host applications. When designing your solution, determine which Document Manager users and Content Manager users perform record functions. These include users who declare and classify records *and* who view and access the declared records. You must create all these users in Content Manager and import them into Records Manager.

Notes: Remember to include Document Manager system accounts, such as:

- The account ID used by Document Manager Designer to log on to the libraries (DDMService). This account needs to access the Records Manager file plan when you want to set up the classification path for the class object.
- The account IDs used by the life cycle services and automation services if the services are set up to perform records declaration.
- Users, as we mentioned earlier, who need to view and access the documents after the documents are declared as records.

Host users can also perform Records Manager administrative tasks as long as you have granted these host users the proper function access rights and permissions on the Records Manager file plan objects.

5.2.3 Function access right basics

Function access rights (*FAR*) define a user's or a group's access to the application features of Records Manager. Examples of the function access rights include *File Plan Design, File Plan Administration,* and *Life Cycle Management Design*. Table 5-5 lists the function access rights in Records Manager. Records Manager controls access to its features and capabilities through these function access rights. Every capability is mapped to a right and the right must be granted to a user before the user has the potential to exercise the function.

As we mentioned in the previous section, for a host user to perform records declaration and classification, the user must have the *File Plan Administration* access right. The *File Plan Administration* access right gives the user the right to access the file plan administration function in Records Manager. Permission must also be set to enable Add, View, or other actions against components in the file plan. When a user declares and classifies a record, the user adds the record object to the file plan. The record object is a file plan component.

Refer to Chapter 12, "Function Access Right", in the *IBM DB Records Manager Version 4.1.2 Records Administrator's Guide*, SC18-9180, for more information about each of the function access rights.

Table 5-5 lists function access rights and their definitions.

Table 5-5 Function access rights and their definitions

Function access rights	Definition
Audit Management	To configure individual events that are not audited.
Disposal Authorities	To create, edit, or delete disposal authorities.
File Plan Design	To design file plans.
File Plan Administration	To add elements to a file plan, including the ability to add, edit, or delete individual file plan components.
Life Cycle Management Design	To define life cycle codes, life cycle phases, and other life cycle management items.
Life Cycle Management Operations	To execute life cycle management operations, such as disposition.
Pick List Management	To create, edit, or delete pick lists.
Profile Design	To create, edit, and delete data entry profiles (forms) for all objects, including file plan components and system objects.
Security Management	To define permissions at a global level.
Users/Groups Management	To add, edit, or delete users and groups along with the ability to add users to groups.
Record Host Management	To add, edit, or delete the record-host identifiers that define a record host to Records Manager. A record host is an application with which the Records Manager is integrated and that acts as the repository of the records managed by the Records Manager. In the records-enabled document management solution, the record host is Content Manager.
Extension Management	To create, edit, and delete extensions that extend the functionality of the base Records Manager.
Reservation Management	To create, update, and delete reservations.

Function access rights	Definition
Charge-Out Management	To create, update, and delete charge outs.
Auto-Classify Rules Management	To define auto-classification rules.
Default Management	To create, edit, and delete defaults for different file plan component definitions.
System Configuration Management	To customize the behavior of Records Manager.
Report Layout Manager	To assign and delete report layouts.
Report Query Management	To open, delete, and assign saved public queries to users and groups.
Field Level Security Management	To determine the users who can change field level permissions.
Security Descriptors Management	To create security descriptors.
Security Classification Management	To create security classification.
Security Classification Reason Management	To create security classification reasons.
Security Classification Exemption Management	To create classification exemptions.
Security Classification Guide Management	To create the security classification guide.
Audit Reporting	To create the audit report.
Purge Audit Entries	To purge audit entries.
View All Audit Entries	To view all audit entries.

Figure 5-16 and Figure 5-17 show how we set up the *function access right* for one of the user IDs, usrConsultant, in the sample application. The user usrConsultant only has the *File Plan Administration* function access right. Notice that in Figure 5-17 the *Is Active flag* is set; otherwise, the user usrConsultant is considered inactive in the system and cannot log on to Records Manager.

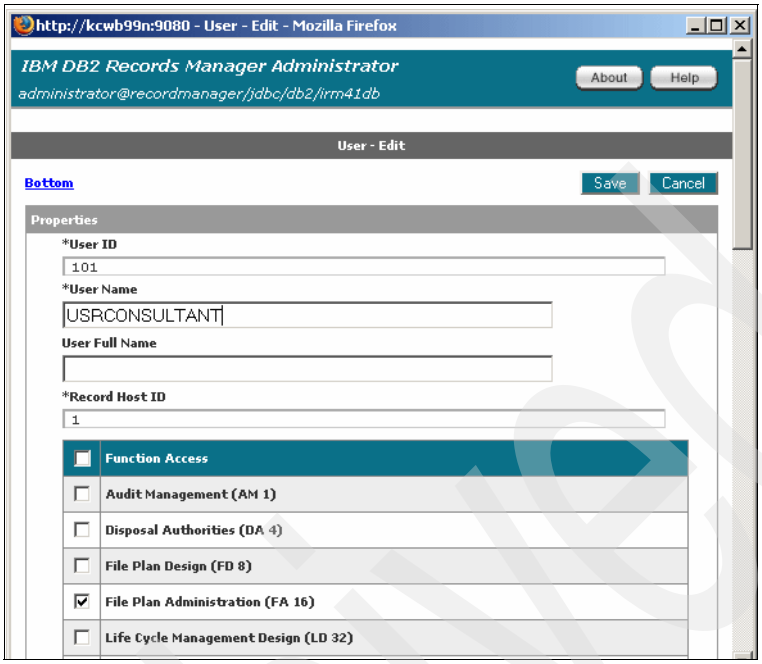

Figure 5-16 FAR for records declaration and classification (part 1 of 2)

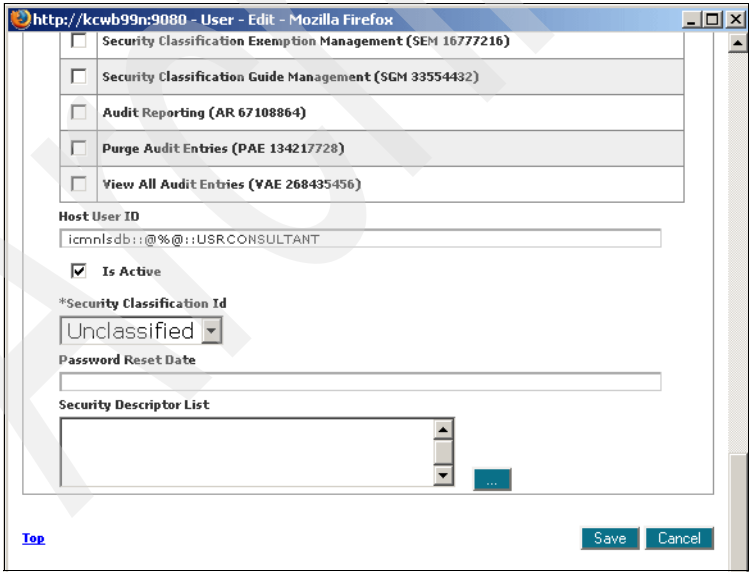

Figure 5-17 FAR for records declaration and classification (part 2 of 2)

5.2.4 Permission basics

Records Manager controls access to its file plan objects through a set of access rules called *permissions*. Records Manager uses permissions to restrict what a user can do to the file plan components and the file plan component definitions. You set the permission through the Records Manager Administrator client.

You can set permissions three ways in Records Manager:

- System wide
- Component level
- Field level

Table 5-6 briefly describes the permission settings.

Table 5-6 Permission settings

Permission settings	Definition
System wide	System wide permission setting enables you to set permission at the system level across multiple file plan components all at the same time.
Component level	In component level permission setting, you set permission for one file plan component at a time.
Field level	Field level permission setting extends security of a file plan component to its attribute level.

By default, users have no permission to access any file plan component other than the users who are part of the Records Manager Administrators group. You must go through the permission setting process to grant users the appropriate permissions.

System wide permission setting

In *system wide permission setting*, Records Manager lets you set permission across multiple file plan components all at the same time. You do that through the Records Manager Administrator client **Security** → **System Permission** selection. For detailed instructions about how to set up system permission, refer to Chapter 10, “Security”, in the *IBM Records Manager Records Administrator’s Guide*, SC18-9180.

Use system wide permission when you want to set the same permissions across multiple file plan components for a group of users.

Component level permission setting

Component level permission setting allows you to set permissions for an individual file plan component. You do that through the Records Manager Administrator client **File Plan Administration** selection. From there, you drill down to the file plan component for which you want to set permissions.

Note: The permissions that you set at the component level override the permissions that you set at the system wide permission setting.

For example, there is a file plan component called Department. You grant a user *Add, Update,* and *View* permissions at the system permission level. Subsequently, you also set up a component level permission for Department, but you only grant *Add* and *View* to the user at the component level. The net result is the user only has *Add* and *View* permissions for Department because the component level permission settings take priority. The user may be granted more permissions under the component level and that will also override the system permission setting.

When you assign permission, you are specifying who can do what to a file plan component. Table 5-7 lists the permissions available to a file plan component. This permission list is available for both system wide and component level permission setting.

Table 5-7 File plan component access control selections

Permissions	Description
Add	To add a file plan component of a particular type.
Update	To modify an existing file plan component of a particular type. If the file plan component type is record type, users with this permission can modify the record's metadata. **Important:** If the metadata is one that is mapped from the item type in Content Manager, you must run the permissions synchronization process before the changes reflect in Content Manager.
Delete	To remove a file plan component of a particular type from the file plan itself. **Important:** If the file plan component type is record type, users with this permission can use this command to undeclare a record.
View	To see the profile of a file plan component of a particular type. User who cannot view a file plan component will not know of its existence in the file plan.
Suspend	To suspend a file plan component from transitioning through its life cycle.

Permissions	Description
UnSuspend	To remove a suspension from a file plan component and allow it to continue through its life cycle.
Move	To move a file plan component from one place in the file plan to another.
Change Permissions	To alter the permissions assigned to a particular file plan component.
Reserve	To reserve a file plan component for yourself.
Add Link	To add a link.
Delete Link	To delete a link.
Charge Out	To charge out a file plan component to yourself, or to someone else.
Host Retrieve	To retrieve a record to a user's workspace on their computer when the file plan component represents a record stored in an adjoining host application. This permission is stored in Records Manager for information purposes only, since Records Manager cannot directly control whether an adjoining application allows a user to retrieve a document. **Important:** For the records-enabled document management solution that uses Content Manager, Records Enabler, Records Manager, and Document Manager, the Host Retrieve permission enables the Content Manager or Document Manager users to see documents after they are declared as records. You *must grant Host Retrieve permission* if you want users to view the declared records. Without this permission, users would not be able to search or view these documents. For more explanation, see "Access control of a declared record document" on page 131.

Of all the permissions listed in Table 5-7, the minimum permissions that the Document Manager uses to declare and classify records are *Add* and *View*. For the users to see the declared records, you must grant them the *Host Retrieve* permission. The *Add Link permission* is only required if the users need to establish a link relationship during record declaration. For those users who need to be able to update the record's metadata, they need the *Update* permission.

Note: After a document becomes a record, a Document Manager user who has the Update permission set in Records Manager can modify the document metadata in one of two ways:

- From the Document Manager Desktop, select **View Records Information** → **Actions** → **Edit**.
- From the Records Manager Administrator client, navigate through the file plan to the desired record, select **Actions** → **Edit**.

After the metadata is changed, you must run the *permission synchronization process* for the change to be reflected in Content Manager if the metadata also exists in Content Manager.

The usual way of selecting the **Modify** command from the Document Manager Desktop to modify the metadata will not work for a document that is declared as a record.

Once a document becomes a record, the access permission for the record is controlled by Records Manager. Therefore, you can only make changes to the record through Records Manager.

In the sample application, when a proposal document transitions to the Issued state, it gets automatically declared as a record. The proposal document is a Word document. Once it is in the Issued state, a PDF rendition of the Word document is created. We manually declare the PDF as a record. During the manual record declaration process, we establish a link between the PDF document and the original Word version of the proposal document. In order for users to perform the link task, the users in the sample application require the *Add Link* permission, in addition to the *Add, View* and *Host Retrieve* permissions.

Figure 5-18 shows the file plan of the sample application.

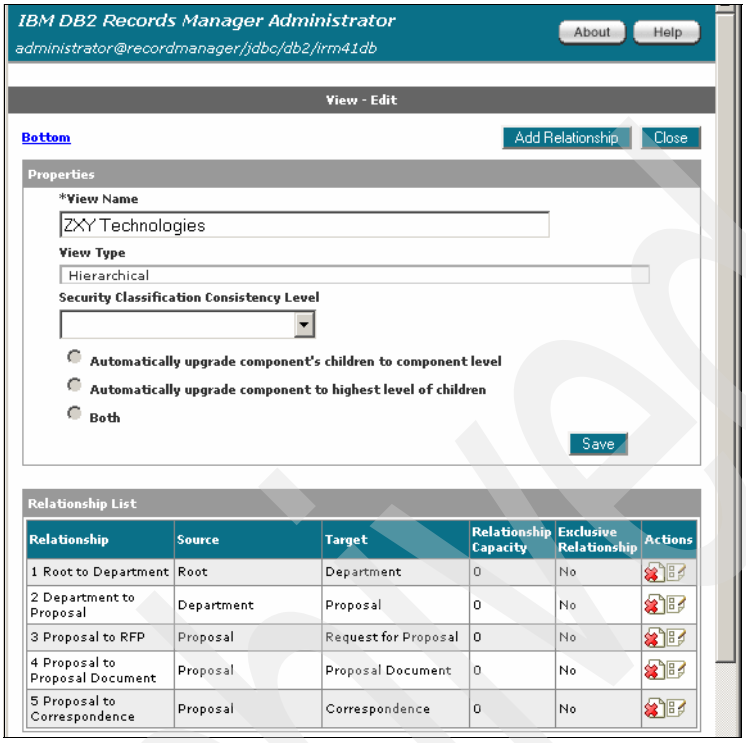

Figure 5-18 Demonstration solution file plan view

Figure 5-19 shows the selections in the Security menu. **System Permissions** and **Field Level Permission** selections are there, but not the component permissions because you set that in the **File Plan Administration** selection.

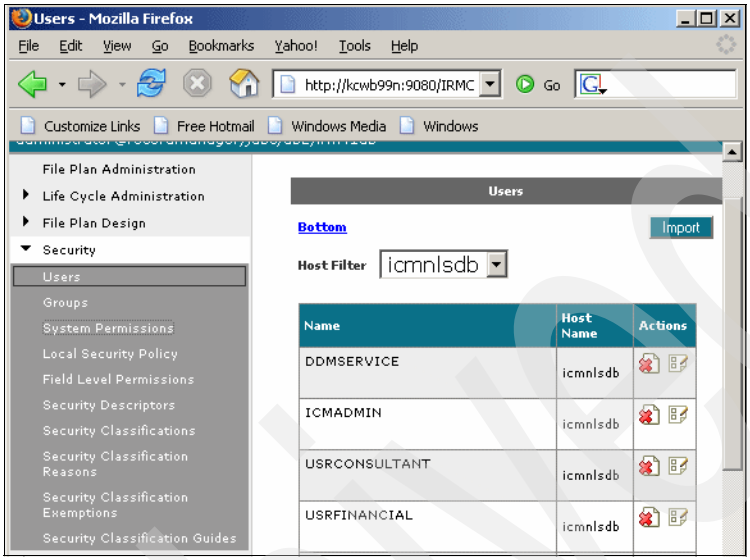

Figure 5-19 Security selections

If you select **Security** → **SystemPermissions**, you see the System Component Permission window. Figure 5-20 is an example of the System Component Permission setting for the sample application. We set the system wide permissions for all of the file plan components at the same time.

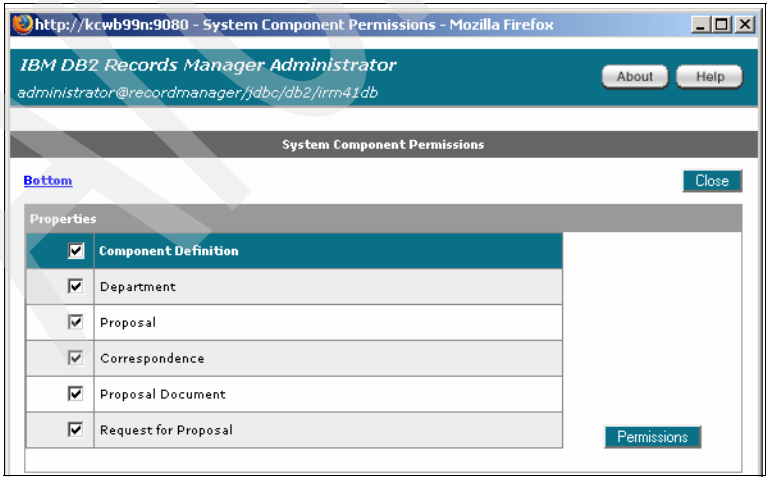

Figure 5-20 Setting system permissions for demonstration solution

All users who perform records declaration need View permission for all components in the file plan hierarchy down to the component where the record will be classified. In the sample application, these are the *Department* and *Proposal* components. For the component where the record is classified, the user needs Add and View permissions. In the sample application, these are *Request for Proposal, Proposal Document,* and *Correspondence*.

Figure 5-21 shows the permission setting of the Department file plan component for the user ID, usrConsultant.

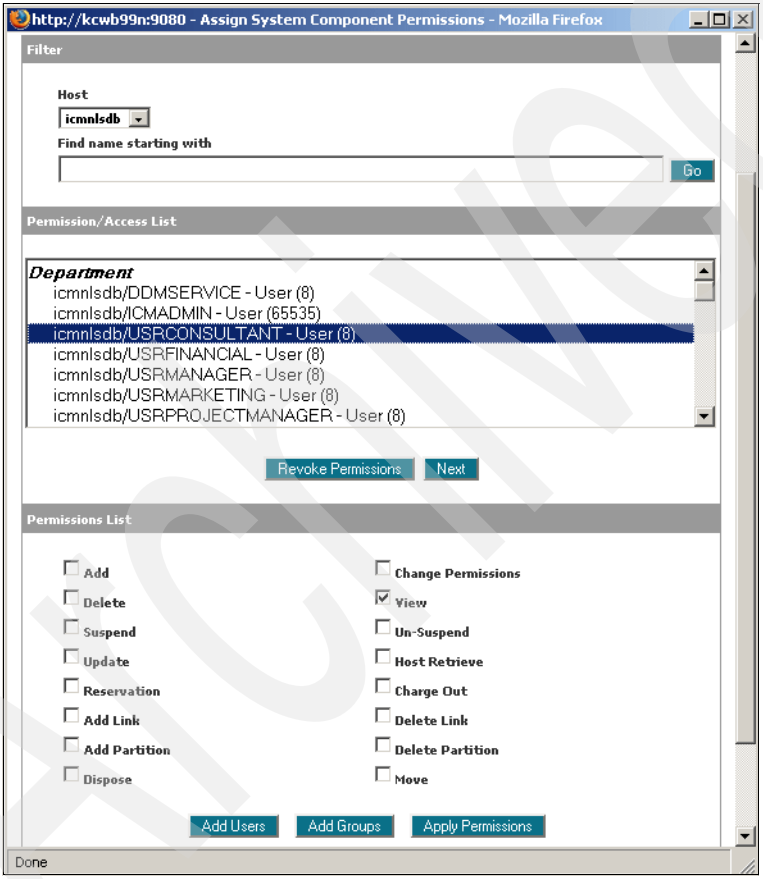

Figure 5-21 Permission setting for the Department component

Figure 5-22 shows the permission setting for the Proposal component for the user ID, usrConsultant.

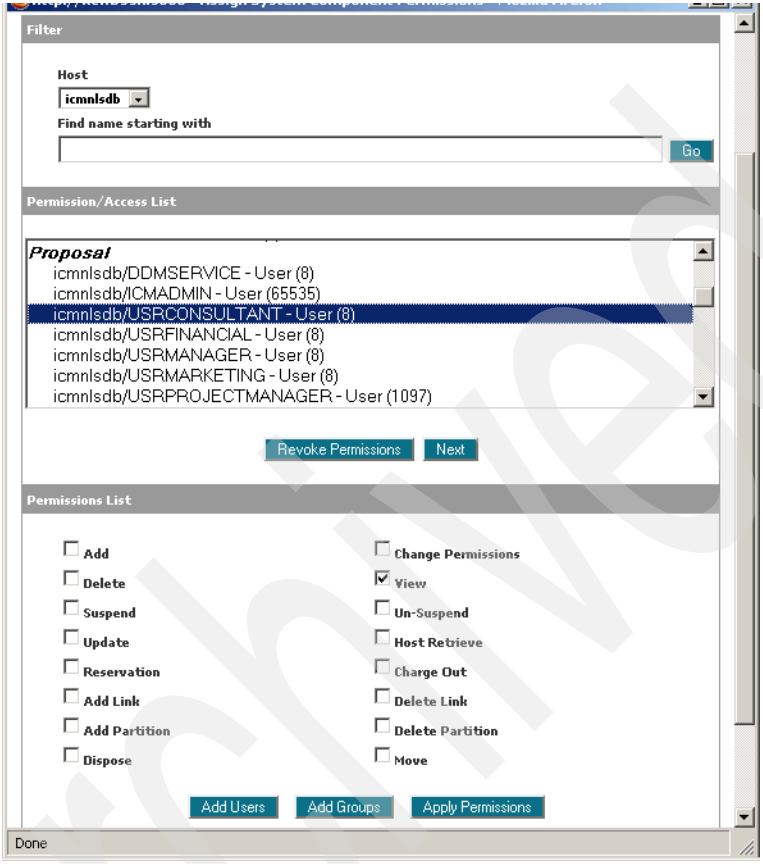

Figure 5-22 Permission setting for the Proposal component

Figure 5-23 shows the permission settings for the Correspondence file plan component for the user ID, usrConsultant. Notice that usrConsultant has Add, Add Link, and Host Retrieve in addition to View permission, because the user needs to add records into the Correspondence component when usrConsultant declares and classifies a correspondence type document. The Host Retrieve permission allows usrConsultant to continue to see the document after it becomes a record. The permission Add Link enables usrConsultant to create a link. usrConsultant has the same permission settings for component Proposal Document and Request for Proposal.

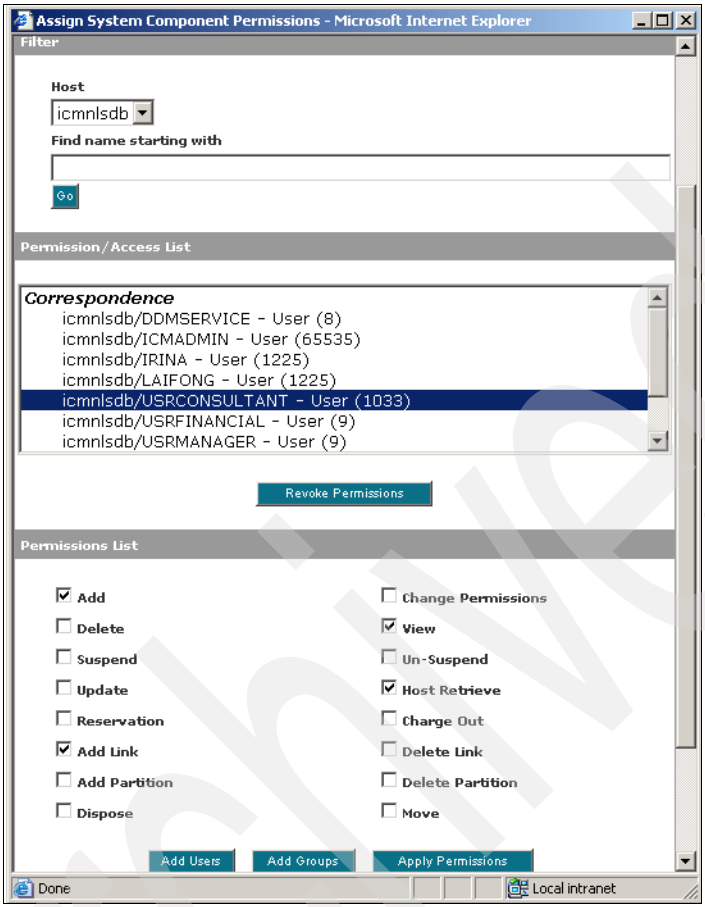

Figure 5-23 Permission setting for the Correspondence component

Table 5-8 summarizes the component permission settings for the user usrConsultant in the sample application.

Table 5-8 Component permission setting for user usrConsultant

Component	Permission list
Department component	View
Proposal component	View
Correspondence component	Add, Add Link, View, and Host Retrieve

Field level permission setting

In the *field level permission setting*, Records Manager extends access control to the field level of a file plan component. Field is also called *attribute*. The available permissions for the field level permission setting are *Add* and *Update*. The Add permission gives a user the right to specify a value for a field when adding a new file plan component. The Update permission gives a user the right to specify a value for a field when updating a file plan component. Records Manager by default gives the user Add and Update permissions to all the Fields in a file plan component. You restrict the Add and Update permission to the field by removing the permission.

To assign or restrict field level permission, in the Records Manager Administrator client, go to the **Security** → **Field Level Permissions** selection. For instructions how to set up Field level permission, refer to Chapter 10, “Security”, in the *IBM Records Manager Records Administrator’s Guide*, SC18-9180.

We do not use field level permission in the sample application.

5.3 Access control of a declared record document

Once an item in Document Manager is declared as a record, Records Manager takes over the retention and disposition of the declared record. The content and the associated metadata of the item remain in its back-end repository, Content Manager. The access permissions and the life cycle of the record are governed by those that are set within Records Manager. Only authorized users, such as the records administrators, can process or manage the life cycle of the records.

Note: Both Records Manager and Document Manager use the term life cycle, but life cycle means different things in Records Manager and Document Manager. In Document Manager, the life cycle pertains to the states an item must go through before it becomes a record. In Records Manager, the life cycle means a collection of phases through which a record must transition before it is discarded.

An easy way to distinguish them is, before an item becomes a record, the Document Manager’s life cycle governs the item. After the item becomes a record, the Record Manager’s life cycle governs the item. They are not the same thing and they do not overlap.

As mentioned earlier, when you record enable an item type (meaning the item type can now store documents that can be declared as records), Records Enabler automatically changes the item type’s ACL binding from the item type level to the item level if it is set at item type level previously. Records Enabler

does this because the ACL is different for a document that is not a record versus a document that is a record. In order for documents of the same item type to have different ACLs, the item type must be bound to the ACL at the item level.

Figure 5-24 shows the ACL of a document that is not yet a record. This display is the result of selecting the Document Manager Security command from the Document Manager Desktop. The ACL of a document that is not yet a record is based on the ACL that is assigned to the document's item type. In this case, it is *PublicReadACL*.

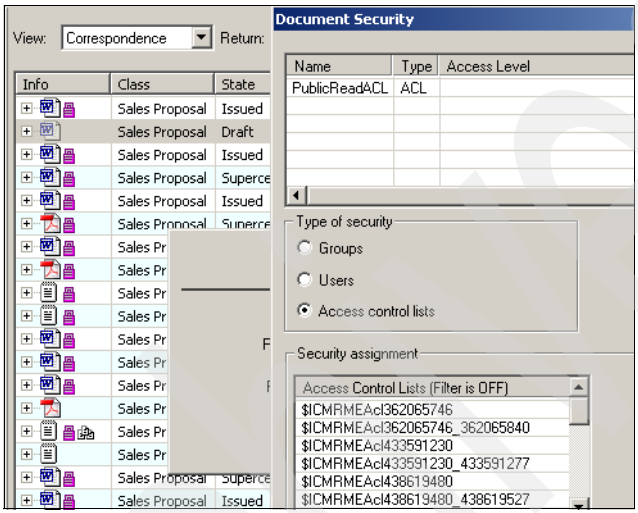

Figure 5-24 The ACL of a document that is not yet a record

Figure 5-25 shows the ACL of a document that has been declared as a record. This ACL is generated by Records Enabler. Records Enabler generates an ACL for the document based on each user's permission setting in Records Manager and the user's privilege setting in Content Manager.

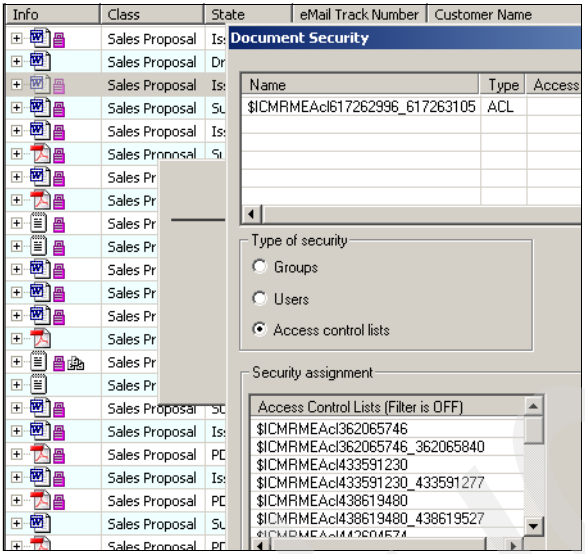

Figure 5-25 The ACL of a document that has been declared as a record

Figure 5-26 shows a list of ACLs from the Content Manager system administration client. The ACLs generated by Records Enabler all begin with $ICMRME. At record declaration time, Records Enabler determines the ACL for the document by merging the document's ACL in Content Manager with the permissions of the users in Records Manager. If it finds an existing ACL in Content Manager that fits the new ACL for the document, Records Enabler reuses the existing ACL; otherwise, Records Enabler creates a new ACL for the document. Similarly, Records Enabler reuses an existing privilege set in Content Manager if it finds one that meets the document's access control requirement; otherwise, Records Enabler creates a new privilege set.

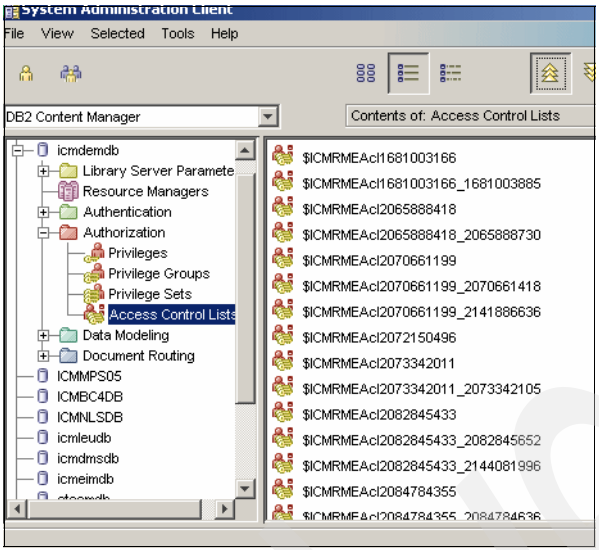

Figure 5-26 ACL list from the Content Manager system administration client

Figure 5-27 shows a list of the privilege sets from the Content Manager system administration client. The privilege sets generated by Records Enabler all begin with $ICMRME.

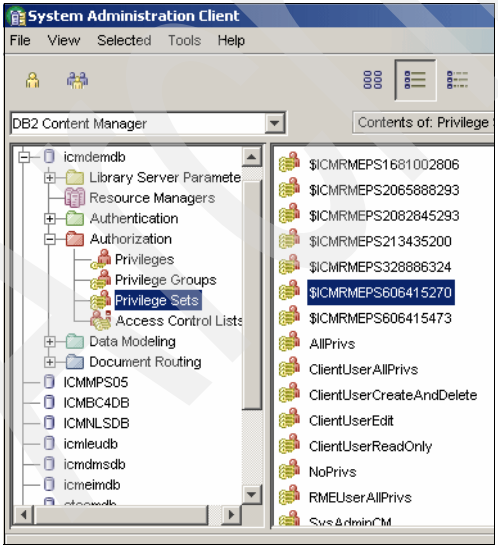

Figure 5-27 Privilege set list from CM System Administration client

Let us look at an example.

Figure 5-28 shows the definition for the *PublicReadACL*. Prior to the record declaration, a document has the *PublicReadACL*. Users such as PETER and WBUSER are assigned to the privilege set, RMEUserAllPrivs, within the ACL.

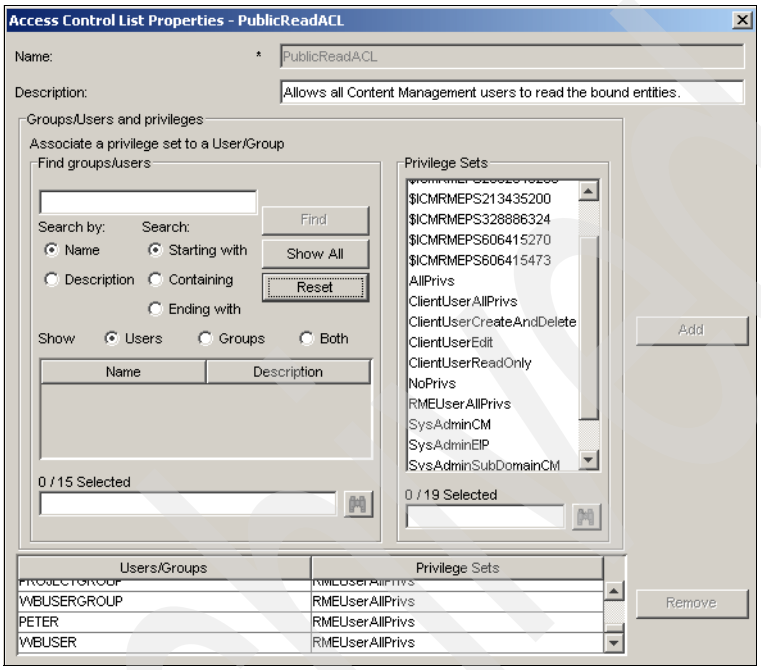

Figure 5-28 PublicReadACL

Figure 5-29 shows what a user with the *RMEUserAllPrivs* privilege set can do. The actions that are selected in *RMEUserAllPrivs* are the actions that users such as PETER and WBUSER can do to a document which has the *PublicReadACL*.

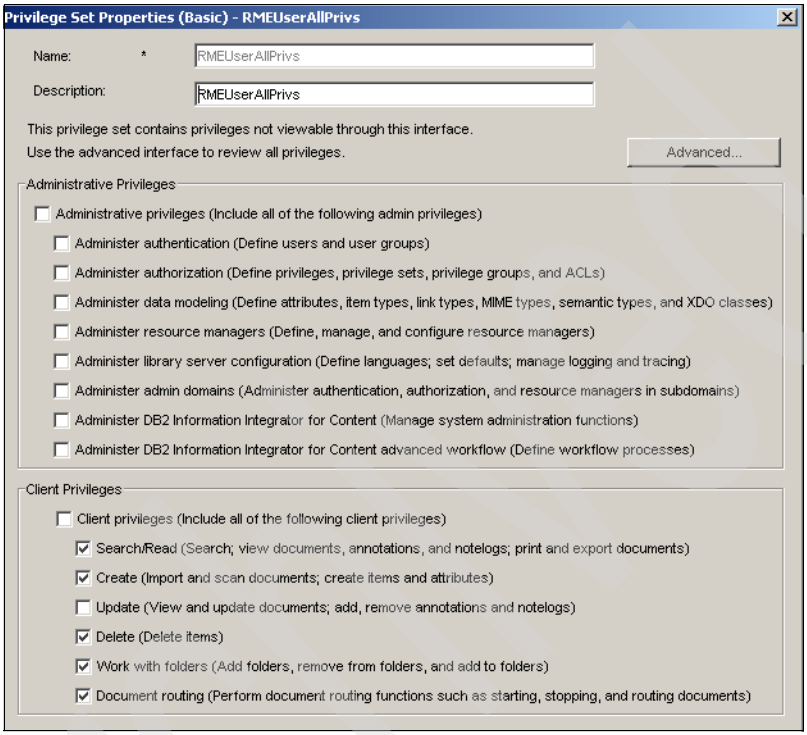

Figure 5-29 RMEUserAllPrivs privilege set

After a document is declared as a record, Records Manager takes over the access permission of the document. Based on the security setting in Records Manager, Records Enabler determines that the document needs a new ACL, the $ICMRMEAcl2073342011_2073342105 ACL. See Figure 5-30.

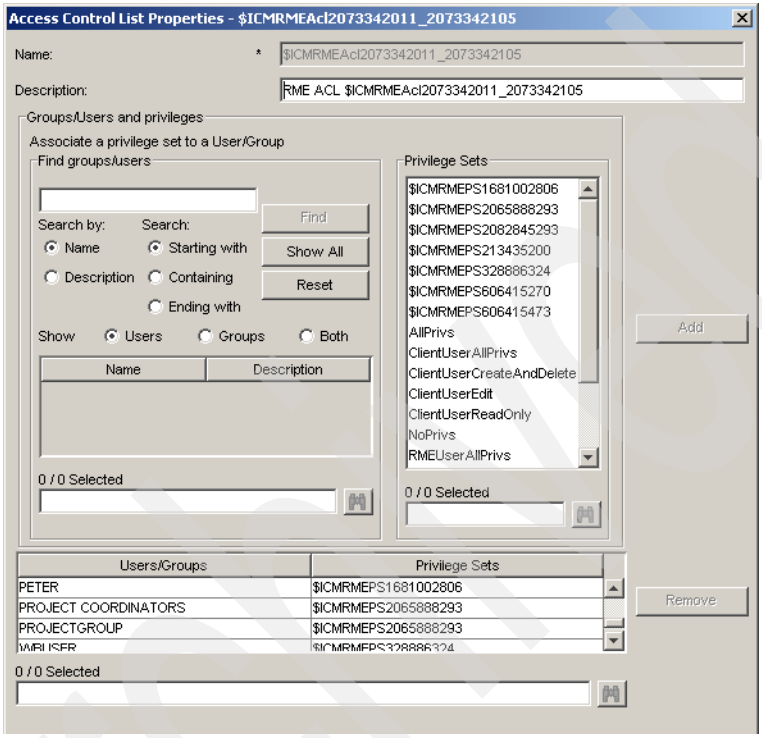

Figure 5-30 Records Enabler-generated ACL

In this new ACL, PETER is assigned a different privilege set, $ICMRMEPS1681002806, and WBUSER is also assigned a different privilege set, $ICMRMEPS328886324.

Figure 5-31 shows Peter's and WBUSER's new privilege sets. PETER can search and read the document. WBUSER has no privilege on this document after the document is declared as a record. WBUSER cannot even search or read the document because WBUSER has not been granted the Host Retrieve permission in Records Manager.

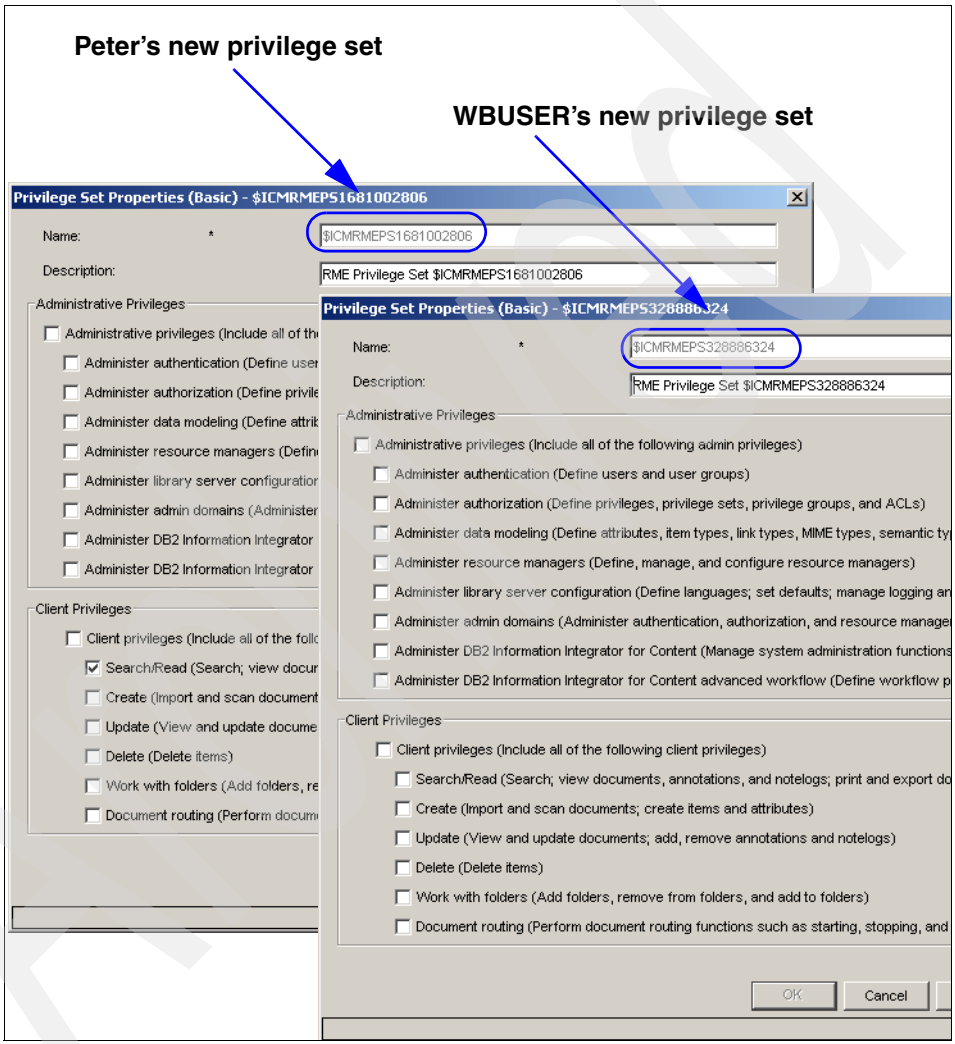

Figure 5-31 Peter's and WBUSR's privilege sets after record declaration

5.3.1 Impact of permission changes in Records Manager

When the permission of a host user in Records Manager changes, the change is not reflected in Content Manager until the permission synchronization process runs.

For example, WBUSER at one point does not have *Host Retrieve* permission in Records Manager. Now a record administrator grants WBUSER the *Host Retrieve* permission. This change should entitle WBUSER to see the declared document described for Figure 5-30. However, the user will not be able to see the document until the permission synchronization process runs. This process is responsible for synchronizing the changes in Records Manager back into Content Manager.

You can run permission synchronization from the Records Enabler administration client. There are two ways to run the process. You can schedule the permission synchronization process or you can run it on demand. See Figure 5-32.

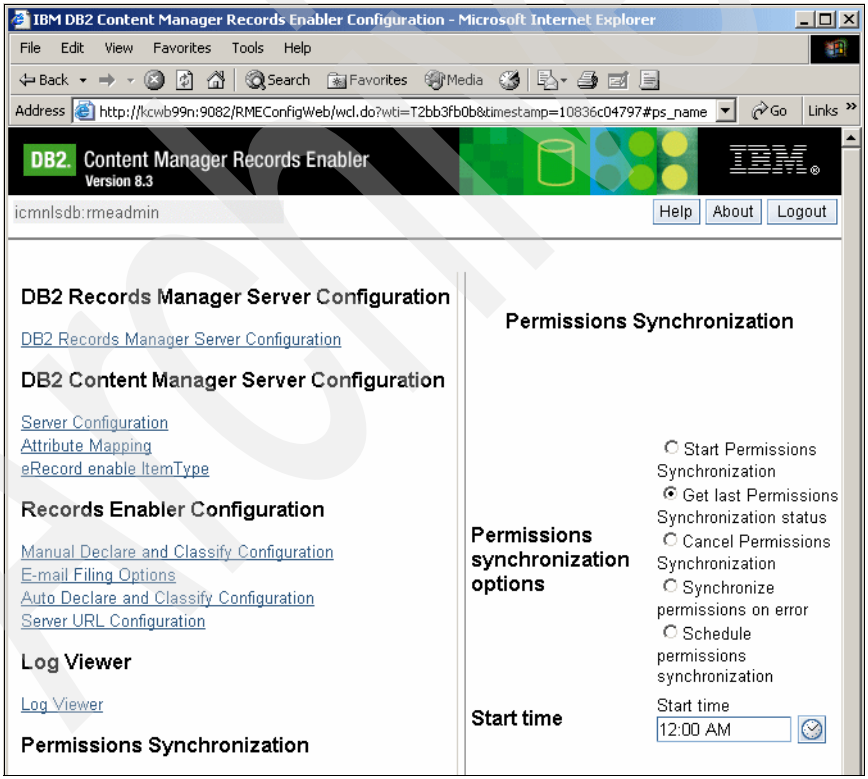

Figure 5-32 Permission Synchronization panel

For more information about how to run the permission synchronization process, refer to *Installing and Configuring the DB2 Content Manager Records Enabler V8.3*, GC18-7570.

5.4 Summary

When planning to incorporate security into your records-enabled document management system, consider these items:

- Determine users, user groups, and the privileges and privilege set each user should have. The users and user groups are created in Content Manager.
- If your system uses LDAP, integrate Content Manager with the LDAP system.
- If your system uses SSO, configure both Content Manager and Document Manager to use SSO.
- Determine the data model for your solution. What items, item types, and classes to create.
- Determine the ACLs to establish. This ensures proper access to the items and item types.
- Determine the users or user groups who can declare and classify records because you need to import them into Records Manager. After you import them into Records Manager, grant the users the proper function access rights and file plan component permissions.

  Function access right setup reminder: In order for a user to declare and classify a record, the user must have the *File Plan Administration* access right.

  Permission setup reminder: In order for the user to declare and classify a record and be able to view and search the record, the user also must have *Add, View,* and *Host Retrieve* permissions of the file plan component. If a user only needs to search and view a declared record, the user needs the *Host Retrieve* permission.
- Determine the different roles your system requires. Who should be in what roles and what actions can the roles perform?
- For documents that require life cycle management, you need to map out the states through which the documents go. The Document Manager life cycle process enables you to control who can do what at each stage (state) of the life cycle, before the document is declared as a record.
- Determine which Document Manager commands each user group needs in order to do its job. From the analysis, you can decide how many Document Manager Desktop templates your system needs and how to configure each Desktop template.

For example, determine which Document Manager menu commands, view templates, search tIBM DB2 Document Manager with IBM Records Manager Solution Guideemplates, application integration, actions, and dialog boxes the Document Manager Desktop templates should have. You can manage the security of your Document Manager system by the type of Document Manager Content Manager Desktop template you configure for each user group.

6

System configuration planning

In this chapter, we discuss system configuration for a Document Manager system with and without records management functions.

We cover the following topics:

- System component overview
- System configuration without Records Manager
- Configuration with Records Manager

6.1 System component overview

A Document Manager system consists of:

- Document Manager clients
- Document Manager server and services
- Content repository

Document Manager clients include:

- Document Manager Desktop
- Document Manager Designer
- Document Manager Item Loader

The Document Manager server and services include:

- Document Manager server (also known as Document Manager Library Server)
- Cache manager
- Lifecycle service
- Notification service
- Print/plot service
- Rendition service
- Automation service

The Document Manager content repository we cover in this redbook is the Content Manager.

The requirements you gather from going through the planning and designing exercises help you choose the components to add to your Document Manager system.

If your requirements call for records keeping capability, you need to add Records Manager and Content Management Records Enabler (CMRE) to your solution. Document Manager and Records Manager have great strength in their flexibility in installation and configuration. However, choosing unnecessary components can result in wasted resources and decreased performance. Similarly, choosing a poor configuration also can have a negative performance consequence.

We discuss Document Manager system configuration with and without records management functions, in other words, system configuration with and without Records Manager.

Figure 6-1 illustrates the basic system architecture for the end-to-end Document Manager solution with Records Manager integrated.

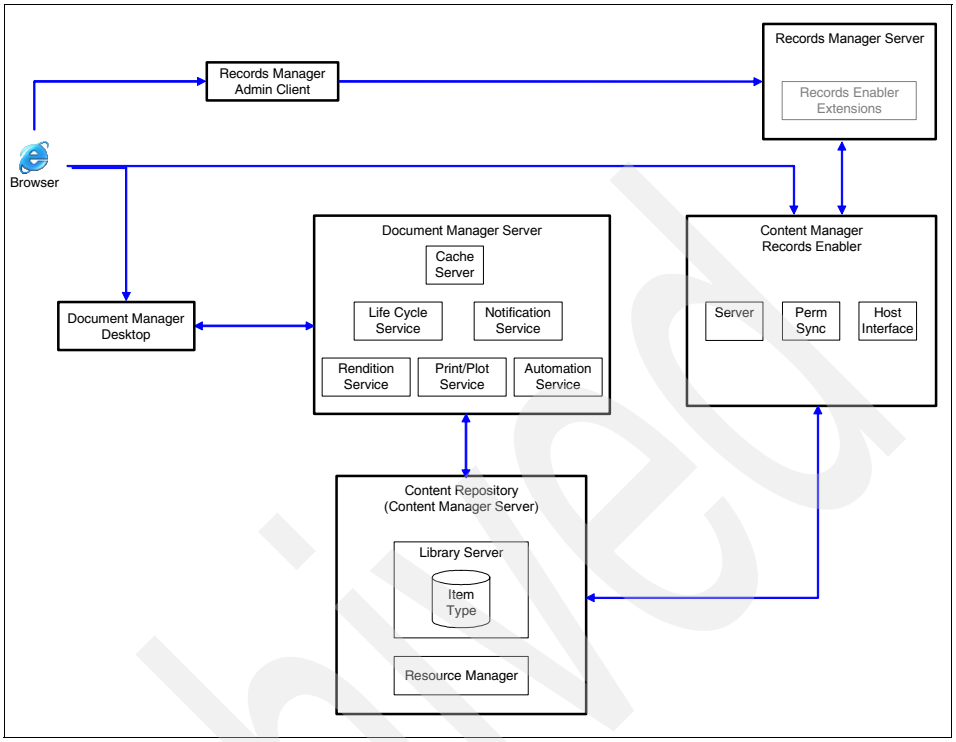

Figure 6-1 Document Manager system with Records Manager integrated

6.2 System configuration without Records Manager

You can configure Document Manager's services and components in different ways depending on the expected workload, business requirements, and available hardware. Although you can install the entire Document Manager system with its server and services in one machine, we recommend separating each service component in different machines, especially the services that are process-intensive, such as the rendition service and the print/plot service.

In this section, we present three sample system configurations for a Document Manager solution without Records Manager:

- All in one server
- Separate Document Manager and Content Manager servers
- Separate Document Manager server and services

6.2.1 All in one server

In this configuration (see Figure 6-2), you install everything in one server (machine). This is easy to install and set up. We recommend this configuration for the prototype only. You can also use the configuration for testing and development.

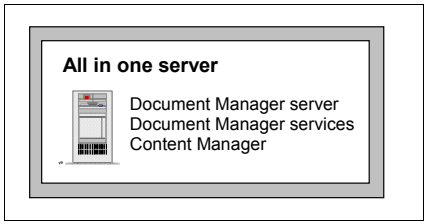

Figure 6-2 All in one server without Records Manager

6.2.2 Separate Document Manager and Content Manager servers

In this configuration (see Figure 6-3), we separate the Document Manager server and its services from the back-end content repository server (Content Manager).

Document Manager server constantly services user requests. It is a good practice to separate the user processing unit (the Document Manager server) from the back-end content processing unit (the Content Manager server).

If you use Content Manager for purposes other than for the Document Manager system, this can also be a reason to install Content Manager separately on a server (machine) of its own.

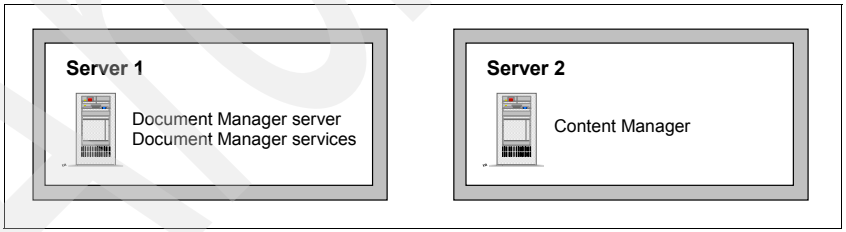

Figure 6-3 Separate content repository from the main server

6.2.3 Separate Document Manager server and services

Rendition service is a CPU-intensive process. You may want to install the service in a separate machine. The print/plot service is an I/O-intensive process. Whenever possible, it is a good practice to separate it from the rest of the

Document Manager server and services. The automation service is also a good candidate to install on its own machine.

In the configuration shown in Figure 6-4, the rendition service, the print/plot service, and the automation service are installed on their own machines. The rest of the Document Manager server and services are installed on one machine, and the content repository (Content Manager) is installed on its own machine.

Note: Install Cache service with every machine running any other Document Manager service. For the configuration discussed here, you should install Cache service on Server 1 through 4.

If you need to install Automated Services, install the Alarm Manager also on that server as well as the Cache service.

Depending on your system requirements, you may also install the same service on different machines. As long as the services point to the same Document Manager Library Server, they process different jobs on the same system.

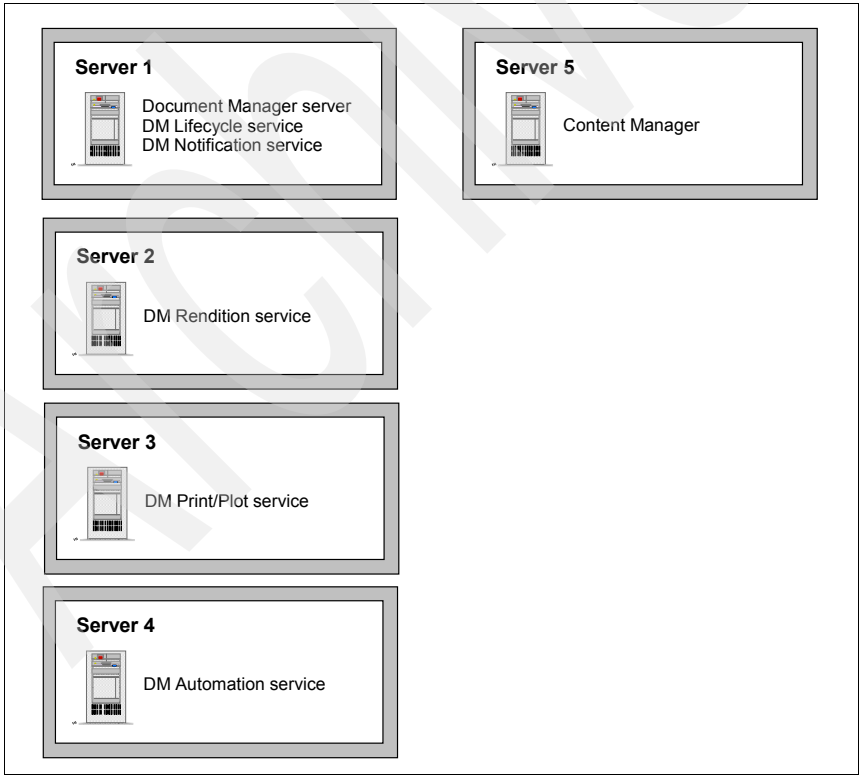

Figure 6-4 Separate DM server and its services

6.3 Configuration with Records Manager

When you records-enabled a Document Manager system, you bring into the Document Manager system the Records Manager and the Content Manager Records Enabler.

Records Manager consists of two components: Records Manager database and Records Manager server. The basic recommendation for deploying Records Manager is that, whenever possible, *separate Records Manager database from the Records Manager server* for good system performance.

In the case study, we use this recommendation and install Records Manager server and its database on two separate machines.

Content Manager Records Enabler (CMRE) consists of three servers, the Records Enabler Server, the Records Enabler Host Interface Server, and the Records Enabler Permissions Synchronization server. These servers may be distributed among the WebSphere instances within the Document Manager system; however, there is one application, *Records Manager Extensions, that must be installed on the same WebSphere server as Records Manager*.

In this section, similar to the previous section, we present three sample system configurations for a Document Manager solution with Records Manager:

- All in one server
- Separate Document Manager and Content Manager servers
- Separate Document Manager server and services

6.3.1 All in one server

In this configuration (see Figure 6-5), everything is installed on one server (machine). This is easy to install and set up. We recommend this configuration for prototype only. You can also use the configuration for testing and development.

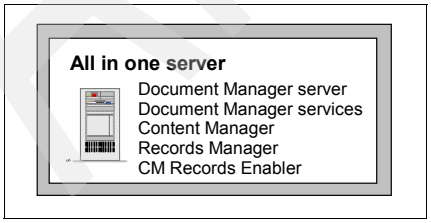

Figure 6-5 All in one server with Records Manager

6.3.2 Separate Records Manager and content repository

In this configuration (see Figure 6-6), we separate the content repository from the main machine. In addition, it also separates the Records Manager and Records Enabler from the main machine.

The logic behind this is that, whenever possible, separate the intensive user processing unit from the back-end repository unit. Also because the Records Manager engine usually reaches its hardware limit first, if the hardware resource is available, we recommend moving the Records Manager engine to another machine for better and more reliable system performance. In this configuration, we recommend putting Records Manager database with Content Manager, and Content Manager Records Enabler with the Records Manager engine.

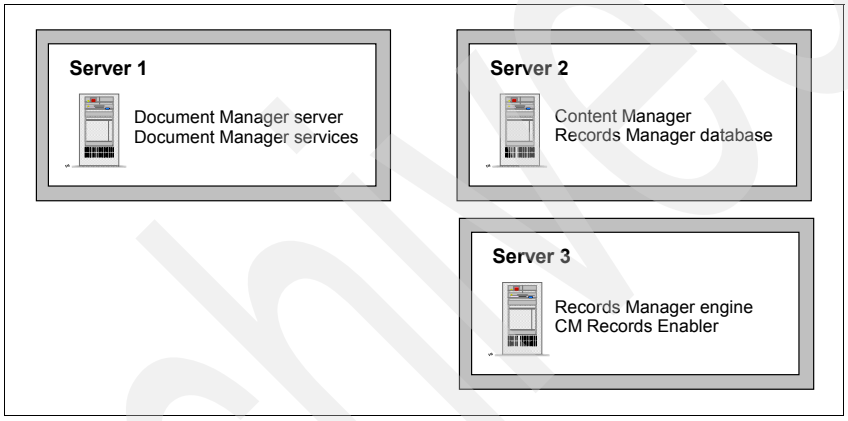

Figure 6-6 Separate Records Manager and content repository

6.3.3 Separate Document Manager server and services

In this configuration (see Figure 6-7), you can further separate the Document Manager services, such as rendition service, print/plot service, and automation service to separate machines.

Note: Install the Cache service with every machine running any other Document Manager service. For the configuration we discuss here, you should install the Cache service on Server 1 through 4.

If you need to install Automated Services, install the Alarm Manager also on that server as well as the Cache service.

You increase the performance of the main Document Manager system by moving the process-intensive and I/O-intensive services onto their own

machines. If the hardware resources are available, you can also consider separating other services to different machines or having multiple machines running the same services.

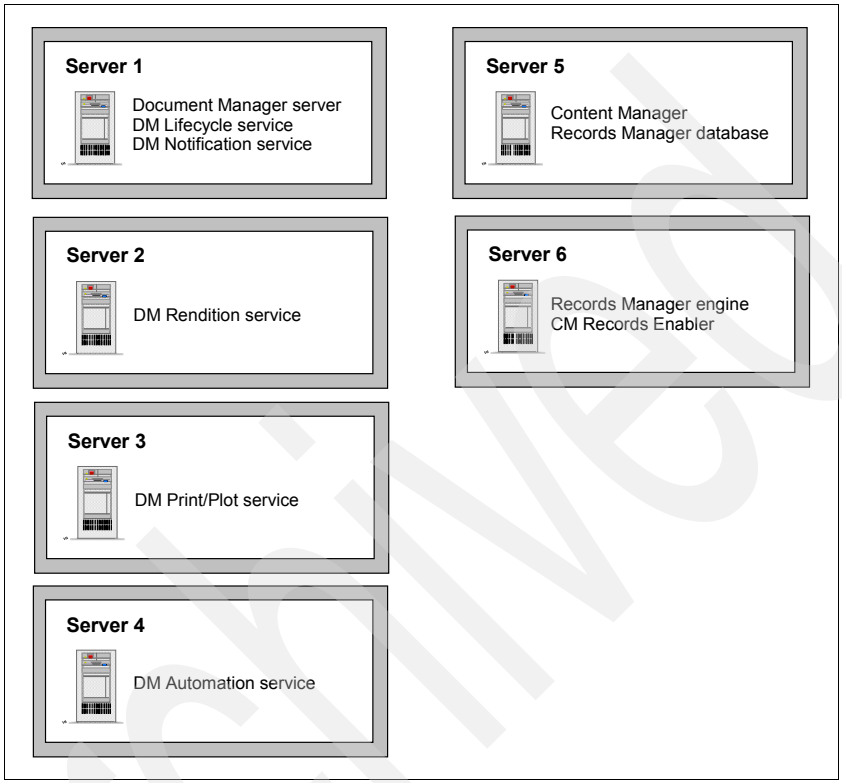

Figure 6-7 Hardware configuration 3 with Records Manager

Note: As these services are process-intensive, if hardware resource is available, we strongly recommend separating these Document Manager services in different machines.

7

Installation and configuration

This chapter describes the product installations for the Document Manager solution integrated with Records Manager. We provide end-to-end installation order and configuration of all the products and their associated fix packs.

We cover the following topics:

- Solution architecture and sequence of the product installation
- Configuration of DB2 Enterprise Edition V8.2
- Configuration of WebSphere V5.1.1
- Configuration of Content Manager V8.3
- Configuration of Information Integrator for Content V8.3
- Configuration of Records Manager V4.1.1 and V4.1.2
- Configuration of CM Records Enabler V8.3
- DM installation and configuration
- Configuration of SMTP Server/e-mail
- Fix packs for various products

Although you can install some of the products on platforms other than Windows, we describe the Windows versions only. Any non-standard installation actions are documented in the product sections. Viewlets have been provided along with this redbook that detail the generic installations of the products.

Important: We strongly recommend that you read thoroughly all product installation guides and Readme files before attempting to perform any product installation. This chapter does not reiterate the information found in the guides. Use this chapter as a complement to the individual product installation manual.

7.1 Solution architecture

There are many ways to configure the Document Manager solution with Records Manager as discussed in Chapter 6, “System configuration planning” on page 143. One of the most common solution architectures, which we use when describing the end-to-end solution installation and configuration, calls for three servers, one for Content Manager (server 1), one for Records Manager (server 2), and the third for Document Manager (server 3). See Figure 7-1.

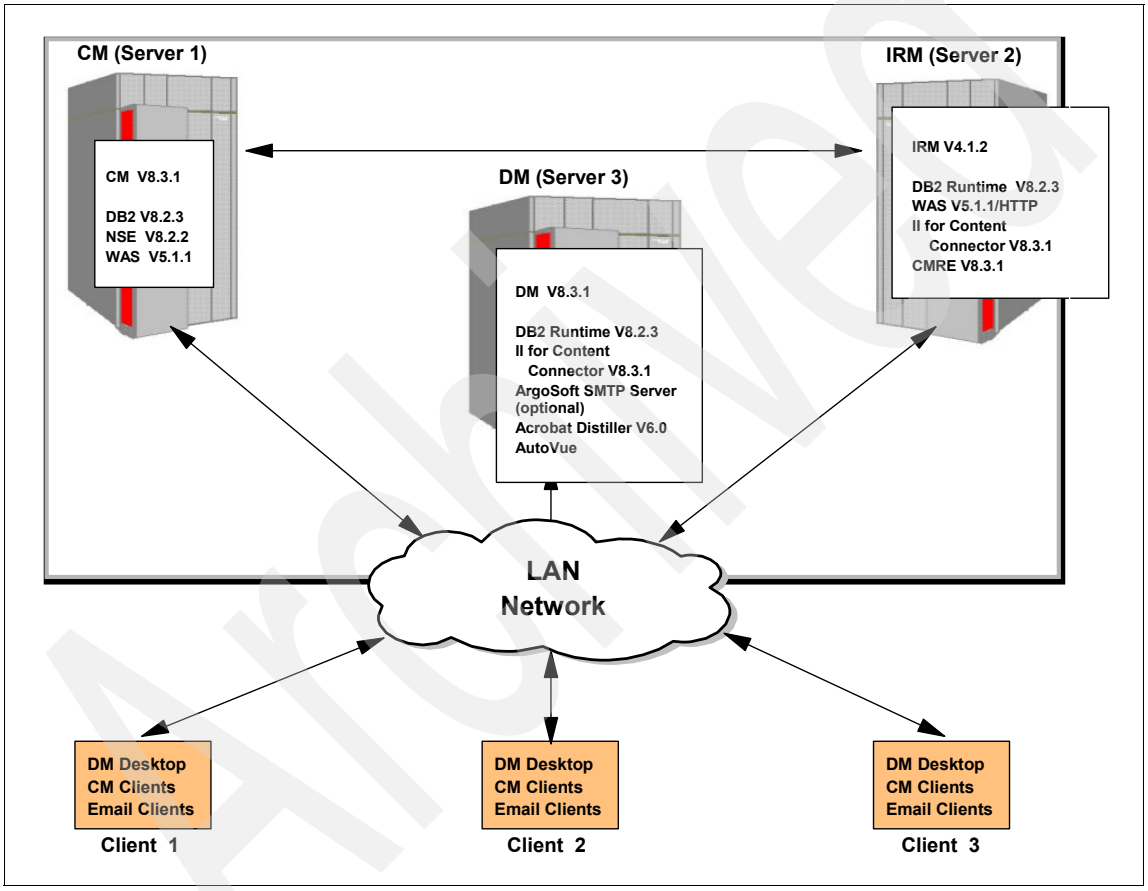

Figure 7-1 Solution architecture

In our case study, we spread the product installations across multiple servers (machines) as in Figure 7-1 to closely simulate a production environment.

The solution consists of the following main IBM DB2 Enterprise Content Management (ECM) product stack:

- IBM DB2 Document Manager Version 8.3
- IBM Records Manager Version 4.1.2
- IBM DB2 Content Manager Enterprise Edition Version 8.3
- IBM DB2 Content Manager Records Enabler Version 8.3

WebSphere Application Server is the application server for the Records Manager, Records Enabler (CMRE), and Content Manager Resource Manager applications.

The IBM HTTP Server, installed with WebSphere Application Server, serves the Web pages for Document Manager and Records Manager.

Content Manager is the data repository for all the documents and objects produced and managed by Document Manager. In our case study, we use a generic SMTP Server to allow simple e-mail movement, to demonstrate e-mail storage through Document Manager and notifications sent by e-mail.

CMRE is the means for communication between Content Manager and Records Manager. We use its configuration parameters to facilitate auto declares and classifies, which map to Quick Declares in Document Manager.

DB2 runtime and Information Integrator for Content are DB2 and Content Manager communication across the servers and clients.

Figure 7-1, we also show several client system configurations, with various product clients and e-mail clients installed. In our case study, we install products, both for administrators and for users on separate client machines to mimic a production environment.

7.2 Sequence of product installation

The sequence of product installation is especially important when there are dependencies, but when none exists between the products we must determine the optimal order for installation.

Often the product installation guides provide direction. For example, the CMRE installation guide suggests that, if installing Content Manager on the same server with the CMRE extensions, it is best to install Content Manager first. Otherwise, a migration step is required to move all the CMRE Extension code into the Content Manager working directory.

Although there is no strict order of installation sequence, we recommend the following product and fix pack installation order for the solution:

1. DB2 Enterprise Edition V8.2
    a. DB2 Runtime client V8.3 on remote machines
    b. Fix Pack 3 for base and runtimes
2. DB2 Net Search Extender V8.3
    a. Fix Pack 2
3. WebSphere Application Server V5.1
    a. Fix Pack 1
    b. Cumulative plug-in fix 6
4. Content Manager for Multiplatforms V8.3
    a. Windows client
5. Information Integrator for Content V8.3
6. Records Manager V4.1.1
    a. Fix Pack V4.1.2
7. Content Manager Records Enabler V8.3
    a. Records Manager Extensions
8. Fix Pack 1 (V8.3.1) for Content Manager
9. Fix Pack 1 (V8.3.1) for Information Integrator for Content
10. Fix Pack 1 (V4.1.2.1) for Records Manager
11. Fix Pack 1 (V8.3.1) for Windows client
12. Fix Pack 1 (V8.3.1) for CMRE
13. DB2 Document Manager V8.3
14. Fix Pack 1 (8.3.1) for Document Manager
15. SMTP server
16. Clients on remote machines
    a. Content Manager fix packs for clients

Your system architecture might differ from the one we show in Figure 7-1. Depending on how you distribute your components across multiple machines, you can use our recommendation as a guideline to install various components on your system.

Because this solution consists of different components and products, we strongly recommend that you make sure a product or a component is installed

successfully before moving onto the installation of the next component or product or performing any integration.

7.3 Configuration of DB2 Enterprise Edition V8.2

Use the product manual as a detailed guide to install DB2 Enterprise Edition (EE) Version 8.2.

For our case study, we use the default options for the installation most of the time. We installed a DB2 EE server on one server and installed DB2 runtime on the remote servers and clients.

Table 7-1 contains some of the DB2 EE installation options to which you need to pay *particular* attention. We also provide the sample input values we used for our case study environment for your reference.

Table 7-1 DB2 EE V8.2 installation options

Installation option	Comment/Sample input value
Installation type	Typical
Domain name	None
User name	db2admin (same for all services)
Administration contact	Defer

Once you completed the installation, use the First Steps utility to install the sample database as a means to verify that your installation is complete and successful. Make sure to connect to the sample database from the DB2 runtime clients, and verify their installations.

Use the product manual for installation of DB2 runtime clients.

For our case study, we use all defaults for the installation.

7.4 Configuration of WebSphere V5.1.1

Use the product manual as a detailed guide to install WebSphere Version 5.1.1.

For our case study, we use the default options for the WebSphere installation wherever possible. However, we specified that the *IBM HTTP Server* should be installed.

Table 7-2 contains the installation options to which you need to pay *particular* attention. We also provide the sample input values we used for our case study environment for your reference.

Table 7-2 WebSphere V5.1.1 installation options

Installation option	Comment/Sample input value
Installation type	Custom
Install feature - Application Server samples	Unchecked
Install feature - Embedded messaging	Default is checked (server and client), this is required for Records Manager.
Host name or IP Address	This should be the fully qualified host name or IP address.
Run WebSphere Application Server as a service and Run IBM HTTP Server as a service.	Use the default unless you prefer to use the command line to start and stop the servers.
User ID	Specify an administrator ID, we used "admin".

Once you complete the installation, go to the First Steps utility, and execute the **Verify Installation** option to ensure that the installation of WebSphere completed successfully.

The installation of Fix Pack 1 requires that you stop WebSphere and all Java applications. Verify, in the Windows task manager, that there are no java.exe programs running.

Tip: We found that the most straightforward method of installing the fix packs and cumulative plug-in fixes is to first create an `update` directory under `c:\program files\websphere\appserver`. Then, unzip the fix packs followed by the cumulative plug-in fixes into that directory. This creates a complete directory structure under `update` with the fix pack files located in the appropriate directories. Invoke **`updateWizard.bat`** from this new directory structure and the system will automatically detect which fix packs are available on the system and install them in the correct order.

Executing the wizard twice will install all the fix packs (cumulative plug-ins are considered fix packs).

7.5 Configuration of Content Manager V8.3

Use the product manual as a detailed guide to install Content Manager for Multiplatforms Version 8.3. Use the default options for the installation wherever possible.

The installation process has two options, to install Content Manager and to install the Content Manager Client for Windows. First choose the Content Manager installation.

For Content Manager installation, we performed a custom installation for our case study, which specifies all the options. The custom install allows for automatic generation of the SSL and subsequent use of the *IBM HTTP Server* for the browser-based clients.

Note: Ensure that you start *WebSphere server* before you begin to install the Content Manager products.

Table 7-3 contains some of the installation options to which you need to pay *particular* attention. We also provide the sample input values we used for our case study environment for your reference.

Table 7-3 Content Manager V8.3 installation options

Installation option	Comment/Sample input value
Server Database Type	DB2 Universal Database™
Library server database name	icmnlsdb
Library server schema name	icmadmin
Library server administration ID	icmadmin
Library server connection ID	icmconct
Enable Unicode	Checked (Unicode cannot be enabled after installation)
Enable text search	Checked
Resource Manager database name	rmdb
Resource manager database administrator ID	rmadmin
Application server node name	Host name of the server where you installed WebSphere Application Server

Installation option	Comment/Sample input value
Resource manager Web application name	icmrm
Use and configure IBM HTTP Server SSL	Checked
IBM HTTP Server SSL configuration	We use values appropriate for our location.

During installation, the system checks for the existence of the IDs. If they do not exist, the system prompts you for automatic creation.

Important: It is important to specify the *Unicode* option at creation time for the Library Server, because you cannot enable it later.

After the installation is complete, launch the *Installation Verification Utility* to verify the install. Another test of the installation is to invoke the *First Steps* and load some initial sample data.

We defer the installation of the Content Manager Windows client until after the Information Integrator for Content installation. This allows the use of the local.ini files that are installed with Information Integrator for Content. The Windows client installation specifies only the default values.

To verify the installation, invoke the client, add a test document to the Content Manager repository, and perform a search on the test document. Make sure you can retrieve it and view it.

7.6 Configuration of Information Integrator for Content V8.3

Use the product manual as a detailed guide to install Information Integrator for Content V8.3. Use default values whenever applicable.

For our case study, we use the default options for the installation of Information Integrator for Content. We are only interested in installing the *Content Manager V8 connector*, so the **Setup Type** we specify is `Connector`.

Table 7-4 contains some of the installation options to which you need to pay *particular* attention. We also provide the sample input values we used for our case study environment for your reference.

Table 7-4 Information Integrator for Content V8.3 installation options

Installation option	Comment/Sample input value
Setup Type	Connector Note, this is all you need for the solution.
Server Connection Selection	Content Manager Version 8
System Configuration Files	Local
Library server database name	icmnlsdb
Library server schema name	icmadmin
DB2 Content Manager Version 8 connection ID	icmconct

After the installation is complete, launch the *Installation Validation Utility* to verify the installation.

7.7 Configuration of Records Manager V4.1.1

Make sure your system meets the prerequisites of Records Manager.

Prerequisites for Records Manager

Before you install Records Manager, do the following:

1. Create a non-administrator ID in Windows to use as the database schema owner for the Records Manager database. We created an ID called *irmadmin*.
2. Verify that the database manager (DB2) is started.
3. Verify that WebSphere is started.
4. In the WebSphere Administration Console, go to Environment → Manage WebSphere Variables. Scroll down and set the DB2Universal_JDBC_Driver_Path to the location of the JDBC™ driver in the DB2 installation directory. For us, it is C:Program Files\IBM\SQLLIB\java.

Note: If you change the value of the DB2Universal_JDBC_Driver_Path variable, you must stop and then restart the WebSphere server.

The installation of Records Manager is a two part process, one for the engine and one for the database. You can install them in any order, but we recommend installing the engine first followed by the database.

Use the product manual as a detailed guide to install Records Manager, and use default values whenever applicable. Let the installation do the WebSphere deployment and configuration automatically.

Note: You should allow the installation to do the deployment and configuration unless you have a specific requirement for deployment within WebSphere. You must have WebSphere administration knowledge to do the deployment yourself.

Table 7-5 contains the installation options and their values within the engine installation.

Table 7-5 Records Manager V4.1.1 engine installation options

Installation option	Comment/Sample input value
Cell	Host name of WebSphere server (*Server2 - Records Manager*)
Node	Host name of WebSphere server (*Server2 - Records Manager*)
Server	Name of the Application Server defined in WebSphere that will contain the Records Manager application (*server1 - Content Manager*)
Connection Factories Authentication	Leave blank
Mail Transport Host	Localhost
Engine Server Name	Host name of WebSphere server (*Server2 - Records Manager*)
WebService Node Name	Host name of WebSphere server (*Server2 - Records Manager*)
Engine Server Name	Host name of WebSphere server (*Server2 - Records Manager*)

For the database installation, use the automatic database creation option.

Note: You should only use the custom database creation option if you have specific DB2 requirements for database creation. This option is for *DBAs* with the knowledge and authority to perform the custom installation.

Table 7-6 contains the values for the installation options within the database installation.

Table 7-6 Records Manager V4.1.1 database installation options

Installation option	Comment/Sample input value
JDBC driver class path	c:\program files\ibm\sqllib\java
DB2 Node/Instance Name	db2
Database Name	Any valid DB2 database name (*irm41db*)
Default Disk	c
Folder for Database Containers	c:\irmdata
User Name	Database schema name (*irmadmin*)
Sys Admin User Name	Database administrator name (*db2admin*)
Database File Plan Population	Sample (used only for verification purposes)

When the installation completes, verify that you have created the database (and over 100 tables).

Engine configuration

After you complete the installation process, create a data source using the Engine Configuration Utility (**Start** → **Programs** → **IBM DB2 Records Manager V4.1.1** → **Engine Configuration**).

The *Connection Information* panel should contain all the correct information that was entered in the installation dialog. If not, correct it, and select **OK**. Highlight **DB2** in the Data Sources list and invoke **Actions** → **New**.

Table 7-7 contains the values we entered for the *New DB2 Data Source*.

Table 7-7 Records Manager V4.1.1 engine configuration

Data source entry field	Comment/Sample input value
Data Source Name	Any valid DB2 name (*irm41db*)
Database Name	irm41db
User name	Database schema owner (irmadmin)
Test Connection	Checked

After processing, a new entry displays in the data source list. It is important to save your changes (**File** → **Save Changes**) before exiting the dialog.

In WebSphere, verify that *four* Records Manager JMS server queues have been created and started. Invoke the WebSphere administrator through **Start** → **Programs** → **IBM WebSphere** → **Application Server v5.1** → **Administrative Console**. No login is required, unless security has been enabled; then **Servers** → **Application Servers** → **Server1** → **Server Components** → **JMS Servers**. You should see a window similar to the one displayed in Figure 7-2.

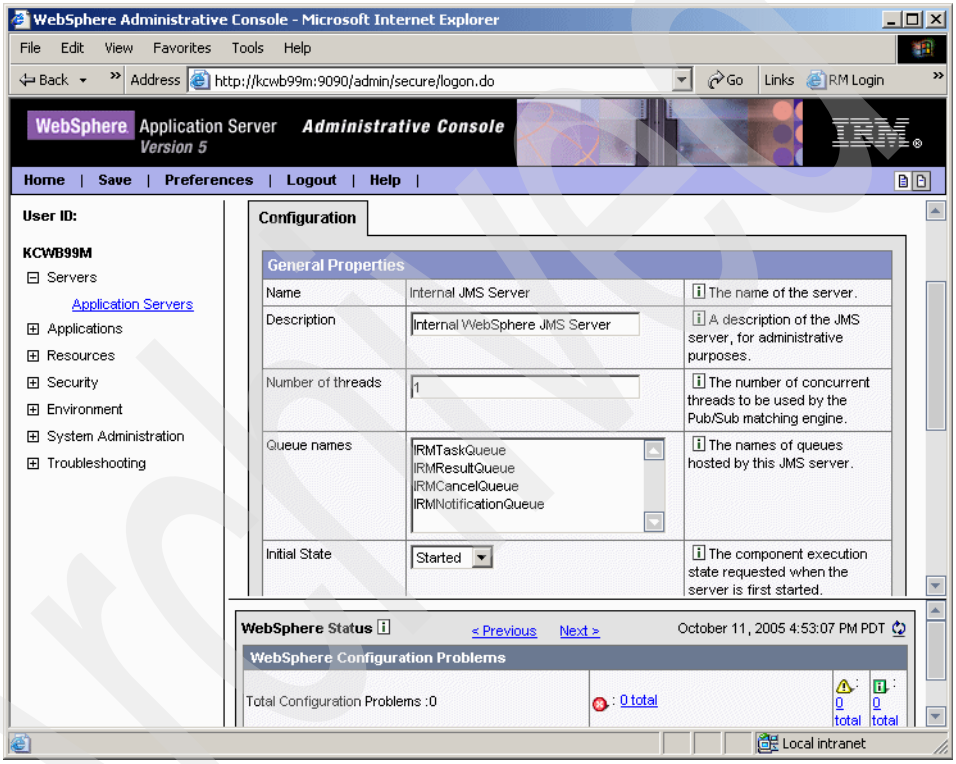

Figure 7-2 JMS Server Queues installed by Records Manager

Log out of WebSphere and restart the WebSphere server through **Start** → **Programs** → **IBM WebSphere** → **Application Server v5.1** → **Stop the Server**. Then start the server through **Start** → **Programs** → **IBM WebSphere** → **Application Server v5.1** → **Start the Server**.

Complete the installation verification by invoking the Records Manager administrator through **Start** → **Programs** → **IBM DB2 Records Manager V4.1.1** → **IRM Administrator**. Log on to the administrator using `Administrator/cronos` as the login name/password and invoke **Batch**

Operations from the list on the right side. If the Batch Operations panel displays, then verification is complete.

7.8 Configuration of Records Manager V4.1.2

The upgrade of Records Manager V4.1.1 to V4.1.2 is a process similar to the base V4.1.1 installation.

In the V4.1.2 installation directory, invoke the **irm412_dbupgrade.bat** file, which upgrades the database. Next invoke the **irm412_engine.bat** file, which installs a complete engine replacement. Use the same install options you use for the base V4.1.1 installation. This creates a new directory during the installation, **DB2RecordsManager412**, which replaces the V4.1.1 directory. You can delete the old directory after the installation verification completes.

You must rebind the database packages after installation. Do this by invoking the *Engine Configuration* utility as before. This time just edit the existing data source, save, and exit.

Restart the WebSphere server, then verify that you can log on to the Records Manager Administrator.

7.8.1 Installation of Fix Pack 1

Note: Perform the installation of Fix Pack 1 *after you install and verify* the entire Content Manager/Records Manager/CMRE/Document Manager stack. Install the fix packs to the various products in the same order as the base products.

The installation of Fix Pack 1 for Records Manager follows the same process as the V4.1.2 base, except there is a **launchpad.bat** file that you can invoke to provide a GUI interface. Upgrade the database, upgrade the engine, and use the same install options as the other installations. Rebind the database packages using the *Engine Configuration* and verify the installation.

7.9 Configuration of CM Records Enabler V8.3

The intent of this section is to complement and not to replace the installation manual entitled, *IBM DB2 Content Manager Records Enabler V8.3: Installing and Configuring*, GC18-7570. We expect you to follow the instructions in the product installation manual.

There are two separate installation programs that install the Content Manager Records Enabler (CMRE) features. One is the Content Manager Records Enabler, the other is the Records Manager Extension.

7.9.1 Before installing Content Manager Records Enabler

Here is a checklist of activities you should complete before installing the Content Manager Record Enabler:

1. Ensure that your system meets the hardware and software prerequisites.
2. Create an administration ID (`cmreid` by default). This is the Records Enabler connection ID used by CMRE to perform repository functions.
3. Create an administration ID (`icmadmin` by default).
4. Setup the following system environment variables:
   - WAS_HOME
   - JDBCPATH
   - IBMCMROOT
5. Ensure that the IBM DB2 Information Integrator for Content Manager V8 Connector is installed.
6. Complete the section “Tips for avoiding installation problems” under the section entitled “Performing pre-installation tasks for the Records Enabler servers” in *IBM DB2 Content Manager Records Enabler V8.3: Installing and Configuring*, GC18-7570.

Note: CMRE asks for the Content Manager administrator user ID, such as ICMADMIN and its password, when you add a new Library Server connection to the Records Enabler System. CMRE uses the ICMADMIN ID to create the new CMRE connection ID (CMREID) in Content Manager. CMRE does not save the ICMADMIN ID and it does not use the ICMADMIN ID again after installation.

The CMRE creates the CMREID user ID in Content Manager. CMREID is a Content Manager administrator. CMRE saves this user ID in its host configuration and uses it to configure the Content Manager host. For example, CMRE uses the CMREID ID to create the necessary item types, privilege sets, and ACLs during the installation process. The CMREID is also stored in the WebSphere Data Source. This user ID is used to add and remove triggers to the records-enabled item types. The CMREID should not be imported into Records Manager. It is meant to be used under the covers by the CMRE code.

7.9.2 Before installing Records Manager Extensions

Here is a checklist of activities you should complete before installing the Records Manager Extensions:

1. Ensure that your system meets the hardware and software prerequisites.
2. You have installed the Records Enabler Permissions Synchronization server by going through the Content Manager Records Enabler installation program.
3. Ensure that you have set up the environment variable, WAS_HOME.
4. You have completed the section on “Tips for avoiding installation problems” under the section entitled “Performing pre-installation tasks for the Records Manager Extensions” in *IBM DB2 Content Manager Records Enabler V8.3: Installing and Configuring*, GC18-7570.

7.9.3 Installing Records Enabler on Windows

When you start the IBM DB2 Content Manager Records Enabler (CMRE) Installation Launchpad, you will be presented with two installation choices as shown in Figure 7-3.

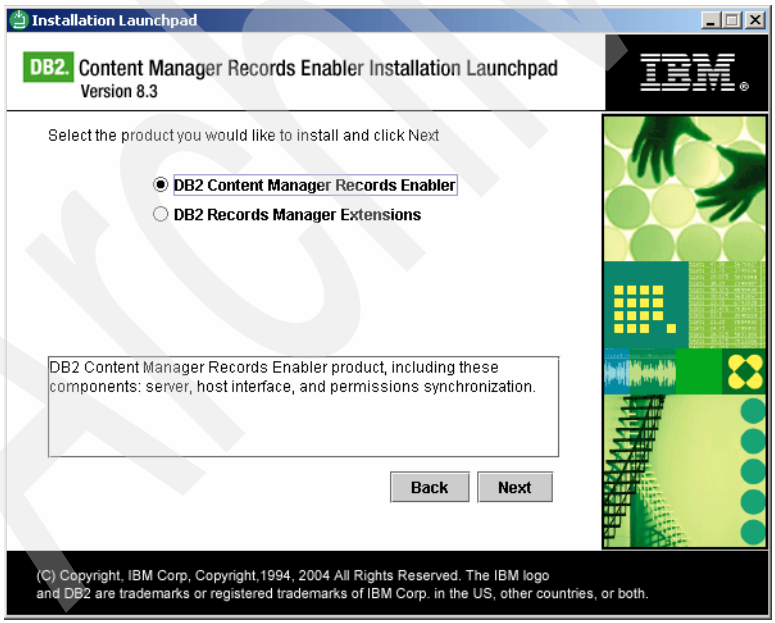

Figure 7-3 Content Manager Records Enabler Installation Launchpad

The Content Manager Records Enabler installs the following Records Enabler features:

- Records Enabler Server (cmresvr)
- Records Enabler Host Interface Server (rmecmhost)
- Records Enabler Permission Synchronization Server (cmrepsproc)

The Records Manager Extensions installs cmrepsnotifer.

Installing the Content Manager Records Enabler

Select the Content Manager Records Enabler radio button to install the Records Enabler Server, the Records Enabler Host Interface Server, and the Records Enabler Permission Synchronization Server. Follow the instructions in the installation windows. The Records Enabler installs in the IBM Content Manager installation directory. By default, it is C:\Program Files\IBM\db2cmv8.

Follow the instructions in the installation windows. We capture shots of those screens that contain important installation parameters.

Figure 7-4 shows the selection window for the Content Manager Records Enabler features. Choose the features you want to install. You can install all three features in the same server or distribute them across multiple servers. In our demonstration system, we install all three features into the same server.

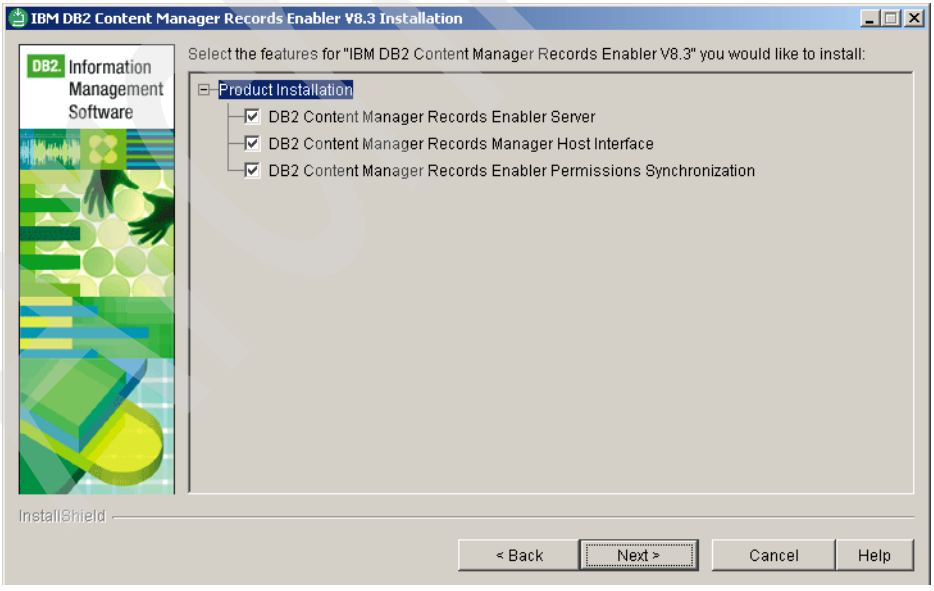

Figure 7-4 Select the features for Content Manager Records Enabler V8.3

Figure 7-5 shows the WebSphere Application Server deployment information window. Enter the WebSphere Application Server deployment information. We do not enable WebSphere Application Server security, so that option is left blank.

.

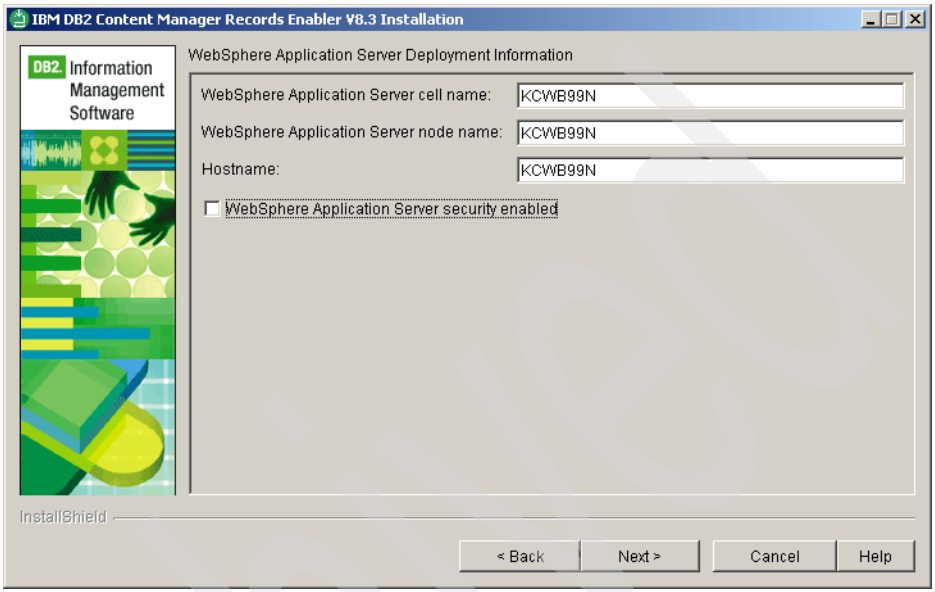

Figure 7-5 WebSphere Application Server Deployment Information

Figure 7-6 and Figure 7-7 show the Records Manager information windows. Enter the appropriate values for your system.

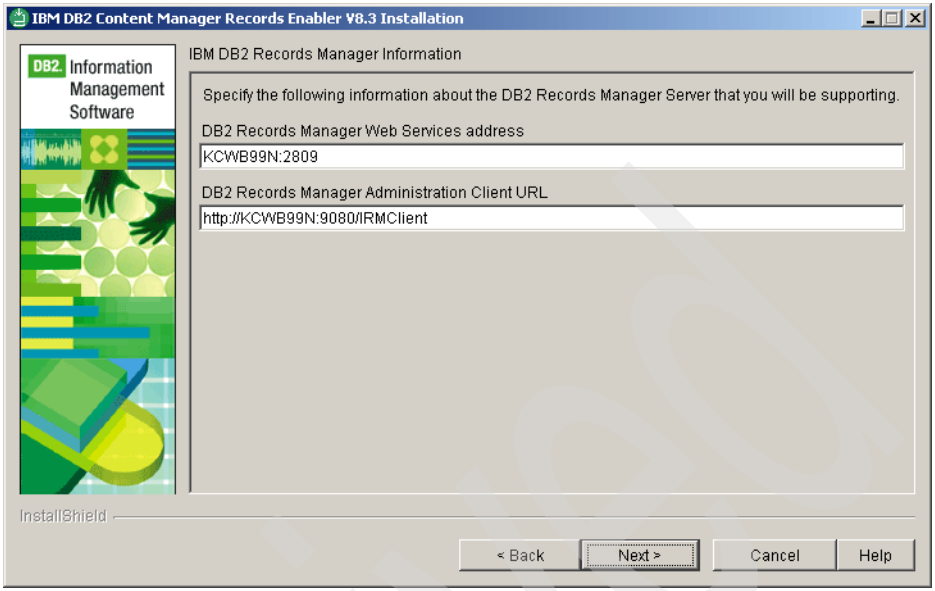

Figure 7-6 Records Manager Information part 1

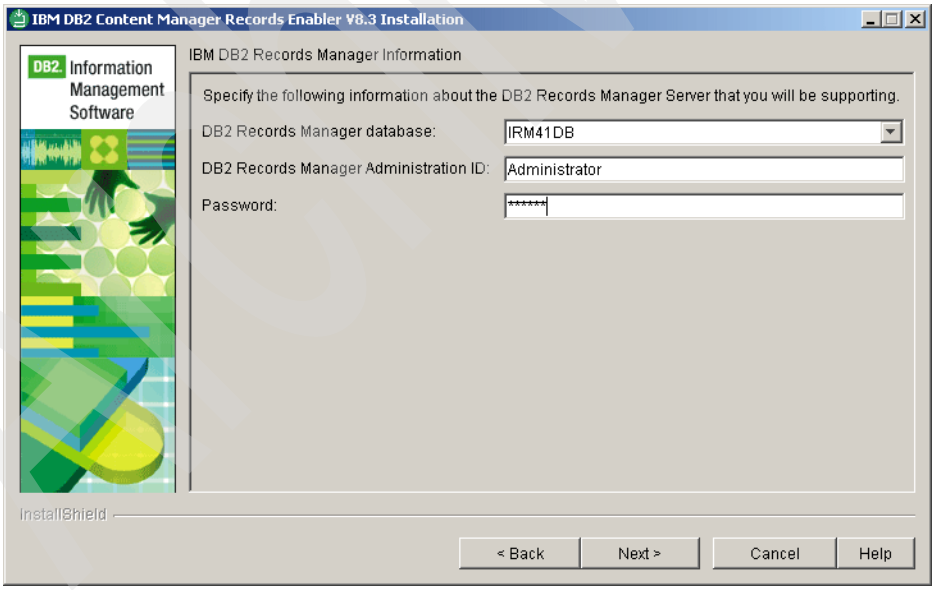

Figure 7-7 Records Manager Information part 2

Figure 7-8 shows the Content Manager v8 Server Connection information window. Enter the appropriate values for your system.

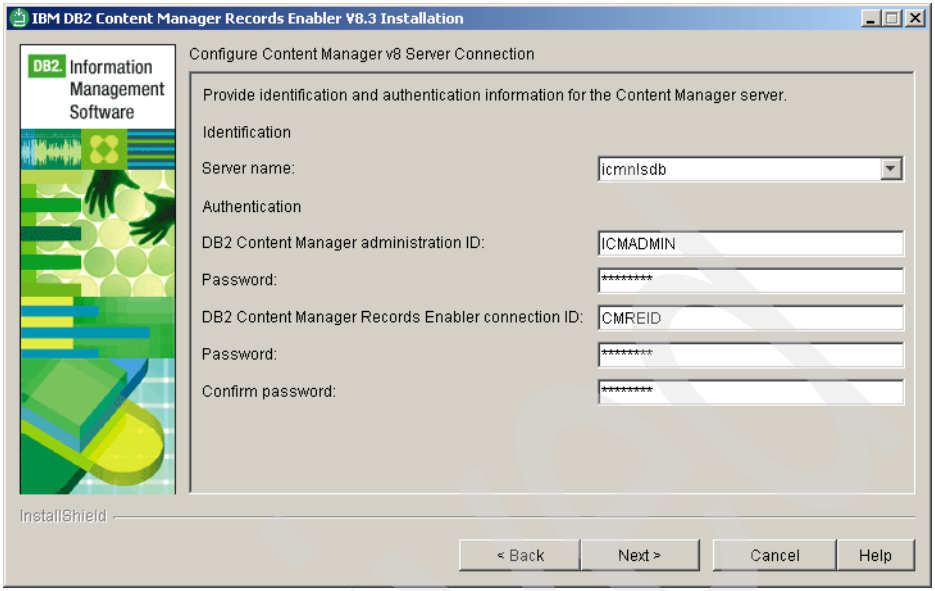

Figure 7-8 Content Manager v8 Server Connection information part 1

Figure 7-9 shows the window that prompts you for the eClient information. We did not have eClient in our demonstration system. Accept the default values assigned by the installation program if you do not use eClient in your system.

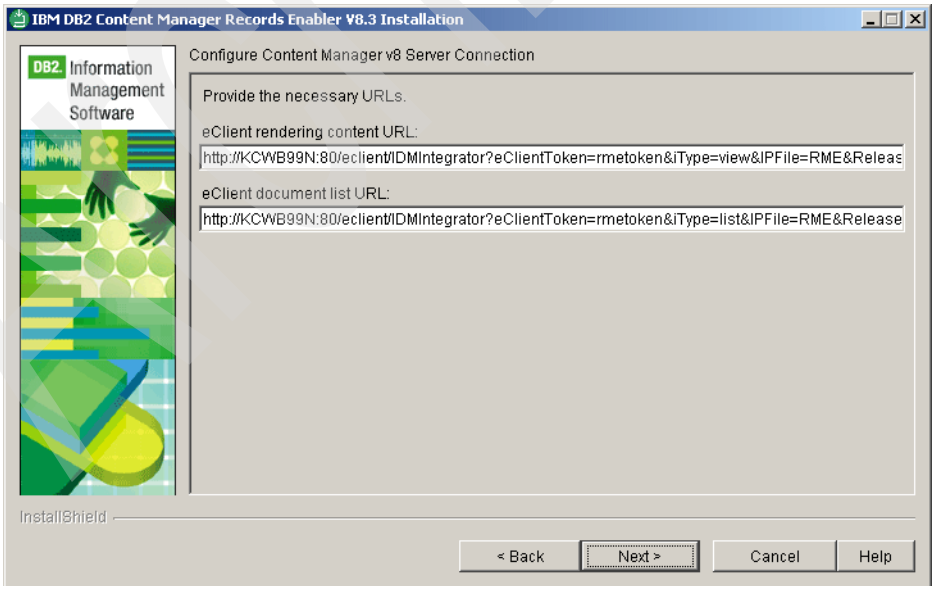

Figure 7-9 Content Manager v8 Server Connection information part 2

Figure 7-10 shows the window that prompts you to select the database management system on which you install the Content Manager.

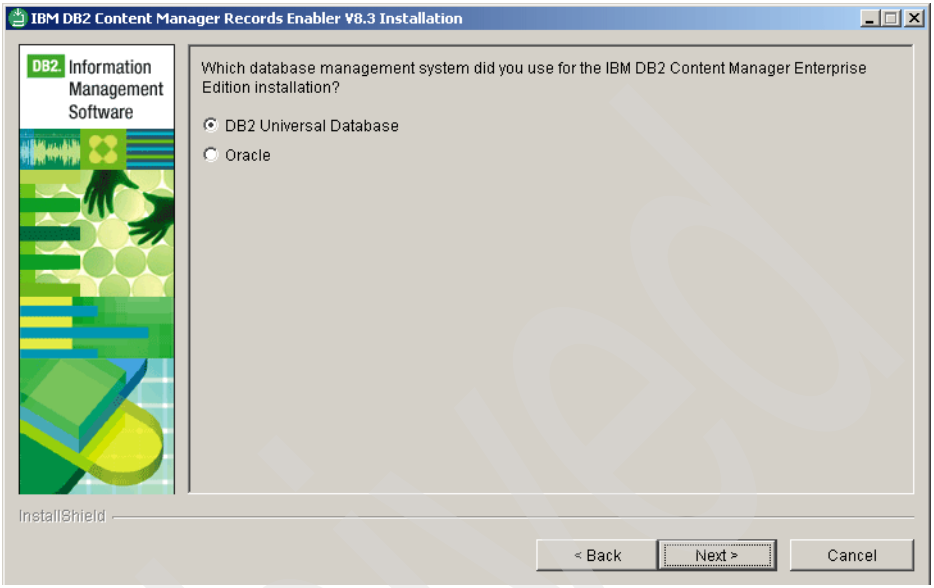

Figure 7-10 Database management choice

Figure 7-11 shows the window that prompts you to enter the Records Enabler server name. We accept the default value.

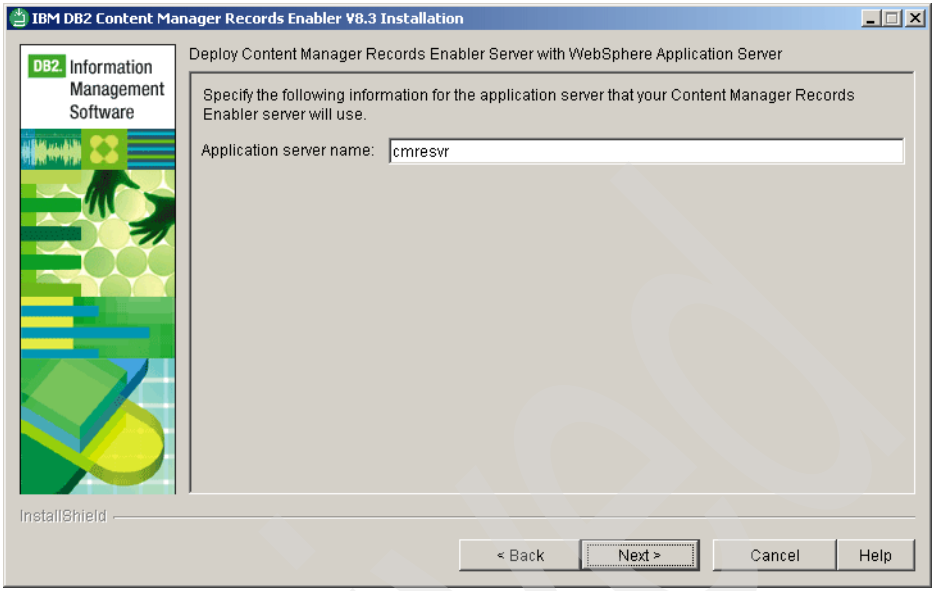

Figure 7-11 Records Enabler server name

Figure 7-12 shows the window that prompts you to enter the Records Manager Host Interface server name. We accept the default value.

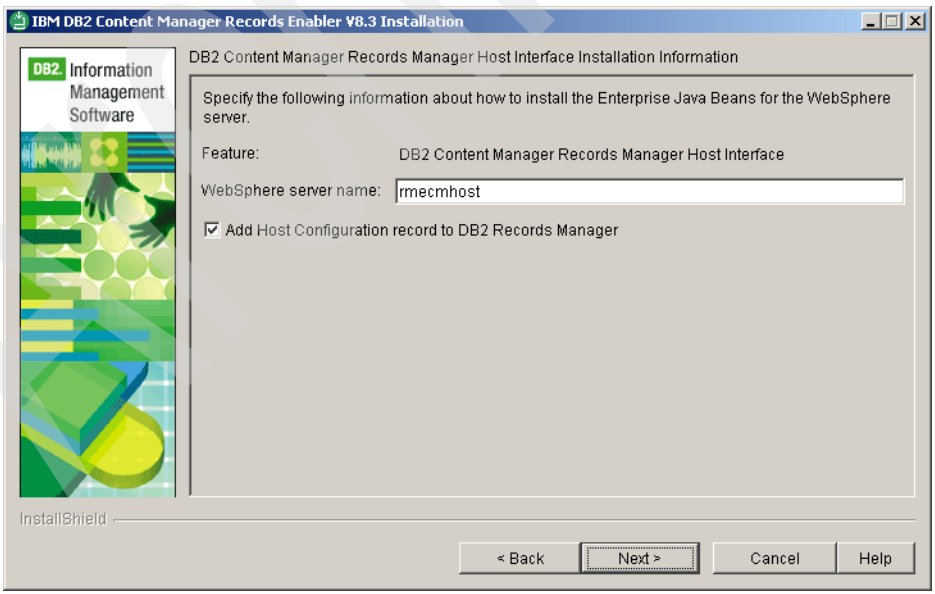

Figure 7-12 Records Manager Host Interface server name

Figure 7-13 shows the window that prompts you to enter the Records Enabler Permissions Synchronization server name. We accept the default value.

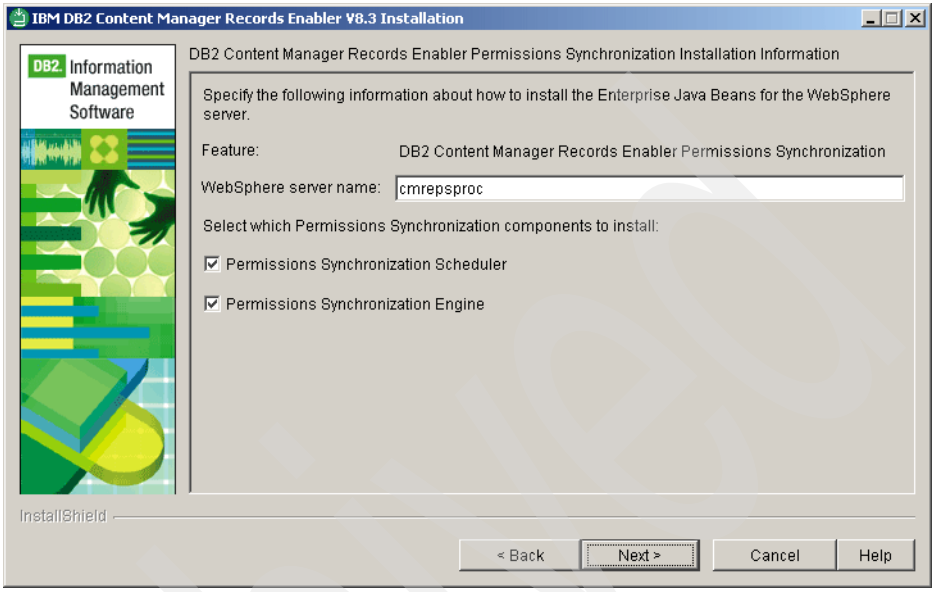

Figure 7-13 Records Enabler Permissions Synchronization server

Figure 7-14 shows the installation summary window. Click Next to have the installation program install the selected features to your system.

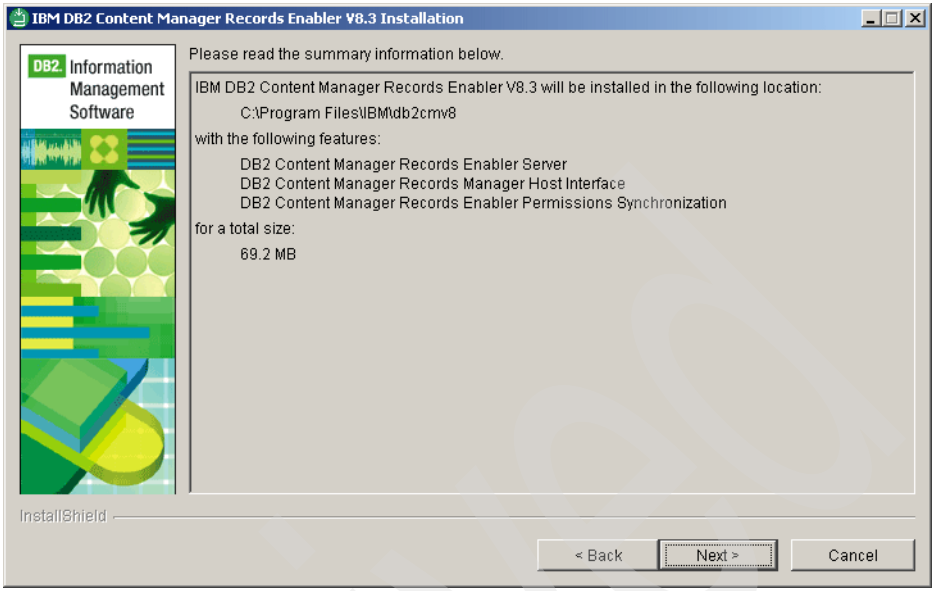

Figure 7-14 Installation summary window

After the Content Manager Records Enabler installation finishes, the installation program returns to the Launchpad window. You can exit the Launchpad or choose to continue with installing the Records Manager Extension.

Installing the Records Manager Extension

The Records Manager Extension must be installed on the Records Manager server. In our demonstration system, the Records Enabler and Records Manager share the same server. We continue with installing the Records Manager Extension after the Content Manager Records Enabler installation completes. See Figure 7-15.

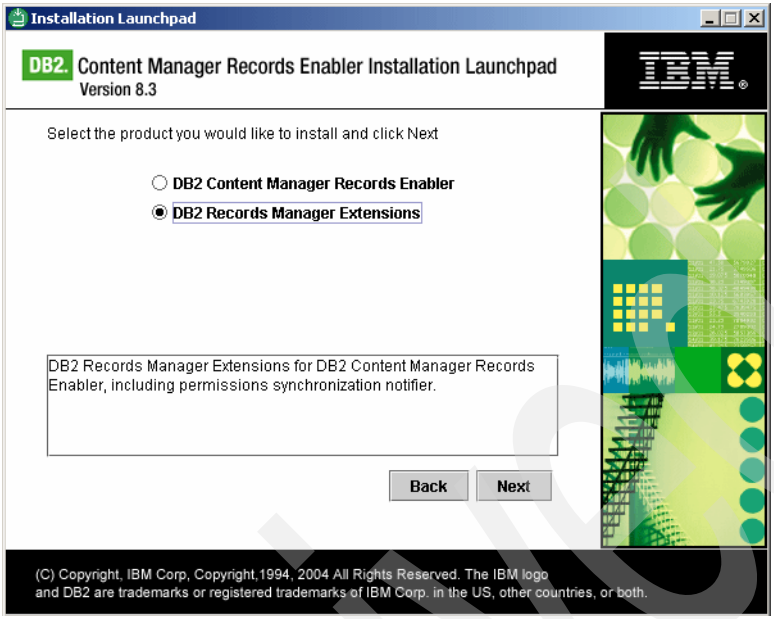

Figure 7-15 The Records Enabler installation launchpad

Figure 7-16 shows the installation destination window. Follow the recommendation by the CMRE installation guide, install the Information Integrator for Content before installing the Records Manager Extension. As a result, the CMRE installation program automatically detects the Content Manager working directory and uses that as its installation destination.

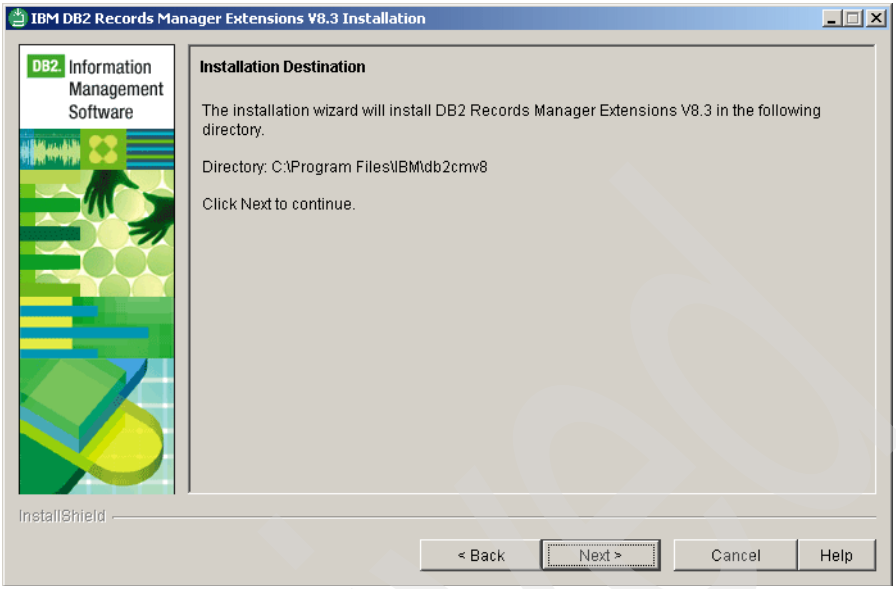

Figure 7-16 The installation destination information window

Figure 7-17 shows the WebSphere Application Server deployment information window. If you choose not to enable the WebSphere Application Server security, leave this option blank. In our demonstration system, we leave the option blank.

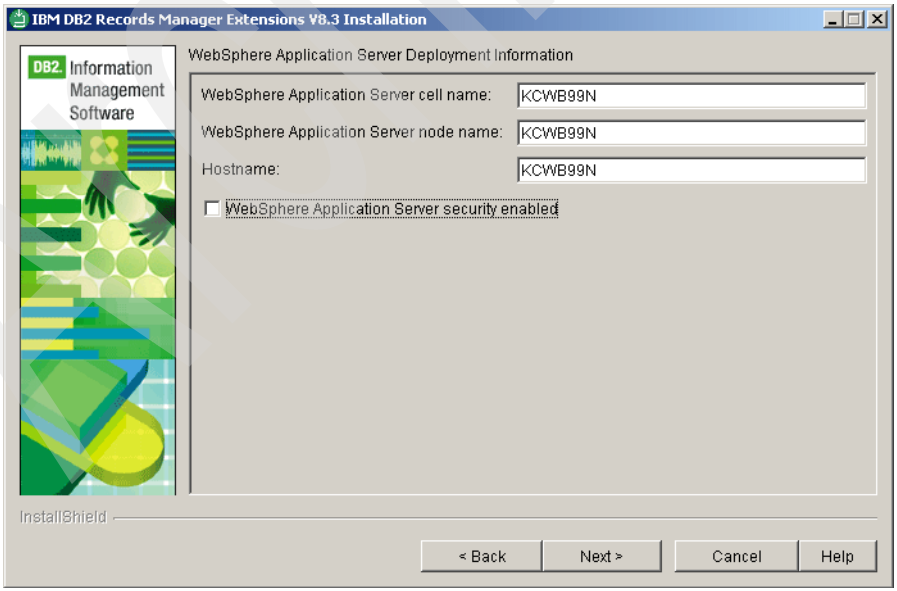

Figure 7-17 WebSphere Application Server Deployment Information

Figure 7-18 shows the Records Manager Information window which prompts you to enter the Records Manager application server name. We accept the default value since this is where the Records Manager applications are deployed.

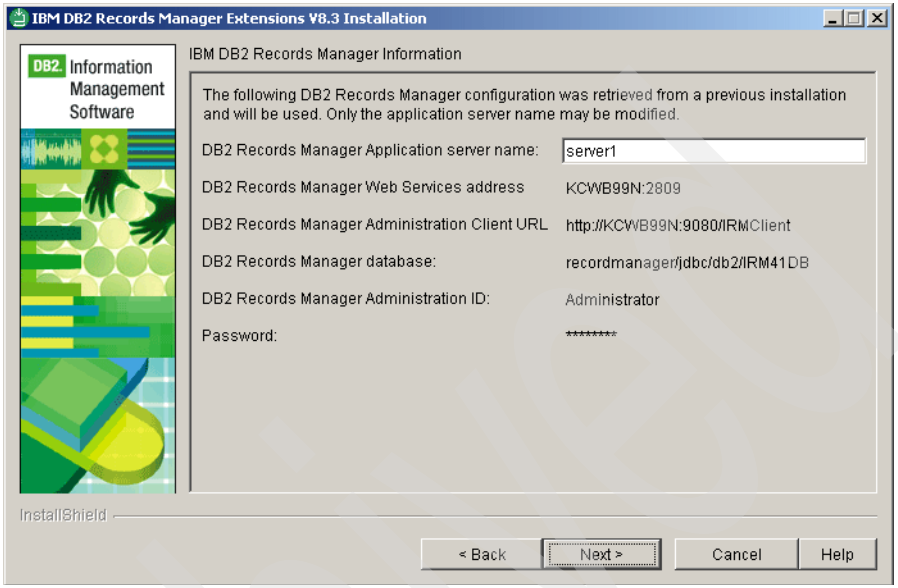

Figure 7-18 The Records Manager Information window

Figure 7-19 shows the installation information summary window. Click **Next** to have the installation program install the Records Manager Extension to your server.

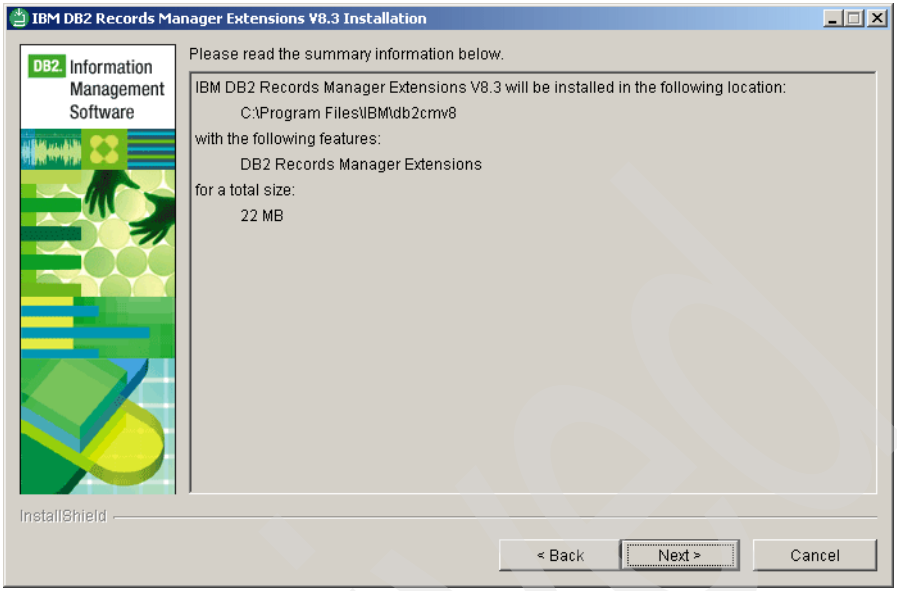

Figure 7-19 The installation summary information window

Installation verification

To verify you have installed and deployed the Records Enabler and its features successfully, follow the instructions in the section entitled “Verifying Records Enabler installation and configuration” in *IBM DB2 Content Manager Records Enabler V8.3: Installing and Configuring*, GC18-7570.

7.9.4 Records Enabler post-installation tasks

If you follow 7.2, “Sequence of product installation” on page 154, you have installed by this point all the software listed in items 1 to 7. We recommend that before continuing to install the rest of the software stacks, you configure Content Manager, Records Manager, and CMRE so that you can perform record declaration and classification using the Content Manager Window Client.

If you encounter problems with performing record declaration using Content Manager Window Client, it is better to discover the problem now rather than after you install all the software stacks.

Important: In our setup, we were unable to successfully import users into Records Manager. The embedded messaging component was not functioning properly. Our Records Manager server did not have a static IP address and the DNS returned a host name that was different from the computer name. To recover, we had to uninstall CMRE, Records Manager, and WebSphere Application Server. We assigned a static IP address to the server, set up the server to not use DNS, and reinstalled WebSphere Application Server, Records Manager, and CMRE.

Before you can use the Content Manager Window Client to declare and classify records, perform the following tasks:

1. Set up a file plan in Records Manager.
2. Import a Content Manager user into Records Manager and grant the user function access and permission to perform record declaration and classification. This Content Manager user should not have ItemSuperAccess privilege in its privilege set.
3. Create an eRecords-enabled Content Manager item type.
4. Map Content Manager attributes to Records Manager attributes.
5. Define the default classification.

Note: Use any of the CMRE-supported clients to test the declare and classify setup. We chose Content Manager Window Client.

Before continuing, make sure the following WebSphere Application Servers are started:

- icmrm
- server1
- cmresvr
- rmecmhost
- cmrepsproc

Set up a file plan in Records Manager

When we install the Records Manager, we select to install the default file plan. Therefore, a file plan is available for us to use. Figure 7-20 shows a view of the default file plan. If you do not have a file plan in the Records Manager system, you must create one.

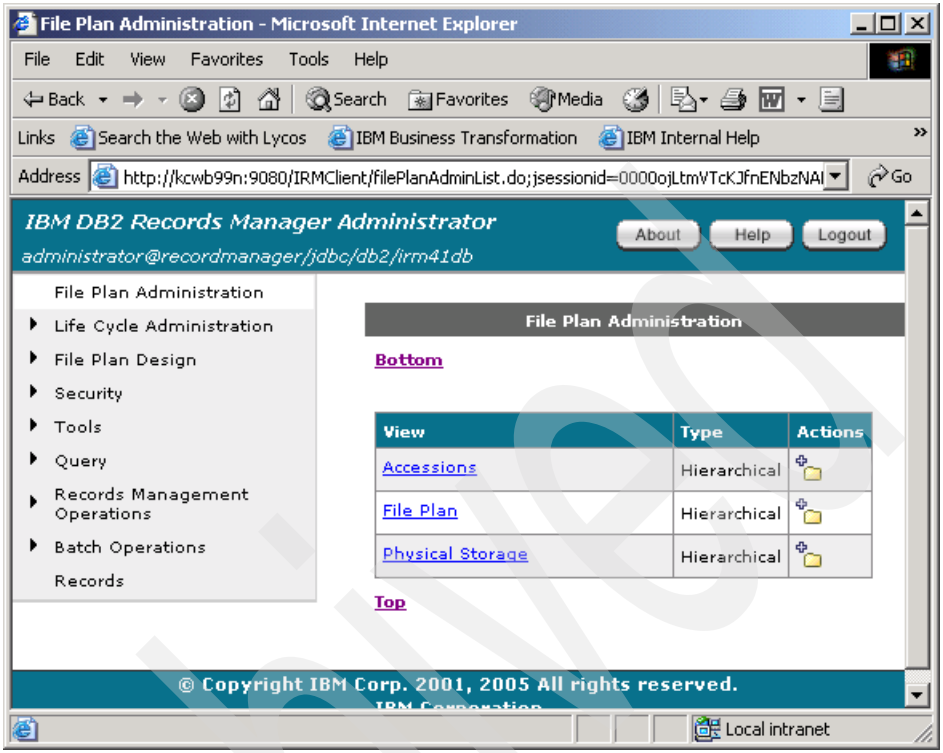

Figure 7-20 Default file plan

When you configure CMRE to do manual declaration, it asks you to provide the name of a Set view. If your file plan does not have a Set view, you need to create one. We create a Set view because the default file plan does not have a view of type Set. CMRE use the Set view to manage versions. We call the Set view that we create, CMRESET, see Figure 7-21.

Refer to *Records Manager Records Administrator's Guide*, SC18-9180, for a detailed instruction about how to create a file plan and a Set view.

You can also follow the case study implementation from Chapter 8, "Basic Document Manager implementation" on page 239 to Chapter 11, "Other record declaration options in Document Manager solution" on page 399 to learn how to create them.

.

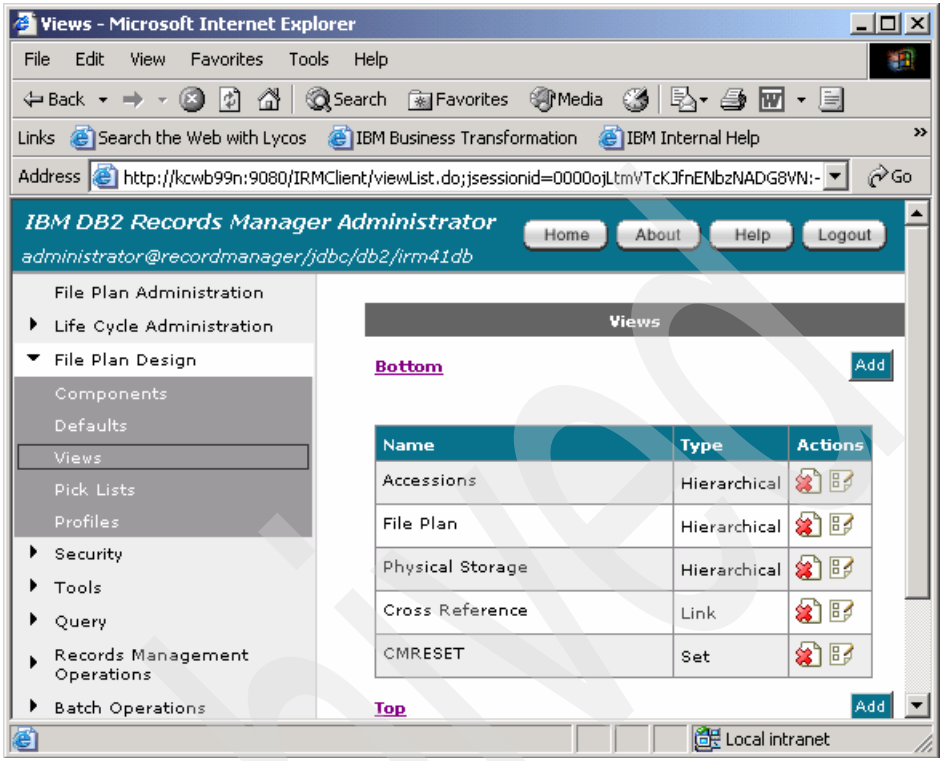

Figure 7-21 File plan views

Set up a Content Manager user in Records Manager

You need to import a Content Manager user into Records Manager and grant the user function access and permission to perform record declaration and classification. This Content Manager user should not have the ItemSuperAccess privilege in its privilege set.

Refer to the *Records Manager Records Administrator's Guide*, SC18-9180, for detailed instructions about how to import a user and grant the user function access and system permission.

.

Note: The instruction about how to import a host user does not mention that you need to select the **Is Active** check box. However, you must to select the **Is Active** check box; otherwise, the user cannot perform the records function.

We created the user ID, RMETUSER. We assigned to RMETUSER the RMEClientAllPrivs privilege set and the RMEClientACL as its ACL. We added the RMETUSER and RMEClientAllPrivs pair to the PublicReadACL ACL. We imported the RMETUSER to Records Manager.

Create an eRecords-enabled Content Manager item type

For testing purposes, we created a simple item type in Content Manager. We call it CMTestItemType. Table 7-8 shows the properties of CMTestItemType.

Table 7-8 CMTestItemType properties

Tabs	Properties
Definition	item type classification: Document
Access Control	ACL: PublicReadACL
Attributes	SSName
Document Management	ICMBASE: ► ACL: PublicReadACL ► Records Manager: rmdb ► Collection: CBR.CLLCT001 ► Version: Never create ICMBASETEXT: ► ACL: PublicReadACL ► Records Manager: rmdb ► Collection: CBR.CLLCT001 ► Version: Never create

Steps to eRecords-enable CMTestItemType:

1. Log on to the Records Enabler Administrative Client as `rmeadmin`.

Note: We recommend that you create a Content Manager user ID that has the following characteristics to use as the user ID for logging into the CMRE Administration Client to perform the various CMRE administrative tasks:

- This Content Manager user ID does not need any explicit Content Manager permissions.
- Assign to this user ID the privilege set NoPrivs and the ACL NoAccessACL.

When this user logs into the CMRE Administration Client, the CMREID user ID will be used under the covers to perform any necessary Content Manager configurations. After you create this user, you need to import it into Records Manager and give it the System Configuration Management function access. This user does not require any other Records Manager permissions to use the CMRE Administration Client.

In our solution, we create the Content Manager user ID, RMEADMIN, for this purpose.

2. Select the **eRecord enable Item Type** link.
3. Under the column **Select**, click the check box next to the item type you want to eRecords-enable.

   In our system, it is CMTestItemType.
4. Under the column Record Type, click the pull-down list and select the record type.

   In our system, it is **Document**.
5. Click **Enable**.

CMRE adds the following attributes to the item type after it eRecords-enables the item type:

```
eRecord
eRecordID
FlPlnCmpntNm (display name = Document Name)
FlPlnCmpntTtl (display name = Subject)
RMEAclOri
```

Map CM attributes to Records Manager attributes

After you eRecords-enable the item type, map the attributes of the Content Manager item type to the Records Manager record type. CMRE uses the attribute mapping information to know which attributes from the Content Manager

item type to copy into which attributes in Records Manager when it performs record declaration and classification.

In our demonstration system, for CMTestItemType, we map:

- Content Manager attribute FIPlnCmpntNm to Records Manager's Document record attribute Document Name.
- Content Manager attribute FIPlnCmpntTtl to Records Manager's Document record attribute Document Title.

Steps to map the Content Manager attributes to Records Manager attributes:

1. Log on to the Records Enabler Administrative Client as `rmeadmin`.
2. Select the **Attribute Mapping** link.
3. Select the Record type from the drop-down list.

   In our system, we select **Document**.
4. Select **Add Mapping**.
5. In the Content Manager attribute name, select the Content Manager attribute you want to map.

   In our system, we select **Document Name** which is the display name of FIPlnCmpntNm.
6. Select **Map**.
7. In the **Records Manager attribute name**, select the Records Manager attribute.
8. Select **Map**.
9. Repeat steps 2 to 8 until you finish mapping all the attributes you want to map.

Define the default classification

To enable manual record declaration and classification, complete the CMRE manual record declaration and classification configuration.

Steps to configure the CMRE manual record declaration and classification:

1. Log on to the Records Enabler Administrative Client as `rmeadmin`.
2. Select the **Manual Declare and Classify Configuration** link.
3. On the pull-down list next to **Should classification be filled in automatically?**

   Select **Yes** if you want the auto-classification rules to be executed. This can result in a set of candidates for classification which are listed in the classification field on the manual declare window. If no candidates are

identified, there will be nothing listed in the classification field, unless a default classification is specified. Select **No** if you require the user to provide the classification.

In our system, we select **Yes**.

4. On the pull-down list next to Version View Name select the Set view name that you have defined.

   In our system, we select **CMRESET**.

5. Select **Save**.

To enable automatic declaration and classification, complete the CMRE auto declare and classify configuration.

Steps to configure the CMRE auto declare and classify configuration:

1. Log on to the Records Enabler Administrative Client as `rmeadmin`.
2. Select the **Auto Declare and Classify Configuration** link.
3. Fill in the choices. In our system, Table 7-9 shows the values we use.

Table 7-9 Parameters for auto declare and classify configuration

Parameters	Values
If no possible candidates	Use default classification.
More than one possible candidate	Use default classification.
More than one with the same highest weight:	Use default classification.
Default classification:	//File Plan/File
Default record type	Document
Polling interval	600

4. Click **Save**.

Note: Polling interval means the number of seconds between checking for the next available item in the automatic classify queue. For example, in Document Manager, if you select to do Quick Declare with automation (not By Selection or By Properties), the system adds an entry into the automatic classify queue. The document does not get declared as a record right away, it gets declared when the process that handles the auto-classification runs. The polling interval determines the frequency at which the auto declare process runs. When the auto declare process runs, it declares and classifies the document. One way to know that the document is successfully declared as a record is if you see the padlock icon next to the document when you view it through the Document Manager Desktop, or if you see the document appear in the classification path through the Records Manager Administrative Client. If you do not see the expected result and the elapsed time is much longer than the value set for the polling interval, then you need to troubleshoot the problem by checking the various log files.

There are multiple indicators on the Document Manager Desktop to show that a document has been declared, such as the padlock icon. You must activate the padlock icon before it will display.

Verifying record declaration using CM Windows client

After you have completed the tasks laid out above, you are now ready to verify record declaration using the Content Manager Window Client.

Steps for manually declaring an item as a record:

1. Log on to Content Manager Window Client as the user you have imported into Records Manager.

   In our system, the user is RMETUSER.

2. Use the import command to add a few records into the item type that you have eRecords-enabled.

   In our system, the item type is CMTestItemType.

   We mapped the attributes Document Name and Subject. During the import, we enter values for these two attributes.

3. Do a basic search to get a result list of records that you have added to the eRecords-enabled item type.
4. Select a record.
5. Right-click and select **Declare Record**.
6. The Records Manager manual declare window appears. In our system, the only required field is Document Name. It is pre-filled with the value from the

Document Name attribute of the CMTestItemType because of the mapping that we set up earlier.

7. Click **Finish**.

If the record is declared successfully, the isRecord attribute contains the value **yes** and the RecordID attribute contains a record ID assigned by Records Manager.

Congratulations! You have successfully installed and configured Content Manager, Records Manager, and RME for records declaration and classification.

Note: When we install the Records Manager, we choose to install the default file plan and we use the Records Manager default file plan to perform a quick verification test against Content Manager, Records Manager, and RME. However, when we start to implement our solution, we choose to delete the default Records Manager file plan. In other parts of this redbook when we describe our solution, you see us refer to different parameter values. For example, for our solution, the Default classification parameter in Table 7-9 on page 185 is `//ZXY Technologies/Default/Unclassified Proposals` and not `//File Plan/File`.

7.10 Fix pack installation

This section covers Fix Pack 1 installation for CM V8.3, Information Integrator for Content V8.3, Records Manager V4.1.2, and CMRE V8.3. The installation is relatively straightforward.

Server 1 (Content Manager)

Install the fix pack in the following order:

1. Follow the Content Manager V8.3 Fix Pack 1 Readme file to install Fix Pack 1 for Content Manager V8.3.
2. Follow the Content Manager V8.3 Client for Windows Fix Pack 1 Readme file to install the Fix Pack 1 for the Content Manager Client for Windows.

Server 2 (Records Manager)

Install the fix pack in the following order:

1. Follow the Content Manager V8.3 Fix Pack 1 Readme file to install Fix Pack 1 for Information Integrator for Content V8.3.
2. Follow the Records Manager V4.1.2.100 Installation Guide to install Records Manager V4.1.2 Fix Pack 1.

3. Follow the Content Manager Records Enabler V8.3 Fix Pack 1 Readme to install the CMRE V8.3 Fix Pack 1.

7.11 DM installation and configuration

In this section, we discuss installation and configuration of Document Manager.

7.11.1 Before installation

Before installing Document Manager, make sure you install the prerequisites.

Optional software prerequisites

We recommend that you have Content Manager Windows Client installed and fully operational in the machine that you intend to install Document Manager for Content Manager Library Server and Resource Manager connection verification purposes.

In this case, you should install the following components:

- DB2 Runtime Client V8.2 Fix Pack 10
- Content Manager Windows Client V8.3 Fix Pack 1

To verify it is fully operational, log in as Content Manager administrator user (by default, it is icmadmin) and load an image into the NOINDEX Item Type, then, make a search of that image and open it with the default Content Manager viewer.

Document Manager software prerequisites

Before installing Document Manager, ensure you installed the following components and they run properly:

1. In order to install Document Manager, you must have a content repository installed in the same, or different machines, such as Content Manager V8.3 Fix Pack 1 server.
2. For Document Manager server connection to Content Manager server, you must have a Information Integrator for Content V8.3 Fix Pack 1, Content Manager V8 Connector installed in the same machine where you install Document Manager.
3. For Document Manager Desktop client deployment, you must have an HTTP Server installed in the same, or different machine such as the IBM HTTP Server V6.0.
4. Document Manager must be installed in a Windows 2000 Server SP 4 or further or Windows 2003 Server.

Note: We strongly recommend you read the Document Manager product documentation, such as Readme files, to check for any change or additional prerequisite necessary before installation.

Preconfiguration in Content Manager

Before installing Document Manager, complete certain Content Manager configuration steps:

1. First, create a Content Manager user called DDMService using the Content Manager Administration Client under **Authentication** → **Users**, and assign it the following configuration:
   - Password never expires
   - SysAdminSuper Privilege Set
   - SuperUser ACL
2. Within the Content Manager Administration Client, under **Data Modeling** → Attributes section, create the following attributes (Table 7-10).

Table 7-10 Document Manager system attributes

Name	Display name	Min	Max	Type
DM_Class	Class	0	32	Extended Alphanumeric/ Variable Character
DM_State	State	0	32	Extended Alphanumeric/ Variable Character
DM_Revision	Revision	0	12	Extended Alphanumeric/ Variable Character
DM_Properties	Properties	0	8	Extended Alphanumeric/ Variable Character
DM_Number	Unique Number	0	12	Extended Alphanumeric/ Variable Character
DM_Date	Date			Date
FileName	FileName	0	256	Extended Alphanumeric/ Variable Character

7.11.2 Document Manager installation

To install Document Manager, use the following steps:

1. In the Document Manager server machine, open the Windows Computer Management program, go to the **System Tools** → **Users** folder and right-click the right panel to select **New User** as shown in Figure 7-22.

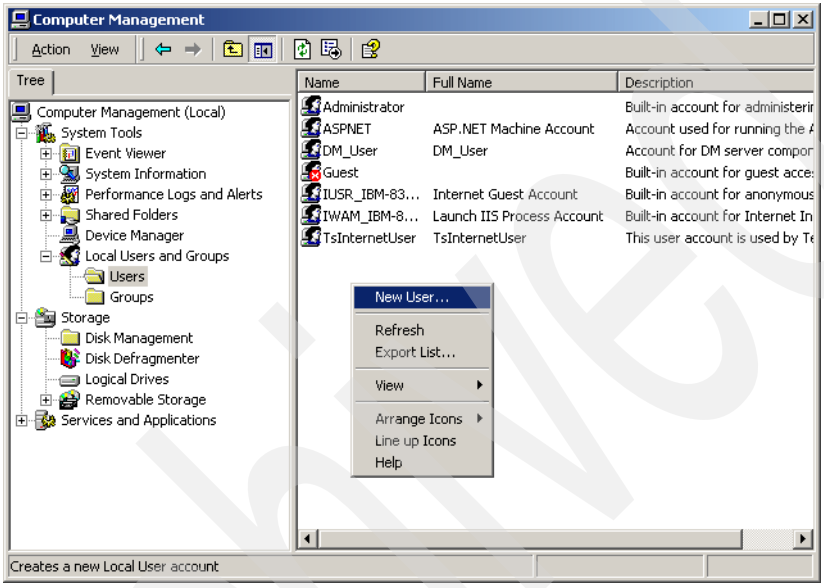

Figure 7-22 Windows Computer Management application

2. In the new window, create a user called **DDMService** and be sure you use the same password that you used in “Preconfiguration in Content Manager” on page 189 and check the box next to **Password never expires** as shown in Figure 7-23. When you finish, click **Create**.

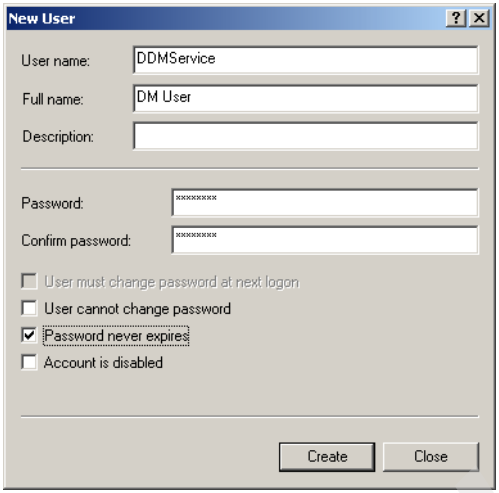

Figure 7-23 Creating DDMService user

3. Back in the Windows Computer Management program, in the right pane, double-click **DDMService** user, select **Member Of** tab in the new window and click **Add** and add it to the **Administrators** user group as shown in Figure 7-24.

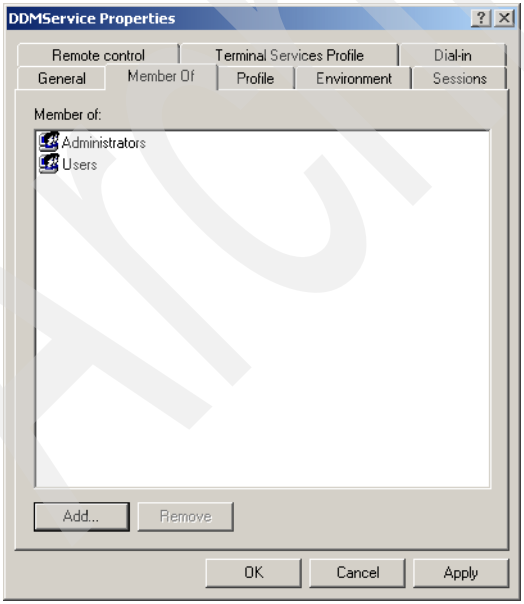

Figure 7-24 Adding DDMService user to Windows Administrators user group

4. Now, open the **Local Security Settings** Windows program, and go to **Security Settings** → **Local Policies** → **User Rights Assignment** as shown in Figure 7-25.

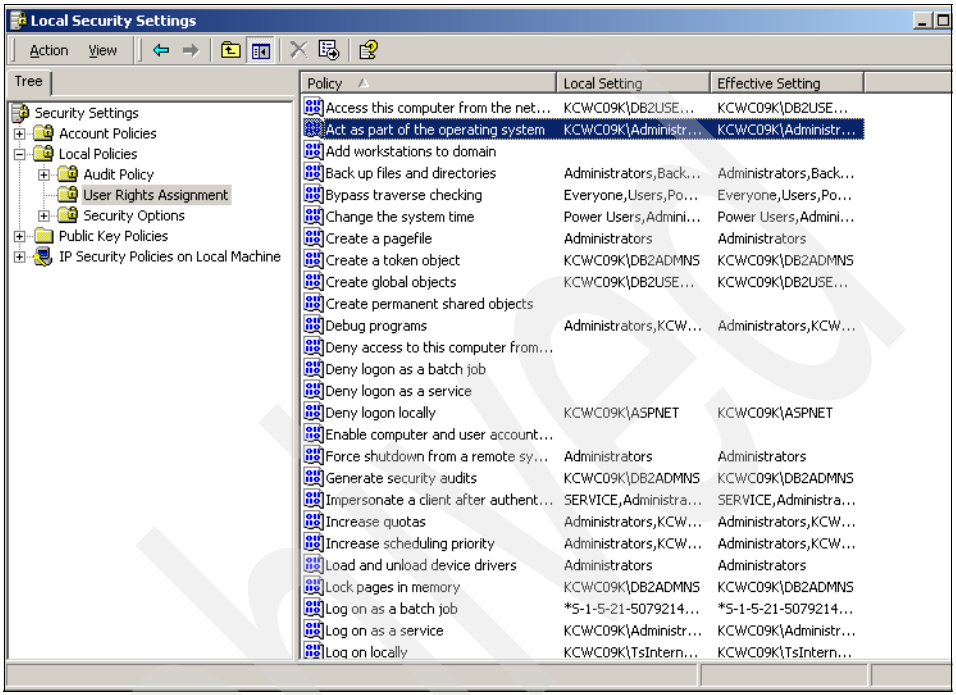

Figure 7-25 Windows Local Security Settings application

5. Then, double-click in the following policies and add **DDMService** user to these policies, using **Add** as shown in Figure 7-26.

- Act as part of the operating system.
- Create a token object.
- Increase memory quotas for a process.
- Replace a process-level token.

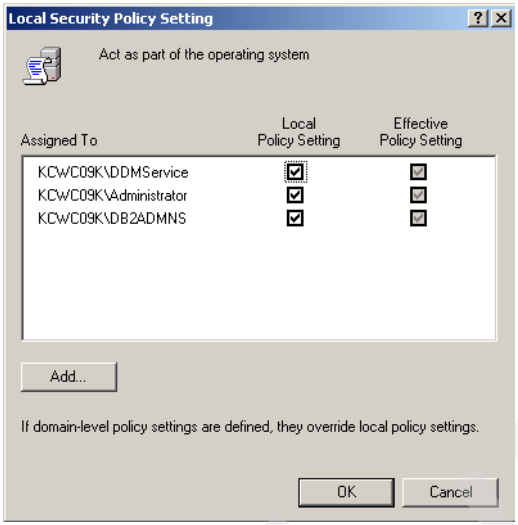

Figure 7-26 Adding DDMService user

Tip: In case you installed Content Manager Windows Client, use **DDMService** user to log on to it and verify you can connect, add, and open images from and to the Content Manager repository.

6. Now you can start with the Document Manager Server installation by double-clicking the DB2 Document Manager installation application. When prompted for Choose Setup Language, select the default language (English) as shown in Figure 7-27 and click **OK**.

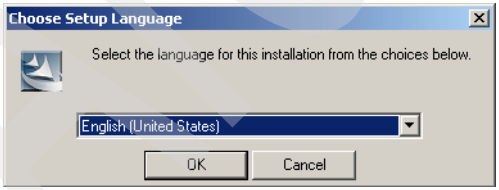

Figure 7-27 Document Manager language selection window

7. In the next window, click **Next,** as shown in Figure 7-28.

Figure 7-28 Document Manager welcome window

8. Accept the license agreement as shown in Figure 7-29 and click **Next**.

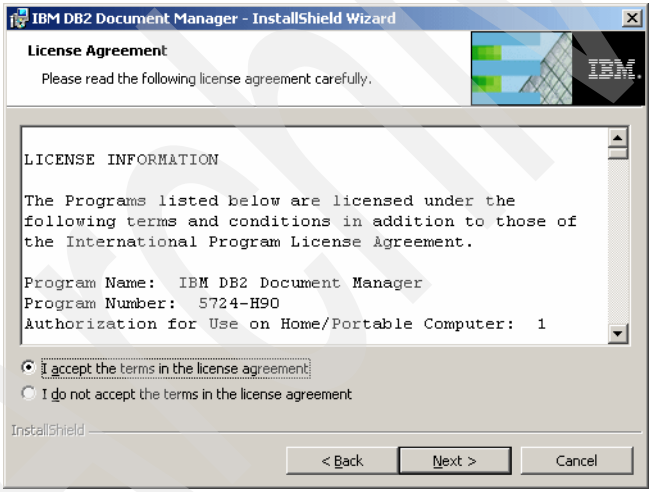

Figure 7-29 Document Manager License Agreement window

9. Leave the default installation directory as shown in Figure 7-30 and click **Next**.

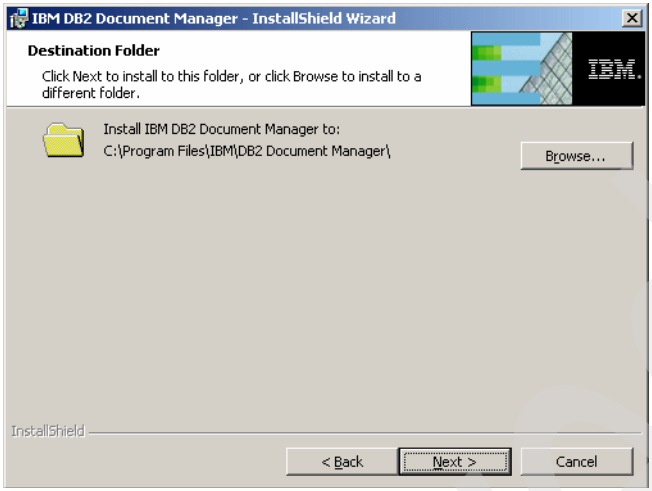

Figure 7-30 Document Manager installation path window

10. In the following window, be sure to select all components to install as shown in Figure 7-31 and click **Next**.

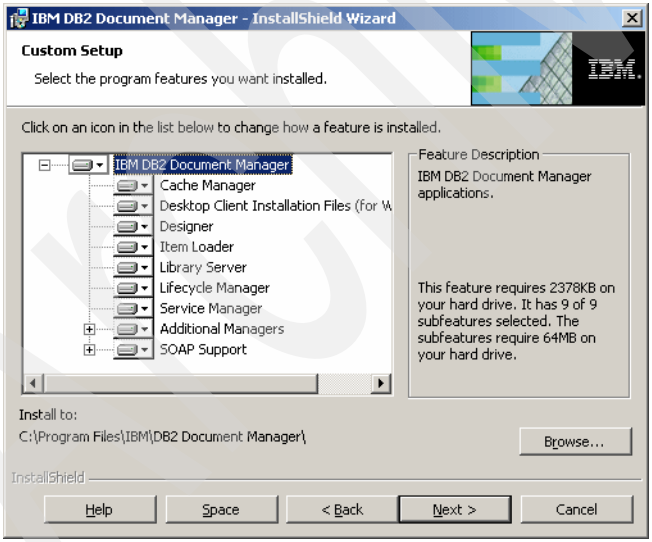

Figure 7-31 Document Manager component selection window

11. Now click **Install** as shown in Figure 7-32.

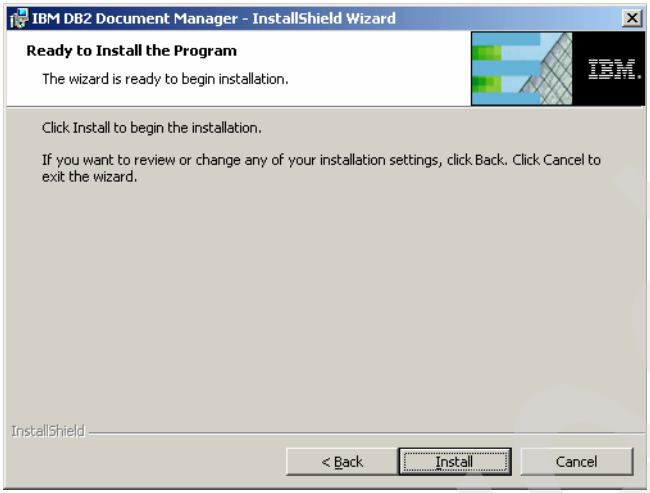

Figure 7-32 Document Manager start installation window

12. When the installation process finishes, click **Finish** as shown in Figure 7-33.

Figure 7-33 Document Manager finish installation window

Note: Although we selected all the Document Manager components to install, SOAP support, configuration, and some Additional Managers (Document Manager Services) are beyond the scope of this IBM Redbook.

13. Once the Document Manager server installation process finishes, go to the Document Manager installation directory (for example: `C:\Program Files\DB2 Document Manager`), open the file **DdmCaSrv.ini** in a text editor like Windows Notepad text editor and configure it as in Example 7-1(to achieve this, you can copy the section **[Library_Sample CM]** in the same file, and uncomment the lines by deleting all the semicolons).

Example 7-1 DdmCaSrv.ini file configuration

```
[LibraryGroups]
Group0=Default

[LibraryGroup_Default]
Library0=DMLibrary

[Library_ DMLibrary]
LibraryName= DMLibrary
LibraryType=ContentMgr
GPSLibraryMachine=KCWC09K
GPSLibrarySOAPServerURL=
AutoLogin=Yes                    <- Forced to No by Cache Service.
AllowNetworkLogin=No             <- Not used by Desktop.
Disabled=No                      <- Forced to No by Cache Service.
EnableLogging=Yes
EnableVerboseLogging=No
LibrarySystem=icmnlsdb
GPSClientCacheMachine=
GPSLibraryServerCacheMachine=
SaveLogin=No                     <- Forced to No by Cache Service.
MaxLogFileSizeInK=64
SSOCredentialsURL=
```

Tip: The only fields you must change according to your own environment are:

- Library0: This can be any name you want.
- Library_: This is the same as Library0.
- LibraryName: The is the same as Library0.
- GPSLibraryMachine: This is the host name of the server machine.
- LibrarySystem: This is the Content Manager Library Server database name.

14. Now, open the Document Manager Designer shown in Figure 7-34.

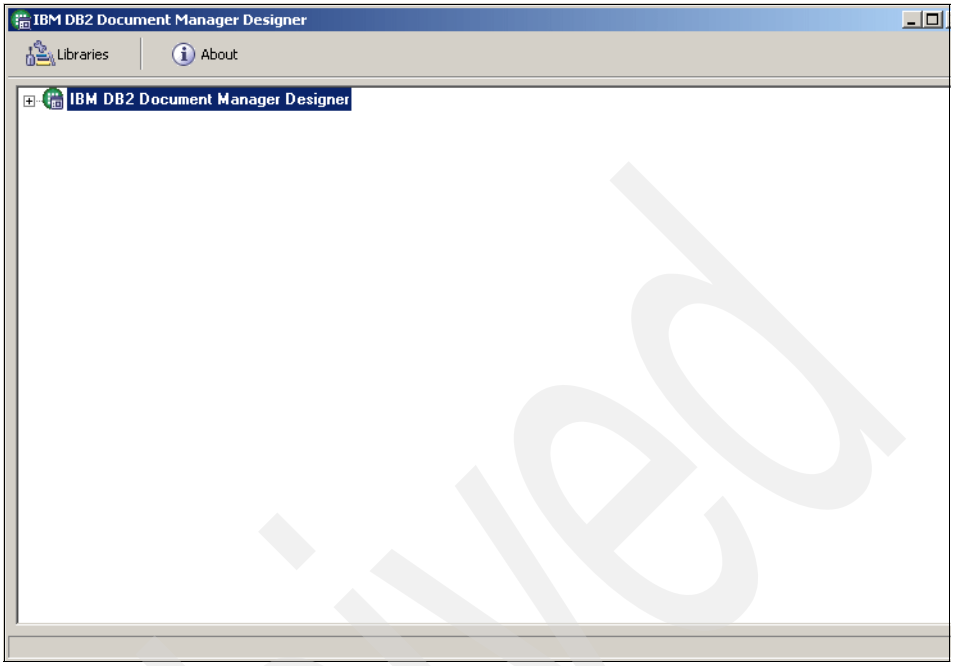

Figure 7-34 Document Manager Designer window

15. Click **Libraries** and in the new window, click **Add** to configure a new library as shown in Figure 7-35.

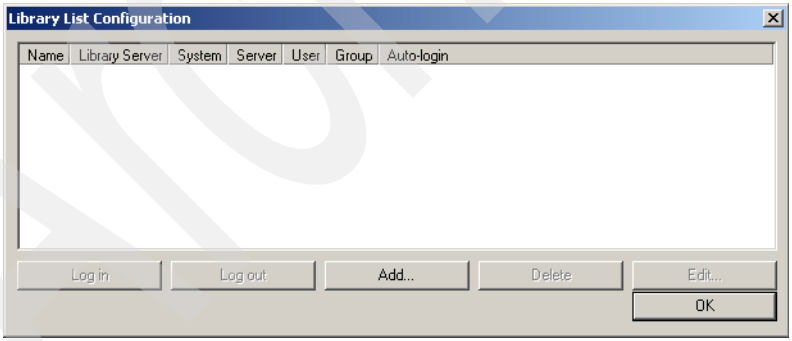

Figure 7-35 Document Manager libraries configuration window

16. In the new window, configure the fields as shown in Figure 7-36 and when finished, click **OK**.

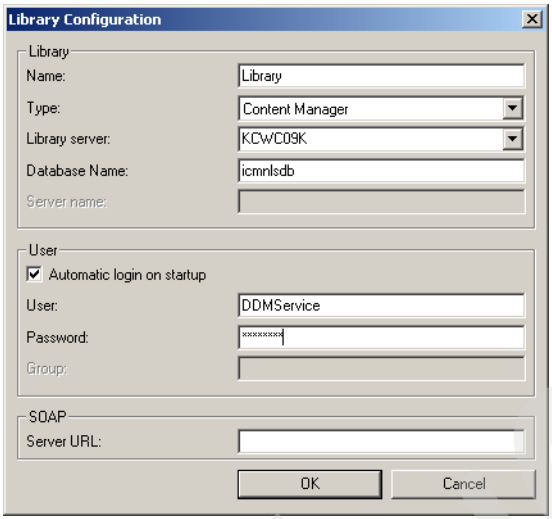

Figure 7-36 Document Manager Library Configuration window

17. In the **Library List Configuration** window in Figure 7-37, you should see the values you configured and click **OK** to exit.

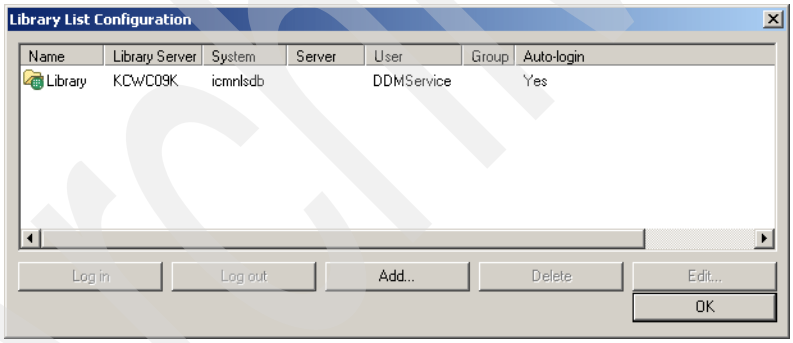

Figure 7-37 Document Manager libraries configuration window

18. Now, in the **IBM DB2 Document Manager Designer** window, you should see a new folder called *your library name* with other tree folders under it as shown in Figure 7-38.

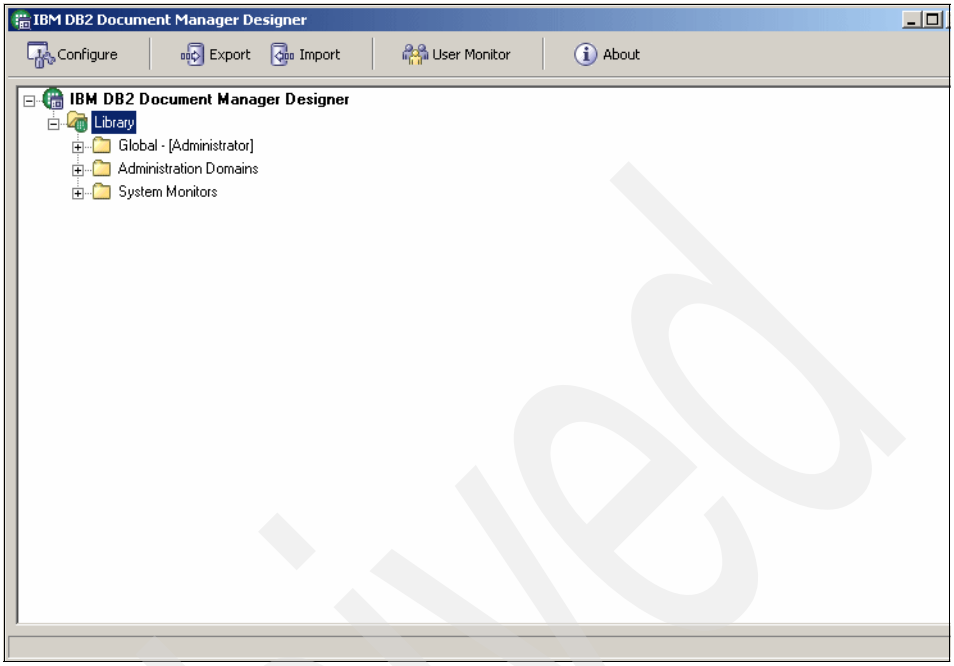

Figure 7-38 Document Manager Designer window with a configured library

19. Go to **Library** → **Global** → **Desktop**, right-click **Library Configuration** and select **Modify** as shown in Figure 7-39.

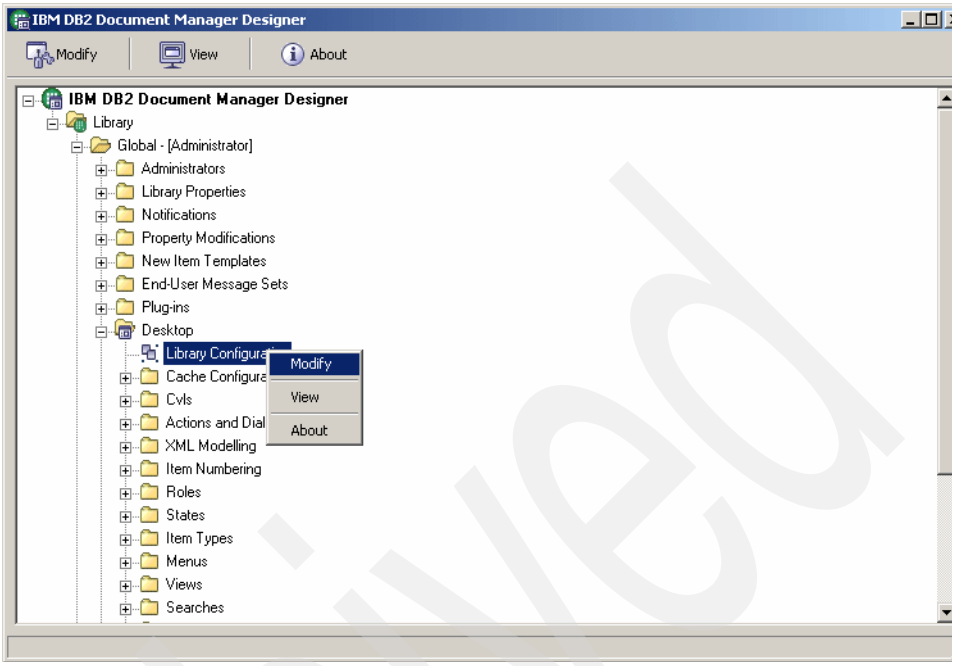

Figure 7-39 Document Manager library configuration parameters

20. In the new window, under the **Properties** tab, configure the following fields as shown in Figure 7-40.

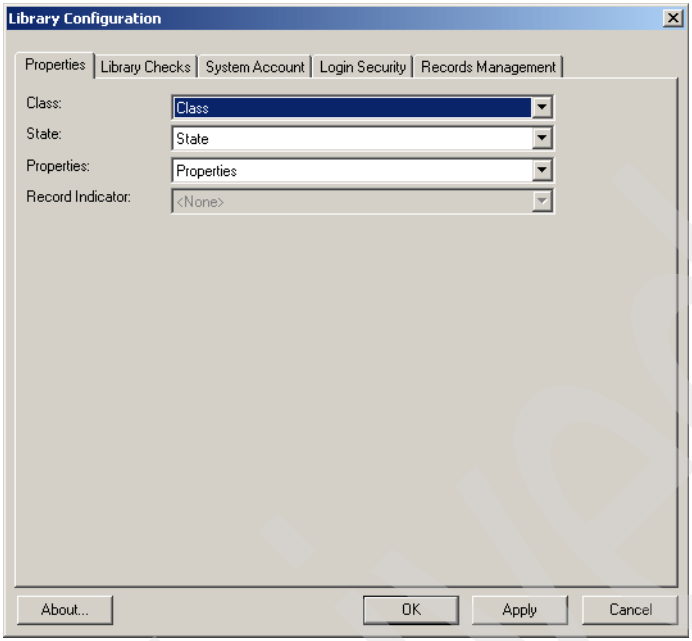

Figure 7-40 Library general configuration tab

21. Go to **Library Checks** tab and verify you have the same values as in Figure 7-41.

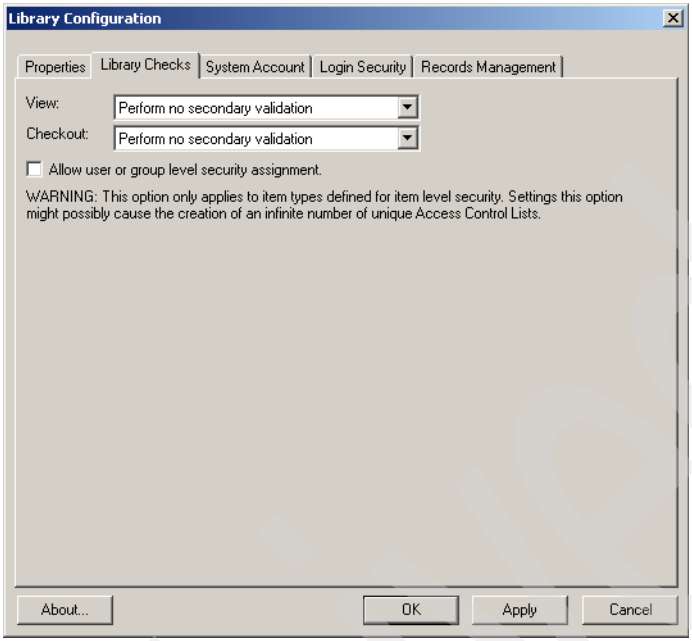

Figure 7-41 Library checks configuration tab

22. In the **System Account** tab, capture the user name **DDMService** and its password as shown in Figure 7-42.

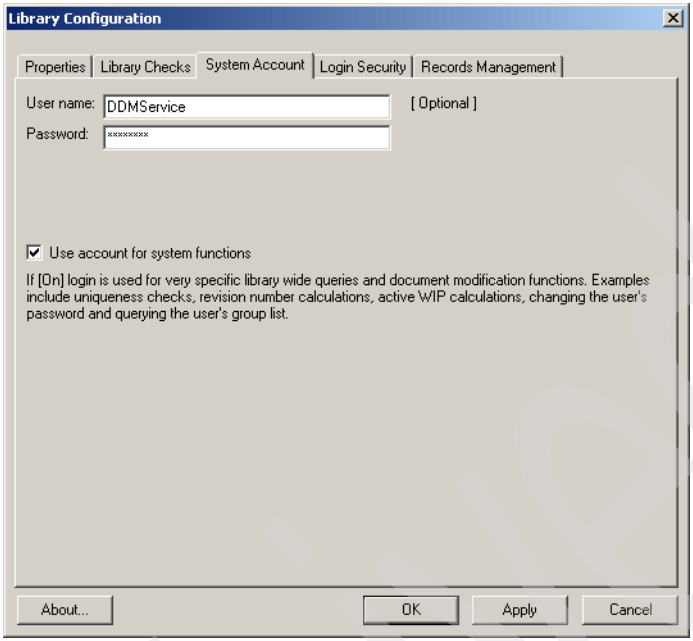

Figure 7-42 Library system account configuration tab

- Under the **Login Security** tab, verify you have everything unchecked as shown in Figure 7-43.

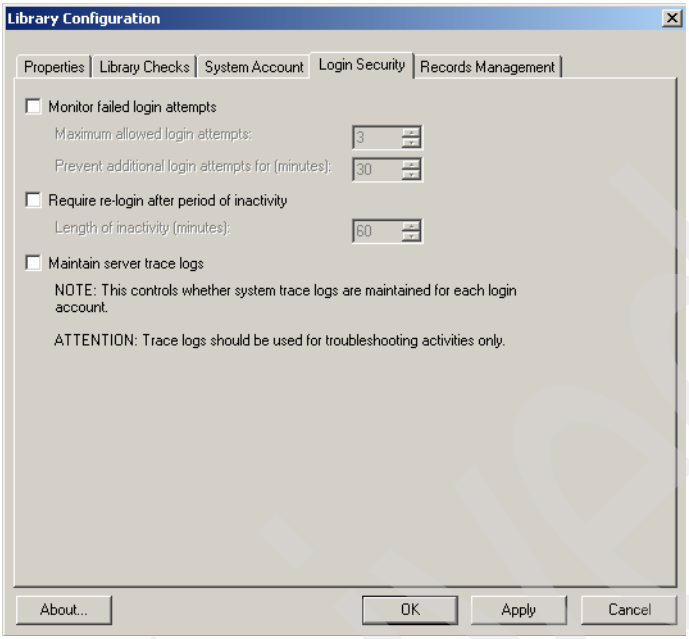

Figure 7-43 Library login security configuration tab

23. Finally, in the **Records Management** tab, you do not need to enter anything as shown in Figure 7-44. Click **OK** to exit.

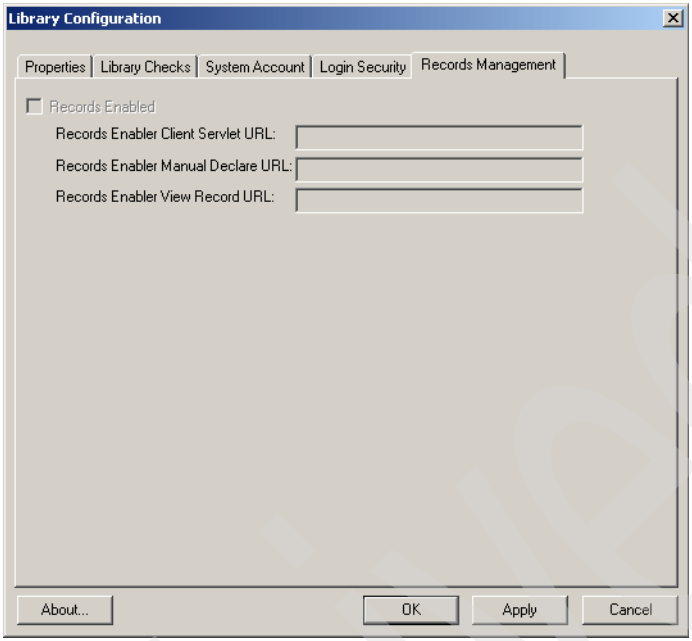

Figure 7-44 Library records manager configuration tab

Important: The Library Configuration for Records Manager can appear disabled if you have not completed the Records Manager configuration step. Once it is finished, Document Manager automatically takes that configuration and you see it in Document Manager as shown in Figure 7-45 and Figure 7-46.

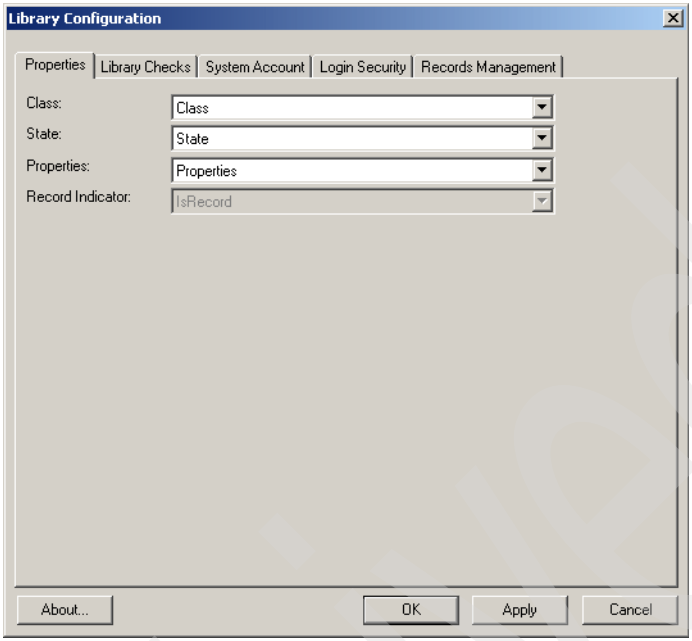

Figure 7-45 Library record indicator field in properties tab

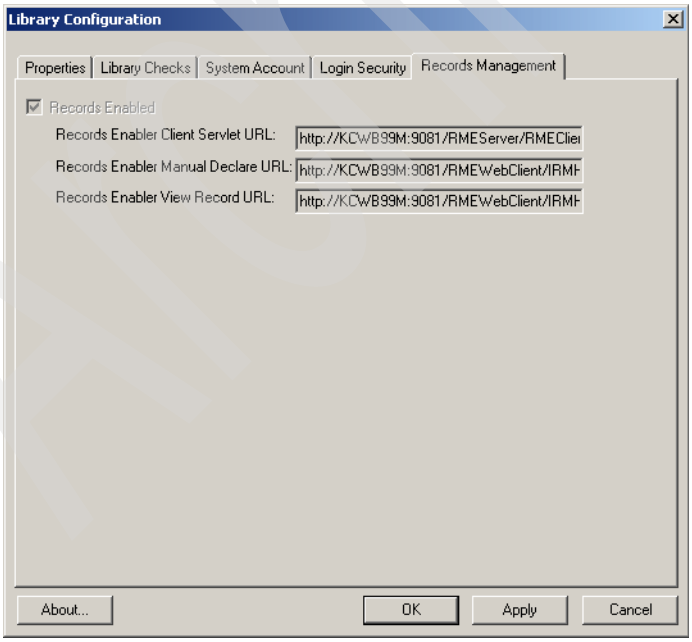

Figure 7-46 Library records manager configuration fields tab

24. Now, open the Document Manager Service Manager application as shown in Figure 7-47.

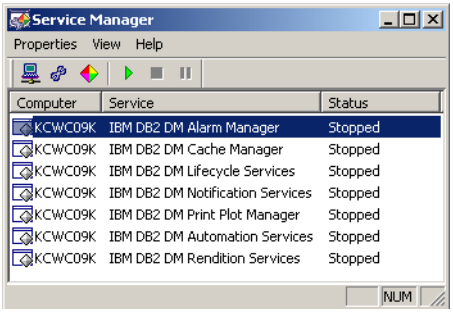

Figure 7-47 DM Service Manager window

25. Double-click **IBM DB2 DM Alarm Manager** service and click **Add** as shown in Figure 7-48.

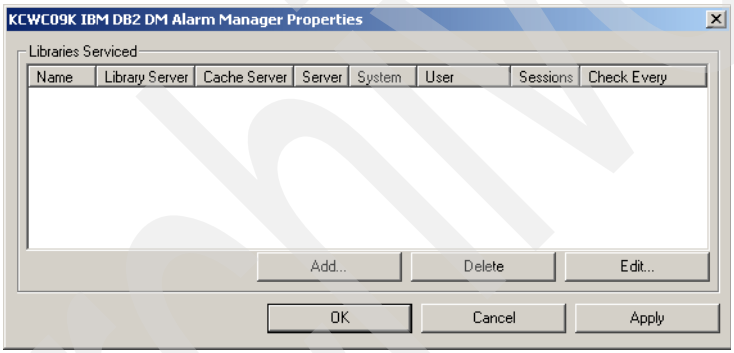

Figure 7-48 Alarm Manager configuration window

26. In the new window, configure the fields as shown in Figure 7-49 and click **OK** when finished.

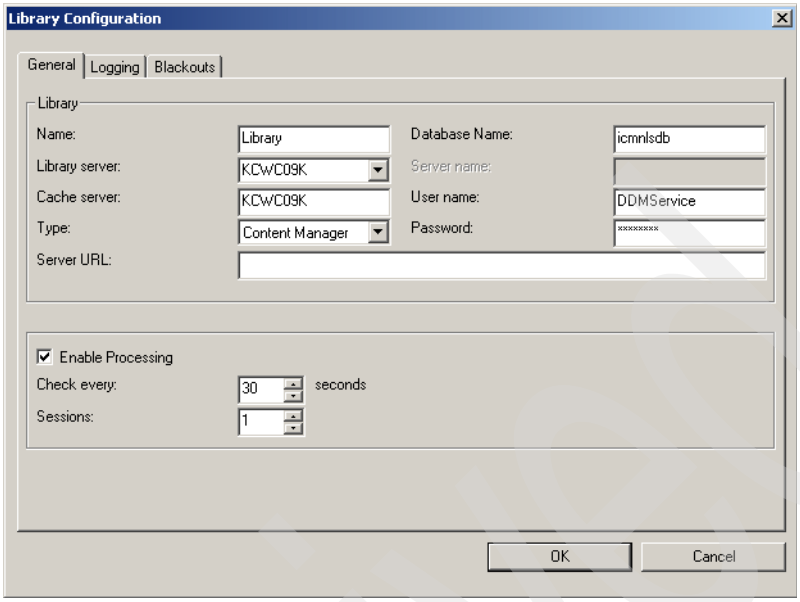

Figure 7-49 Alarm Manager configuration parameters window

27. You should now have the **IBM DB2 DM Alarm Manager Properties** window with the values you specified as shown in Figure 7-50. Click **OK** to exit this window.

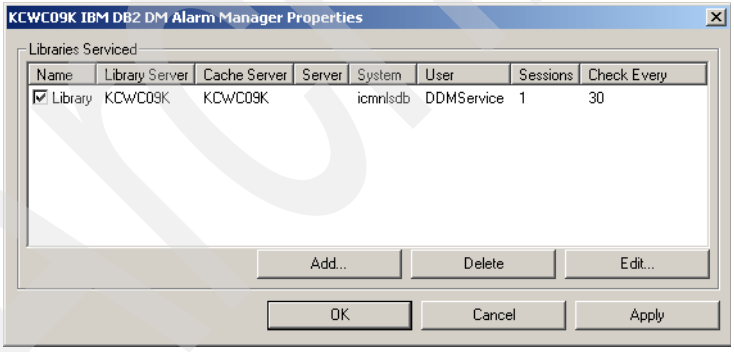

Figure 7-50 Alarm Manager configuration window with service configured

28. Now double-click **IBM DB2 DM Cache Manager** service as shown in Figure 7-51.

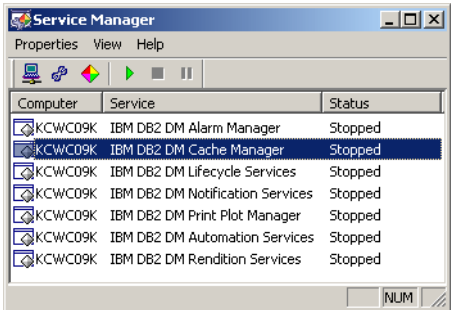

Figure 7-51 Document Manager Service Manager window

29. In the new window, click **Add** as shown in Figure 7-52 to configure this service.

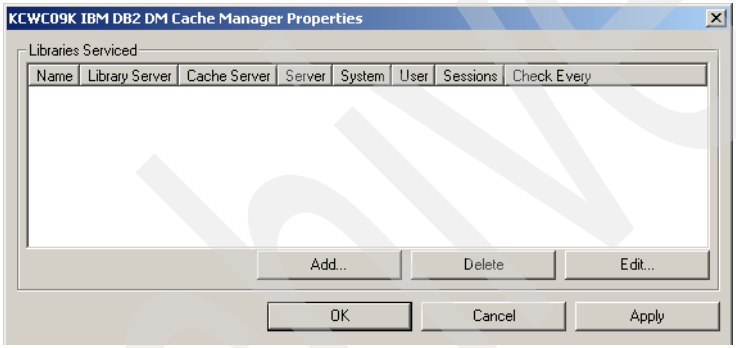

Figure 7-52 Cache Manager configuration window

30. Configure the fields as shown in Figure 7-53 and click **OK** when finish.

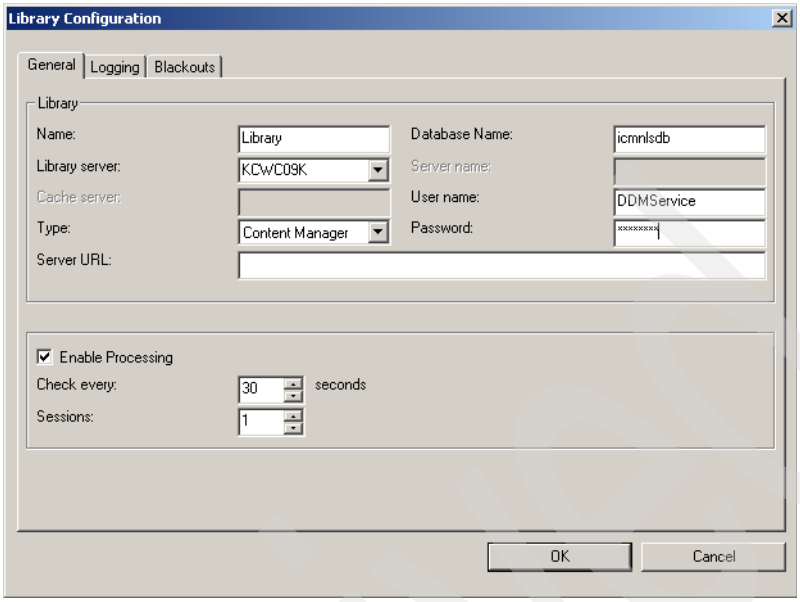

Figure 7-53 Cache Manager configuration parameters window

31. In Figure 7-54, the **IBM DB2 DM Cache Manager Properties** window displays the values you specified. Click **OK** to exit this window.

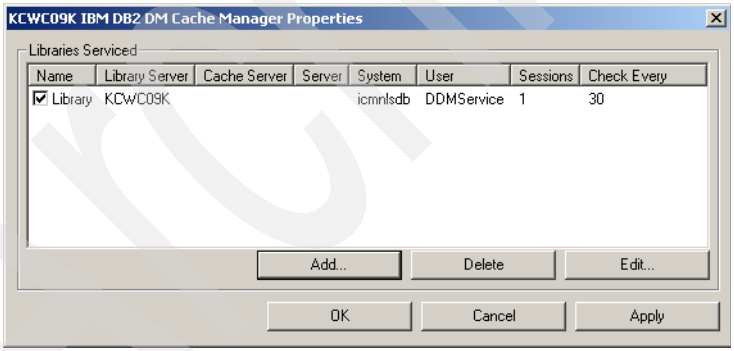

Figure 7-54 Cache Manager Configuration window with service configured

Note: We only show configuration steps for the Alarm Manager and Cache Manager services; nevertheless, the configuration for all the remaining services is the same as shown here and must be configured in the same way.

7.11.3 Post-installation steps for Document Manager server

After successfully performing the installation steps of Document Manager server, you need to install Document Manager Fix Pack 1. In order to install the Document Manager Fix Pack 1, follow this steps:

1. Follow the Content Manager V8.3 Fix Pack 1 Readme file to install Fix Pack 1 for Information Integrator for Content V8.3.
2. Verify that all Document Manager server services are stopped by opening the Document Manager Service Manager application and check that all services are in the **Stopped** state as shown in Figure 7-55.

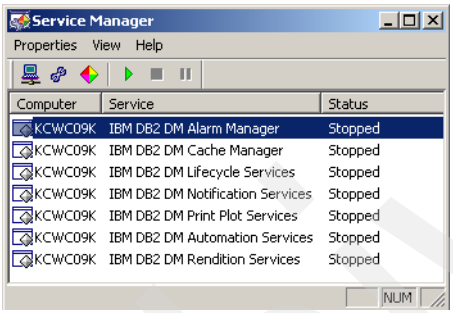

Figure 7-55 Document Manager Service Manager

Note: Be sure to read the Readme Fix Pack 1.txt file of the Document Manager Fix Pack 1 installation package before installing it to be aware of any additional considerations and fixes provided by this fix pack.

3. Execute the Document Manager Fix Pack 1 installation package and follow the installation wizard. The fix pack installation is pretty much the same as installing the product for the first time so you only need to accept all the default values.
4. After installing Fix Pack 1, verify that each Document Manager service is functioning correctly by executing each one with the green arrow start button in the Document Manager Service Manager application control panel. When you see any of the following messages, it means that the service is connecting to the library and working properly (Figure 7-56):
   - Process cycle complete.
   - Cache update finished.
   - Number of pending requests is [0].

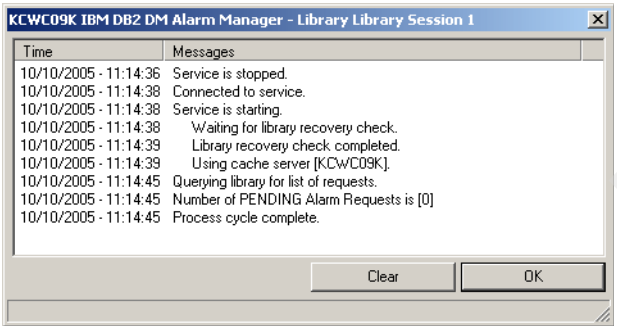

Figure 7-56 Document Manager alarm manager service

7.11.4 Separate Document Manager services to other machines

If resources are available, we recommend separating Document Manager services, especially the services which consume a lot of CPU and memory resources, such as Print/Plot and Rendition services, to other machines.

In this section, we explain how to install and configure a Document Manager Rendition service in a separate machine. The installation procedure for a service is the same as the normal Document Manager server installation. Here, we only point to the specific steps to install and configure the service. To separate other services in another machine, use the process described here, which is similar.

Installing Rendition service in a separate machine

To install the Rendition service in a separate machine, use the following steps:

1. Use the same Document Manager installation program to install the rendition service in a separate server.
2. When you get to the window where you select the components to install, select for each component, the **This feature will not be available** option, by clicking each component, except **Cache Manager**, **Service Manager**, and **Rendition Manager,** which are under the **Additional Managers** component. All these components must be selected using the option **This feature will be installed on local hard drive** while clicking the component as shown in Figure 7-57. After this, click **Next**.

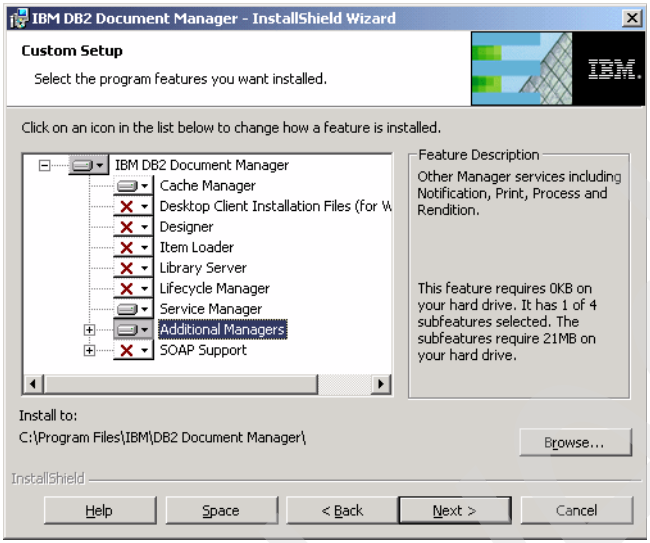

Figure 7-57 DM service components installation in a different machine

Tip: You are required to install the Service Manager component. For the best system performance, we recommend you also install the Local Cache Manager (even though it is optional) so that the local service will not need to connect to the remote Cache Manager every time it needs a server configuration.

3. Click **Install** and when the installation procedure finishes, click **Finish** to exit the installation wizard window.

Note: After installing the Document Manager service program in the new machine, do not forget to install the same fix pack level that is in the Document Manager server system.

4. Now, go to **Start** → **Programs** → **IBM DB2 Document Manager** → **Service Manager** as shown in Figure 7-58.

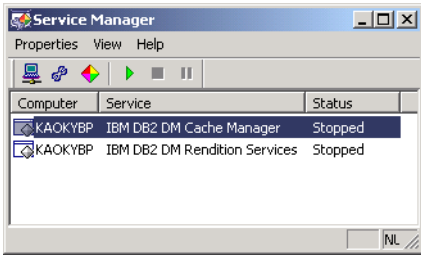

Figure 7-58 Service Manager application

5. Double-click **IBM DB2 DM Cache Manager** service to open the cache manager properties window and click **Add** to configure a new cache manager service. Configure the field with the information of your Document Manager server as shown in Figure 7-59. After you finish, click **OK** to exit the configuration window.

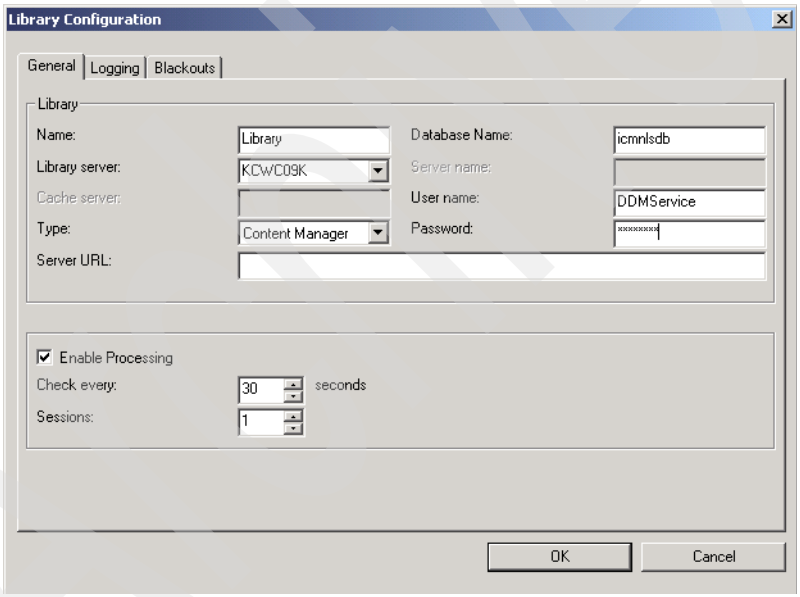

Figure 7-59 Cache manager configuration

Note: The **Name** field is the library name you configure in the Document Manager server and the **Library server** field is the host name of the Document Manager server machine.

6. Click **OK** to exit the configuration window and verify that the information you enter is the same as that shown in the properties window in Figure 7-60. Then click **OK** again to exit the **DM Cache Manager Properties** window.

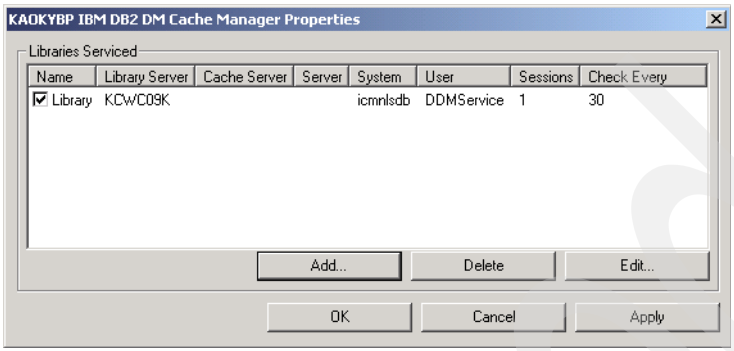

Figure 7-60 Cache Manager Properties window

7. Verify that the cache service works correctly by starting it with the green triangle icon in the Service Manager tool bar. If you see a message such as the last one shown in Figure 7-61, the configuration is successful.

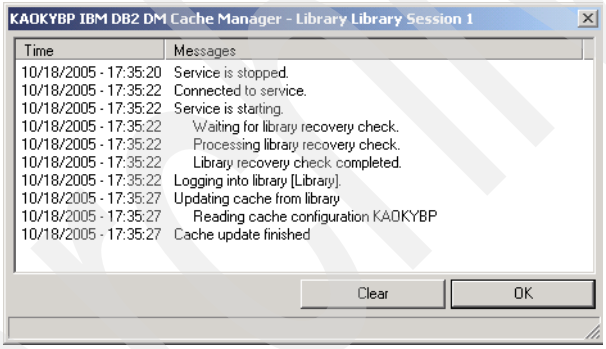

Figure 7-61 Successful service installation

8. Now, double-click **IBM DB2 DM Rendition Services** as shown in Figure 7-62.

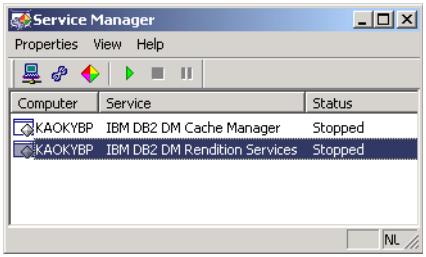

Figure 7-62 Service Manager application

9. Click **Add** to configure a new rendition service with the information shown in Figure 7-63. In the **Name** field, specify the Document Manager library name. In the **Library server** field, specify the server name where the Document Manager library is installed. In the **Cache server** field, specify the host name of the machine where you are installing the rendition service.

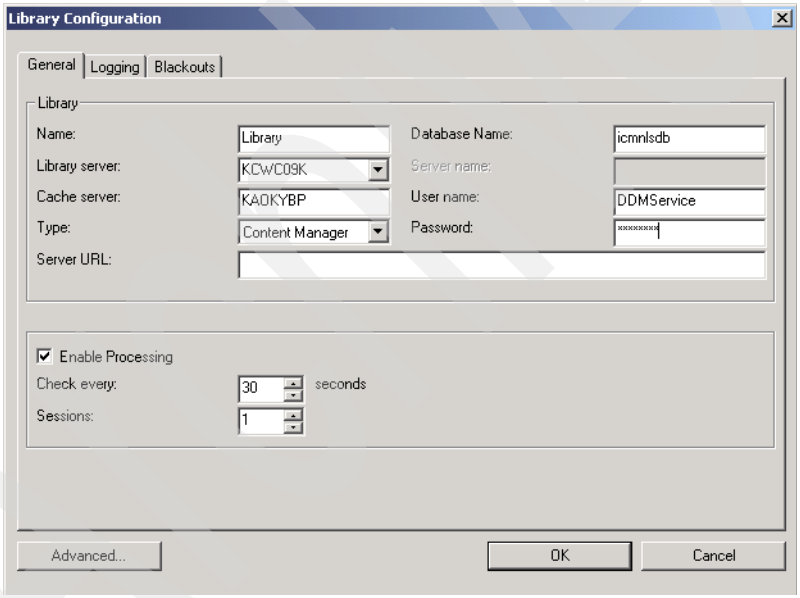

Figure 7-63 Remote rendition service configuration

Note: The **Name** field is the library name you configure in the Document Manager server, the **Library server** field is the host name of the Document Manager server machine, and the **Cache server** field is the host name of the local machine where you are installing the service.

10. If you already have rendition queues configured in the Document Manager Designer, you can click **Advance** to open the window where you configure the queues you want to process in this new rendition server (Figure 7-64). By highlighting the queue name, select **Yes** (to process that queue) or **No** (to not to process that queue), and click **Set** to apply the changes you configure the queues you want to process with this service. After this finishes, click **OK** to exit the Advance window configuration.

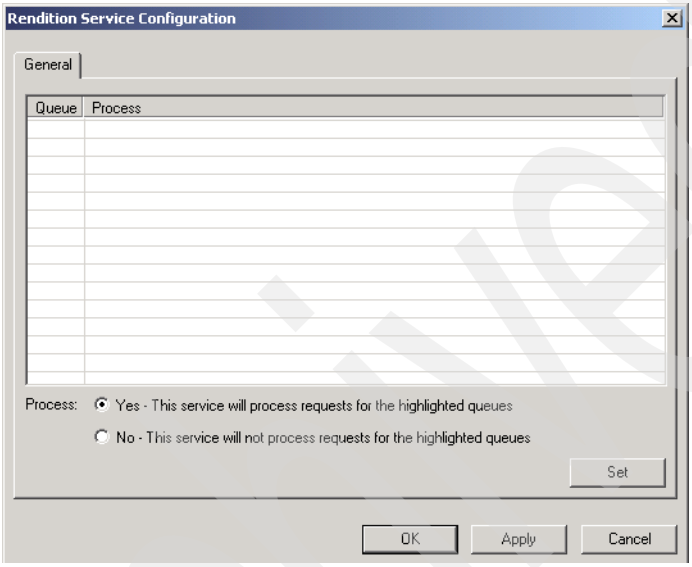

Figure 7-64 Advance service configuration window

11. Click **OK** to exit the configuration window and verify that the information you enter is the same as shown in the properties window (Figure 7-65). Then click **OK** again to exit the **DM Rendition Services Properties** window.

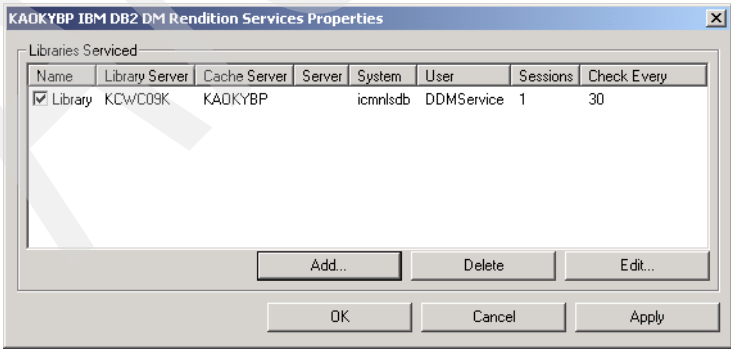

Figure 7-65 DM Rendtion Services Properties window

12. Verify that the rendition service works properly by starting it with the green triangle icon in the Service Manager tool bar. If you see the message **Number of pending requests is [0]** as in Figure 7-66, then the service is configured correctly.

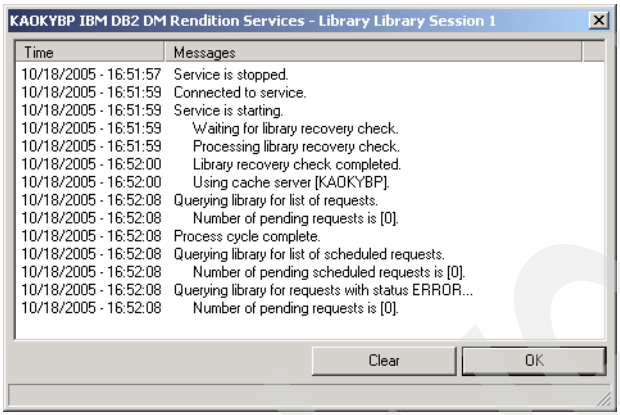

Figure 7-66 Remote rendition service successfully configured

Tip: Configuring Document Manager services in different machines helps the general system performance, because Document Manager server is not overloaded with services processing. Besides, with this configuration, you can specify which machine processes which services queue.

7.11.5 Document Manager Desktop client installation

Document Manager Desktop client is a ActiveX® control application that is hosted by a Microsoft Internet Explorer browser. An HTTP server is needed to download and access the Desktop client. Once the client is loaded, it creates a DCOM connection to the Document Manager server, and the HTTP server is no longer needed to run the desktop.

This architecture enables a fast client deployment and eases maintenance procedures, because you only need to access a URL to launch the client application. When there is an update for the client, you only copy the new client files to the HTTP server virtual directory, and when the user accesses the Desktop client's URL, this downloads the new files and installs them automatically in the client machine. In addition, this architecture uses fewer communication resources and reduces network traffic, because Desktop client is a stateless Web application. Each time the client needs to communicate with the server, it connects to the server.

HTTP server setup

Depending on the HTTP server you are using, you follow different procedures to create new virtual directories. In our case, we used IBM HTTP Server V6.0, so we used the following steps:

1. Go to the IBM HTTP Server installation directory, which by default is `C:\Program Files\IBM HTTP Server`, and under `htdocs\en_US` directory, create a new folder called **DM**.

2. Now, go to the IBM DB2 Document Manager server installation directory, which by default is `C:\Program Files\IBM\DB2 Document Manager`, and select and copy the following files as shown in Figure 7-67:

   ```
   default.htm
   ddmdsktp.htm
   ddmdsktop.cab
   ddminst.htm
   ddmdsktp.js
   ```

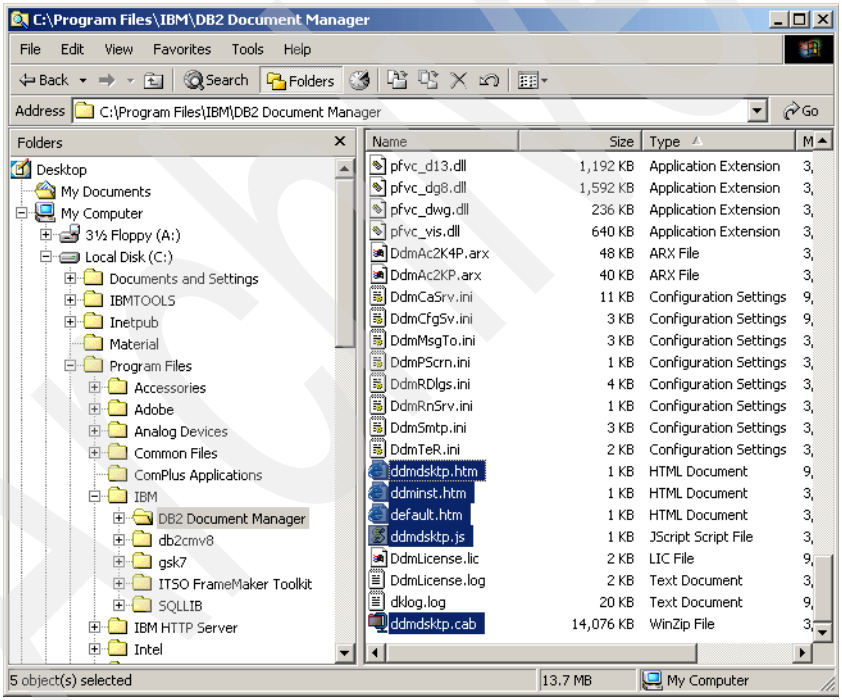

Figure 7-67 Document Manager Desktop client installation files

3. Paste the files to the **DM** directory you create in step 1 and rename the **default.htm** file to **index.html** as shown in Figure 7-68:

Note: If you are using the IBM HTTP Server or an Apache-like HTTP server, changing the **default.htm** file name to **index.html** enables you to reference the Document Manager Client URL as:

`http://kcwb99n/DM`

Otherwise, enter the URL as:

`http://kcwb99n/DM/default.htm`

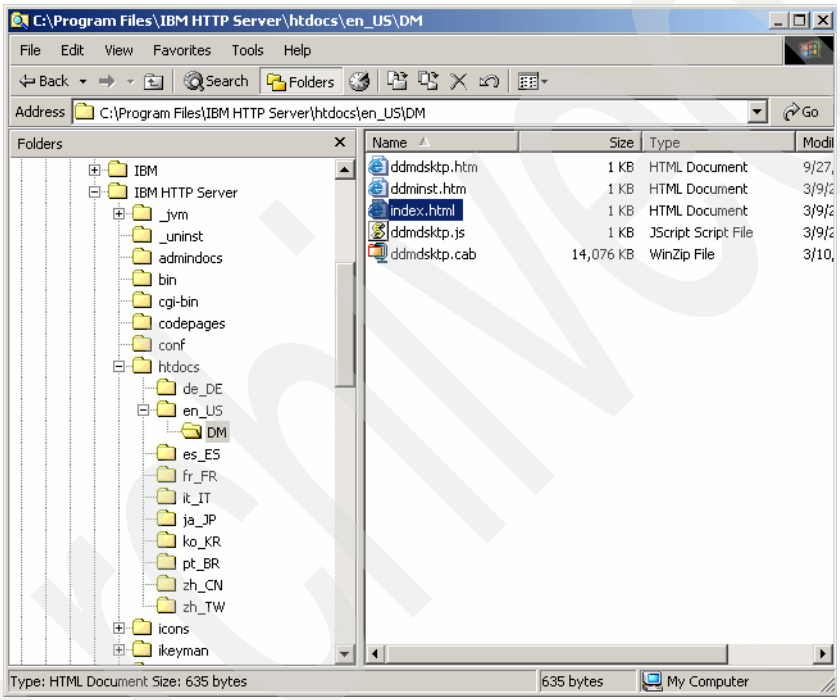

Figure 7-68 IBM HTTP server virtual directory

Document Manager Desktop client installation procedure

To install the Document Manager Desktop client, use the following procedure:

1. Open a Microsoft Internet Explorer window and enter the URL to the virtual directory you created in Step 1 of the previous section as shown in Figure 7-69. Remember to replace the kcwc09 server name with your HTTP server host name. The first time you enter this URL, the Desktop client installation procedure will automatically download the required files to the client machine and launch the installation wizard.

Figure 7-69 IBM HTTP server welcome window

2. If a Security Window prompts you as shown in Figure 7-70, just click **Yes** and continue with the Desktop client installation process.

Figure 7-70 Security warning window

3. In the **License Agreement** window, accept the agreement and click **Next** as shown in Figure 7-71.

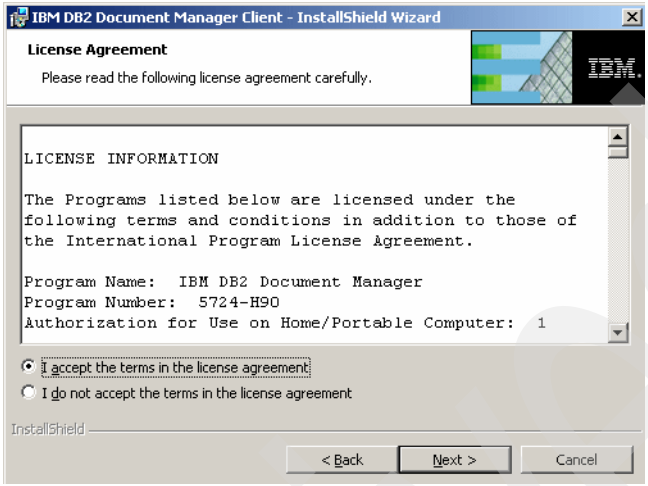

Figure 7-71 Document Manager Desktop license agreement window

4. In **Choose Setup Language** window, select **English** and click **OK** as shown in Figure 7-72.

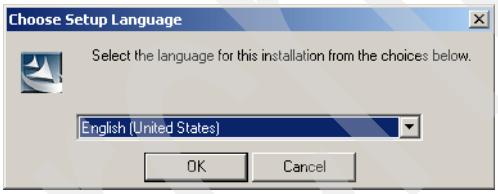

Figure 7-72 Document Manager Desktop language selection window

5. In the welcome window, click **Next** as shown in Figure 7-73.

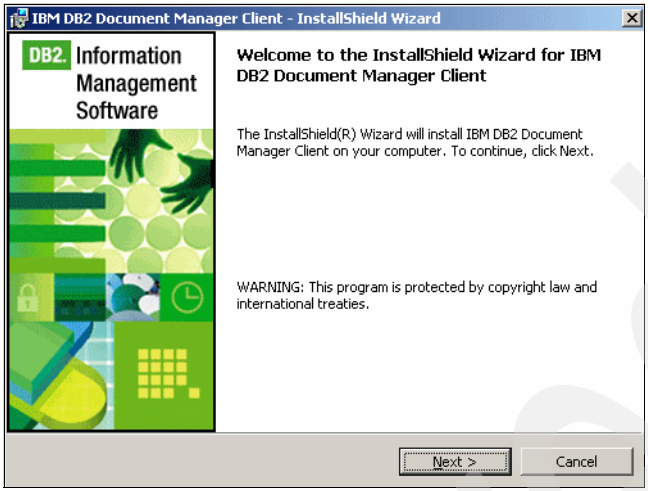

Figure 7-73 Document Manager Desktop welcome window

6. In the **Destination Folder** window, accept the default installation path and click **Next** as shown in Figure 7-74.

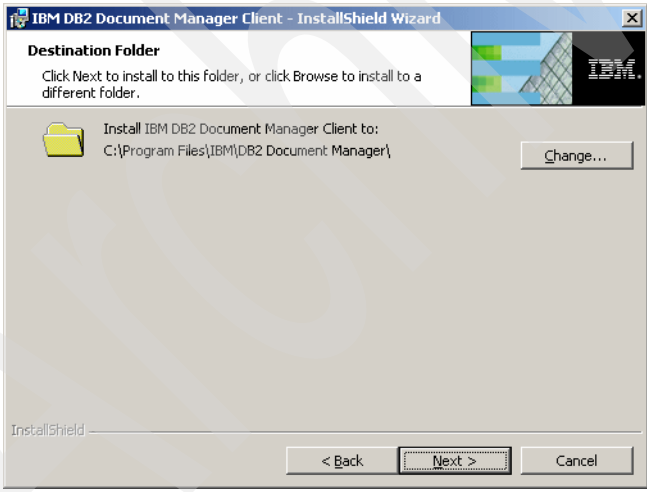

Figure 7-74 Document Manager Desktop installation path window

Important: When installing the Desktop client in a Document Manager server, be sure that the installation path of the Desktop is the same as that of the Document Manager server installation path. If not, problems can occur in Document Manager operation.

7. Now select all the components to install as shown in Figure 7-75, and click **Next**.

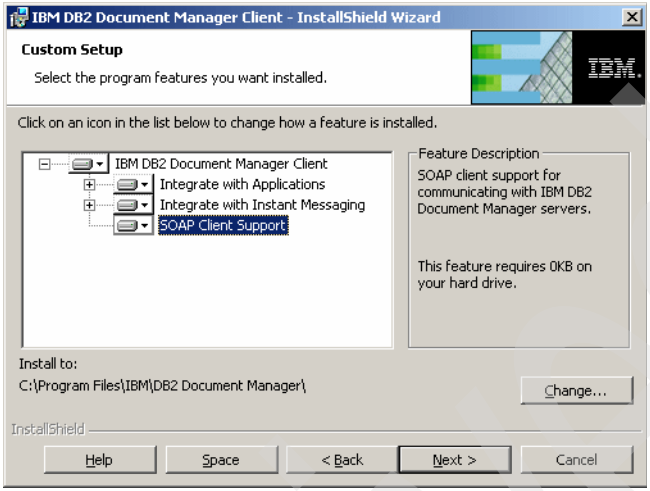

Figure 7-75 Document Manager Desktop components selection window

8. In the next window, click **Install** as shown in Figure 7-76.

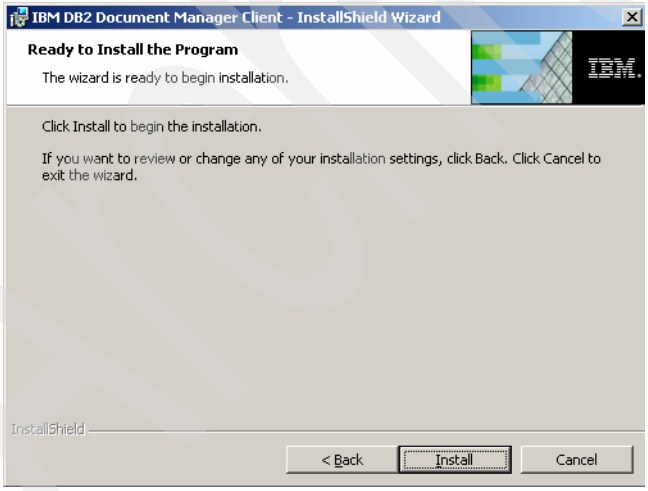

Figure 7-76 Document Manager Desktop install window

9. When the installation procedure finishes, click **Finish** to exit the wizard as shown in Figure 7-77.

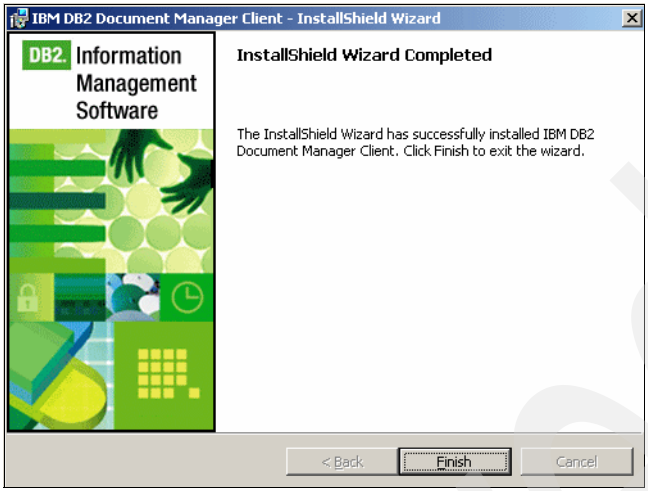

Figure 7-77 Document Manager Desktop finish install window

10. Finally, you should see a window similar to the one in Figure 7-78. If you see this window, you have correctly installed Document Manager Desktop client in your client machine.

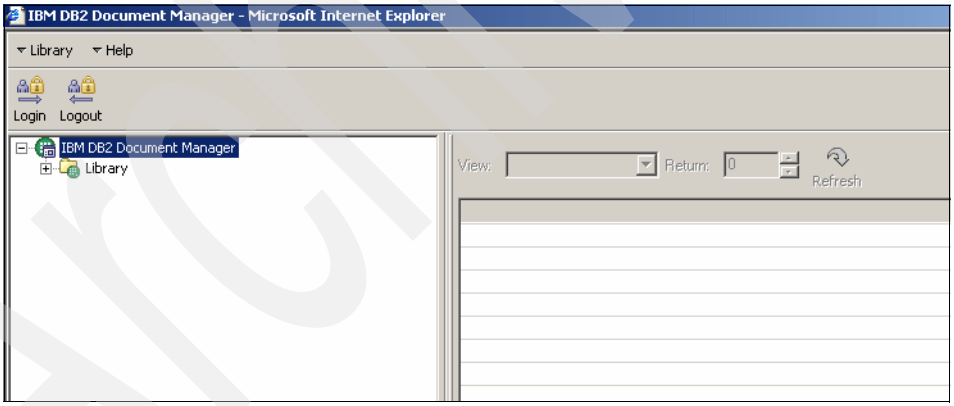

Figure 7-78 Document Manager Desktop application

7.12 Configuration of SMTP Server/e-mail

You need an SMTP server for automatic mail notification functionality of Document Manager. Here we used the ArGoSoft mail server that is a Freeware SMTP server for this goal. ArGoSoft mail server is a very lightweight SMTP server.

You can download it from:

http://www.argosoft.com/mailserver/

Note: This component is only for test purposes and to enable e-mail notification in our environment. You can use any SMTP e-mail server for the same purpose.

SMTP server installation and configuration

Use the following steps for SMTP server installation and configuration:

1. The installation of the ArGoSoft SMTP server is very straightforward and the only thing you do is double-click the installation program and accept the default installation path. Once the installation program finishes, you have to double-click the ArGoSoft icon on the Windows desktop to open the server console as shown in Figure 7-79.

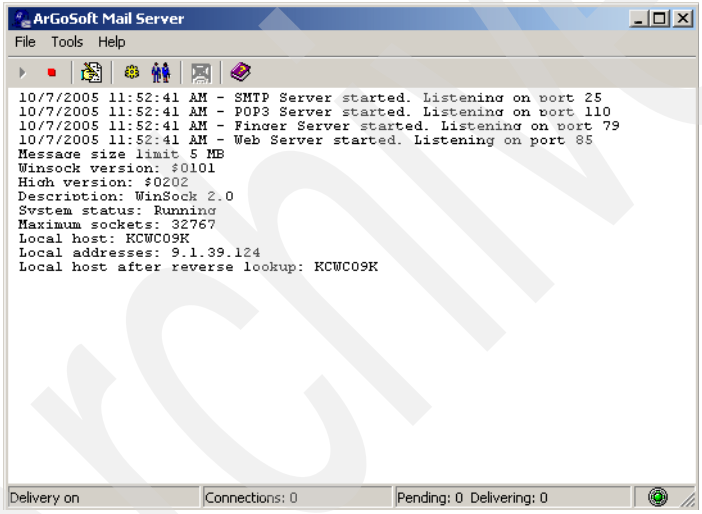

Figure 7-79 ArGoSoft Mail Server control panel window

2. Press **Ctrl-O** keys to open the server **Options** window as shown in Figure 7-80. Within the **General** configuration tab, press the red button (at the left of the question mark button) to automatically detect the DNS server; then, in the white box next to **Local Host**, type the server host name. You must configure check boxes as shown in Figure 7-80.

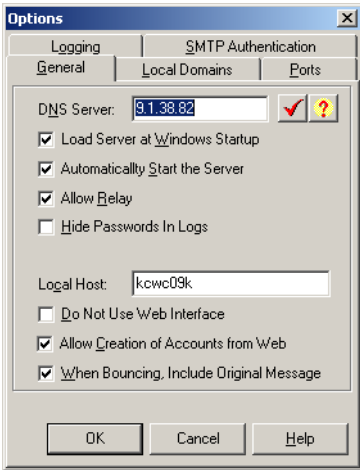

Figure 7-80 ArGoSoft Mail Server options general tab

Tip: If you get an error trying to discover the DNS server, be sure you have an IP address configured in your Windows network connection Internet Protocol (TCP/IP) Properties window and/or call your network administrator for the DNS server IP address in your network.

3. Change to **Local Domain** tab and add a server domain name as shown in Figure 7-81 by clicking **Add**.

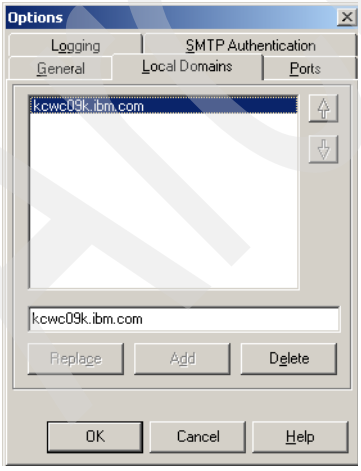

Figure 7-81 ArGoSoft Mail Server options local domain tab

Tip: Use the following example to define your own domain name: *YourServerHostName*.YourCompany.com.

4. Go to the **Ports** tab and change the **Web Interface** port to 85 as shown in Figure 7-82 to avoid conflicting with another Web server using port 80.

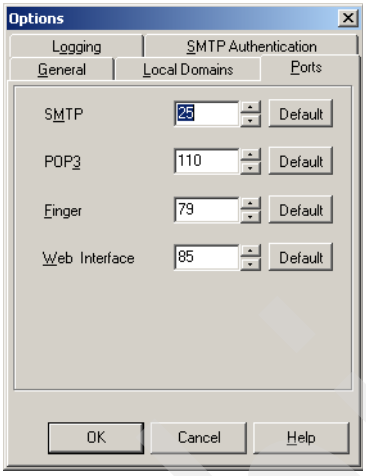

Figure 7-82 ArGoSoft Mail Server Web interface tab

5. Now, under the **SMTP Authentication** tab, check the box next to **Enable SMTP Authentication** and choose an **SMTP User Name** and an **SMTP Password** as shown in Figure 7-83.

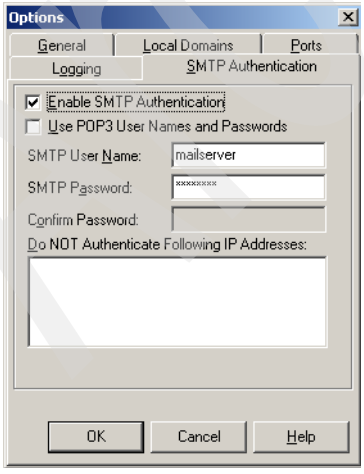

Figure 7-83 ArGoSoft Mail Server SMTP Authentication tab

6. Finally, under the **Logging** tab, do not change anything as shown in Figure 7-84. Click **OK** to exit the **Options** window.

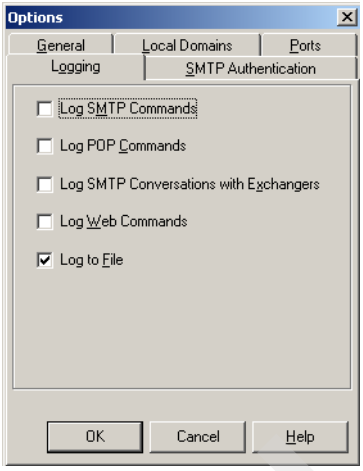

Figure 7-84 ArGoSoft Mail Server Logging tab

7. The next step is to create a mail user account in the mail server. Press the **Ctrl-U** keys simultaneously to open the **User Setup** window as shown in Figure 7-85, and click the add new user icon (the one with the sheet of paper with the yellow star).

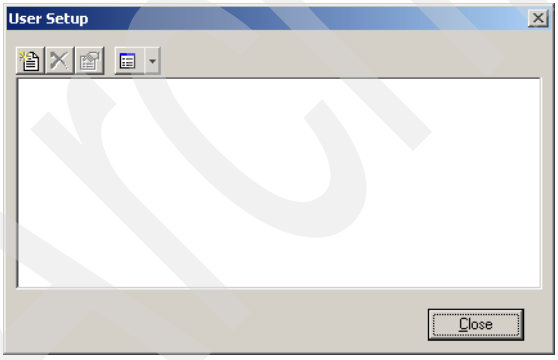

Figure 7-85 ArGoSoft Mail Server User Setup window

8. Create a user called **dm_mail** by filling the fields as shown in Figure 7-86. After you do this, click **OK** to create the new user.

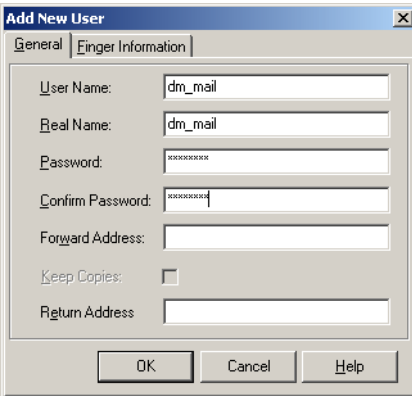

Figure 7-86 ArGoSoft Mail Server user configuration window

9. Now you should see the user you created, as shown in Figure 7-87. Click **Close** to exit User Setup window.

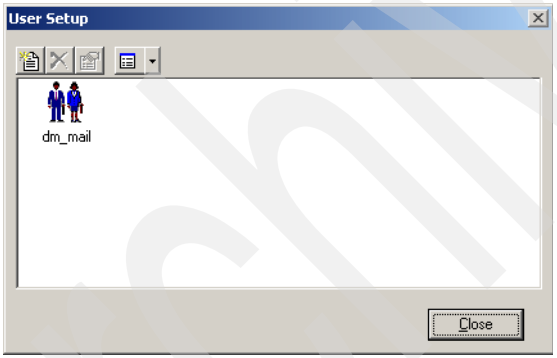

Figure 7-87 ArGoSoft Mail Server User Setup window

10. Back in the ArGoSoft Mail Server window, click the red square icon in the control panel to stop the mail server. The server log in Figure 7-88 shows that the corresponding servers have been stopped.

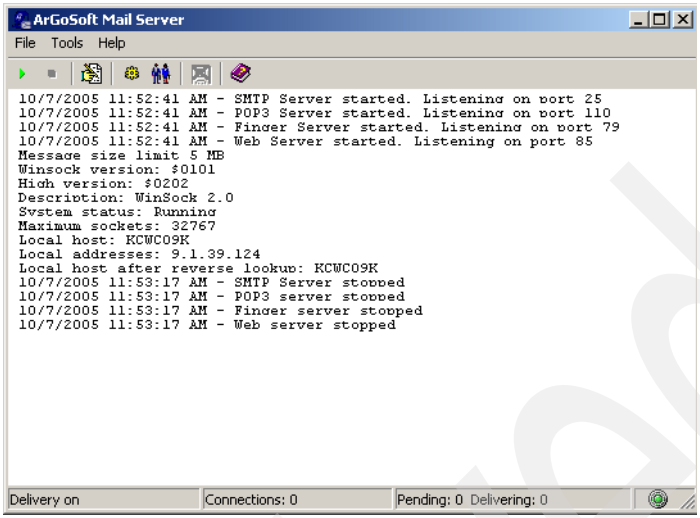

Figure 7-88 ArGoSoft Mail Server control panel

11. To start the server again, click the green arrow icon in the control panel. Figure 7-89 shows the corresponding servers have been started.

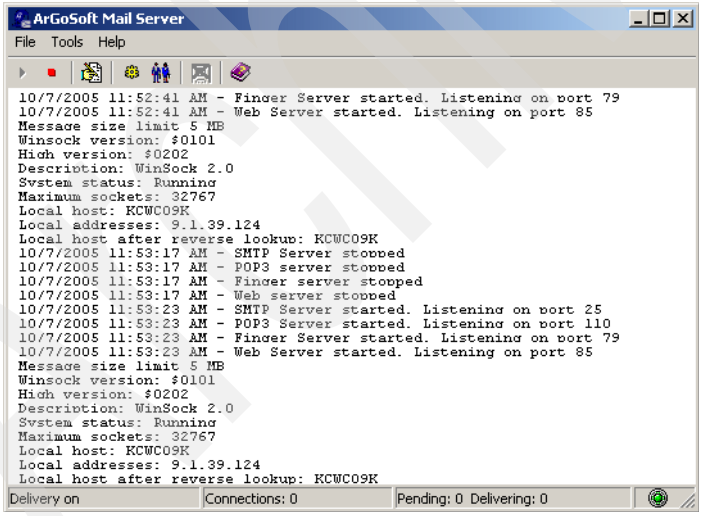

Figure 7-89 ArGoSoft Mail Server control panel

12. To test the mail user we just created, connect to the following URL. Remember to replace **kcwc09k** with your own server host name.

    http://kcwc09k:85

And you should see a page similar to Figure 7-90.

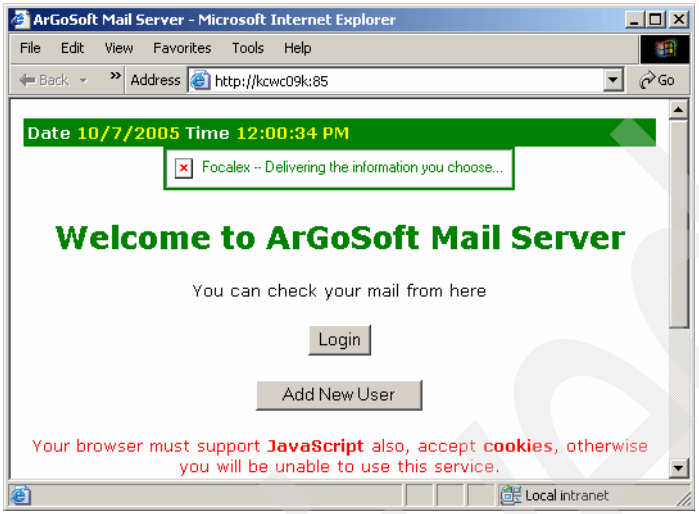

Figure 7-90 ArGoSoft Mail Server welcome page

13. Click **Login** and type the user name and password you create in step 8 as shown in Figure 7-91.

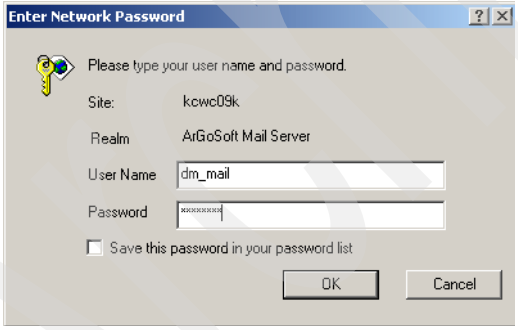

Figure 7-91 ArGoSoft Mail Server login window

14. After you log in successfully, click in the **Compose** link show in Figure 7-92.

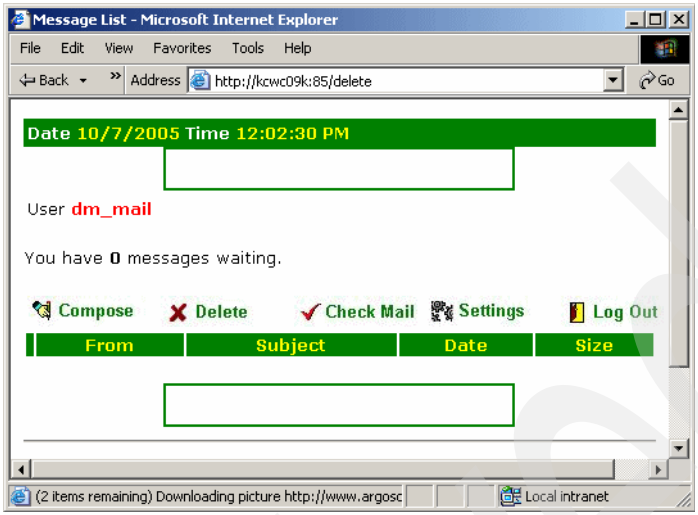

Figure 7-92 ArGoSoft Mail Server client page

15. In the mail compose window, fill the fields as shown in Figure 7-93, and click **Send** link.

Important: Remember to use your own domain name instead of **kcwc09k.ibm.com**. The domain name must be the same you add in step 3.

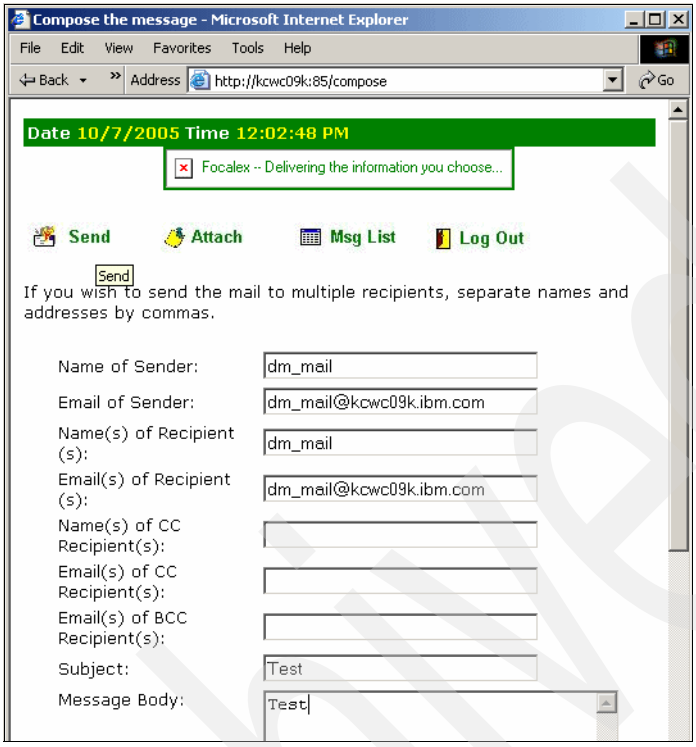

Figure 7-93 ArGoSoft Mail Server compose page

16. You now should see a page as in Figure 7-94. Click **Msg List** link to see if the mail has arrived.

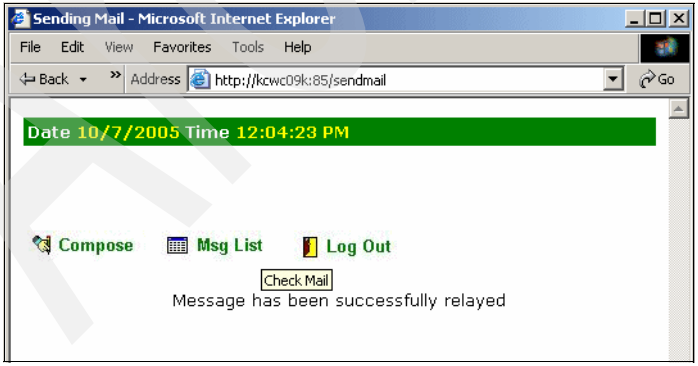

Figure 7-94 ArGoSoft Mail Server mail sent message

17. If you can see the mail you sent as shown in Figure 7-95, your mail server works properly.

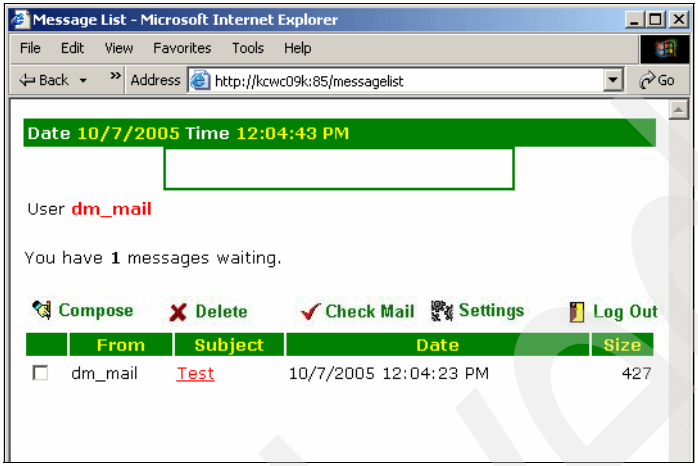

Figure 7-95 ArGoSoft Mail Server client page

18. Now, you can click the mail subject to open the mail as shown in Figure 7-96.

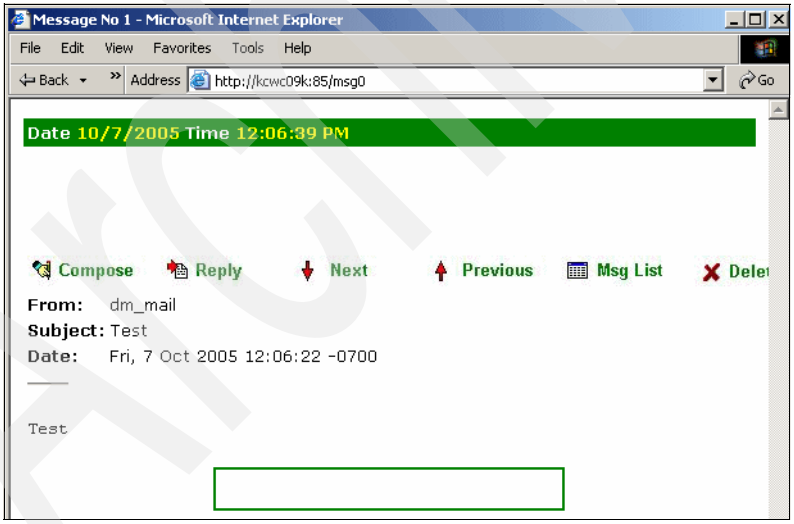

Figure 7-96 ArGoSoft Mail Server open mail page

Finally, scroll the browser window to the right and click **Log Out** link to exit the mail client, as shown in Figure 7-97.

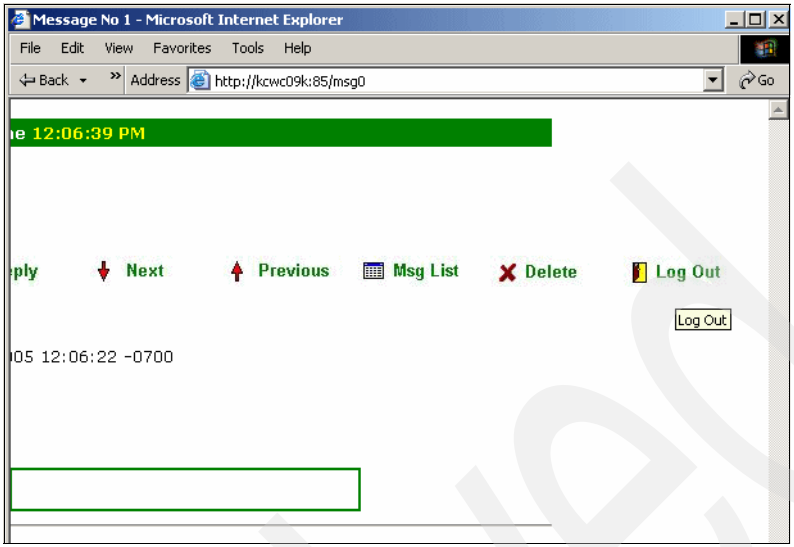

Figure 7-97 ArGoSoft Mail Server logging out link

This concludes the end-to-end solution installation and configuration.

From Chapter 8, “Basic Document Manager implementation” on page 239 through Chapter 11, “Other record declaration options in Document Manager solution” on page 399, we show you detailed steps of implementing a Document Manager solution for the case study.

8

Basic Document Manager implementation

This chapter provides practical steps to implement a basic Document Manager solution, using the ZXY Technologies case study we described in Chapter 2, “Quick start with case study” on page 15. Also, refer to Appendix A, “Case study” on page 469 for the case study overview, planning, and design.

To complete the implementation of the entire solution, after you finish this chapter, refer to the remaining three chapters.

We cover the following topics:

- Basic implementation road map
- Basic Document Manager implementation:
  - Content Manager users and group configuration
  - Item type configuration
  - Global Document Manager configuration:

    Actions and dialogs, menus, and Desktop templates
  - Proposal objects and other case study specific object configuration: Actions and dialogs, views, CVL lists and links, searches, item numbering, document class, and Desktop templates

– Proposal life cycle objects configuration:
  Roles, document states, and document lifecycle map

8.1 Basic implementation road map

In Chapter 3, “Document Manager solution design and planning” on page 47, we show you the basic Document Manager solution planning process, which consists of the following steps:

1. Identify document types.
2. Identify producers, approvers, and consumers of documents.
3. Identify document characteristics and document life cycles.
4. Define documents that should be records.

In addition, we describe the tasks you should perform to design the solution:

1. Define the users, groups, and roles.
2. Define the data model.
3. Define the life cycle processes.
4. Design the Document Manager user interface.

For records management-related planning and design, we also provide a general guideline, which consists of the following steps:

1. Identify corporate records.
2. Review or define records retention rules.
3. Identify how documents are organized.
4. Define the file plan.
5. Define the records’ life cycle.
6. Define the users and security.
7. Plan for records destruction.

In this section, we lay out the approach to implement a Document Manager solution. Figure 8-1 shows the core Document Manager objects and how they relate to each other as well as a guideline in the order of their creation.

According to Figure 8-1:

- The Storage Collection (A), ACL (B), and Users/Groups (C) are to be created in Content Manager.

  Note: Storage collection is beyond the scope of this redbook. We do not address this topic in this chapter.

- Attributes (1) and Item types (2) can be created in either Content Manager or Document Manager.
- The shared objects in Document Manager are: Classes (3), Actions and Dialogs (4), CVL List (4a), CVL Links (4b), New Item Templates, Property Modification, Roles (9), States (10), Lifecycle Map (11), and Notifications.

- The objects related to the Document Manager Desktop are: View Templates (5), Search Templates (6), Menus (7), Application Integration and Property Exchange, and Desktop Templates (8).
- The blue lines show the objects that affect document access.
- The solid or dashed black lines show objects that affect the metadata.

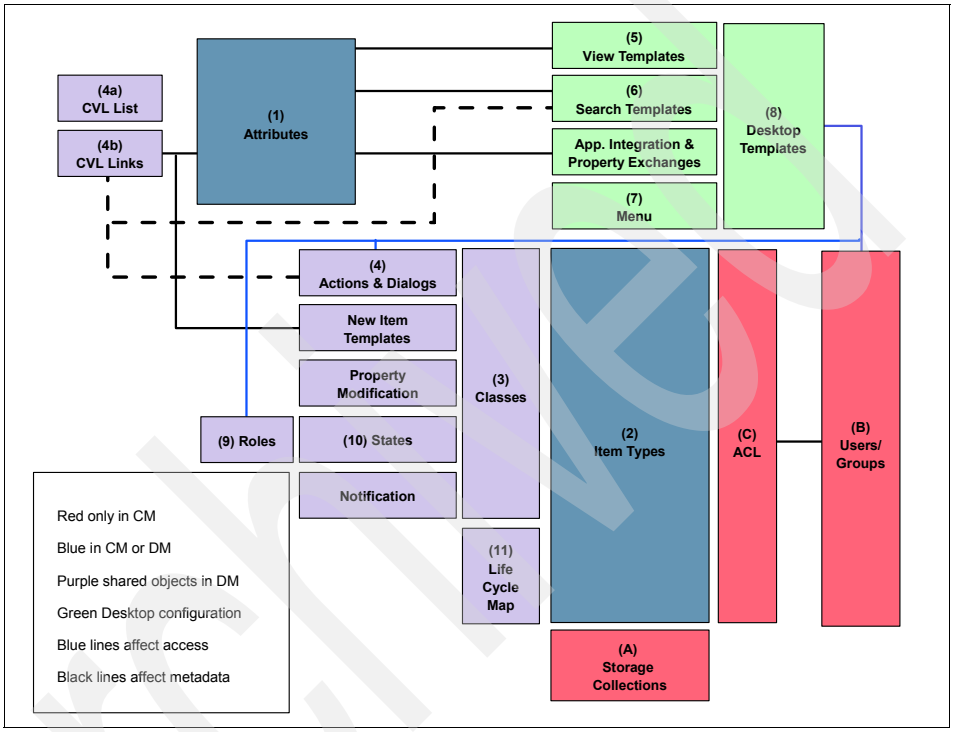

Figure 8-1 Document Manager objects relationship diagram

In general, we recommend using the creation order, denoted by the numbers next to the objects, as suggested in Figure 8-1, to create various Document Manager objects. However, sometimes, you may need to deviate from the guideline.

Always create the users, groups, attributes, and item types first. Adapt the order in which you choose to create the other Document Manager objects to your situation. We recommend the strategy of configuring a little and test, configuring a little more and test, until you complete the entire implementation.

By describing to you how we implemented our case study in this chapter and the following three chapters, we show you the practical steps that you need to do to

implement some of the fundamental and advanced Document Manager functions including records management options.

We divide our implementation into four stages:

1. Basic Document Manager configuration.

   Refer to 8.2, “Basic Document Manager implementation” on page 243 for the detailed documentation of the steps to configure a basic Document Manager system.

2. Advanced Document Manager configuration.

   Refer to Chapter 9, “Advanced Document Manager implementation” on page 331 for the documentation about the steps to configure some of the advanced Document Manager functions beyond the basic Document Manager objects implemented in this chapter.

3. Records enablement.

   Refer to Chapter 10, “Records Manager implementation in the Document Manager solution” on page 369 for the documentation about how to enable a Document Manager system for records.

4. Additional Records Management declaration options.

   Refer to Chapter 11, “Other record declaration options in Document Manager solution” on page 399 for additional declaration options you can implement in your Document Manager solution.

8.2 Basic Document Manager implementation

In this section, we describe the step-by-step procedures you follow to implement a Document Manager solution with basic functionality.

We use our case study to show the detailed implementation steps. You can follow our steps to implement the solution for testing purposes, or use our case study steps as guidelines to create your own system.

Note: Before we begin with the case study implementation, you need to have your server already installed and configured with the base configuration. If you have not done that, you need to refer to Chapter 7, “Installation and configuration” on page 151.

These are the steps to the basic implementation:

1. 8.2.1, “Content Manager users and groups configuration” on page 244
2. 8.2.2, “Item types configuration” on page 246

3. Global Document Manager configuration
   – “Actions and dialogs” on page 254
   – “Menu” on page 258
   – “Desktop templates” on page 267
4. Proposal objects:
   – “Create actions and dialogs” on page 271
   – “Create views” on page 277
   – “Create CVL lists and links” on page 279
   – “Create searches” on page 281
   – “Create item numbering” on page 283
   – “Create Sales Proposal document class” on page 283
   – “Complete Desktop template with Proposal objects” on page 285
   – “Test your system: Sales Proposal class” on page 286
5. “Proposal life cycle objects” on page 286:
   – “Create roles” on page 286
   – “Create document states” on page 290
   – “Configure document lifecycle map” on page 294
6. “Correspondence objects” on page 296
7. “Correspondence life cycle objects” on page 308
8. “RFP objects” on page 311
9. “Reference Document objects” on page 321

Note: Before you begin the implementation process, check that the following services are running:

- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

8.2.1 Content Manager users and groups configuration

For the ZXY Technologies solution, we create seven groups and a user for each group in Content Manager System Administration Client.

Create groups

Start the Content Manager System Administration Client by selecting **Start** → **Programs** → **IBM DB2 Content Manager Enterprise Edition** → **System Administration Client** and log on to the system. Perform the following steps:

1. Expand the **Authentication** group.
2. Right-click **User Groups** and select **New** from the context menu.
3. On the New User Group window, type `grpSales` as **Name**.
4. Select **OK** to save the Group.

You need to follow the same procedure to create the rest of the groups listed in Table 8-1.

Table 8-1 Groups

grpSales
grpMarketing
grpServices
grpManagers
grpFinancials
grpViewer
grpProjectManager

Create users

Now, we have to create a user for each group listed in Table 8-2. Follow this procedure:

1. Expand the **Authentication** group.
2. Right-click **Users** and select **New** from the context menu.
3. On the New User window, type `usrSale` as the **user name**.
4. Set the **password** to `password`.
5. Set the **password expiration** to **Never expires**.
6. Select **RMEUserAllPrivs** for **Maximum Privilege Set**.
7. Select the **Assign to Group** tab, and select **grpSales**.
8. Select the **Set Defaults** tab, and select **RMEClientACL** from the **Default item access control list**.
9. Select **OK** to save the User.

Table 8-2 Users

User	Group
usrSale	grpSales
usrMarketing	grpMarketing
usrService	grpServices
usrFinancial	grpFinancials
usrManager	grpManagers

User	Group
usrProjectManager	grpProjectManager
usrViewer	grpViewer

8.2.2 Item types configuration

The following steps comprise the tasks required to complete this exercise.

- Create Library properties.
- Define Customer Data item type.

Create library properties

You need to create the library properties we are going to use later to define the item types for the system. The properties you need to create are listed in Table 8-3.

Table 8-3 Library properties

Name	Display name	Attribute type	Character type	Character length
Customer Name	Customer Name	Variable character	Extended alphanumeric	32
Customer Number	Customer Number	Variable character	Extended alphanumeric	32
RequestPropNum	Request for Proposal Number	Variable character	Extended alphanumeric	32
Proposal Number	Proposal Number	Variable character	Extended alphanumeric	32
Proposal Subject	Proposal Subject	Variable character	Extended alphanumeric	32
Author	Author	Variable character	Extended alphanumeric	32
Potential Rev	Potential Rev	Variable character	Extended alphanumeric	N/A
CreateDate	Create Date	Date	N/A	N/A
DeliveryDate	Delivery Date	Date	N/A	N/A
eMailNumber	eMail Track Number	Double	N/A	N/A

Name	Display name	Attribute type	Character type	Character length
From	From	Variable character	Extended alphanumeric	64
To	To	Variable character	Extended alphanumeric	256
MailSubject	Mail Subject	Variable character	Extended alphanumeric	256
DateReceived	Date Received	Date	N/A	N/A

You can create library properties using Content Manager Administration Client or Document Manager Designer tool. This is *entirely dependent* on your familiarity with the user interface and your personal preference. There is *no difference* which one you use to create them.

We choose to create library properties from the Document Manager Designer tool, and show you the steps to do so.

To launch the Document Manager Designer, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**. Log on to the system and expand the **CorporateLibrary** library you have defined. Do the following:

1. In the Designer, open **Global - [Administrator]** and select **Library Properties**.
2. Click the New icon in the Designer title bar, the **New - Library Property. Configuration** window opens. Complete the window input as shown in Figure 8-2:
   a. Enter `CustomerName` in the **Name field**.
   b. In the **Type** field, select **Variable Character** from the drop down list.
   c. In the **Display name** field, type `CustomerName`.
   d. In the **Character type** field, select **Extended Alphanumeric** from the drop down list.
   e. In the **Character length** field, set Minimum to `0`, and Maximum to `32`.
   f. Click **OK** to save your changes.

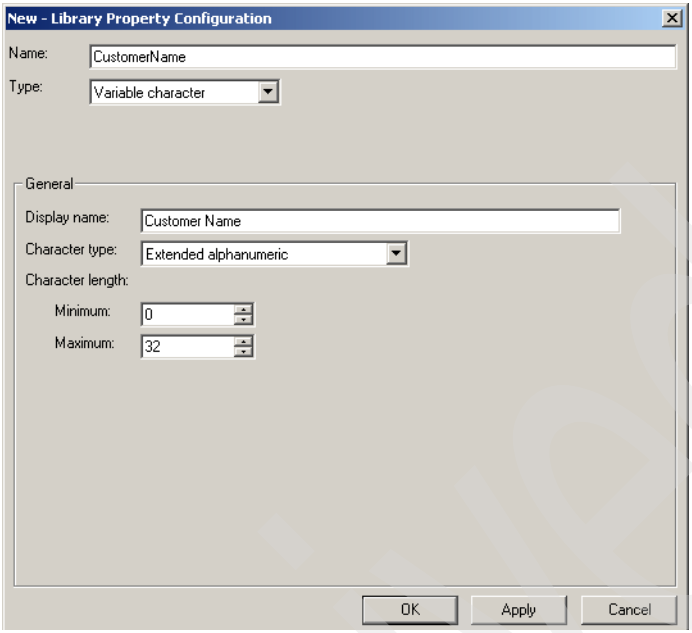

Figure 8-2 New Library Property Configuration window

You need to follow the same procedure to create the rest of the attributes listed in Table 8-3 on page 246.

Define item types

For ZXY Technologies, we need to create the CustomerData item type described in Table 8-4.

Table 8-4 CustomerData item type definition

Option	Settings
Name	CustomerData
Display Name	Customer Data
Version Policy	Promp to Create
Maximum total versions	Unlimited
Item type classification	Document
Text Search	Text searchable-enabled
Item retention period	Forever

Option	Settings
Attributes Used	All listed in Table 7-10 on page 189.
Additional Attributes	All listed in Figure 8-3 on page 246
Records-Enabled	Yes

You can create an item type from Content Manager System Administration Client or use Document Manager Designer. The client you use depends on your personal preference:

- Use Content Manager System Administration Client:

  If you are familiar with Content Manager System Administration Client.

  Note, if you use this client to create an item type and you need to have multiple classes under the item type, you must edit the item type in Document Manager Designer to enable the multiple class feature.

- Use Document Manager Designer:

  If you are familiar with Document Manager Designer.

In our case study, since we are familiar with Content Manager System Administration Client, we use it to define the item types.

Note: Remember to start the NetSearchExtender service before you create an item type with text search enabled. You can use Windows Services Control Center to start it.

To launch the Content Manager System Administration, select **Start** → **Programs** → **IBM DB2 Content Manager Enterprise Edition** → **System Administration Client**.

CustomerData item type

To create the CustomerData item type, do the following:

1. Select **Data Modeling**, right-click **Item Types**, and select **New** from the context menu. This should display the New Item Type Definition dialog.
2. Select the **Definition** tab, and populate the **Definition** page as shown in Figure 8-3:
   a. For **Name** field, enter `CustomerData`. Make sure the **Item type classification** is set to **Document**.

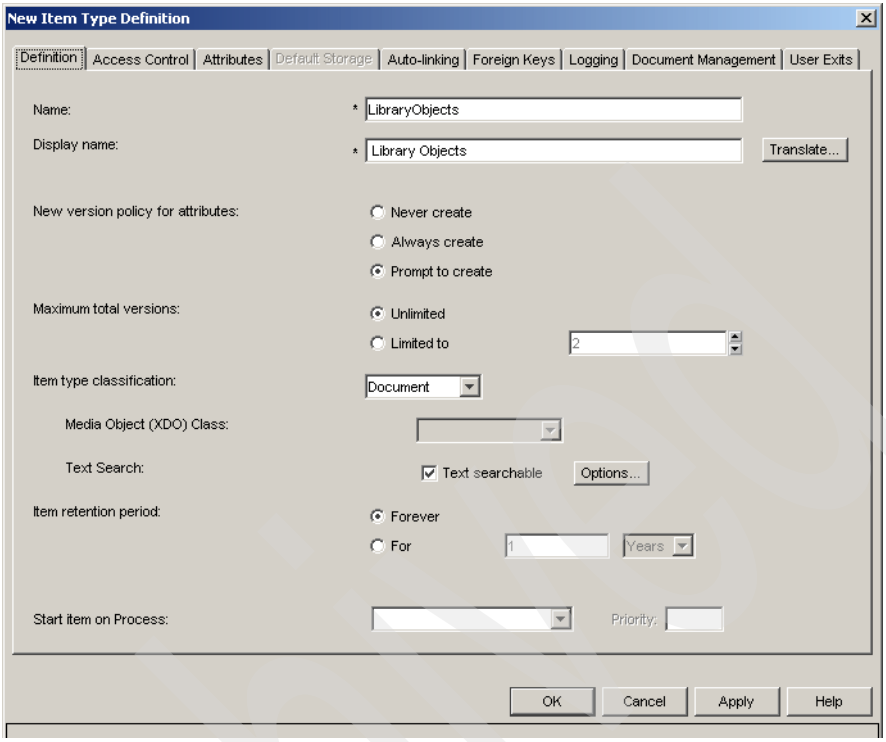

Figure 8-3 New Item Type Definition window - Definition tab

b. Select the Text Searchable check box. Click **Options**.

On the Text Search Options Panel, set the parameter as listed in Table 8-5.

Table 8-5 Text search configuration

Parameter	Value
Format	Text
CCSID	850
Language code	EN_US
Index Directory	`C:\idx` (be sure to create the directory before you save)
Working Directory	`C:\idx` (be sure to create the directory before you save)
User Defined Function	ICMFetchFilter
User defined function schema	ICMADMIN

Parameter	Value
Changes before Update	0
Update every	Five minutes
Commit Count	0

3. Click the **Access Control** tab and on the **Access Control** page, select **RMEClientACL.** Make sure the Access control list checking is set to **Item type level**.
4. Click the **Attributes** tab, and locate in the left column all the attributes defined in Table 8-4 on page 248 as Attributes Used and Additional Attributes.

   Add each one as Selected attributes for the root component as shown in Figure 8-4.

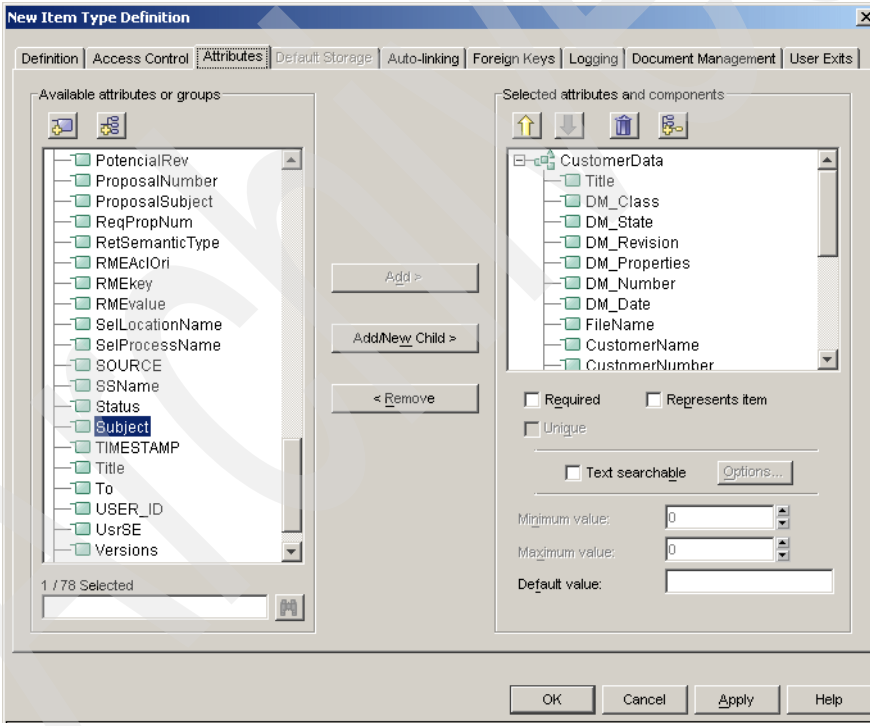

Figure 8-4 New Item Type Definition window - Attributes tab

5. Click the **Document Management** tab and add the following parts to the item type:
   - ICMBase (Storing the imported documents, files, and images)

– ICMBaseText (Storing documents for text search)

Follow this procedure for each one:

a. Click **Add**.

b. Select Part type **ICMBase**.

c. Set the **Access control list** to **RMEClientACL**.

d. Set the **New version policy** to **Prompt to create**.

e. Take the defaults for **Access Control List**, **Resource Manager,** and **Collection**.

f. Select **APPLY** to add the Part Type.

6. Select **OK** to save the item type.

Once we create the item type in Content Manager, then we modify it in Document Manager:

1. Go to Document Manager Designer: Select **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.
2. In the Designer, open **Global - [Administrator],** select **Desktop**, then expand **Item Type,** and select the CustomerData item type we added.
3. Click **Modify** in the menu. This should open the Modify - Item Type Configuration window. Select the **Desktop** tab and check the **Allow multiple class definitions** as shown in Figure 8-5.

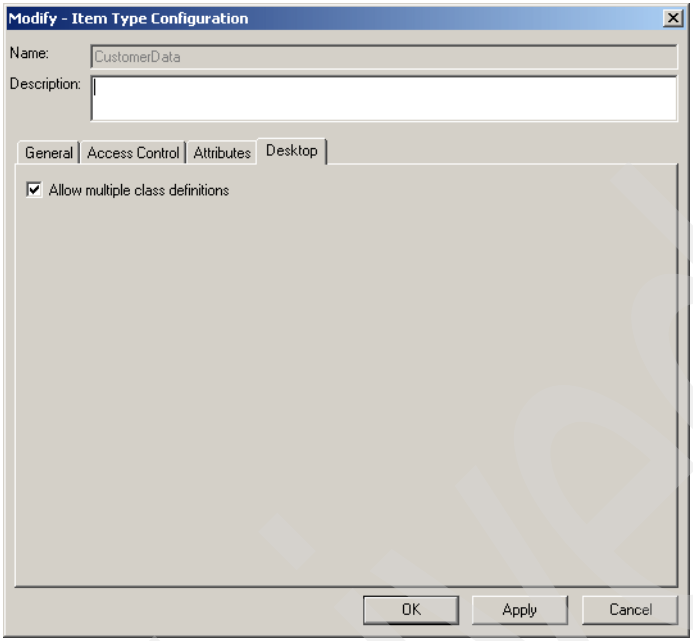

Figure 8-5 Modify Item Type Configuration window

4. Select **OK** to save the item type.

Now, if you log on to Content Manager Administrator client, you see that a Compound Attribute is added as shown in Figure 8-6.

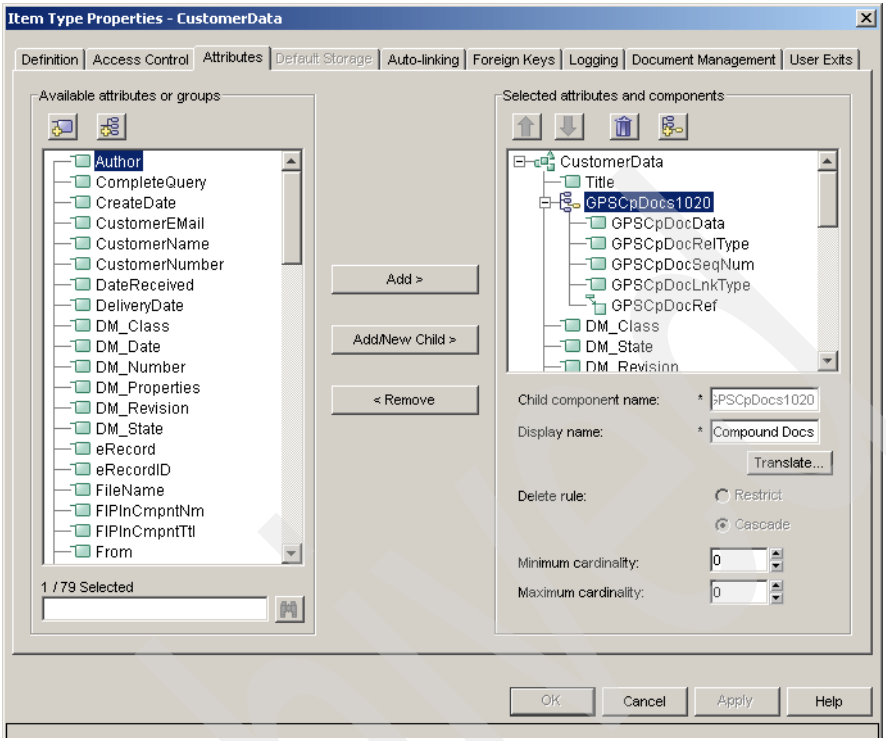

Figure 8-6 Document Manager compound attribute

8.2.3 Global Document Manager configuration - Actions and dialogs

In this section, we describe how to create actions and dialog objects in the global Document Manager configuration. The global objects are generic ones you can reuse for other implementations. They are only related through general desktop appearance.

Launch Document Manager Designer. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

For the case study, we configure the defaults for actions and dialogs with specific options.

The following steps comprise the tasks required to complete this exercise:

1. Configure DM - Checkin action
2. Configure DM - Checkout action
3. Configure DM - Copy action
4. Configure DM - Modify action

5. Configure DM - View action
6. Configure DM - Version History action

Note: These defaults are assigned automatically to all the classes in the system. If you need to have a different functionality for a class, then you create and associate a different action and dialog object with it.

In the Designer, open **Global - [Administrator]**, open **Desktop**, and then click **Actions and Dialogs** to select it.

Configure DM - Checkin action

Select **DM - Checkin action** and click the **Modify** icon in the Designer title bar.

1. Click the **Options** tab, configure the **Options** page with the options listed in Table 8-6.

Table 8-6 Checkin action options

Options	Values
Add related files that are not in library	Yes
Copy master item's profile to new related files	Yes
Delete copy of related files on checkin of master item	Yes
Scan for new related file attachments	Both library and local system
Display checkin options dialog	Yes
Show [checkin] option on options dialog	Yes
Show [cancel checkout] option on options dialog	Yes
Show [leave local] option on options dialog	Yes
Show [update library] option on options dialog	Yes

2. Click **OK** to save the changes.

Configure DM - Checkout action

Select **DM - Checkin** action and click the **Modify** icon in the Designer title bar.

1. Click the **Options** tab**,** configure the **Options** page with the options listed in Table 8-7.

Table 8-7 Checkout action options

Options	Values
Resolve related files	Copy or Checkout cpdoc components
Display related file selection dialog	Yes
Display markups selection dialog	Yes

2. Click **OK** to save the changes.

Configure DM - Copy action

Select **DM - Copy** action and click the **Modify** icon in the Designer title bar.

1. Click the **Options** tab, configure the **Options** page with the options listed in Table 8-8.

Table 8-8 Copy action options

Options	Values
Resolve related files	Copy or Checkout cpdoc components
Display related file selection dialog	Yes
Display markups selection dialog	Yes

2. Click **OK** to save the changes.

Configure DM - Modify action

Select **DM - Modify** action and click the **Modify** icon in the Designer title bar.

1. Click the **Dialog** tab and on the **Dialog** page:
   a. Select **Display dialog to user**.
   b. Set the **Width** to 300.
   c. Set the **Height** to 300.
2. Click the **Top Section** tab, and add a Property:
   a. Click **Add** - this presents a dialog that enables you to add a property.
   b. Select **Edit** for the field **Type** from the drop-down list.
   c. Select **Title** from the **Property field** drop-down list.
   d. Leave **String** for the **Data Type**.

e. Change **Color** to **red**.

f. Click **OK** to close the window.

3. Click the **Options** tab. Configure the **Options** page with the options listed in Table 8-9.

Table 8-9 Modify action options

Options	Values
Refresh	Yes

4. Click **OK** to save the changes.

Configure DM - View action

Select **DM - View** action and click the **Modify** icon in the Designer title bar.

1. Click the **Options** tab. Configure the **Options** page with the options listed in Table 8-10.

Table 8-10 View action options

Options	Values
Resolve related files	Copy or Checkout cpdoc components
Display related files selection dialog	Yes
Create unique temporary directory	Yes
Allow users to create markups during view session	Yes
Copy item's profile to new markups	Yes
Display markup selection dialog	Yes

2. Click **OK** to save the changes.

Configure DM - Version History action

Select **DM - Version History** action and click the **Modify** icon in the Designer title bar.

1. After selecting the **Dialog** tab, and on the **Dialog** page:

a. Select **Display dialog to user**.

b. Set the **Width** to 500.

c. Set the **Height** to 300.

2. Click the **Bottom Section** tab. Add the properties listed in Table 8-11.

Table 8-11 Version history action properties

Type	Properties	Data type	Disabled
Edit	Title	String	Disabled
Edit	FileName	String	Disabled
Edit	Version ID	String	Disabled

3. Select the **Options** tab. Configure the options as listed in Table 8-12.

Table 8-12 Version history action options

Options	Values
Enable [View] command	Yes
Enable [Copy] command	Yes
Enable [Property Modify] command	Yes
Enable [Report] command	Yes
Enable [Quick Declare Record] command	Yes
Enable [Manually Declare Record] command	Yes
Enable [View Records Mgmt Info] command	Yes

4. Click **OK** to save the changes.

8.2.4 Global Document Manager configuration - Menu

In this section, we explain how to create Menu objects in the global Document Manager configuration. The global objects are generic. You can reuse them for other implementations. They are only related through the general desktop appearance.

We need to create seven menus to use in the solution. We assign these menus later to each Desktop Template. Users have access to the menus according to the appropriate roles they have in the system.

The following steps comprise the tasks required to complete this exercise:

1. “Create About menu” on page 259

2. “Create DoubleClick menu” on page 260
3. “Create Library menu” on page 261
4. “Create RecordsMenu menu” on page 262
5. “Create RightMouse menu” on page 263
6. “Create TopToolbar menu” on page 264
7. “Create TopToolbarViewers menu” on page 265
8. “Create Main menu” on page 266

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Menus**.

Create About menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `About`.
2. Click the **Properties** tab. Complete the page as shown in Figure 8-7:
   a. Select **About IBM DB2 Document Manager** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add.**

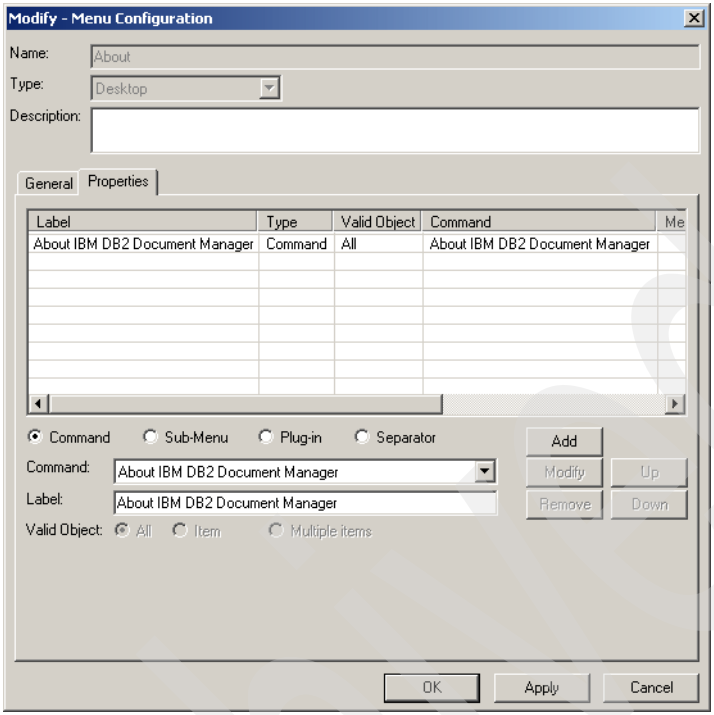

Figure 8-7 About menu

3. Click **OK** to save the changes.

Create DoubleClick menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `DoubleClick`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-8:
   a. Select **View** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.

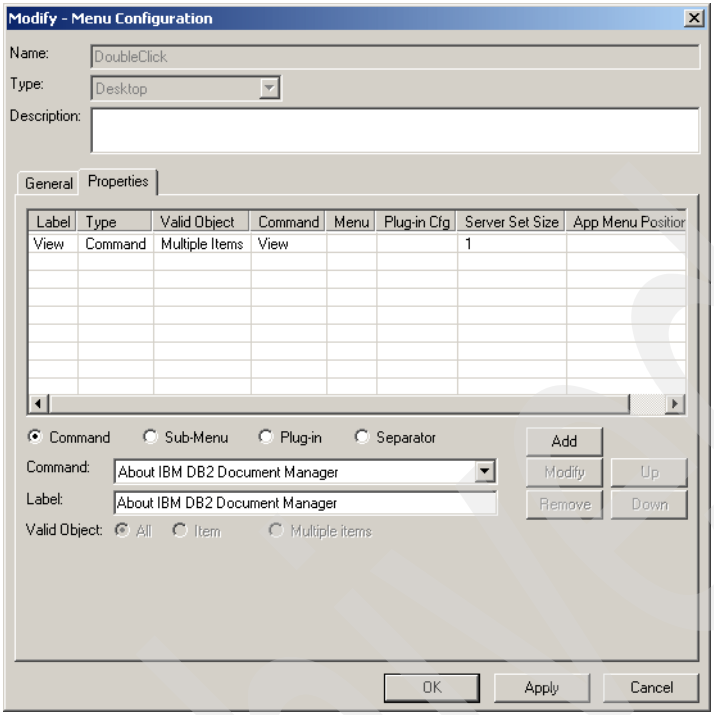

Figure 8-8 DoubleClick menu

3. Click **OK** to save the changes.

Create Library menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `Library`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-9:
   a. Select **Log in** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.
   d. Repeat the process for the rest of the commands listed.

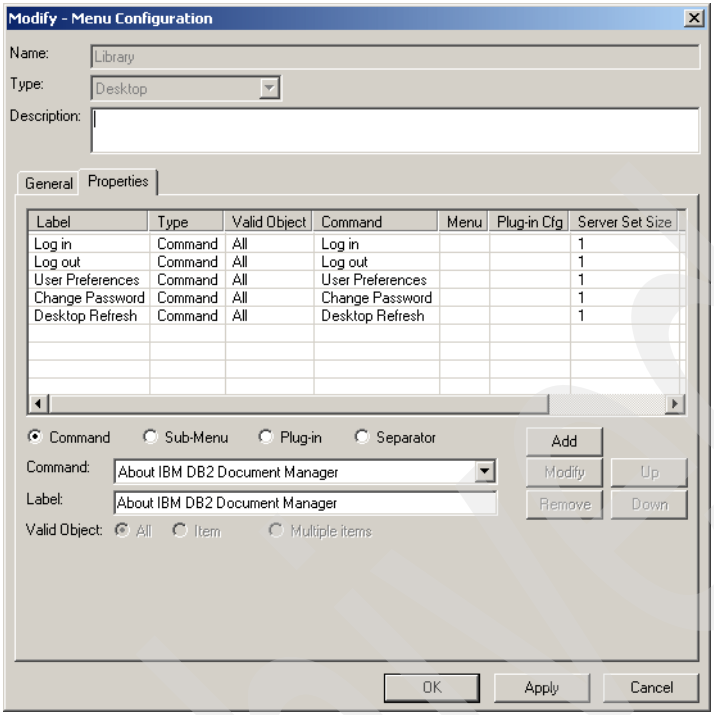

Figure 8-9 Library menu

3. Click **OK** to save the changes.

Create RecordsMenu menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `RecordsMenu`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-10:
   a. Select **Manually declare record** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.
   d. Repeat the process for the rest of the commands listed.

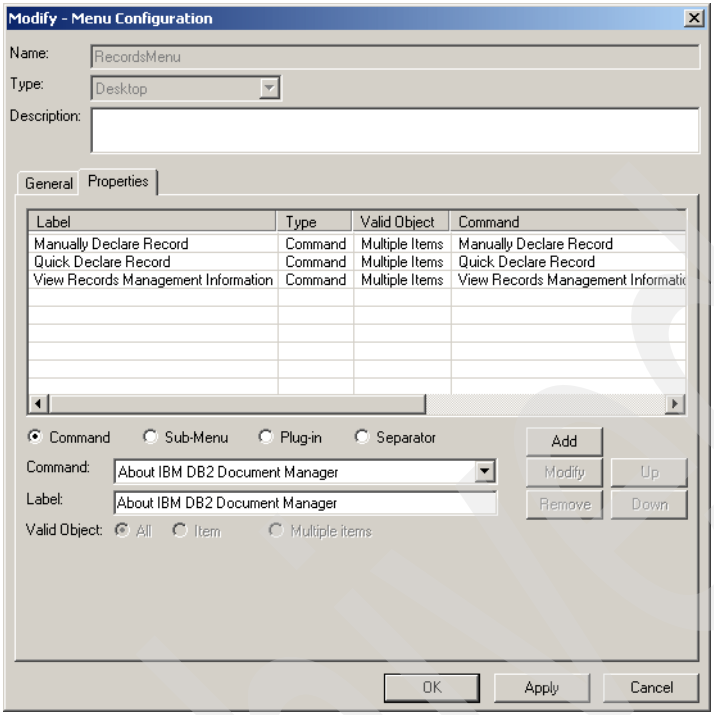

Figure 8-10 RecordsMenu menu

3. Click **OK** to save the changes.

Create RightMouse menu

Click the **New** icon in the Designer title bar.

1. In the **Name** field, type `RightMouse`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-11:
   a. Select **View** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.
   d. Repeat the process for the rest of the commands listed.
   e. To add **Records Menu** menu, be sure you select the **Sub-Menu** radio button to get the menu list.

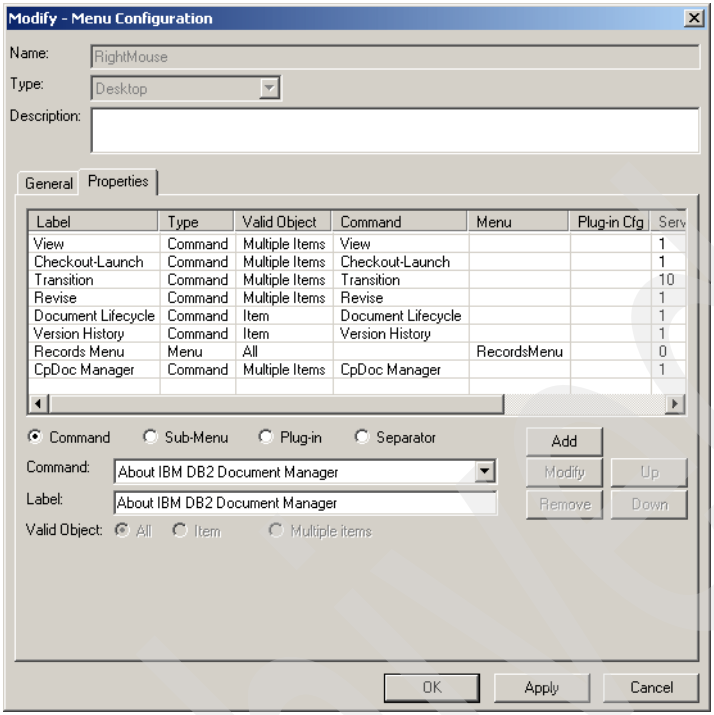

Figure 8-11 RightClick menu

3. Click **OK** to save the changes.

Create TopToolbar menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `TopToolbar`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-12:
   a. Select **Add document** from the **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.
   d. Repeat the process for the rest of the commands listed.

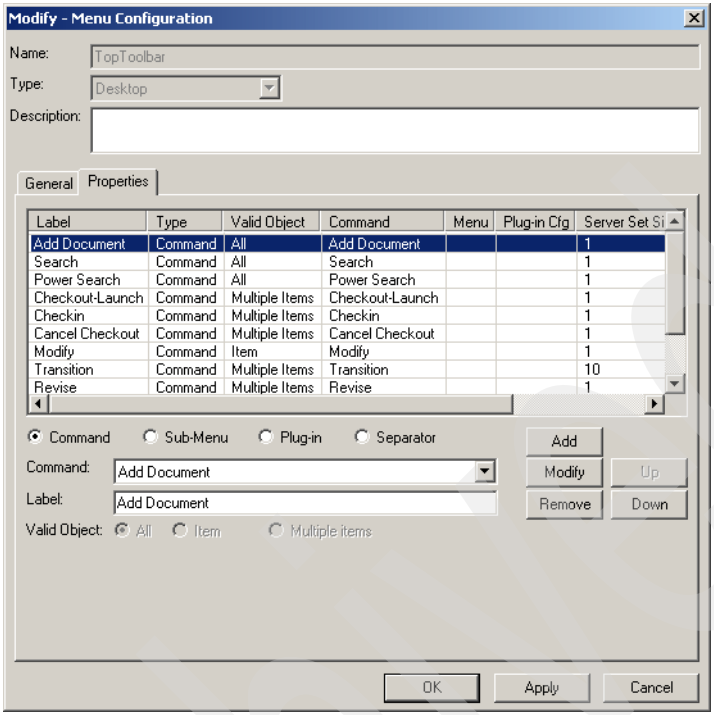

Figure 8-12 Toptoolbar menu

3. Click **OK** to save the changes.

Create TopToolbarViewers menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `TopToolbarViewers`.
2. Select the **Properties** tab. Complete the page as shown in Figure 8-13:
   a. Select **Search** from **command** drop-down list.
   b. Leave **Label** and **Valid Objects** as defaults.
   c. Click **Add**.
   d. Repeat the process for the rest of the commands listed.

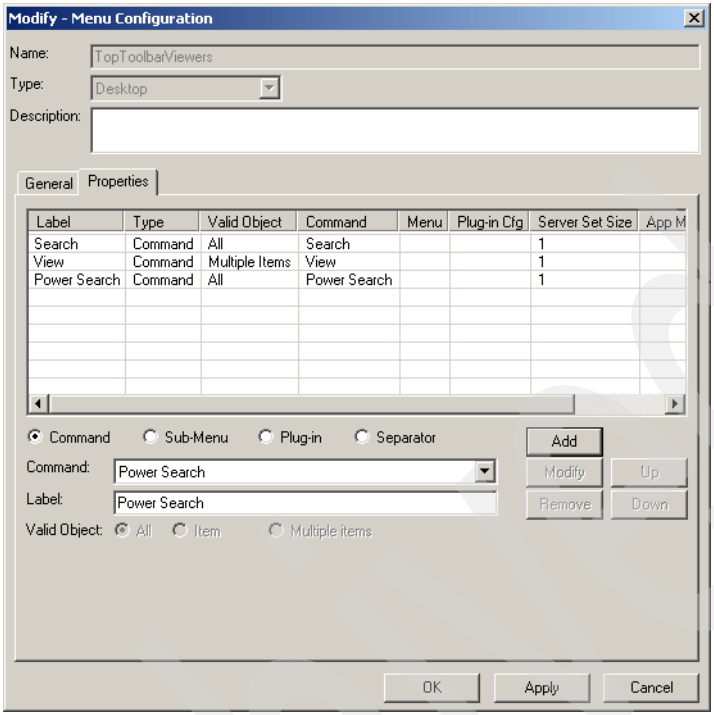

Figure 8-13 ToptoolbarViewer menu

3. Click **OK** to save the changes.

Create Main menu

Click the **New** icon in the Designer title bar and do the following:

1. In the **Name** field, type `Main`.
2. Click the **Properties** Tab. Populate the **Properties** page as shown in Figure 8-14.

   The **Main** menu uses a variety of the previous menus as submenus. Be sure to select the **Submenu** option when adding each one.

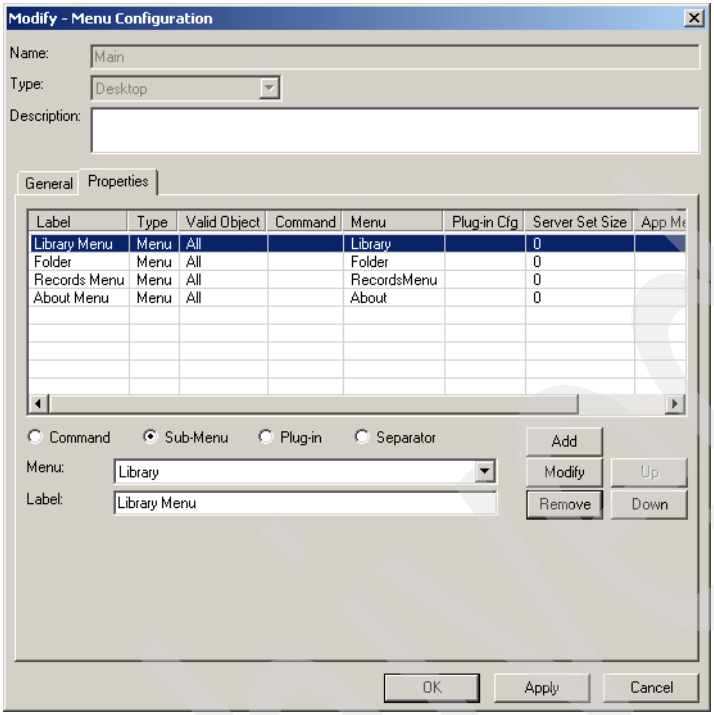

Figure 8-14 Main menu

3. Click **OK** to save the changes.

8.2.5 Global Document Manager configuration - Desktop templates

In this section, we describe how to create Desktop template objects in the global Document Manager configuration. The global objects are generic ones and can be reused for other implementations. They are only related through general desktop appearance.

For the solution, we need to create two different Desktop templates. Each template allows access to different system functionality depending on the user roles:

- **Content Producers Template**: Template for users who create, revise, and approve documents
- **Viewers Template**: Template for users who only search and see document

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Desktop template** to select it.

Create Content Producers Template

Click the **Add** icon in the Designer title bar and do the following:

1. Set **Name** to `Content Producers Template`.
2. Open the **Menu Interface** tab, and complete the **Menu Interface page** as shown in Figure 8-15.

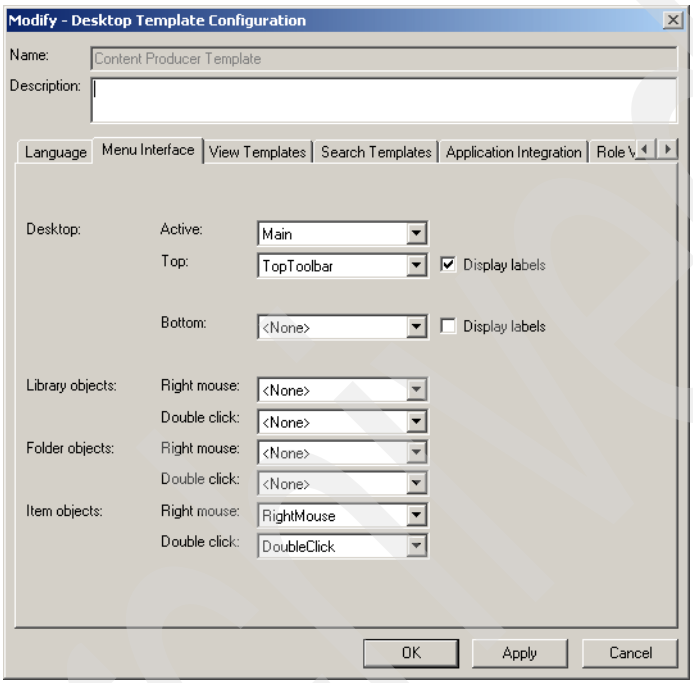

Figure 8-15 Desktop Template Configuration window - Menu Interface tab

3. Complete the **View Templates** page. Select **Default** view from the left list and click **Add**.
4. Complete the **Search Templates** page. Select **Default** from the left list and click **Add**.
5. Complete the **User Desktop Options** page. Select the four checkboxes.
6. Complete the **Item Delivery** page as shown in Figure 8-16.

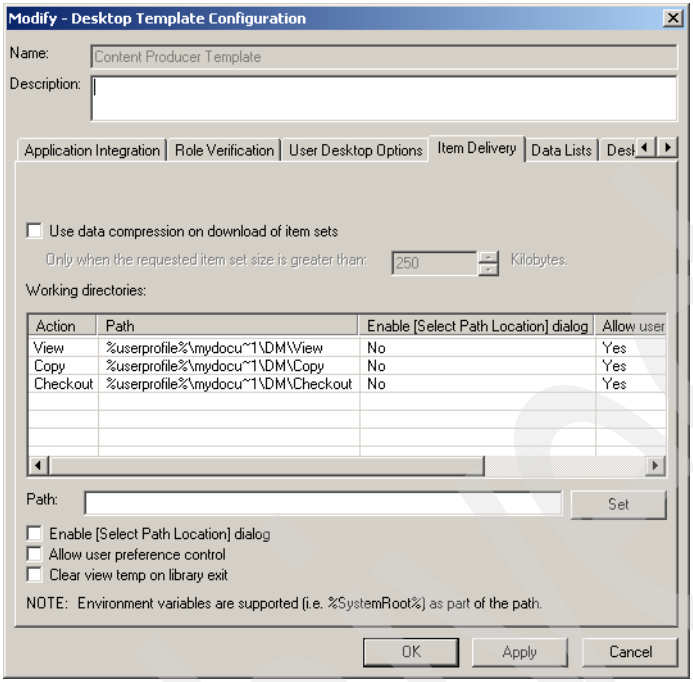

Figure 8-16 Desktop Template Configuration window - Item Delivery tab

7. Complete the **Messaging** page. Uncheck the **Display desktop messaging windows** option.
8. Click **OK** to save the template**.**
9. Expand the Content Producers Template. Select **groups**. Click the **Add** icon in the Designer title bar and select the followings groups:
   - grpSales
   - grpMarketing
   - grpServices
   - grpFinancial
   - grpManager

Create Viewers Template

Click the **Add** icon in the Designer title bar and do the following:

1. Set **Name** to `Viewers Template`.
2. Click the **Menu Interface** tab and complete the **Menu Interface** page. Set **top** to **TopToolbarViewer**.

3. Complete the **View Templates** page. Select **Default** view from the left list and click **Add**.
4. Complete the **Search Templates** page. Select **Default** from the left list and click **Add**.
5. Complete the **User Desktop Options** page. Select the fourth check box.
6. Complete the **Messaging** page**.** Uncheck the **Display desktop messaging windows** option.
7. Click **OK** to save the template**.**
8. Expand Viewers Template. Select **groups**. Click the **Add** icon in the Designer title bar and select the following groups:
   - grpViewers

Test your system: Document Manager menus and templates

Now you can log on to Document Manager Desktop and test the following functions:

- Log on with `ursViewer` and navigate the desktop. Check menus and toolbars.
- Log on with `ursManager` and navigate the desktop to find out the differences between the usrViewer desktop and the usrManager desktop.

Note: If you cannot see the changes in your system, check if the DM Cache server is up and running. You can try stopping the DM Cache, restarting the DM Cache, and logging in again in the Document Manager Desktop.

8.2.6 Proposal objects

ZXY Technologies has three departments that use proposals and need a different life cycle for each one. For this reason, we create three classes:

- Sales Proposals
- Services Proposals
- Marketing Proposals

All three classes have almost the same configuration. The main difference is the groups that use each one.

Here we describe only the Sales Proposals object. The views, search, and item numbering creations are common to all proposals. You have to repeat the procedure for the rest of the objects.

The following steps comprise the tasks required to complete this exercise:

1. “Create actions and dialogs” on page 271

2. “Create views” on page 277
3. “Create CVL lists and links” on page 279
4. “Create searches” on page 281
5. “Create item numbering” on page 283
6. “Create Sales Proposal document class” on page 283

Create actions and dialogs

ZXY Technologies needs Add, Modify, Checkin, and Revise dialogs. The Add dialog box is displayed to the user when the user tries to add a new Sales Proposal document in the system. The Modify dialog box is displayed to the user when the user tries to modify an existing Sales Proposal document in the system.

The following steps comprise the tasks required to complete this exercise:

1. “Create Sales Proposal - Add dialog” on page 271
2. “Create Sales Proposal - Modify dialog” on page 274
3. “Create Proposal Checkin dialog” on page 275
4. “Create Proposal - Revise dialog” on page 276

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Actions and Dialogs** to select it.

Create Sales Proposal - Add dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration windows open. Perform the following steps:

1. Set the **Name** to `Sales Proposal - Add`.
2. Click the **Dialog** tab. On the **Dialog** page:
   a. Select **Display dialog to user**.
   b. Set the **Width** to `700`.
   c. Set the **Height** to `600`.
3. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-17.

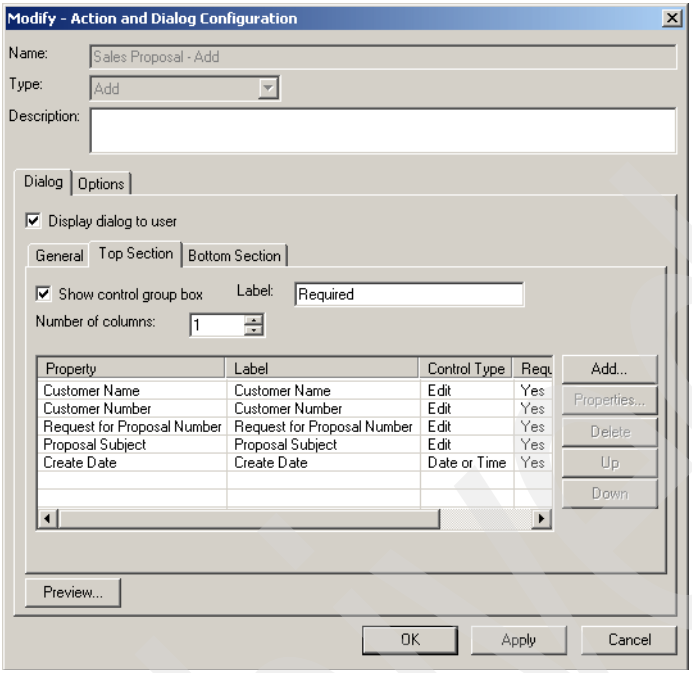

Figure 8-17 Sales Proposal - Add Dialog Configuration window - Top Section

Note: Be sure to assign **Create Date** control type to **Date or Time**. This will display a calendar to easily assign the date.

4. Click the **Bottom Section** tab to populate the **Bottom Section** page as shown in Figure 8-18.

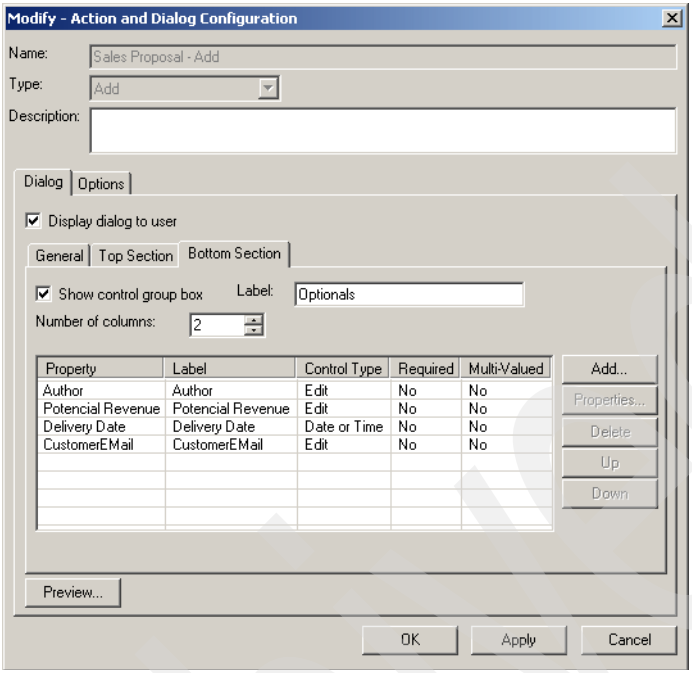

Figure 8-18 Sales Proposal - Add Dialog Configuration window - Bottom Section

Note: Be sure to assign the **Delivery Date** control type to **Date or Time**. This will display a calendar to easily assign the date.

5. Click the **Options** tab and configure the **Options** page with the options listed in Table 8-13.

Table 8-13 Sales Proposal - Add action options

Option	Value
Content index	Yes
Content index - Display Dialog Option	Yes
Keep local copy	Yes
Keep local copy - Display Dialog Option	Yes
Add to folder - Display Dialog Option	Yes
Apply unique item numbering	Yes
Promp to check out after add	Yes

6. Click **Preview**. This should display a preview of the dialog. You can change the windows' **Width** and **Height** if you want to modify their dimensions.
7. Click **OK** to save the changes.
8. Under **Sales Proposal - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the group:
   - grpSales

Create Sales Proposal - Modify dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Perform the following steps:

1. Set the **Name** to `Sales Proposal - Modify`.
2. Click the **Dialog** tab and on the **Dialog** page:
   a. Select **Display dialog to user**.
   b. Set the **Width** to `700`.
   c. Set the **Height** to `450`.
3. Click on the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-19.

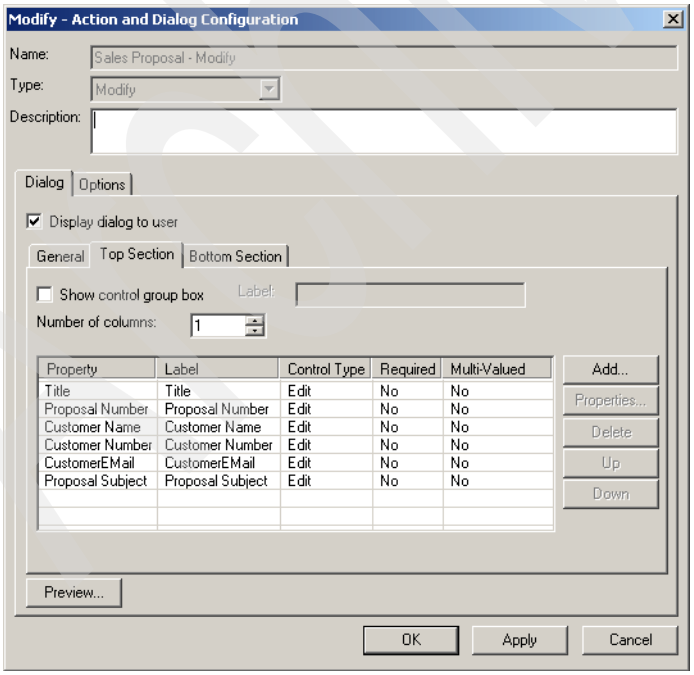

Figure 8-19 Sales Proposal - Modify Dialog Configuration window - Top Section

4. Click on the **Bottom Section** tab and populate the **Bottom Section** page as shown in Figure 8-20.

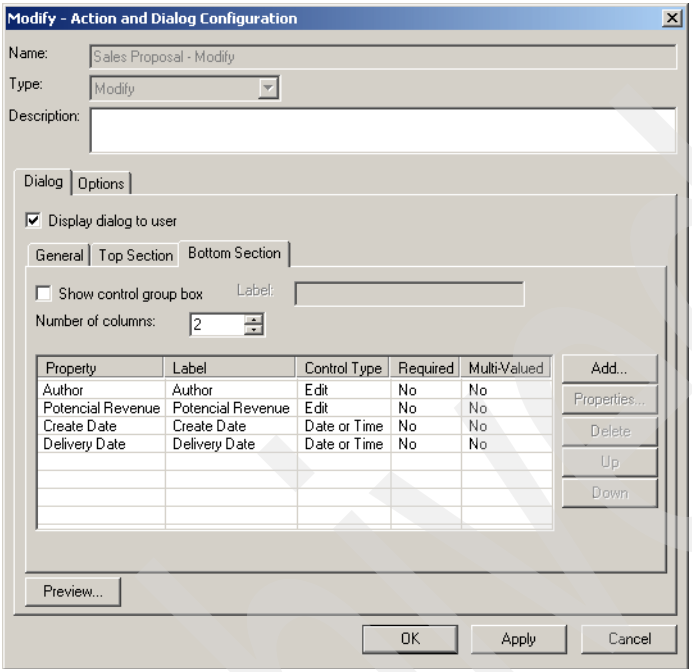

Figure 8-20 Sales Proposal - Modify Dialog Configuration window

5. Click on the **Options** tab and Configure the **Options** page. Set **Refresh desktop** to **Yes**.
6. Click **OK** to save the changes.
7. Under **Sales Proposal - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpFinancials
   - grpManagers

Create Proposal Checkin dialog

Select **Checkin** action and click the Copy icon in the Designer title bar. Perform the following steps:

1. Set name to `Proposal Checkin.`
2. Click the **Options** tab and configure the **Options** page.
   a. Set **Process Transition command** to **Yes**.

3. Click **OK** to save the changes.
4. Under **Sales Proposal - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpFinancials
   - grpManagers

Create Proposal - Revise dialog

Click the **New** icon in the Designer title bar. Perform the following steps:

1. Set the **Name** to `Proposal - Revise`.
2. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-21.

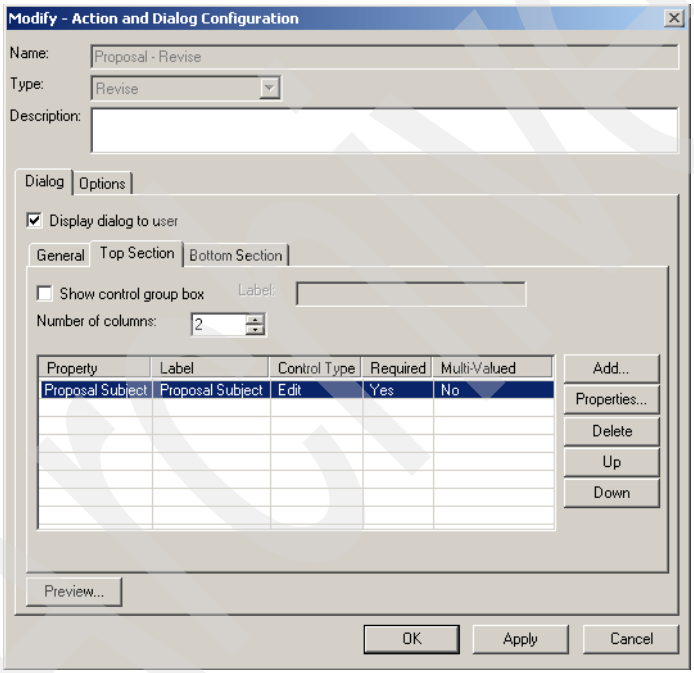

Figure 8-21 Proposal - Revise Dialog Configuration window

3. Click the **Options** tab and configure the **Options** page with the options listed in Table 8-14.

Table 8-14 Proposal - Revise action options

Options	Values
Apply secondary revision numbering	Yes
Revise single children of same or non-controlled class	Yes
Copy single children profile information	Yes
Copy item markups to new revision	Yes

4. Click **OK** to save the changes.

Create views

We need to create a view to display all the Proposal properties to the user. We need to add all the properties we associated with the CustomerData item type related with Proposals.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Views** to select it.

Create Proposal View

Click the **New** icon in the Designer title bar. The New View Configuration window opens. Perform the following steps:

1. Select **General** tab. On the **General** page:

   Enter `Proposal View` in the **Name** field.

2. Select **Display** tab. On the **Select** page:

   There is a list in the left panel of the **Library Properties** for the system. Select the properties as shown in Figure 8-22 and add them to the **Selected Properties** panel on the right of the dialog.

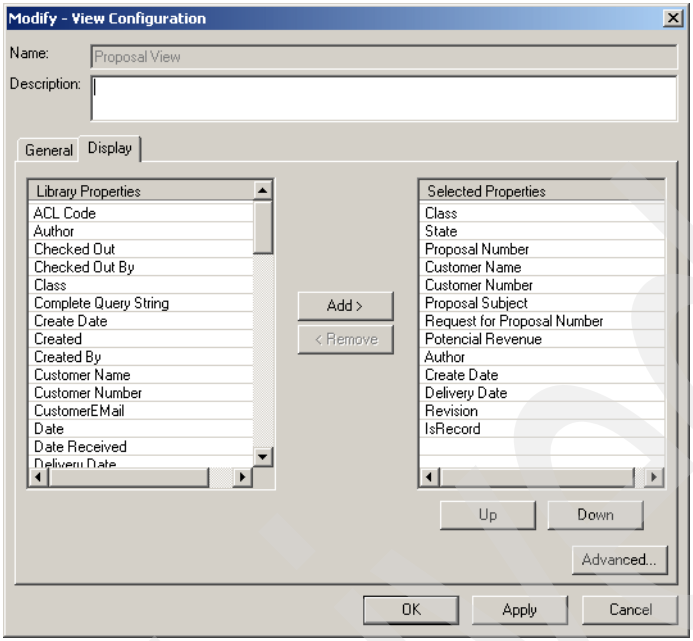

Figure 8-22 Proposal View Configuration window

3. Click **Advanced**. Select the **Display Settings** tab:
   a. Select **Display background highlighting**.
   b. Select **Display Item of Record image**.
4. Click **Advanced**. Select the **Display Filters** tab:
   a. Select **Class** from the **Property** drop-down list.
   b. Select **Not equal** from the **Operator** drop-down list.
   c. Enter `Correspondence` in the **Value** field.
   d. Click **Add** to save the selection.
   e. Select **Class** from the **Property** drop-down list.
   f. Select **Not equal** from the **Operator** drop-down list.
   g. Enter `RFP` in the **Value** field.
   h. Click **Add** to save the selection.
5. Click **OK** to save your changes.

Create CVL lists and links

You need to create in the design a CVL List and a CVL Link to use for the Proposal Search. This list will display a predefined option list in the search dialog box for the user.

The following steps comprise the tasks required to complete this exercise.

1. “Create Proposals CVL list” on page 279
2. “Create Proposals Link” on page 280

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and open CVLs.

Create Proposals CVL list

Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window should open. Perform the following steps:

1. In the **Name** field, type `Proposals.`
2. In the **Type** pick-list, select **Standard**.
3. Add the values as shown in Figure 8-23:
   - Sales Proposal
   - Service Proposal
   - Marketing Proposal

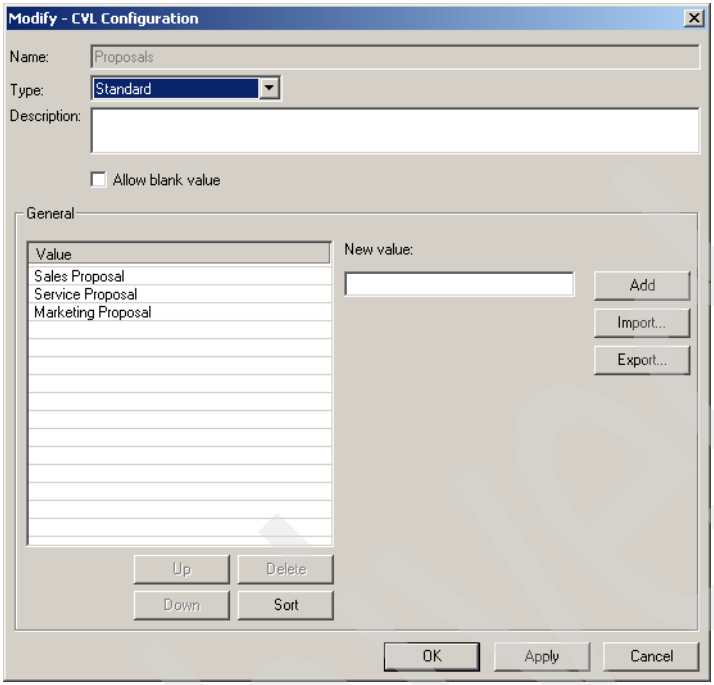

Figure 8-23 Proposals CVL Configuration window

4. Click **OK** to save your changes.

Create Proposals Link

Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window should open. Perform the following steps:

1. In the **Name** field, type `Proposals Link`.
2. In the **Property** drop-down list, select **Class**.
3. In the **CVL name** drop-down list, select **Proposal**.

It should look like Figure 8-24.

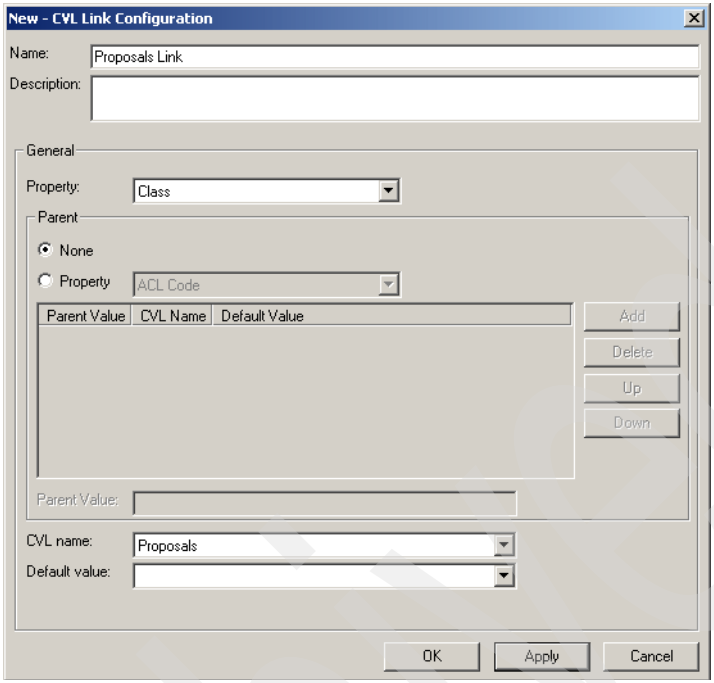

Figure 8-24 Proposals Link Configuration window

4. Click **OK** to save your changes.

Create searches

For the ZXY Technologies proposal, we define an unique Proposal Search that the three departments share. You only create this object once.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Searches** to select it.

Create Proposal search

Click the **New** icon in the Designer title bar. The New Search Configuration window should open. Perform the following steps:

1. Click the **Properties** tab and complete the **Properties** page section:
   a. In the **Name** field, type `Proposal`.
   b. Select the **Save Search**, **Clear Search**, and **Load Search** options.
2. Select the **Properties** tab:
   a. Add the properties listed in Table 8-15.

Table 8-15 Proposal search properties

Property	Control Type	Default Operator
Class	Drop Down	Equal
Customer Name	Edit	Contains
Customer Number	Edit	Contains
Proposal Number	Edit	Contains
Request for Proposal Number	Edit	Ignore
Create Date	Date	Ignore
Delivery Date	Date	Ignore
Potential Revenue	Edit	Ignore
Author	Edit	Ignore

Figure 8-25 shows an example of Search Configuration window.

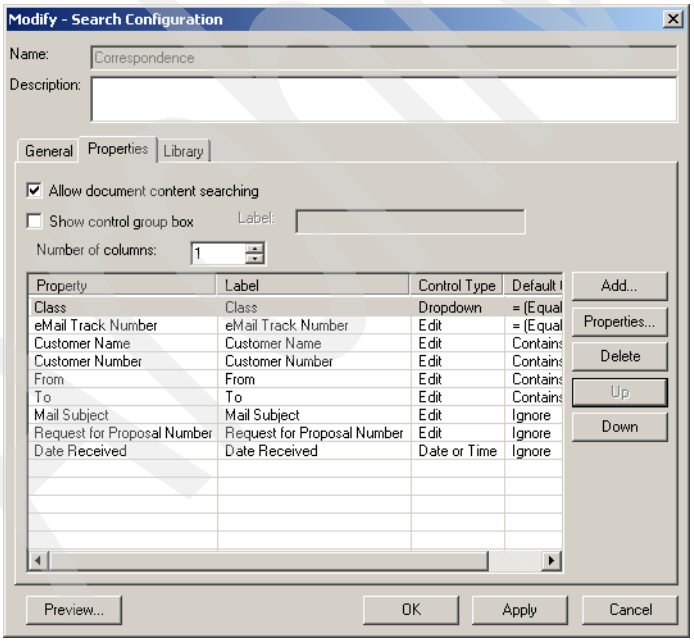

Figure 8-25 Search Configuration window

3. Click the **Library** tab and Complete the **Library** page.

a. Click **Add**. Select **CustomerData** item type from the list.

4. **Preview** the dialog and then close it.
5. Click **OK** to post the search configuration to the repository.
6. Add CVL Link: It will populate the Class drop-down list with the three kinds of Proposal Documents.
   a. Select the **Proposal Link** you created in previous step.
   b. Drag it over **CVL Link** under **Proposal Search**.

   If you preview again, now the Search looks like Figure 8-26.

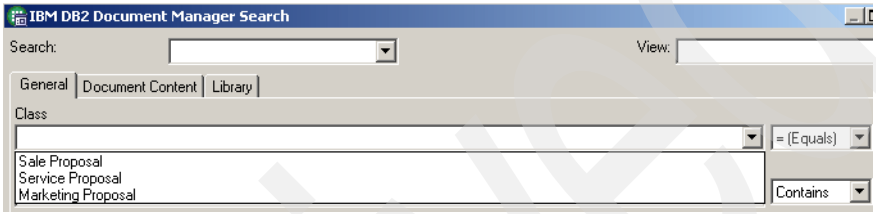

Figure 8-26 Proposal Search window

Create item numbering

For the ZXY Technologies proposal, we define a unique Proposal Number that is shared by the three departments. You only create this object once.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Item Numbering** to select it.

Create Proposal Number item numbering

Click the **New** icon in the Designer title bar. The New - Item Numbering Configuration window should open. Perform the following steps:

1. In the **Name** field, type `Proposal Number`.
2. Click the **Numbering** tab and Complete the **Numbering** page:
   a. Select **Numeric** from the **Numbering scheme** drop-down list.
   b. Select **5- 0000x** from the **Format** drop-down list.
3. You do not have to complete the **Lock Info** tab. This is only for information about which number is the last one created and who created it.
4. Click **OK** to save the changes.

Create Sales Proposal document class

You need to create the Sales Proposal controlled class.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, open **Item Type**, and open **CustomerData** item type. Select **Classes** and click the **New** icon in the Designer title bar.

Create Sales Proposal controlled class

Perform the following steps:

1. Populate the top section of the window:
   a. In the **Name** field, type `Sales Proposal`.
   b. In the **Type** pick-list, select **Controlled**.
2. Click the **Triggers** tab and complete the **Triggers** page as shown in Figure 8-27.

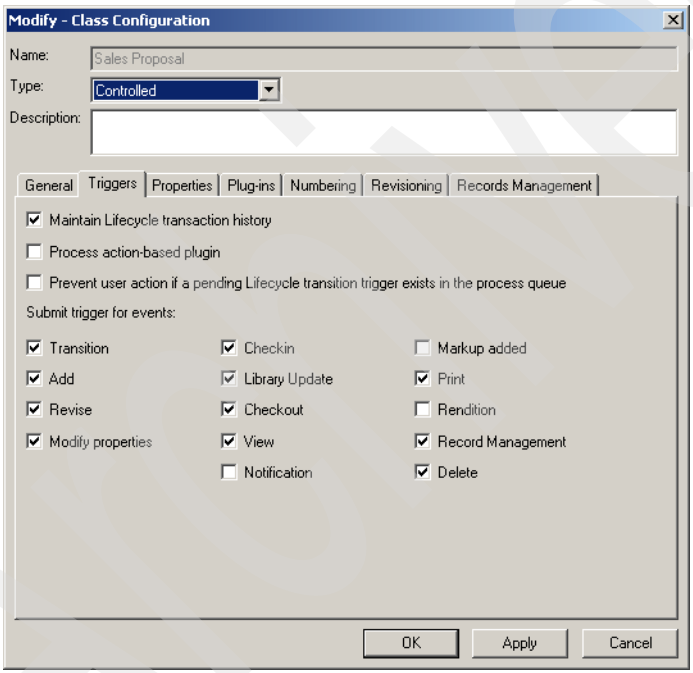

Figure 8-27 Sales Proposal Class Configuration window

3. Click the **Properties** tab and complete the **Properties** page:
   a. Select **Proposal Number** from the **Property** drop-down list.
   b. Select the **Require entry** check box.
   c. Click **Add**.
   d. Select **Revision** from the **Property** drop-down list.

e. Select the **Revision Property** check box.

f. Click **Add**.

4. Click the **Numbering** tab and complete the **Numbering** page:
   a. Select **Proposal Number** from the **Property** drop-down list.
   b. Select **Proposal Number** from the **Numbering Configuration** drop-down list.
5. Click the **Revisioning** tab and complete the **Revisioning** page:
   a. Select **Numeric** from the primary **Numeric scheme** drop-down list.
   b. Select **Alpha** from the secondary **Numeric scheme** drop-down list.
6. Click **OK** to save your entries to the system.

Associate actions and dialogs

Expand the Sales Proposal class. You will see the folder **Actions and Dialogs**. Perform the following steps:

1. Go to **Desktop** → **Actions and Dialogs,** and select **Sales Proposal - Add** dialog.
2. Drag it to the **Actions and Dialogs** folder under **Sales Proposal** class.
3. Repeat the procedure for **Sales Proposal - Modify** dialog and **Proposal - Revision** dialog.

It should look like Figure 8-28.

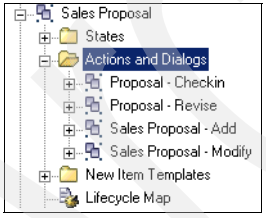

Figure 8-28 Sales Proposal class actions and dialogs

Complete Desktop template with Proposal objects

You need to configure the Default Template with the Views and Search you have just created for Sales Proposal class.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Desktop template** to select it. You need to modify the templates defined.

Follow these steps:

1. Select **Content Producers Template**. Click the **Modify** icon in the Designer title bar.
2. Select the **View Template** Tab.
   a. Add **Proposal View** and **Detailed Proposal View** to the right list.
3. Select **Search Template** Tab.
   b. Add **Proposal** search to the right list.
4. Click **OK** to save your entries to the system.
5. Apply the same changes to **Admin Template** and **Viewers Template**.

Test your system: Sales Proposal class

Now you can log on to the Document Manager Desktop as `usrSale` and test the following Sales Proposal class functionality:

- Add documents, using Item Numbering for Proposal Number.
- Search documents, using a CVL list for class selection.
- Use different Views for the search return.
- Open and Modify documents.

Note: If you cannot see the changes in your system, please check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting the DM Cache server, and logging in again in the Document Manager Desktop.

8.2.7 Proposal life cycle objects

You have created all the Sales Proposal-related objects. Now you have to create all the life cycle-related objects and define the life cycle for the class.

The following steps comprise the tasks required to complete this exercise.

1. “Create roles” on page 286
2. “Create document states” on page 290
3. “Configure document lifecycle map” on page 294

Create roles

For the ZXY Technologies, we create four roles to use in the Sales Proposal. These roles are shared between the three Proposal Documents. You need to do this only once. Each role represents which right has a group of users over a state of the document. Once you create the roles, we will assign the roles to the corresponding states.

The following steps comprise the tasks required to complete this exercise.

1. “Create Creators role” on page 287
2. “Create Reviewers role” on page 288
3. “Create Approvers role” on page 288
4. “Create Creators role” on page 287

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Roles** to select it.

Create Creators role

To create the Creator role, do the following:

1. In the **Name** field, type `Creators`.
2. In the **General** panel, set the option as shown in Figure 8-29:

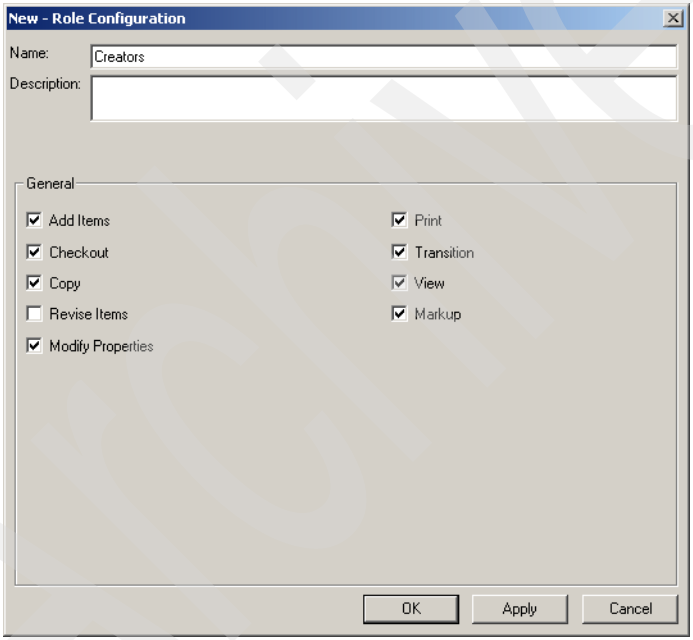

Figure 8-29 Creators Role Configuration window

3. Click **OK** to save your entries to the system.
4. Expand the role, select **Groups,** and add the following:
   - grpSales
   - grpConsultants
   - grpMarketing

Create Reviewers role

To create the Reviewers role, do the following:

1. In the **Name** field, type `Reviewers`.
2. In the **General** panel, set the option as shown in Figure 8-30.

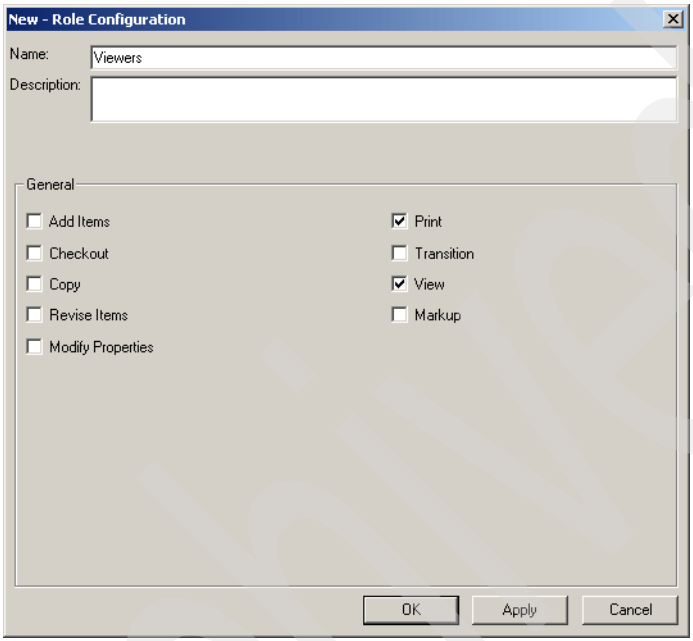

Figure 8-30 Reviewers Role Configuration window

3. Click **OK** to save your entries to the system.
4. Expand the role, select **Groups,** and add the following:
   - grpFinancials
   - grpManagers

Create Approvers role

To create the Approvers role, do the following:

1. In the **Name** field, type `Approvers`.
2. In the **General** panel, set the option as shown in Figure 8-31.

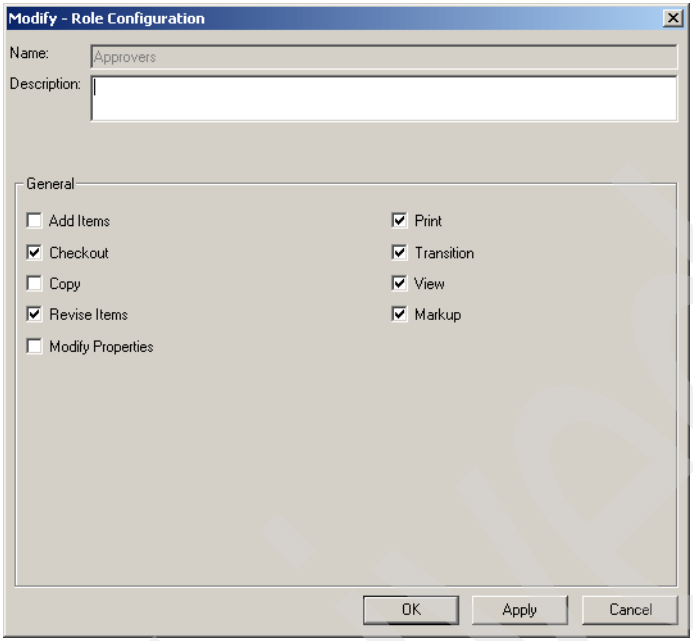

Figure 8-31 Approvers Role Configuration window

3. Click **OK** to save your entries to the system.
4. Expand the role, select **Groups,** and add the following:
   – grpManagers

Create Viewers role

To create the Viewers role, do the following:

1. In the **Name** field, type `Viewers`.
2. In the **General** panel, set the option as shown in Figure 8-32.

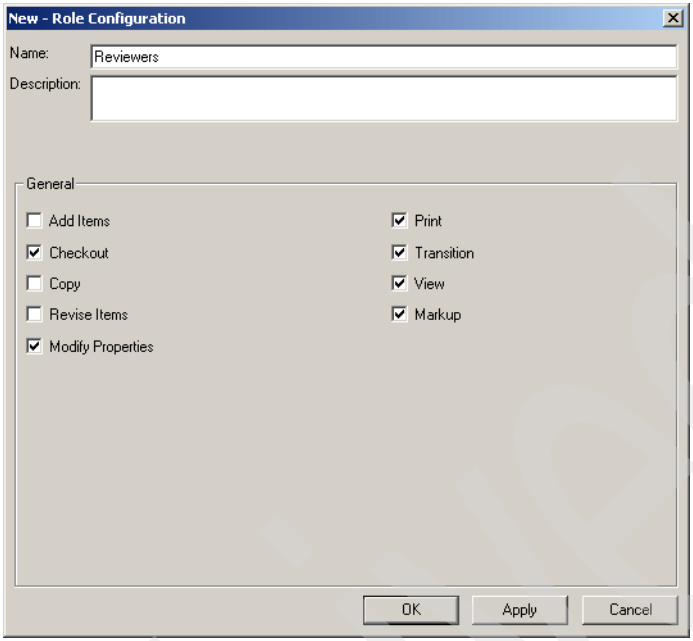

Figure 8-32 Viewers Role Configuration window

3. Click **OK** to save your entries to the system.
4. Expand the role, select **Groups,** and add the following:
   - grpViewers
   - grpSales
   - grpMarketing
   - grpServices
   - grpManager
   - grpFinancials

Create document states

For the ZXY Technologies Proposal classes, we create five states. Each state represents a step inside a class life cycle. You configure the states' functionality and associated roles.

The following steps comprise the tasks required to complete this exercise:

1. "Create Draft state" on page 291
2. "Create Review state" on page 291
3. "Create Approval state" on page 292
4. "Create Superceded state" on page 292
5. "Create Orphaned state" on page 292

6. “Create Issued state” on page 293
7. “Create PDF state” on page 293
8. “Associate Sales Proposal states with the class” on page 293

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **States** to select it. Click the **New** icon in the Designer title bar.

Create Draft state

To create the Draft state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Draft.`
   b. Select **Active** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab.
2. Select **Security** tab. Check the following two options:
   – **Items can be added as this state**.
   – **New revisions can be created as this state**.
3. Click **OK** to save your entries to the system.

   Note that a new folder named Draft is created beneath the **States** folder.
4. Expand **Draft**. You will see the folder Roles.

   Go to **Desktop** → **Roles,** and drag the following roles to the Roles folder under Draft state:
   – Creators
   – Viewers

Create Review state

To create the Review state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Review.`
   b. Select **Active** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab and **Security** tab.
2. Click **OK** to save your entries to the system.
3. Expand **Review**. You will see the folder Roles.

   Go to **Desktop** → **Roles,** and drag the following roles to the Roles folder under Review state:
   – Reviewers
   – Viewers

Create Approval state

To create the Approval state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Approval`.
   b. Select **Active** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab and **Security** tab.
2. Click **OK** to save your entries to the system.
3. Expand **Approval**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles**, and drag the following roles to the **Roles** folder under **Approval** state:

   – Approvers
   – Viewers

Create Superceded state

To create the Superceded state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Superceded`.
   b. Select **Inactive** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab and **Security** tab.
2. Click **OK** to save your entries to the system.
3. Expand **Superceded**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles,** and drag the following roles to the **Roles** folder under **Superceded** state:

   – Viewers

Create Orphaned state

To create the Orphaned state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Orphaned`.
   b. Select **Inactive** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab and **Security** tab.
2. Click **OK** to save your entries to the system.
3. Expand **Orphaned**. You will see the folder **Roles**.

Go to **Desktop** → **Roles,** and drag the following roles to the **Roles** folder under **Orphaned** state:

– Viewers

Create Issued state

To create the Issued state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Issued`.
   b. Select **Issued** from the drop-down list associated with the **Type** field.
2. Select **Transition** tab.
   a. Check the option **Transition previous revision in state to** and select **Superceded** from the drop-down list.
3. Leave unchecked all of the actions on **Security** tab.
4. Click **OK** to save your entries to the system.
5. Expand **Issued**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles,** and drag the following roles to the **Roles** folder under **Issued** state:

   – Viewers

Create PDF state

To create the PDF state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `PDF`.
   b. Select **Inactive** from the drop-down list associated with the **Type** field.
   c. Leave unchecked all of the actions on the **Actions** tab and **Security** tab.
2. Click **OK** to save your entries to the system.
3. Expand **PDF**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles,** and drag the following roles to the **Roles** folder under **Issued** state:

   – Viewers

Associate Sales Proposal states with the class

Expand the **Sales Proposal** class. You will see the folder **States**. Do the following:

1. Go to **Desktop** → **States,** and select **Draft** state.

2. Drag it to the **States** folder under the **Sales Proposal** class.
3. Repeat the procedure for the other **Sales Proposal** states.

It should looks like Figure 8-33:

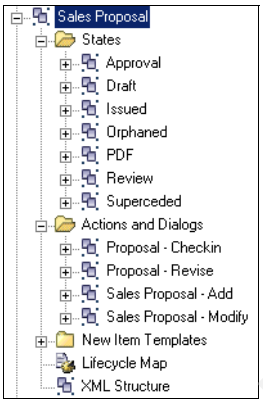

Figure 8-33 Sales Proposal states

4. Expand **Draft** state, expand **Roles**, expand **Creators**, and expand **Groups**.
5. Leave only **grpSales** in the list. Delete **grpMarketing** and **grpServices**. It should look like Figure 8-34:

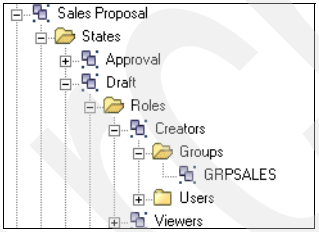

Figure 8-34 Sales Proposal class roles configuration

Configure document lifecycle map

You have associated all the states with the class. Now you configure the life cycle with the correct order through which a document passes.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, open **Item Type**, open **CustomerData**, open **Sales Proposal**, and then click **Lifecycle Map** to select it. Perform the following steps:

1. Click the **Modify** icon in the Designer title bar.

2. You have to move the object like Figure 8-35 but without the arrows. We will add them later.

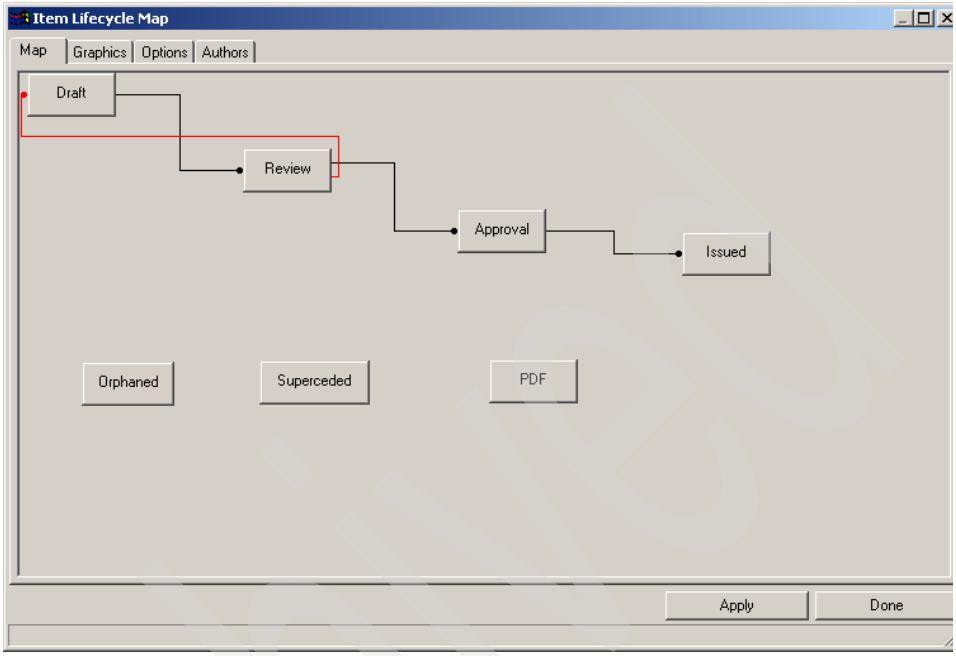

Figure 8-35 Sales Proposal Lifecycle Map window

3. Select the **Draft** state, right-click, and select **Add route**. An arrow will appear from **Draft** as origin and you have to click over **Review** to mark the destination. The **New - Item Lifecycle Route** windows open.
   a. Select the **Participants** tab.
   b. Assign the **Creators** role to the **Assigned list** in the right.
   c. Click **Apply** to save the changes. Click **Done** to close the windows.
4. Select the **Review** state, right-click and select **Add route**. An arrow will appear from **Review** as origin and you have to click over **Approve** to mark the destination. The **New - Item Lifecycle Route** windows open.
   a. Select **Participants** tab.
   b. Assign **Reviewers** role to the **Assigned list** in the right.
   c. Click **Apply** to save the changes. Click **Done** to close the window.
5. Select **Review** state, right-click, and select **Add route**. An arrow will appear from **Review** as origin and you have to click over **Draft** to mark the destination. The **New - Item Lifecycle Route** window opens.

a. Select **Graphics** tab. Select **Color** to **Red**.

a. Select **Participants** tab.

b. Assign **Reviewers** role to the **Assigned list** in the right.

c. Click **Apply** to save the changes. Click **Done** to close the window.

6. Select **Approve** state, right-click and select **Add route**. An arrow will appear from **Approve** as origin and you have to click over **Approve** to mark the destination. The **New - Item Lifecycle Route** window opens.

   a. Select **Participants** tab.

   b. Assign **Approvers** role to the **Assigned list** in the right.

   c. Click **Apply** to save the changes. Click **Done** to close the window.

7. Select **Graphic** tab. Change **Current state text** color to **Red**.

8. Click **Apply** to save the changes. Click **Done** to close the window.

Test your system: Sales Proposal life cycle

Now you can log on to the Document Manager Desktop as `usrSale` and test the following Sales Proposal class functionality:

- Add documents.
- Route the documents through the life cycle.

Note: If you cannot see the changes in your system, please check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting DM Cache server, and logging in again in the Document Manager Desktop.

Note: The DM Lifecycle service must be up and running to route a document through the life cycle.

8.2.8 Correspondence objects

In this section, we describe the Correspondence objects' design and the procedures to create them.

The following steps comprise the tasks required to complete this exercise:

1. "Create actions and dialogs" on page 297
2. "Create views" on page 301
3. "Create CVL lists and links" on page 302
4. "Create searches" on page 303
5. "Create item numbering" on page 305
6. "Create correspondence document class" on page 305

Create actions and dialogs

ZXY Technologies needs the Add Correspondence and Modify Correspondence dialogs. The Add dialog box will be displayed to the user when the user tries to add a new Correspondence document in the system. The Modify dialog box will be displayed to the user when the user tries to modify an existing Correspondence document in the system.

The following steps comprise the tasks required to complete this exercise.

1. “Create Correspondence - Add dialog” on page 297
2. “Create Correspondence - Modify dialog” on page 300

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Actions and Dialogs** to select it.

Create Correspondence - Add dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Perform the following steps:

1. Set the **Name** to `Correspondence - Add`.

1. In the **Dialog** tab, complete on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `700`.
   c. Set the **Height** to `500`.
2. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-36.

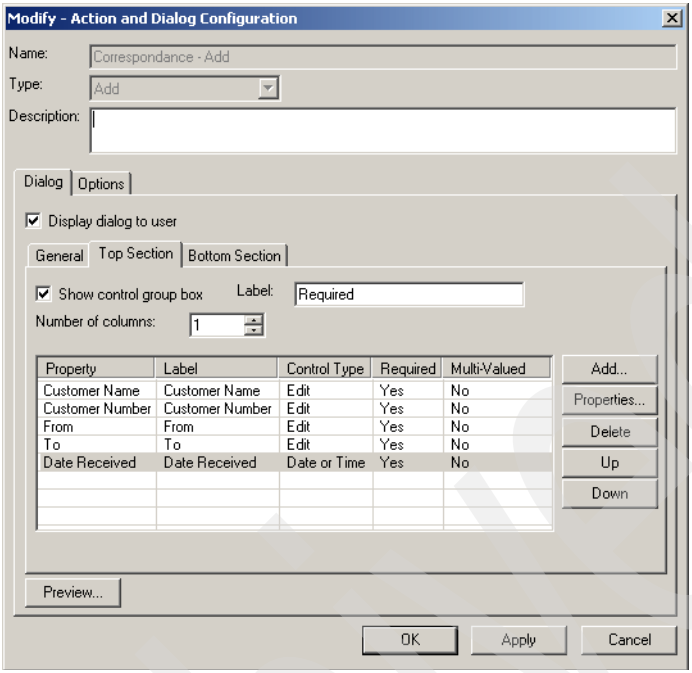

Figure 8-36 Correspondence: Top Section of Add Dialog Configuration

3. Click the **Bottom Section** tab and populate the **Bottom Section** page as shown in Figure 8-37.

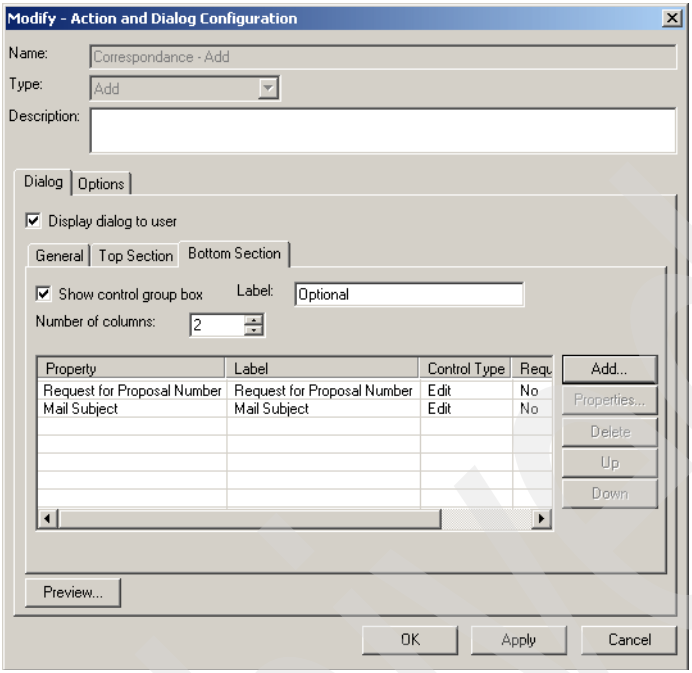

Figure 8-37 Correspondence: Bottom Section of Add Dialog Configuration

4. Click the **Options** tab and configure the **Options** page with the options listed in Table 8-16:

Table 8-16 Correspondence - Add action options

Option	Value
Content index	Yes
Content index - Display Dialog Option	Yes
Keep local copy	Yes
Keep local copy - Display Dialog Option	Yes
Add to folder - Display Dialog Option	Yes
Apply unique item numbering	Yes

5. Click **Preview**. This displays a preview of the dialog. You can change the window's **Width** and **Height** option if you want to modify the dimensions.
6. Click **OK** to save the changes.

7. Under **Correspondence - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing

Create Correspondence - Modify dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Perform the following steps:

1. Set the **Name** to `Correspondence - Modify.`
2. In the **Dialog** tab, on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `700.`
   c. Set the **Height** to `450.`
3. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-38. Attributes **eMailTrackNumber** and **Proposal Number** must be **Disabled**.

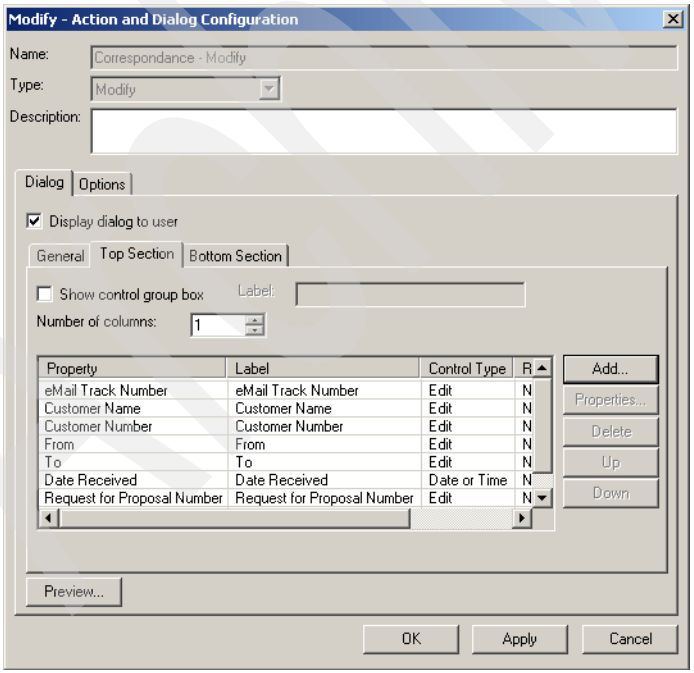

Figure 8-38 Correspondence: Top Section of Modify Dialog Configuration

4. Click the **Options** tab and configure the **Options** page. Set **Refresh desktop** to **yes**.
5. Click **OK** to save the changes.
6. Under **Correspondence - Modify**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing

Create views

For ZXY Technologies, you create only one view that shows all the Correspondence properties to the user.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Views** to select it.

Create Correspondence View

Click the **Add** icon in the Designer title bar. The New View Configuration window opens. Perform the following steps:

1. Click the **General** tab and on the **General** page:
   a. Enter `Correspondence View` in the **Name** field.
2. Click the **Display** tab and on the **Display** page:

   In the left panel is a list of the **Library Properties** for the system. Select the properties as shown in Figure 8-39 and add them to the **Selected Properties** panel on the right of the dialog.

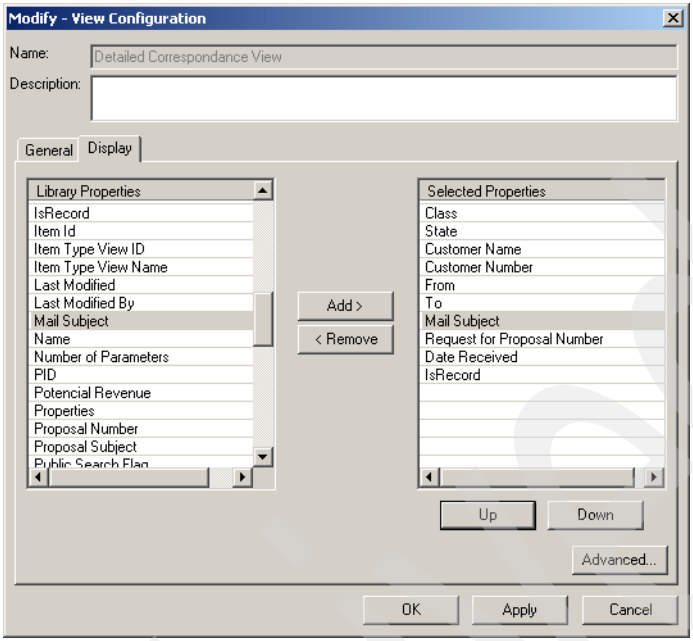

Figure 8-39 Correspondence View Configuration window

3. Click **Advanced**. Select **Display** Filters tab.
   a. Select **Class** from the **Property** drop-down list.
   b. Select **Equal** from the **Operator** drop-down list.
   c. Enter `Correspondence` in the **Value** field.
   d. Click **Add** to save the selection.
4. Click **OK** to save your changes.

Create CVL lists and links

You must create in the design a CVL list and a CVL link to use for the Correspondence Search. This list displays a predefined option list in the search dialog box for the user.

The following steps comprise the tasks required to complete this exercise.

1. “Create Correspondence CVL list” on page 303
2. “Create Correspondence Link” on page 303

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and open **CVLs**.

Create Correspondence CVL list

Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Perform the following steps:

1. In the **Name** field, type `Correspondence`.
2. In the **Type** pick-list, select **Standard.**
3. Add the value:
   - Correspondence
4. Click **OK** to save your changes.

Create Correspondence Link

Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Perform the following steps:

1. In the **Name** field, type `Correspondence Link`.
2. Set **Property** drop-down list to **Class.**
3. Set **CVL name** drop-down list to **Correspondence.**
4. Set **Default Value** drop-down list to **Correspondence.**
5. Click **OK** to save your changes.

Create searches

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Searches** to select it.

Create Correspondence search

Click the **New** icon in the Designer title bar. The New Search Configuration window opens. Perform the following steps:

1. Click the **Properties** tab and complete the **Properties** page:
   a. In the **Name** field, type `Correspondence`.
   b. Check the **Save Search**, **Clear Search**, and **Load Search** options.
2. Complete the **Properties** page.
   a. Add the properties listed in Table 8-17.

Table 8-17 Correspondence search properties

Property	Control Type	Default Operator
Class	Dropdown	Equal
Customer Name	Edit	Contains

Property	Control Type	Default Operator
Customer Number	Edit	Contains
eMail Track Number	Edit	Equal
Request for Proposal Number	Edit	Ignore
From	Edit	Ignore
To	Edit	Ignore
Mail Subject	Edit	Ignore
Dated Received	Date	Ignore

It should look like Figure 8-40.

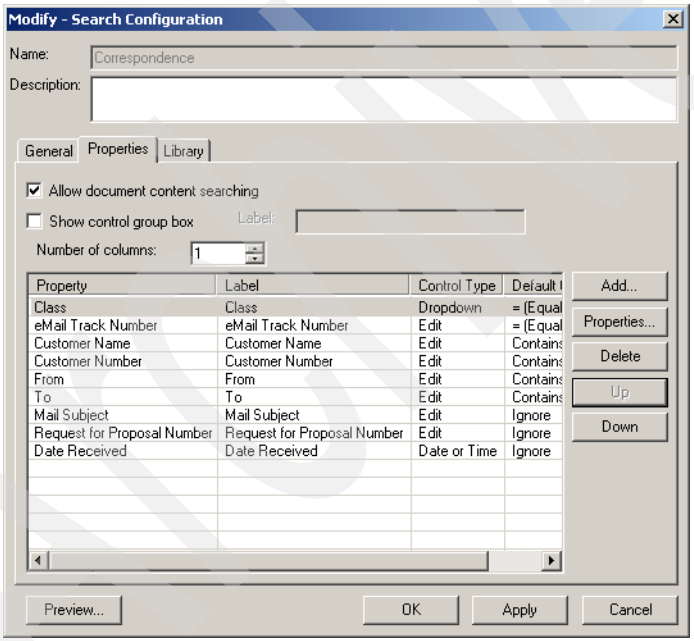

Figure 8-40 Correspondence Search Configuration window

3. Click the **Library** tab and complete the **Library** page:
   a. Click **Add**. Select **CustomerData** item type from the list.
4. **Preview** the dialog and then close it.
5. Click **OK** to post the search configuration to the repository.

6. Add CVL Link: It will populate the Class drop-down list.
   a. Select the **Correspondence Link** you created in previous step.
   b. Drag it over **CVL Link** under **Correspondence Search**.

Create item numbering

For the ZXY Technologies proposal, we define a unique e-mail Track Number for follow-up correspondence documents.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Item Numbering** to select it.

Create Correspondence Track Number

Click the **New** icon in the Designer title bar. The New - Item Numbering Configuration window opens. Perform the following steps:

1. In the **Name** field, type `Correspondence Track Number`**.**
2. Click the **Numbering** tab and complete the **Numbering** page.
   a. Select **Numeric** from the **Numbering scheme** drop-down list.
   b. Select **6 - 00000x** from the **Format** drop-down list.
3. You do not have to complete the **Lock Info** tab page. This is only for information about which number is the last one created and who created it.
4. Click **OK** to save the changes.

Create correspondence document class

Next create the Correspondence controlled class.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, open **Item Type**, and open the **CustomerData** item type. Select **Classes** and click the **New** icon in the Designer title bar.

Create Correspondence controlled class

Perform the following steps:

1. Populate the top section of the window:
   a. In the **Name** field, type `Correspondence`**.**
   b. In the **Type** pick-list, select **Controlled.**
2. Click the Triggers tab and complete the **Triggers** page as shown in Figure 8-41.

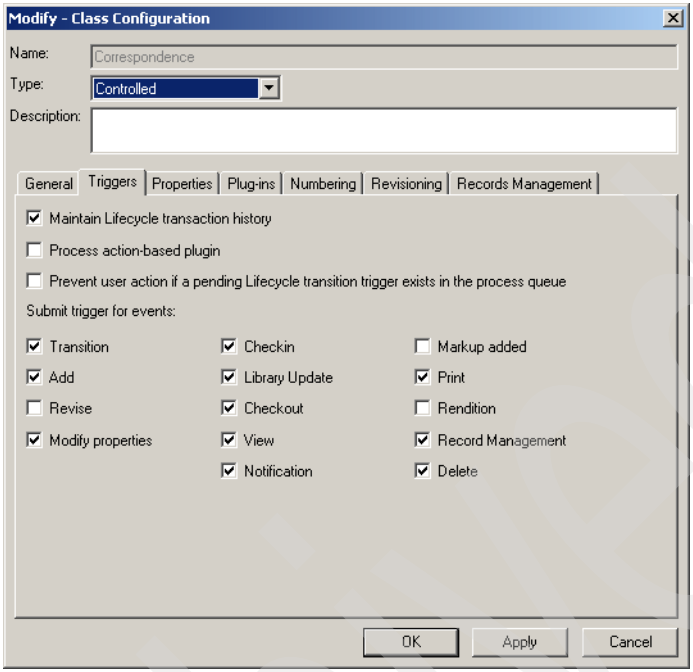

Figure 8-41 Correspondence Class Configuration window

3. Click the **Properties** tab and complete the **Properties** page:
   a. Select **eMail Track Number** from the **Property** drop-down list
   b. Select the **Require entry** check box
   c. Click **Add**
4. Click the **Numbering** tab and complete the **Numbering** page:
   a. Select **eMail Track Number** from the **Property** drop-down list
   b. Select **Correspondence Track Number** from the **Numbering Configuration** drop-down list
5. Click **OK** to save your entries to the system

Associate actions and dialogs

Expand the Correspondence class. You will see the folder Actions and Dialogs. Perform the following steps:

1. Go to **Desktop** → **Actions and Dialogs,** and select **Correspondence - Add** dialog.
2. Drag it to the folder under **Correspondence class**.

3. Repeat the procedure for **Correspondence - Modify** dialog.

It should look like Figure 8-42:

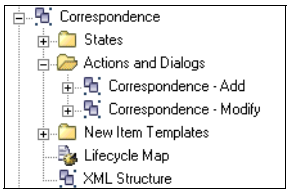

Figure 8-42 Correspondence class actions and dialogs

Complete Desktop template with Correspondence objects

Configure the Default Template with the View and Search you have just created for Correspondence class.

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, and then click **Desktop template** to select it. You need to modify the templates you have defined. Perform the following steps:

1. Select **Content Producers Template**. Click the **Modify** icon in the Designer title bar.
2. Select the **View Template** Tab.

   Add **Correspondence View** to the right list.
3. Select **Search Template** Tab.

   Add **Correspondence** search to the right list.
4. Click **OK** to save your entries to the system.
5. Apply the same changes to **Admin Template** and **Viewers Template**.

Test your system: Correspondence class

Now you can log on to the Document Manager Desktop as `usrSale` and test the following Correspondence class functionality:

- Add documents, using Item Numbering for eMail Track Number.
- Search documents.
- Use Views for the search return.
- Open and Modify documents.

Note: If you cannot see the changes in your system, check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting the DM Cache server, and logging in again in the Document Manager Desktop.

8.2.9 Correspondence life cycle objects

You have created all the Correspondence-related objects. Now you have to create all the life cycle-related objects and define the life cycle for the class.

The following steps comprise the tasks required to complete this exercise.

1. “Create document states” on page 308
2. “Configure document lifecycle map” on page 309

Create document states

For the ZXY Technologies Correspondence class, we create two states. Each state represents a step inside a class life cycle. You will configure the states’ functionality and associated roles.

The following steps comprise the tasks required to complete this exercise.

1. “Create Incoming state” on page 308
2. “Create Outgoing state” on page 308
3. “Associate Correspondence states with the class” on page 309

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **States** to select it. Click the **New** icon in the Designer title bar.

Create Incoming state

To create the Incoming state, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `Incoming.`
   b. Select **Issued** from the drop-down list associated with the **Type** field.
2. Select **Security** tab. Check the following option:
   – **Items can be added as this state**.
3. Click **OK** to save your entries to the system.
4. Expand **Incoming**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles** and drag the following roles to the **Roles** folder under **Incoming** state:
   – Creators
   – Viewers

Create Outgoing state

To create the Outgoing state, do the following:

1. Populate the top section of the window.

a. In the **Name** field, type `Outgoing.`

b. Select **Issued** from the drop-down list associated with the **Type** field.

2. Select **Security** tab. Check the following option:

   – **Items can be added as this state**.

3. Click **OK** to save your entries to the system.

4. Expand **Outgoing**. You will see the folder **Roles**.

   Go to **Desktop** → **Roles** and drag the following roles to the **Roles** folder under **Outgoing** state:

   – Creators
   – Viewers

Associate Correspondence states with the class

Expand the Correspondence class. You will see the folder **States**. Do the following:

1. Go to **Desktop** → **States** and select **Incoming** state.
2. Drag it to the **States** folder under **Correspondence** class.
3. Repeat the procedure for **Outgoing** state.

It should look like Figure 8-43:

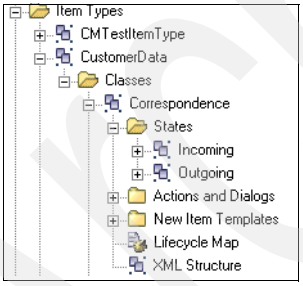

Figure 8-43 Correspondence states

Configure document lifecycle map

You have associated all the states with the class, now you have to configure the life cycle with the correct order through which a new document passes.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open the **Item Type**, open **CustomerData**, open **Correspondence**, and then click **Lifecycle Map** to select it. Do the following steps:

1. Click the **Modify** icon in the Designer title bar. Figure 8-44 displays.

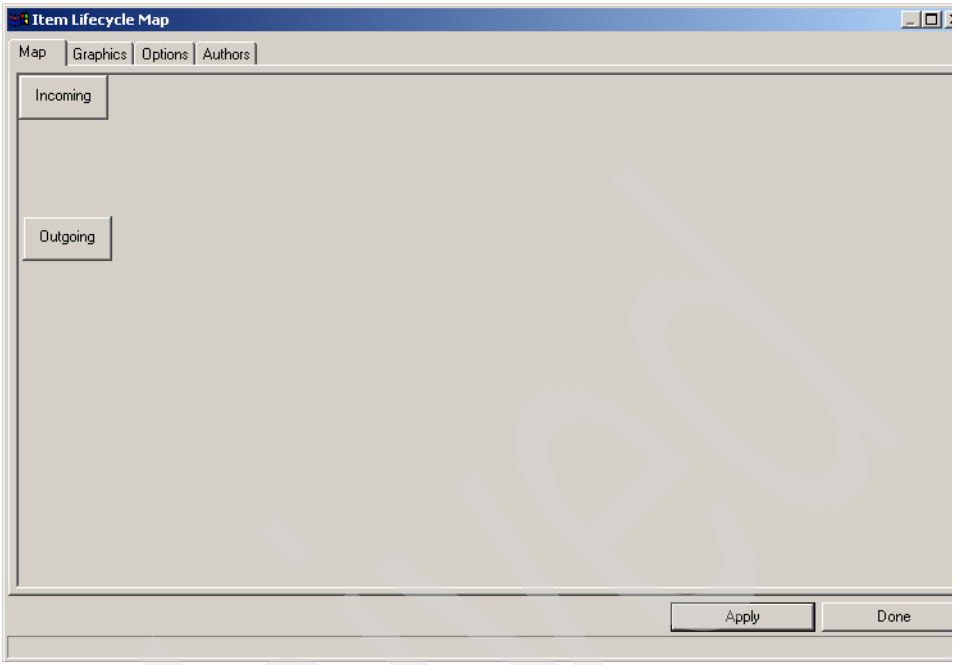

Figure 8-44 Correspondence Lifecycle Map window

2. Select **Graphic** tab. Change **Current state text** color to **Blue**.
3. Click **Apply** to save the changes. Click **Done** to close the window.

Test your system: Correspondence life cycle

Now you can log on to Document Manager Desktop as `usrSale` and test the following Correspondence class functionality:

- Add documents.
- Route the documents through the life cycle.

Note: If you cannot see the changes in your system, check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting the DM Cache server, and logging in again in the Document Manager Desktop.

Note: You need the DM Lifecycle service up and running to route a document through the life cycle.

8.2.10 RFP objects

In this section, we describe the RFP (Request for Proposal) objects design and the procedures to create them.

The following steps comprise the tasks required to complete this exercise.

1. “Create actions and dialogs” on page 311
2. “Create views” on page 315
3. “Create CVL lists and links” on page 316
4. “Create searches” on page 317
5. “Create RFP document class” on page 319

Create actions and dialogs

ZXY Technologies needs an Add RFP dialog and a Modify RFP dialog. The Add dialog box will be displayed to the user when the user tries to add a new RFP document in the system, and the Modify dialog box will be displayed to the user when the user tries to modify an existing RFP document.

The following steps comprise the tasks required to complete this exercise.

1. “Create RFP - Add dialog” on page 311
2. “Create RFP - Modify dialog” on page 314

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Actions and Dialogs** to select it.

Create RFP - Add dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Perform the following steps:

1. Set the **Name** to `RFP - Add`.
2. In the **Dialog** tab, on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `700`.
   c. Set the **Height** to `500`.
3. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-45.

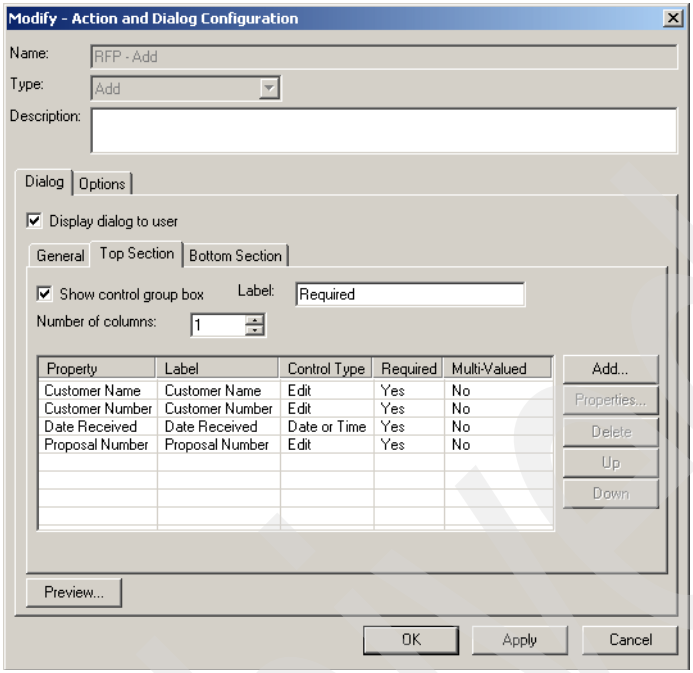

Figure 8-45 RFP - Add Dialog Configuration window - Top Section tab

4. Click the **Bottom Section** tab and Populate the **Bottom Section** page as shown in Figure 8-46:

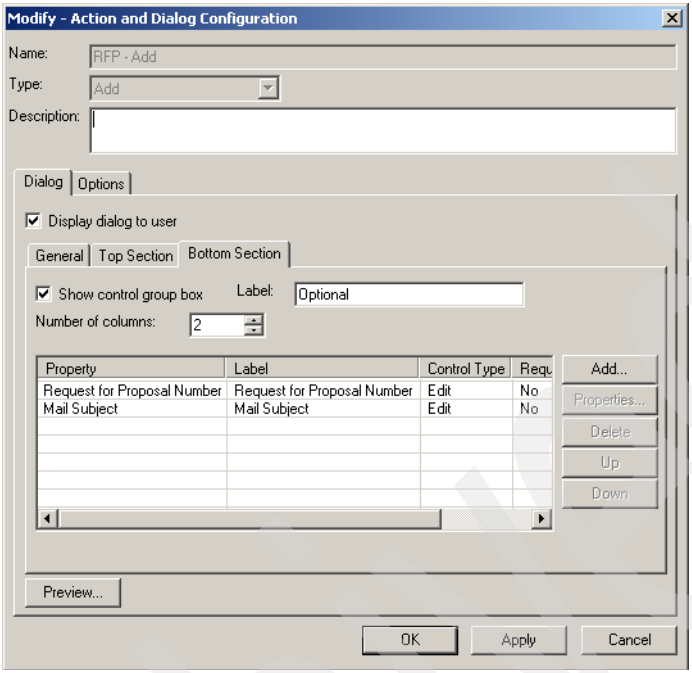

Figure 8-46 RFP - Add Dialog Configuration window - Bottom Section tab

5. Click the **Options** tab and configure the **Options** page with the options listed in Table 8-18.

Table 8-18 RFP - Add action options

Option	Value
Content index	Yes
Content index - Display Dialog Option	Yes
Keep local copy	Yes
Keep local copy - Display Dialog Option	Yes
Add to folder - Display Dialog Option	Yes
Apply unique item numbering	Yes

6. Click **Preview**. This displays a preview of the dialog. You can change the window's **Width** and **Height** option if you want to modify the dimensions.
7. Click **OK** to save the changes.

8. Under **RFP - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing

Create RFP - Modify dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Do the following steps:

1. Set the **Name** to `RFP - Modify`.
2. In the **Dialog** tab, on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `700`.
   c. Set the **Height** to `400`.
3. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-47. Attributes **eMailTrackNumber** and **Proposal Number** must be **Disabled**.

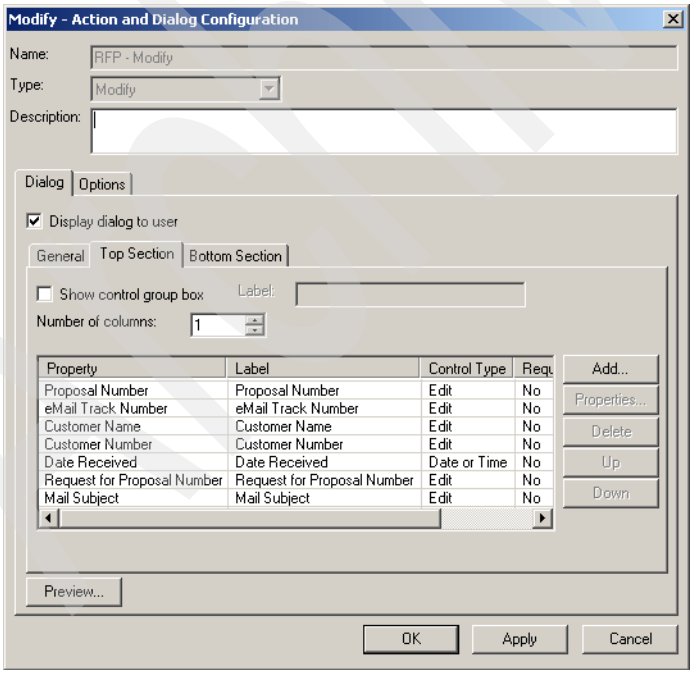

Figure 8-47 RFP - Modify Dialog Configuration window

4. Click the **Options** tab and populate the **Options** page. Set **Refresh desktop** to **yes**.
5. Click **OK** to save the changes.
6. Under **RFP - Modify**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing

Create views

For ZXY Technologies, you only create only one view that shows all the RFP properties to the user.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Views** to select it.

Create RFP View

Click the **Add** icon in the Designer title bar. The New View Configuration window opens. Perform the following steps:

1. Select the **General** tab. On the **General** page:
   a. Enter `RFP View` in the **Name** field.
2. Select the **Display** tab. On the **Display** page:

   In the left panel is a list of the **Library Properties** for the system. Select the properties as shown in Figure 8-48 and add them to the **Selected Properties** panel on the right side of the dialog:

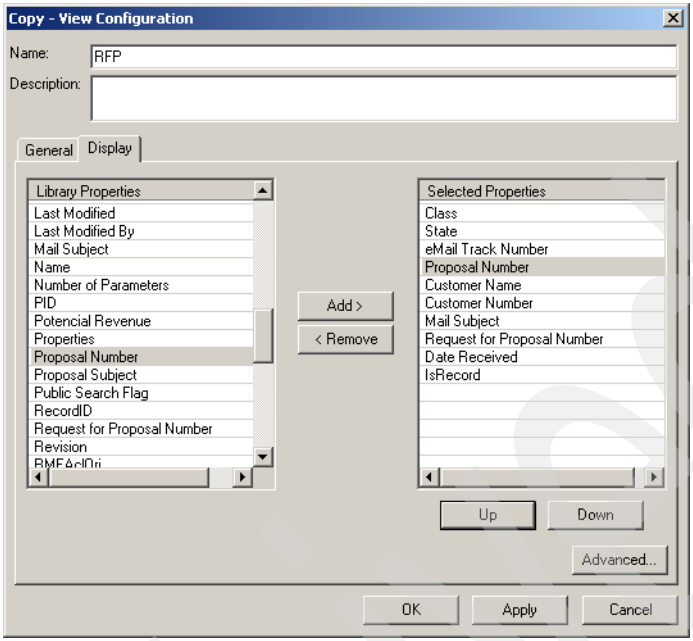

Figure 8-48 RFP View Configuration window

3. Click **OK** to save your changes.

Create CVL lists and links

Create in the design a CVL List and a CVL Link to use for the RFP Search. This list displays a predefined option list in the search dialog box to the user.

The following steps comprise the tasks required to complete this exercise.

1. “Create RFP CVL list” on page 316
2. “Create RFP Link” on page 317

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and open **Cvls**.

Create RFP CVL list

Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Perform the following steps:

1. In the **Name** field, type `RFP`**.**
2. In the **Type** pick-list, select **Standard.**

3. Add the value:
   – RFP
4. Click **OK** to save your changes.

Create RFP Link

Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Perform the following steps:

1. In the **Name** field, type `RFP Link`.
2. Set **Property** drop-down list to **Class.**
3. Set **CVL name** drop-down list to **RFP.**
4. Set **Default Value** drop-down list to **RFP.**
5. Click **OK** to save your changes.

Create searches

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Searches** to select it.

Create RFP search

Click the **New** icon in the Designer title bar. The New Search Configuration window opens. Perform the following steps:

1. Click the **Properties** tab and complete the **Properties** page:
   a. In the **Name** field, type `RFP`.
   b. Check the **Save Search**, **Clear Search**, and **Load Search** options.
2. Complete the **Properties** page:
   a. Add the properties listed in Table 8-19.

Table 8-19 RFP search properties

Property	Control Type	Default Operator
Class	Dropdown	Equal
Customer Name	Edit	Contains
Customer Number	Edit	Contains
Proposal Number	Edit	Contains
eMail Track Number	Edit	Ignore
Request for Proposal Number	Edit	Ignore

Property	Control Type	Default Operator
Date Received	Date	Ignore

It looks like Figure 8-49:

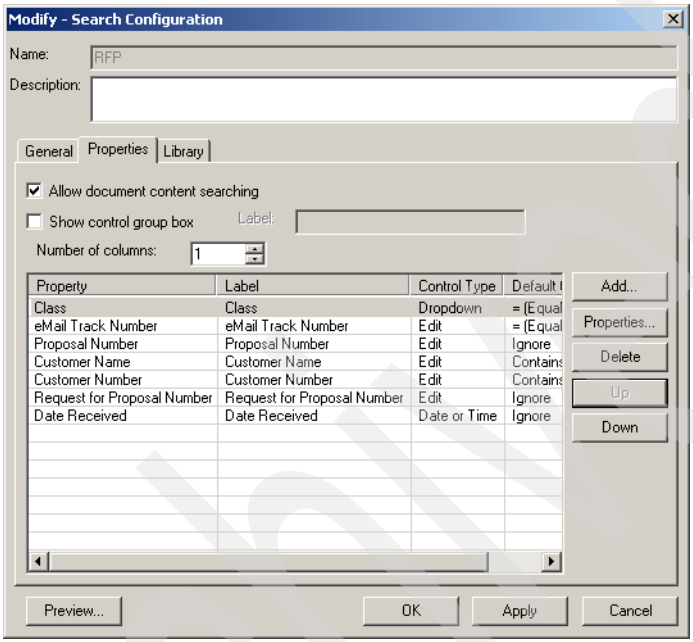

Figure 8-49 RFP Search Configuration window

3. Click the **Library** tab and complete the **Library** page:
   a. Click **Add**. Select the **CustomerData** item type from the list.
4. **Preview** the dialog, and then close it.
5. Click **OK** to post the search configuration to the repository.
6. Add CVL Link: It will populate the Class drop-down list.
   a. Select the **RFP Link** you have created in the previous step.
   b. Drag it over **CVL Link under RFP Search**.

Create RFP document class

You need to create the RFP controlled class. Follow these steps:

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **Item Type**, open the **CustomerData** item type. Select **Classes** and click the **New** icon in the Designer title bar.

Create RFP controlled class

To create the RFP controlled class, do the following:

1. Populate the top section of the window.
   a. In the **Name** field, type `RFP`.
   b. In the **Type** pick-list, select **Controlled**.
2. Click the **Triggers** tab and complete the **Triggers** page as shown in Figure 8-50:

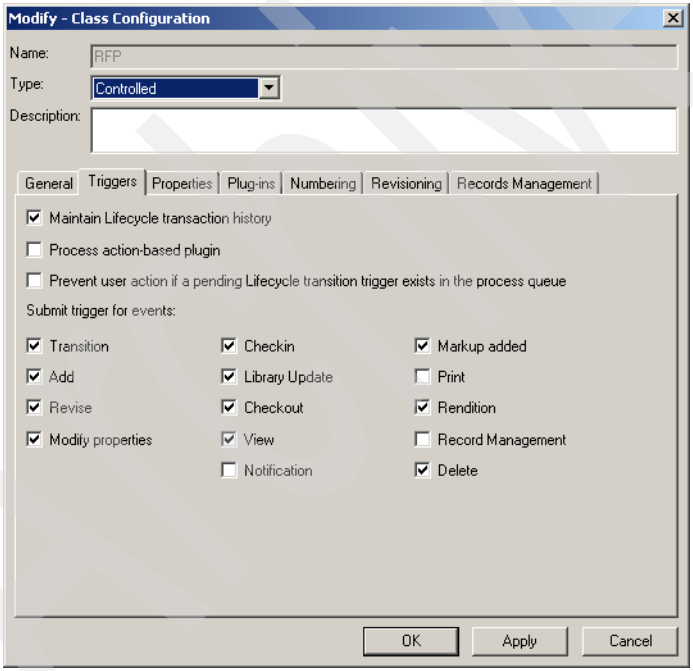

Figure 8-50 RFP Class Configuration window

3. Click the **Properties** tab and complete the **Properties** page:
   a. Select **eMail Track Number** from the **Property** drop-down list.
   b. Select the **Require entry** check box.

c. Click **Add**.

4. Click the **Numbering** tab and complete the **Numbering** page:
   a. Select **eMail Track Number** from the **Property** drop-down list.
   b. Select **Correspondence Track Number** from the **Numbering Configuration** drop-down list.
5. Click the **Records Management** tab and complete the **Records Management** page.

   You must leave the default options. Once you save the class you can return here and change the Records Management quick declare options.
6. Click **OK** to save your entries to the system.

Associate actions and dialogs

Expand the RFP class. You will see the folder Actions and Dialogs. Do the following:

1. Go to **Desktop** → **Actions and Dialogs** and select **RFP- Add** dialog.
2. Drag it to the folder under **RFP class.**
3. Repeat the procedure for **RFP - Modify** dialog.

Complete Desktop template with RFP objects

You need to configure the Default Template with the View and Search you have just created for RFP class.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Desktop template** to select it. You need to modify the defined templates. Follow these steps:

1. Select **Content Producers Template**. Click the **Modify** icon in the Designer title bar.
2. Select the **View Template** Tab.
   a. Add **RFP View** to the right list.
3. Select **Search Template** Tab.
   b. Add **RFP Search** to the right list.
4. Click **OK** to save your entries to the system.
5. Apply the same changes to **Admin Template** and **Viewers Template**.

Associate RFP states with the class

Expand the RFP class. You will see the folder **States**. Do the following steps:

1. Go to **Desktop** → **States** and select **Incoming** state.

2. Drag it to the **States** folder under **RFP** class.

Test your system: RFP class

Now you can log on to Document Manager Desktop as `usrSale` and test the following RFP class functionality:

- Add documents, using Item Numbering for eMail Track Number.
- Search documents.
- Use Views for the search return.
- Open and Modify documents.

Note: If you cannot see the changes in your system, check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting the DM Cache server, and logging in again in the Document Manager Desktop.

8.2.11 Reference Document objects

In this section, we describe the design of the Reference Document objects and the procedures to create them.

The following steps comprise the tasks required to complete this exercise.

1. “Create actions and dialogs” on page 321
2. “Create views” on page 324
3. “Create CVL lists and links” on page 326
4. “Create searches” on page 327
5. “Create Reference Documents class” on page 328

Create actions and dialogs

ZXY Technologies needs an Add and Modify Reference Documents dialog. The Add dialog box will be displayed to the user when the user tries to add a new Reference Document in the system, and the Modify dialog box will be displayed to the user when the user tries to modify an existing Reference Document in the system.

The following steps comprise the tasks required to complete this exercise.

1. “Create Reference Document - Add dialog” on page 322
2. “Create Reference Document - Modify dialog” on page 323

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Actions and Dialogs** to select it.

Create Reference Document - Add dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Do the following steps:

1. Set the **Name** to `Reference Documents - Add`.
1. Click the **Dialog** tab, and on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `500`.
   c. Set the **Height** to `300`.
2. Click the **Top Section** tab and populate the **Top Section** page as shown in Figure 8-51:

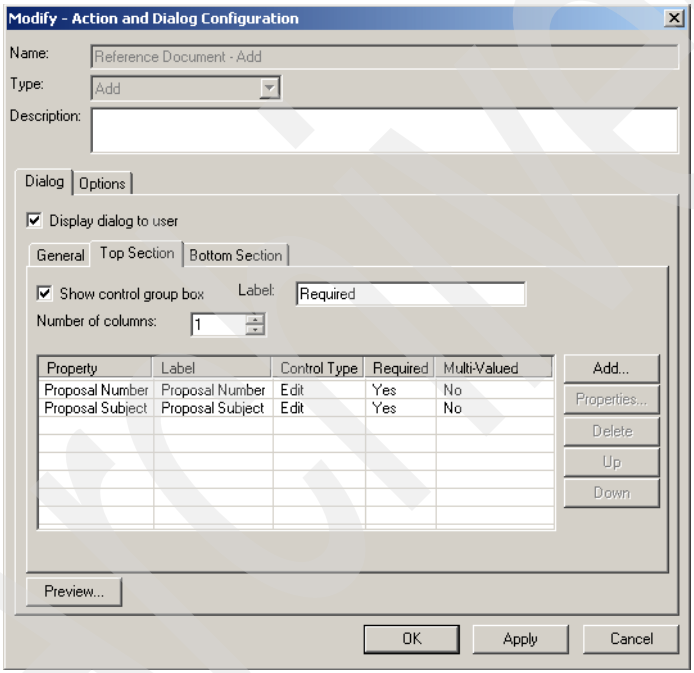

Figure 8-51 Reference Document - Add Dialog Configuration window

3. Click the **Options** tab and configure the **Options** page with the options listed in Table 8-20.

Table 8-20 Reference Document - Add action options

Option	Value
Content index	Yes
Content index - Display Dialog Option	Yes
Keep local copy	Yes
Keep local copy - Display Dialog Option	Yes
Add to folder - Display Dialog Option	Yes

4. Click **Preview**. This should display a preview of the dialog. You can change the window's **Width** and **Height** if you want to modify the dimensions.
5. Click **OK** to save the changes.
6. Under **Reference Document - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing
   - grpManager
   - grpFinancial

Create Reference Document - Modify dialog

Click the **New** icon in the Designer title bar. The New - Action and Dialog Configuration window opens. Do the following steps:

1. Set the **Name** to `Reference Document - Modify.`
2. In the **Dialog** tab, on the **Dialog** page:
   a. Select the **Display dialog to user** option.
   b. Set the **Width** to `500.`
   c. Set the **Height** to `300.`
3. Click on the **Top Section** tab, and populate the **Top Section** page as shown in Figure 8-52.

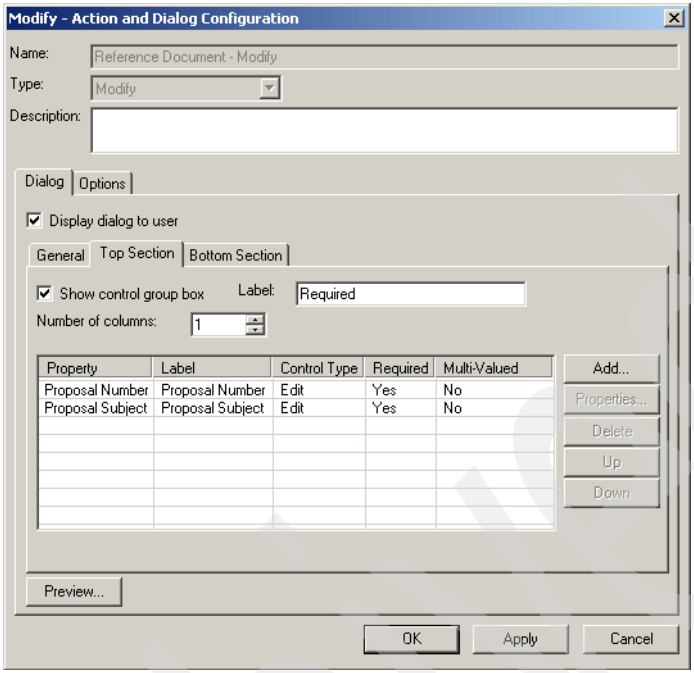

Figure 8-52 Reference Document - Modify Dialog Configuration window

4. Click the **Options** tab and configure the **Options** page. Set **Refresh desktop** to **yes**.
5. Click **OK** to save the changes.
6. Under **Reference Documents - Modify**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing
   - grpManager
   - grpFinancial

Create views

For ZXY Technologies, you only create one view that shows all the Reference Document properties to the user.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Views** to select it.

Create Reference Documents View

Click the **Add** icon in the Designer title bar. The New View Configuration window opens. Do the following steps:

1. Select the **General** tab, and on the **General** page:

   a. Enter `Reference Documents View` in the **Name** field.

2. Select the **Display** tab, and on the **Display** page:

   In the left panel is a list of the **Library Properties** for the system. Select the properties as shown in Figure 8-53, and add them to the **Selected Properties** panel on the right of the dialog:

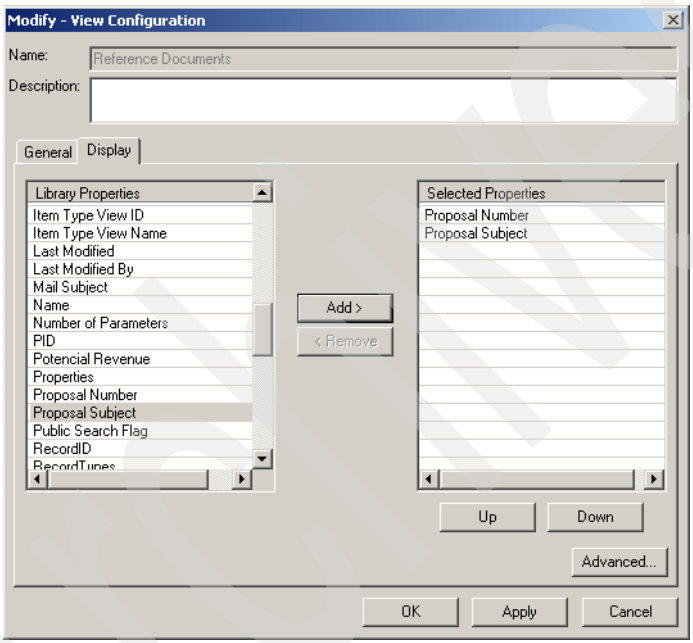

Figure 8-53 Reference Documents View Configuration window

3. Click **Advanced** and configure the window as shown in Figure 8-54.

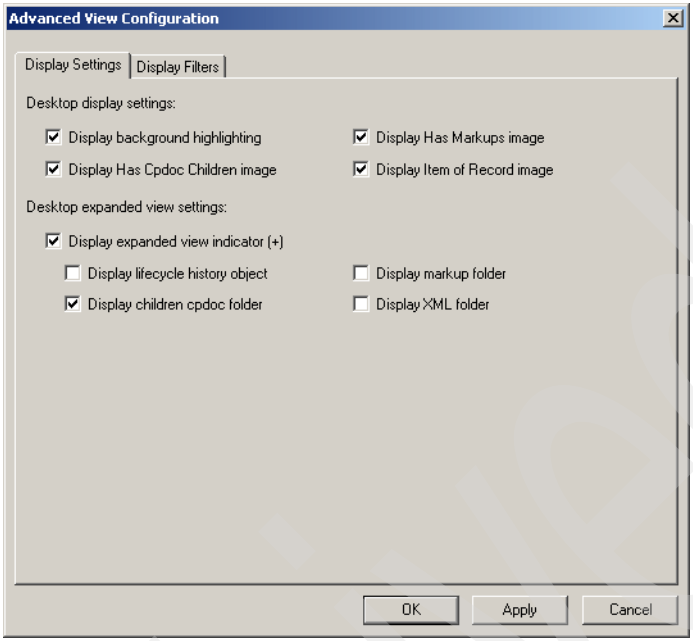

Figure 8-54 Advanced View Configuration window

4. Click **OK** to save your changes.

Create CVL lists and links

In the design, you create a CVL List and a CVL Link to use for the Reference Documents Search. This list displays a predefined option list in the search dialog box for the user.

The following steps comprise the tasks required to complete this exercise.

1. “Create Reference Documents CVL list” on page 326
2. “Create Reference Documents Link” on page 327

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **CVLs**.

Create Reference Documents CVL list

Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Do the following steps:

1. In the **Name** field, type `Reference Documents.`
2. In the **Type** pick-list, select **Standard.**
3. Add the value:

– Reference Documents

4. Click **OK** to save your changes.

Create Reference Documents Link

Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens. Do the following steps:

1. In the **Name** field, type `Reference Documents Link`.
2. Set **Property** drop-down list to **Class.**
3. Set **CVL name** drop-down list to **Reference Documents.**
4. Set **Default Value** drop-down list to **Reference Documents.**
5. Click **OK** to save your changes.

Create searches

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Searches** to select it.

Create Reference Document search

Click the **New** icon in the Designer title bar. The New Search Configuration window opens. Do the following steps:

1. Click the **Properties** tab and complete the **Properties** page.
   a. In the **Name** field, type `Reference Document`.
   b. Check the **Save Search**, **Clear Search**, and **Load Search** options.
2. Click the **Properties** tab and complete the **Properties** page:
   a. Add the properties listed in Table 8-21:

Table 8-21 RFP search properties

Property	Control Type	Default Operator
Class	Dropdown	Equal
Proposal Number	Edit	Contains
Proposal Subject	Edit	Contains

3. Click the **Library** tab and complete the **Library** page:
   a. Click **Add**. Select **CustomerData** item type from the list.
4. **Preview** the dialog and then close it.
5. Click **OK** to post the search configuration to the repository.

6. Add CVL Link: It will populate the **Class** drop-down list.
   a. Select the **Reference Documents Link** you have created in the previous step.
   b. Drag it over **CVL Link** under **Reference Documents Search**.

Create Reference Documents class

Next you need to create the Reference Documents static class. Follow these steps:

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **Item Type**, and open **CustomerData** item type. Select **Classes** and click the **New** icon in the Designer title bar.

Create Reference Documents controlled class

To create the Reference Documents controlled class, do the following steps:

1. Populate the **top section** of the window
   a. In the **Name** field, type `Reference Documents.`
   b. In the **Type** pick-list, select **Static.**
2. Click **OK** to save your changes to the system.

Associate actions and dialogs

Expand the Reference Documents class. You will see the folder Actions and Dialogs. Do the following steps:

1. Go to **Desktop** → **Actions and Dialogs** and select **Reference Documents - Add** dialog.
2. Drag it to the folder under **Reference Documents** class.
3. Repeat the procedure for **Reference Documents - Modify** dialog.

Complete Desktop with Reference Documents objects

You need to configure the Default Template with the View and Search you have just created for Reference Documents class.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Desktop template** to select it. You need to modify the defined templates. Follow these steps:

1. Select **Content Producers Template**. Click the **Modify** icon in the Designer title bar.
2. Select the **View Template** tab, and on the **View Template** page:
   a. Add **Reference Documents View** to the right list.

3. Select the **Search Template** tab, and on the **Search Template** page:
   b. Add **Reference Documents** search to the right list.
4. Click **OK** to save your entries to the system.
5. Apply the same changes to **Admin Template** and **Viewers Template**.

Test your system: Reference Documents class

Now you can log on to Document Manager Desktop as `usrSale` and test the following Reference Documents class functionality:

- Add documents
- Search documents

Note: If you cannot see the changes in your system, check if the DM Cache server is up and running. You can try stopping the DM Cache server, restarting the DM Cache server, and logging in again in the Document Manager Desktop.

9

Advanced Document Manager implementation

This chapter provides advanced Document Manager implementation for the ZXY Technologies case study solution.

Before you start this chapter, complete the basic implementation of the solution in “Basic Document Manager implementation” on page 239. Several components we reference here were created in that chapter. To complete the implementation of the entire solution, you also need to refer to the remaining two chapters after this chapter.

We cover the following advanced topics:

- Property exchanges and application integration
- Notification
- Rendition
- Dynamic search folders
- Document template

9.1 Property exchanges

The Document Manager *property exchange* feature enables the exchange of file property values with the content repository. The file property values are the file properties of applications, such as Microsoft Office, engineering applications, and Lotus Notes. This feature allows the system to read or write property information from or to documents into the property fields within the system. The update occurs during the checkout and checkin actions from an integrated application (for example, Microsoft Word).

In this section, we show you how to configure a property exchange for Microsoft Word to exchange the Title attribute with Document Manager, and for Lotus Notes to exchange e-mail attributes, such as subject, from, and to, with Document Manager.

The following steps comprise the tasks required to complete this exercise:

1. "Create Microsoft Word property exchanges" on page 332
2. "Create Lotus Notes Property Exchanges" on page 333
3. Complete "Application Integration" on page 334

For all these steps, you use Document Manager Designer. To get to Document Designer, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Property Exchanges** to select it.

9.1.1 Create Microsoft Word property exchanges

Click the **New** icon in the Designer title bar. Do the following:

1. In the **Name field**, type `MS Word`**.**
2. Set **Type** to **MS Word, XP, 2003**.
3. Set **Update Mode** to **Automatic**.
4. Populate the bottom section as shown in Figure 9-1.

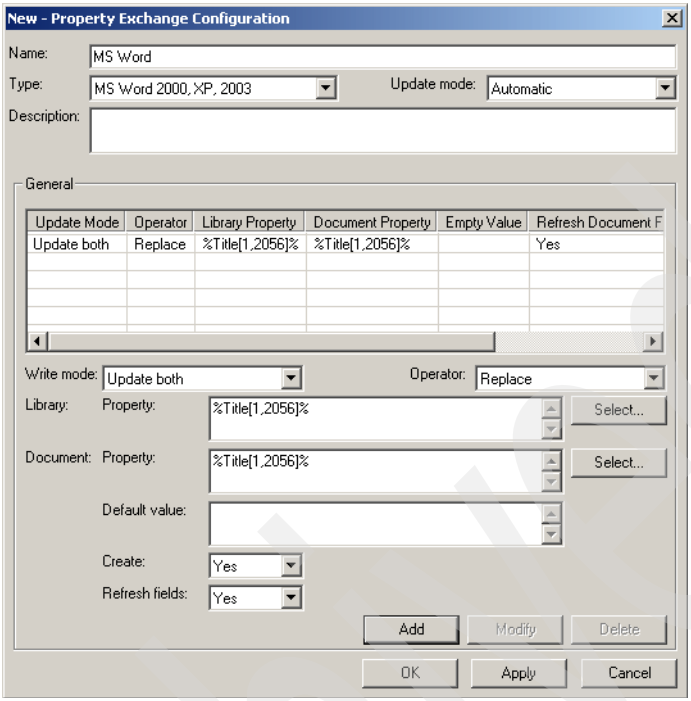

Figure 9-1 Microsoft Word property exchanges

a. Complete both **Property** boxes in one of these ways:

   i. Type the value **%Title[1,2056]%**.

   or

   i. Click **Select** on the right side of Library.

   ii. Select **Title**.

   iii. Enter 256 for **End Character**.

   iv. Click **OK**.

b. Set **Create** and **Refresh fields** to **Yes**.

c. Click **Add**.

5. Click **OK** to save the changes.

9.1.2 Create Lotus Notes Property Exchanges

Click the **New** icon in the Designer title bar. Do the following steps:

1. In the **Name** field, type `Lotus Notes`.

2. Set **Type** to **Lotus Notes**.
3. Set **Update Mode** to **Automatic**.
4. Use the same techniques we discussed earlier in step 4 on page 332, populate the bottom section as shown in Figure 9-2.

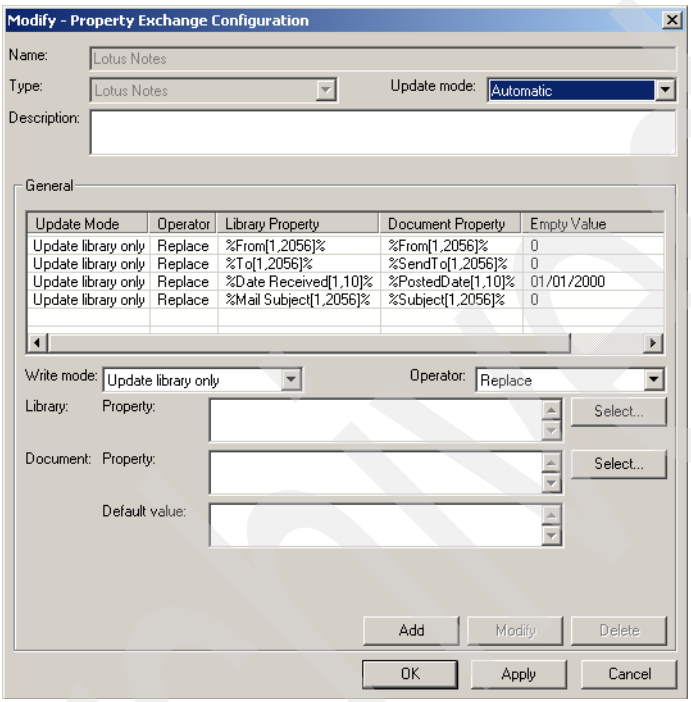

Figure 9-2 Lotus Notes property exchanges

5. Click **OK** to save the changes.

9.2 Application Integration

When Document Manager integrates with an application, this means you can add the Document Manager commands into the application's menu. You can perform document management activities within the application. For example, through the application integration object, you can insert Document Manager commands, such as **Add Items**, **Checkout,** and **Checkin** into Microsoft Word's menu. The user, who is editing a Word document, can then perform the Document Manager's **Add Item** command from the Word application and directly add the document to the Document Manager system without leaving the Word application.

ZXY Technologies employees are used to work with Microsoft Word and Lotus Notes to create and manage their documents. Application Integration allows users to upload and modify documents in Document Manager directly from Microsoft Word or Lotus Notes.

The Application Integration objects you need to create are listed in Table 9-1.

Table 9-1 Application integration

Name	Type	Details
MS Word Integration	MS Word	Standard integration, includes the Microsoft Word Property Exchange.
Lotus Notes Integration	Lotus Notes	Standard integration for saving messages.

The following steps comprise the tasks required to complete this exercise:

1. “Create a Microsoft Word menu and submenu” on page 335
2. “Create Microsoft Word Integration” on page 337
3. “Create Lotus Notes Integration” on page 337
4. “Modify Desktop Template with Application Integration” on page 339

For all these steps, use Document Manager Designer. To get to Document Manager Designer, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

9.2.1 Create a Microsoft Word menu and submenu

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Menus** to select it.

Create Microsoft Word menu

Do the following steps:

1. Click the **New** icon in the Designer title bar.
2. In the **Name** field, type `MS Word Menu`.
3. Select the **Properties** tab and complete the **Properties** page as shown in Figure 9-3.

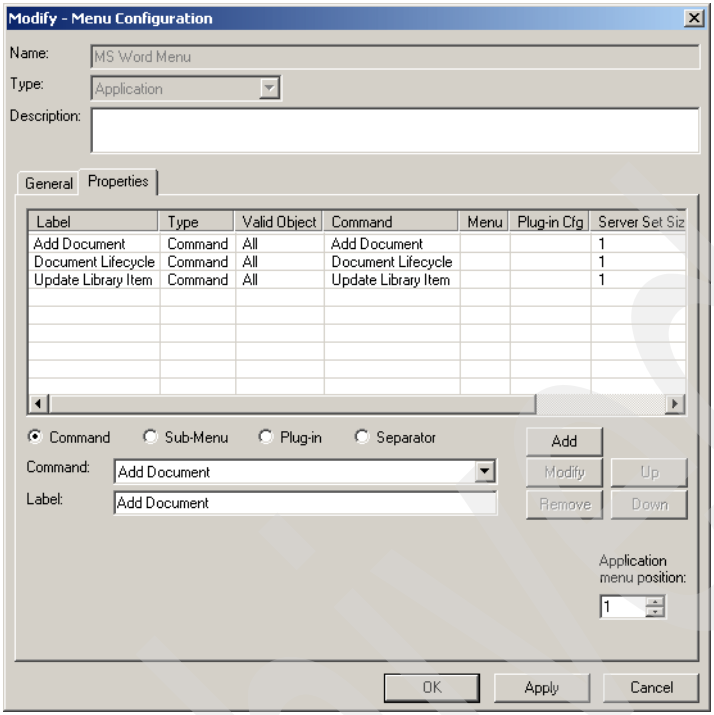

Figure 9-3 Microsoft Word Menu

4. Click **OK** to save the changes.

Create Microsoft Word Sub Menu

Do the following steps:

1. Click the **New** icon in the Designer title bar.
2. In the **Name** field, type `MS Word Sub Menu.`
3. Select **Properties** tab:
   a. Select **Sub Menu** option.
   b. Set **Menu** to the **MS Word Menu** you have just created.
   c. Set **Label** to `Document Manager.`
   d. Click **Add.**
4. Click **OK** to save the changes.

9.2.2 Create Microsoft Word Integration

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Application Integration** to select it. Click the **New** icon in the Designer title bar. Use the following steps:

1. In the **Name** field, type `MS Word Integration.`
2. Set **Type** to **MS Word 2000, XP, 2003**.
3. Select **Menu** tab:
   a. Set **Menu type** to **Active**.
   b. Set **Label** to `Document Manager.`
   c. Set **Menu** to **MS Word Sub Menu**.
   d. Set **Mode** to **Append**.
   e. Click **Add**.
4. Click **OK** to save the changes.
5. Expand **MS Word Integration**. Select the **MS Word** Property Exchange you have created before and drag it over **Property Exchange** under **MS Word Integration**. It should look like Figure 9-4.

Figure 9-4 Microsoft Word integration and property exchanges

9.2.3 Create Lotus Notes Integration

In the Designer, open **Global - [Administrator]** as before, ope the **Desktop**, and then click **Application Integration** to select it. Click the **New** icon in the Designer title bar. Use the following steps:

1. In the **Name** field, type `Lotus Notes Integration.`
2. Set **Type** to **Lotus Notes**.
3. Click the **Menu** tab and populate the **Menu** page as shown in Figure 9-5.

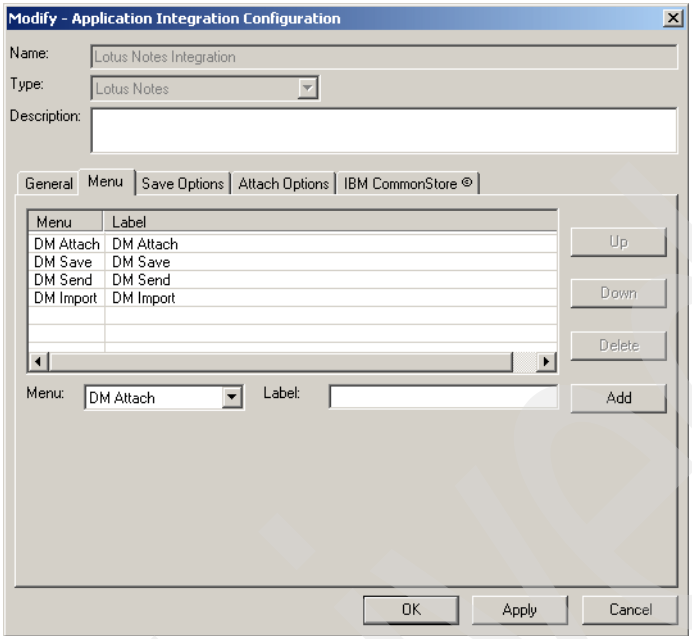

Figure 9-5 Lotus Notes integration menu tab window

4. Click the **Save Options** tab and populate the **Save Options** page as shown in Figure 9-6:
   a. Set **Item Type** to **Message**.
   b. Set **Naming** to **Specified** and type `%Subject%`.
   c. Set **Item format** to **Notes document**.
   d. Check both **Do not allow saving...** and **Display add dialog** options.
   e. Complete **Form name** with `Memo|Reply`.

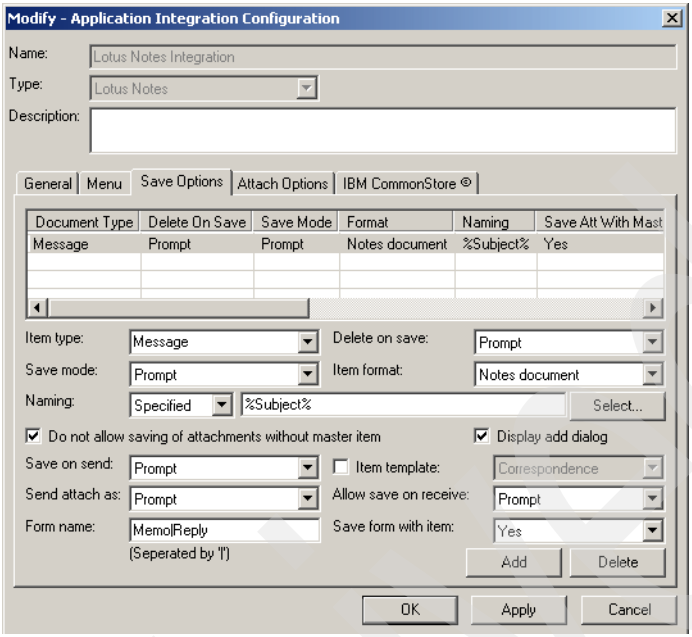

Figure 9-6 Lotus Notes integration save options tab window

5. Click the **Attach Options** tab and populate the **Attach Options** page:

   Select the **Prompt** option button.

6. Click **OK** to save the changes.

7. Expand **Lotus Notes Integration**. Select the **Lotus Notes** Property Exchange you have created before and drag it over **Property Exchange** under **Lotus Notes Integration**. It should look like Figure 9-7.

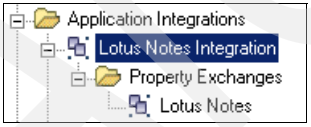

Figure 9-7 Lotus Notes integration and property exchanges

9.2.4 Modify Desktop Template with Application Integration

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and open the **Desktop template**. Use the following steps:

1. Select **Content Producer Template** and click the **Modify** icon in the Designer title bar.

2. Select the **Application Integration** tab and complete the **Application Integration** page:
   a. Select **MS Word 2000, XP,** and **2003** from the drop-down list Application.
   b. Click **Add**.
   c. Select Lotus Notes from the drop-down list Application.
   d. Click **Add**.
3. Click **OK** to save the changes.

9.3 Notification

ZXY Technologies needs to accelerate the approval process. They want to send an automatic e-mail notice to Managers and Financial people when they have a new document to review.

The following steps comprise the tasks required to complete this exercise:

1. "Create mail notification" on page 340
2. "Create Mail Notification ProjectManager" on page 342
3. "Configure the Draft state for notification" on page 343
4. "Configure Review state for notification" on page 343

For all these steps you need to use Document Manager Designer. To get there if you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

In the Designer, open **Global - [Administrator]** as before, and click **Notifications** to select it.

Note: Be sure the file **DdmSmtp.ini** under the Document Manager path has a valid **eMail Profile**. That profile is the one used to send the notifications.

9.3.1 Create mail notification

Click the **New** icon in the Designer title bar. Use the following steps:

1. In the **Name** field, type `Mail Notification.`
2. Set the **Type** field to **MAPI E-mail**.
3. Complete the **Message** tab with the Mail Subject and Body as shown in Figure 9-8.

The variable **%Proposal Number%** inside the body will be converted to the Document Proposal Number the notification is sending. You need to check the **Process Property** option for that to happen.

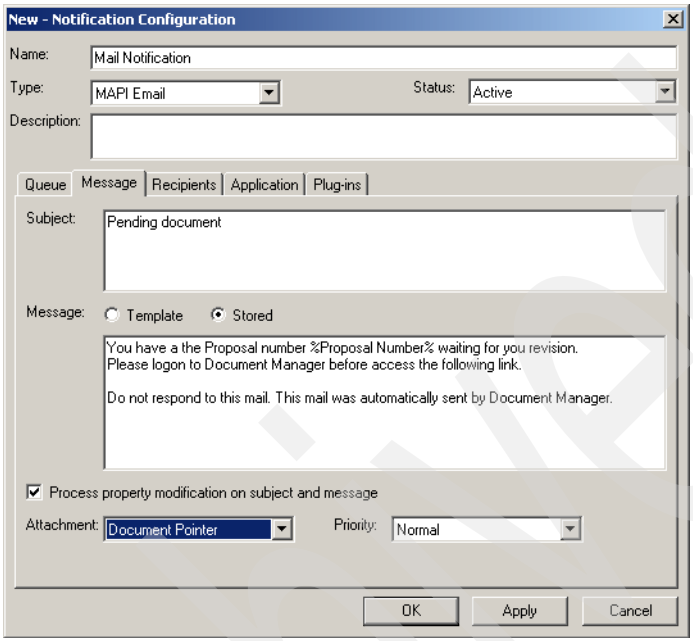

Figure 9-8 Mail notification message tab window

4. Click the **Recipients** tab and complete the **Recipients** page. Add a **Recipient**:
   a. Set **Select** from **Specified**.
   b. Set **Specified** to `usrManager@kcwb99n.almaden.ibm.com` or the Manager e-mail address.
   c. Set **Address** to **None**.
   d. Click **Add**.
   e. Repeat the previous step to add `usrFinancial@kcwb99n.almaden.ibm.com` or the Financial e-mail address.
5. Complete **Application** tab:

   Set **Email application** to **DdmSmtp.exe**.
6. Click **OK** to save your entries to the system.

9.3.2 Create Mail Notification ProjectManager

Click the **New** icon in the Designer title bar. Use the following steps:

1. In the **Name** field, type `Mail Notification ProjectManager.`
2. Set **Type** field to **MAPI Email**.
3. Click the **Message** tab and complete the **Message** page with the Mail Subject and Body as shown in Figure 9-9.

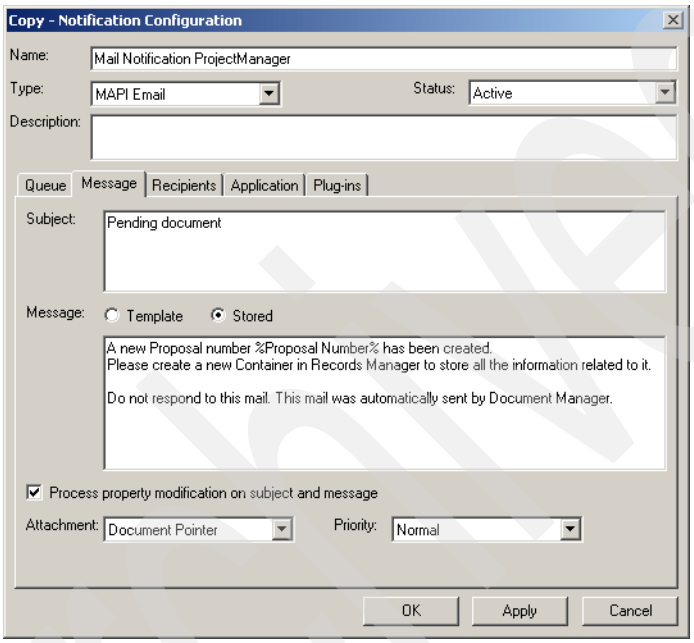

Figure 9-9 Mail Notification ProjectManager message tab window

4. Click the **Recipients** tab and complete the **Recipients** page. Add a **Recipient**:
   a. Set **Select** from **Specified**.
   b. Set **Specified** to `ursProjectManager@kcwb99n.almaden.ibm.com` or the Project Manager e-mail address.
   c. Set **Address** to **None**.
   d. Click **Add.**
5. Click the **Application** tab and complete the **Application** page:

   Set **Email application** to **DdmSmtp.exe**.
6. Click **OK** to save your entries to the system.

9.3.3 Configure the Draft state for notification

For your solution, you can configure the notification for any state in your document life cycle. For our case study, we need to assign the ProjectManager mail notification created earlier with the Draft state. Once configured, all the documents that enter the Draft state will send a notification to the manager.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **States** and select **Draft** state from the tree. Use the following steps:

1. Expand **Draft**. You will see the folder **Notifications**.
2. Go to **Global - [Administrator], Notification** and drag Mail Notification ProjectManager under Draft state. It should look like Figure 9-10.

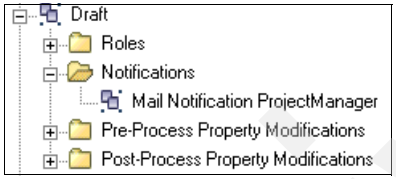

Figure 9-10 Draft state notification

9.3.4 Configure Review state for notification

Now, we need to assign the other mail notification created with the Review state. Once configured, all the documents that enter the review state will send a notification to the Financial people.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **States** and select **Review** state from the tree. Use the following steps:

1. Expand **Review**. You will see the folder **Notifications**.
2. Go to **Global - [Administrator], Notification** and drag Mail Notification under Review state. It should look like Figure 9-11:

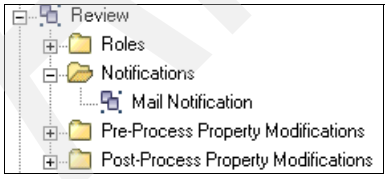

Figure 9-11 Review state notification

9.3.5 Test notification

Now you can log on to Document Manager Desktop and test the following functionality:

- Log in the Desktop with `ursViewer`.
- Add a Sales Proposal document. It starts the life cycle in Draft state. In that state, the Notification services will run and an e-mail will be sent to the sales people.
- Route the document until the Review state, in that state a new notification is sent to the manager.

Note: Before you begin, check that the following services are running:

- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services
- DM Notification services

9.4 Rendition

ZXY Technologies' employees work with Microsoft Word and Microsoft Excel for Proposal creation, but they want to send a PDF document to the customers. We configure the automatic rendition to run when the document arrives at the Issued state.

Note: You need an **Acrobat Distiller** license to use the render capability to create new PDF files.

The following steps comprise the tasks required to complete this exercise:

1. "Create rendition output destination (PDF Sales Destination)" on page 345
2. "Create rendition object (Sales Rendition)" on page 345
3. "Associate rendition object with output destination" on page 348
4. "Configure Issued state for rendition" on page 348

For all these steps, you use Document Manager Designer. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

In the Designer, open **Global - [Administrator]** as before, and click **Rendition** to select it.

9.4.1 Create rendition output destination (PDF Sales Destination)

Select **Destinations** and click the **New** icon in the Designer title bar. Follow these steps:

1. Populate top section:
   a. For the **Name** field, type `PDF Sales Destination`.
   b. Set **Type** to **Library**.
2. Populate bottom section:

   Populate the values as shown in Figure 9-12.

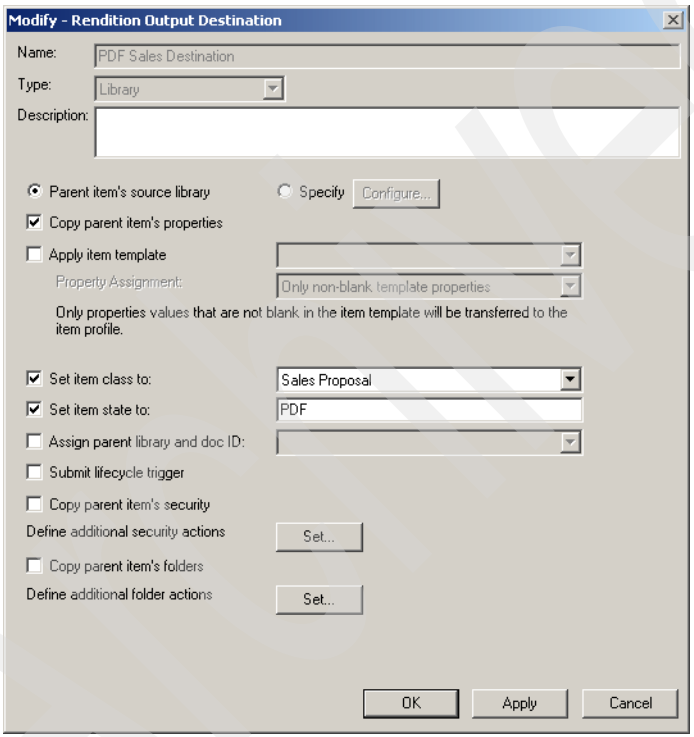

Figure 9-12 PDF sales destination window

3. Click **OK** to save your entries to the system.

9.4.2 Create rendition object (Sales Rendition)

Select **Renditions** and click the **New** icon in the Designer title bar. Follow these steps:

1. Populate top section:
   a. In the **Name** field, enter `Sales Rendition`.
   b. Set **Type** to **PDF**.
   c. Set **Status** to **Active - Client Selectable**.
2. Populate the **General** page under the **General** tab like Figure 9-13.

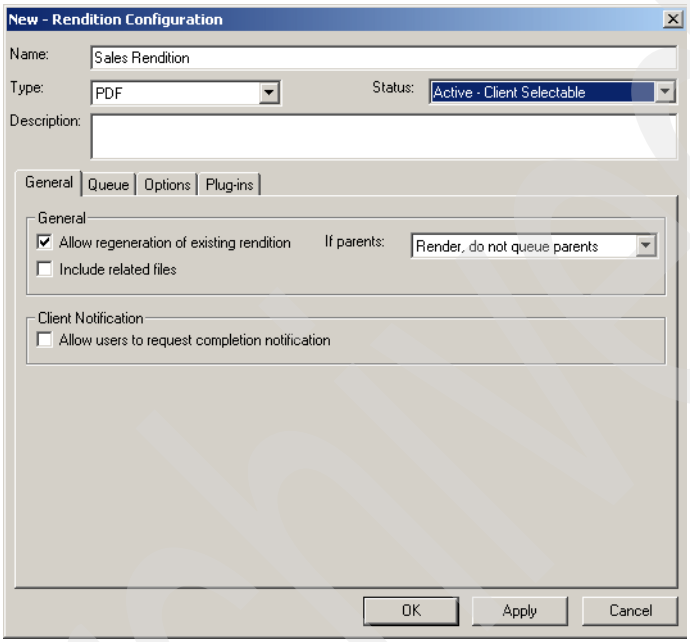

Figure 9-13 Rendition configuration general tab

3. Click the **Options** tab. In the **Options** page, click the **Printing** tab. Populate the **Printing** page like Figure 9-14.

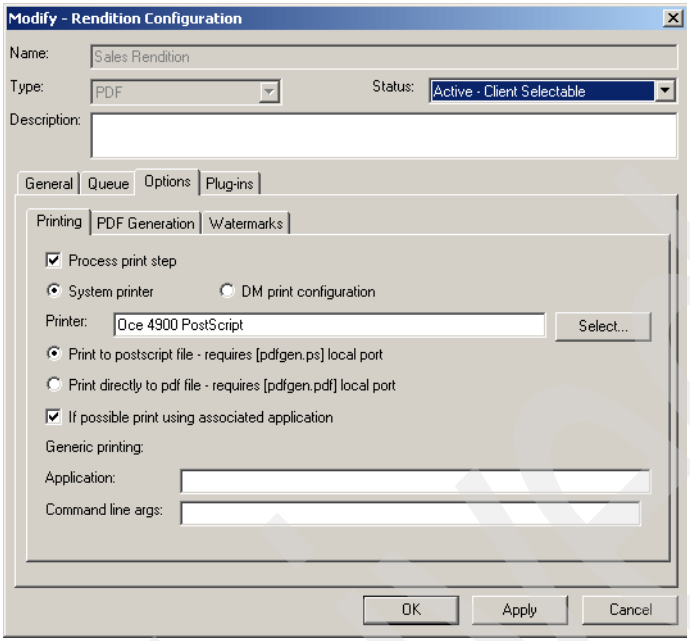

Figure 9-14 Rendition configuration printing tab

4. Click the **PDF Generation** tab and populate the **PDF Generation** page like Figure 9-15.

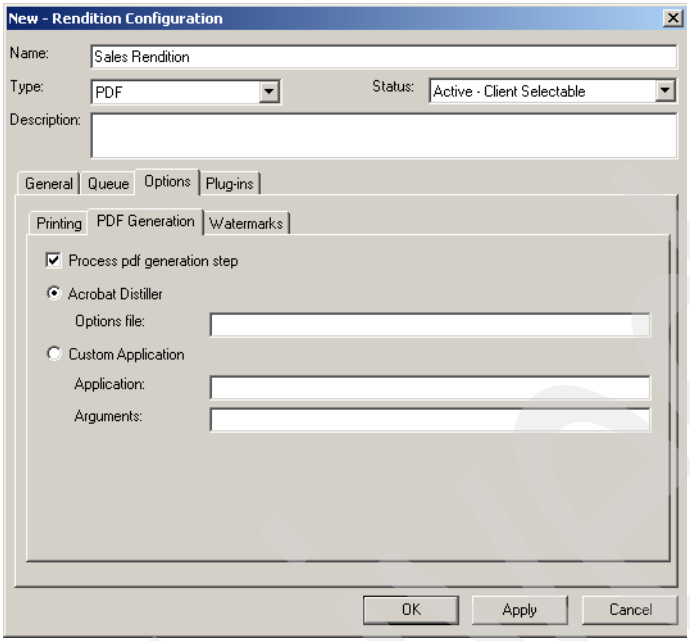

Figure 9-15 Rendition configuration PDF generation tab

5. Click **OK** to save your entries to the system.

9.4.3 Associate rendition object with output destination

You need to associate the rendition output destination, PDF Destination, with the rendition you have just created, Sales Rendition. Follow these steps:

1. Select **PDF Sales Destination.**
2. Drag it under **Sales Rendition.** It should look like Figure 9-16.

Figure 9-16 Sales rendition with PDF Sales destination

9.4.4 Configure Issued state for rendition

We need to configure the Issued state with the Rendition process we have already created. Once configured, all the documents that enter the Issued state will activate the rendition process and a new PDF file will be created.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **States**, select **Issued** state and click the **Modify** icon in the Designer title bar. Follow these steps:

1. Select **Actions** tab and on the **Actions** page:
   a. Check the option **Submit renditions request**.
   b. Click **Renditions**:
      i. Select **Sales Rendition** from the list.
      ii. Click **OK** to close the window.
2. Click **OK** to save the changes.

9.4.5 Test rendition

Now you can log on to the Document Manager Desktop and test the following functionality:

- Log in Desktop with `ursViewer`.
- Add a Sales Proposal document. Route the document until the Issued state. In that state, the rendition services run and a new PDF file appears in the PDF state.

Note: Before you begin, check that the following services are running:

- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services
- DM Rendition services

9.5 Dynamic search folders

Dynamic search folders are components that allow users to run a stored search by only clicking the dynamic search folder Name. These folders are displayed to the users in the Document Manager Desktop client's left panel. You can see some examples in Figure 9-17.

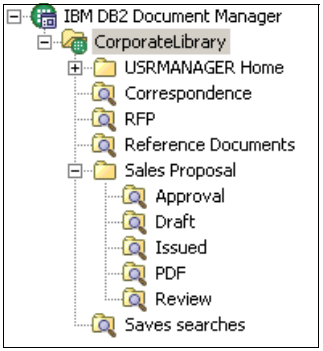

Figure 9-17 Dynamic search folder examples

In this example, when users click **Correspondence** folder, Document Manager will run a stored search that looks for all the correspondence documents. The result will be shown in the right panel.

The following steps comprise the tasks required to complete this exercise:

1. "Create dynamic search folder item type (LibraryObjects)" on page 350
2. "Create dynamic search folder class object (Saved Searches)" on page 352
3. "Create Saved Searches dynamic search folder" on page 356
4. "Create Sales Proposal dynamic search folder" on page 358

9.5.1 Create dynamic search folder item type (LibraryObjects)

All the searches that the user needs to store will be stored in the LibraryObjects item type, inside the Saved Searches Stateless Class.

You need to follow the same procedures you follow to create the CustomerData item type ("Basic Document Manager implementation" on page 239, CustomerData item type) to create the second item type named LibraryObjects with the characteristics listed in Table 9-2.

Table 9-2 LibraryObjects item type definition

Option	Settings
Name	LibraryObjects
Display Name	LibraryObjects
Version Policy	Promp to Create
Maximum total versions	Unlimited
Item type classification	Document

Option	Settings
Text Search	Text searchable enabled
Item retention period	Forever
Attributes Used	All listed in Table 7-10, “Before installation” on page 188
Records Enabled	No

You need to use Content Manager System Administration Client to define it. If you are not there, click **Start** → **Programs** → **IBM DB2 Content Manager Enterprise Edition** → **System administration client**.

Select **Data Modeling**, right-click **Item Types**, and select **New** from the context menu. This displays the New Item Type Definition dialog.

The **Attribute** tab looks like Figure 9-18.

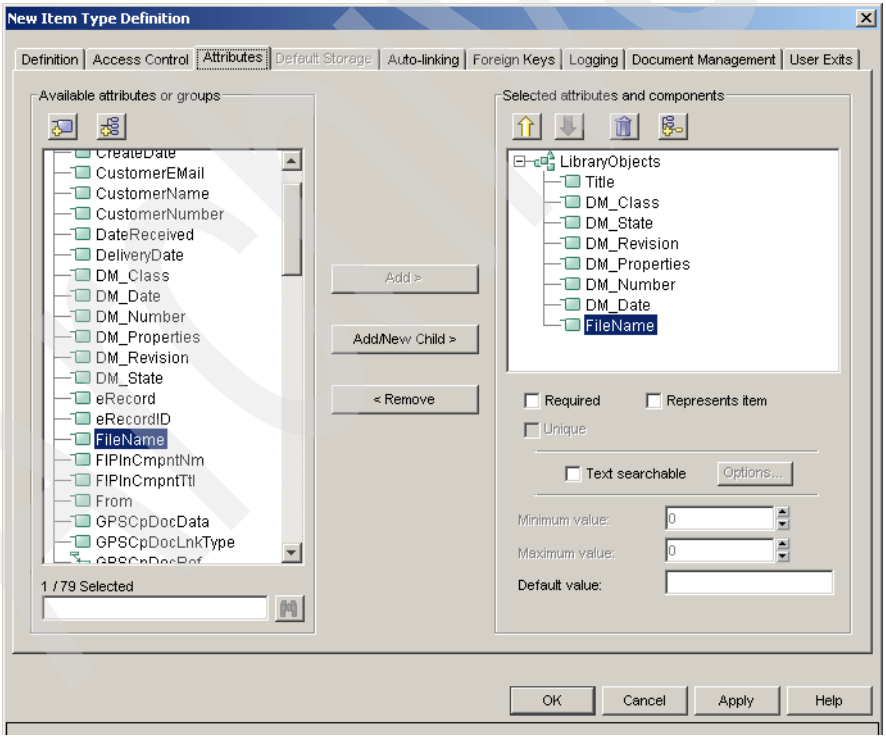

Figure 9-18 LibraryObjects item type attributes tab window

9.5.2 Create dynamic search folder class object (Saved Searches)

In a previous section, we created a LibraryObject item type. Now we have to define a *Saved Search Class* to store all the predefined searches the users need to look for.

To do this, create the following:

- "Views" on page 352
- "Searches" on page 353
- "Action and dialog object (Saved Search - add)" on page 355
- "Stateless class (Saved Searches)" on page 355
- "Associate dialogs: Add and Modify" on page 355

Views

The view you create here is used to display the Saved Search Class documents.

You need to use Document Manager Designer to create a View. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Views** to select it.

Create Default view

Click the **Add** icon in the Designer title bar. Follow these steps:

1. In the **Name** field, type `Default`.
2. Populate the **Display tab**.

   In the left panel is a list of the **Library Properties** for the system. Select the properties as shown in Figure 9-19 and add them to the **Selected Properties** panel on the right side of the dialog.

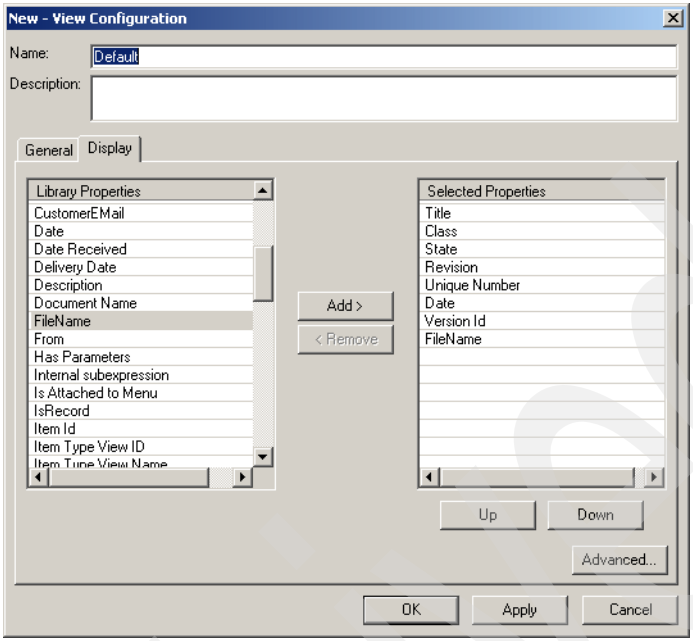

Figure 9-19 Default View display tab

3. Click **OK** to save your changes.

Searches

The search you create here is used to look for Saved Search Class documents.

You use Document Manager Designer to create a View. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Searches** to select it.

Create General Document Search

Click the **New** icon in the Designer title bar. Follow these steps:

1. In the **Name** field, type `Default`.
2. Click the **Properties** tab and complete the **Properties** page.
   a. Add first property:
      i. Click **Add** - This presents a dialog that enables you to add the searchable document properties to the search dialog you are building.
      ii. Select **Edit** for the field Type from the drop-down list.

iii. Select **Title** from the **Property** field drop-down list.

iv. Select **Contains** for the **Default Operator** from the drop-down list.

v. Click **OK**, which adds the command to the menu.

b. Repeat the previous step to add the properties listed in Table 9-3.

Table 9-3 Default search properties

Property	Control Type	Default Operator
Title	Edit	Contains
Class	Edit	Contains
State	Edit	Contains
Filename	Edit	Contains

It should look like Figure 9-20.

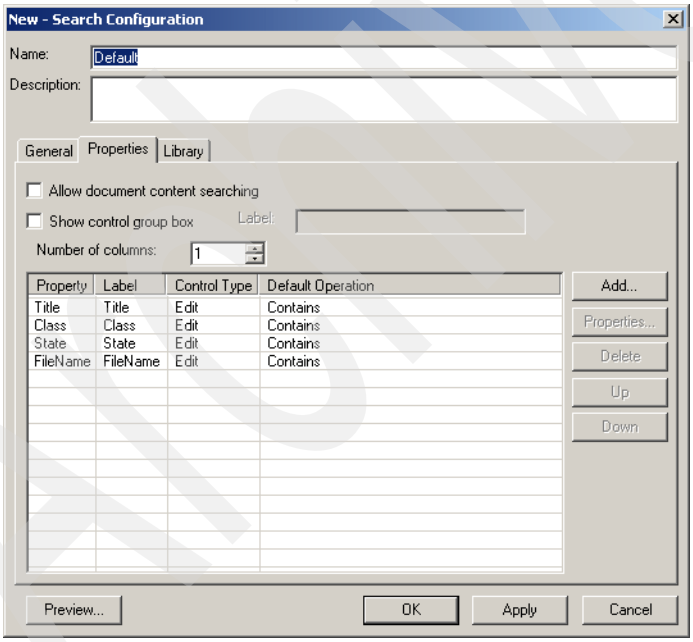

Figure 9-20 Default search property window

3. **Preview** the dialog and then close it.

4. Click **OK** to post the search configuration to the repository.

Action and dialog object (Saved Search - add)

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Actions and Dialogs** to select it. Click the **Add** icon in the Designer title bar. Follow these steps:

1. In the **Name** field, type `Saved Search - Add`.
2. In the **Dialog tab**:
   a. Select the **Display dialog to user option**.
3. Populate the **Top Section** tab. Add a Property:

   Add the **Title** property. Leave **String** for the **Data Type** and Change **Color** to **red**.
4. Click **Preview**. This should display a preview of the dialog box.
5. Leave all the options in the **Options** tab on the **Options** page with the value **No.**
6. Click **Preview**. This should display a preview of the dialog. You can change the windows' **Width** and **Height** options if you want to modify the dimensions.
7. Click **OK** to save the changes.
8. Under **Saved Search - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   – grpSales
   – grpServices
   – grpMarketing
   – grpViewer
   – grpManagers
   – grpFinancial

Stateless class (Saved Searches)

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **Item Type**, open the **LibraryObjects** item type. Select **Classes** and click the **New** icon in the Designer title bar. Follow these steps:

1. Populate the top section of the window.
   a. In the **Name** field, type `Saved Searches`.
   b. In the **Type** pick-list, select **Stateless**.
2. Click **OK** to save the changes.

Associate dialogs: Add and Modify

Expand the Saved Searches Class. You will see the folder **Actions and Dialogs**. Follow these steps:

1. Go to **Desktop**, **Actions and Dialogs** and select **Saved Search- Add** dialog.
2. Drag it to the **Actions and Dialogs** folder under **Saved Searches** Class.

It should look like Figure 9-21.

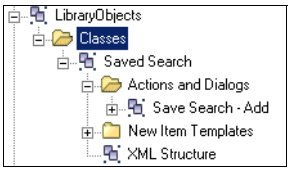

Figure 9-21 Saved searches action window

9.5.3 Create Saved Searches dynamic search folder

You can create folders and dynamic search folders from the Document Manager Desktop client.

To create a dynamic search folder, you need to create a power search and save it. The dynamic search folder will reference that saved search. Follow these instructions:

1. Click the Power Search icon in the top toolbar.
2. Click on the **General** tab and populate the **General** page as shown in Figure 9-22.

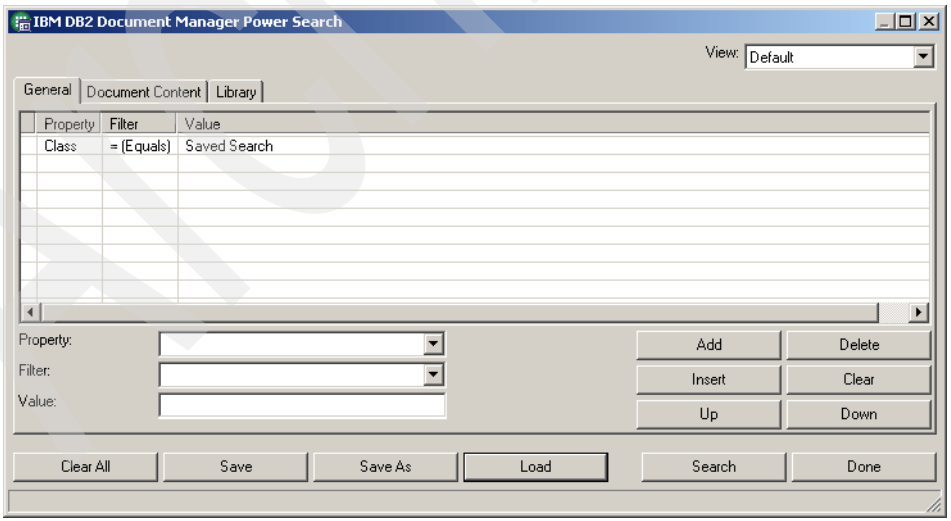

Figure 9-22 Power search configuration window

3. Click on the **Library** tab and populate the **Library** page:
   a. Uncheck **Search all item types**.
   b. Click **Add** and select **LibraryObject** item type. Click **Apply**.
4. Click **Save**. A new dialog box will display.
5. Select **Saved Search** and set **Title** to `Saved Searches` as shown in Figure 9-23.

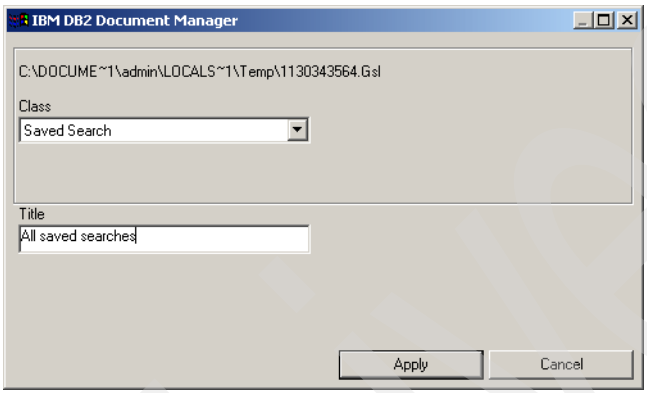

Figure 9-23 Save search add dialog box

6. Click **Apply** to save the search.
7. Click **Folder** submenu, **Folder Administration** menu.
8. Select **Corporate Library** and click the **New** icon.
9. Create the **Saved Searches** dynamic folder as shown in Figure 9-24.

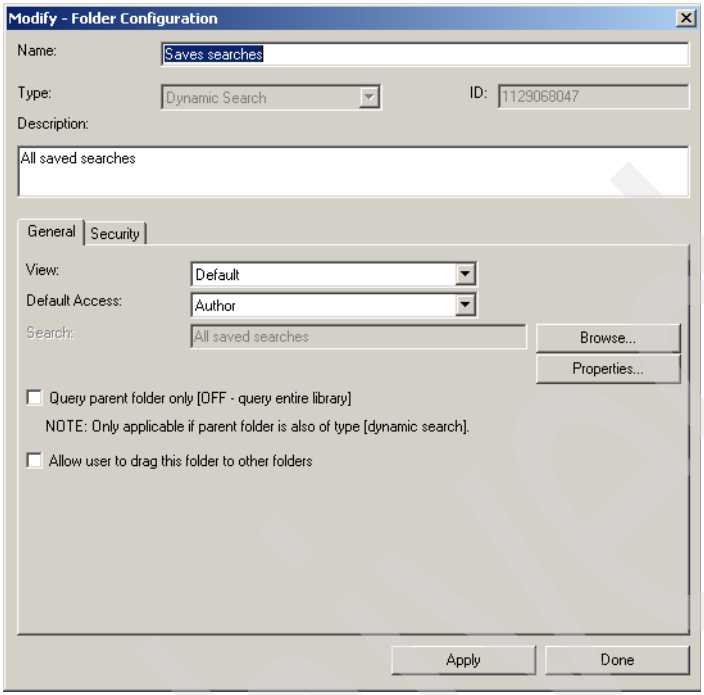

Figure 9-24 Draft dynamic folder configuration

10. Click **Apply** and **Done** to save the changes.

9.5.4 Create Sales Proposal dynamic search folder

ZYX Technologies need a dynamic search folder for each proposal state, so users can quickly access the document in life cycle.

You can create a dynamic search folder from the Document Manager Desktop client. Follow these instructions:

1. Click the **Power Search** icon in top toolbar.
2. Click on the **General** tab and populate the **General** page as shown in Figure 9-25.

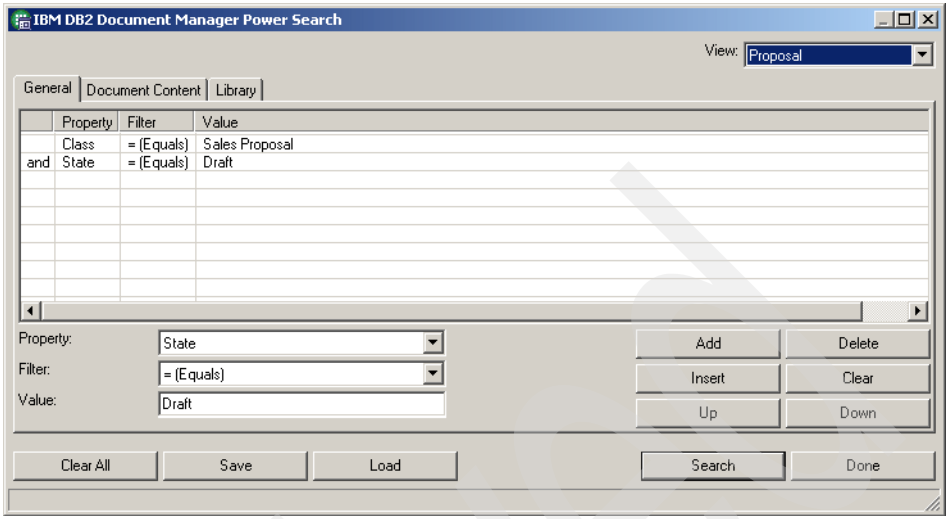

Figure 9-25 Power search configuration window

3. Click on the **Library** tab and populate the **Library** page:
   a. Uncheck **Search all item types**.
   b. Click **Add** and select **CustomerData** item type. Click **Apply**.
4. Click **Save**. A new dialog box displays.
5. Select **Saved Search** and set **Title** to `Sales Proposal Draft state` as shown in Figure 9-26.

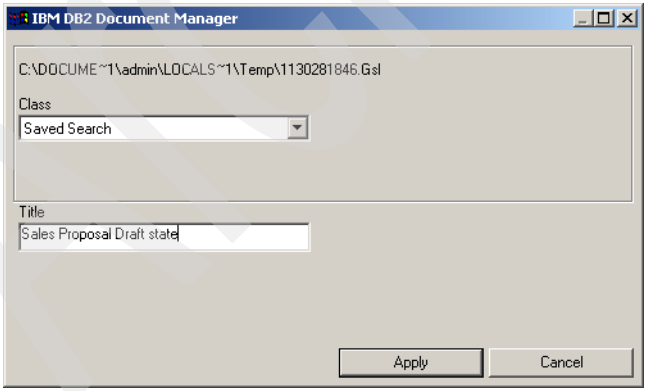

Figure 9-26 Save search add dialog box

6. Click **Apply** to save the search.

7. Repeat the process to create saved searches for **Review**, **Approval**, **Issued,** and **PDF** states.

Then, you need to create the dynamic search folders configuration window that looks like Figure 9-27:

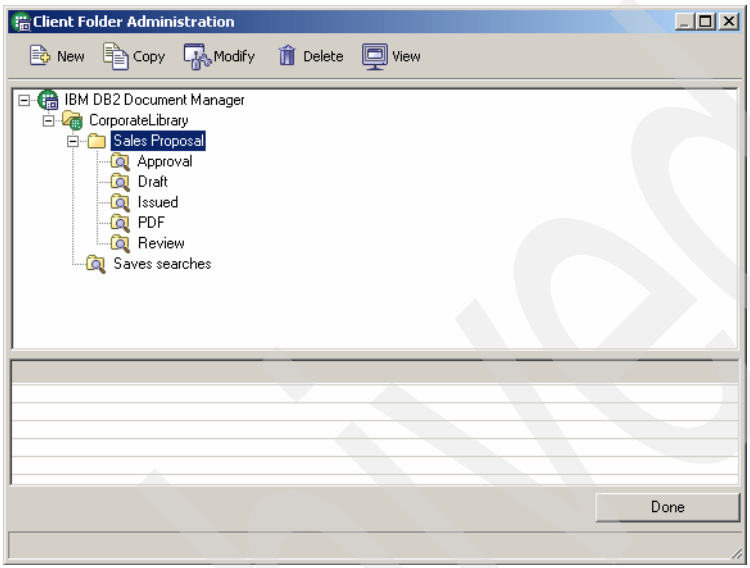

Figure 9-27 Dynamic search folders configuration window

1. Click **Folder** submenu, **Folder Administration** menu.
2. Select **Corporate Library** and click the **New** icon.
3. Create the **Sales Proposal** standard folder as shown in Figure 9-28.

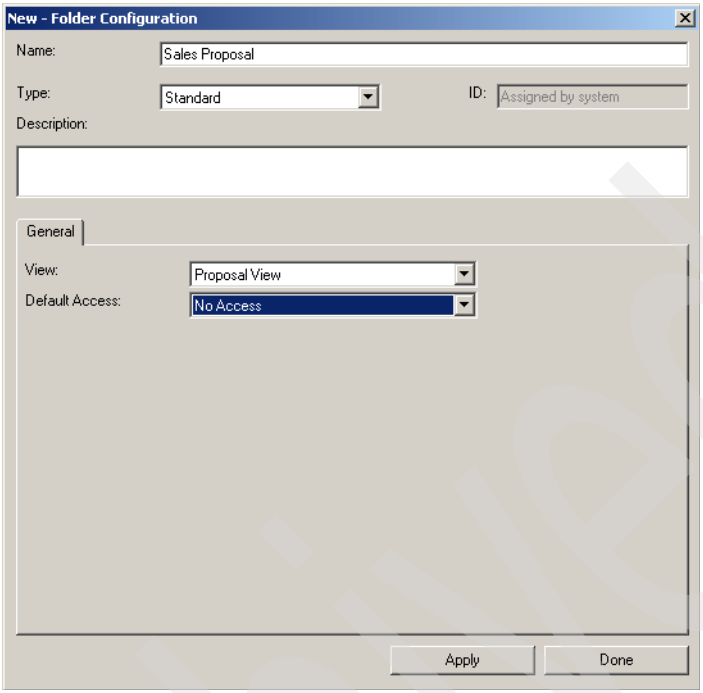

Figure 9-28 Sales proposal standard folder configuration

4. Click **Apply** and **Done** to save the changes.
5. Select **Sales Proposal** folder you have just created and click the **New** icon.
6. Create **Draft** dynamic folder as shown in Figure 9-29.

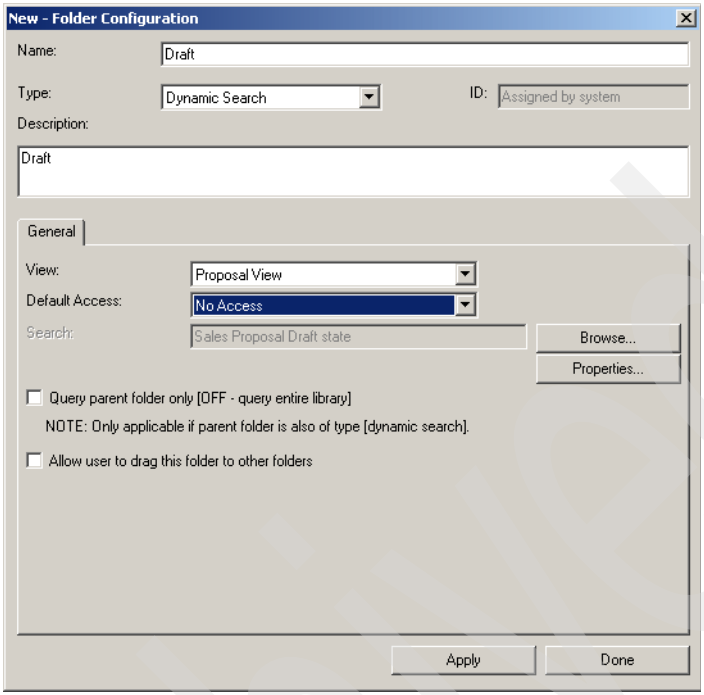

Figure 9-29 Draft dynamic folder configuration

7. Click **Apply** and **Done** to save the changes.
8. Select **Draft** dynamic search folder you have just created. Click the **Modify** icon.
9. Click the Security tab and populate the **Security** page as shown in Figure 9-30.

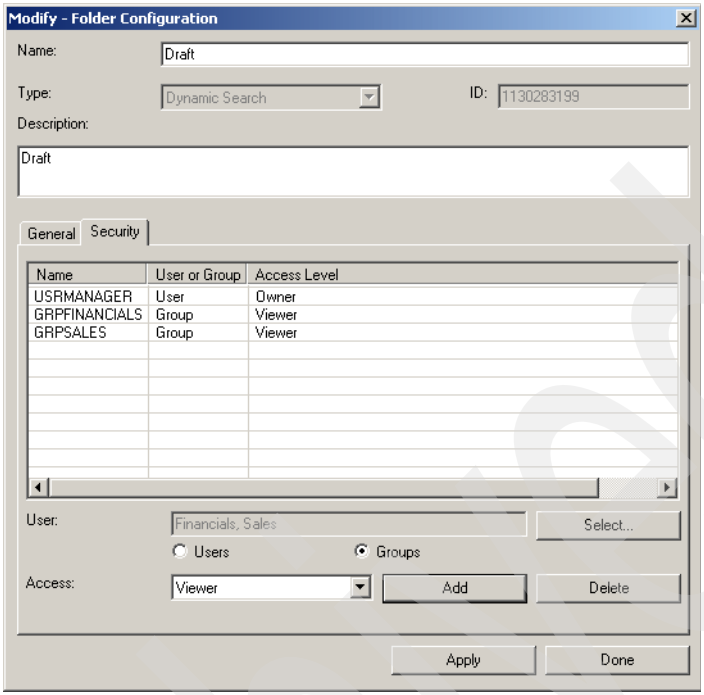

Figure 9-30 Dynamic search folder security

10. Click **Apply** and **Done** to save the changes.
11. Repeat the process to create dynamic folders for **Review**, **Approval**, **Issued,** and **PDF** saved searches.

9.6 Document template

Document templates are used to store documents that users use to create new documents.

For our solution, we need to define a new Sales Proposal document template. When salespeople need to create new proposals, they do not need to create them from scratch. They can select to create proposals from the template, which contains the basic structure for a new proposal document.

To store templates, we need to create a Document Template Class. We will use the same LibraryObject item type created to store Saved Searches.

Note: If you have not created the LibraryObjects item type, follow the instructions in 9.5.1, “Create dynamic search folder item type (LibraryObjects)” on page 350.

The following steps comprise the tasks required to complete this exercise:

1. “Document template objects” on page 364
2. “Add a new document in the Document Template class” on page 365
3. “Create a new item template (Sales Proposal)” on page 366
4. “Modify Main menu to add Template Sub Menu” on page 366

For all these steps you need to use Document Manager Designer. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

9.6.1 Document template objects

In a previous section, we created a LibraryObject item type. Now we have to define a Document Template Class to store all the documents the users need to use as a template.

You need to perform the following tasks:

1. “Create action and dialog (Document Template - add action)” on page 364
2. “Create the stateless class (Document Template)” on page 365
3. “Associate action and dialogs: Add and Modify” on page 365

Create action and dialog (Document Template - add action)

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Actions and Dialogs** to select it. Click the **Add** icon in the Designer title bar. Follow these steps:

1. In the **Name** field, type `Document Template - Add`.
2. In the **Dialog** tab:

   Select the **Display dialog to user** option.
3. Click the **Top Section** tab and populate the **Top Section** page. Add a Property:

   Add the **Title** property. Leave **String** for the **Data Type** and Change **Color** to **red**.
4. Click **Preview**. This should display a preview of the dialog box.
5. Leave all the options in the **Options** tab on the **Options** page with the value **No**.

6. Click **Preview**. This should display a preview of the dialog. You can change the windows' **Width** and **Height** options if you want to modify the dimensions.
7. Click **OK** to save the changes.
8. Under **Document Template - Add**, expand **Group**. Click the **New** icon in the Designer title bar. Add the groups:
   - grpSales
   - grpServices
   - grpMarketing
   - grpViewer
   - grpManagers
   - grpFinancial

Create the stateless class (Document Template)

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **Item Type**, open the **LibraryObjects** item type. Select **Classes** and click the **New** icon in the Designer title bar. Follow these steps:

1. Populate the top section of the window:
   a. In the **Name** field, type `Document Template`**.**
   b. In the **Type** pick-list, select **Stateless**.
2. Click **OK** to save the changes.

Associate action and dialogs: Add and Modify

Expand the Document Template Class. You will see the folder **Actions and Dialogs**. Follow these steps:

1. Go to **Desktop**, **Actions and Dialogs** and select **Document Template - Add** dialog.
2. Drag it to the **Actions and Dialogs** folder under **Document Template** Class.

9.6.2 Add a new document in the Document Template class

You need to upload in Document Manager the document you will associate as a template. Follow this instructions:

1. Log on to **Document Manager Desktop** as `usrSale`.
2. Click **Add Document**.
3. Select the document that you will use as a template from the file system.
4. Click **Open**.
5. Select **Document Template** for **class**.

6. Enter the document name you want to identify the document.
7. Click **Apply**.

9.6.3 Create a new item template (Sales Proposal)

In the Designer, open **Global - [Administrator]**, open the **Desktop**, and then click **New Item template** to select it. Click the **Add** icon in the Designer title bar. The New Item template window opens. Follow these steps:

1. Configure the Item Template as shown in Figure 9-31.

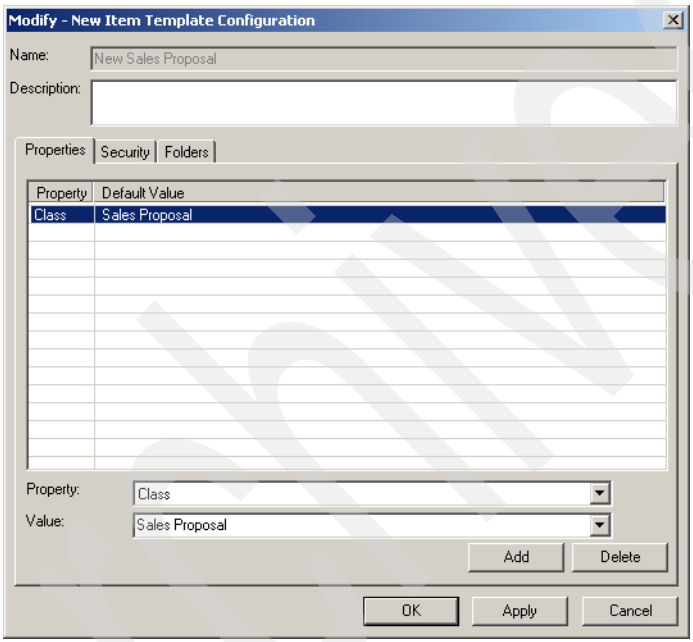

Figure 9-31 Item template window

2. Click **OK** to save the changes.

9.6.4 Modify Main menu to add Template Sub Menu

You need to modify the Main menu to add the **Template** sub menu on it. Follow these steps:

1. You need to create a new menu call **Template**. In the Designer, open **Global - [Administrator]**, open **Desktop**, and then click **Menus** to select it. Click the **New** icon in the Designer title bar.
2. Configure the menu as shown in Figure 9-32.

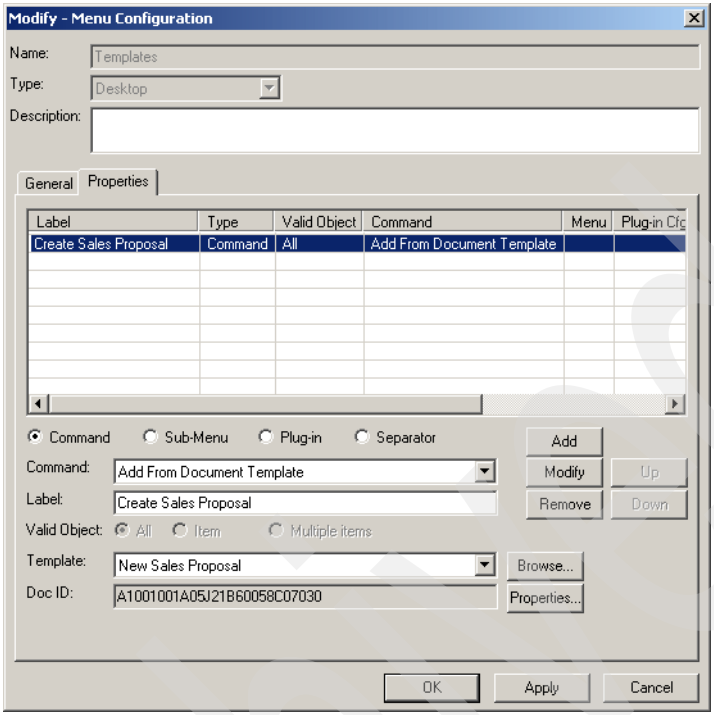

Figure 9-32 Template Menu

To assign **Doc ID,** you need to click **Browse** and search the document you want to assign to the sales template. This should be the one you upload in 9.6.2, “Add a new document in the Document Template class” on page 365.

Note: You need to log on to the **Document Manager Desktop** first. Click the **Browse** button.

3. Click **OK** to save the changes.
4. Add **Template** menu as a sub menu of **Main** menu:

   In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, and then click **Menu** to select it. Select **Main** menu and click the **Modify** icon in the Designer title bar. Add the **Template** menu created before as **Sub Menu**.
5. Click **OK** to save the changes.

This concludes the implementation of the Document Manager system. For the next two chapters, we cover how to add Records Manager functions and options into the system.

10

Records Manager implementation in the Document Manager solution

This chapter provides practical steps to implement Records Manager functions for a Document Manager (DM) solution, using the ZXY Technologies case study. We describe how to create a file plan from scratch, associating security and classification rules. We show you how to enable an item type for record declaration and how it is integrated with Document Manager.

We cover the following topics:

- Records Manager configuration.

  Create view and components, add relationship properties, auto classify rules, import users, and assign system component permission.

- Enable item types for records declaration.

  Create attribute mapping.

- Configure DM classes for records declaration.

  Quick automatic declaration, and by selection declaration.

Note: Before you begin with the case study implementation, you must have your server already installed and configured with the base configuration. If you have not done that, refer to “Installation and configuration” on page 151.

Note: Before beginning, check that the following services are running:

- Records Manager server
- Records Manager Enabler server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

10.1 Records Manager configuration

Before adding any Records Manager functions to a Document Manager solution, configure Records Manager.

For ZXY Technologies, create and configure a file plan that will hold all the company documents related to proposals.

The following steps comprise the tasks required to complete this exercise:

1. “Views” on page 370
2. “Components” on page 372
3. “Add relationship properties” on page 373
4. “Building the file plan” on page 376
5. “Auto classify rules” on page 379
6. “Import users” on page 381
7. “Assign system components permissions” on page 382

For all these steps, use Records Manager Administrator client. If you are not there, click **Start** → **Programs** → **IBM DB2 Records Manager** → **Administrator**. Log in as `Administrator`.

10.1.1 Views

For our solution, we create three kinds of views:

- The first view is a *hierarchical view* used to organize the ZXY Technologies’ file plan for documents related to proposals.
- The second view is used to create links between documents inside the file plan. We use this view to create links between the original Microsoft Word documents and the PDF created in the rendition process.

- The last view is used to create a set of related documents. We use this to put together several versions of the same document.

Depending on how you want to set up your Records Manager configuration, you may not need to create all three views; but at the minimum, you must create a hierarchical view for your system.

From the Records Manager Administrator client, select **File Plan Design**, and then click **Views**. You need to create the views shown in Figure 10-1.

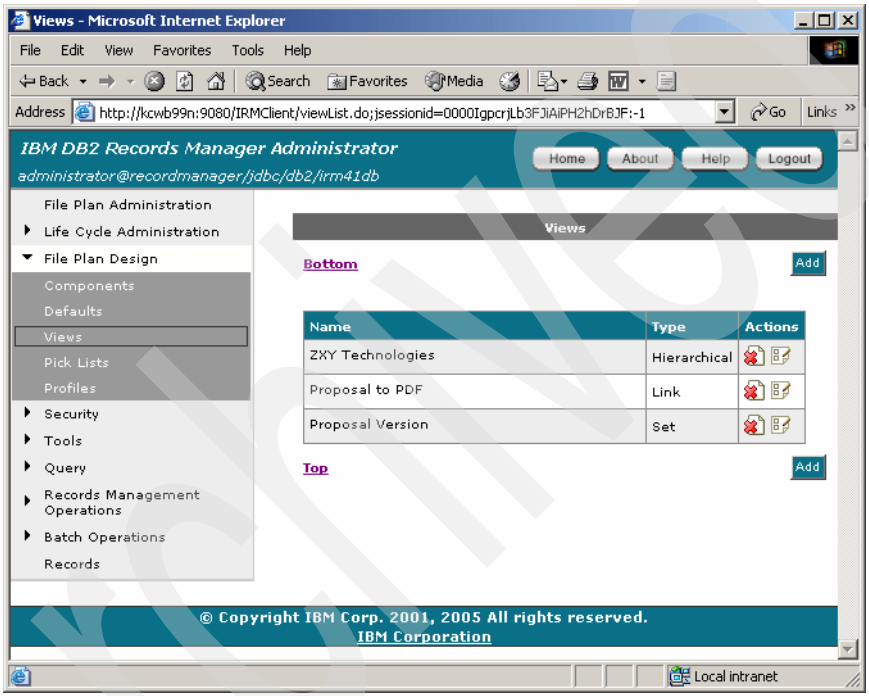

Figure 10-1 Records Manager Views configuration window

We create the following three views:

- ZXY Technologies
- Proposal to PDF
- Proposal Version

ZXY Technologies

This view defines the hierarchy between the components in the file plan. You have to create ZXY Technologies view now and later add the relationships. Follow these instructions:

1. Click **Add** in the documents pane.

2. Set **View Name** to `ZXY Technologies.`
3. Set **View Type** to **Hierarchical**.
4. Click **Save**. Click **Close**.

Proposal to PDF

This view defines a cross reference link between two components inside the file plan. Follow these instructions:

1. Click **Add** in the documents pane.
2. Set **View Name** to `Proposal to PDF.`
3. Set **View Type** to **Link**.
4. Click **Save**. Click **Close**.

Proposal Version

This view defines a set that associates different proposal versions with each other. Follow these instructions:

1. Click **Add** in the documents pane.
2. Set **View Name** to `Proposal Version.`
3. Set **View Type** to **Set**.
4. Click **Save**. Click **Close**.

10.1.2 Components

You need to create each component that will be part of the file plan. These components are the documents and all the folders inside the hierarchy.

In the Records Manager administrator client, select **File Plan Design**, and then click **Components**. You need to create the components shown in Figure 10-2.

Department	Component	
Proposal	Component	
Correspondence	Record	
Proposal Document	Record	
Request for Proposal	Record	

Figure 10-2 Records Manager Components configuration window

To create it, follow these instructions:

1. Click **Add** in the component panel.
2. Set **Component Definition Name** to `Department.`
3. Set **Component Definition Type** to **Component**.

4. Set **Primary View ID** to **ZXY Technologies**.
5. Click **Save**. Click **Close**.

Repeat the same procedure for the rest of the components. Be sure to select **component** or **records** in **Component Definition Type** option according to Figure 10-2.

10.1.3 Add relationship properties

Now that you have defined all the components of your file plan, you need to associate all to create the hierarchy you need.

In the Records Manager administrator client, select **File Plan Design**, and then click **Views**. You need to edit the ZXY Technologies views to add the hierarchy relationships.

Configure **ZXY Technologies** view:

1. Select the **View/Relationship Properties** icon next to **ZXY Technologies** view.
2. Configure the relationships as shown in Figure 10-3.

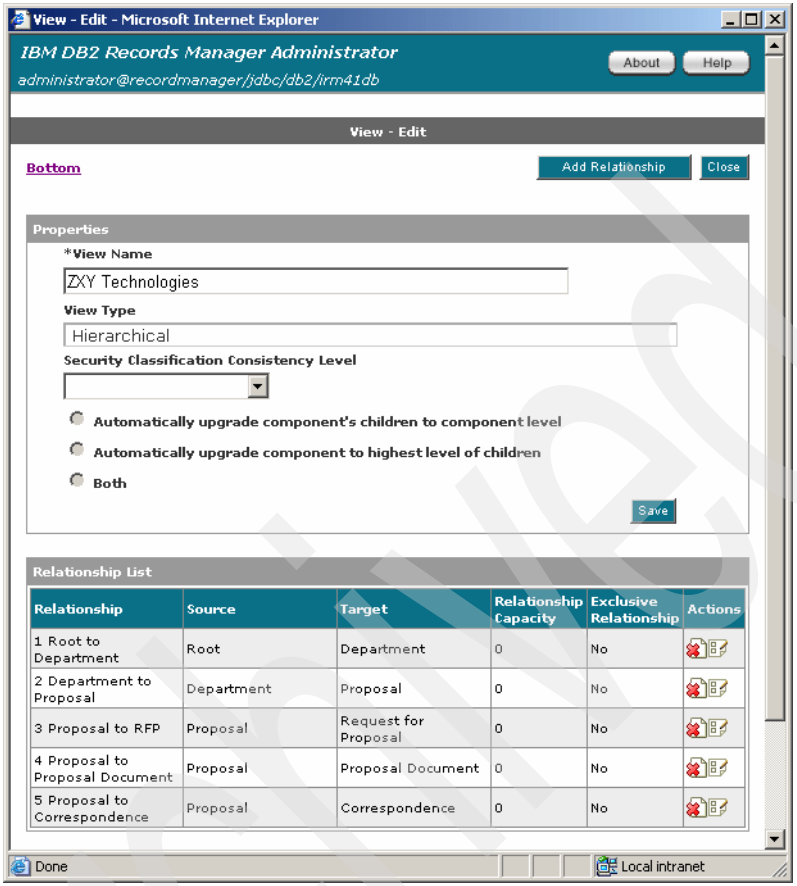

Figure 10-3 ZYX Technologies relationships

Configure **Proposal to PDF view**:

1. Select the **View/Relationship Properties** icon next to **Proposal to PDF** view.
2. Configure the relationships as shown in Figure 10-4.

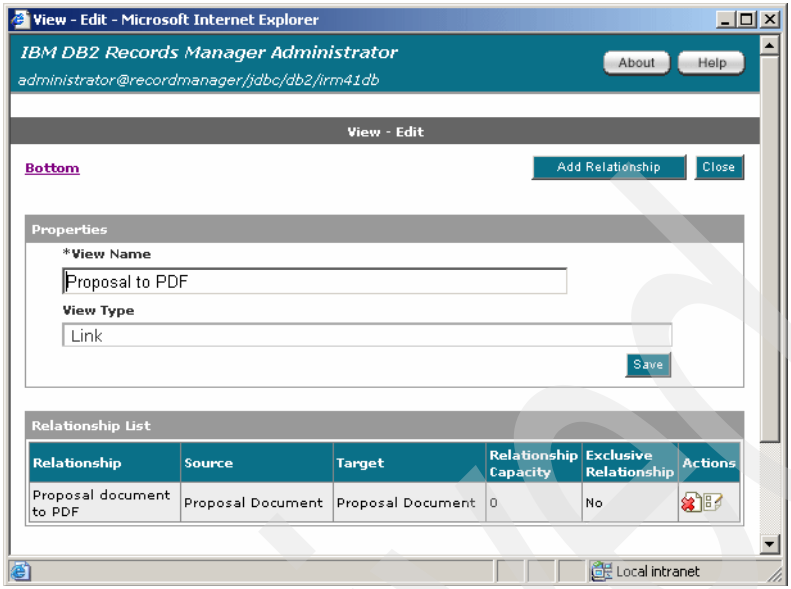

Figure 10-4 Proposal to PDF relationships

Configure **Proposal Version** view:

1. Select the **View/Relationship Properties** icon next to **Proposal Version** view.
2. Configure the relationships as shown in Figure 10-5.

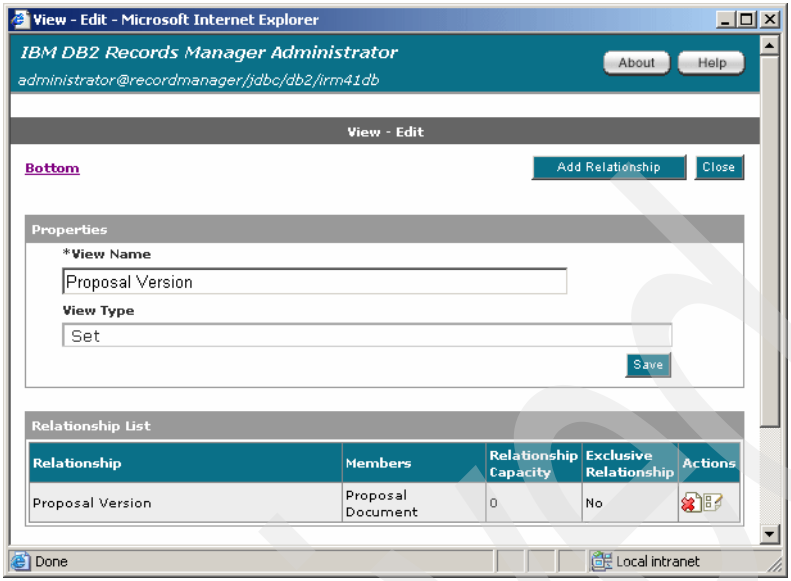

Figure 10-5 Proposal version relationships

10.1.4 Building the file plan

After the view, the file plan component definitions, and the relationships that form the hierarchy, have been built, build the file plan by creating instances of the file plan component definitions. When you add instances of the file plan component definition, for example, Departments, you must provide values for the attributes defined in the component definition. After you build the file plan, you can navigate through its hierarchies and add, edit, or delete any file plan component.

Create the following file plan component instances:

View	ZXY Technologies
Department	Sales, Services, and Marketing

In the Records Manager administrator client, select **File Plan Administration**.

Add a new instance of Department, Sales, to the file plan:

1. Select the **Add** icon next to **ZXY Technologies** view.
2. Set **Department Name** to `Sales`.
3. Set **Department Code** to `00001`.
4. Set **Department Title** to `Sales Department for ZXY Technologies` (see Figure 10-6).

5. Click **Save**. Click **Close**.

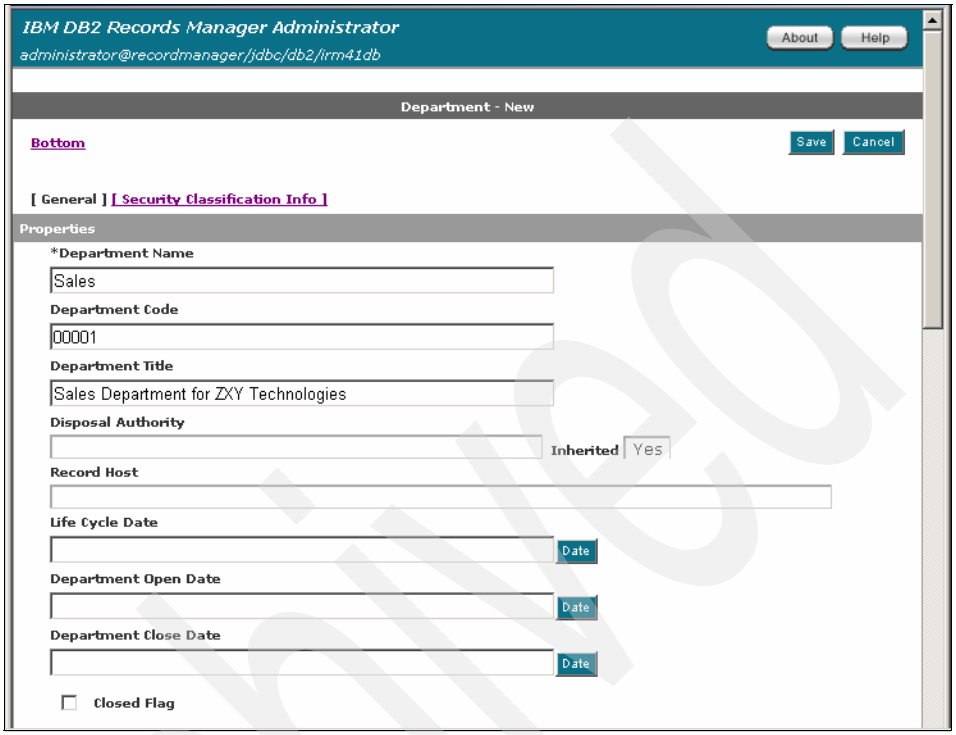

Figure 10-6 Add a new instance of Department, Sales, to the file plan

Add a new instance of Department, Services, to the file plan:

1. Select the **Add** icon next to **ZXY Technologies** view.
2. Set **Department Name** to `Services`.
3. Set **Department Code** to `00002`.
4. Set **Department Title** to `Services Department for ZXY Technologies`.
5. Click **Save**. Click **Close**.

Add a new instance of Department, Marketing, to the file plan:

1. Select the **Add** icon next to **ZXY Technologies** view.
2. Set **Department Name** to `Marketing`.
3. Set **Department Code** to `00003`.
4. Set **Department Title** to `Marketing Department for ZXY Technologies`.
5. Click **Save**. Click **Close**.

Once you have added the three instances, from the Records Manager administrator client, File Plan Administration, click the **ZXY Technologies** link. You should see the created file plan as shown in Figure 10-7.

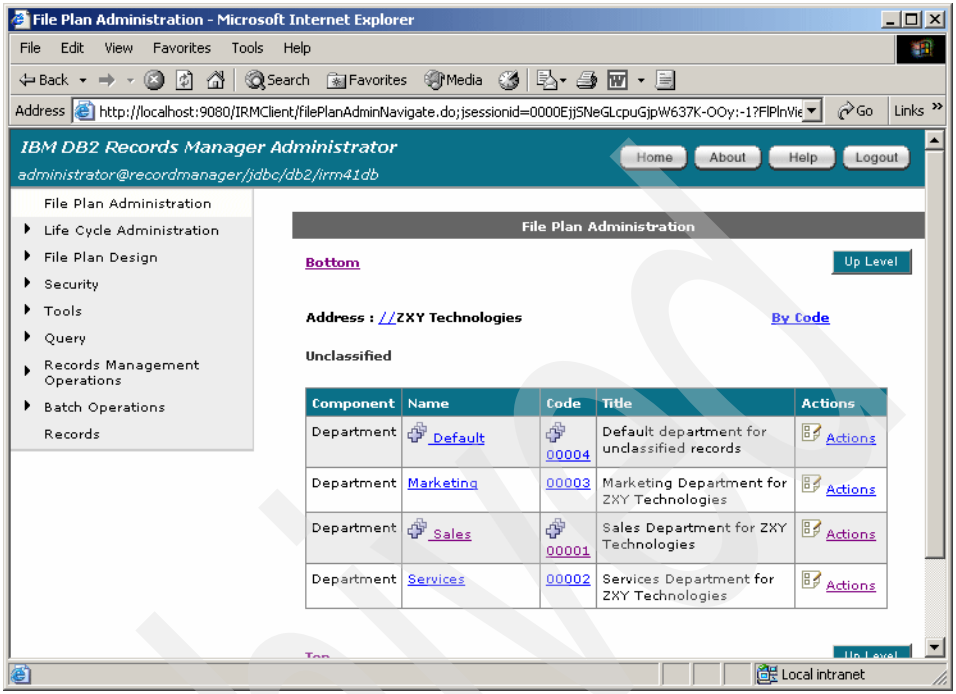

Figure 10-7 Instances of Departments in the file plan for the case study

For this case study, new instances of Proposals under various Departments are created when a new proposal is in the system. At this point, you do not need to create any of them.

If you do need to create new proposals to the file plan, you can use the following steps as reference:

From the Records Manager administrator client, select File Plan Administration, click **ZXY Technologies link**, and do the following:

1. Select **Actions** link next to Sales (or Services or Marketing).
2. Select **Add Proposal** link.
3. Enter the appropriate information.
4. Click **Save**. Click **Close**.

Figure 10-8 shows the file plan for the case study for your reference.

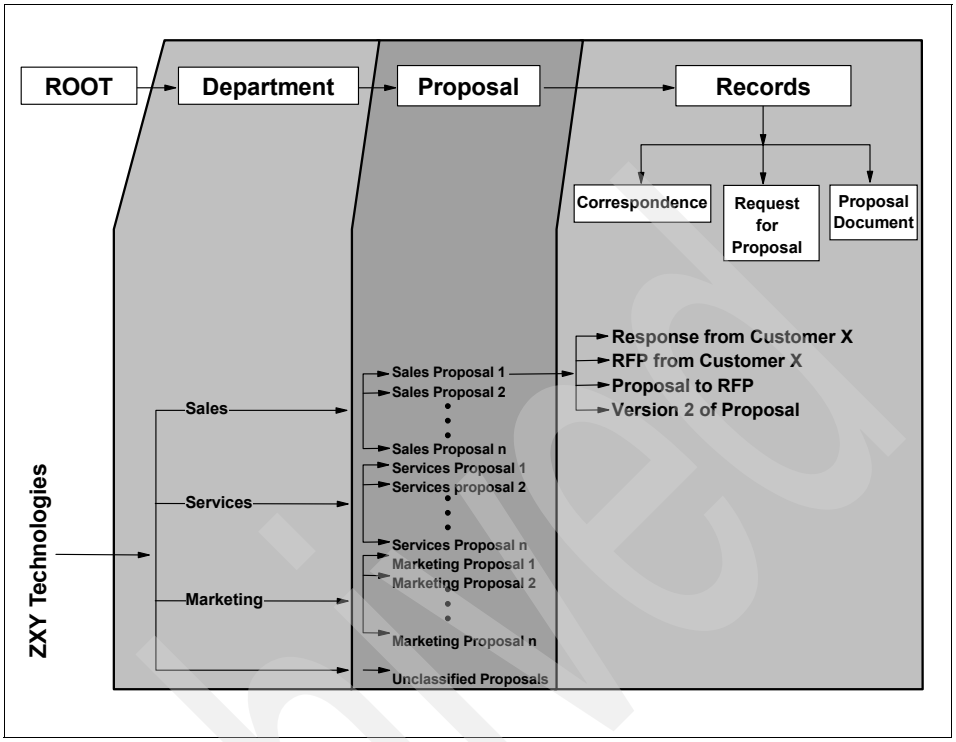

Figure 10-8 File plan for the case study

Once the file plan is created down to the Record Containers (Proposals), you can create records in the file plan through the Declare and Classify processes.

10.1.5 Auto classify rules

The Records Manager administrator needs to create new rules to associate records with the Proposal component. These are the rules that decide the destination inside the file plan of all the documents declared with Automatic Quick Declare in Document Manager.

For example:

1. Proposal number **00071** is created inside Document Manager and a notification e-mail is sent to a project manager.
2. The project manager logs into Record Manager and creates a Proposal component named **Proposal00071**.
3. He also create an Auto classify rule that associates new documents with proposal number **00071** to the **Proposal00071** component.

For each proposal component, a project manager needs to create the rules listed in Figure 10-9.

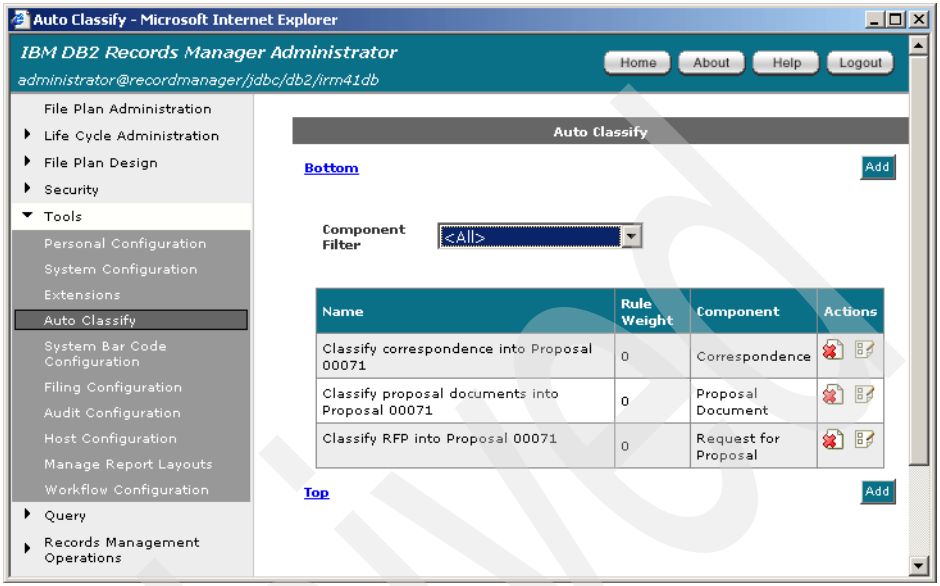

Figure 10-9 Auto classify window

In the Records Manager administrator client, select **Tools**, and then click **Auto Classify**. Use the configuration shown in Figure 10-10 to create the proposal, correspondence, and RFP rules.

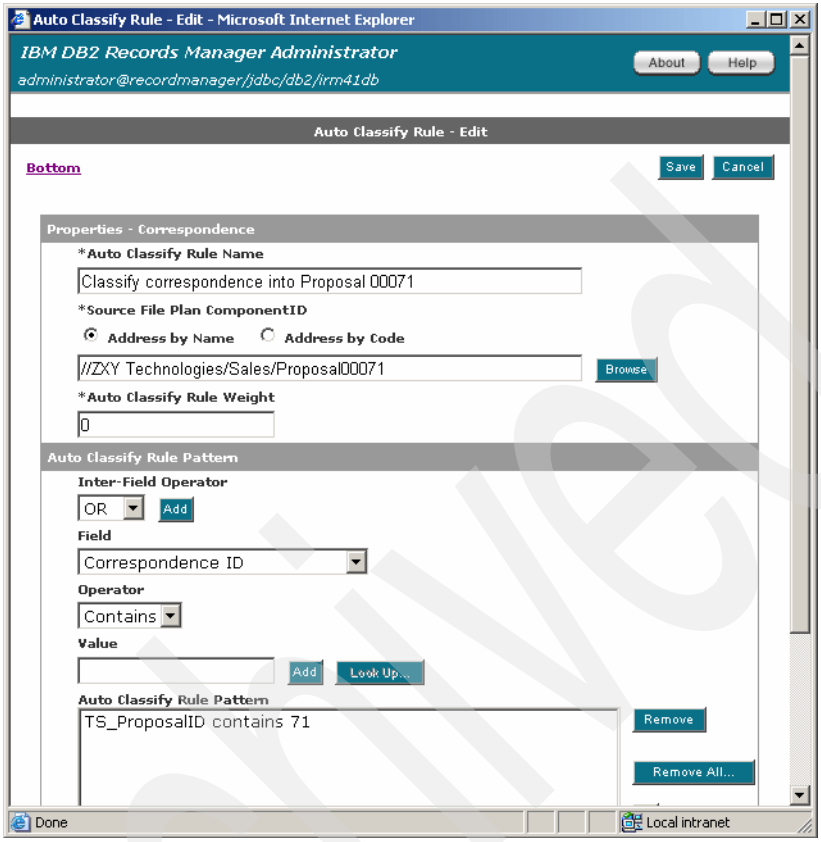

Figure 10-10 Auto Classify example window

Note: If this is a production environment, we might create an application dialog to combine and simplify the processes of creating a new proposal container and its associated auto classify rule. This requires the use of the Records Manager APIs. Or alternatively, create a logic extension in the Records Manager engine to automatically create an auto classify rule when you add a new proposal container.

10.1.6 Import users

In the Records Manager administrator client, select **Security**, and then click **Users**. You need to import all the users who will have the right to declare, classify, link, and view records.

For ZXY Technologies, we need to import the users listed in Figure 10-11. Be sure to select **ICMNLSDB Host Filter**.

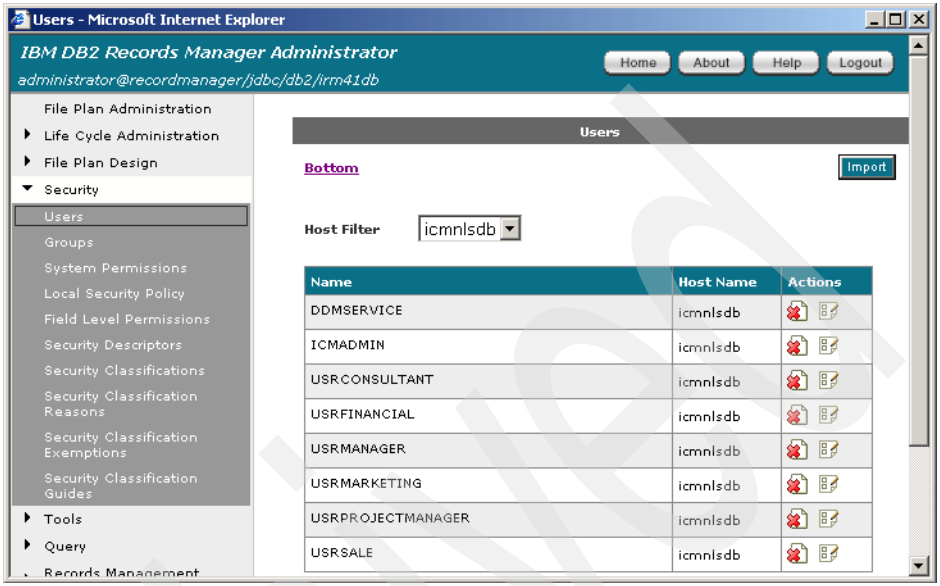

Figure 10-11 Import users window

Once users are imported from Content Manager to Records Manager, select the **View/Edit properties** icon next to each user and do the following:

1. Select **File Plan Administration**.
2. Select **Is Active**.
3. Click **Save**. **Click Cancel** to close the windows.

10.1.7 Assign system components permissions

In our solution, we have given ICMADMIN administrative right in Records Manager. This means ICMADMIN is a member of the Local Administrator group. When you grant system permissions to the users imported from Content Manager, ICMNLSDB, do not include ICMADMIN since it already has all the permissions assigned.

Table 10-1 describes the available permissions.

Table 10-1 File plan component access control selections

Permissions	Description
Add	To add a file plan component of a particular type.

Permissions	Description
Update	To modify an existing file plan component of a particular type. If the file plan component type is record type, users with this permission can modify the record's metadata.
Delete	To remove a file plan component of a particular type from the file plan. If the file plan component type is record type, users with this permission can undeclare a record.
View	To see the profile of a file plan component of a particular type. Users who cannot view a file plan component will not know of its existence in the file plan.
Suspend	To suspend a file plan component from transitioning through life cycle.
Unsuspend	To remove a suspension from a file plan component and allow it to continue through its life cycle.
Move	To move a file plan component from one place to another.
Change Permissions	To alter the permissions assigned to a particular file plan component.
Reserve	To reserve a file plan component for yourself.
Add Link	To add a link.
Delete Link	To delete a link.
Charge Out	To charge out a file plan component to yourself, or to someone else.
Host Retrieve	To retrieve a record to a user's workspace on their computer when the file plan component represents a record stored in an adjoining host application. This permission is stored in Records Manager for information purposes only, since Records Manager cannot directly control whether an adjoining application allows a user to retrieve a document. **Important:** For the Document Manager solution with Records Manager and Content Manager, the Host Retrieve permission enables the Content Manager or Document Manager users to see documents after they are declared as records. You *must grant Host Retrieve permission* if you want users to view the declared records. Without this permission, users would not be able to search or view these documents. For more explanation, see "Access control of a declared record document" on page 131.

In the Records Manager administrator client, select **Security**, and then click **System permissions**. Select all the objects and click **Permissions**. Do the following:

1. Select **ICMNLSDB** from **Host**.
2. Click **Go**. The Access list will display.
3. Configure **Department**:
   a. Leave **ICMADMIN rights**.
   b. Give the rest of the users View rights.
4. Configure **Proposal**:
   a. Leave **ICMADMIN** rights.
   b. Give **usrProjectManager** Add, Update, Add Link, and View rights.
   c. Give the rest of the users View rights.
5. Configure **Proposal Document**:
   a. Leave **ICMADMIN** rights.
   b. Give **usrConsultant**, **usrMarketing,** and **usrSale** Add, Add Link, View, and Host retrieve rights.
   c. Give **usrProjectManager** Add, Update, Add Link, View, and Host retrieve rights.
   d. Give the rest of the users View and Host retrieve rights.
6. Configure **Correspondence**:
   a. Leave **ICMADMIN** rights.
   b. Give **usrConsultant**, **usrMarketing,** and **usrSale** Add, Add Link, View, and Host retrieve rights.
   c. Give **usrProjectManager** Add, Update, Add Link, View, and Host retrieve rights.
   d. Give the rest of the users View and Host retrieve rights.
7. Configure **Request for Proposal**:
   a. Leave **ICMADMIN** rights.
   b. Give **usrConsultant**, **usrMarketing,** and **usrSale** Add, Add Link, View, and Host retrieve rights.
   c. Give **usrProjectManager** Add, Update, Add Link, View, and Host retrieve rights.
   d. Give the rest of the users View and Host retrieve rights.

10.2 Enable item types for records declaration

For the item type that stores documents in your solution, if you need to declare these documents to be records later, you must enable the item type for records declaration.

For the ZXY Technologies, we need to enable CustomerData item type for records declaration.

The following steps comprise the tasks required to complete this exercise:

1. "Enable CustomerData item type" on page 385
2. "Attribute mapping" on page 386

For all these steps, you need to use the IBM DB2 Content Manager Records Enabler administration client. If you are not there, click **Start** → **Programs** → **IBM DB2 Content Manager Records Enabler** → **Administration Client**.

10.2.1 Enable CustomerData item type

To enable CustomerData item type, do the following:

1. Select **eRecord enable Item Type** from the left panel. A list of Content Manager Item Types should display.
2. Select **CustomerData** Item Type from the list.
3. Select **Proposal Document from the Record type** pick-list.
4. Click **Enable** at the top. After that, It should look like Figure 10-12.

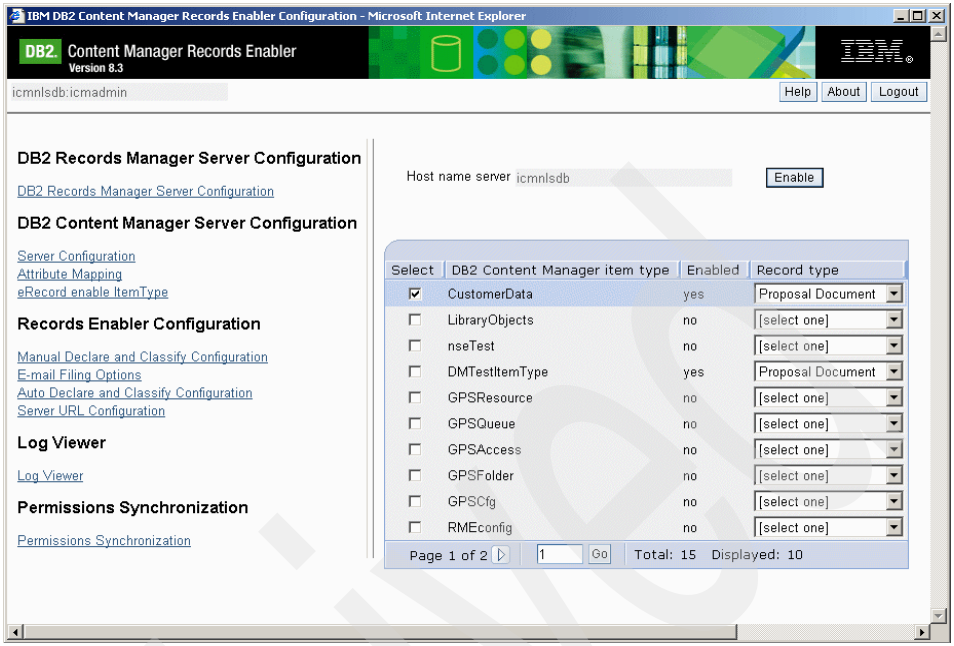

Figure 10-12 eRecord enable Item Type window

10.2.2 Attribute mapping

You need to map the attributes for each file plan you define. The ZXY Technologies design is listed in Table 10-2.

Table 10-2 Records Manager Enabler attributes mapping

File Plan	IRM Attribute	CM Attribute
Proposal Document	Document Name	Proposal Subject
Proposal Document	Proposal Number	Proposal Number
Request for Proposal	Document Name	Mail Subject
Request for Proposal	Proposal Number	Proposal Number
Correspondence	Document Name	Mail Subject
Correspondence	Proposal Number	Proposal Number

Follow these steps to configure the file plan mapping attributes:

1. Select **Attribute Mapping** from the left panel.

2. Select **Proposal Document** from the **Record type** pick-list and click **Add Mapping**.
3. You need to configure your mapping attributes from Table 10-2 as shown in Figure 10-13.

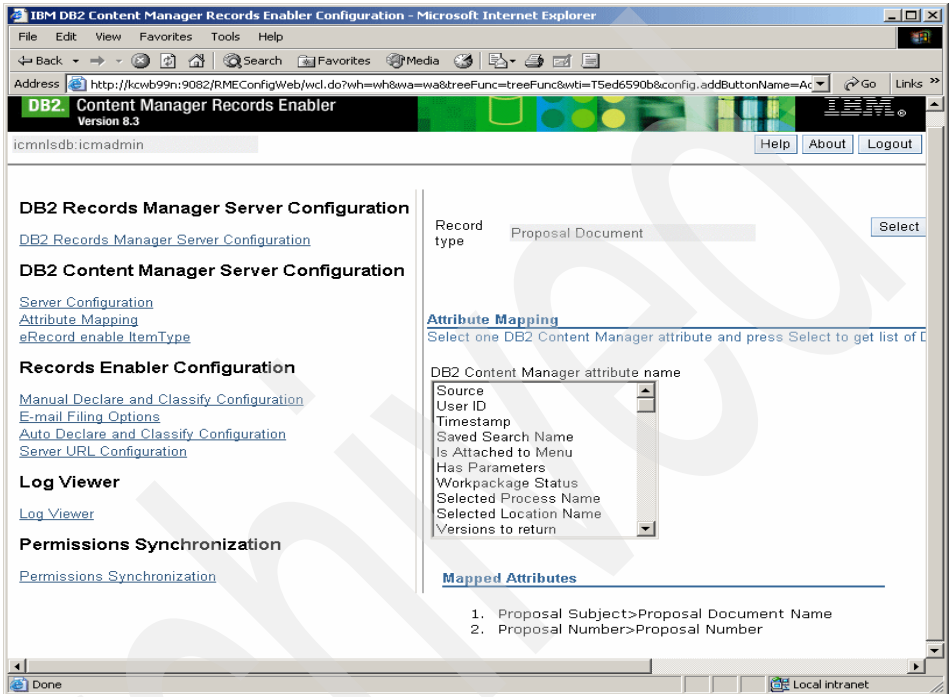

Figure 10-13 Attribute mapping window

4. Repeat the two previous steps for Correspondence and Request For Proposal File Plans. Use the mapping attributes in Table 10-2 on page 386.

10.3 Configure DM classes for records declaration

You need to configure the Document Manager classes you have created in the previous chapter to allow records declaration.

The following steps comprise the tasks required to complete this exercise:

1. “Configure document classes for records declaration” on page 388
2. “Configure Correspondence class for records declaration” on page 391
3. “Configure Reference Documents class for record declaration” on page 394

For all these steps, you need to use Document Manager Designer client. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

10.3.1 Configure document classes for records declaration

For document classes that will store declared documents, you need to enable these document classes for records declaration.

For ZXY Technologies, you need to modify the Sales, Marketing, and Services Proposal classes you have already defined to enable them for records declaration. We show you how to configure the Sales Proposal. You need to repeat the same procedure for the other proposal classes.

ZXY Technologies requires that all the Proposal documents be automatically declared when they transition to the Issued state. This means there is no user intervention during the record classification step.

The auto classify rules are already defined on “Auto classify rules” on page 379; therefore, the proposal documents will be properly classified during the declaration step.

For this exercise, you need to:

- Configure Sales Proposal class.
- Configure the Issued state.

Configure Sales Proposal class

In the Designer, open **Global - [Administrator]**, open the Desktop, open **Item Type**, open **CustomerData** item type, open **Classes**, select **Sales Proposal** class and click the **Modify** icon in the Designer title bar. Do the following:

1. Select the **Records Management** tab and on the **Records Management** page as shown in Figure 10-14:
   a. Be sure **Quick Declare desktop classification** is set to **Auto**.

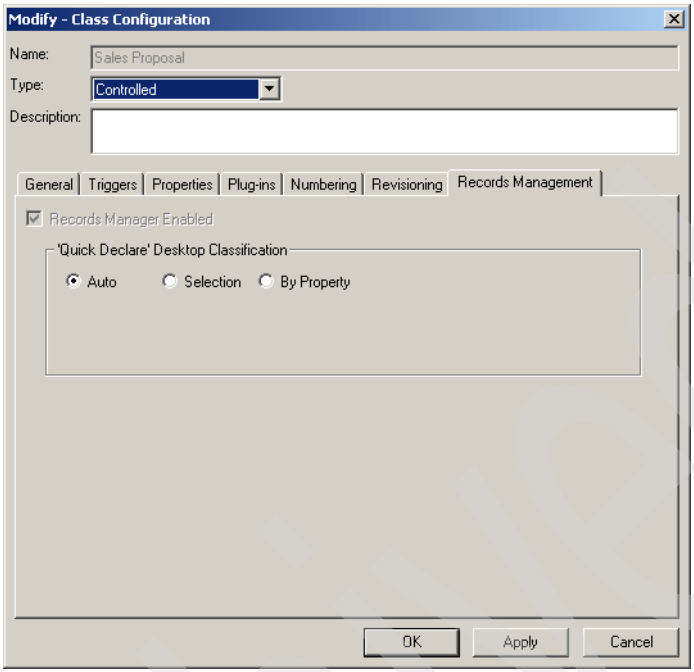

Figure 10-14 Sales proposal records manager tab window

2. Click **OK** to save the changes.

Configure the Issued state

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **States**, select **Issued** state, and click the **Modify** icon in the Designer title bar. Do the following:

1. Click the **Library** tab and complete the **Library** page as shown in Figure 10-14:
   a. Select **Declare Item of record**.
   a. Select **Use Class Settings**.

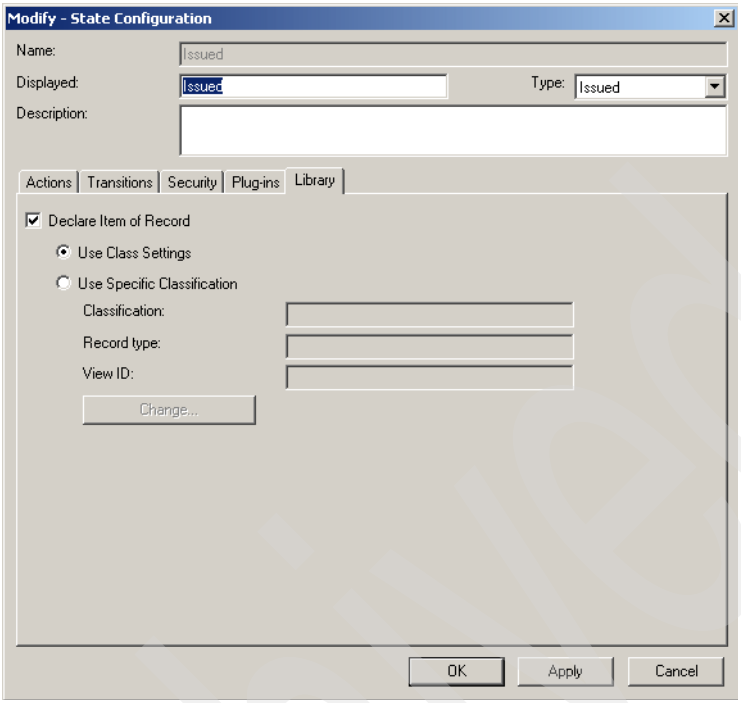

Figure 10-15 Issued state library tab window

2. Click **OK** to save the changes.

Test your system: Records declaration

Now you can log on to Document Manager Desktop and test the following functionality with Sales Proposal class:

1. Log on to the Desktop with `usrSale`.
2. Add a new Sales Proposal document.
3. Transition the document through the entire life cycle and check if it becomes automatically declared when it arrives at the Issued state.

Note: Before beginning, check that the following services are running:

- Records Manager Server
- Records Manager Enabler Server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

10.3.2 Configure Correspondence class for records declaration

You need to modify the Correspondence class you have already defined to allow records declaration.

ZXY Technologies requires that all the Correspondence documents be automatically declared when they transition to the Incoming or Outgoing states. That means there is no user intervention during the record classification step.

The auto classify rules are already defined on “Auto classify rules” on page 379; therefore, the correspondence documents will be properly classified during the declaration step.

For this exercise, you need:

- Configure Correspondence Class.
- Configure Incoming and Outgoing State.

Configure Correspondence Class

In the Designer, open **Global - [Administrator]**, open the **Desktop**, open **Item Type**, open **CustomerData** item type, open **Classes**, select **Correspondence** class and click the **Modify** icon in the Designer title bar. Do the following:

1. Click the **Records Management** tab and complete the **Records Management** page as shown in Figure 10-16:
   a. Be sure **Quick Declare desktop classification** is set to **Auto**.

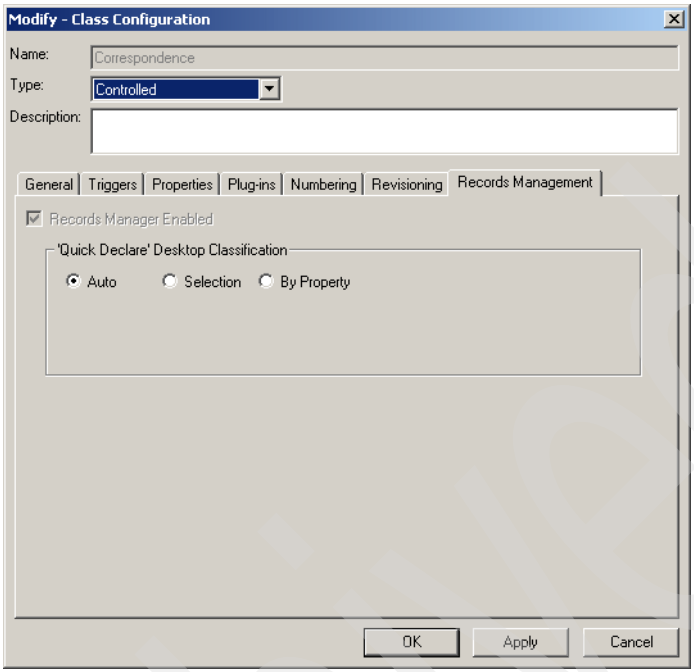

Figure 10-16 Correspondence records manager tab window

2. Click **OK** to save the changes.

Configure Incoming and Outgoing State

In the Designer, open **Global - [Administrator]** as before, open the **Desktop**, open **States**, select **Incoming** state and click the **Modify** icon in the Designer title bar. Do the following:

1. Click the **Library** tab and complete the **Library** page as shown in Figure 10-17:
   a. Select **Declare Item of record**.
   a. Select **Use Class Settings**.

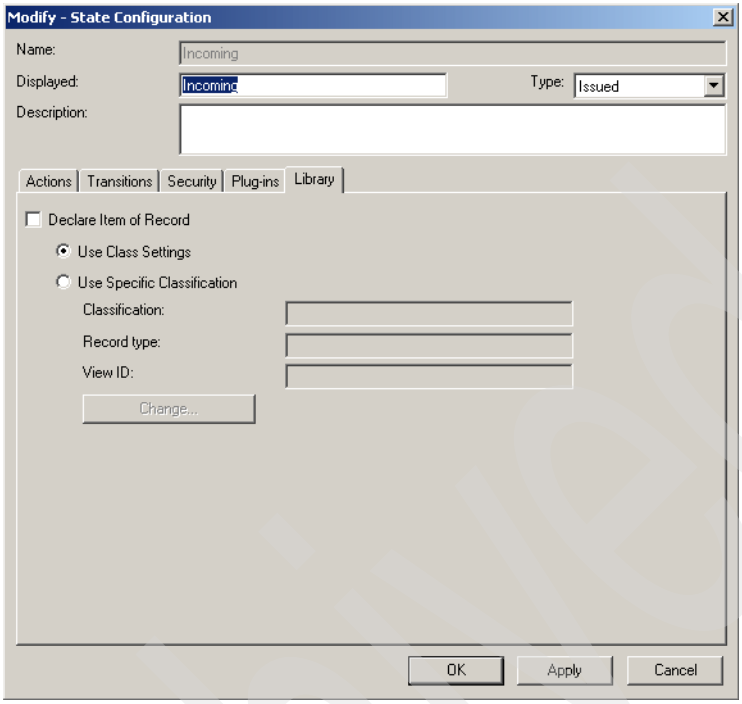

Figure 10-17 Incoming state library tab window

2. Click **OK** to save the changes.
3. Follow Step 1 and Step 2 to modify the **Outgoing** state.

Test your system: Records declaration

Now you can log on to Document Manager Desktop and test the following functionality with Correspondence class:

1. Log on to the Desktop with `usrSale`.
2. Add a new Correspondence document and associate it with Incoming or Outgoing State. Check if it becomes automatically declared once loaded.

Note: Before beginning, check that the following services are running:

- Records Manager Server
- Records Manager Enabler Server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

10.3.3 Configure Reference Documents class for record declaration

You need to modify the Reference Documents classes you have already defined to allow record declaration.

Since ZXY Technologies does not need all the Reference Documents to be automatically declared, users will decide if each document needs to be declared. When users declare documents as records, the users will select from a predefined list of file plan destinations. We show you how to configure by selection declaration.

Configure Reference Documents Class

In the Designer, open **Global - [Administrator]**, open **Desktop**, open **Item Type**, open **CustomerData** item type, open **Classes**, select **Reference Documents** class and click the **Modify** icon in the Designer title bar. Do the following:

1. Select the **Records Management** tab and complete the **Records Management** page:
   a. Set **Quick Declare desktop classification** to **Selection**.
   b. Click **Classifications**. The **Records Management Selection List** window opens. Here you need to create the list of possible file plan destinations. We are going to add only one possible destination as an example. Follow these instructions:
      i. Click **Add**. A new window with the file plan navigation opens.
      ii. Select from the tree **Unclassified Proposals** and set **Proposal Document** in the **Records Type** drop box as shown in Figure 10-18.

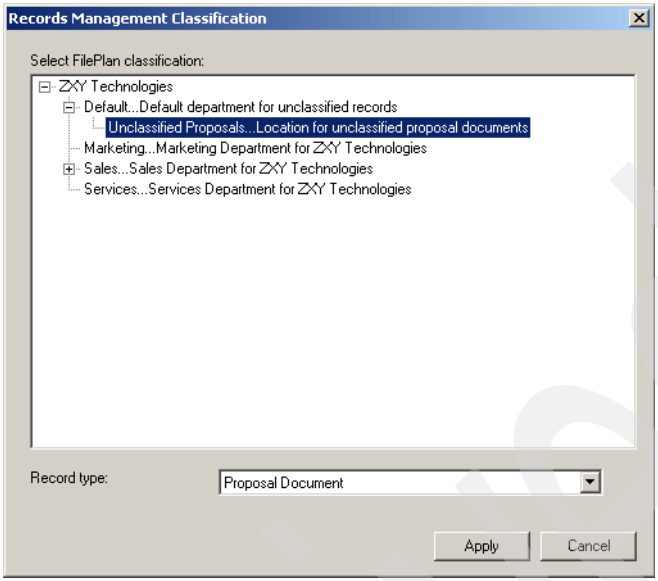

Figure 10-18 Records management classification window

i. Click **Apply**. Then, click **OK**.

c. Select from the **Related items declared** list, the following entries:

- Children
- Peers
- OLE

d. The class configuration should look like Figure 10-19.

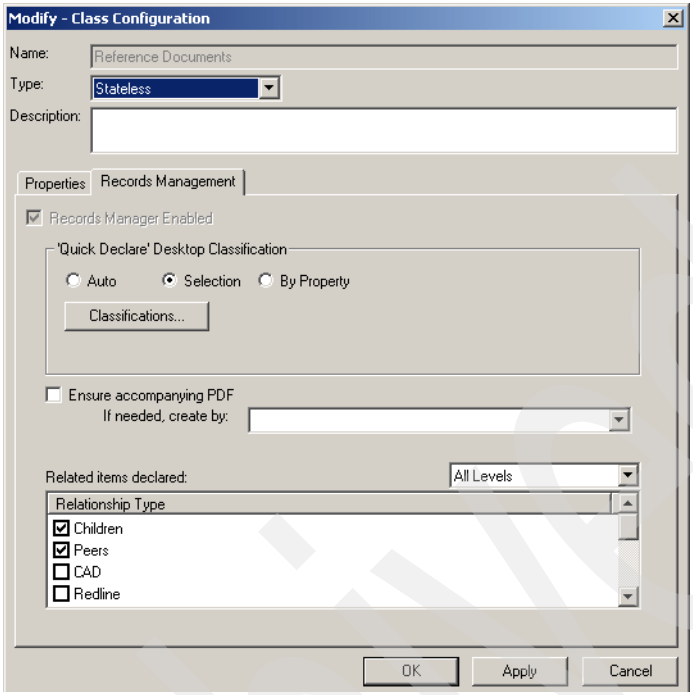

Figure 10-19 Reference documents records manager tab window

2. Click **OK** to save the changes.

Test your system: Records declaration

Now you can log on to Document Manager Desktop and test the following functionality with Reference Documents class:

1. Log on to Desktop with `usrSale`.
2. Create a new Reference Document.
3. Search for it, right-click, and select by **Selection Quick Declare**.
4. Create a new Reference Document with a compound document. Search for them and select the father. Right-click and select by **Selection Quick Declare**. Both father and children must be automatically declared. Inside Records Manager file plan both documents are created as one record.

Important: Before beginning, check that the following services are running:

- Records Manager server
- Records Manager Enabler server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

11

Other record declaration options in Document Manager solution

This chapter provides alternative Records Manager implementation options for the ZXY Technologies case study solution. Utilizing the file plan created in “Advanced Document Manager implementation” on page 331, we show you different Document Manager and Records Manager integrations that you can use to meet your customers’ needs.

We cover the following topics:

- Different ways to create a record
- Automatic quick declare
- By Selection quick declare
- By properties quick declare
- Automation services declaration
- Manual declare (Profile, Defaults configuration)
- Create a Records Manager link
- Create a Records Manager set

11.1 Different ways to create a record

For ZXY Technologies, we used automatic quick declare that activates during transitions between states, and by selection quick declare that activates manually from the desktop menu.

There are other ways to configure how a document becomes a record. Here we describe alternative configurations, so you can select the best for your needs.

Note: We show you how to configure each record option. If you want to read an introduction about each one, refer to “Records Manager options in Document Manager” on page 77.

You can create a Record in the following ways:

- During transitions between **States**: By clicking the **Library** tab inside the state and completing the **Library** page, you can select **Use Class Settings** or **Use Specific Classification**.

  If you select the first option, the records process uses the configuration in the **Record Manager** tab, **Quick Declare Desktop Classification** option inside the class.

- In the **Add** dialog box: In the **Options tab** inside Add dialog, the option **Process Declare command** allow you to select a **Manual declare** or **Quick declare** command. We show you how to configure the Add dialog box in “By properties quick declare” on page 402.

- **Automation Services Declaration**: You can configure an automation process job to select a document without record declaration and declare it automatically. To read more, go to “Automation services declaration” on page 407.

- From the **Desktop** menu: The user can select a document inside the desktop, click **Right Click** and select **Records** submenu. Both **Manual declare** or **Quick declare** commands are in **Records** submenu. You can see the pop-up menu in Figure 11-1.

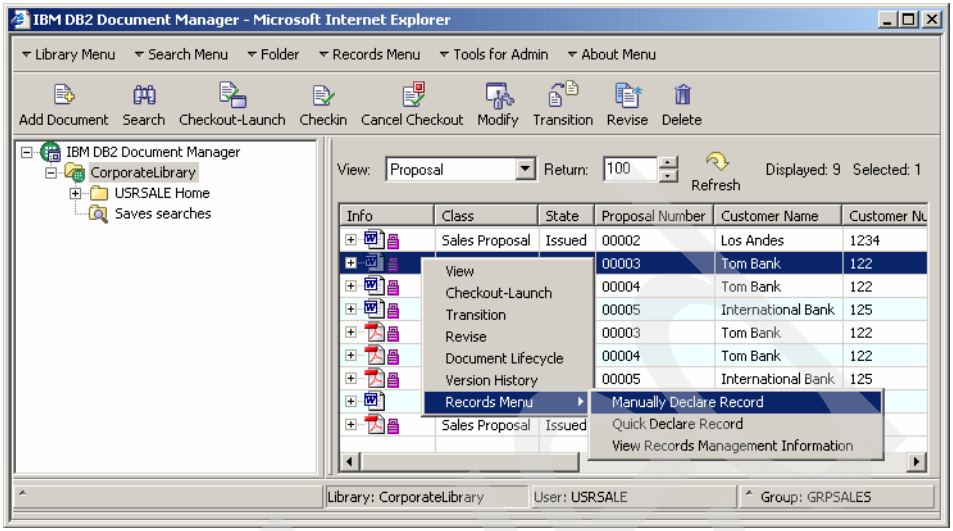

Figure 11-1 Records Manager pop-up menu

- Declare a **version history** record: Users can declare a previous version document. To do that, users need to select the document. Right-click and select **Version History**. You can see the menu in Figure 11-1.

  Version history windows open. User can select the version they want to declare, right-click, and select the Records Menu submenu. You can see it in Figure 11-2.

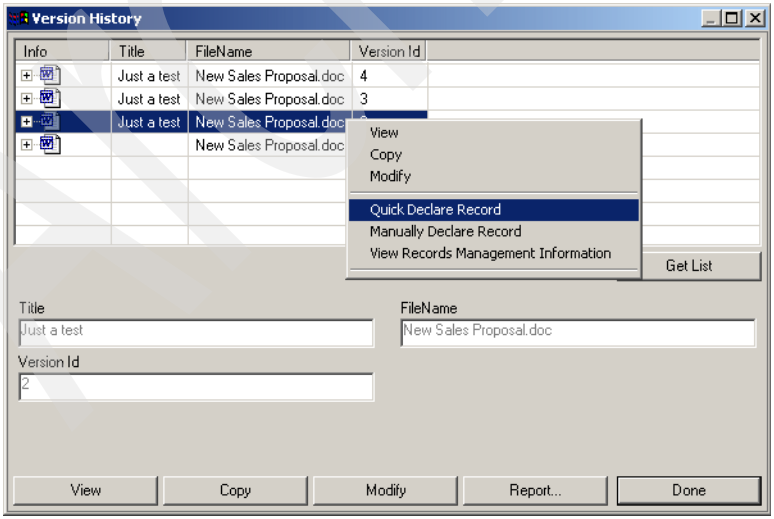

Figure 11-2 Version history declaration

11.2 Automatic quick declare

Automatic declaration uses the rules you define in Records Manager to automatically classify the documents during declaration.

For our solution, we use quick auto declare functionality to do record declaration for the Proposal, Correspondence, and Request for proposal documents. These documents are automatically declared as records when they transition to the Issued, Incoming, or Outgoing states.

Refer to “Configure document classes for records declaration” on page 388 to learn more about automatic declaration.

11.3 By Selection quick declare

By selection declaration uses a list of predefined classification paths in the Document Manager Class to display the available destinations inside the file plan to the user.

For ZYX Technologies Reference Documents class, we use quick selection declare functionality, so users can select a document, right-click, and select **Quick Declare** to create a record.

Refer to “Configure Reference Documents class for record declaration” on page 394 to learn more about it.

11.4 By properties quick declare

By properties quick declare option uses the Document Manager Class properties to specify the classification path where the document is to be declared.

We use the Sales Proposal in our solution to show you one way of using this method to declare and classify.

The following steps comprise the tasks required to complete this exercise.

1. “Create Document Manager properties” on page 403
2. “Add the properties to your item type” on page 403
3. “Create CVL list and links” on page 404
4. “Modify your Add dialog box” on page 406

Note: Before you begin, check that the following services are running:

- Records Manager Server
- Records Manager Enabler Server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

For all these steps, you need to use Document Manager Designer. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

11.4.1 Create Document Manager properties

We need to create two properties:

- **File Plan Location:** Holds the classification path
- **Records Type:** Holds the records classification, such as Proposal Documents, Correspondence, or Request for Proposal.

In the Designer, open **Global - [Administrator]** and select **Library Properties.** Click the **New** icon in the Designer title bar - the New - Library Property Configuration window opens. Create the **Properties** listed in Table 11-1.

For instructions about how to create the library properties, refer to “Create library properties” on page 246.

Table 11-1 Quick declare library properties

Name	Display name	Attribute type	Character type	Character length
FilePlanLocation	File Plan Location	Variable character	Extended alphanumeric	100
RecordType	Record Type	Variable character	Extended alphanumeric	32

11.4.2 Add the properties to your item type

In the Designer, open **Global - [Administrator],** select **Desktop**, then expand **Item Type,** and select **CustomerData** Item Type. Click the **Modify** icon in the Designer title bar. Do the following:

1. Add the properties listed in Table 11-1 to **CustomerData** Item Type.
2. Click **OK** to save the changes.

11.4.3 Create CVL list and links

In the Designer, open **Global - [Administrator]** as before, open **Desktop**, open Cvls. Click the **New** icon in the Designer title bar. Do the following:

- Create RecordType CVL List.
- Create File Plan locations CVL List.
- Create Record Type CVL Link.
- Create Classification Locations CVL Link.

Create RecordType CVL List

To create RecordType CVL list, use the following steps:

1. Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens.
2. In the **Name field**, type `RecordType.`
3. In the **Type** pick-list, select **Standard**.
4. Add the values:
   - Proposal Document
   - Request for Proposal
   - Correspondence
5. Click **OK** to save your changes.

Create File Plan locations CVL List.

To create file plan locations CVL list, use the following steps:

1. Select **Lists** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens.
2. In the **Name** field, type `File Plan locations.`
3. In the **Type** pick-list, select **Standard.**
4. You need to add all the destinations inside the file plan. For example:
   - `//ZXY Technologies/Default/UnclassifiedProposal`
   - `//ZXY Technologies/Sales/Proposal00071`
5. Click **OK** to save your changes.

Create Record Type CVL Link

To create RecordType CVL link, follow these steps:

1. Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens.
2. In the **Name** field, `type Record Types.`

3. Set **Property** drop-down list to **RecordType**.
4. Set **CVL name** drop-down list to **RecordType**.
5. Set **Default Value** drop-down list to **Proposal Document**.
6. Click **OK** to save your changes.

Create Classification Locations CVL Link

To create Classification Locations CVL link, follow these steps:

1. Select **Links** and click the **New** icon in the Designer title bar. The New - CVL Configuration window opens.
2. In the **Name** field, type `Classification Locations.`
3. Configure the rest of options as shown in Figure 11-3.

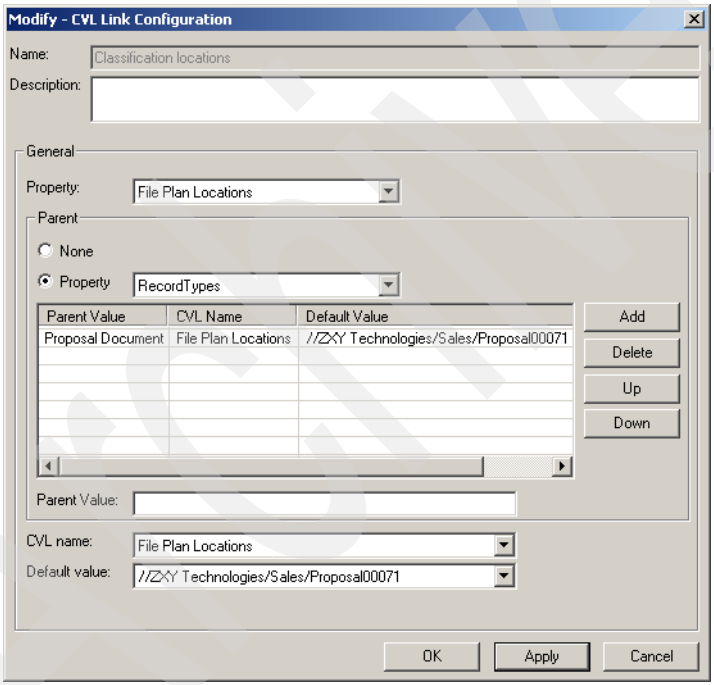

Figure 11-3 File plan location link

4. Click **OK** to save your changes.

11.4.4 Modify your Add dialog box

You need to add the properties in Table 11-1 on page 403 to your **add** dialog box. Since we are using Sales Proposal class, you need to select the Sales Proposal - Add dialog box.

In the Designer, open **Global - [Administrator]**, open **Desktop**, open **Actions and Dialogs**. Do the following:

1. Expand **Sales Proposal - Add** dialog box.
2. Under your **add** dialog box, expand **CVL Links**. Drag and drop from Cvls:
   - Classification Locations CVL Link
   - Create Record Type CVL Link
3. Select again your **add** dialog box and click the **Modify** icon in the Designer title bar.
4. Select **Options** tab:

   Select **Process Declare command** and select **Quick declare command** options. It should look like Figure 11-4.

Scan for new related file attachments	Local system only
Display cpdoc link properties dialog for new links	No
Process Declare command	Quick Declare Command

Figure 11-4 Add dialog box options tab

5. Click **OK** to save the changes.

Now when a user adds a new document, the window in Figure 11-5 opens. You can see that the first two attributes are related to the CVL link. So, when you import the document, it will be declared inside the file plan selected.

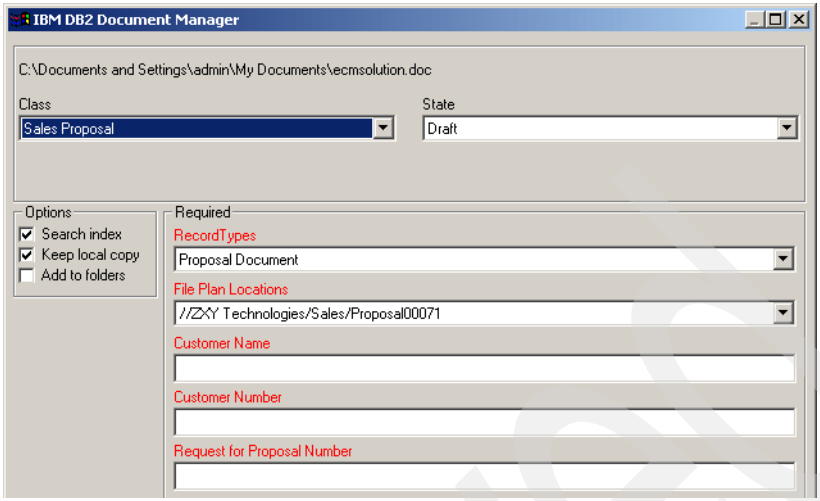

Figure 11-5 By select quick declaration

11.5 Automation services declaration

Document Manager can be configured to execute an automatic job that searches the system to find documents that meet certain criteria. When the documents are found, a predefined action can be automatically performed. This action can be to declare the documents using the Quick Declare functions.

The following steps comprise the tasks required to complete this exercise and create all the objects shown in Figure 11-6:

1. “Create rules” on page 408
2. “Create rule set” on page 409
3. “Create action” on page 410
4. “Create alarm” on page 410
5. “Create Job” on page 410

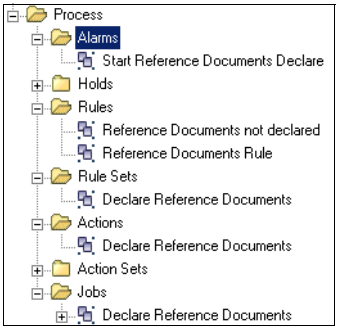

Figure 11-6 Automation services declaration

Note: Before beginning, check that the following services are running:

- Records Manager Server
- Records Manager Enabler Server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services
- DM Alarm service
- DM Automation service

For all these steps, you need to use Document Manager Designer. If you are not there, click **Start** → **Programs** → **IBM DB2 Document Manager** → **Designer**.

11.5.1 Create rules

In the Designer, open **Global - [Administrator]** as before, open **Process**, open **Rules**. In this example, we create two rules.

Note: Rules are case sensitive. Be sure to write your rule values in the correct tense.

Create **Reference Documents Rule** rule:

1. Click the New icon from design toolbar.
2. Set **Name** to `Reference Documents Rule.`
3. Set **Property** to **Class**.
4. Set **Operator** to **Equal (==)**.
5. Set **Value** to `Reference Documents.`

6. Click **OK**.

Create **Reference Documents not declared** rule:

1. Click the **New** icon from design toolbar.
2. Set **Name** to `Reference Documents not declared.`
3. Set **Property** to **isRecord**.
4. Set **Operator** to **Not equal (!=)**.
5. Set **Value** to `Yes.`
6. Click **OK**.

11.5.2 Create rule set

In the Designer, open **Global - [Administrator]** as before, open **Process**, open **Rule Sets**. Do the following:

1. Click the **New** icon from the design toolbar.
2. Set **Name** to `Declare Reference Documents.`
3. Add the two previous rules as shown in Figure 11-7.

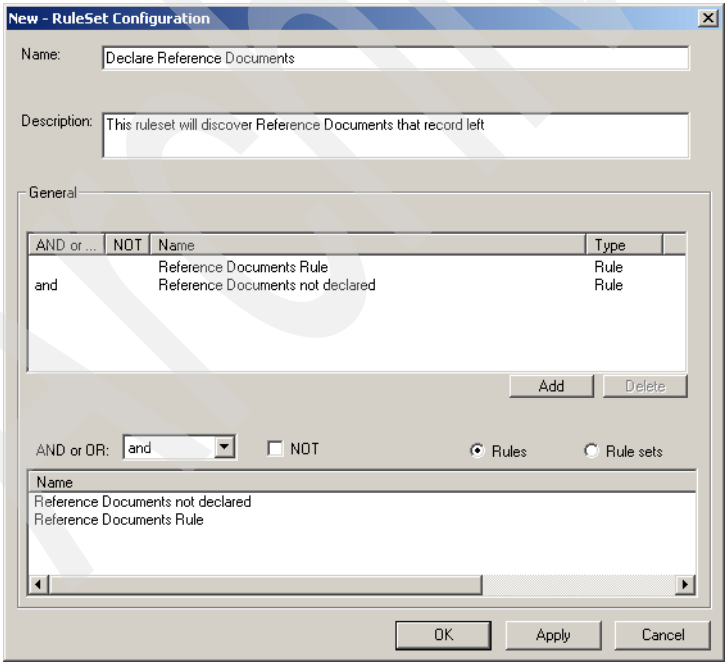

Figure 11-7 Rule Set definition

4. Click **OK.**

11.5.3 Create action

In the Designer, open **Global - [Administrator]** as before, open **Process**, open **Actions**. Do the following:

1. Click the **New** icon from design toolbar.
2. Set **Name** to `Declare Reference Documents.`
3. Set **Type** to **Quick Declare Record**.
4. Set **Action** to **Use class settings**.
5. Click **OK**.

11.5.4 Create alarm

In the Designer, open **Global - [Administrator]** as before, open **Process**, open **Alarms**. Do the following:

1. Click the **New** icon from design toolbar.
2. Set **Name** to `Start Reference Documents Declare.`
3. Set **Frequency** to **Periodically** and set an hour to test it.
4. Click **OK**.

11.5.5 Create Job

In the Designer, open **Global - [Administrator]** as before, open **Process**, open **Jobs**. Do the following:

1. Click the **New** icon from design toolbar.
2. Set **Name** to **Declare Reference Documents**.
3. Check **Item Bases** option.
4. Click the **Detail** tab and populate the **Detail** page as shown in Figure 11-8:
   a. Select **Rule Set** option.
   b. Select **Declare Reference Documents** rule set you have just created.
   c. Select **Action** option.
   d. Select **Declare Reference Documents** action you have just created.
   e. Set **Alarm** to **Start Reference Documents Declare**.

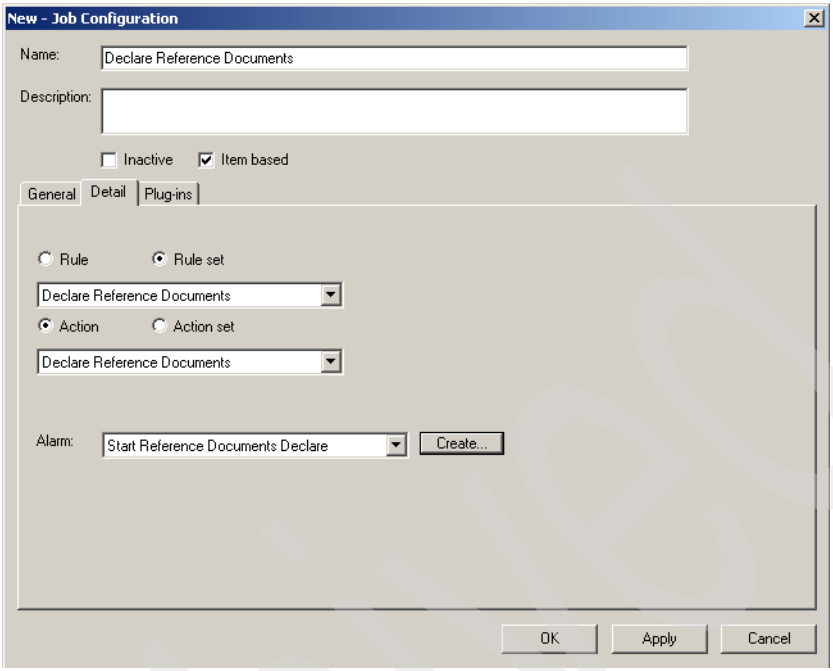

Figure 11-8 Job configuration window

5. Click **OK**.
6. Select the job you have just created. Expand **Privileges**. Expand **Groups**.
7. Add **grpManager**, **Admin,** and **grpSales**.

11.6 Manual declare

Document Manager provides you the option to manually declare a record. This method allows for complete control of the process by a sophisticated user. This process requires the user to know the precise location in the file plan where the document should be classified and it allows for the entry of values for all the metadata attributes for the record. A manual declaration in Document Manager is performed by selecting the Manual Declare command on a menu or having it started by the option in a dialog.

To enable a user to do manual declaration from the Document Manager menu, you need to configure the user's Document Manager Desktop template to have the Manual Declare command. For our solution, we added the Manual Declare command to the right mouse menu. Figure 2-28 on page 42 shows you an example of Manual Declare from the pop-up menu through the right mouse click.

You can configure the following type of dialog to enable manual declaration: Add, Checkin, and Version History.

To configure the Add dialog for manual declaration:

1. From the Designer tool, select an **Add Action and Dialog**.
2. Select the **Options** tab.
3. Set **Process Declare command** option to **yes**.
4. Select **OK**.

To configure the Checkin dialog for manual declaration:

1. From the Designer tool, select a **Checkin Action and Dialog**.
2. Select the **Options** tab.
3. Set **Process Declare command** option to **yes**.
4. Select **OK**.

To configure the Version dialog for manual declaration:

1. From the Designer tool, select a **Version History Action and Dialog**.
2. Select the **Options** tab.
3. Set the **Enable [Manually Declare Record**] command (right mouse) option to **yes**.
4. Select **OK**.

Records Manager has some options that you can configure to help in the manual declaration process. They are:

- **Profiles**: are used to filter the attributes that users need to fill when users manually declare a record.
- **Defaults**: are used to automatically fill the default values in the add record form displayed to the user when the user tries to declare a record.

In this section, we show you step by step how to configure the Defaults and Profiles options in Records Manager. You need to use Records Manager Administrator client to do the configuration. If you are not there, click **Start** → **Programs** → **IBM DB2 Records Manager** → **Administrator**. Log in as `Administrator`.

Note: Before beginning, check that the following services are running:

- Records Manager Server
- Records Manager Enabler Server
- ICMRM server - CM Resource Manager
- DM Cache services
- DM Lifecycle services

11.6.1 Profile configuration

Select **File Plan Design**, and then click **Profiles**. You need to create the profiles shown in Figure 11-9. Each profile has the filter that will be used to show the user the add record form. If you do not define a Profile, the add record form will have several attributes users do not need to see.

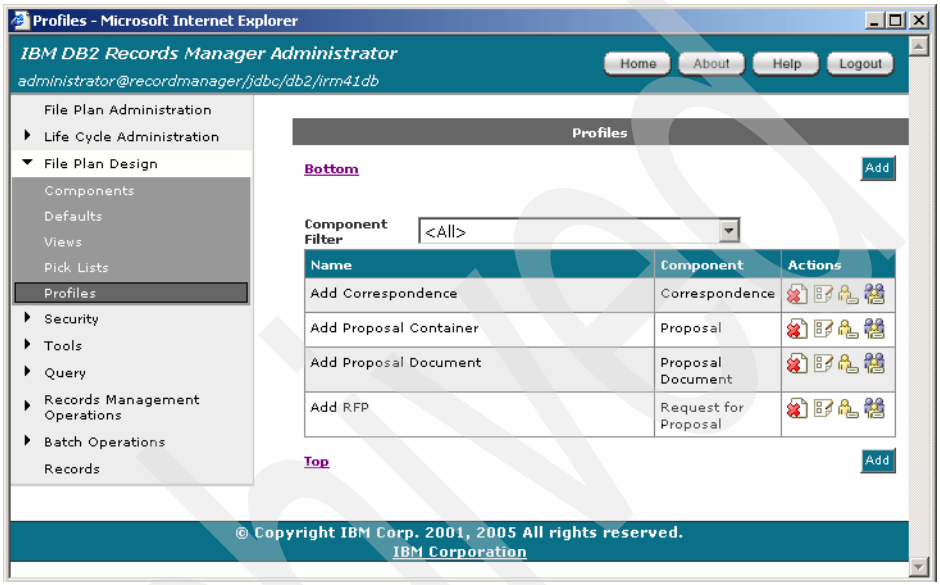

Figure 11-9 Records Manager Profiles configuration

To create **Add Correspondence**:

1. Click **Add** in profile panel.
2. Select **Correspondence** from **Component Definition** drop-down list. Click **OK**.
3. Set **Name** to `Add Correspondence.`
4. Set **Caption** to `Create a correspondence record.`
5. Configure **Selected Fields** list as shown in Figure 11-10:

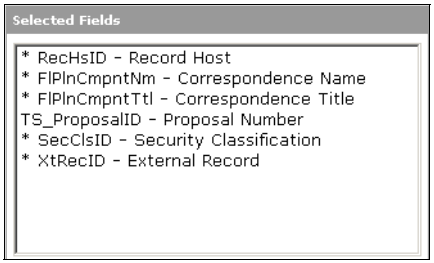

Figure 11-10 Add Correspondence profile

6. Click **Save**. Click **Cancel** to close the windows.

To create **Add Proposal Container**:

1. Click **Add** in profile panel.
2. Select **Proposal** from **Component Definition** drop-down list. Click **OK**.
3. Set **Name** to `Add Proposal Container.`
4. Set **Caption** to `Create a proposal container.`
5. Configure **Selected Fields** list as shown in Figure 11-11.

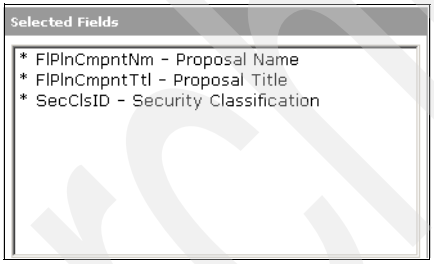

Figure 11-11 Add Proposal container profile

6. Click **Save**. Click **Cancel** to close the windows.

To create **Add Proposal Document**:

1. Click **Add** in profile panel.
2. Select **Proposal Document** from **Component Definition** drop-down list. Click **OK**.
3. Set **Name** to `Add Proposal Document.`
4. Set **Caption** to `Create a proposal record.`
5. Configure **Selected Fields** list as shown in Figure 11-12.

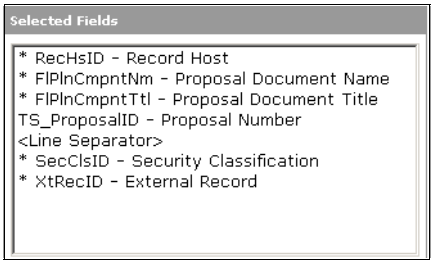

Figure 11-12 Add Proposal document profile

6. Click **Save**. Click **Cancel** to close the windows.

To create **Add Request for Proposal**:

1. Click **Add** in profile panel.
2. Select **Request for Proposal** from **Component Definition** drop-down list. Click **OK**.
3. Set **Name** to `Add Request for Proposal.`
4. Set **Caption** to `Create a request for proposal record.`
5. Configure **Selected Fields** list as shown in Figure 11-13.

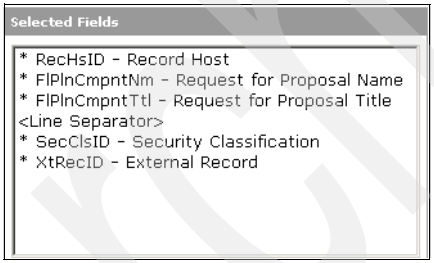

Figure 11-13 Add Request for proposal profile

6. Click **Save**. Click **Cancel** to close the windows.

Assign user's rights to each profile:

1. Click the **User** icon next to each profile.
2. Use Add Correspondence configuration example in Figure 11-14 to configure the four profiles.

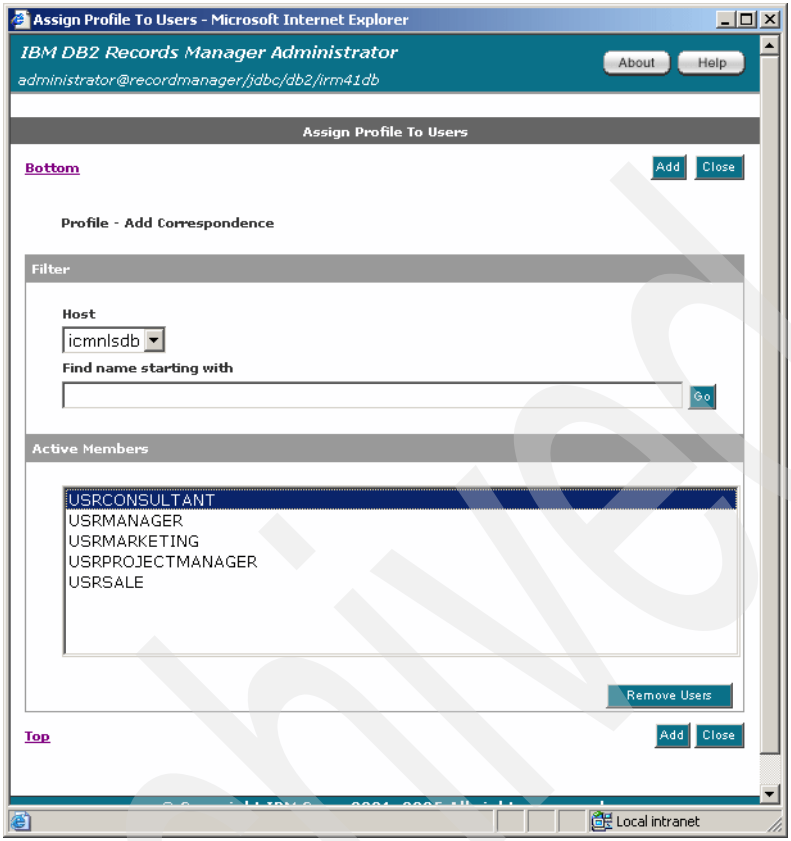

Figure 11-14 Profile security window

11.6.2 Default configuration

From the Records Manager Administrator client, select **File Plan Design**, and then click **Default**. You need to create the defaults shown in Figure 11-15.

When you declare a record, you complete two required attributes:

- Name: the document name
- Proposal Number: the proposal number

The default we create here automatically fills the two required attributes with a default value for each record component in the system.

Note: Users need to change these values when they manually declare a record.

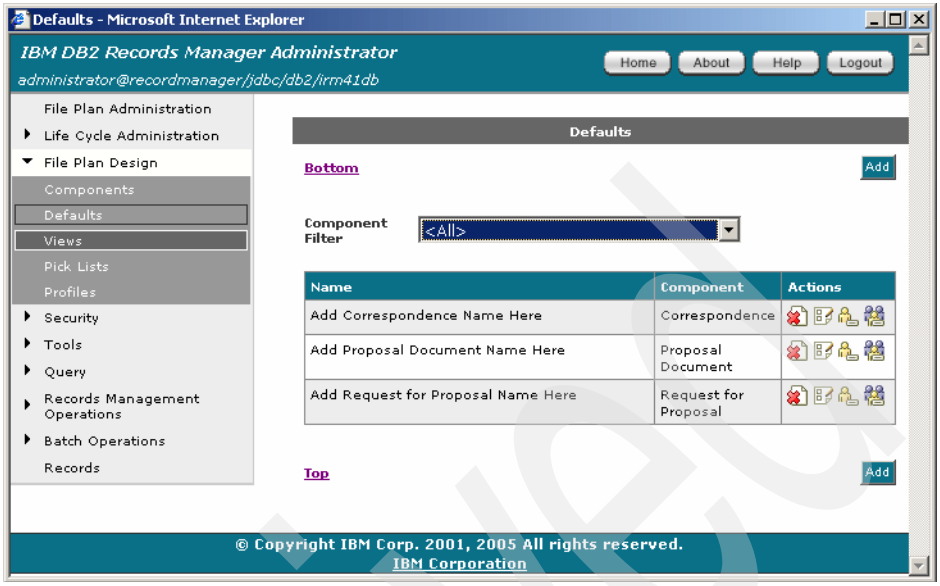

Figure 11-15 Records Manager Default configuration

To create **Add Correspondence Name here** default:

1. Click **Add** in default panel.
2. Set **Name** to `Add Correspondence Name here.`
3. Set **Proposal Number** to `00000.`
4. Click **Save**. Click **Cancel** to close the windows.

To create **Add Proposal Name here** default:

1. Click **Add** in default panel.
2. Set **Name** to `Add Proposal Name here.`
3. Set **Proposal Number** to `00000.`
4. Click **Save**. Click **Cancel** to close the windows.

To create **Add Request for proposal Name here** default:

1. Click **Add** in default panel.
2. Set **Name** to `Add Request for proposal Name here.`
3. Set **Proposal Number** to `00000.`
4. Click **Save**. Click **Cancel** to close the windows.

11.7 Create a Records Manager link

You can create a link between two records. For example, in our solution we create a link between the PDF file and the original Microsoft Word document.

Note: Users who perform this task need the Add Link permission in Records Manager. You can add this via the Records Manager Administrator client.

To create a set, follow these instructions:

1. Log on to Document Manager Desktop client as `usrSale`.
2. Search for one PDF file or another child document you need to link to the father.
3. Select it. Right-click and select **Manually Declare record** option from the pop-up menu.
4. A Records Manager form opens. At the bottom, check **Add Record Relationship** as shown in Figure 11-16.

Figure 11-16 Add a Records Manager link

5. Click **Finish**.
6. A new window with the link list opens as shown in Figure 11-17.

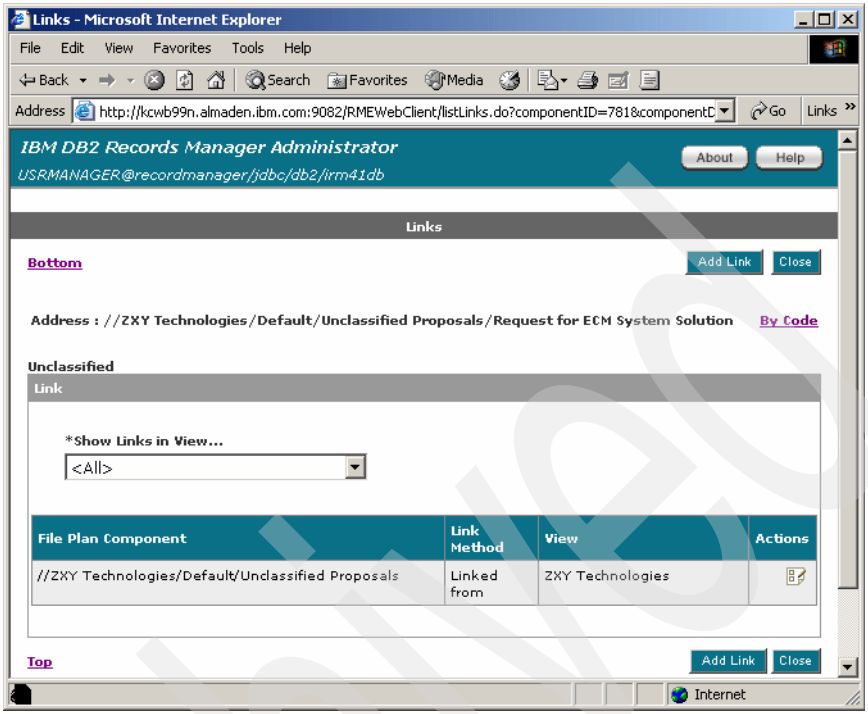

Figure 11-17 Link list window

7. Click **Add Link**. The new link window opens.
8. Select **Link to** and click **Browse**. Find your father document and select it. It should look like Figure 11-18.

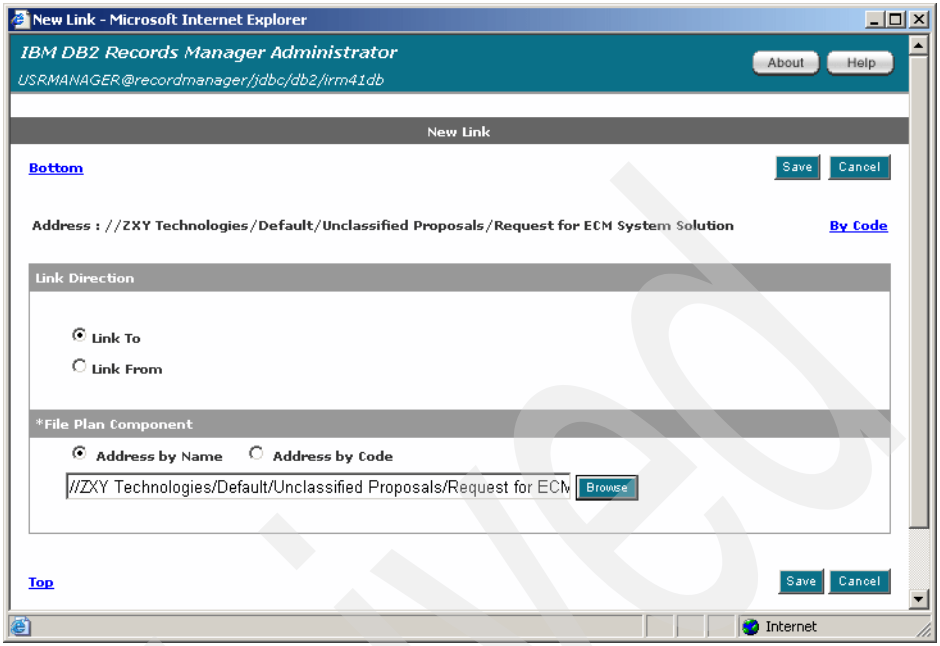

Figure 11-18 New Link definition window

9. Click **Save** to save your new link.

If you access the record and look for the links, it should look like Figure 11-19.

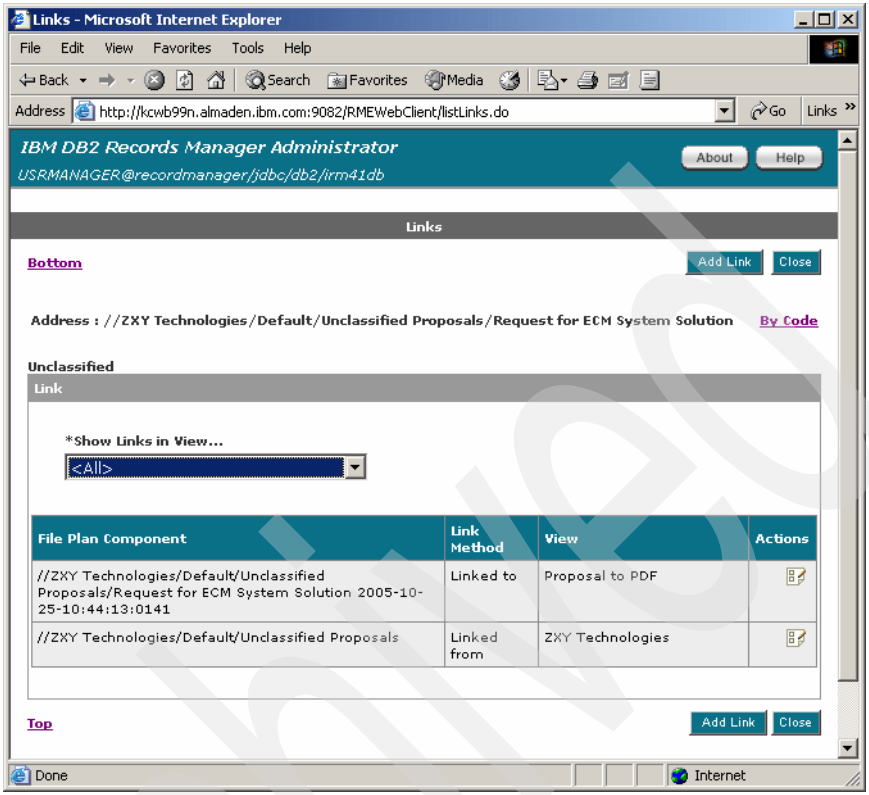

Figure 11-19 Links list

11.8 Create a Records Manager set

You can create a set between several records for administration purposes. For example, for our solution we want to create a set between all the versions of the same document that are already declared as a record.

For this example, we created a Reference Document. We did multiple checkouts and checkins to generate multiple versions. We subsequently declared the document as a record and then used the Version History dialog box to declare all previous versions as records as well. In Records Manager, each version is a separate record. Now we want to establish a set relationship between all these versions of the same document.

To create a set between these versions, follow these instructions:

1. Log on to Document Manager Desktop client as `usrSale`.

2. Search for the Reference Document you have use to declare version history.
3. Right-click and select **Version History** from pop-up menu.

> **Note:** If your versions are not yet declared as record, you can select right-click, select **Records Menu**, select **Manually Declare Record** to declare it.

4. To create the set, select the oldest version. **Right-click** and select **View Records Management Information**.
5. The **File Plan Report** window opens as shown in Figure 11-20.

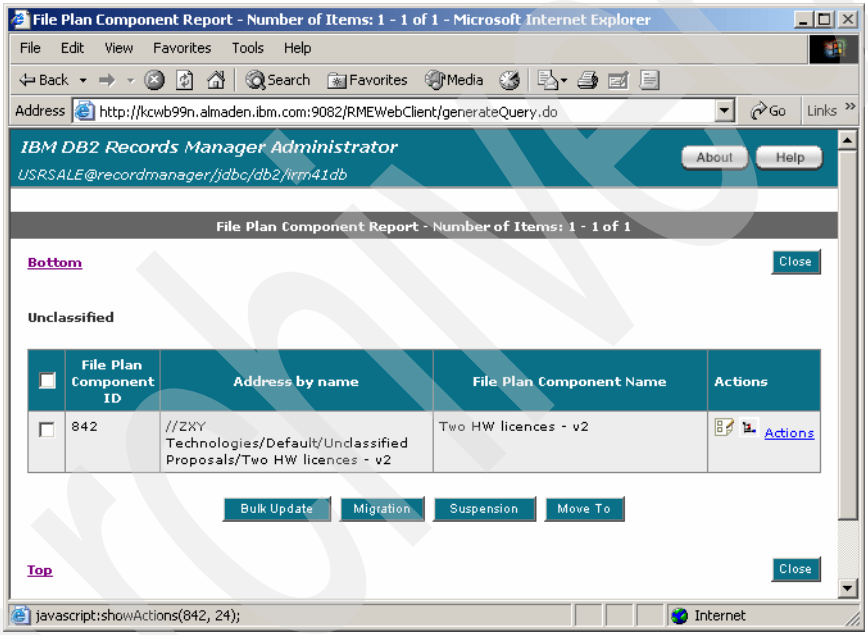

Figure 11-20 File Plan report window

6. Click **Action** in the right. Click **Set**. The **Set list** window opens.
7. You need to add all the records you want in the set. In Figure 11-21, we show you a set example with a different document version.

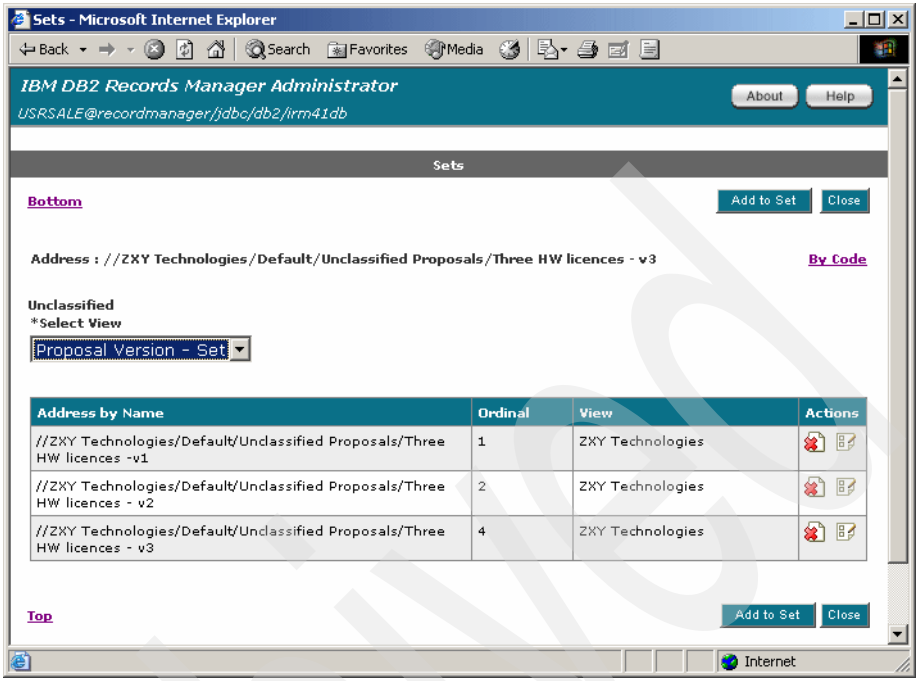

Figure 11-21 Set list window

8. Click **Add to set** and the **Set Add** window opens.
9. Complete **File Plan Component** with your version 1 document. You can click **Browse** to find it inside the file plan.
10. Select **Add to**. You can see an example in Figure 11-22.
11. Click **Save** to add the document in the set.
12. Repeat the procedure to add the rest of the document you want inside the set.

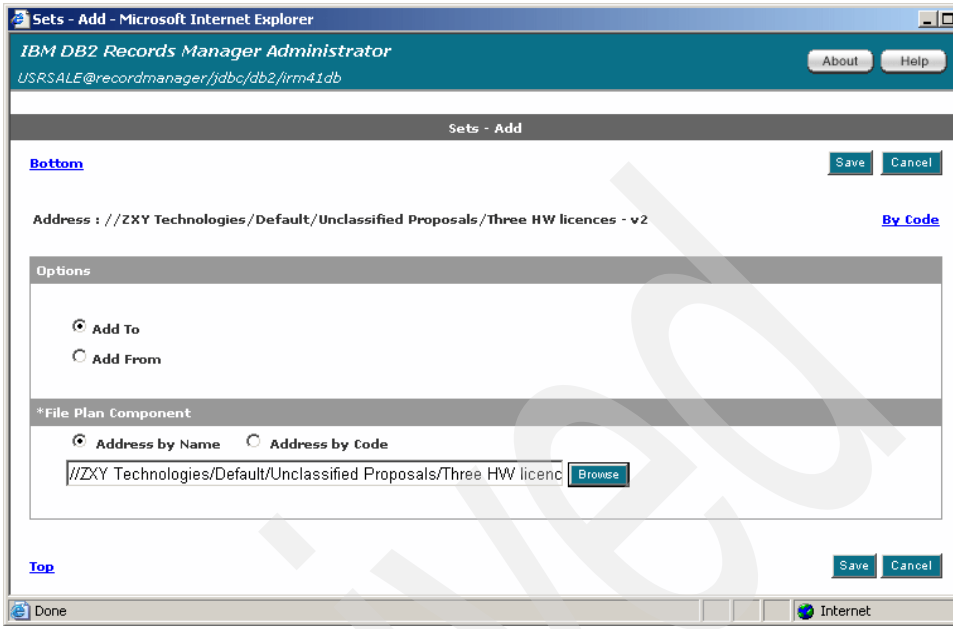

Figure 11-22 Add a document to a set

12

System deployment

In the previous chapters, we show you how to install, configure, and implement a Document Manager solution with Records Manager from end-to-end. This chapter provides guidance about how to deploy the system. We focus on the steps you need to take to move your configuration from a development or testing system to a production system.

We cover the following topics:

- Deployment overview
- Exporting system configuration steps
- Importing system configuration steps
- System verification

12.1 Deployment overview

When deploying a Document Manager solution from a testing or development environment to a production environment, you need to plan ahead for hardware and software installation and configuration, and the available time and resource available to perform the deployment. In this chapter, we focus only on the deployment of the Document Manager system from the application's point of view.

Deployment step overview

The general steps for Document Manager system deployment are:

1. Export system configuration from the development system:
   a. Export Content Manager configuration.
   b. Export Document Manager configuration.
   c. Export Records Manager configuration.
2. Import system configuration into the production system:
   a. Import Content Manager configuration.
   b. Import Document Manager configuration.
   c. Import Records Manager configuration.

Deployment methods

There are two main methods to deploy the Document Manager configuration from one library to another:

- Use drag and drop.
- Use export/import processes.

Both techniques require similar procedures. The order of which objects are dragged and dropped, or exported and imported are the same. Behind the scenes, Document Manager uses export and import processes when you perform a drag and drop action. With drag and drop, you need to have both systems up and running and set up at the Document Manager Desktop. You move information from one system directly to another system. Using the export and import utilities, you can separate the import and export tasks and perform the tasks at different times. The data resulting from the export process can be used as a backup for the system. We recommend using the export and import processes to deploy your system whenever possible.

Data exporting and importing order

Exporting objects does not need to be done in a specific order. To import Document Manager or Records Manager objects, you must follow a specific object order. In the case of Document Manager, library configuration consists of

several objects that are interdependent among them. Some objects must be created first in order to create other objects that use the previous objects. Moving the configuration from one library to another library must be done in a specific order to be successful. This also applies for the Records Manager importing procedure.

Content Manager export and import order

For Content Manager, we recommend the following export and import order:

1. User groups
2. Users

Document Manager configuration export and import order

For Document Manager configuration, we recommend the following export and import order:

1. Library Attributes
2. Item Types
3. Classes (states, actions and dialogs, roles, CVL, life cycle, item numbering, new item templates, and property modification)
4. Actions and dialogs
5. Desktop templates (menus, views, searches, property exchanges, and application integration)
6. Library configuration

Note: In steps 3 and 5, you must select the option **Include all linked subcomponents for each listed object** in order to export the object dependencies specified in parentheses.

Records Manager configuration export and import order

For Records Manager, we recommend the following export and import order:

1. Pick lists and Pick list Entries
2. Security Descriptors
3. Security Levels
4. Security Classification Exemptions
5. Security Classification Reasons
6. Security Classification Guides
7. Views
8. Component Definitions and Component Attribute Definitions
9. Component Definition Relationships
10. Disposal Authorities
11. Life Cycle Phases
12. Record Hosts
13. Groups
14. Users

15. Life Cycle Codes
16. Suspensions
17. Profiles
18. Defaults
19. System Configuration
20. File Plan Components and Relationships
21. Reservations and Charge Outs

12.1.1 Pre-deployment considerations

Before performing the deployment, outline all the activities that need to take place and plan ahead.

Determine how much disk space you need to do export and import. Make sure you allocate enough space before starting the deployment.

Determine the time you need to perform export and import and system validation afterwards. The file exporting process is fast and can be done earlier. We recommend you import the data in advance and practice importing before you actually perform system deployment. The general importing process is relatively fast also. The post importing steps are the steps that can take more time depending on how complex your system is.

Plan ahead which type of manual work you need to do post-file import. This is because some design elements or custom information must be recreated manually in the production system. For example, even though the Document Manager Designer configuration can be exported from a development system and imported into a production system, some objects such as Document Manager dynamic search folders cannot be moved over. It is necessary to recreate all the folder structure again in the production environment and reassign the users and groups into the security tab on the folder properties using the folder administration utility.

Make sure you have a validation and test plan. Allocate enough time to perform system validation and testing according to the plan.

12.2 Exporting system configuration steps

Following are the suggested steps to export the complete system configuration from the development environment:

1. Export Content Manager users and groups configuration
2. Export Document Manager system configuration
3. Export Records Manager system configuration

Note: Assure that you have a clean working Document Manager system enabled for Records Manager fully installed and configured in the production environment before you attempt these steps. Refer to “Installation and configuration” on page 151 for end-to-end solution installation and configuration, including system validation.

12.2.1 Export Content Manager users and group configuration

To export Content Manager users and groups, use the following steps:

1. Open the Content Manager System Administration Client. Go to **Authorizations** → **User Groups** and from the right pane, highlight the groups shown in Figure 12-1.

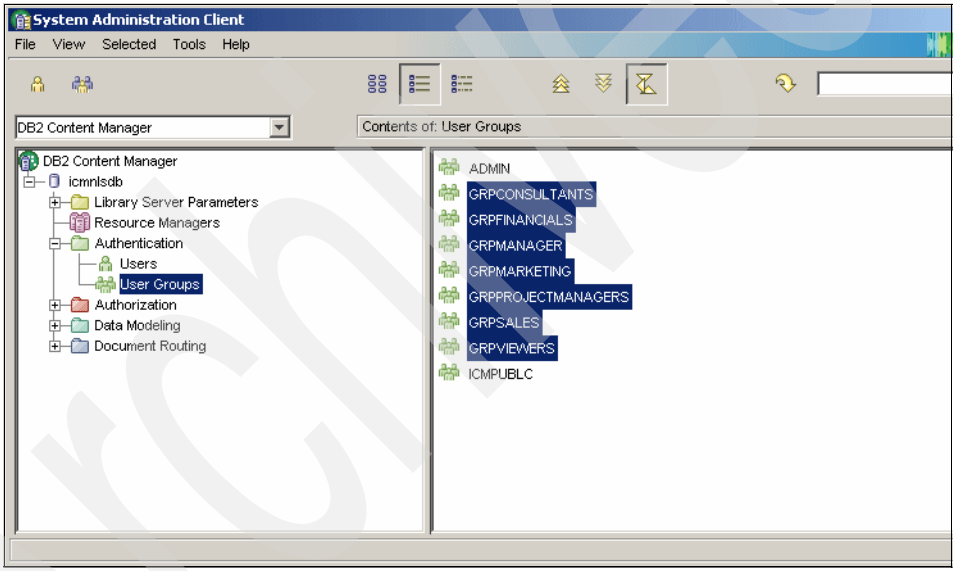

Figure 12-1 Content Manager user groups window

2. Right-click any selected group and select **Export to XML** as shown in Figure 12-2.

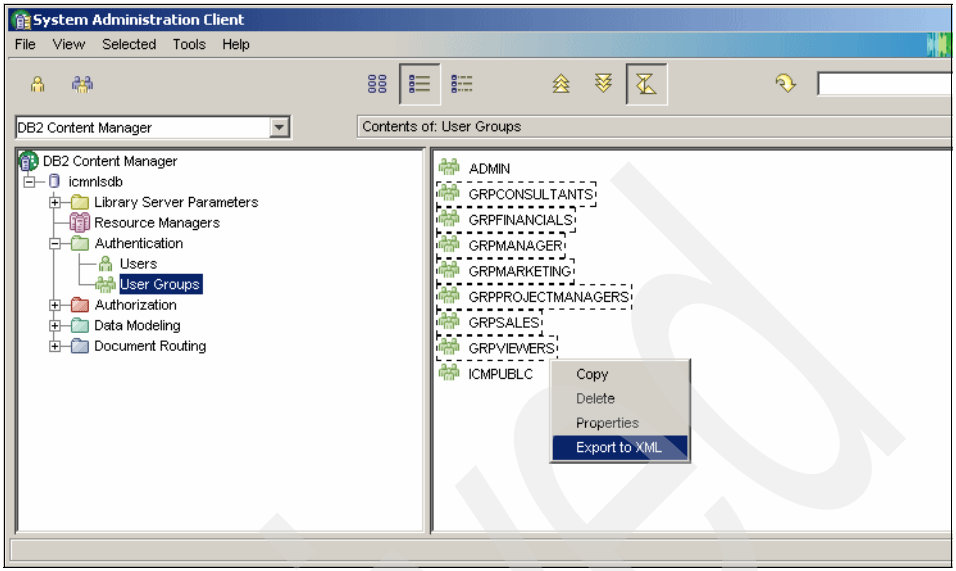

Figure 12-2 Selecting user groups to export

3. In the new window, specify the **Destination directory** where you want to save the user groups' export file by using **Browse,** and the export **File name** as shown in Figure 12-3. Then click **OK** to start the export process.

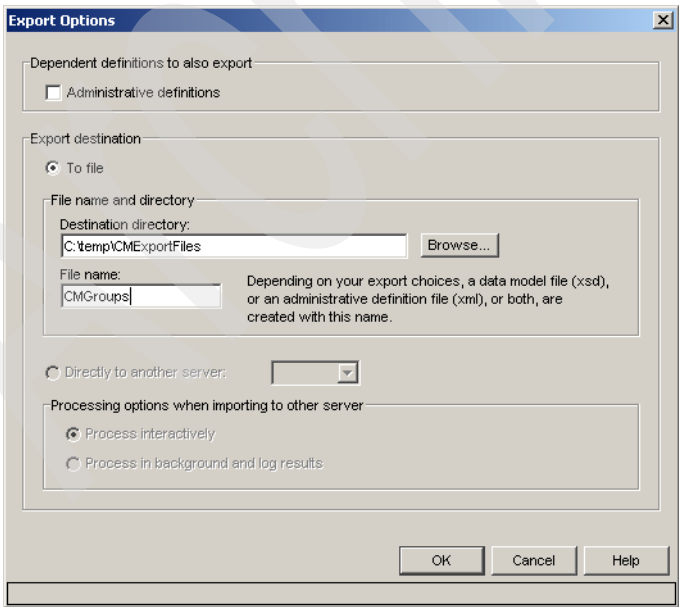

Figure 12-3 Export path and file name for user groups

4. When the export process finishes, click **OK** to close the export window as shown in Figure 12-4.

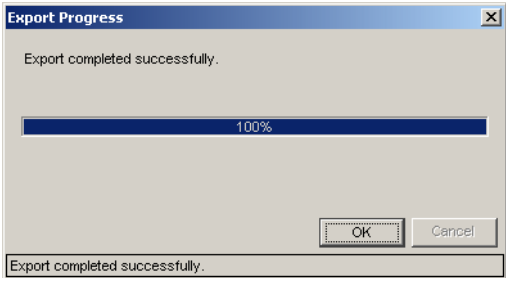

Figure 12-4 User groups export completed window

5. Now go to **Authentication** → **Users** and highlight the users shown in Figure 12-5.

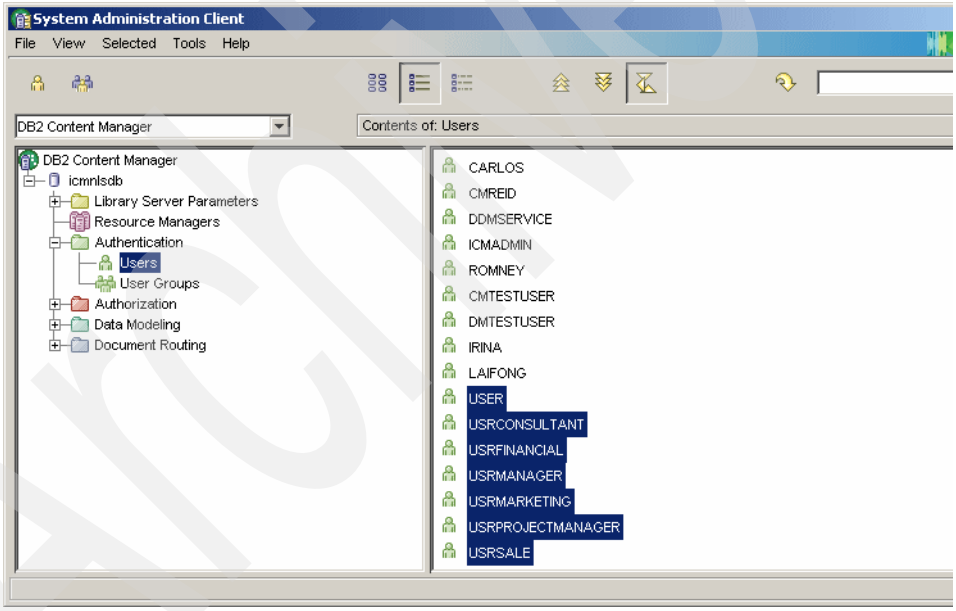

Figure 12-5 Content Manager user window

6. Right-click any selected user and select **Export to XML** as shown in Figure 12-6.

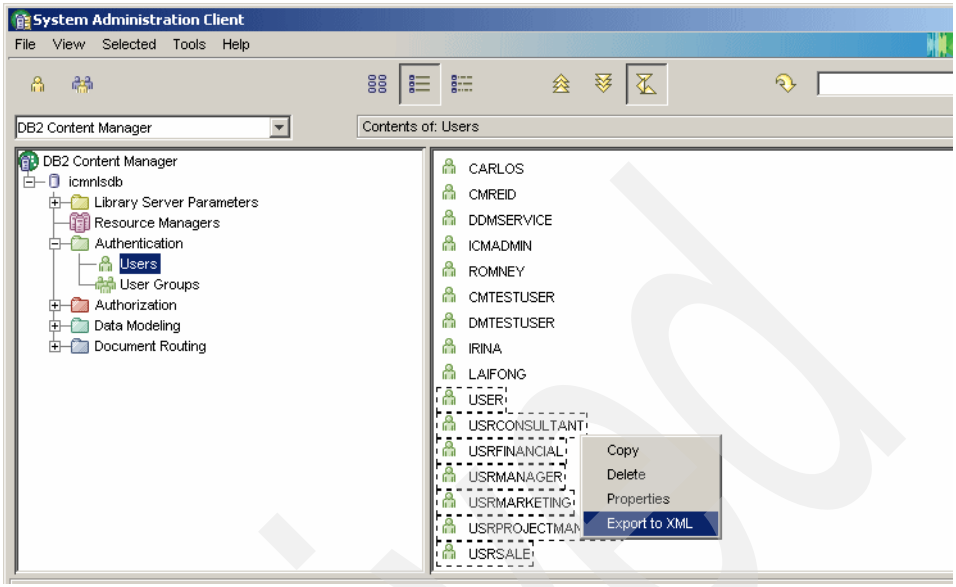

Figure 12-6 Selecting users to export

7. In the new window, specify the **Destination directory** where you want to save the users' export file by using **Browse,** and the export **File name** as shown in Figure 12-7. Then click **OK** to start the export process.

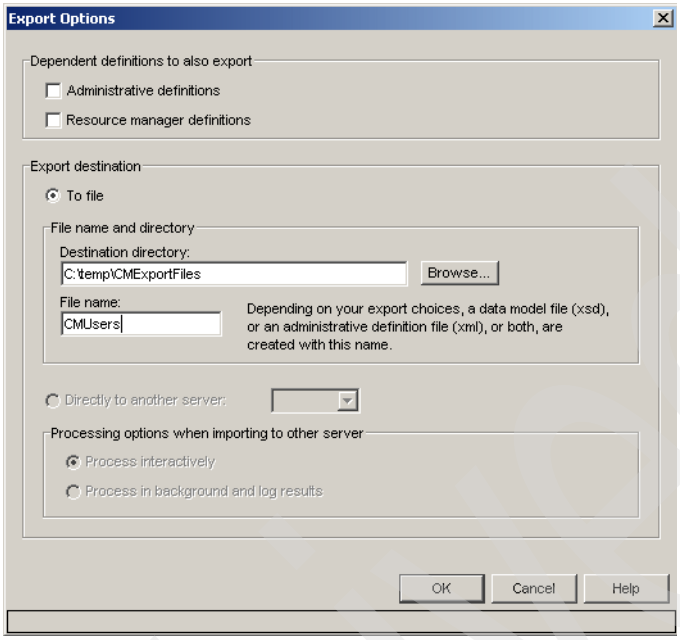

Figure 12-7 Export path and file name for users

8. When the export process finishes, click **OK** to close the export window as shown in Figure 12-8.

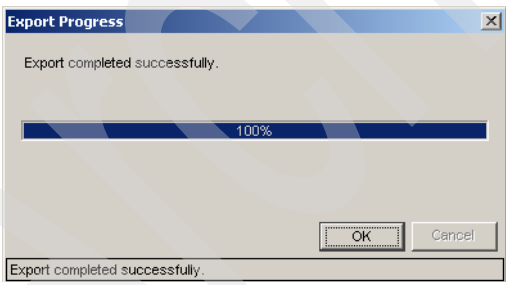

Figure 12-8 Users export completed window

Note: In this section, we only show exporting users and user groups because we do not define any new Content Manager ACL. If you create new ACLs for your system, *you must also export all the Authorization objects you created*. These can include privileges, privilege groups, privilege sets, and access control lists.

12.2.2 Export Document Manager system configuration

To export the Document Manager system configuration, do the following:

1. Open the Document Manager Designer. Highlight the library icon and click **Export** in the Designer tool bar as shown in Figure 12-9.

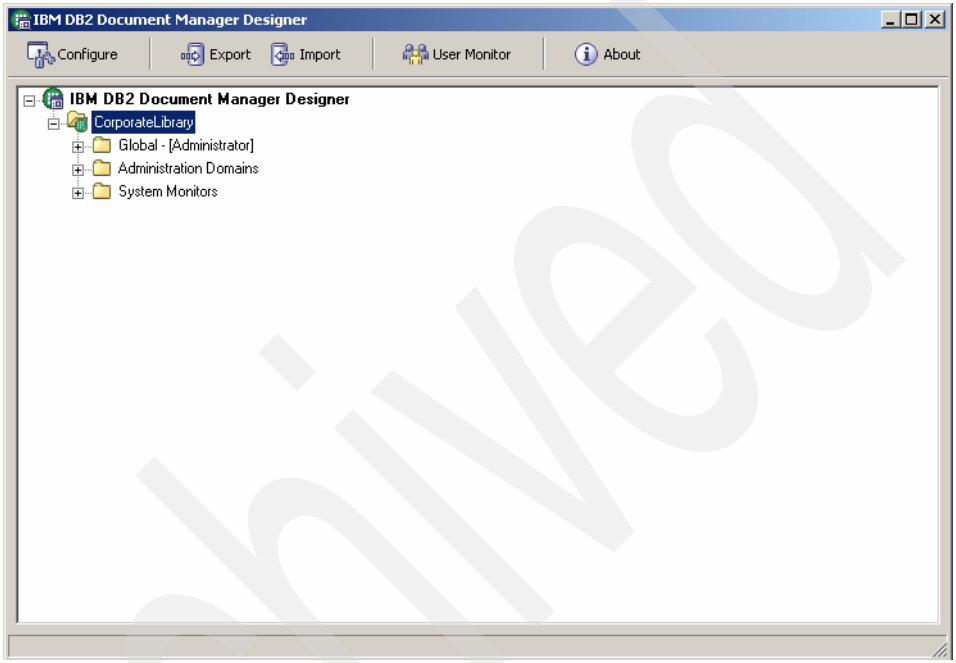

Figure 12-9 Document Manager Designer window

2. In the Export Library Configuration windows, uncheck the **Include all linked sub-components for each listed object box** and click **Browse** to specify a path and file name for the library attributes export file as shown in Figure 12-10.

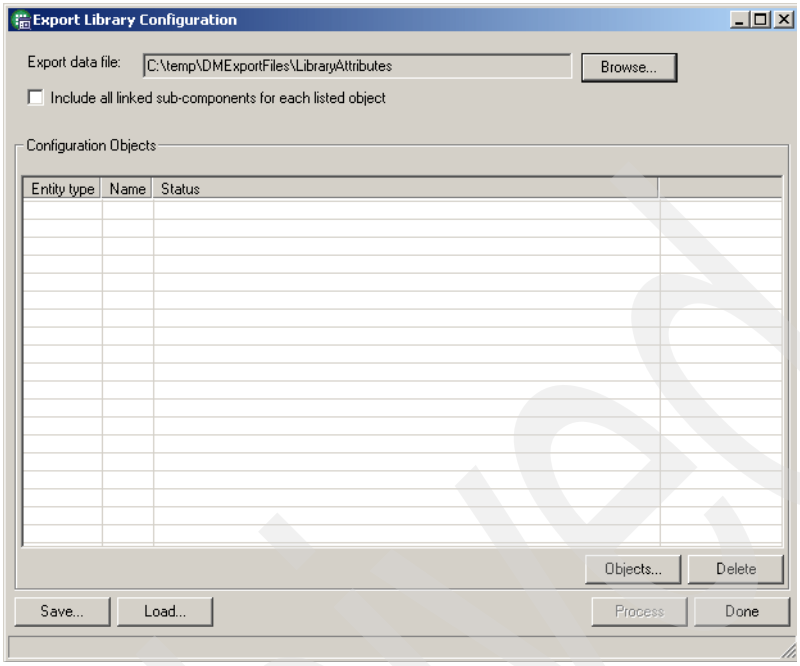

Figure 12-10 Export library configuration window for library attributes

3. Now click **Objects** and in the **Select Objects** window, choose **Library Property** in the **Type** select box as shown in Figure 12-11. Be sure to select all the attributes used for your system. Table 12-1 lists these attributes.

   For your convenience, we have also prepared a set of data files exported from the case study system. You can download them from the Web and import them using the procedures provided in this chapter.

   To download the materials, refer to Appendix B, “Additional material” on page 487.

Table 12-1 Attributes used in Document Manager Item Types

Authors	**CustomerEMail**	**FileName**	**ProposalSubject**	**To**
DM_Class	DM_Date	MailSubject	ReqPropNum	DM_Number
CreateDate	DateReceived	PotentialRev	DM_Revision	
CustomerName	DeliveryDate	DM_Properties	DM_State	
CustomerNumber	eMailNumber	ProposalNumber	Title	

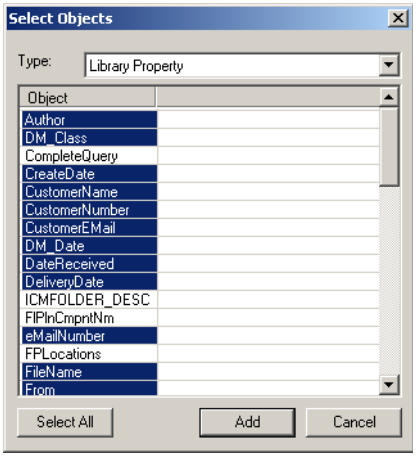

Figure 12-11 Library attributes selection window

Tip: As you probably might have more library properties, or objects, defined in your development system, when exporting, be sure to select only the ones used for your application that you want to export so you do not import unnecessary objects into your production system.

4. Click **Add** after you select them all and verify all the attributes are shown as in Figure 12-12.

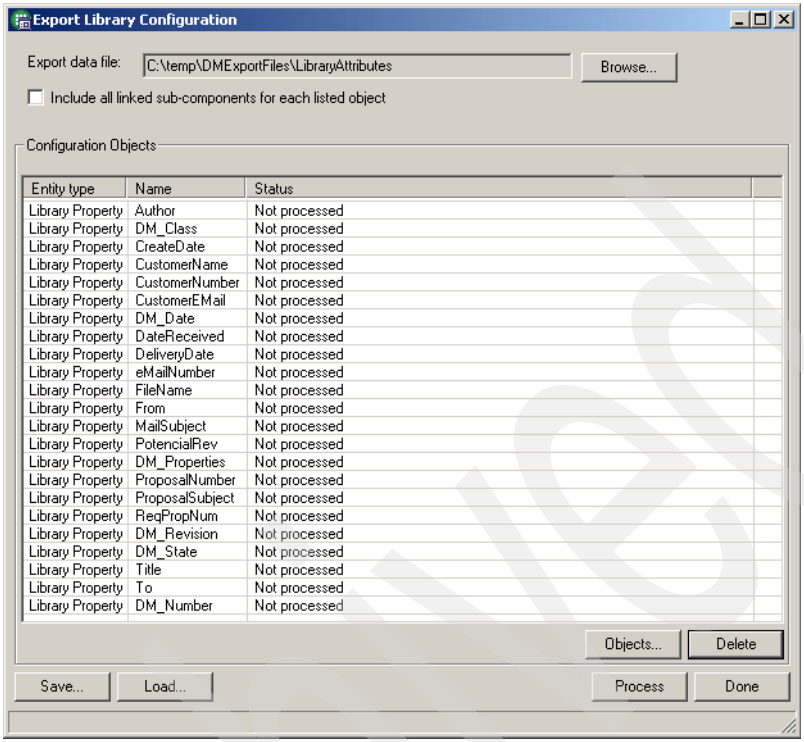

Figure 12-12 Library attributes to export

5. Click **Process** and verify that the status of all the attributes change from **Not Processed** to **Exported** as shown in Figure 12-13. After that, verify that the file specified in **Export data file** was created.

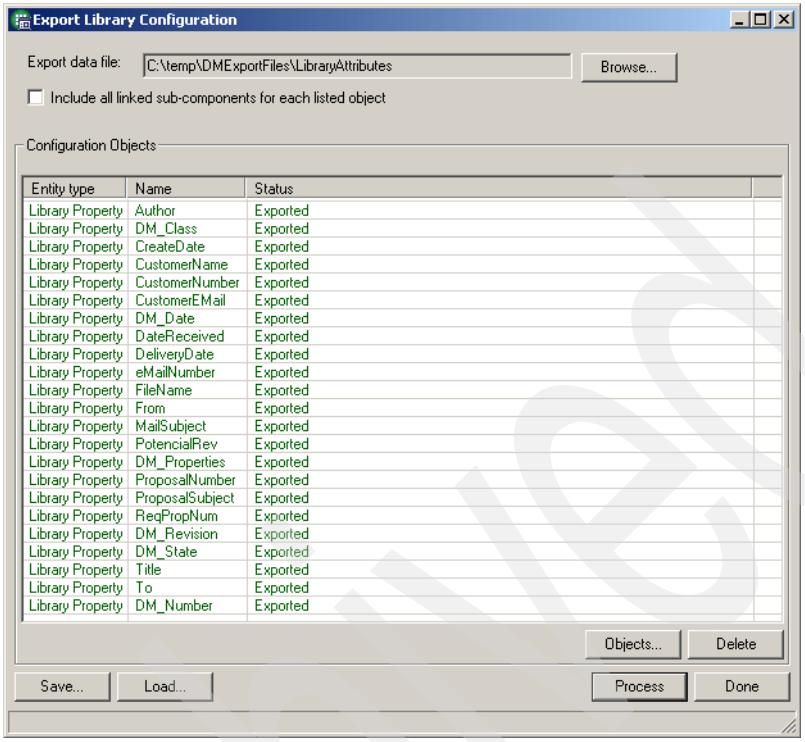

Figure 12-13 Exported library attributes

6. Select all the attributes exported and click **Delete** to clear the **Configuration Objects** grid.
7. Repeat the export steps for the object types and objects listed in Table 12-2.

Table 12-2 Exported data from the sample application

Export file name	Object type	Include all linked components[a]	Object names
c:\temp\DMExportFiles\ItemType	CM Item Type	Unchecked	LibraryObjects CustomerData
c:\temp\DMExportFiles\Classes	Class	Checked	Correspondence Document Template Marketing Proposal Reference Documents RFP Sales Proposal Saved Search Services Proposal

Export file name	Object type	Include all linked components[a]	Object names
c:\temp\DMExportFiles\ ActionsDialogs	Action and Dialog	Unchecked	Correspondence - Add Correspondence - Modify DM - Add DM - Checkin DM - Checkout DM - Copy DM - Modify DM - Revise DM - Version History DM - View DocTemplate - Add Marketing Proposal - Add Marketing Proposal - Modify Proposal - Checkin Proposal - Revise Reference Document - Add Reference Document - Modify RFP - Add RFP - Modify Sales Proposal - Add Sales Proposal - Add RM Sales Proposal - Modify Saved Search - Add Services Proposal - Add Services Proposal - Modify
c:\temp\DMExportFiles\ Desktop	Desktop Template	Checked	Admin Template Content Producer Template Default Template Viewers Template
c:\temp\DMExportFiles\ LibraryConfiguration	Library Configuration	Unchecked	Library Configuration
c:\temp\DMExportFiles\ Rendition	Rendition Configuration	Checked	Sales Rendition
c:\temp\DMExportFiles\ Jobs	Process Job Configuration	Checked	Declare Reference Documents (This is for automation service)

a. This is the **Include all linked sub-components for each listed object** option on the Export Library Configuration panel.

Steps used to export the objects:

a. Check or uncheck the **Include all linked sub-components for each listed object** box depending on the type of the objects.

b. Specify a new export file name for the configuration objects using the **Browse** button.

c. Click **Objects** and select the appropriate type from the drop-down list in the Select Objects panel.

d. Select the appropriate objects. Click **Add** after you finish.

e. Verify that the objects you select are shown in the grid and then click **Process**.

f. After the process finishes, verify that the status of each object changed from **Not Processed** to **Exported** and that the export file specified is created.

g. Highlight all the exported objects and click **Delete** to clear the **Configuration Objects** grid.

8. Click **Done** to close the **Export Library Configuration** window.

12.2.3 Export Records Manager system configuration

To export the Records Manager system configuration, do the following:

1. Log on to the Records Manager **Import Export** utility with a user who belongs to the administrators group.
2. Select a working directory by using the **Browse** button and select all the items to export by clicking on the check box at the right of each item as shown in Figure 12-14, except **Record Host**, **Groups,** and **Users**. Click **Export** when you finish.

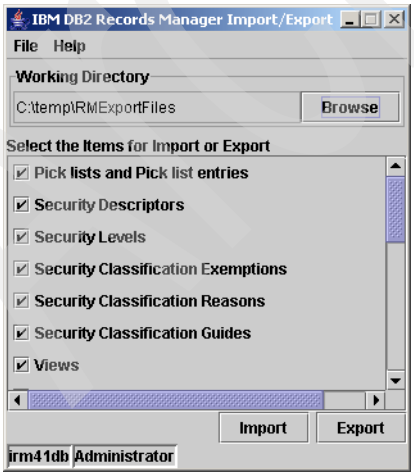

Figure 12-14 Records Manager import export utility

3. When the export process finishes, click **OK** to exit the export window as shown in Figure 12-15.

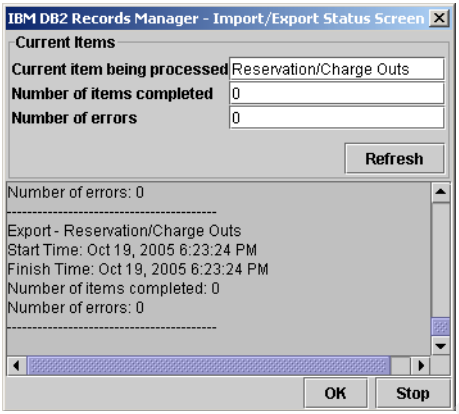

Figure 12-15 Export configuration window

4. Verify that one XML file was created for each selected item you chose, in the working directory, as shown in Figure 12-16. Then close the Records Manager **Import Export** utility.

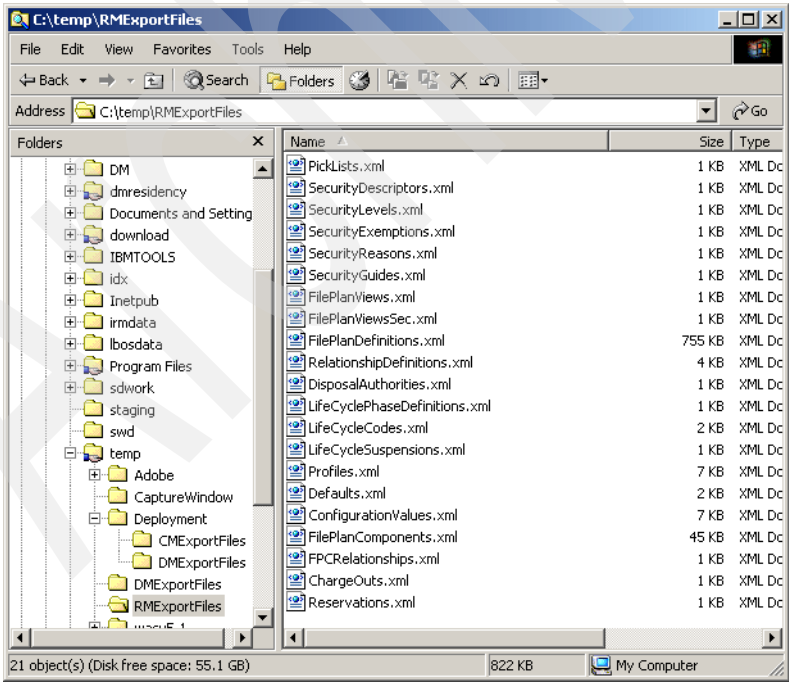

Figure 12-16 XML exported files

Note: After successfully exporting the whole system configuration, you have to move the resulting export files for each component (Content Manager, Document Manager, and Records Manager) into the production server or servers that comprise the production environment. We recommend to burn the files into a CD to maintain a backup of this configuration.

12.3 Importing system configuration steps

Following are the suggested steps to import the complete system configuration to the production environment:

1. Import Content Manager users and groups configuration
2. Import Document Manager system configuration
3. Import Records Manager system configuration

12.3.1 Import Content Manager users and groups configuration

To import Content Manager users and groups, do the following:

1. Open the Content Manager System Administration client and from the **Tools** menu, select **Import XML** as shown in Figure 12-17.

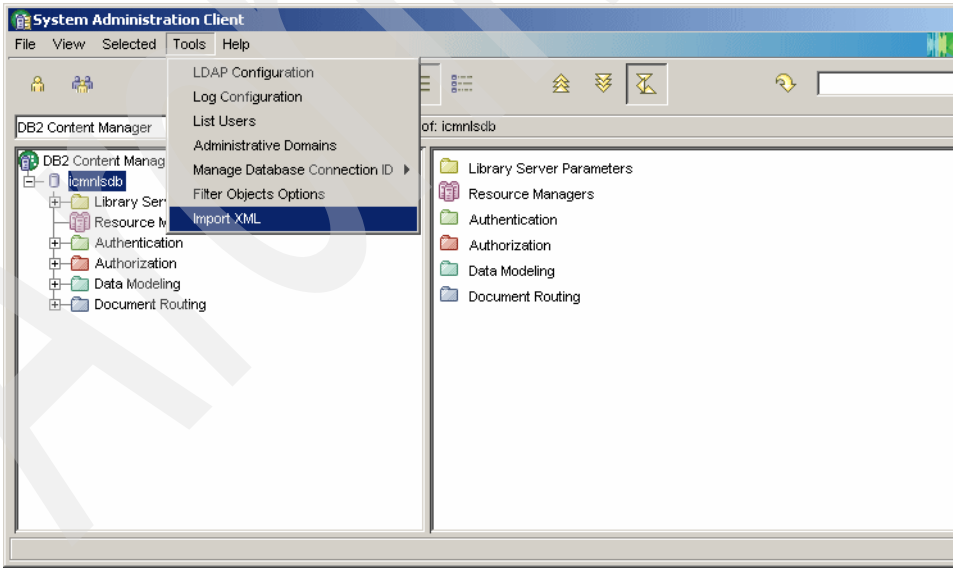

Figure 12-17 Content Manager import option

2. In the new window, click **Browse** at the right of **Administrative objects file** as shown in Figure 12-18.

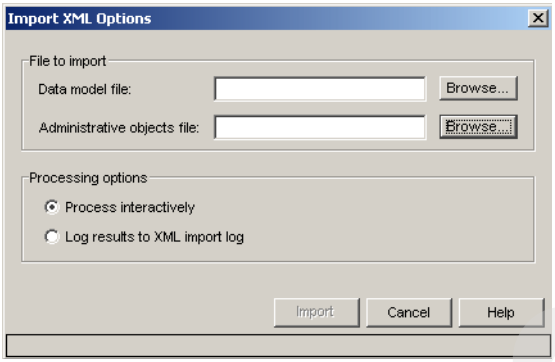

Figure 12-18 Content Manager import window

3. Look for the file where you save the user groups configuration and click **Open** as shown in Figure 12-19.

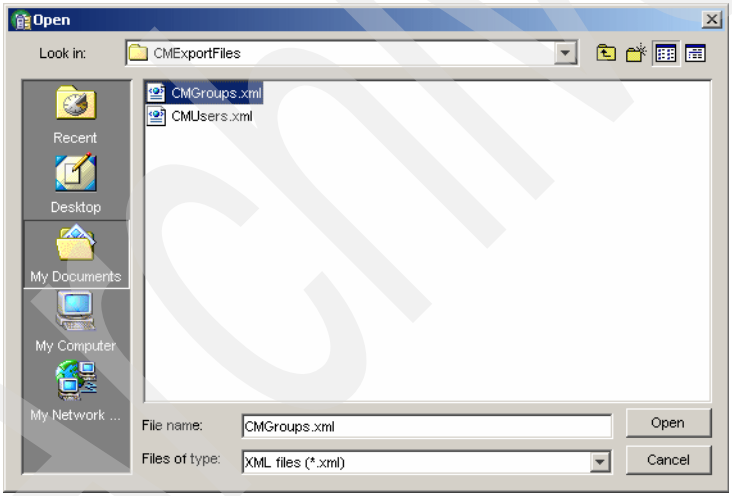

Figure 12-19 User groups export file

4. Select **Process interactively** option under **Processing options** pane and **click Import** as shown in Figure 12-20.

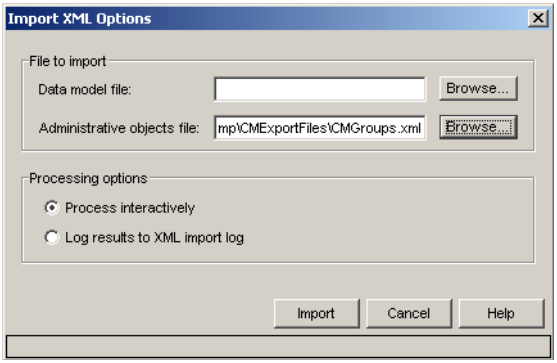

Figure 12-20 Content Manager user groups import window

5. In the next window, expand **User groups** and verify that all the groups you exported are in the list as shown in Figure 12-21. Then click **Continue**.

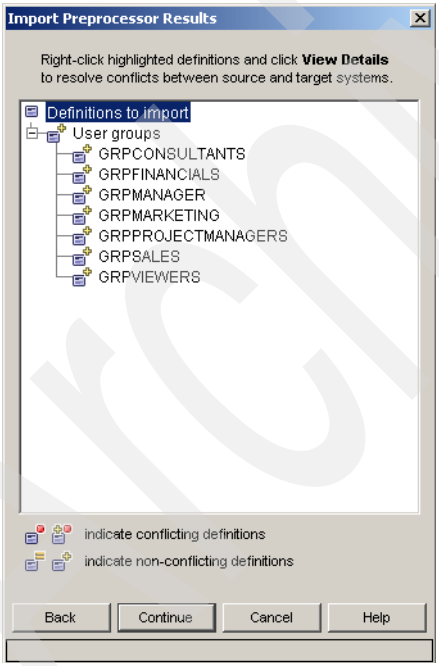

Figure 12-21 User groups to import

6. In the next window, select **Log error and continue** and click **Import** to start the import process as shown in Figure 12-22.

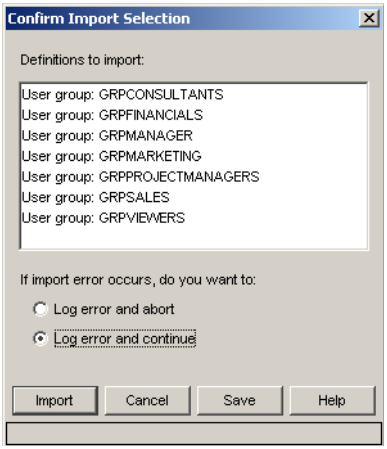

Figure 12-22 Importing selection confirmation for user groups

7. When the import successful window opens, as shown in Figure 12-23, click **OK** to exit the import process.

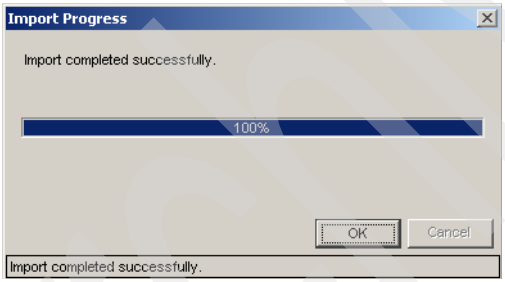

Figure 12-23 Successful import for user groups

Note: Make sure you double-check that everything is imported. We recommend at least check to see the last group is imported.

At the time of this writing, the last group was not imported correctly. To get around it, we manually created a dummy group in the end, so the one that we need to import is not the last one and can be imported successfully to the system.

8. Now open the Content Manager import window again but, this time look for the file where you save the users' export file as shown in Figure 12-24. Then select **Process interactively** option and click **Import**.

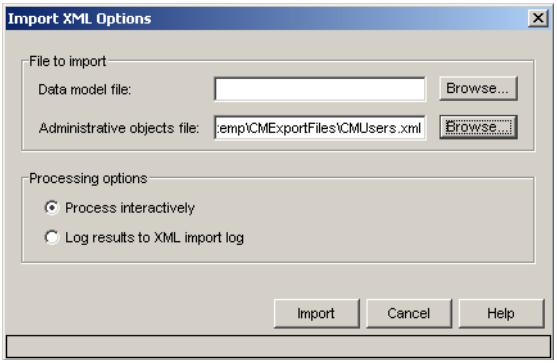

Figure 12-24 Content Manager users import window

9. In the next window, expand **Users** and verify that all the users you exported are in the list as shown in Figure 12-25. Then click **Continue**.

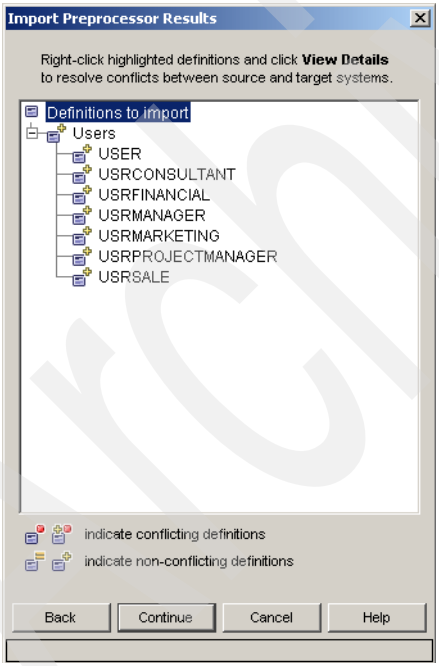

Figure 12-25 Users to import

10. In the next window, select **Log error and continue** and click **Import** to start the import process as shown in Figure 12-26.

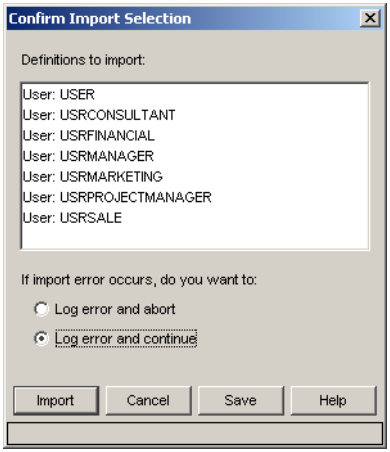

Figure 12-26 Importing selection confirmation for users

11. When the import successful window opens, as shown in Figure 12-27, click **OK** to exit the import process.

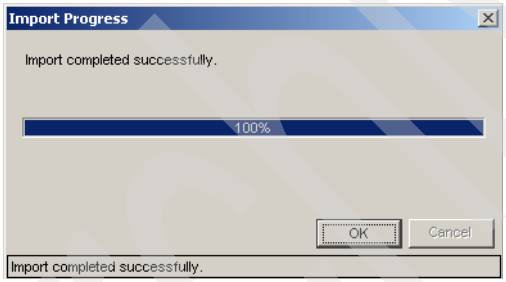

Figure 12-27 Successful import for users

12. In the Content Manager System Administration Client, go to **Authentication** → **Users**, click **refresh** and verify all the users you exported are there as shown in Figure 12-28.

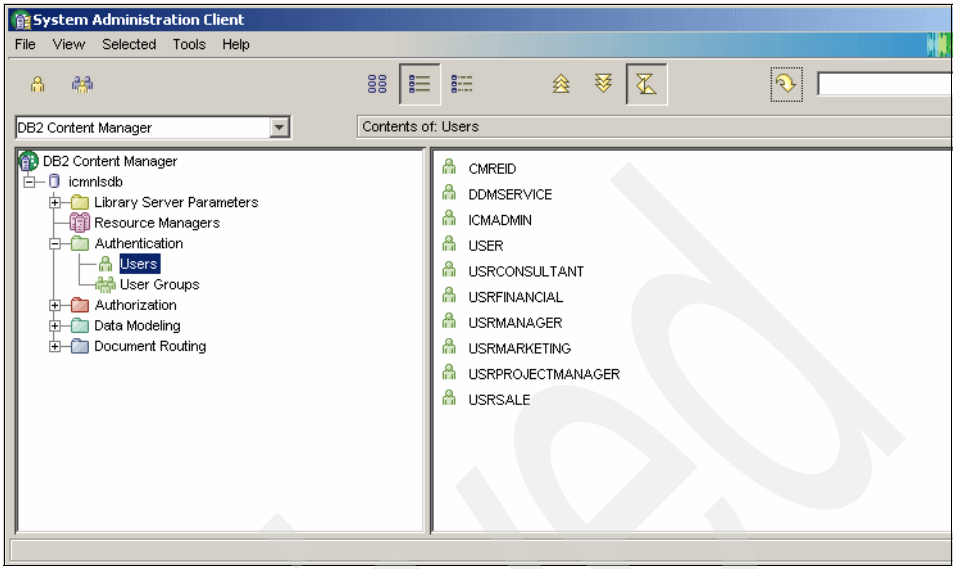

Figure 12-28 Content Manager users window

13. Go to **Authentication** → **User Groups**, click **refresh** and verify all the user groups you exported are there as shown in Figure 12-29.

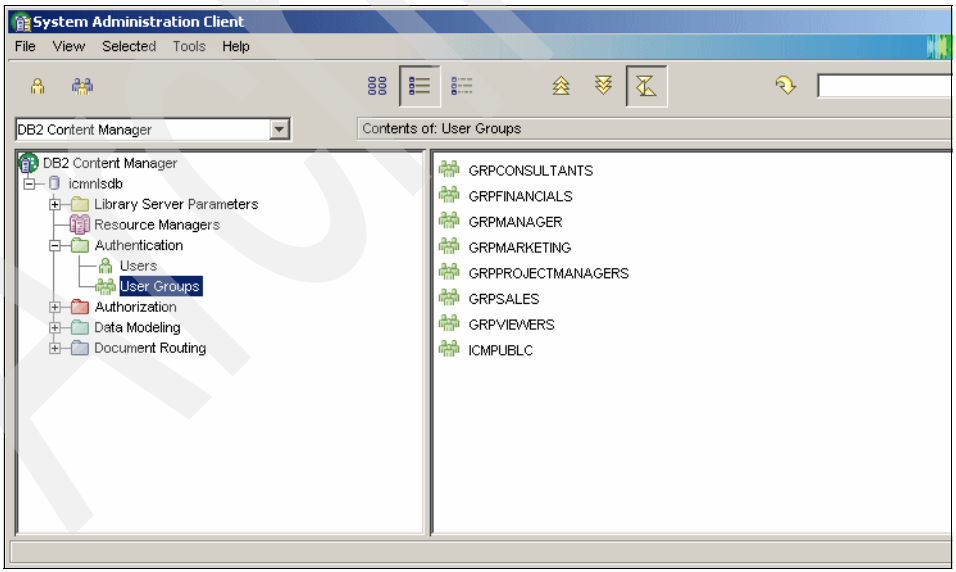

Figure 12-29 Content Manager user groups window

12.3.2 Import Document Manager system configuration

To import Document Manager system configuration, do the following:

1. Open the Document Manager Designer tool, highlight the library folder and click **Import** from the control panel as shown in Figure 12-30.

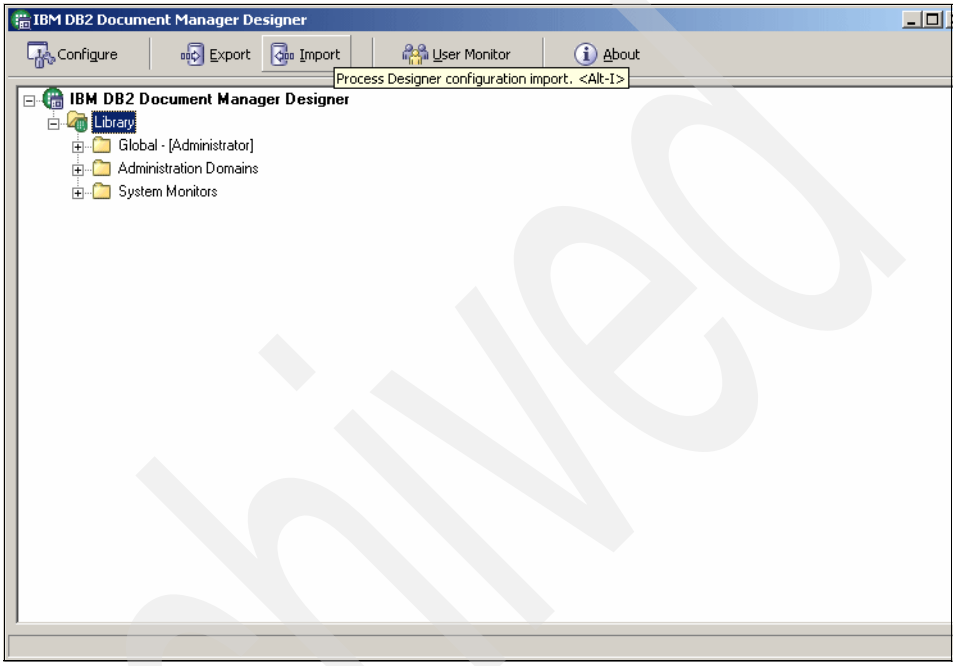

Figure 12-30 Document Manager Designer import button

2. In the import window (Figure 12-31), click **Browse**.

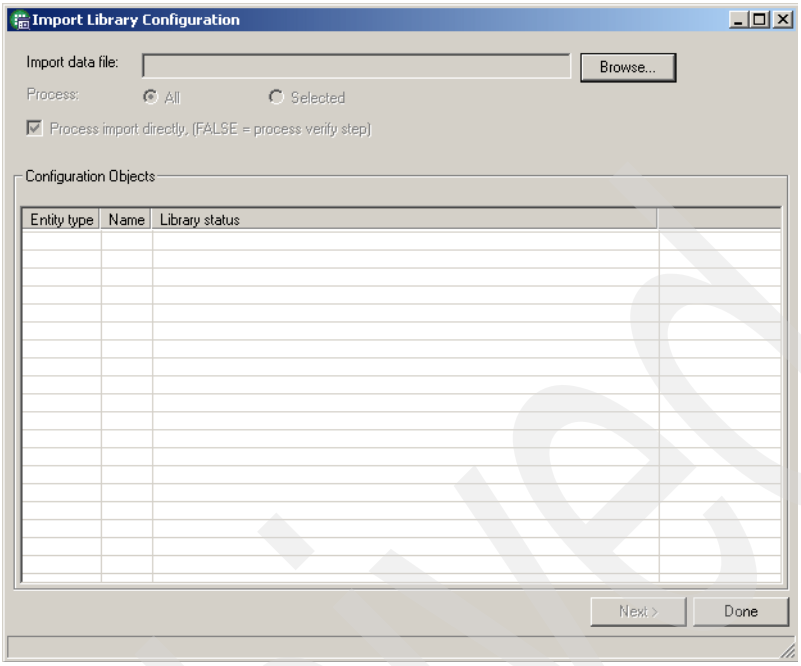

Figure 12-31 Document Manager import window

3. Now, look for the file where you saved the library attributes definition as shown in Figure 12-32. Then, click **Open** to return to the import window.

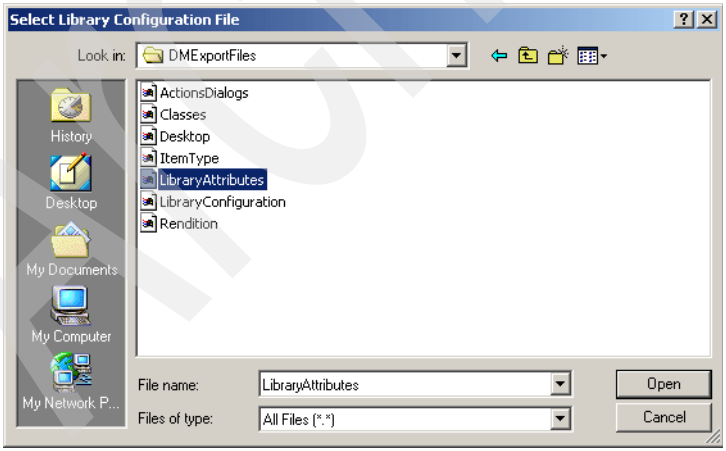

Figure 12-32 Select file to import

4. Click **Next** as shown in Figure 12-33.

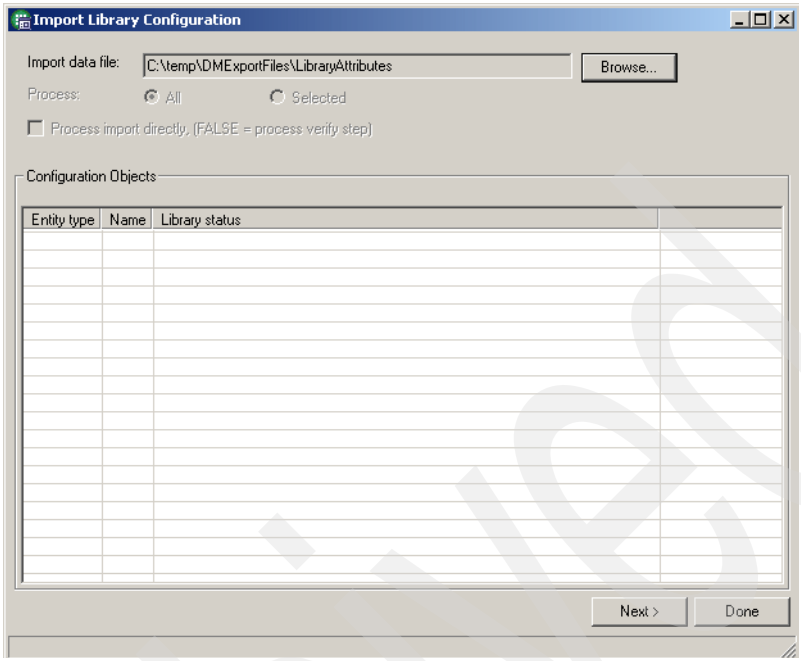

Figure 12-33 Library attributes import window

5. Select **All** from **Process** option, click **Process import directly** check box as shown in Figure 12-34, and then click **Next**.

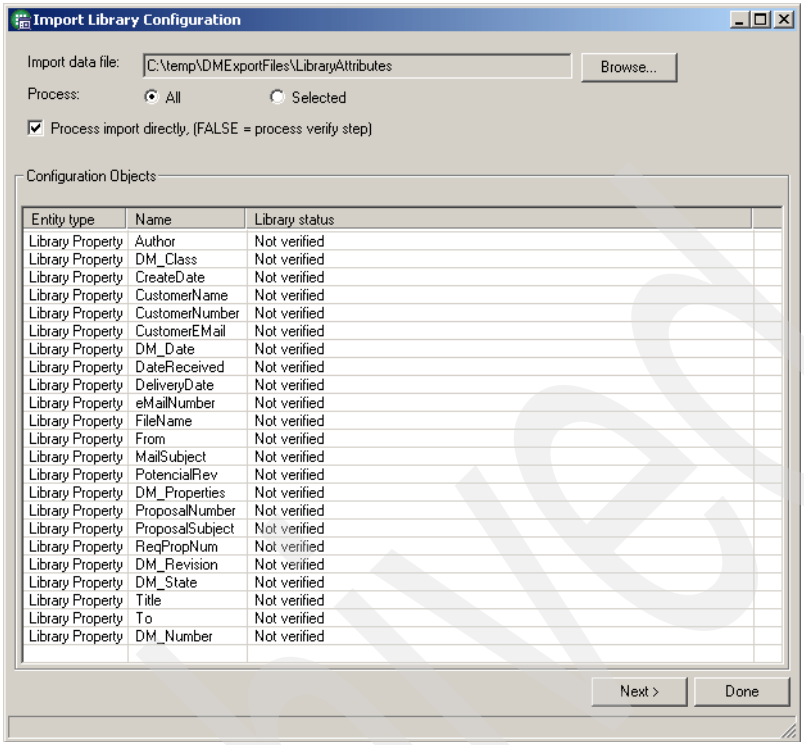

Figure 12-34 Library attributes selection

6. All library attribute status should change from **Not verified** to **Update success** as shown in Figure 12-35.

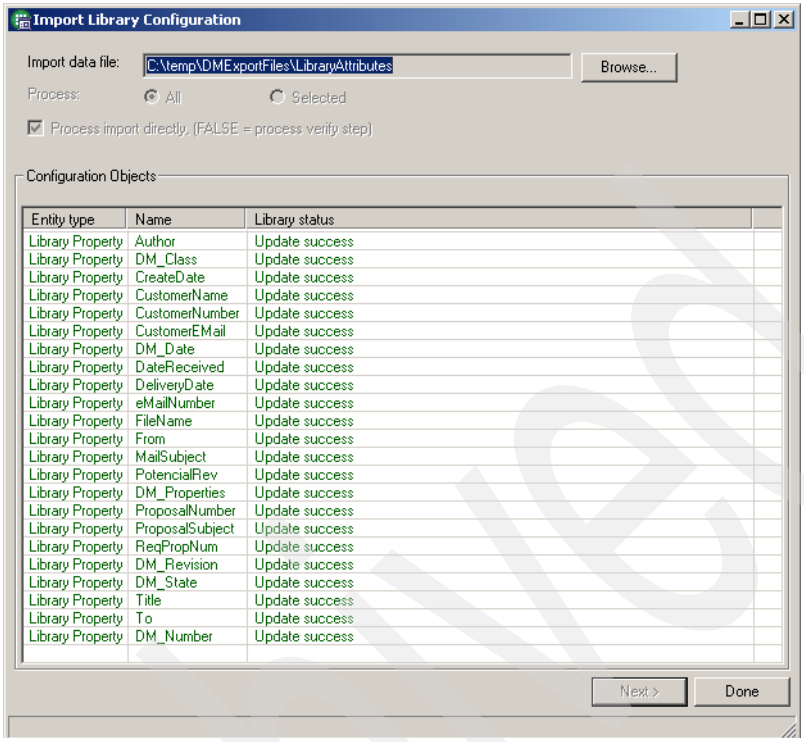

Figure 12-35 Library attributes success import

7. Repeat the importing steps for the following files:
   - File that contains Item Type definitions
   - File that contains Item Type classes definitions
   - File that contains actions and dialogs definitions
   - File that contains desktop templates definitions
   - File that contains library configuration definition
   - File that contains rendition definitions
   - File that contains automation jobs definitions

   Use the following as the importing steps:

   a. Click **Browse** to look for the file.

   b. Select **All** from **Process** option, click **Process import directly** check box and click **Next**.

   c. All status should change from **Not verified** to **Update success**.

8. Click **Done** to close **Import Library Configuration** window.

Post Document Manager configuration import process

After importing the Document Manager configuration, complete the following steps in order to have the system operational:

1. Change the e-mail addresses you used in the development environment in the e-mail notification objects to valid e-mail addresses for the production system.
2. Recreate the folder structures and security schemas for each folder you define in the development environment into the production system because Document Manager does not export folders.
3. Recreate saved searches if you created them in the development environment. You assign them to dynamic folders.
4. Configure the rendition services queues to be processed in the remote rendition services machines or they will be processed only in the local server.
5. Load the document templates you used in development into production in order to be able to use the **Create from Template** menu option.
6. The lifecycle map for each controlled class must be recreated in the new system.
7. Do not forget to perform a complete refresh of the Document Manager cache files before attempting to log on to the system with the Document Manager Desktop client.

12.3.3 Importing Records Manager system configuration

Note: Before importing the Records Manager configuration files, within the Records Manager administration tool, import the users and groups from the Content Manager server.

To import Records Manager system configuration, do the following:

1. To import user and groups from Content Manager, open the Records Manager Administration tool and go to **Security** → **Users**. From **Host Filter**, select the Content Manager Library Server database (by default ICMNLSDB) and click **Import** as shown in Figure 12-36.

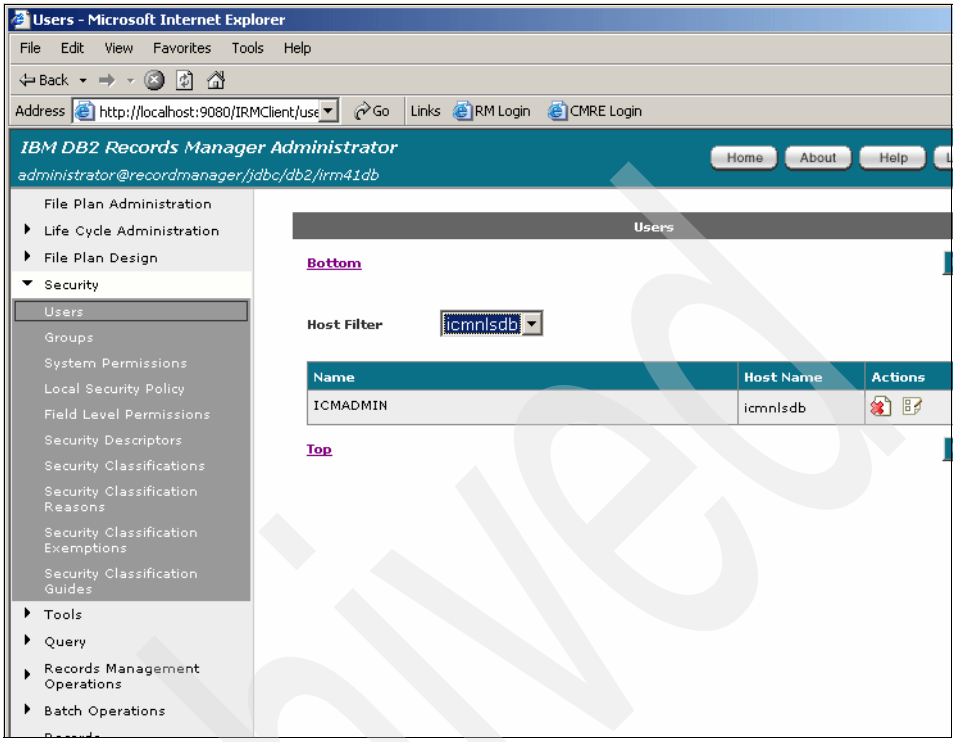

Figure 12-36 Records Manager user import

2. Select all the users you want to import as shown in Figure 12-37 and click **Import**.

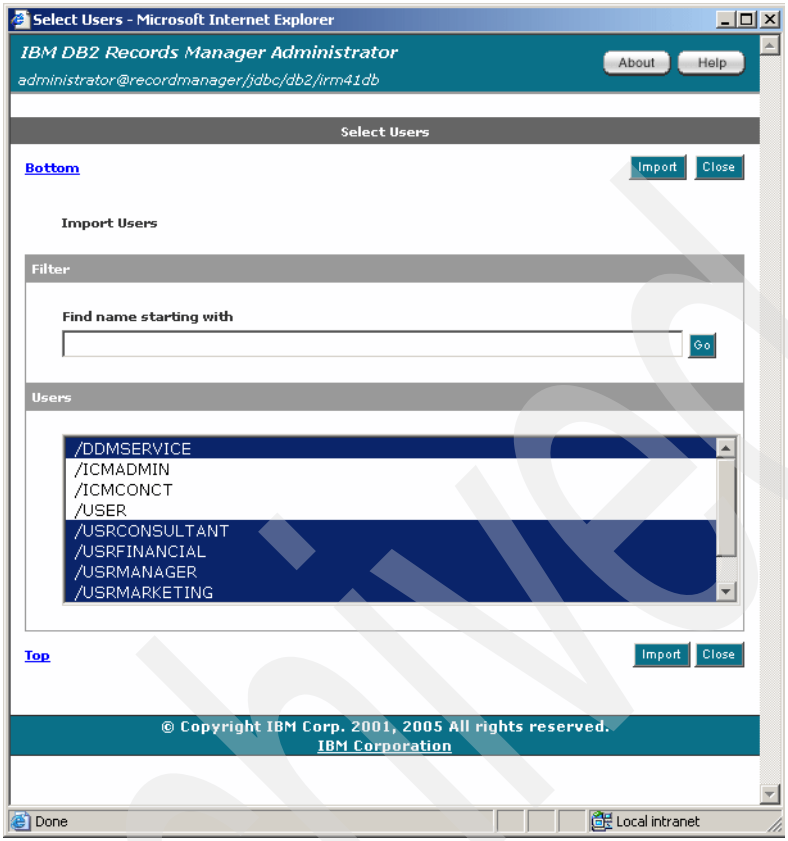

Figure 12-37 Import selection users

3. In the Properties section, select the **File Plan Administration** check box as shown in Figure 12-38.

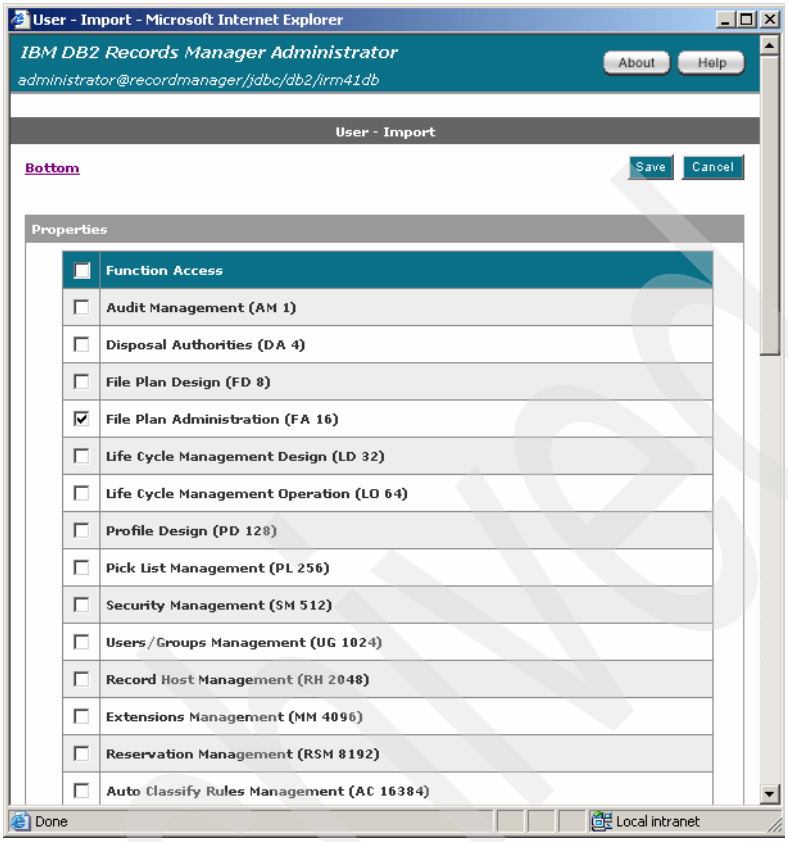

Figure 12-38 Import user window - properties

4. In the bottom of the same window, select the **Is Active** check box as shown in Figure 12-39. Then, click **Save**.

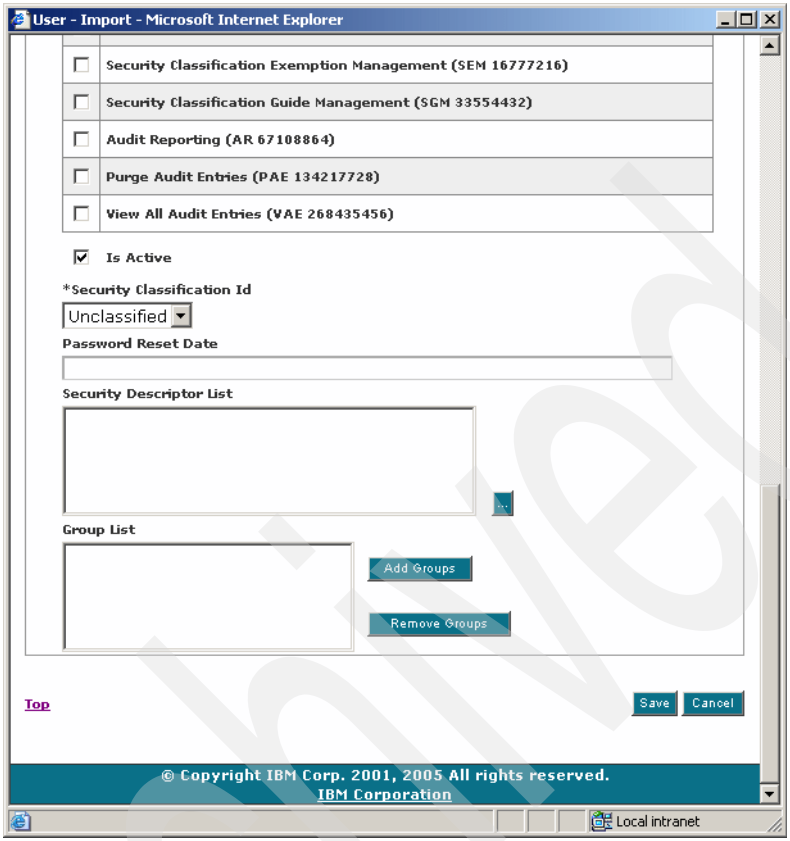

Figure 12-39 Import user window - Is active

In the users window, you should see all the users you imported as shown in Figure 12-40.

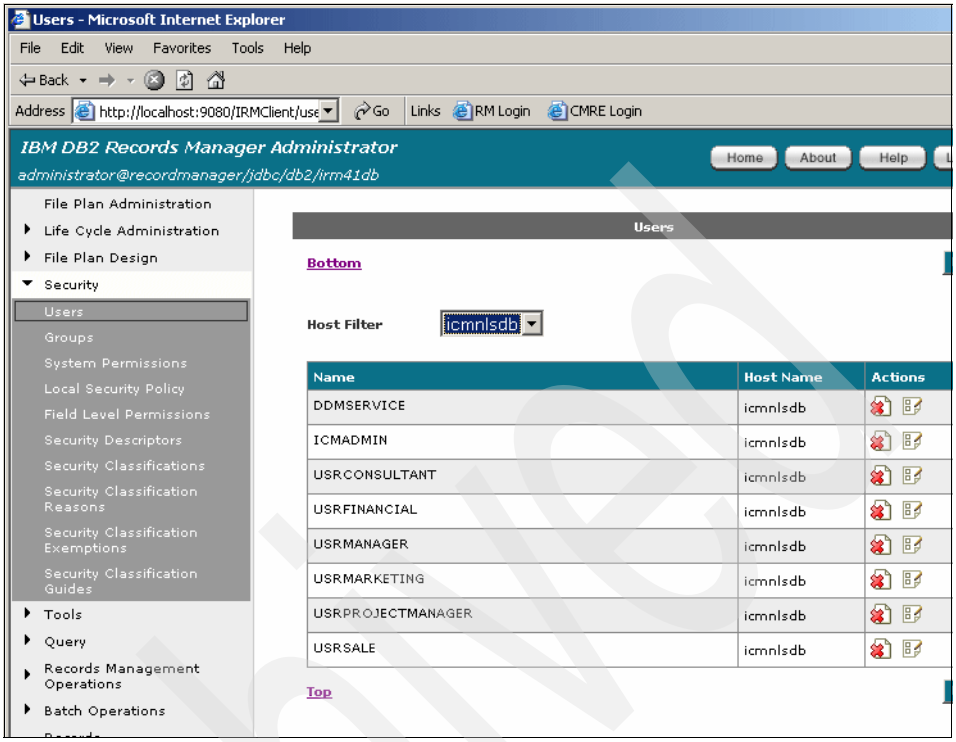

Figure 12-40 Imported users window

5. Click **System Permissions** and select all component definitions as shown in Figure 12-41.

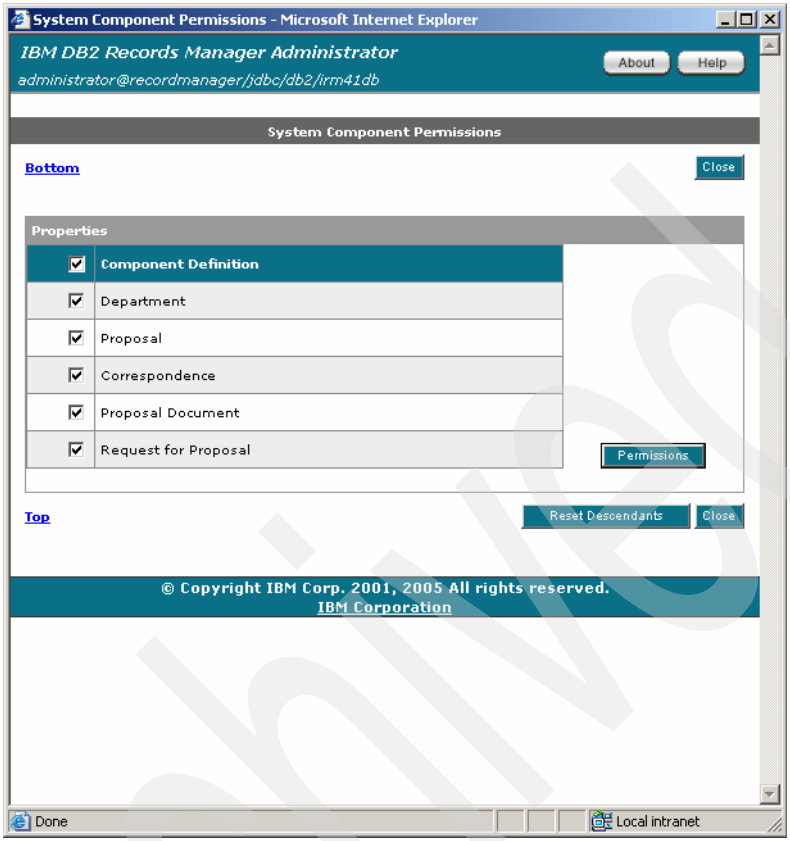

Figure 12-41 Components definitions selection

6. Click **Permissions** and select **Add** and **View** permissions for all users except DDMSERVICE user as shown in Figure 12-42. Then, click **OK**.

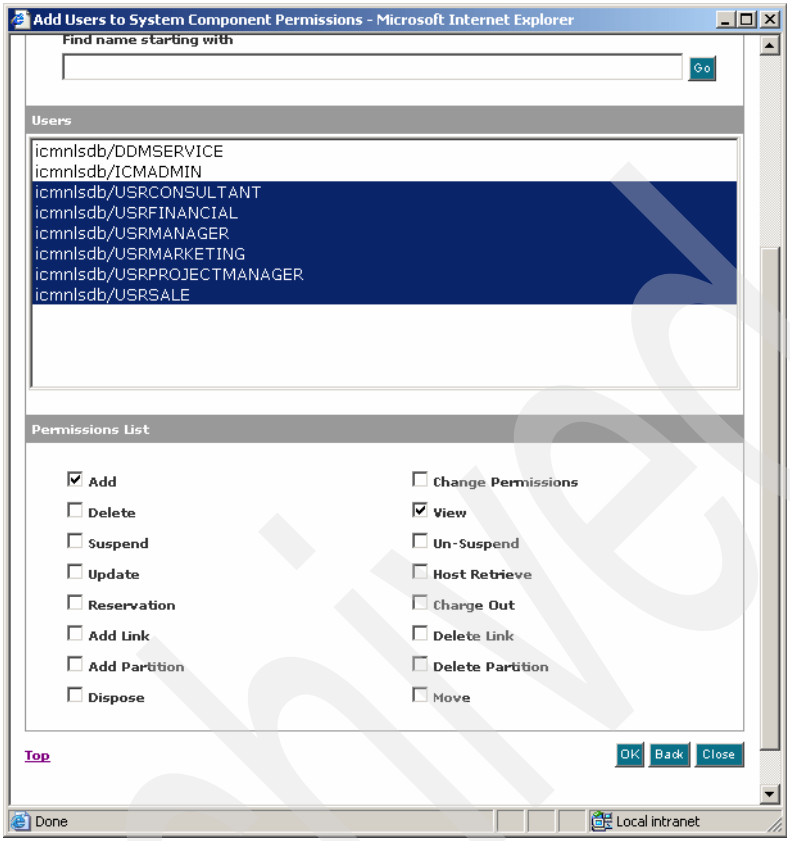

Figure 12-42 User permissions selection

You should see the permissions assigned to the users as in Figure 12-43.

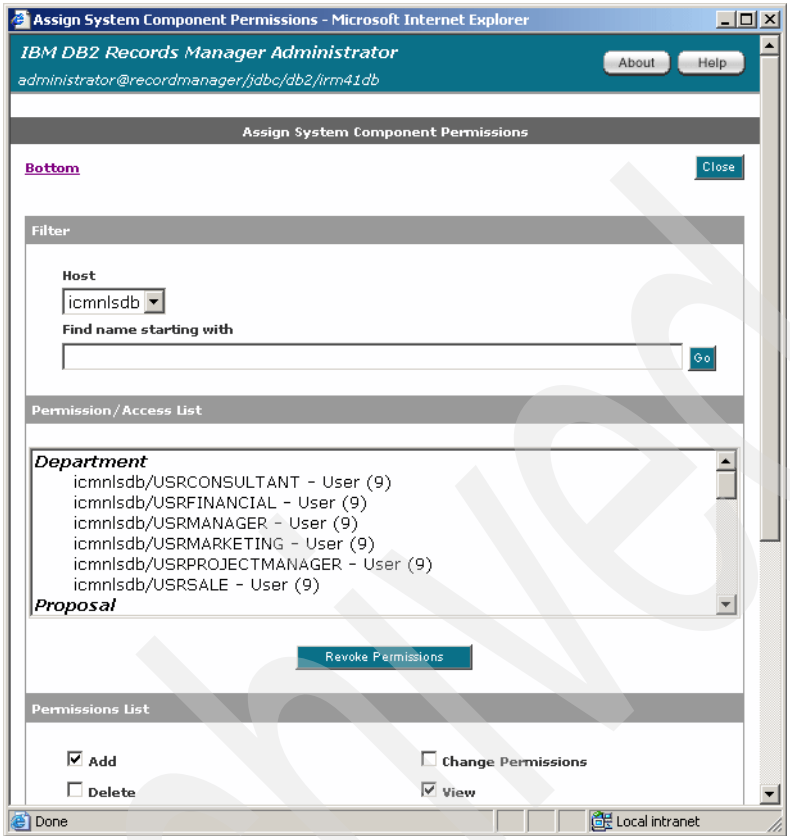

Figure 12-43 Assigned permissions to users

7. Assign to DDMSERVICE user only **View permission**, because this is the only permission this user needs. You should see this in Figure 12-44.

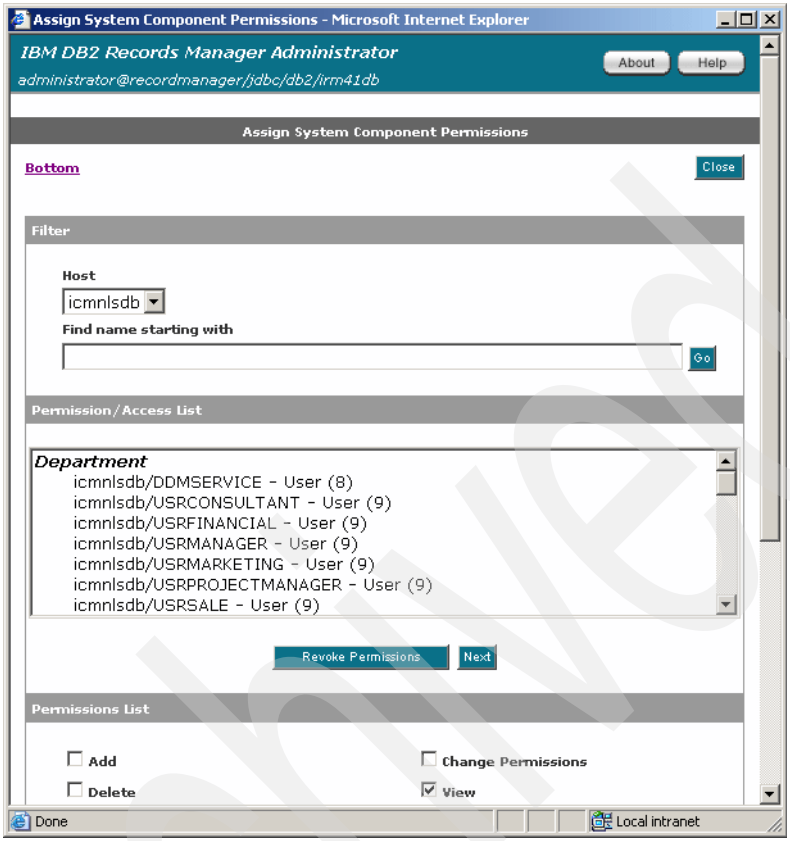

Figure 12-44 Ddmservice user view permission assigned

8. After finishing importing the Content Manager users and groups, close the Records Manager Administration program and open the Records Manager **Import Export** utility. Log in with a user who belongs to the administrators group. Select the working directory where you copied the Records Manager exported files and select **All items** to assure that the correct importing order will be maintained by the importing process as shown in Figure 12-45.

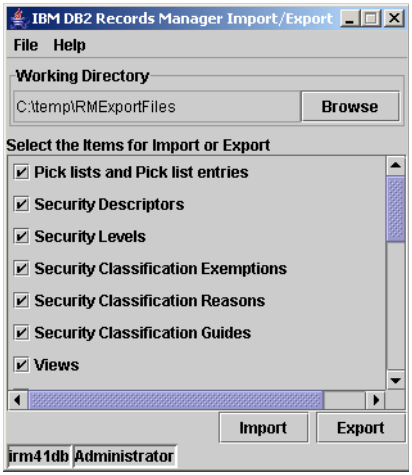

Figure 12-45 Records Manager import export utility

9. Click **Import** to start importing the objects and when importing the objects finishes, click **OK** to close the status window as shown in Figure 12-46.

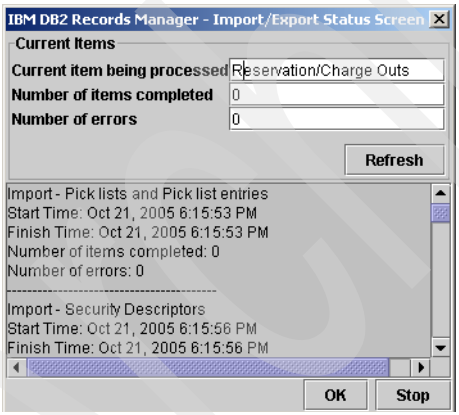

Figure 12-46 Import export utility status window

10. Close the **Import Export** utility.

12.4 System verification

After you successfully import all the configuration objects, you should run the cache manager service to refresh cache files and then verify that each service can connect and run with no problems. Then, you should try to log on to the

production system with each of the valid users defined for the system, using the Document Manager Desktop client, and try to add documents, move them through their entire life cycle (if any are configured) and try every single option in the client Desktop.

Verify that each configured function in the development system is working in the production environment, including views, searches, desktop templates, document renditions, e-mail notifications, and records declarations.

Testing the complete system might take from a couple of minutes, to hours, to days, depending on how complex your system is and how much validation and testing you need to do.

Part 1

Appendixes

A

Case study

This appendix describes the case study we used throughout this redbook. The purpose of the case study is to identify common, non-industry specific, document management applications, to demonstrate the Document Manager (along with Records Manager) capabilities, and to illustrate ways to create a solution that will translate into any industry or corporation.

This appendix covers the following topics for the case study:

- Introduction
- Requirements
- Solution planning
- Solution design
- Records Manager options

A.1 Introduction

The case study involves a hypothetical company, ZXY Technologies. It sells hardware, software, and services to its clients. ZXY Technologies needs an enterprise wide, document management solution to help the company with the *proposal* creation processes and keep track of all the *correspondence* related to the proposals. All the issued proposals also need to be maintained as corporate records. ZXY Technologies needs the solution to be able to support records management.

We use the case study to provide concrete planning and design examples that you can use to plan and design your solution. In addition, we use the case study to show you the practical steps in implementing a Document Manager solution configured with Records Manager options.

A.2 Requirements

ZXY Technologies needs an enterprise wide, document management solution to help the company with the *proposal* creation processes and keep track of all the *correspondence* related to the proposals.

ZXY Technologies has requirements for the following document types:

- Proposals
- Correspondence
- Records and confidential documents

A.2.1 Proposals

Every month, ZXY Technologies handles hundreds of requests for proposals from its clients.

Proposals are commonly used both to request information and to submit information. *Proposal requests* are issued by customers requesting pricing or product information and *proposal responses* are issued by the ZXY Technologies company providing pricing or product information.

Proposals requests are sources of unstructured data. They contain information critical to a project or critical to serving a customer. They may come in the form of an e-mail, phone call, fax, or a business letter.

With *proposal responses*, ZXY Technologies delivers required information to customers based on proposal requests. There are multiple steps in the proposal

(response) creation process – response creation, review, approval, and delivery to the customers.

ZXY Technologies needs a solution to manage all documents involved in the proposal creation process from end-to-end. This includes managing documents from the beginning, when the requests for proposals arrive from customers as e-mails, faxes, or correspondence, until the end, when the formal proposals are delivered to the customers.

The company has different departments that deal with different types of proposals.

There are three types of proposals:

- Sales proposals: These are proposals related to selling hardware and software to external customers. They are created by salespeople and are delivered to customers.
- Services proposals: These are proposals related to selling services to external customers. They are created by consultants and are delivered to customers.
- Marketing proposals: These are proposals related to marketing campaigns for the ZXY Technologies. They are created by marketing people and are delivered to internal clients within the company.

The ZXY Technologies wants to manage different proposals with separate templates, so that each department is responsible for the final proposal delivery. It also wants a system that can automatically send e-mails to people who need to review or approve the proposals, to accelerate the entire proposal creation process.

Generally, the proposal process goes through the following business steps:

1. The external or internal client sends a request for proposal.
2. The sales, consultant, or marketing people create a proposal using a predefined proposal template. The proposal creator then sends the proposal for review.
3. The reviewers are the department managers and financial people that control the proposal before it goes to the approved state.
4. Depending on the type of the proposal, usually, the manager of the department is responsible to finally approve or reject the proposal.
5. If approved, the formal proposal is sent to the external or internal customer.

In addition, ZXY Technologies wants to automatically generate a unique ID for each proposal so that it is easier to track the proposals. The unique IDs can also be used as references in other administrative documents.

The employees in ZXY Technologies use Microstate Word to create proposals, but they use PDF as the standard delivery format for the final proposals to customers.

A.2.2 Correspondence

Everyday, there are hundreds of letters coming in and out of ZXY Technologies. The correspondence helps in the completion of sales. For example, the account manager uses information received from the sales manager (e-mails with pricing approvals) and information received from the customer (courier delivery of the request for proposal) to deliver a completed price proposal and to close a sale. The correspondence may also hinder the company if the correspondence is not managed properly and efficiently. For example, if the account manager referenced information from an old e-mail with out-of-date cost information and delivered the incorrect pricing information to the customer, ZXY Technologies can lose money on the eventual sales transaction. The account manager may also have been affected if the request for proposal did not reach the account manager's desk in time to respond, or if the account manager was out of the office at the time and no one took over the account manager's workload.

In summary, ZXY Technologies needs a document management system that can help it to capture, control, and access the selected data coming in and out through the basic correspondence channels of the organization.

In addition, project-related e-mails and attachments must be stored in the system and should be stored based on the discretion of employees of ZXY Technologies.

A.2.3 Records and confidential documents

Due to regulations and company policies, all finalized proposals of ZXY Technologies should be made official company records. ZXY Technologies therefore is looking for a document management system that can automatically declare these finalized proposals as records. In addition, it needs to have the ability to manually declare special documents, such as reference documents or correspondence used for the proposals, as records.

A.3 Solution planning

As discussed in “Planning for a Document Manager solution” on page 48, the general planning process includes:

1. Identify document types.
2. Identify producers, approvers, and consumers of documents.
3. Identify document characteristics and document life cycle.
4. Define documents that should be records.

A.3.1 Document types

For the case study, we identified the following type of documents that the solution needs to manage:

- The Request For Proposal (RFP) documents that customer send us
- The correspondence we receive from and send to our customers
- The sales proposal documents
- The marketing proposal documents
- The services proposal documents
- References documents, such as minutes, budgets, graphics, and Microsoft PowerPoint presentations
- Standard document templates

A.3.2 Producers, approvers, and consumers

For the case study, we identified the following groups of users for the solution:

- Managers: They are the managers of the various departments. They have the responsibility to review and approve the proposal documents.
- Salespeople: They work in the sales department. They receive requests for proposals from customers. They are responsible for preparing the sales proposal documents and delivering the approved proposals to customers.
- Marketing people: They work in the marketing department. They receive requests for proposal from internal customers. They are responsible for preparing the marketing proposal documents and delivering the approved ones to internal customers.
- Consultants: They work in the services department. They receive requests for proposals from customers. They are responsible for preparing the services proposal documents and delivering the approved ones to customers.

- Financial analysts: They are the company's financial analysts. They are responsible for reviewing all the proposal documents to ensure that the financial information in the proposals is correct.
- Viewers: They work in the company, but are not directly involved with the proposal creation process. They are interested in viewing the proposals before they are delivered.

When further analyzing those who are the producers, approvers, and consumers of the documents, we use the following four roles:

- Approvers:

  They are the *approvers* of the documents. People with this role are those who belong to the following group:

  – Managers

- Creators:

  They are the *producers* of the documents. People with this role are those who belong to the following groups:

  – Consultants
  – Marketing people
  – Salespeople

- Reviewers: We consider them as approvers of the documents.

  We consider them almost as the *approvers* of the documents. People with this role are those who belong to the following groups:

  – Managers
  – Financial analysts

- Viewers:

  They are the *consumers* of the documents. People with this role are those belong to the following group:

  – Viewers

A.3.3 Document characteristics and life cycle

There are many characteristics for each type of document. For the simplicity of presenting information in this appendix, we only give an example of some of the characteristics we identified for a sales proposal.

Sample document characteristics of a sales proposal

The sales proposals are created in Word. Each sales proposal has a corresponding subject and customer information associate with it. The proposal

can be edited until it is reviewed and approved. There may be multiple reference documents associated with the sales proposal.

Document life cycle

We identified the following business processes (life cycle):

1. Request For Proposal (RFP) and Sales Proposal process
2. RFP and Services Proposal process
3. RFP and Marketing Proposal process
4. Correspondence process

The first three business processes have similar life cycles. We explain the first one in detail here.

RFP and Sales Proposal business process

The process is analyzed as follows:

1. A customer needs a new product and send a Request For Proposal (RFP) to ZXY Technologies.
2. The Salespeople receive the e-mail, decide to respond the customer and create a new sales proposal document.
3. When the proposal document is complete, a designated financial analyst and a corresponding manager review the proposal.
4. If everything looks good, the manager approves the proposal.
5. Once the proposal is approved, it is converted to PDF format and is sent to the customer who requested the proposal. The proposal at this time is considered issued.
6. Once the proposal is approved and issued, it is treated as a corporate record and must be kept for seven years.
7. Other people in the company at this time may view the issued proposal. They can view the hard copy or the soft copy in PDF format.

Correspondence process

Correspondence needs to be tracked. When incoming correspondence related to RFPs and proposals are received by ZXY Technologies, they need to be attached to the associated proposals. For any outgoing correspondence sent to customers, the correspondence also needs to be kept with the proposals and tracked by the system.

A.3.4 Documents that should be records

All proposals that are approved and issued should be kept as corporate records. In addition to the proposals, the corresponding requests for proposals, and the associated reference documents should be considered as corporate records. The requests for proposals should become corporate records as soon as they are added to the Document Manager system. For the associated reference documents, users decide whether they should be made records and when to make them records. Once the documents become corporate records, they need to be kept for seven years.

A.4 Solution design

As discussed in “Designing a Document Manager system” on page 51, the steps in designing a Document Manager system include:

1. Define users, groups, and roles.
2. Define the data model for your document system.
3. Define document life cycles.
4. Design the Document Manager application interface.

The application interface design is not included in this appendix. Refer to “Basic Document Manager implementation” on page 243 for the actual implementation of the interface.

A.4.1 Users, groups, and roles

For the Document Manager system, we need to define users, groups, and roles. We also map roles to the actions you can perform in the system.

Groups

Based on the groups identified during the planning session, we define a list of groups as shown in Table A-1 for the Document Manager system.

Table A-1 Groups

grpSales
grpMarketing
grpServices
grpManagers
grpFinancials
grpViewer

grpProjectManager

Users

For the case study, we define a few sample users for testing purposes as shown in Table A-2.

Table A-2 Users

User	Group
usrSale	grpSales
usrMarketing	grpMarketing
usrService	grpServices
usrFinancial	grpFinancials
usrManager	grpManagers
usrProjectManager	grpProjectManager
usrViewer	grpViewer

Roles

Based on the job responsibilities that the users have, that is the roles that they play, as identified in the planning session, we define the roles, as shown in Table A-3.

Table A-3 Roles

Creators
Reviewers
Approvers
Viewers

Actions and roles mapping

Table A-4 is a matrix that maps the defined user roles to the actions that the users in the role can perform in a Document Manager system.

Table A-4 Mapping user roles to Document Manager actions

	Approvers	Creators	Reviewers	Viewers
Add items		X		

	Approvers	Creators	Reviewers	Viewers
Checkout	X	X	X	
Copy		X		
Revise items	X	X		
Modify properties		X	X	
Print	X	X	X	X
Transition	X	X	X	
View	X	X	X	X
Markup	X	X	X	

A.4.2 Data model

In this section, we define document attributes, also known as library properties, item types, and classes.

Attributes (library properties)

We designed a list of attributes for the documents, as shown in Table A-5.

Table A-5 Attributes (library properties)

Name	Display name	Attribute type	Character type	Character length
Customer Name	Customer Name	Variable character	Extended alphanumeric	32
Customer Number	Customer Number	Variable character	Extended alphanumeric	32
RequestPropNum	Request for Proposal Number	Variable character	Extended alphanumeric	32
Proposal Number	Proposal Number	Variable character	Extended alphanumeric	32
Proposal Subject	Proposal Subject	Variable character	Extended alphanumeric	32
Author	Author	Variable character	Extended alphanumeric	32

Name	Display name	Attribute type	Character type	Character length
Potential Rev	Potential Rev	Variable character	Extended alphanumeric	
CreateDate	Create Date	Date		
DeliveryDate	Delivery Date	Date		
eMailNumber	eMail Track Number	Double		
From	From	Variable character	Extended alphanumeric	64
To	To	Variable character	Extended alphanumeric	256
MailSubject	Mail Subject	Variable character	Extended alphanumeric	256
DateReceived	Date Received	Date		

Item types

We determine that except for the standard document templates, the other type of documents listed in “Document types” on page 473 all shared many common attributes. We conclude that we only need two item types to model the various document types in our solution. The item types are listed in Table A-6.

Table A-6 Item type definitions

Item types	Description
CustomerData	The CustomerData item type is for storing the following document types: ► Customer RFP ► Sales proposal ► Marketing proposal ► Services proposal ► Correspondence ► Reference documents
LibraryObject	The LibraryObject item type is for storing the standard document templates and predefined DM queries. The predefined DM queries are specific to DM. They are the DM saved queries. DM queries are queries that we define and save to be reused.

The details of the item type definitions are not presented here. Download the source code from the web to see the detailed item type definitions.

Classes

Table A-7 shows a listing of the classes that we designed to model the different types of documents represented by the CustomerData item type.

Table A-7 CustomerData Classes

Classes	Description
Correspondence	For storing the correspondence documents received from and sent to customers.
RFP	For storing the RFP documents received from customers.
Marketing Proposal	For storing the marketing proposal type documents.
Sales Proposal	For storing the sales proposal type documents.
Services Proposal	For storing services proposal type documents.
Reference Documents	For storing documents, such as meeting minutes, budgets, presentations, videos, and so on.

Table A-8 shows a listing of the classes that we created for documents that will be stored under the LibraryObject item type.

Table A-8 LibraryObject Classes

Classes	Description
Document Template	For storing company standard document templates.
Saved Search	For storing DM predefined queries.

A.4.3 Business processes to life cycle modelling

We define document states, detailed document life cycles, and associated states with classes.

Document states

Based on the document life cycle discussed in the planning session, we created a list of the document states as shown in Table A-9.

Table A-9 Document states

Draft
Review

Approval
Superseded
Orphaned
Issued
PDF

Document life cycle

We design the detailed processes (life cycle steps) for each process:

- RFP and sales proposal life cycle
- Correspondence life cycle

RFP and Sales Proposal life cycle

Figure A-1 shows the entire proposal life cycle, from RFP arrives to proposal rendition and records declaration.

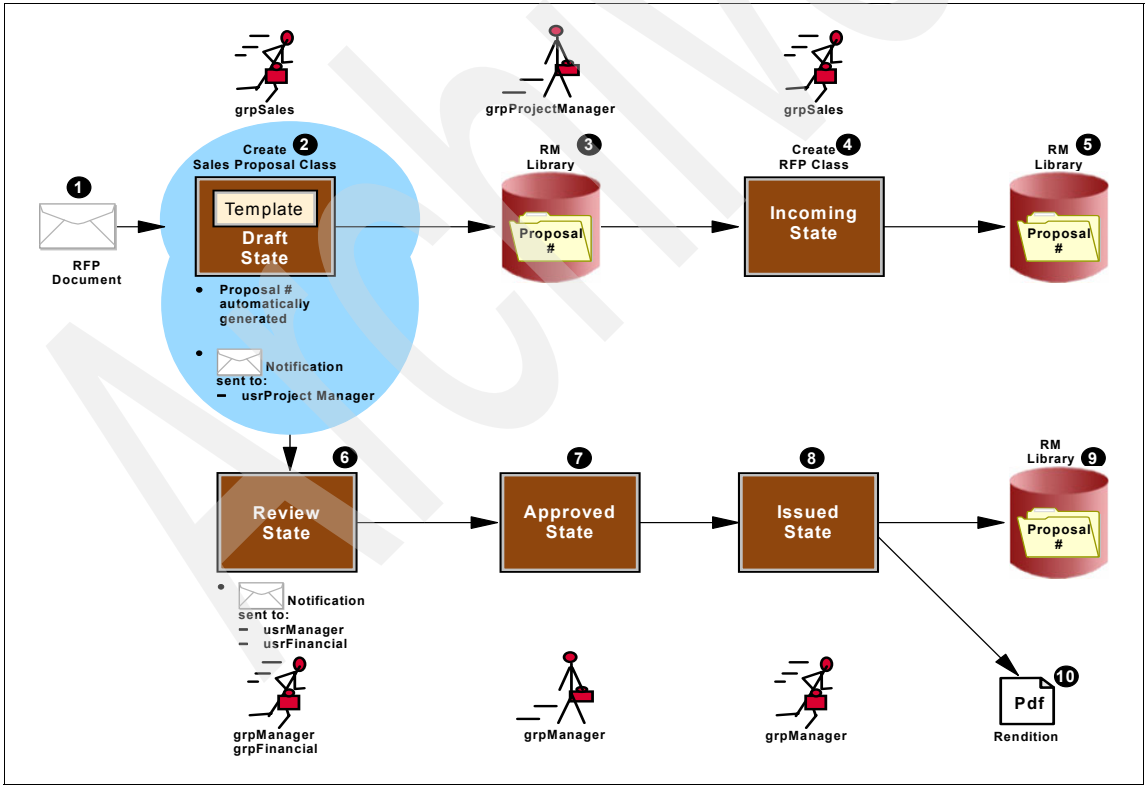

Figure A-1 RFP and sales proposal life cycle

The detailed business process is as follows:

1. A customer needs a new product and sends a Request for Proposal (RFP) to ZXY Technologies.
2. The salespeople receive the mail, decide to respond the customer, and create, in Document Manager, a new sales proposal class document from a template provided in the system.

   When the proposal is added to the system:

   a. The document enters the *Draft* state.

   b. A proposal number is automatically generated.

   c. A notification is sent to a project manager to create a container in Records Manager. The new proposal number is sent in the notification.

   Once a salesperson finishes writing and modifying the proposal, the original owner sends the proposal for review. This moves the document to the *Review* state.
3. The project manager receives the e-mail and creates a new Record Manager Container with the new proposal number.
4. Now that the Records Manager Container is created, the salesperson adds the RFP class document into the system. The salesperson has to fill the proposal number information. The automatic record declaration function of the system uses this information later.

   When the request for proposal (RFP) document is added to the system:

   a. The document enters the Incoming state.
5. In the Incoming state, the document is automatically declared as record. It is stored in the Proposal Number container inside the file plan.
6. When the proposal document enters the Review state, an automatic notification is sent to the designated finance people and managers.

   They receive the notification mail and review the proposal document.

   Once they finish reviewing the document, they send the proposal document for final approval. This moves the proposal document to the *Approval* state.
7. Managers review the document one last time, approve the document, and send the document to issue. This moves the proposal document to the Issued state.
8. When the proposal document enters the Issued state, the revision number is set to 01.
9. The document is automatically declared as a record when it enters the Issued state. It is assigned in the Proposal Number container inside the file plan.

10. The proposal document is automatically rendered as a PDF. The new file is created with the same class but in a different state. The PDF file will be in the PDF state.
11. A new revision can be created when the proposals are in the Issued state. The new document will have a revision number of 01-0A and will be in the Draft state. When the new document reaches the Issued state, the original document with the revision number 01 will be moved to the Superseded state. The new document will have a new revision number of 02-0A. Additional revisions will follow the same steps and the revision number will increase automatically.

Correspondence life cycle

Correspondence is used to hold relevant documents related to RFP and Proposals. Figure A-2 shows the correspondence life cycle.

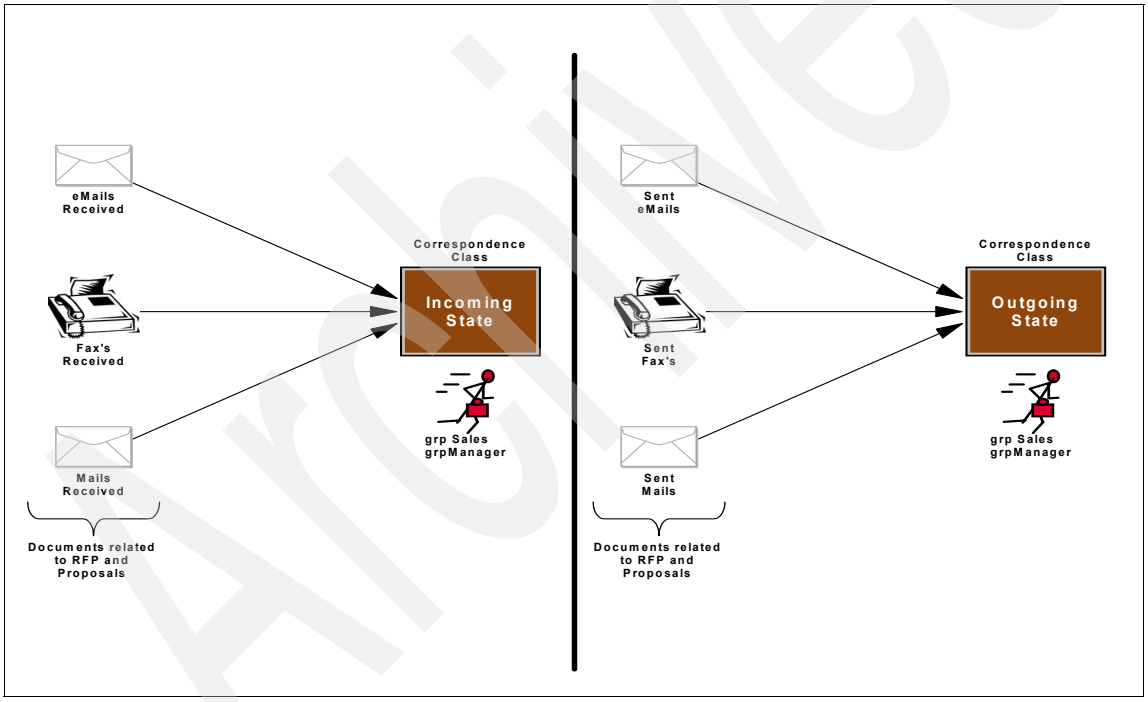

Figure A-2 Correspondence life cycle

There are two states involved:

- Correspondence - Incoming State

All the received documents related to RFP and proposals need to be added to the system. Sales, services, or marketing people will create a new Correspondence class document with the Incoming state.

- Correspondence - Outgoing State

  All the documents that are sent related to the RFP and proposals need to be added to the system. Sales, services, or marketing people will create a new Correspondence class document, with the Outgoing state.

  Managers will create a new Correspondence class document, with the Outgoing state, for the last response to the customer with the proposal.

A.5 Records Manager options

To configure Records Manager functions to the Document Manager solution, we need to design a file plan, decide what documents should be records, and when to declare them. We also need to establish the retention schedule.

File plan

We designed the file plan to address a number of solution requirements. Each department in ZXY Technologies is required to create and manage their own proposals. Each proposal contains a set of documents: versions of the proposal, the request for proposal, and correspondence (including support documents) that pertain to the proposal.

The file plan, as shown in Figure A-3**,** models the hierarchy of the organization and the proposal containers within each department. The proposal containers are created dynamically by the project manager as each new proposal is identified. Under the proposal container are the three types of records relating to the proposal documents.

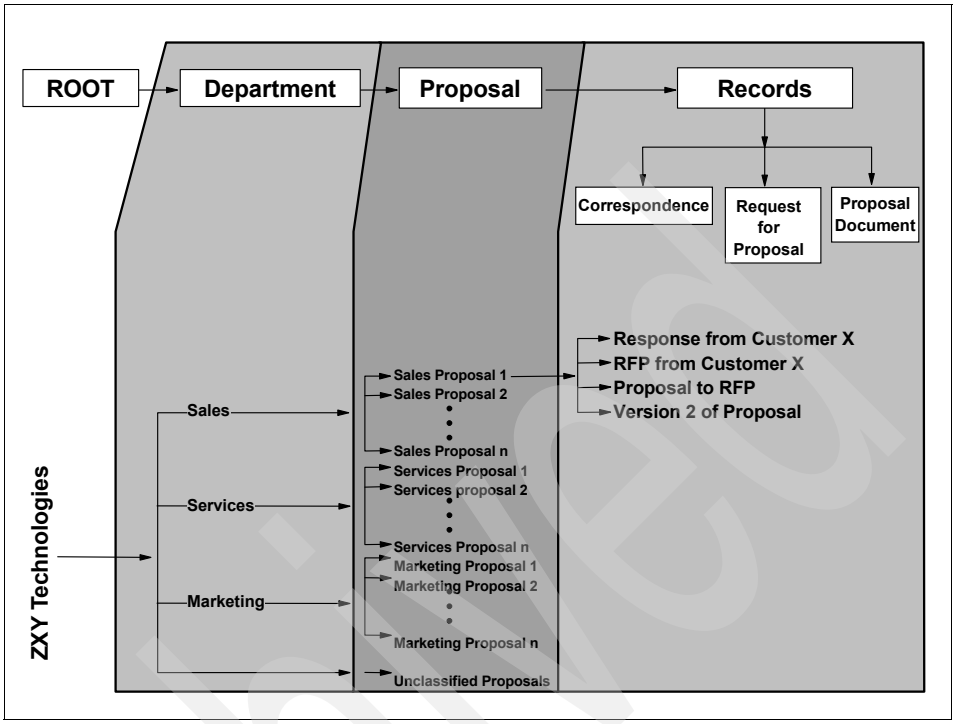

Figure A-3 File plan for solution

Records declaration

For the case study, the proposal documents that have been approved and go to the Issued state automatically become records. Any correspondence that enters the Incoming or Outgoing state also automatically becomes records. Other non-automatic record declarations are also configured in the Desktop for users to use.

For all the reference documents, users can decide whether they should be made to be records or not. Users can declare reference documents as records in their Desktops, using selection declaration with a predefined list of file plan destination.

Retention schedule

For the case study, we define a single retention schedule that applies to all of the proposal-related documents. This rule retains the proposal in active status for one year (at which point it is closed), and then the proposal is retained for seven years in a completed status until the proposal is destroyed.

B

Additional material

This redbook refers to additional material that you can download from the Internet as described below.

Locating the Web material

The Web material associated with this redbook is available in softcopy on the Internet from the IBM Redbooks Web server. Point your Web browser to:

ftp://www.redbooks.ibm.com/redbooks/SG247180

Alternatively, you can go to the IBM Redbooks Web site at:

ibm.com/redbooks

Select the **Additional materials** and open the directory that corresponds with the redbook form number, SG247180.

Using the Web material

The additional Web material that accompanies this redbook includes the following files:

File name	*Description*
SG247180_v.zip	Product installation viewlets

SG247180_d.zip	Export data files for the case study

System requirements for downloading the Web material

We recommend the following system configuration:

Hard disk space:	200 MB
Operating System:	Windows
Processor:	Pentium® IV or higher
Memory:	512 MB

How to use the Web material

Create a subdirectory (folder) on your workstation, and unzip the contents of the Web material zip file into this folder.

Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information about ordering these publications, see “How to get IBM Redbooks” on page 490. Note that some of the documents referenced here may be available in softcopy only.

- *Content Manager Implementation and Migration Cookbook*, SG24-7051
- *E-mail Archiving and Records Management Integration Solution Guide Using CommonStore and Records Manager*, SG24-6795
- *Quick Reference: Records Management 101*, TIPS0595

Other publications

These publications are also relevant as further information sources:

- *IBM DB2 Document Manager V8.3: Installation Guide*, GC18-9272
- *IBM DB2 Document Manager V8.3: System Administration Guide*, SC18-9254
- *IBM Records Manager V8.3: Installation Guide*, SC18-9185
- *IBM Records Manager V8.3: Administrator’s Guide*, SC18-9180
- *IBM Records Manager V8.3: Technical Reference Guide*, SC18-9181
- *IBM Content Manager for Multiplatforms V8.3: Planning and Installing Your Content Management System*, GC27-1332
- *IBM DB2 Content Manager for Multiplatforms V8.3: System Administration Guide*, SC27-1335
- *IBM DB2 Content Manager Records Enabler V8.3: Installing and Configuring*, GC18-7570
- *IBM DB2 Content Manager Records Enabler V8.3: User’s Guide*, SC18-7571

Online resources

These Web sites and URLs are also relevant as further information sources:

- IBM DB2 Document Manager main page:

  http://www.ibm.com/software/data/cm/docmgr/

- IBM Records Manager main page:

  http://www.ibm.com/software/data/cm/cmgr/rm/

- IBM DB2 Content Manager main page:

  http://www.ibm.com/software/data/cm/

- IBM DB2 Content Manager V8.3 Information Center:

  http://publib.boulder.ibm.com/infocenter/cmgmt/v8r3m0

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IBM DB2 Document Manager with IBM Records Manager Solution Guide

(1.0” spine)
0.875”<->1.498”
460 <-> 788 pages

IBM DB2 Document Manager with IBM Records Manager Solution Guide

Solution design and planning

Installation and configuration

Case study implementation

IBM DB2 Document Manager Version 8.3 is one of the newest members of the IBM Enterprise Content Management portfolio. Document Manager provides a secure and robust platform to manage the complete life cycle of business documents. It helps ensure accurate and up-to-date documents are available on demand. When configured with IBM Records Manager Version 4.1.2, the Document Manager solution also provides records management capability.

This IBM Redbook provides a general solution guide for Document Manager integrated with Records Manager. This redbook helps you to plan and design the solution, perform end-to-end product installation and configuration, and implement the solution using a practical case study as an example.

The redbook is logically divided into two parts. The first part focuses on solution overview, concept, and theory. We cover Document Manager design and planning, and Records Manager options design and planning. In addition, we cover overall integrated solution security and system configuration planning. The second part focuses on practical end-to-end solution installation, configuration, implementation, and deployment. We use a case study to show you practical, implementation steps for the solution, including setting up basic and advanced Document Manager features and records declaration options within the solution.

This redbook is intended for IT architects and specialists, who will be responsible for planning, designing, and implementing a Document Manager solution with Records Manager. We recommend using this redbook in conjunction with existing product manuals.

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