

IBM® Enterprise Information Portal for Multiplatforms



Planning and Installing Enterprise Information Portal

Version 7.1

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Note

Before using this information and the product it supports, read the information in “Notices” on page 87.

First Edition (August 2000)

This edition applies to Version 7.1 of IBM Enterprise Information Portal and IBM Enterprise Information Portal Client Kit (product numbers 5697-G29, 5697-G31) and to all subsequent releases and modifications until otherwise indicated in new editions. This edition replaces GC26-9833-00.

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About this guide

This guide provides site planning and installation personnel with information on preparing for and installing IBM Enterprise Information Portal. It includes an overview of hardware and software components for the product and contains specific information for installing and configuring this version. This guide includes two parts:

Part 1. Planning for Enterprise Information Portal

This section describes what you need to consider when planning and designing an Enterprise Information Portal system in your enterprise. It also discusses the most common configurations for Enterprise Information Portal, and lists the hardware and software prerequisites for these common configurations.

Part 2. Installing and configuring Enterprise Information Portal

This section describes how to install and configure Enterprise Information Portal components.

Who should use this guide

Use this book if you are responsible for planning, installing, or configuring Enterprise Information Portal for your enterprise.

If you are a systems analyst or systems planner who plans to install Enterprise Information Portal, this book helps you understand how the product fits into your operation. If you are an administrator, this book helps you understand how to analyze your current working environment.

Enterprise Information Portal administrator

Enterprise Information Portal administrators must be familiar with the content servers and business goals of their enterprise. By using the Enterprise Information Portal administration client, the administrator creates and manages the search templates used to search the content servers within the enterprise. The administrator also uses the Enterprise Information Portal administration client and the workflow feature to control the workflow processes of your enterprise. For Information Mining, the administrator uses a categorization tool to define taxonomies of documents. Users then use these taxonomies to perform searches on documents located on content servers. The administrator can also set up the IBM Web Crawler to search and import documents from an intranet or the Web.

Skills that are required for Enterprise Information Portal administrators

To install Enterprise Information Portal, you must be able to:

- Install software on Windows®.
- Install Database2® Universal Database (DB2 UDB).
- Install and configure WebSphere Application Server or another Web server.
- Install MQSeries® and MQSeries Workflow.
- Install and configure a Remote Method Invocation (RMI) server.

Where to find more information

IBM Enterprise Information Portal includes a complete set of information to help you plan for, install, administer, and use your system. Product documentation and support are also available on the Web.

Information included in your product package

The IBM Enterprise Information Portal publication library is available online in HTML (Hypertext Markup Language) format. On Windows operating systems, you can view the publications from the taskbar by clicking **Start** → **Programs** → **IBM Enterprise Information Portal for Multiplatforms 7.1** → **Information** and then the title of the publication that you want to view.

The *IBM Enterprise Information Portal* CD-ROM contains each publication in the Adobe Acrobat portable document format (PDF).

You can view the PDF files online using the provided Adobe Acrobat Reader for the following operating systems: Windows® or AIX®. (Adobe provides Acrobat Readers for additional operating systems on their Web site, <http://www.adobe.com>.)

Table 1 shows the Enterprise Information Portal publications included on the *IBM Enterprise Information Portal* CD-ROM.

Table 1. Enterprise Information Portal publications

File name	Title	Publication number
apgoo	<i>Application Programming Guide</i>	SC27-0877-00
eipinst	<i>Planning and Installing Enterprise Information Portal¹</i>	GC27-0873-00
eipmc	<i>Messages and Codes</i>	SC27-0874-00
eipmng	<i>Managing Enterprise Information Portal</i>	SC27-0875-00
txtse	<i>Text Search Engine Application Programming Reference</i>	SC27-0876-00

Table 1. Enterprise Information Portal publications (continued)

File name	Title	Publication number
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Notes:

1. You receive a printed copy of the *Planning and Installing Enterprise Information Portal* with the product.

Copying the PDF files: To copy the PDF files from the CD-ROM to your hard drive:

1. Change to the directory for the language that you are using (for example, ENU for English).
2. Copy *.PDF files to your designated hard drive directory

Installing the PDF reader: The Adobe Acrobat Reader is available in the ACROBAT directory of the CD-ROM and from <http://www.adobe.com>. To install Acrobat Reader, decompress the program files for your platform and follow the instructions in the Acrobat installation program or the installation text file.

On AIX, untar the .tar file and read INSTGUID.TXT.

On Windows, run the executable file.

Support available on the Web

Product support is available on the Web. Click **Support** from the product Web site at:

<http://www.ibm.com/software/data/eip/>

The documentation is included in softcopy on the product CD-ROM. To access product documentation on the Web, click **Library** on the product Web site.

An HTML-based documentation interface, called Enterprise Documentation Online (EDO), is also available from the Web. It currently contains the reference information about the object-oriented and Internet APIs. Go to the Enterprise Information Portal Library Web page for information about accessing EDO.

How to send your comments

Your feedback helps IBM to provide quality information. Please send any comments that you have about this publication or other Content Manager and Enterprise Information Portal documentation. You can use either of the following methods to provide comments:

- Send your comments from the Web. Visit the IBM Data Management Online Reader's Comment Form (RCF) page at:
<http://www.ibm.com/software/data/rcf>
You can use the page to enter and send comments.
- Send your comments by e-mail to comments@vnet.ibm.com. Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are commenting on specific text, please include the location of the text (for example, a chapter and section title, a table number, a page number, or a help topic title).

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Chapter 1. Introducing Enterprise Information Portal

Many paper-intensive enterprises, such as insurance companies and financial institutions, administer large volumes of business-related content. The need for an enterprise solution for managing and accessing business information spans many industries.

A *content server* is a software system that stores multimedia, business forms, documents, and related data, along with metadata that allows employees to process and work with the content. When there is no way to effectively connect disparate content servers, a business can waste time and money by duplicating information or training employees to perform multiple searches.

Enterprise Information Portal provides leading-edge technology to bring all of your enterprise resources to your workstation desktop. Enterprise Information Portal can help you maximize the value of your information and multimedia assets by connecting disparate content servers through a single client. With an Enterprise Information Portal client users can quickly and concurrently access all connected content servers. Users can also do information mining or “intelligent” searches across content servers, including the Web or an intranet, and they can perform workflow tasks within your business processes.

With Enterprise Information Portal, you can customize applications for your enterprise. Using the Enterprise Information Portal toolkits, application programmers can write both desktop and Web-based applications.

This chapter provides an overview of Enterprise Information Portal. A scenario about a fictitious insurance company, AA Insurance, demonstrates Enterprise Information Portal’s features and functionality.

Searching for customer information

AA Insurance (AA), a large property and casualty insurance company, has an extensive collection of photographs, claims, policies, adjuster’s notes, reports from experts, and other business documents.

AA keeps all memos that are sent to policy holders, along with medical and appraisal electronic forms in Lotus® Domino™ .Doc file cabinets. AA archives all policy declarations, notices, and invoices in a Content Manager OnDemand server for long-term storage and quick access. AA stores all claim forms, photographs, and letters received from policy holders in a Content Manager for AS/400® system folder. AA keeps reports from experts in a DB2 Universal Database™ (DB2 UDB) Data Warehouse Center Information Catalog Manager.

AA also stores corporate media assets such as high-resolution graphics in a Content Manager system for the advertising, public relations, and new business departments to share. In addition, AA keeps information, such as company procedures, on its company intranet.

The need

Claims, customer calls, and general policy holder servicing cannot be handled with the content from one server because employees need to access all customer information. To provide customer service, employees require simultaneous access to a variety of content servers. AA Insurance needs a solution that connects their content servers and their company intranet for searching and retrieving information. They also want to expand their use of workflow processing.

Many different employees need to access documents, from clerks to claim adjusters to agents. AA must restrict access to certain items, while providing unlimited access to others. AA also wants an easy-to-use interface to reduce the need for training.

The solution

AA Insurance deploys Enterprise Information Portal because the comprehensive search technologies allow them to connect and search all of their content servers for the retrieval of data. Now, when an AA Call Center representative receives a call, a single federated search retrieves all of the necessary policy holder information.

AA Insurance also uses Enterprise Information Portal Information Mining feature to search for and retrieve information from the company's intranet. They also want to expand their use of workflow processes.

The Enterprise Information Portal solution

Enterprise Information Portal is a comprehensive product; its components work together to provide a solution uniquely suited to your enterprise. Centered on a multiple-tier architecture, Enterprise Information Portal provides an administration client for managing searches, clients (as samples) for running searches, and connectors for connecting to disparate content servers such as Content Manager, Content Manager ImagePlus[®] for OS/390[®], Content Manager OnDemand, Lotus Domino.Doc, DB2 UDB, DB2 DataJoiner[®], and DB2 Data Warehouse Center Information Catalog Manager. You can write additional connectors for additional content servers.

Figure 1 on page 5 shows the concept of the multiple-tier architecture of Enterprise Information Portal.

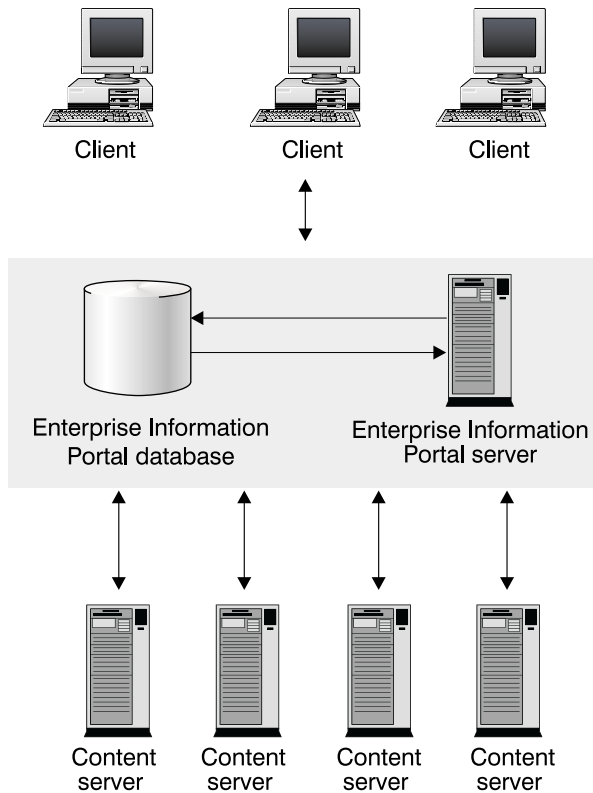


Figure 1. Multiple-tier architecture

The Enterprise Information Portal architecture allows your client applications to run single searches on one or more content servers. To perform searches, a client uses search templates that were defined by the Enterprise Information Portal administrator.

Using search templates, the client runs a *federated search*, a search that runs simultaneously across content servers whose native attributes have been mapped with the federated attributes used in the search template. The Enterprise Information Portal search templates contain search criteria, which reference federated attributes that are mapped to native attributes on each of the content servers. The Enterprise Information Portal administrator creates the search templates. Enterprise Information Portal provides connectors to make compatible the heterogeneous interfaces of content servers. The content servers then return data objects to the client.

The Enterprise Information Portal architecture provides the following advantages:

- Access using a single query to multiple and varying content servers that support e-business™ transactions and customer service applications.
- Information mining capability across multiple content servers, including the Web.
- Workflow process access to data across multiple, heterogeneous content servers.
- Support for the development of client applications that are independent of data's location on any content server, because of the separation of client applications, indexes, and data.

Enterprise Information Portal components

This section describes each Enterprise Information Portal component. These components are shipped as part of the Enterprise Information Portal product.

Administration database

The Enterprise Information Portal database is a DB2 UDB database that stores the information managed by the administration client. This data is used to perform federated searching, information mining, and workflow processes.

Migrating your Enterprise Information Portal Version 6.1 database: You must migrate your data from Enterprise Information Portal Version 6.1 *before* using your Enterprise Information Portal Version 7.1 administration database.

Administration client

The system administrator uses the Enterprise Information Portal administration client to:

- Define each content server for federated searching.
- Identify native entities and attributes on content servers and map them to federated entities.
- Maintain an inventory of the search criteria for all content servers.
- Create search templates.
- Identify and manage users who can access search templates, the information mining feature, and workflow processes.
- Define business workflow processes.
- Administer the information mining server: stopping, starting, and testing the information mining server connection and setting up trace and log levels.

This information is stored in the Enterprise Information Portal database.

It is recommended that you install the administration client on the same workstation, or server, as the Enterprise Information Portal database.

You can also have as many administration clients as you want on other workstations. To do this configuration, you need to do one of the following:

- Have DB2 Client Application Enabler installed and configured on each workstation on which the administration client is installed.
- Use a Remote Method Invocation (RMI) configuration by starting the RMI server on which the Enterprise Information Portal database is installed. You need to make sure that your \CMBROOT\cmbclient.ini file points to this server.

Connectors

Connector classes permit client applications to access content servers and the Enterprise Information Portal database. Enterprise Information Portal ships the following connectors for content servers:

- Relational database connectors
- Federated connector (to the Enterprise Information Portal database)
- Content Manager connector
- Content Manager OnDemand connector
- Content Manager ImagePlus for OS/390 connector
- Content Manager for AS/400 connector
- Lotus Domino.Doc connector
- Extended search connector
- DB2 Data Warehouse Manager Information Catalog Manager connector

The federated connector contains the connector class for the Enterprise Information Portal database. Each content server connector contains the appropriate connector class.

Connectors are either local or remote. Local connectors are a set of connector classes you use for directly connecting to various content servers. Local connectors can reside on an Enterprise Information Portal desktop client or on an Enterprise Information Portal RMI server. Remote connectors, which connect to a content server through an RMI server or an RMI server pool member, are always installed.

Enterprise Information Portal sample client application

The sample client application, built by IBM from the JavaBeans™ in the federated access toolkit, provides an interface for performing a single search to retrieve and display documents from multiple content servers.

When a user runs the Enterprise Information Portal sample client application, the search templates available to that user are retrieved from the Enterprise Information Portal database. The user then selects a template and enters values for the search criteria. A list of documents satisfying the search criteria is returned to the user. Documents can then be selected from the search results list, viewed, and updated.

Enterprise Information Portal thin client samples

The Enterprise Information Portal thin client samples run only in a Web browser. Written in HTML and JavaServer Pages™ (JSP), the thin client samples are easily changed and deployed through a Web browser interface. The thin client samples are a set of files that you install on your Web server.

Users use the thin client samples for performing a single search to retrieve and display documents and folders from multiple content servers. Users can also use the thin client samples for performing tasks in a workflow process.

Connector toolkits and samples

Use the connector toolkits and samples to build your own Internet or desktop client applications that access data and content in content servers. The toolkits provide:

- Java®, C++, and ActiveX classes
- Content server-specific samples

Information mining

Information mining provides linguistic services to find hidden information in text documents on content servers. During processing of the text documents, metadata (information about data) is created that can be summarized, categorized, and searched. Enterprise Information Portal provides samples that show how to use information mining capabilities in a thin client. You can build your own desktop client or thin client to work with information mining.

Workflow

With Enterprise Information Portal you can control the flow of work in your business. By using Enterprise Information Portal workflow feature, you can define and run the workflow process of a work group, department, or enterprise. Using a graphical builder, you can construct a comprehensive, easy-to-understand graphical representation of a workflow process in the Enterprise Information Portal workflow builder. Your users can then use the defined workflow process to perform their tasks, using a client that you develop or the Enterprise Information Portal thin client samples.

Content Manager text search server and client

You can use this feature to automatically index, search, and retrieve documents stored in Content Manager. Users can locate documents by searching for words or phrases

Restriction: The Content Manager text search server and client is an optional Content Manager feature that you can configure and run with Content Manager servers only. If you do not use Content Manager servers, do not install this feature.

Content Manager image search server and client

This feature uses IBM QBIC[®] (query by image content) technology with which you can search for objects by certain visual properties, such as color and texture.

Restriction: The Content Manager image search server and client is an optional Content Manager feature that you can configure and run with Content Manager servers only. If you do not use Content Manager servers, do not install this feature.

What's new in Version 7.1

Enterprise Information Portal Version 7.1 provides unprecedented access to disparate content servers. The new features and components include:

- Improved installation procedures

- Additional connectors for relational databases

Enterprise Information Portal provides relational database connectors for DB2 UDB, DB2 DataJoiner, DB2 Data Warehouse Manager Information Catalog Manager, and other databases through JDBC or ODBC drivers.

- Advanced information mining and search capabilities

Information Mining offers advanced text searching using a flexible query that you can restrict to documents of certain categories.

- Workflow capabilities

By using Enterprise Information Portal workflow feature, you can define and run the workflow process of a work group, department, or enterprise.

- Federated level access control

You can control access to Enterprise Information Portal information mining and workflow processes through the use of privilege sets and access control lists. Additional access control to data can be managed by the access control features of each content server.

- Additional support for Content Manager:

- List, add, retrieve, update, and delete of content class
- Asynchronous retrieval of object content

Chapter 2. Planning your Enterprise Information Portal system

This chapter describes the tasks that you need to perform to plan your Enterprise Information Portal system. It also describes each Enterprise Information Portal component and its requirements. Your IBM sales representative can work with you during the planning process to provide more detailed information.

To plan effectively for your Enterprise Information Portal solution, you need to analyze your current information management requirements. After gathering data about the current system and outlining requirements for your solution, you can design an Enterprise Information Portal implementation that meets the specific needs of your enterprise. Because Enterprise Information Portal has a multiple-tier architecture, you can configure it several ways.

Analyzing your needs

The first step in the planning process is to analyze your business needs. This analysis helps you decide on the appropriate Enterprise Information Portal configuration. As you determine how your enterprise manages and uses information in your current environment, consider the items in the following list.

- The network topology strategy for your enterprise
- Types of clients and how many to deploy (thin clients or desktop clients)
- Information that is useful for existing applications that is already contained in your content servers
- Business processes that use this information
- Number of people who need to access this information
- Where these people are located
- Number of different file formats to search for and display
- Capabilities of hardware
- Number of content servers
- Number of content servers to be accessed by an individual user at one time

Knowing this information in advance helps you make decisions about your Enterprise Information Portal system, such as how many servers your enterprise needs, the size of the servers, where the servers are to be located, and the number of clients or users that need access to these servers.

For example, you might decide to use more than one server because you want to balance workload across your network. You might have some clients on Windows 2000 and others on Windows 98. You also might decide that only some clients are to have access to the workflow processes of your business or to information mining searches.

Choosing a configuration for your Enterprise Information Portal

Before installing your Enterprise Information Portal, you must understand and determine which Enterprise Information Portal components best meet the needs of your enterprise. See “Chapter 3. Enterprise Information Portal requirements” on page 21 for the prerequisites for these components.

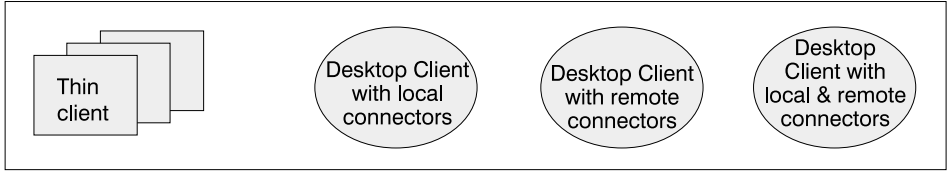
When deciding on a configuration for your Enterprise Information Portal system, you need to start with understanding your needs for how you want to configure your clients and your servers. Figure 2 on page 13 shows how the Enterprise Information Portal components can be distributed in one configuration. You can install all of the Enterprise Information Portal components on a single server or you can distribute the components on different servers.

For example, you can install the Enterprise Information Portal database, local connectors, and DB2 UDB on one server and configure this server as a master Remote Method Invocation (RMI) server in an RMI server pool. The RMI server pool can include other pool members, such as an Enterprise Information Portal workflow server, to support workflow processes, and a Web Server, to support the thin client samples or the Information Mining feature.

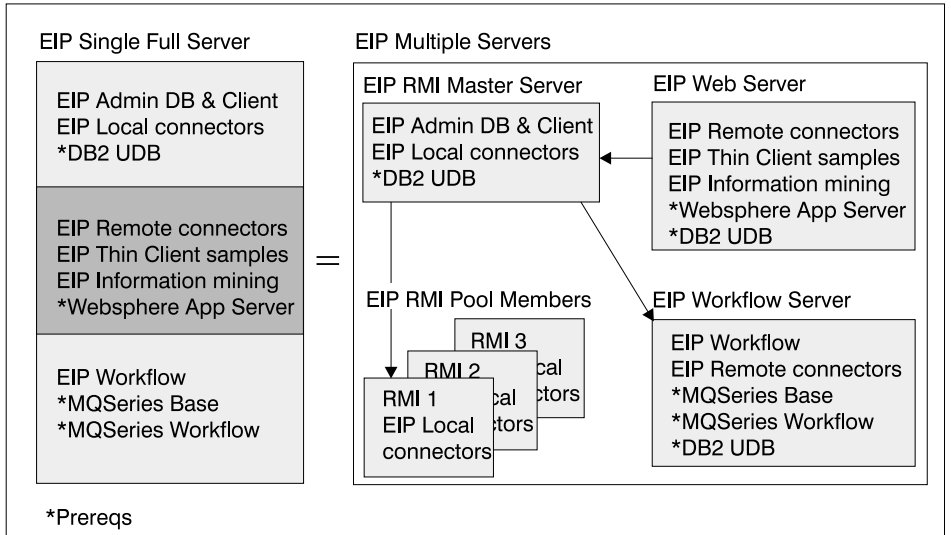
Because of the flexibility of Enterprise Information Portal’s multiple-tier architecture, you can choose to have many different configurations for your system. Use the following questions to help determine where to install your different Enterprise Information Portal components:

- What type of client: thin or desktop?
- Do you want local or remote connectors?
- Which connectors do you need to use (depends on the content servers you want to connect to)?
- Do you want additional features, such as Information Mining, workflow, Content Manager text or image search?
- Do you want a run-time environment or a development environment?
- Do you want multiple RMI servers (an RMI server pool) to improve performance?

EIP Clients



EIP Servers



Back-end Content Stores

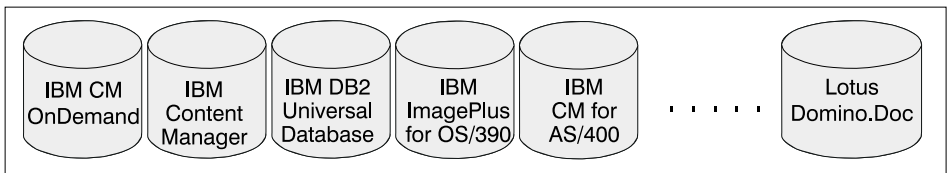


Figure 2. Enterprise Information Portal sample configuration

Choosing a configuration for your servers

The exact configuration that you need to support your environment with satisfactory response time varies depending on the size of the objects with which you are working and other factors in your environment. For example, response times for individual displays vary depending on workstation processor speed, memory, size of objects, and network and server workload. You need to evaluate and adjust the possible configurations described in this section according to your unique requirements.

You can choose to configure your server for Enterprise Information Portal in a variety of ways, depending on what type of environment you have. The following sections describe these possible configurations for your servers:

- Full single server
- Administration server
- Remote Method Invocation (RMI) server
- RMI server pool
- Web server
- Workflow server

Full server

You can configure one server to contain all of the components and features of Enterprise Information Portal:

- Administration database
- Administration client
- Local and remote connectors
- Thin client samples
- DB2 Universal Database (UDB)
- WebSphere™ Application Server
- Enterprise Information Portal Information Mining feature
- MQSeries
- MQSeries Workflow
- Enterprise Information Portal workflow feature

A full server configuration can be beneficial when you are developing applications, learning the product, or want to do a trial run of Enterprise Information Portal. However, if you want to support multiple users with reasonable performance, you should install Enterprise Information Portal on a distributed set of workstations.

Administration server

You can configure one server to handle the administration services of Enterprise Information Portal. These components include the administration client and database. The Enterprise Information Portal database must be installed on Windows NT or Windows 2000.

Remote Method Invocation (RMI) server

You can configure Enterprise Information Portal with an RMI server to distribute client requests to Enterprise Information Portal components. RMI enables you to create Java applications that can talk to other Java applications over a network. RMI allows Java objects to be called from other Java applications by passing objects back and forth over a network connection.

The RMI components of Enterprise Information Portal allow a client to call content server connectors on an RMI server, so that the necessary connectors can be shared. This is done by having an RMI server use the Enterprise Information Portal local connectors to connect to a variety of content servers. The benefit of RMI is that you can centralize the content server connectors on RMI servers and then configure your clients to make requests to the RMI servers. You do not need the content server connectors on your clients.

RMI server pool

You can configure Enterprise Information Portal with multiple RMI servers to distribute client requests. A group of RMI servers is an *RMI server pool*. When a client communicates to an RMI server, this RMI server can delegate the client request to other members of the server pool. In this scenario, this RMI server acts as a master server. The master server services client requests when all the server pool members have reached their maximum number of connections, or when no other pool member is configured to service client requests.

In an RMI server pool configuration the Enterprise Information Portal clients and Web servers are connected to an RMI server. Because all necessary connectors can be shared on the RMI server, both the RMI server configuration and the RMI server pool configuration are scalable and easily maintained.

Web server

You can configure a workstation as a Web server to perform Enterprise Information Portal federated searches and display the results through a Web browser. A Web server supports the Enterprise Information Portal thin client samples and the Enterprise Information Portal Information Mining feature. If you want to take advantage of the Information Mining sample JavaServer Pages (JSPs), then you need to install the Information Mining feature on a workstation on which you installed the WebSphere Application Server.

Workflow server

You can configure one server to support the Enterprise Information Portal workflow feature. This is the recommended configuration. The workflow feature requires IBM MQSeries and IBM MQSeries Workflow.

If you want to write user exit routines to use with the Enterprise Information Portal workflow feature, you need to install the Enterprise Information Portal workflow feature and the Enterprise Information Portal administration client on the same workstation.

Choosing a configuration for a development workstation

The Enterprise Information Portal development workstation configuration enables you to build your own Internet or desktop client applications that access data and content from individual content servers. You must install the

toolkits to create custom client applications. You can use the Enterprise Information Portal federated access connector and content server toolkits to create customized applications. If you build a desktop client, you need to install the content server toolkits and the local connectors. The toolkits provide:

- Java, C++, and ActiveX classes
- Content server-specific samples

If you want to develop a custom client, you must install the appropriate toolkits.

For information about creating customized applications see *Application Programming Guide* and online API reference.

Choosing a configuration for your clients

You can choose to configure your clients as one or any of the following types:

- Thin client
- Desktop client using local connectors
- Desktop client using remote connectors
- Desktop client using both local and remote connectors

Thin client

Choose a thin client as part of your Enterprise Information Portal system if you want to quickly and easily deploy a large number of clients through a Web browser interface. You can use and modify the thin client samples provided by Enterprise Information Portal for your thin client. Users need a Web browser to retrieve and display documents and content from multiple content servers. The thin client samples are HTML files and JSPs that reside on a Web server.

Desktop client using local connectors

If you want your desktop client to run independently and connect directly to a content server, then configure your desktop client with the Enterprise Information Portal local connectors. This kind of configuration can improve response time, but might require larger and faster hardware.

You can configure the Enterprise Information Portal sample client application with the local connectors to have the client directly connect to a content server. For this configuration you need:

- Access to the database through the DB2 UDB Client Application Enabler (if the Enterprise Information Portal database is not installed on the same workstation)
- All necessary content server connectors, including the federated connector and remote connectors, installed on each client.

In this configuration, you need to update all clients whenever a content server is added or an existing connector is upgraded.

You can also configure the Enterprise Information Portal sample client application with both local and remote connectors installed. For example, you might want to install the local connectors on workstations where response time is critical, and install the remote connectors on those workstations where response time is not as critical.

Desktop client using remote connectors

Choose a desktop client with the Enterprise Information Portal remote connectors installed if you want your desktop client to work with mid-tier servers as part of a remote configuration with RMI servers. You can configure the Enterprise Information Portal sample client application with the remote connectors installed.

Desktop client using both local and remote connectors

Choose a desktop client with the Enterprise Information Portal local and remote connectors installed if you want your desktop client to connect directly to some content servers, but connect remotely to others. You can configure the Enterprise Information Portal sample client application with both local and remote connectors installed.

Planning for system administration

You use the administration client to manage your Enterprise Information Portal system and database. System administration tasks include setting up federated search templates, information mining, workflow processes, and access control.

It is recommended that you install the administration client on the same workstation, or server, as the Enterprise Information Portal database.

You can also have as many administration clients as you want on other workstations. This configuration requires one of the following implementations:

- Have DB2 Client Application Enabler (CAE) installed and configured on each workstation on which the administration client is installed.
- Use a Remote Method Invocation (RMI) configuration by starting the RMI server on which the Enterprise Information Portal database is installed. You need to make sure that your `\cmbroot\cmbclient.ini` file points to this server.

Tip: If you use the administration client on the same workstation as the administration database or with DB2 CAE, then you need to install the local federated connector on the same workstation as the administration client.

You can also have multiple Enterprise Information Portal databases. These databases are independent of one another, and provide the benefits of scalability and increased security.

You also need to consider the following when planning for system administration:

- Identify the content servers where information is stored
- Define users who can access Enterprise Information Portal
- Define what level of security access users and user groups should have
- Define user groups who can access certain search templates
- Define users who can perform information mining
- Define users and user groups who can perform tasks related to the business and workflow processes of your enterprise
- Setting up and configuring Enterprise Information Portal with your content servers

See the Enterprise Information Portal online help for details about how to perform these system administration tasks. See *Managing Enterprise Information Portal* for a discussion of concepts regarding these tasks.

Understanding Enterprise Information Portal machine types

It is essential that you understand the Enterprise Information Portal machine types as part of your planning task. Enterprise Information Portal offers three machine types that you can install and customize according your needs. Plan for and select the installation type that you need before you install Enterprise Information Portal. To understand how to select a configuration using these machines types, see “Choosing a configuration for your Enterprise Information Portal” on page 12.

Servers

An Enterprise Information Portal server performs server functions. However, you can select to install the Enterprise Information Portal administration client and database to perform administration tasks on the same machine that you install other Enterprise Information Portal features. You can also install the sample client application and thin client samples on your server for verifying your environment, troubleshooting, and so on. Server function also includes the connectors needed to connect to content servers, information mining, and workflow processing.

Because of the multiple-tier architecture of Enterprise Information Portal, you can configure Enterprise Information Portal servers in many ways. It might, however, help to think of Enterprise Information Portal servers as being multiple types.

Administration

The administration components of Enterprise Information Portal are the administration client and database.

RMI RMI enables you to create Java applications that can communicate and pass objects to other Java applications over a network.

The RMI components of Enterprise Information Portal allow a client to call content server connectors on an RMI server, so that the necessary connectors can be shared. The benefit of RMI is that you can centralize the content server connectors on RMI servers and then configure your clients to make requests to the RMI servers.

You do not need the local content server connectors on your clients, but you do need the remote connectors. Remote connectors are always installed. If you write your own client application to work with Enterprise Information Portal and you want to take advantage of RMI, your client application must be written in Java.

Web Web components support a thin client, the HTTP protocol, and basic Web functions such as page retrieval. You can use the Enterprise Information Portal thin client samples with this support.

Workflow

Workflow components support Enterprise Information Portal workflow feature. The workflow feature requires IBM MQSeries and IBM MQSeries Workflow.

Clients

Enterprise Information Portal supports two types of clients as part of its solution.

Thin client

A thin client uses a Web browser that supports either a Java applet or an application with HTML output using a Web Application Server. You can use and modify the thin client samples of Enterprise Information Portal for a thin client.

The thin client samples allow you to quickly and easily deploy a large number of clients through a Web interface. The thin client samples are useful for production tasks that require a large number of clients.

Written in HTML and JSPs, the thin client samples are a set of files that you install on a Web server. Users then use a Web browser to perform a single search that can retrieve and display documents and content from multiple content servers.

You can write your own thin clients or JSP or servlet applications to work with Enterprise Information Portal. You can use the sample JSPs as guidelines. Note that the sample JSPs are not servlet applications.

Desktop client

Enterprise Information Portal includes a sample client application, which provides an interface for users to do federated searches across multiple content servers. The sample client application was built by IBM using the JavaBeans provided in the Enterprise Information Portal federated access toolkit and is launched from a Windows desktop.

You can write your own clients to work with Enterprise Information Portal. See the *Application Programming Guide* and online API reference for details.

Development workstation

The development workstation has an Enterprise Information Portal system on a single workstation. The development workstation performs both client and server functions, and requires more prerequisites. It is useful for demonstrating Enterprise Information Portal features, for learning how to use the product, and for developing Enterprise Information Portal applications. The connector toolkits and sample programs are installed on the development workstation. You can select to install all of the Enterprise Information Portal components and features.

Chapter 3. Enterprise Information Portal requirements

This chapter describes the Enterprise Information Portal hardware and software that are required for installing and running Enterprise Information Portal. The hardware requirements reflect suggested minimum requirements to accommodate the files that are installed with Enterprise Information Portal components and the resource needed for activities such as swapping and paging. These requirements are given for Enterprise Information Portal components only, and should be considered in addition to the requirements of the operating system and of other prerequisite software. Faster processors or multiple processors might be required based on workload.

For all Enterprise Information Portal components, a CD or DVD drive is required for installation.

Server prerequisites

This section describes the minimum and recommended prerequisite hardware and software for the Enterprise Information Portal servers.

Full server

You can configure a one server to handle all functions for Enterprise Information Portal.

Table 2 and Table 3 on page 22 list the minimum and recommended prerequisites for the Enterprise Information Portal full server.

Table 2. Full server hardware

Category	Minimum hardware	Recommended hardware
Processor	400 MHz Intel Pentium® II (or equivalent)	800 MHz Intel Pentium III (or equivalent). Faster processors or multiple processors might be required based on workload.
RAM	256 MB	512 MB
Storage	<ul style="list-style-type: none">• 250 MB swap space• 120 MB install space• 10 MB temporary space per user Total of 370 MB + 10 MB of unused disk space per user	Same

Table 2. Full server hardware (continued)

Category	Minimum hardware	Recommended hardware
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 3. Full server software

Category	Minimum software	Recommended software
Operating System	Windows	Same
Network support	Microsoft® Networking Services	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none">• Netscape 3.0 or later• Microsoft Internet Explorer 2.0 or later	Same

Administration server

You can configure a server to handle all administration services. To do this, you can install the Enterprise Information Portal database and the Enterprise Information Portal administration client on the same server. The Enterprise Information Portal database must be installed on Windows NT or Windows 2000. See “Enterprise Information Portal administration database prerequisites” on page 28 and “Enterprise Information Portal administration client prerequisites” on page 29 for more information on the requirements for the Enterprise Information Portal database and the Enterprise Information Portal administration client.

Table 4 and Table 5 on page 23 list the minimum and recommended prerequisites for a server that handles Enterprise Information Portal administration services.

Table 4. Administration server hardware

Category	Minimum hardware	Recommended hardware
Processor	200 MHz Intel Pentium II (or equivalent)	500 MHz Intel Pentium III (or equivalent)
RAM	64 MB	128 MB

Table 4. Administration server hardware (continued)

Category	Minimum hardware	Recommended hardware
Storage	<ul style="list-style-type: none"> • 100 MB swap space • 60 MB install space Total of 160 MB of unused disk space	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 5. Administration server software

Category	Minimum software	Recommended software
Operating System	Windows	Same
Network support	Microsoft Networking Services	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same

RMI server

You can configure a server to handle RMI services. An Enterprise Information Portal RMI server can be installed on Windows or AIX.

Table 6, Table 7 on page 24, and Table 8 on page 24 list the minimum and recommended prerequisites for an Enterprise Information Portal RMI server.

Table 6. RMI server hardware — Windows

Category	Minimum hardware	Recommended hardware
Processor	200 MHz Intel Pentium II (or equivalent)	500 MHz Intel Pentium III (or equivalent) A faster processor, or multiple processors, might be required depending on workload.
RAM	256 MB	512 MB

Table 6. RMI server hardware — Windows (continued)

Category	Minimum hardware	Recommended hardware
Storage	<ul style="list-style-type: none"> • 250 MB swap space • 100 MB install space • 10 MB temporary space per user <p>Total of 350 MB + 10 MB of unused disk space per user</p>	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 7. RMI server hardware — AIX

Category	Minimum hardware	Recommended hardware
Processor	300 MHz IBM RS/6000® (or equivalent)	600 MHz IBM RS/6000 (or equivalent). A faster processor, or multiple processors, might be required depending on workload.
RAM	128 MB	256+ MB
Storage	<ul style="list-style-type: none"> • 100 MB install space • 50 MB temporary space per user <p>Total of 100 MB + 50 MB of unused disk space per user</p>	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 8. RMI server software

Category	Minimum software	Recommended software
Operating System	Windows Also runs on AIX 4.3.3	Same
Network support	Microsoft Networking Services (or AIX services)	Same

Table 8. RMI server software (continued)

Category	Minimum software	Recommended software
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same

Web server

You can configure a server to handle Web services to take advantage of the Enterprise Information Portal thin client samples and the Information Mining feature.

Table 9, Table 10 on page 26, and Table 11 on page 26 list the minimum and recommended prerequisites for the Enterprise Information Portal Web server.

Table 9. Web server hardware — Windows

Category	Minimum hardware	Recommended hardware
Processor	200 MHz Intel Pentium II (or equivalent)	500 MHz Intel Pentium III (or equivalent)
RAM	256 MB	512 MB
Storage	<ul style="list-style-type: none"> • 100 MB swap space • 30 MB install space • 10 MB temporary space per user Total of 130 MB + 10 MB of unused disk space per user	Same
Virtual Memory	500–900 MB (for WebSphere Application Server)	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA and 24 bit color graphic support. Do not recommend using high color option.

Table 10. Web server hardware — AIX

Category	Minimum hardware	Recommended hardware
Processor	600 MHz IBM RS/6000 (or equivalent)	600 MHz IBM RS/6000 (or equivalent). A faster processor, or multiple processors, might be required depending on workload.
RAM	256+ MB	512+ MB
Storage	<ul style="list-style-type: none"> • 30 MB install space • 10 MB temporary space per user <p>Total of 30 MB + 10 MB of unused disk space per user</p>	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA and 24 bit color graphic support. Do not recommend using high color option.

Table 11. Web server software

Category	Minimum software	Recommended software
Operating System	Windows Also runs on AIX 4.3.3	Same
Network support	Microsoft Networking Services (or AIX services)	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same
Web Application server software	<ul style="list-style-type: none"> • IBM WebSphere Application Server (WAS) Version 3.5 Standard Edition (included) • A Web server supported by WAS such as IBM HTTP Server, Apache, Microsoft IIS, or Netscape Enterprise Server 	<ul style="list-style-type: none"> • IBM WebSphere Application Server (WAS) Version 3.5 Advanced Edition • Same

Development workstation prerequisites

For Enterprise Information Portal development workstation, you install all the required components on the content server. If you want to write a custom Enterprise Information Portal client, Table 12, Table 13, and Table 14 on page 28 list the minimum and recommended prerequisites for a development environment. You can set your development environment as necessary.

Table 12. Development workstation hardware — Windows

Category	Minimum hardware	Recommended hardware
Processor	200 MHz Intel Pentium II (or equivalent)	400 MHz Intel Pentium II (or equivalent)
RAM	64 MB	128 MB
Storage	<ul style="list-style-type: none">• 100 MB swap space• 120 MB install space• 5 MB temporary space per user Total of 225 MB + 5 MB of unused disk space per user	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 13. Development workstation hardware — AIX

Category	Minimum hardware	Recommended hardware
Processor	266 MHz IBM RS/6000 (or equivalent)	300 MHz IBM RS/6000 (or equivalent)
RAM	48 MB	64 MB
Storage	<ul style="list-style-type: none">• 120 MB install space• 5 MB temporary space per user Total of 120 MB + 5 MB of unused disk space per user	Same
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA

Table 14. Development workstation software

Category	Minimum software	Recommended software
Operating System	Windows Also runs on AIX 4.3.3	Same
Network support	Microsoft Networking Services (or AIX services)	Same
For application development using the Java connector APIs	Java 2 SDK, Standard Edition, Version 1.2.2 (included)	Same
For application development using the C++ and ActiveX connector APIs	<ul style="list-style-type: none"> • Microsoft Visual C++ Version 6.0 • IBM C/C++ Compiler for AIX Version 3.6.6.1 as part of IBM VisualAge® C++ Professional for AIX Version 4.0 	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same

Enterprise Information Portal administration database prerequisites

You store federated search templates, user access, and content server information in the Enterprise Information Portal database. You also store the data from your workflow processes in the database. Table 15 lists the minimum and recommended software prerequisites for the Enterprise Information Portal database.

Table 15. Enterprise Information Portal database software

Category	Minimum software	Recommended software
Operating System	Windows NT or Windows 2000	Same
Database	DB2 Universal Database (UDB) Version 6.1 Enterprise Edition, with all service levels applied	DB2 Universal Database (UDB) Version 7.1 Enterprise Edition (included)
Network support	<ul style="list-style-type: none"> • Transport network services supported by the database • Microsoft Networking Services 	Same

Enterprise Information Portal administration client prerequisites

You use the Enterprise Information Portal administration client to create federated search templates, inventory content servers, define users and access control, and manage workflow processes. Table 16 lists the minimum and recommended software prerequisites for the Enterprise Information Portal administration client.

Table 16. Enterprise Information Portal administration client software

Category	Minimum software	Recommended software
Operating System	Windows	Same
Network support	Microsoft Networking Services	Same
Additional software	Java 2 SDK, Standard Edition, Version 1.2.2 (included)	Same

Thin client prerequisites

You can create your own thin client to work with Enterprise Information Portal or use the Enterprise Information Portal thin client samples to run federated searches. The prerequisites for using a thin client with Enterprise Information Portal are an operating system and a Web browser. See the product documentation for your Web browser for hardware requirements.

Desktop client prerequisites

You can create your own desktop client to work with Enterprise Information Portal or use the Enterprise Information Portal sample client application to run federated searches. Table 17 and Table 18 on page 30 list the minimum and recommended prerequisites for the Enterprise Information Portal desktop client.

Table 17. Enterprise Information Portal desktop client hardware

Category	Minimum hardware	Recommended hardware
Processor	200 MHz Intel Pentium II (or equivalent)	400 MHz Intel Pentium III (or equivalent)
RAM	64 MB	128 MB
Storage	<ul style="list-style-type: none">• 100 MB swap space• 60 MB install space• 30 MB temporary space Total of 190 MB of unused disk space	Same

Table 17. Enterprise Information Portal desktop client hardware (continued)

Category	Minimum hardware	Recommended hardware
Network support	Network adapter	Same
Display and adapter	800 x 600 x 256 VGA	1024 x 768 x 256 VGA
Other required hardware	Mouse or other pointer device	Same

Table 18. Enterprise Information Portal desktop client software

Category	Minimum software	Recommended software
Operating System	Windows	Same
Network support	Microsoft Networking Services	Same
Additional software	Java 2 SDK, Standard Edition, Version 1.2.2 (included)	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same

Enterprise Information Portal Information Mining prerequisites

The Enterprise Information Portal Information Mining feature enables your users to do extensive text searches, including the Web. Table 19 lists the minimum and recommended prerequisites for the Enterprise Information Portal Information Mining feature. To take advantage of the Information Mining sample JSPs, it is recommended that you install the Information Mining feature on a Web server.

Table 19. Enterprise Information Portal Information Mining software

Category	Minimum software	Recommended software
Database	DB2 UDB Version 6.1 Version 6.1 Enterprise Edition or Workgroup, with all service levels applied	DB2 UDB Version 7.1 Version 6.1 Enterprise Edition or Workgroup (included)
Additional software	Java 2 SDK, Standard Edition, Version 1.2.2 (included)	Same

Table 19. Enterprise Information Portal Information Mining software (continued)

Category	Minimum software	Recommended software
Web server	To use the provided JavaServer Pages (JSPs): <ul style="list-style-type: none"> • IBM WebSphere Application Server (WAS) Version 3.5 Standard Edition (included) • A Web server supported by WAS such as IBM HTTP Server, Apache, Microsoft IIS, or Netscape Enterprise Server 	Same
Web browser	Frames-capable Web browser: <ul style="list-style-type: none"> • Netscape 3.0 or later • Microsoft Internet Explorer 2.0 or later 	Same

Enterprise Information Portal workflow prerequisites

The Enterprise Information Portal workflow feature enables workflow management in your enterprise. Table 20 lists the prerequisites for the Enterprise Information Portal workflow feature.

Table 20. Enterprise Information Portal workflow software

Category	Minimum software	Recommended software
Database	DB2 UDB Version 6.1 Version 6.1 Enterprise Edition, with all service levels applied	DB2 UDB Version 7.1 Version 6.1 Enterprise Edition (included)
Additional IBM products	<ul style="list-style-type: none"> • IBM MQSeries Version 5.2 • IBM MQSeries Workflow Version 3.2.2 	Same
Web browser	Microsoft Internet Explorer Version 5.0 (to display online help)	Same

Text search prerequisites

You can use the Content Manager Text Search feature to automatically index, search, and retrieve documents stored in Content Manager. Users can locate documents by searching for words or phrases. Table 21 on page 32 lists the minimum and recommended prerequisites for this feature.

Table 21. Text search software

Category	Minimum software	Recommended software
IBM products	Content Manager for Multiplatforms Version 6.1 Text Search Server Release 6 (included)	Same

Image search prerequisites

This feature uses IBM QBIC (query by image content) technology with which you can search for objects by certain visual properties, such as color and texture. Table 22 lists the minimum and recommended prerequisites for this feature.

Table 22. Image search software

Category	Minimum software	Recommended software
IBM products	Content Manager for Multiplatforms Version 6.1 QBIC Image Search Version 5.1 (included)	Same

Enterprise Information Portal supported content servers

Enterprise Information Portal provides connectors for certain content server types. Table 23 indicates the required software versions for each supported content server.

Table 23. Software requirements for supported content servers

Supported content server connector	Required software versions for content servers
Content Manager	Content Manager for Multiplatforms Version 6.1

Table 23. Software requirements for supported content servers (continued)

Supported content server connector	Required software versions for content servers
Content Manager for AS/400 (VisualInfo for AS/400)	<ul style="list-style-type: none"> • Content Manager for AS/400 client, or run-time environment, Version 4.1 or 4.3. The client, or runtime environment, and server must be the same release level; for example, both the server and client, or runtime environment, must be Version 4.3. • The Content Manager for AS/400 servers must be running AS/400 Version 4.1 or 4.3. <p>Important: When you install the Content Manager for AS/400 client, or runtime environment, you are prompted to select the release level of the AS/400 server. Ensure you select the correct release level for your AS/400 server. If the wrong level is selected, you cannot connect to the AS/400 server.</p>
Domino.Doc	<ul style="list-style-type: none"> • Domino.Doc servers must have the following software installed: <ul style="list-style-type: none"> – Domino.Doc Server, Version 2.5a – Domino.Doc Desktop Enabler, Version 2.5a
Extended Search	Domino Extended Search Version 3.0
Content Manager ImagePlus for OS/390	<ul style="list-style-type: none"> • The Content Manager ImagePlus for OS/390 runtime environment • The Content Manager ImagePlus for OS/390 servers must have the following software installed: <ul style="list-style-type: none"> – IP/390 FAF Version 3 Release 1 – IP/390 ODM Version 3 Release 1
Content Manager OnDemand	Content Manager OnDemand for Multiplatforms Version 2.2
RDB connectors	<ul style="list-style-type: none"> • One of the following: <ul style="list-style-type: none"> – DB2 UDB Version 6.1 or later (DB2 UDB Version 7.1 included) – JDBC driver (Java only) – ODBC Version 3.0 (C++ only) – DB2 DataJoiner Version 2.1.1
DB2 Data Warehouse Manager Information Catalog Manager	<ul style="list-style-type: none"> • One of the following: <ul style="list-style-type: none"> – DB2 UDB Version 7.1 with Data Warehouse Manager Information Catalog Manager installed – Visual Warehouse Version 5.2

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Chapter 4. Installing Enterprise Information Portal prerequisites on Windows

This chapter describes how to install Enterprise Information Portal prerequisite software on Windows. If you are installing Enterprise Information Portal components on AIX, see “Chapter 7. Installing Enterprise Information Portal components on AIX” on page 67.

If you used Enterprise Information Portal Version 6.1:

1. If you want to upgrade your servers or migrate your data from your Enterprise Information Portal Version 6.1 database to Version 7.1, see “Appendix D. Upgrading and migrating Enterprise Information Portal Version 6.1 to Enterprise Information Portal Version 7.1” on page 85.
2. You must remove your Enterprise Information Portal Version 6.1 before installing Enterprise Information Portal Version 7.1: Click **Start** → **Programs** → **Enterprise Information Portal Version 6.1** → **Uninstall** from the Windows taskbar.

DB2 UDB is a prerequisite for Enterprise Information Portal and must be installed before running the Enterprise Information Portal installation on your server or workstation. DB2 UDB Version 7.1 is included with Enterprise Information Portal Version 7.1. For further information about DB2, see the *IBM DB2 Universal Database for Windows NT: Quick Beginnings*.

If you want to install the workflow feature of Enterprise Information Portal, then MQSeries and MQSeries Workflow are prerequisites that you must install before installing Enterprise Information Portal. For further information about MQSeries, see the *MQSeries for Windows NT V5.1 Quick Beginnings* online document, located as postscript (*.PS) and HTML files on the *IBM MQSeries for Windows NT, Version 5.1* CD-ROM, in the directory BOOKS.

If you want to use the Enterprise Information Portal Information Mining feature, you must install the WebSphere Application Server.

The following sections provide the minimum steps needed to install DB2, WebSphere Application Server, and MQSeries.

Installing DB2

For specific information about how to install DB2, see the *IBM DB2 Universal Database for Windows NT: Quick Beginnings*.

Requirement: You can run Enterprise Information Portal with DB2 UDB Version 6.1. If you install DB2 UDB Version 6.1, you must also install DB2 Universal Database Version 6.1 CSD04.

Use the following options when installing DB2 UDB Version 7.1:

1. Insert the DB2 UDB CD into the CD drive.
2. When the **DB2 Universal Database Enterprise Edition** installation launchpad is displayed, select **Install**. The installation process starts and closes the window. The Select Products window opens.
3. Select **DB2 Enterprise Edition** and click **Next**. The Select Installation Type window opens.
4. Select **Typical** and click **Next**. The Choose Destination Location window opens.
5. Keep the default destination and drive. Click **Next**. The Enter Username and Password for Control Center Server window opens.
6. Enter the new user ID and password that gives you administration rights.
7. Select **Use the same values for the remaining DB2 username and password settings**. Click **Next**. The Start Copying Files window opens, which provides details about the selections you have made.
8. Click **Install**. Program files for DB2 are copied to your workstation.
9. When the installation is completed, the Setup Complete window opens.
10. Select **Yes, I want to restart my computer now** and then click **Finish**. Your system restarts, activating the changes made by the installation program.
11. After your system has restarted, a DB2 First Steps window opens. Click **Create the sample database**. The First Steps Create Sample Databases window opens.
12. Select **DB2 UDB sample** and click **OK** to create the sample database.
13. After the database has been created, close all of the open windows.

Use the following options when installing DB2 UDB Version 6.1:

1. Insert the DB2 UDB CD into the CD drive.
2. In the Select Products window, select **DB2 Enterprise Edition** and click **Next**. The Select Installation Type window opens.
3. Select **Typical** and click **Next**. The Enter Username and Password for Control Center Server window opens.
4. Enter the new user ID and password that gives you administration rights. Click **Next**.
5. The Start Copying Files window opens, which provides details about the selections you have made.

6. Click **Install**. Program files for DB2 are copied to your workstation.
7. When the installation is completed, select **Yes, I want to restart my computer now** and then click **Finish**. Your system restarts, activating the changes made by the installation program.
8. After your system has restarted, a DB2 First Steps window opens. Click **Create the sample database**. An information window opens. Click **Yes** to continue creating the sample database.
9. After the database has been created, install DB2 Universal Database Version 6.1 CSD04.

To install DB2 Universal Database Version 6.1 CSD04:

1. Insert the DB2 UDB Version 6.1 CSD04 CD into the CD drive.
2. A Warning window might display informing you that DB2 is currently running. Click **Yes** to close these processes.
3. In the Choose Destination Location window, click **Next** to keep the default location. The Start Copying Files window opens.
4. Click **Next**. Program files for DB2 are copied to your workstation.
5. When the installation is completed, select **Yes, I want to restart my computer now** and then click **Finish**. Your system restarts, activating the changes made by the installation program.

Installing and configuring WebSphere Application Server

This section describes how to install the IBM WebSphere Application Server. If you want to use the thin client samples or the Information Mining JSPs with Enterprise Information Portal, you need to install the WebSphere Application Server. The IBM HTTP Web Server is automatically installed when you install the WebSphere Application Server.

Installing WebSphere Application Server

To install the WebSphere Application Server, complete the following steps:

1. Insert the CD-ROM labeled **WebSphere Application Server Version 3.5** into your CD-ROM drive.
2. If the installation does not start automatically:
 - a. Click **Start** → **Run** from the Windows taskbar.
 - b. Enter `x:\setup.exe` in the **Open** field, where `x` is the drive letter for your CD-ROM drive.
 - c. Click **OK**.
3. When the installation program starts, a Language Options window opens. Select your language.
4. The Welcome window opens. Click **Next**. The Install Options window opens.

5. Select **Quick Install** and then click **Next**. The Security/Database Options window opens.
6. Enter the new user ID and password that gives you administration rights. For example, enter db2admin for the user ID and password for the password.
Confirm the password that you entered. The Select Program Folder window opens.
7. Select the default program folder provided and click **Next** to begin copying files to your workstation.
8. When the installation is completed, select **Yes, I want to restart my computer now** and then click **Finish**. Your system restarts, activating the changes made by the installation program.
9. After your system has restarted, several windows might open automatically. Close these windows.

Configuring WebSphere Application Server

After you install the WebSphere Application Server, you can proceed to installing Enterprise Information Portal and the thin client samples. When you have finished installing Enterprise Information Portal and the thin client samples, you need to configure the WebSphere Application Server to use with the Enterprise Information Portal thin client samples. For more information see “Configuring thin client samples” on page 50.

Installing MQSeries

The following instructions describe how to install MQSeries, if you want to use the Enterprise Information Portal workflow feature.

1. Insert the CD-ROM labeled **IBM MQSeries for Windows NT** into your CD-ROM drive. If the installation does not start automatically:
 - a. Click **Start** → **Run** from the Windows taskbar.
 - b. Enter `x:\setup.exe` in the **Open** field, where *x* is the drive letter for your CD-ROM drive.
 - c. Click **OK**.

The MQSeries for Windows - Language Selection window opens.

2. Select the language **English** and click **OK**. The Setup window opens, then the Welcome window.
3. Click **Next**. The Read License Conditions window opens.
4. Click **Yes** to accept the terms of the License Agreement.

Requirement: Certain prerequisite software must exist on your workstation for MQSeries to install correctly. If:

- a. The prerequisite software required by MQSeries is not already installed on your workstation, the Software Requirements window

opens displaying a list of prerequisite software items. If you need any of these items, follow the instructions given in the window to install them. After installing prerequisite software, you must restart your system and the MQSeries installation.

- b. The prerequisite software is already installed on your workstation, after the installation program has checked the prerequisite software, the Choose Installation Folders window opens.
5. To accept the default MQSeries installation folders, click **Next**. If you do not want to use the defaults, change them and then click **Next**. The Setup Type window opens.
6. Click **Typical** and then click **Next**. The Set Up Default Configuration window opens.
7. Leave the **Set up a default configuration** check box selected and click **Next**. The Select Options window opens.
8. Leave both check boxes selected in the Select Options window and click **Next**. The Join Default Cluster window opens.
9. Click **Yes, make it the repository for the cluster** and then click **Next**. The Repository Location window opens.
10. Click **Next**. The Select Program Folder window opens.
11. Click **Next**. A folder called **IBM MQSeries** is added to the Windows **Start** menu under **Programs**. The Ready to Copy Files window opens.
12. Click **Next**. Program files are copied to the MQSeries installation directory. This might take some time after which the Setup Complete window opens.
13. Click **Finish**. MQSeries is now installed and is set to start automatically as a Windows NT service.

Installing and configuring MQSeries Workflow

After you have installed MQSeries, you must install MQSeries Workflow to use the Enterprise Information Portal workflow feature.

Recommendation: If you installed the WebSphere Application Server (for using with the thin client samples or the Information Mining feature), it is recommended that you do not install MQSeries Workflow on the same workstation as WebSphere Application Server.

1. Ensure that your workstation meets the prerequisites listed in Table 20 on page 31.
2. Ensure that you have installed MQSeries; see “Installing MQSeries” on page 40.
3. Create a temporary folder on your workstation for the MQSeries Workflow installation files; for example, `c:\temp\cmbwf`.

4. Insert the Enterprise Information Portal CD in the CD drive.
5. Copy the MQSeries Workflow installation and configuration files from the ENU\WFInstall directory on the Enterprise Information Portal CD to the temporary directory.
6. Open a command window and change to the temporary directory that you created in step 3 on page 41.
7. When you have finished copying the installation and configuration files, remove the Enterprise Information Portal CD in the CD drive and insert the MQSeries Workflow CD in the CD drive.
8. If the MQSeries Workflow installation begins automatically, close the installation window.
9. To start the MQSeries Workflow installation, enter:

```
cmbwinstall <drive> <temporary directory>
```

where drive is the name of the CD drive and temporary directory is the name of the temporary directory where you copied the MQSeries Workflow installation and configuration files in step 3 on page 41. For example, `cmbwinstall g: c:\temp\cmbwf`.

If you are installing from a LAN, use the LAN alias instead of the name of the CD drive.

10. After the installation is complete, the message MQSeries Workflow installation complete appears.
11. When you finish the installation program, restart your workstation.

To configure MQSeries Workflow, complete the following steps.

1. Open a command window and set the directory to the temporary directory that you created in the previous task.
2. Enter:

```
cmbwconfig
```

After the configuration is complete, start the MQSeries Workflow server by entering: `cmbwstart` at a command prompt. Two windows open for the MQSeries Workflow server. Leave these command windows open to continue running the server.

To configure your workflow server as an RMI server, see “Configuring Enterprise Information Portal workflow with an RMI server” on page 62.

Chapter 5. Installing and configuring Enterprise Information Portal server components on Windows

This chapter describes how to install Enterprise Information Portal server components on Windows. For instructions about installing AIX components, see “Chapter 7. Installing Enterprise Information Portal components on AIX” on page 67.

Table 24 helps you quickly find installation information in this chapter.

Table 24. Where to find installation information.

To find information about:	See:
Installing Enterprise Information Portal server components	“Installing Enterprise Information Portal server components”
Configuring Enterprise Information Portal server components	“Configuring Enterprise Information Portal server components” on page 46
Configuring RMI servers	“Configuring an RMI server” on page 50
Verifying your Enterprise Information Portal installation	“Verifying Enterprise Information Portal administration server installation” on page 54
Installing an Enterprise Information Portal development workstation and toolkit	“Installing the development toolkit” on page 63
Installing Enterprise Information Portal Information Mining and workflow features	“Installing and configuring Information Mining and workflow features” on page 56

Before you install

See “Chapter 3. Enterprise Information Portal requirements” on page 21 for the list of the software prerequisites for each supported server component. Make sure you have the appropriate prerequisite software installed before installing the Enterprise Information Portal server components.

Installing Enterprise Information Portal server components

This section describes how to install the Enterprise Information Portal server components. For a description of these components, see “Chapter 1. Introducing Enterprise Information Portal” on page 3.

1. Ensure that your workstation meets the prerequisites in “Server prerequisites” on page 21.

2. Ensure that you understand how you want your server components to be configured (for example, Administration server, RMI server, and so on). See “Chapter 2. Planning your Enterprise Information Portal system” on page 11 for how to plan your configuration for Enterprise Information Portal.
3. Insert the Enterprise Information Portal CD in the CD drive.
4. If the installation does not start automatically:
 - a. Click **Start** → **Run** on the Windows taskbar. The Run window opens.
 - b. In the **Open** field, type:
D:\WIN\ENU\Setup.exe

where D is your CD drive and ENU is the 3-character abbreviation for your workstation’s locale; for example, ENU, JPN, SVE, PTB, NOR, and so on.
 - c. Click **OK**.
5. In the Select Machine Type window, select **Enterprise Information Portal Server**.
6. In the Component Selection window:
 - a. Under **Components**, select the necessary components based on the configuration you want for your server.
 - b. Under **Subcomponents**, select all necessary subcomponents.
 - c. Click **Next** to continue the installation program.
7. When you finish the installation program, restart your workstation.

Restriction: If you choose to install Net.Data, when you are prompted to restart your workstation after the Net.Data installation, select **No**. The Enterprise Information Portal installation program continues. If you select **Yes** to restart your workstation after the Net.Data installation, the entire Enterprise Information Portal installation stops.

Installing Enterprise Information Portal administration components

This section describes the administration components you need to install if you want to administer federated searches, information mining, and workflow processing. You can install two subcomponents:

- Enterprise Information Portal database
- Enterprise Information Portal administration client

You can install both the administration database and the administration client on the same workstation. You can also install these components on separate workstations.

Select **Server** on the Select Machine Type window.

Installing the Enterprise Information Portal database

Requirements:

- You must install DB2 UDB before you install the Enterprise Information Portal database. See “Chapter 4. Installing Enterprise Information Portal prerequisites on Windows” on page 37 for instructions about how to install DB2 UDB for an Enterprise Information Portal system.
 - You must install the Enterprise Information Portal database on Windows NT or Windows 2000.
 - You must install the Enterprise Information Portal database using your DB2 administrator user ID.
1. In the Select Machine Type window, select **Enterprise Information Portal Server**.
 2. In the Component Selection window:
 - a. Under **Components**, select **Administration**.
 - b. Under **Subcomponent**, select **Administration database**.
 - c. After selecting the subcomponents you want, click **Next** to continue the installation program.
 3. The installation program creates a DB2 UDB database. When you are prompted, enter one to eight alphanumeric characters as your database name, for example, cmbdb, and a drive where you want to create the database.

If you do not enter a name, the database name defaults to cmbdb and the drive defaults to the drive on which DB2 is installed. The database name is recorded in the cmbds.ini file in the cmbroot directory.

Record the name of your Enterprise Information Portal database below for reference when installing the Enterprise Information Portal client.

Installing the Enterprise Information Portal administration client

You can install the Enterprise Information Portal administration client on Windows.

1. In the Select Machine Type window, select **Enterprise Information Portal Server**
2. In the Component Selection window:
 - a. Under **Components**, select **Administration**.
 - b. Under **Subcomponent**, select **Administration client**.
 - c. After selecting the subcomponents you want, click **Next** to continue the installation program.

Installing Enterprise Information Portal connectors

You can install the content server connectors on an RMI server, so that all clients can share the connectors. Installing the content server connectors installs the Java classes necessary to use the workstation as an RMI server.

If you are not using an RMI server, you must install every necessary content server connector on every Enterprise Information Portal client workstation. For information about configuring Enterprise Information Portal, see “Choosing a configuration for your Enterprise Information Portal” on page 12.

1. In the Select Machine Type window, select **Enterprise Information Portal Server**
2. In the Component Selection window:
 - a. Under **Components**, select **Local connectors**.
 - b. Under **Subcomponent**, select the appropriate connectors.
 - c. After selecting the subcomponents you want, click **Next** to continue the installation program.

Installing the thin client samples for Web servers

The thin client samples run on a Web server and provide an HTML client that you can customize. To install the thin client samples:

1. In the Select Machine Type window, select **Enterprise Information Portal Server**
2. In the Component Selection window:
 - a. Under **Components**, select **Thin Client Sample**.
 - b. Click **Next** to continue the installation program.

Configuring Enterprise Information Portal server components

This section describes how to configure the Enterprise Information Portal server components.

Configuring your Enterprise Information Portal database

This section describes considerations for configuring your Enterprise Information Portal database.

If you are using the Enterprise Information Portal or a Java-based client:

The database workstation does not require any further configuration.

If you are using a custom C++-based client: Ensure that you create a Windows user ID on the database workstation to match the client workstation Windows user ID. You must also install DB2 CAE on each client machine.

Tip: As your needs grow, you can install additional Enterprise Information Portal databases. These databases are independent of one another, and provide the benefits of scalability and increased security.

Start the Enterprise Information Portal database installation utility by clicking **Start** → **Programs** → **IBM Enterprise Information Portal** → **Database Install**. The database installation utility generates a log file that contains status messages. The log file, `cmbdb.log`, is located in the directory `cmbroot\Config`.

Creating a local connection: You can create a local connection to the Enterprise Information Portal database when your Enterprise Information Portal database is not on the same workstation as the administration client. Creating a local connection to the database improves performance. You need to create only a local connection if you did not select the Enterprise Information Portal database at the time of installation. To create a local connection to the database, complete the following steps on the workstation where the administration client is installed:

1. Ensure that the `cmbds.ini` file has the following line for each Enterprise Information Portal database:

```
DATASOURCE=cmbdb;REPOSITORY=DB2
```

where `cmbdb` is the name of your Enterprise Information Portal database.

2. Install the DB2 Client Application Enabler to connect to the remote Enterprise Information Portal database on the Windows NT or Windows 2000 workstation.

Configuring the administration client

The `cmbfestart71.bat` file is a file that is installed with every administration client and is used to start the administration client. If your `cmbcs.ini` or `cmbclient.ini` are not in the `cmbroot` directory, you must edit `cmbfestart71.bat` before you start the administration client. This section describes the parameters in `cmbfestart71.bat` and how to set them.

To change the parameters:

1. Open `cmbfestart71.bat` in a text editor.
2. Locate:

```
REM * start Enterprise Information Portal Administration
%JAVAROOT%\bin\java -cp %CLASSPATH% -Xms16M fedsa.client.FeCCMain
file:///CMBROOT%/cmbcs.ini file:///CMBROOT%/cmbclient.ini >ccadmin.log
```

3. In the following segments:

```
file:///CMBROOT%/cmbcs.ini
file:///CMBROOT%/cmbclient.ini
```

replace %CMBROOT% with the fully qualified directory name where the cmbcs.ini or cmbclient.ini file is located, or to the address where the file is located. For example, http://eipserver/eip/cmbcs.ini.

Configuring connectors

Tip: When you install a content server connector or toolkit with connector, dynamic link library (DLL) files are installed for debugging each selected subcomponent. You can safely remove the DLL files if you do not need them for debugging when developing or running your applications. To remove the files:

1. Open a command window and set the current directory to cmbroot\DLL.
2. Use the erase command to remove the DLL files:

```
erase *716d.dll
```

Important: Ensure that you erase only the files with d between 716 and .dll. There are required DLL files that have similar names.

Connecting to multiple Content Manager for AS/400 servers

If you use more than one AS/400 server, you must define the additional servers in the network table. The network table is located in the installation directory cmbroot. The network table file name is frnolint.

Configuring the Extended Search connector

If you use the Extended Search connector to communicate with an HTTP server, you might need to configure the connector to find the correct relative paths of CGI programs and servlets. If the relative paths for CGI programs and servlets on the HTTP server are different from \CGI-BIN or \SERVLET, you can create a configuration file, for example, desclient.cfg, by completing the following steps:

1. Set the directory to the directory in which your applications and samples are located.
2. Create a configuration file; for example, desclient.cfg. This file is not provided with Enterprise Information Portal.
3. Add the following lines to the desclient.cfg file:

```
/cgi-bin/desReflector.exe  
/servlet/ESAdmin
```

where *cgi-bin* and *servlet* are the directory paths on the HTTP server that support the Extended Search connector.

To configure an Extended Search connector for an RMI server:

1. Set the directory to the directory in which your applications and samples are located.
2. Create a configuration file, for example, desrmi.cfg. This file is not provided with Enterprise Information Portal.

3. Add the following lines to the `desrmi.cfg` file:

```
# DES rmi port information
dbrmi.port=20000
# DES rmi reference information
dbrmi.ref=EsDatabase
```

Accessing DB2 DataJoiner

If you want to use Enterprise Information Portal to access DB2 DataJoiner, ensure that for the database instance defined in DB2 UDB, the authentication method for Enterprise Information Portal is **server**.

Using tracing with Content Manager ImagePlus for OS/390

If you install the connector for Content Manager ImagePlus for OS/390, you can turn on tracing for ImagePlus for OS/390 by modifying the `eypapi.ini` file that is located in your `cmbrroot` directory.

The `eypapi.ini` file contains the following lines:

```
; Path where the IPFAF files are stored
;   (MUST NOT have a trailing '\')
; -- default is the <ROOT Directory>\
;
IPFAFPath=d:\cmbrroot
; Flag for Logging (EYPLmdd.LOG files)
; -- default is Logging OFF (0)
; -- 0 All Logging OFF
; -- 1 Log files created only error conditions logged
; -- 2 Log files created all conditions logged
;
Logging = 0

;-----
;
; Flag for Logging the FAF Parameters Types created by APIs
;   -- default is Logging OFF (0)
;   -- 0 Parameter types Not logged
;   -- 1 Log Faf Parameter Types
;
FafTypeLogs = 0
```

IPFAFPath

Specifies the directory where the logs are written. The log files are named:

```
EYPmdd.LOG
```

where *mdd* is the month and day the log was created.

Logging

Specifies when a log file is created.

0 Logging off. The default setting is 0.

1 Created log files contain only error conditions.

- 2 Created log files contain all conditions.

FafTypeLogs

Specifies logging for the FAF Parameter Types created by APIs.

- 0 Do not log parameter types; the default setting is 0/
- 1 Log FAF parameter types.

Configuring thin client samples

After you install Enterprise Information Portal and the thin client samples, you need to configure the WebSphere Application Server:

1. Ensure that the IBM WebSphere Application Server is not running.
2. Click **Start** → **Settings** → **Control Panel** on the Windows taskbar.
3. Double-click **Services** and ensure that the IBM WS AdminServer is stopped.
4. For configuration instructions, click **Start** → **Programs** → **Enterprise Information Portal** → **EIP Samples** → **Thin Client** to open `thinClientInstall.htm`.
5. After the documentation file opens in your Web browser, follow the configuration instructions.

Configuring an RMI server

After you install your server components, you must configure your RMI server, if you choose to have an RMI server. To configure the RMI server:

1. Set the directory to the directory where the `cmbregist71.bat` (or `cmbregist71.sh`) file *and* the policy file are located.

On Windows: Open `cmbregist71.bat` in a text editor.

On AIX: Open `/usr/lpp/cmb/bin/cmbregist71.sh` in a text editor.

2. You can change the port number in the following line, or accept the default port number, 1919:

```
set remotePort=1919
```

3. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %CLASSPATH% -ms16M -Djava.security.policy=.\policy  
-Djava.rmi.server.codebase=http:// com.ibm.mm.sdk.remote.DKRemoteMainImp  
%remotePort% 0 13 TS QBIC DL JDBC Fed V4 IP DD OD DES DB2 DJ IC
```

0 Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting for a single or master RMI server.

13 Change this number to match the number of server types that follow.

TS QBIC DL JDBC Fed V4 IP DD OD DES DB2 DJ IC

Are the server types supported by the RMI server. You can type the RMI server variables in any order, but you must type them exactly as they are listed in Table 25. Table 25 lists the RMI variables and when to set them.

Table 25. RMI server variables

RMI server variables	When to set
DES	You are accessing Domino Extended Search servers.
DL	You are accessing Content Manager servers.
Fed	Your Enterprise Information Portal database is installed on the RMI server.
IP	You are accessing Content Manager ImagePlus for OS/390 servers.
JDBC	Your Enterprise Information Portal database is installed on the RMI server.
DD	You are accessing Domino.Doc servers.
OD	You are accessing Content Manager OnDemand servers.
QBIC	You are accessing Content Manager servers that are configured with an image search server.
TS	You are accessing Content Manager servers that are configured with a text search server.
V4	You are accessing Content Manager for AS/400 servers.
DB2	You are accessing DB2 UDB servers.
DJ	You are accessing DB2 DataJoiner servers.
IC	You are accessing DB2 UDB Data Warehouse Center Information Catalog Manager using the Information Catalog connector.

4. After you change the variables in the file, ensure that the number you typed before the list of RMI server variables matches the number of server variables listed.
5. Save `cmbregist71.bat`.
6. Start the RMI server by running the `cmbregist71` command.

On Windows:

```
cmbregist71 hostname
```

where *hostname* is the name of the RMI server on which you are running the command.

On AIX:

```
| . /cmbregist71.sh hostname
```

where *hostname* is the name of the RMI server on which you are running the command. Make sure you use the period (.) and a blank space before the command name.

Configuring multiple RMI servers

You can configure Enterprise Information Portal with multiple RMI servers to distribute client requests. A group of RMI servers is called a *server pool*.

To set up an RMI server pool, you must designate one server as the master RMI server. The master server is registered with the RMI registry so that clients and other RMI servers in the server pool can connect to it. When a server pool member is registered with the master server, the master server adds the server pool member to a list.

Every client sends requests to the master server. The master server evenly delegates client requests to a member of the server pool. The server pool member services the client request. The master server services a connection only when all of the server pool members have reached their maximum number of connections.

For example, you start four RMI servers; one is a master server, and three are server pool members. The master server receives three client requests. The master server sends the first request to the first server, the second request to the second server, and the third request to the third server. The master server sends the fourth request to the first server, and the fifth request to the second server. If there is no limit on the number of connections, the cycle continues for as long as there are requests for servers.

Each member of the server pool and the master server must have at least one connector installed. Installing a connector from the Enterprise Information Portal Version 7.1 CD installs the RMI classes for connection.

The difference between a master RMI server and a server pool member is how their `cmbregist71.bat` files are set.

To configure additional RMI servers to be part of a server pool:

1. Ensure that you have installed the appropriate content server connectors on the RMI server.
2. Set the directory to the directory where the `cmbregist71.bat` *and* the `policy` file are located.
3. Open `cmbregist71.bat` in a text editor.
4. Locate the following lines written at the top of the file:

REM Note: To point to a master RMI server do the following instead
REM of the statement below
REM java -cp %classpath% -ms16M -Djava.rmi.server.hostname=<hostname>
-Djava.security.policy=.\policy -Djava.rmi.server.
codebase=http:// com.ibm.mm.sdk.remote.DKRemoteMainImp 1919 5
MasterRMIServer <MasterRMIServer hostname> 1922 5 DL TS QBIC JDBC Fed

5. Copy and paste the following line after the set remotePort=1919 statement:

```
java -cp %classpath% -ms16M -Djava.rmi.server.hostname=<hostname>  
-Djava.security.policy=.\policy -Djava.rmi.server.codebase=http://  
com.ibm.mm.sdk.remote.DKRemoteMainImp 1919 5  
MasterRMIServer <MasterRMIServer hostname> 1922 5 DL TS QBIC JDBC Fed
```

6. In the set remotePort statement:

```
set remotePort=1919
```

Change 1919 to an available port number.

7. Delete the following line:

```
%JAVAHOME%\jre\bin\java -cp %CLASSPATH% -ms16M -Djava.security.policy=.\policy  
-Djava.rmi.server.codebase=http://  
com.ibm.mm.sdk.remote.DKRemoteMainImp %remotePort%  
0 13 TS QBIC DL JDBC Fed V4 IP DD OD DES DB2 DJ IC
```

8. In the line that you copied and pasted from the top of the file, change the variables to match your configuration:

```
java -cp %classpath% -ms16M -Djava.rmi.server.hostname=<hostname>  
-Djava.security.policy=.\policy -Djava.rmi.server.codebase=http://  
com.ibm.mm.sdk.remote.DKRemoteMainImp 1919 5  
MasterRMIServer <MasterRMIServer hostname> 1922 5 DL TS QBIC JDBC Fed
```

1919 Change 1919 to the port number that the RMI server pool member is using; see step 6.

5 Change 5 to a number that represents the maximum number of connections that the RMI server can concurrently process. Note that this number automatically increases if the maximum number is reached. Type 0 to indicate there is no maximum number of connections for this RMI server pool member.

hostname

Change hostname to the host name of the RMI server pool member.

MasterRMIServer hostname

Change MasterRMIServer hostname to the host name of the RMI master server.

1922 Change 1922 to the port number that you set for the RMI master server; see step 2 on page 50.

5 Change this number to match the number of server types that follow.

DL TS QBIC JDBC Fed

Are the server types supported by the RMI pool member. You can type the RMI server variables in any order, but you must type them exactly as they are listed in Table 25 on page 51.

Table 25 on page 51 lists the RMI variables and when to set them.

9. Save `cmbregist71.bat`.
10. Ensure that the master RMI server is running.
Requirement: The server pool members attempt to connect to the master RMI server when they start, so you must start the master RMI server before starting the server pool members.
11. Start the RMI pool member by running the `cmbregist71` command.

On Windows:

```
cmbregist71 hostname
```

where *hostname* is the name of the RMI server on which you are running the command.

On AIX:

```
./cmbregist71.sh hostname
```

where *hostname* is the name of the RMI server on which you are running the command. Make sure you use the period (.) and a blank space before the command name.

Recommendation: If you configure multiple RMI servers, you should install the federated connector on only one RMI server in the server pool.

Tip: If you have a workstation with the resource, you can run multiple RMI servers on the same workstation, but you must copy the `cmbregist71.bat` file to a different name for one of the RMI servers. For example, run one RMI server by running `cmbregist71.bat` and the second by running `cmbregist2.cmd`.

Verifying Enterprise Information Portal administration server installation

This section describes how to test that the Enterprise Information Portal server has been properly installed by testing your connection with the provided DB2 UDB sample database.

Requirement: You must have installed the following software on your machine to complete this task:

- DB2 UDB
- Enterprise Information Portal administration client
- Enterprise Information Portal administration database

- Relational database connector

To establish a connection with the sample database and create an icon for it, complete the following steps:

1. Start the Enterprise Information Portal administration client. From the taskbar, click **Start** → **Programs** → **IBM Enterprise Information Portal** → **Administration**. The Enterprise Portal Administration Logon window opens.
2. Log on to the Enterprise Information Portal administration client.
 - a. In the **User ID** field, type cmbadmin.
 - b. In the **Password** field, type password.
 - c. In the **Database** field, select cmbddb.
 - d. Click **OK** to log on.

The Enterprise Information Portal administration client main window opens.

3. From the **CMBDB** tree, right-click **Server** and click **New**. The New Server Connection window opens.
4. From the list of supported content servers, select **DB2**. The New Server: DB2 window opens.
5. In the **Server name** field, type Sample.
6. In the **Server description** field, type DB2 sample.
7. Click the **Initialization Parameters** tab.
8. In the **Connect string** field, type SCHEMA=DB2ADMIN.
9. Click **Test Connection**. The Logon Sample window opens.
10. Log on to the Sample database:
 - a. In the **User ID** field, type db2admin.
 - b. In the **Password** field, type password.
 - c. Click **OK** to log on and close the window.

The following message displays: The connection to Sample was successful. Click **OK** to continue.

11. Click **OK** to close the New Server: DB2 window and create the **Sample** icon.

Congratulations! You have successfully installed the Enterprise Information Portal server with the DB2 connector.

To access the sample metadata from Enterprise Information Portal, complete the following steps:

1. From the Enterprise Information Portal administration client main window, right-click the **Sample** icon and click **Refresh Server Inventory**.

2. If you are not already logged on to the Sample database, the Logon Sample window opens. Log on to the Sample database:
 - a. In the **User ID** field, type db2admin.
 - b. In the **Password** field, type password.
 - c. Click **OK** to log on and close the window.

The following message displays: The server inventory has been refreshed. Click **OK** to continue.

3. Click **Tools** → **Server Inventory Viewer**. The Server Inventory Viewer opens, displaying the sample data.

You have successfully installed Enterprise Information Portal.
4. Close the Server Inventory Viewer.
5. Close the Enterprise Information Portal main window.

Installing and configuring Information Mining and workflow features

This section describes how to install and configure the Enterprise Information Portal Information Mining and workflow features.

Installing and configuring the Information Mining feature

You can install Enterprise Information Portal Information Mining on Windows NT or Windows 2000. Enterprise Information Portal Information Mining is not supported on AIX. It is recommended that you install the Enterprise Information Portal Information Mining feature on the same workstation as the WebSphere Application Server, so that you can take advantage of the Information Mining sample JSPs.

To install the Enterprise Information Portal Information Mining feature, complete the following steps:

1. Ensure that your workstation meets the prerequisites listed in Table 19 on page 30.
2. Insert the Enterprise Information Portal CD in the CD drive.
3. If the installation program does not start automatically:
 - a. Click **Start** → **Run** on the Windows taskbar. The Run window opens.
 - b. In the **Open** field, type:
D:\WIN\ENU\Setup.exe

where D is your CD drive and ENU is the 3-character abbreviation for your workstation's locale; for example, ENU, JPN, SVE, PTB, NOR, and so on.
 - c. Click **OK**.
4. In the Select Machine Type window, select **Enterprise Information Portal Server**.

5. In the Component Selection window:
 - a. Under **Components**, select **Features**.
 - b. Under **Subcomponent**, select **Information Mining**.
 - c. After selecting the subcomponents you want, click **Next** to continue the installation program.
6. When you finish the installation program, restart your workstation. When the system restarts, the configuration of Information Mining automatically starts.

After the Information Mining feature is installed and configured, you must manually start it each time you restart the system using the following steps:

1. Ensure that DB2 UDB is running.
2. In the left pane of the Enterprise Information Portal Administration main window, double-click **Information Mining**.
3. In the right pane, right-click **Information Mining**, and click **Start/Stop Server**.
4. Leave the command window open to continue running the server.

You can also start Information Mining from the taskbar.

Important: If you automatically start Information Mining by moving it to the Windows **Startup** folder, you run the risk that Information Mining might start before the DB2 UDB startup completes.

Verifying your Information Mining installation

To verify your Information Mining installation, you can invoke the Information Mining sample JSPs. The sample JSPs show you how information mining capabilities can be used with a thin client. Information Mining capabilities include federated searches, categorization, summarization, and advanced text searches.

To verify your Information Mining installation, complete the following steps:

1. Ensure that Information Mining is installed on a Web server, on which the Enterprise Information Portal thin client samples are installed and configured.
2. From a Web browser, go to:

```
\\hostname\EIP\infomining\fedsearch.jsp
```

where *hostname* is the host name of your Web server.

Tip: The sample JSPs are provided to show you how you can code a thin client to work with the Enterprise Information Portal Information Mining feature. Additional setup is needed to ensure that the sample JSPs work with

a thin client. The Information Mining sample JSPs are located in `cmbroot\samples\jsp\clientapp\infomining`.

Additional considerations for Information Mining

If you choose to install the Information Mining feature after the initial installation of Enterprise Information Portal, you need to configure the Enterprise Information Portal system for the Information Mining feature. You also need to perform this configuration if you install the Information Mining feature on a different workstation than the workstation on which the administration client is installed.

1. From the Administration window, click on the file member **Tools**.
2. Select **Services** from the menu.
3. Select the **Information Mining** check box.
4. After the configuration is complete, log off of the Enterprise Information Portal administration client and log on again to initialize the Information Mining feature.

Tip: Administrators do not see the **Information Mining** icon unless they have authority to administer the Information Mining feature.

Configuring Enterprise Information Portal Information Mining with an RMI server

After you install the Information Mining feature, you can configure the server on which Information Mining is installed as an RMI server or connect it to the RMI server for remote administration support. To configure the server as an RMI server:

1. Set the directory to the directory where the `cmbregist71.bat` and the policy file are located.
2. **On Windows:** Open `cmbsvregist71.bat` in a text editor.
3. You can change the port number in the following line, or accept the default port number, 1920:

```
set remotePort=1920
```

4. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %classpath% -ms16M -Djava.security.policy=.\policy  
-Djava.rmi.server.codebase=http:// com.ibm.mm.sdk.remote.DKRemoteServiceMainImp  
%remotePort% 0 1 IKF
```

- 0** Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting.
- 1** Is the number of server types that are supported by the RMI server. If you use an RMI server as your Information Mining server, only one server type is supported: IKF.

IKF Is the server type supported by the RMI server.

5. Save `cmbsvregist71.bat`.
6. Start the RMI server by running the **cmbsvregist71** command.

If the Enterprise Information Portal Information Mining remote administration support is located on another RMI server, you must set the `cmbsvclient.ini` file on the Information Mining server or client to locate the RMI server:

1. Open `cmbsvclient.ini` in a text editor.
2. Delete the number sign (#) next to the key words `RemoteHost` and `RemotePort`. The number sign indicates a comment in the file.
3. Type your RMI server host name and port number as follows

```
RemoteHost=manteca
RemotePort=1920
```

where `manteca` is the RMI server host name and `1920` is the RMI server port number.

4. Save `cmbsvclient.ini`.

Installing and configuring the workflow feature

You must have MQSeries and MQSeries Workflow installed before you install the Enterprise Information Portal workflow feature. For more information about installing these prerequisites, see “Chapter 4. Installing Enterprise Information Portal prerequisites on Windows” on page 37.

Recommendation: If you installed the WebSphere Application Server (to use with the thin client samples or the Information Mining feature), it is recommended that you do not install MQSeries Workflow on the same workstation as WebSphere Application Server.

Tip: If you want to write user exit routines to use with the Enterprise Information Portal workflow feature, you must install the Enterprise Information Portal workflow feature and the Enterprise Information Portal administration client on the same workstation.

To install the Enterprise Information Portal workflow feature, complete the following steps:

1. Ensure that your workstation meets the prerequisites listed in Table 20 on page 31.
2. Insert the Enterprise Information Portal CD in the CD drive.
3. If the installation program does not start automatically:
 - a. Click **Start** → **Run** on the Windows taskbar. The Run window opens.
 - b. In the **Open** field, type:

```
D:\WIN\ENU\Setup.exe
```

where D is your CD drive and ENU is the 3-character abbreviation for your workstation's locale; for example, ENU, JPN, SVE, PTB, NOR, and so on.

- c. Click **OK**.
4. In the Select Machine Type window, select **Server**.
5. In the Component Selection window:
 - a. Under **Components**, select **Features**.
 - b. Under **Subcomponent**, select **Workflow**.
 - c. After selecting the subcomponents you want, click **Next** to continue the installation program.
 - d. In the Copy Files window, click **Finish**.

If you installed the workflow feature on a separate workstation than your RMI server (with the local connectors and the administration database installed), then you must configure the Workflow server with an RMI server. For more information, see “Configuring Enterprise Information Portal workflow with an RMI server” on page 62.

Verifying your Enterprise Information Portal workflow installation

To verify your Enterprise Information Portal workflow installation:

1. Click **Start** → **Programs** → **Enterprise Information Portal** → **Administration** from the Windows taskbar. The Enterprise Information Portal Administration Logon window opens.
2. Log on to the Enterprise Information Portal administration client.
 - a. In the **User ID** field, type a user ID. The default is cmbadmin.
 - b. In the **Password** field, type a password. The default is password. You should change the default password at this time.
 - c. In the **Database** field, type the name of the database that you want to access.
 - d. Click **OK** to log on and close the window.

The Enterprise Information Portal administration client main window opens. In the left pane, the **Workflow Definitions** icon displays.

Additional considerations for workflow installation

If you choose to install the workflow feature after the initial installation of Enterprise Information Portal, you must configure the Enterprise Information Portal system for the workflow feature. You also need to do this configuration if you install the workflow feature on a different workstation than the workstation on which the administration client is installed.

1. From the Administration window, click the file member **Tools**.
2. Select **Services** from the menu.
3. Select the **Workflow** check box.

4. After the configuration is complete, you need to log off of the Enterprise Information Portal administration client and log on again to initialize the workflow feature.
5. After logging on to Enterprise Information Portal administration client, the **Workflow Definitions** icon appears in the left pane.

Tip: Administrators do not see the **Workflow Definitions** icon unless they have authority to administer the workflow feature. If you want to restrict users to access workflow feature, see the appropriate system administration books for each content server.

Troubleshooting tip: If you receive error messages indicating that the message catalog is not found during configuration, check that your NLSPATH environment variable includes the path for MQSeries Workflow. Also, MQSeries Workflow is installed in the **Program Files** folder on your C drive. Be sure that you have enough space available on your C drive.

If you used Enterprise Information Portal Version 6.1: You can upgrade your Enterprise Information Portal Version 6.1 users at the same time that you migrate your Version 6.1 data. See “Migrating data from Enterprise Information Portal Version 6.1” on page 86 for more information. If you choose not to upgrade your Version 6.1 users during migration, complete the following steps:

1. Ensure that the Enterprise Information Portal workflow feature is properly set up. See “Chapter 4. Installing Enterprise Information Portal prerequisites on Windows” on page 37 and “Chapter 5. Installing and configuring Enterprise Information Portal server components on Windows” on page 43 for information about configuring the Enterprise Information Portal workflow feature.
2. Open a command window on the workstation on which the Enterprise Information Portal administration client is located.
3. Set the current directory CMBROOT.
4. Enter:

```
cmbmuser db_name
```

where *db_name* is the name of your Enterprise Information Portal Version 6.1 database; this is a required parameter.

Restriction: You must run the **cmbmuser** command on the workstation on which the Enterprise Information Portal administration database is installed.

Enterprise Information Portal Version 6.1 users are migrated to the same level of authority for Version 7.1. For example, if users had administrative authority in Enterprise Information Portal Version 6.1, then they are migrated to administrative authority in Version 7.1.

Configuring Enterprise Information Portal workflow with an RMI server

After you install your workflow server, you can configure the workflow server as an RMI server or to connect the workflow server to the RMI server for remote administration support. To configure the workflow server as an RMI server:

1. Set the directory to the directory where the `cmbregist71.bat` and the policy file are located.
2. **On Windows:** Open `cmbsvregist71.bat` in a text editor.
3. You can change the port number in the following line, or accept the default port number, 1920:

```
set remotePort=1920
```

4. Change the following line to match your configuration:

```
%JAVAHOME%\jre\bin\java -cp %classpath% -ms16M -Djava.security.policy=.\policy  
-Djava.rmi.server.codebase=http:// com.ibm.mm.sdk.remote.DKRemoteServiceMainImp  
%remotePort% 0 1 MQWF
```

- 0** Change 0 to a number that represents the maximum number of connections that the RMI server can concurrently process. The default is 0, which indicates that there is no maximum number of connections for this RMI server. This is the suggested setting.
- 1** Is the number of server types that are supported by the RMI server. If you use an RMI server as your workflow server, only one server type is supported: MQWF.

MQWF

Is the server type supported by the RMI server.

5. Save `cmbsvregist71.bat`.
6. Start the RMI server by running the `cmbsvregist71` command.

If the Enterprise Information Portal administration database is located on another server, then you must set the `cmbsvclient.ini` file on the workflow server to locate the administration database:

1. Open `cmbsvclient.ini` in a text editor.
2. Delete the number sign (#) next to the key words `RemoteHost` and `RemotePort`. The number sign indicates a comment in the file.
3. Type your RMI server host name and port number as follows

```
RemoteHost=manteca  
RemotePort=1920
```


where manteca is the RMI server host name and 1920 is the RMI server port number.

4. Save `cmbsvclient.ini`.

Installing the development toolkit

The Enterprise Information Portal client toolkits enable you to build your own Web or desktop client applications that access data and content on individual content servers. You must install the toolkits to create custom client applications. You can use the Enterprise Information Portal federated access and content server toolkits to create customized applications that can perform federated searches. The toolkits provide:

- Java , C++, and ActiveX classes
- Content server-specific samples

You can install the toolkits by selecting the machine type **Enterprise Information Portal Development workstation** and component **Connector toolkit and samples**.

Restriction: If you do not write your client in Java, you cannot use the RMI server.

For information about creating customized applications see the *Application Programming Guide* and online API reference.

Chapter 6. Installing and configuring the Enterprise Information Portal sample client application

You can use the Enterprise Information Portal sample client application as a desktop client.

The sample client application is a Windows application that is automatically installed when you install Enterprise Information Portal.

Viewer support: Enterprise Information Portal provides Content Manager and OnDemand viewer support.

- The Content Manager viewer supports Content Manager, Content Manager ImagePlus for OS/390 files, and others; it is automatically installed.
- The OnDemand viewer supports OnDemand. To install the OnDemand viewer support, you must select the OnDemand local connector or the toolkit and local connectors.

If you are installing the Enterprise Information Portal client on Windows 95 or Windows 98: If you install the IBM Content Manager client and Enterprise Information Portal client on the same workstation, a registry error can cause the Content Manager client viewer to fail. You can avoid this problem by initializing the Content Manager viewer before logging on to the Enterprise Information Portal client. To initialize the Content Manager client:

1. In a command window, change to the directory where you installed Content Manager, for example frnroot.
2. Enter the following command:
`frnwview`
3. When the Content Manager client viewer opens, close it.

After you initialize the viewer, you can start the Content Manager client.

With the server components and clients installed, you are ready to create federated search templates for running federated searches, information mining, or performing tasks in a workflow process. See the Enterprise Information Portal online help and *Managing Enterprise Information Portal*.

Chapter 7. Installing Enterprise Information Portal components on AIX

This chapter describes how to install Enterprise Information Portal server components on AIX.

You can install the following Enterprise Information Portal Version 7.1 components on AIX:

Local connectors

- Federated connector
- Relational database connector
- Content Manager connector
- Information Catalog Manager connector

Remote connectors

- Federated connector
- Relational database connector
- Content Manager connector
- Content Manager OnDemand connector
- Content Manager ImagePlus for OS/390 connector
- Content Manager for AS/400 connector
- Domino.Doc connector
- Extended Search connector
- Information Catalog Manager connector

Connector toolkits and samples

- Federated connector
- Relational database connector
- Content Manager connector
- Content Manager OnDemand connector
- Content Manager ImagePlus for OS/390 connector
- Content Manager for AS/400 connector
- Domino.Doc connector
- Extended Search connector
- Information Catalog Manager connector

Content Manager text search and image search

Content Manager Text Search client and server and Content Manager

Image Search client and server are available for AIX. For more information about Content Manager text search and image search, see *Managing Enterprise Information Portal*.

Before you install

Requirements:

- When you install AIX components, the installation program and the administration IDs of the selected components must be running under the same locale. Otherwise, language-dependent files might not be available.
- All AIX components require AIX 4.3.3 plus the latest service levels applied. See “Chapter 3. Enterprise Information Portal requirements” on page 21 for more information on prerequisites for installing Enterprise Information Portal on AIX.
- **If you used Enterprise Information Portal Version 6.1:** You must remove Enterprise Information Portal Version 6.1 before installing Enterprise Information Portal Version 7.1.
 1. Set the directory to `/usr/lpp/cmb/bin/`.
 2. Run the command `./cmbxuninst.sh`. Make sure you use the period (.) and a blank space before the full path and command name.
 3. In the wizard window, select all components to remove Enterprise Information Portal Version 6.1.

Installing components on AIX

To install the AIX components:

1. Mount the Enterprise Information Portal CD.
2. Unpack the images.
3. Set the directory to `/usr/lpp/cmb` and enter:
`./frnxsetup.sh`

Make sure you use the period (.) and a blank space before the full path and command name.

4. When the Installation wizard opens, click **Next**.
5. In the Component Selection window:
 - a. Under **Components**, select the necessary components based on the configuration you want for your server.
 - b. Under **Subcomponents**, select all necessary subcomponents.
 - c. Click **Next** to continue the installation program.
6. If you select the Content Manager Text Search or Image Search, the Content Manager Setup window opens. Accept the defaults for configuring the Content Manager features or enter changes to the defaults.

7. After you select the connectors, the Installation Status window opens. As each connector is installed, you receive status on the progress of the installation.
8. The Specify RMI Host Name and Port Number window opens. If you installed the remote connectors, enter the **RMI hostname** and **Port number** for your RMI server. If you only installed the local connectors, you do not need to complete these fields.
9. When the installation is complete, open `/usr/lpp/cmb/bin/cmbenv71.sh` in text editor and ensure that the environment variables are set correctly.

Part 3. Appendixes

Appendix A. Configuring Enterprise Information Portal clients

The Enterprise Information Portal installation program sets the values of the `cmbsc.ini` and `cmbsclient.ini` files, depending on what components and subcomponents you selected. However, it might be necessary to change these values at a later time. This appendix describes how to manually configure your clients to locate the Enterprise Information Portal content server connectors or an RMI server, if necessary.

Setting the `cmbsc.ini` file to locate the content server

To manually configure a client to find the content server runtimes you set the `cmbsc.ini` file on the workstation where the Enterprise Information Portal client is installed.

The `cmbsc.ini` file is always installed with each client and administration client. The `cmbsc.ini` file contains variables you can set to either `remote` or `local` to find the content server connectors. Table 26 lists the variables and defines when you should set them to `local`, if you need to change these settings manually. The Enterprise Information Portal installation program sets these values to `local` to match the selection that you made when you installed Enterprise Information Portal.

Example:

```
DL=local
```

On AIX: The `cmbsc.ini` file is located in the `/usr/lpp/cmb/bin` directory.

Table 26. The `cmbsc.ini` file variables

Variable	Set to <code>local</code> when:
JDBC	The Enterprise Information Portal database is installed on the same workstation
DL	The Content Manager connector is installed on the same workstation
TS	DL is set to <code>local</code>
QBIC	DL is set to <code>local</code>
FED	The Enterprise Information Portal federated access connector is installed on the same workstation

Table 26. The *cmbcs.ini* file variables (continued)

V4	The Content Manager for AS/400 connector is installed on the same workstation
IP	The Content Manager ImagePlus for OS/390 connector is installed on the same workstation
DD	The Domino.Doc connector is installed on the same workstation
OD	The Content Manager OnDemand connector is installed on the same workstation
DES	The Domino Extended Search connector is installed on the same workstation
IC	The DB2 Information Catalog Manager connector is installed on the same workstation

If the description in Table 26 on page 73 is not true, set the variable to remote.

Example:

```
DL=remote
```

If you are using an RMI server, but you want to access some servers directly from your workstation for performance reasons:

1. Install the appropriate connector on your local workstation.
2. Set the variable to remote and list the servers you want to access with your local workstation by name.

Example:

```
DL=remote;local=lserv2,lserv3
```

or, if most servers should be accessed locally:

```
DL=local;remote=rserv2, rserv3
```

Configuring the client to find the RMI server

The *cmbclient.ini* file is a file that is always installed with the administration client and every client that locates the RMI server. If your configuration includes an RMI server, you can manually set *cmbclient.ini* on the workstation where the administration client is installed. However, at installation time, you are prompted with the Specify RMI Host Name and Port Number window to enter the RMI hostname and port number for your RMI server.

If you need to set the *cmbclient.ini* file manually:

1. Open *cmbclient.ini* in a text editor.

| 2. Delete the number sign (#) next to the key words RemoteHost and
| RemotePort. The number sign indicates a comment in the file.

| 3. Type your RMI server host name and port number as follows

| RemoteHost=ccrmi
| RemotePort=1919

| where ccrmi is the RMI server host name and 1919 is the RMI server port
| number.

| 4. Save cmbclient.ini.

Appendix B. Removing components

This appendix describes how to remove Enterprise Information Portal components from your workstation.

Removing Enterprise Information Portal components on Windows

Complete the following steps to remove Enterprise Information Portal components from a Windows machine:

1. Click **Start** → **Programs** → **IBM Enterprise Information Portal** → **Uninstall**.

The select component window opens.

2. Select the components you want to remove and click **Remove**. The selected components are removed from your system.
3. Reboot your workstation before you reinstall any Enterprise Information Portal components.

Removing Enterprise Information Portal components on AIX

Complete the following steps to remove Enterprise Information Portal components from an AIX machine:

1. Mount the Enterprise Information Portal CD.
2. Log in as user root.
3. Change to the installation directory where the CD is mounted.

```
/usr/lpp/cmb/bin
```

4. Start the wizard by entering:
5. Follow the instructions in the wizard.
6. Select the components you want to remove.
7. To remove the AIX installation wizard, enter:

```
installp -u frn.aixinst
```

If you want to remove text search from you workstation, use the following instructions instead of deleting the product files manually.

1. Use the Content Manager system administration program for text search to clear and delete all text search indexes, because the document index files, directories, and files created after installation are not deleted automatically.
2. Stop the text search server.
3. Run the wizard to remove text search.

4. Delete the following objects manually:

- Index directories
- Instance directory structure

These files reside under the `$HOME/tsadmin/ts/client` directory for the client and `$HOME/tsadmin/ts` directory for the server, where `tsadmin` is the user ID of the text search client or server.

Appendix C. Setting initialization and connection options for the connector

You can use an initialization string to pass options to a connector before you access a content server. You can use a connection string to pass options to a connector when you access a content server.

If a connection string or initialization string keyword is not supported by an entry field in the administration client, you can type the keyword/value pair in the **Additional parameters** or **Connect String** field.

Example:

```
CC2MIMEURL=(http://www.mycorp.com/cmbcc2mime.ini)
```

You can type multiple connection string keyword/value pairs in the **Additional parameters** or **Connect String** field. Use a semicolon (;) to delimit keyword/value pairs.

Examples:

```
FAFSITE=CS61;;OVERLAYS=IMG.CLLCT003.P20;;
```

```
OVERLAYS=IMG.CLLCT003.P20;;
```

```
FAFSITE=CS61;OVERLAYS=IMG.CLLCT003.P20;;
```

On those administration client windows with the **Additional Parameters** field, you can enter both a connection string keyword/value pair and an initialization string keyword/value pair. You must type the connection parameter first, and use two semicolons to separate the connection parameter from the initialization parameter.

Example:

```
FAFSITE=CS61;;CC2MIMEURL=(http://www.mycorp.com/cmbcc2mime.ini)
```

Setting strings for Java connectors

In order to set your initialization strings correctly, you must choose a CC2MIME configuration.

- CC2MIME is a content-type identifier that is used to associate a `ServerType.ContentType` identifier with a MIME type.
 - `CC2MIMEFile` is responsible for accessing the `cmbcc2mime.ini` file using a drive.

- **CC2MIMEURL** is responsible for accessing the `cmbcc2mime.ini` file using an address.

Table 27 lists the options that you can set for the initialization and connect strings for a Java connector. You must type the keywords exactly as shown.

Table 27. Keywords for Java connector strings

Content server connector	Initialization or configuration strings	Connect strings
Content Manager	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE • DSNAME 	NPWD=newpassword
DB2 UDB	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE • DSNAME • AUTOCOMMIT 	<ul style="list-style-type: none"> • NATIVECONNECTSTRING • SCHEMA
DB2 DataJoiner	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE • DSNAME • AUTOCOMMIT 	<ul style="list-style-type: none"> • NATIVECONNECTSTRING • SCHEMA
JDBC	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE • JDBCSEVERURL • JDBCSEVERFILE • JDBCSEVERSDRIVER • DSNAME • AUTOCOMMIT 	SCHEMA
DB2 Data Warehouse Center Information Catalog Manager	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	<ul style="list-style-type: none"> • NATIVECONNECTSTRING • SCHEMA
Domino.Doc	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	None
Extended Search	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	Fields provided by the administration client

Table 27. Keywords for Java connector strings (continued)

Content server connector	Initialization or configuration strings	Connect strings
ImagePlus for OS/390	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	<ul style="list-style-type: none"> • FAFSITE=value This is the 4-character symbolic ID of the FAF that owns and catalogs the documents associated with this datastore. This parameter is required for locking, adding, updating, or deleting annotations. • OVERLAYS This parameter specifies the IODM Collection Class to search when retrieving form overlays. If this parameter is not specified, the collection class from which the last document was retrieved is searched when retrieving form overlays. • IODMCNTL This parameter specifies the IODM document storage location control. If the document is not located at the specified location, the document will not be retrieved. Valid choices for value are DASD, OPTICAL, or SHELF. Default is DASD. <p>Other options have fields provided by the administration client</p>
OnDemand	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	<ul style="list-style-type: none"> • ODCONNECT • ODLOCAL <p>Other options have fields provided by the administration client</p>
Content Manager for AS/400	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE 	None
DB2 Data Warehouse Center Information Catalog Manager	<ul style="list-style-type: none"> • CC2MIMEURL • CC2MIMEFILE • DSNAME • AUTOCOMMIT 	<ul style="list-style-type: none"> • NATIVECONNECTSTRING • SCHEMA

Setting strings for C++ connectors

Table 28 lists the options that you can set for the initialization and connect strings for a C++ connector. You must type the keywords exactly as shown.

Table 28. Key words for C++ connector strings

Content server connector	Initialization strings	Connect strings
Content Manager	CC2MIMEFILE	NPWD=newpassword
DB2 UDB	<ul style="list-style-type: none">• CC2MIMEFILE• DSNNAME• AUTOCOMMIT	<ul style="list-style-type: none">• NATIVECONNECTSTRING• SCHEMA
DB2 DataJoiner	<ul style="list-style-type: none">• CC2MIMEFILE• DSNNAME• AUTOCOMMIT	<ul style="list-style-type: none">• NATIVECONNECTSTRING• SCHEMA
ODBC	<ul style="list-style-type: none">• CC2MIMEFILE• DSNNAME• AUTOCOMMIT	<ul style="list-style-type: none">• NATIVECONNECTSTRING• SCHEMA
Domino.Doc	CC2MIMEFILE	None
Extended Search	CC2MIMEFILE	Fields provided by the administration client

Table 28. Key words for C++ connector strings (continued)

Content server connector	Initialization strings	Connect strings
ImagePlus for OS/390	CC2MIMEFILE	<ul style="list-style-type: none"> • FAFSITE This is the 4-character symbolic ID of the FAF that owns and catalogs the documents associated with this datastore. This parameter is required for locking, adding, updating, or deleting annotations. • OVERLAYS This parameter specifies the IODM Collection Class to search when retrieving form overlays. If this parameter is not specified, the collection class from which the last document was retrieved is searched when retrieving form overlays. • IODMCNTL This parameter specifies the IODM document storage location control. If the document is not located at the specified location, the document will not be retrieved. Valid choices for value are DASD, OPTICAL, or SHELF. Default is DASD. <p>Other options have fields provided by the administration client</p>
Content Manager for AS/400	CC2MIMEFILE	None
DB2 Data Warehouse Center Information Catalog Manager	<ul style="list-style-type: none"> • CC2MIMEFILE • DSNAME • AUTOCOMMIT 	<ul style="list-style-type: none"> • NATIVECONNECTSTRING • SCHEMA

Appendix D. Upgrading and migrating Enterprise Information Portal Version 6.1 to Enterprise Information Portal Version 7.1

This appendix describes how to upgrade your servers from Enterprise Information Portal Version 6.1 to Enterprise Information Portal Version 7.1. It also describes how to migrate data from your Enterprise Information Portal Version 6.1 database to your Enterprise Information Portal Version 7.1 database.

Upgrading your servers from Enterprise Information Portal Version 6.1

To upgrade a server from Enterprise Information Portal Version 6.1 to Version 7.1:

1. Open a command window on the server.
2. Set the current directory to the directory where the .ini files for Enterprise Information Portal are located; for example, CMBROOT.
3. Copy the .ini files to a temporary directory not in the CMBROOT directory.
4. Copy the cmbregist.bat file to a temporary directory not in the CMBROOT directory.
5. Copy any other files that you created and want to save into the same temporary directory.
6. After you uninstall Enterprise Information Portal Version 6.1, open an MS-DOS command window. At the \CMBROOT prompt, enter erase *.* to erase any remaining files in the CMBROOT directory
7. Install Enterprise Information Portal Version 7.1 on your server. See “Chapter 5. Installing and configuring Enterprise Information Portal server components on Windows” on page 43 for instructions on installing Enterprise Information Portal Version 7.1.
8. **If you have RMI servers:**
 - a. After installing and restarting your RMI server, update the cmbregist71.bat file, or any batch files you created to start your RMI servers. See “Configuring an RMI server” on page 50 for instructions on how to configure your RMI servers, including how to update the cmbregist71.bat file for Version 7.1 features.
 - b. If your Enterprise Information Portal database is located on your RMI server, migrate the database. See “Migrating data from Enterprise Information Portal Version 6.1” on page 86 for instructions on how to migrate your Enterprise Information Portal Version 6.1 database to Version 7.1.

Migrating data from Enterprise Information Portal Version 6.1

After you complete the installation of your Enterprise Information Portal administration client, you must do the following tasks to migrate data from your Enterprise Information Portal database:

1. If you installed the Enterprise Information Portal workflow feature, ensure that the feature is properly set up. See “Chapter 4. Installing Enterprise Information Portal prerequisites on Windows” on page 37 and “Chapter 5. Installing and configuring Enterprise Information Portal server components on Windows” on page 43 for information on setting up your Enterprise Information Portal workflow feature.
2. Open a command window on the workstation on which the Enterprise Information Portal administration database is located.
3. Set the directory to `cmbroot\Migrate`.
4. Enter
`cmbmigrate db_name`

where `db_name` is the name of your Enterprise Information Portal Version 6.1 database; this is a required parameter. The name of your Enterprise Information Portal database is in the `cmbds.ini` file that you saved in “Upgrading your servers from Enterprise Information Portal Version 6.1” on page 85 when upgrading your servers.

Restriction: You must run the `cmbmigrate` command on the workstation on which the Enterprise Information Portal administration database is installed.

5. The migration utility prompts you to migrate your Enterprise Information Portal Version 6.1 users to the workflow feature. If you choose not to migrate your Version 6.1 users at this time, you can migrate your users later. See
Enterprise Information Portal Version 6.1 users are migrated to the same level of authority for Version 7.1. For example, if users had administrative authority in Enterprise Information Portal Version 6.1, then they are migrated to administrative authority in Version 7.1.
6. The `cmbmigrate` command generates a log file that contains status messages. The log file, `cmbdb.log`, is located in `cmbroot\Config`.

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Glossary

This glossary defines terms and abbreviations specific to the Enterprise Information Portal system, but not necessarily to this particular document. Terms shown in *italics* are defined elsewhere in this glossary.

A

abstract class. An object-oriented programming *class* containing one or more abstract *methods*, which other classes can implement and thus make concrete.

access control. The process of ensuring that certain functions and stored objects can be accessed only by authorized users in authorized ways.

access list. A list consisting of one or more individual user IDs or user groups and their associated *privileges*. You use access lists to control user access to search templates in the Enterprise Information Portal system.

action list. An approved list of the actions, defined by a coordinator, that a user can perform in *workflow*.

API. See *application programming interface*.

application programming interface (API). A software interface that enables applications to communicate with each other. An API is the set of programming language constructs or statements that can be coded in an application program to obtain the specific functions and services provided by the underlying licensed program.

archive. Persistent storage used for long-term information retention, typically very inexpensive for each stored unit and slow to access, and often in a different geographic location to protect against equipment failures and natural disasters.

attribute. A characteristic that identifies and describes a managed object. The characteristic can be determined, and possibly changed, through operations on the managed object. For example, title and duration might be attributes of a video object. See *federated attribute* and *native attribute*.

B

binary large object (BLOB). A sequence of bytes with a size ranging from 0 bytes to 2 gigabytes. This string does not have an associated code page and character set. Image, audio, and video objects are stored in BLOBs.

BLOB. See *binary large object*.

C

cache. An area of storage used to temporarily store objects on the client workstation. See also *LAN cache*.

catalog. A temporary index used by Enterprise Information Portal applications to insert and remove objects that are not yet assigned to a *list*.

CGI. See *Common Gateway Interface*.

CGI script. A computer program that runs on a Web server and uses the *Common Gateway Interface (CGI)* to perform tasks that are not usually done by a Web server (for example, database access and form processing). A CGI script is a CGI program that is written in a scripting language such as Perl.

CIF. See *common interchange file*.

CIU. See *common interchange unit*.

class. In object-oriented design or programming, a model or template that can be instantiated to create objects with a common definition and

therefore, common properties, operations, and behavior. An object is an instance of a class.

client application. An application written with the object-oriented or Internet APIs to customize a user interface.

collection. A group of objects with a similar set of management rules.

combined search. A query that combines one or more of the following types of searches: *parametric*, text, or image.

Common Gateway Interface (CGI). A standard for the exchange of information between a Web server and programs that are external to it. The external programs can be written in any programming language that is supported by the operating system on which the Web server is running. See *CGI script*.

common interchange file (CIF). A file that contains one ImagePlus Interchange Architecture (IPIA) data stream.

common interchange unit (CIU). The independent unit of transfer for a common interchange file (CIF). It is the part of the CIF that identifies the relationship to the receiving database. A CIF can contain multiple CIUs.

connector class. Object-oriented programming *class* that uses native methods to connect *content servers* to client applications.

constructor. In programming languages, a method that has the same name as a class and is used to create and initialize objects of that class.

container. A visual user-interface component that holds objects. In the *folder manager*, an object that can contain other folders or documents.

content class. The term used in the APIs for *data format*.

content server. A software system that stores multimedia and business data and the related metadata required for users to work with that

data. Content Manager and Content Manager ImagePlus for OS/390 are examples of content servers.

cursor. A named control structure used by an application program to point to a specific row within some ordered set of rows. The cursor is used to retrieve rows from the set.

D

data format. A logical name assigned to a file type, valid only within Content Manager. Content Manager provides a large range of predefined data formats. You can also define your own data format. For example, you can define your own data format called MYGIF and use it for GIF files.

datastore. Generic term for a place (such as a database system, file, or directory) where data is stored.

DDO. See *dynamic data object*.

destager. A function of the Content Manager *object server* that moves objects from the *staging area*.

document. An *item* that can be stored, retrieved, and exchanged among Content Manager systems and users as a separate unit. It can be any multimedia digital object. A single document can include varied types of content, including for example, text, images, and spreadsheets.

document content architecture (DCA). An architecture that guarantees information integrity for a document being interchanged in an office system network. DCA provides the rule for specifying form and meaning of a document. It defines revisable form text (changeable) and final form text (unchangeable).

dynamic data object (DDO). In an application program, a generic representation of a stored object that is used to move that object in to, and out of, storage.

dynamic page builder. An API in the Internet application development toolkit that is used to

create applications that dynamically format the results of queries and display those results on a Web page.

E

extended data object (XDO). In an application program, a generic representation of a stored complex multimedia *object* that is used to move that object in to, and out of, storage. XDOs are most often contained in *DDOs*.

F

feature. The visual content information that is stored in the image search server. Also, the visual traits that image search applications use to determine matches. The four *QBIC* features are average color, histogram color, positional color, and texture.

federated attribute. An Enterprise Information Portal metadata category that is mapped to *native attributes* in one or more *content servers*. For example, the federated attribute, policy number, can be mapped to a *key field*, policy num, in Content Manager and to a key field, policy ID, in Content Manager ImagePlus for OS/390.

federated collection. A grouping of objects that results from a *federated search*.

federated datastore. Abstract representation of any number of specific *content servers*, such as Content Manager.

federated entity. An Enterprise Information Portal metadata object that is comprised of *federated attributes* and optionally associated with one or more *federated text indexes*.

federated search. A query issued from Enterprise Information Portal that simultaneously searches for data in one or more *content servers*, which can be heterogeneous.

federated text index. An Enterprise Information Portal metadata object that is mapped to one or more *native text indexes* in one or more *content servers*.

FFST™. See *First Failure Support Technology™*.

file system. In AIX, the method of partitioning a hard drive for storage.

First Failure Support Technology (FFST). Technology and software that provide first failure data capture for software events, and by automating event tracking and management.

folder. A container used to organize objects, which can be other folders or documents.

folder manager. The Content Manager model for managing data as online documents and folders. You can use the folder manager APIs as the primary interface between your applications and the Content Manager content servers.

form element. In the dynamic page builder, an element of the user interface that can be created with HTML tags. The dynamic page builder supports several HTML form elements.

H

handle. A character string that represents an object, and is used to retrieve the object.

history log. A file that keeps a record of activities for a *workflow*.

HTML. See *Hypertext Markup Language*.

Hypertext Markup Language (HTML). A markup language that conforms to the SGML standard and was designed primarily to support the online display of textual and graphical information that includes hypertext links.

I

Image Object Content Architecture (IOCA). A collection of constructs used to interchange and present images.

index class. A category for storing and retrieving objects, consisting of a named set of attributes. When you create an object in the Content Manager system, your application must assign an index class and supply the *key field*

values required by that class. An index class identifies the key fields, automatic processing requirements, and storage requirements for an object.

index class subset. A view of an *index class* that an application uses to store, retrieve, and display folders and objects.

index class view. The term used in the APIs for *index class subset*.

information mining. The automated process of extracting key information from text (summarization), finding predominant themes in a collection of documents (categorization), and searching for relevant documents using powerful and flexible queries.

interchange. The capability to import or export an image along with its index from one Content Manager ImagePlus for OS/390 system to another ImagePlus system using a *common interchange file* or *common interchange unit*.

IOCA. See *Image Object Content Architecture*.

item. Generic term for the smallest unit of information that Enterprise Information Portal administers. An item contains one or more *item parts*. Each item has an identifier. An item can be a *folder* or a *document*.

iterator. A class or construct that you use to step through a collection of objects one at a time.

J

JavaBeans. A platform-independent, software component technology for building reusable Java components called “beans.” Once built, these beans can be made available for use by other software engineers or can be used in Java applications. Also, using JavaBeans, software engineers can manipulate and assemble beans in a graphical drag-and-drop development environment.

K

key field. See *attribute*.

L

LAN cache. An area of temporary storage on a local *object server* that contains a copy of objects stored on a remote object server.

library client. The component of a Content Manager system that provides a low-level programming interface for the library system. The library client includes APIs that are part of the software developer’s kit.

library server. The component of a Content Manager system that contains index information for the objects stored on one or more *object servers*.

list. A data structure, or electronic queue, that your application uses to temporarily insert or remove *objects* for work. The *list manager* allocates lists in its file space for your application.

M

media archiver. A physical device that is used for storing audio and video stream data. The VideoCharger is a type of media archiver.

media server. An AIX-based component of the Content Manager system that is used for storing and accessing video files.

method. In object-oriented design or programming, the software that implements the behavior specified by an operation.

N

native attribute. A characteristic of an object that is managed on a specific *content server* and that is specific to that content server. For example, the *key field policy num* might be a native attribute in a Content Manager content server, whereas the field *policy ID* might be a native attribute in an Content Manager OnDemand content server.

native entity. An *object* that is managed on a specific *content server* and that is comprised of

native attributes. For example, Content Manager *index classes* are native entities comprised of Content Manager *key fields*.

native text index. An index of the text *parts* of a defined group of *items* that are managed on a specific *content server*. For example, a single text search index on a Content Manager content server.

network table file. A text file that contains the system-specific configuration information for each node in a Content Manager system. Each node in the system must have a network table file that identifies the node and lists the nodes that it needs to connect to.

The name of a network table is always FRNOLINT.TBL.

O

Object Linking and Embedding (OLE). A Microsoft specification for both linking and embedding applications so that they can be activated from within other applications.

object server. The component of a Content Manager system that physically stores the *objects* or information accessed by client applications.

object server cache. The working storage area for the *object server*. Also called the *staging area*.

OLE. See *Object Linking and Embedding*.

overlay. A collection of predefined data such as lines, shading, text, boxes, or logos, that can be merged with variable data on a page during printing.

P

package. A collection of attributes, notifications, operations, or behaviors that are treated as a single module in the specification of a managed object *class*. Packages can be mandatory or conditional when referenced in a definition of a managed object class.

parametric search. A query for *objects* that is based on the *properties* of the objects.

part. A subelement of an *item* that corresponds to a discrete multimedia data object, such as an image, video, audio, or text. An item can contain parts with diverse binary formats, for example, an image, a word processing file, and a spreadsheet.

persistent identifier (PID). An identifier that uniquely identifies an *object*, regardless of where it is stored. The PID consists of both an item ID and a location.

PID. See *persistent identifier*.

privilege. The right to access a specific object in a specific way. Privileges includes rights such as creating, deleting, and selecting objects stored in the system. Privileges are assigned by the administrator.

privilege set. A collection of *privileges* for working with system components and functions. The administrator assigns privilege sets to users (user IDs) and user groups.

property. A characteristic of an *object* that describes the object. A property can be changed or modified. Type style is an example of a property.

Q

QBIC. See *query by image content*.

query by image content (QBIC). A query technology that enables searches based on visual content, called *features*, rather than plain text. Using QBIC, you can search for objects based on their visual characteristics, such as color and texture.

query string. A character string that specifies the properties and property values for a query. You can create the query string in an application and pass it to the query.

S

search criteria. In Enterprise Information Portal, specific fields that an administrator defines for a *search template* that limit or further define choices available to the users.

search template. A form, consisting of *search criteria* designed by an administrator, for a specific type of federated search. The administrator also identifies the *users* and *user groups* who can access each search template.

server definition. The characteristics of a specific content server that uniquely identify it to Enterprise Information Portal.

server inventory. The comprehensive list of native entities and native attributes from specified content servers.

server type definition. The list of characteristics, as identified by the administrator, required to uniquely identify a custom server of a certain type to Enterprise Information Portal.

staging area. The working storage area for the *object server*. Also referred to as *object server cache*.

streamed data. Multimedia data sent over a network connection at a specified rate. A stream can be video only, audio only, or a combination of both video and audio in one stream. Data rates, which are expressed in bits per second, vary for different types of streams and networks.

subclass. A *class* that is derived from another class. One or more classes might be between the class and subclass.

superclass. A *class* from which a class is derived. One or more classes might be between the class and superclass.

suspend. To remove an *object* from its *workflow* and define the suspension criteria needed to activate it. Later activating the object enables it to continue processing.

T

thin client. A client that has little or no installed software but has access to software that is managed and delivered by network servers that are attached to it. A thin client is an alternative to a full-function client such as a workstation.

Tivoli® Storage Manager (TSM). A client/server product that provides storage management and data access services in a heterogeneous environment. It supports various communication methods, provides administrative facilities to manage the backup and storage of files, and provides facilities for scheduling backup operations.

TSM. See *Tivoli Storage Manager*.

TSM management class. A logical area of storage that is managed by *Tivoli Storage Manager*.

U

user. In Enterprise Information Portal, anyone who is identified in the Enterprise Information Portal administration program as using the Enterprise Information Portal client.

user exit. (1) A point in an IBM-supplied program at which a user exit routine can be given control. (2) A programming service provided by an IBM software product that can be requested during the execution of an application program for the service of transferring control back to the application program upon the later occurrence of a user-specified event.

user exit routine. A user-written routine that receives control at predefined user exit points.

user group. A group consisting of one or more defined individual users, identified by a single group name.

user mapping. Associating Enterprise Information Portal user IDs and passwords to corresponding user IDs and passwords in one or

more content servers. User mapping enables single logon to Enterprise Information Portal and multiple content servers.

V

volume. A representation of an actual physical storage device or unit on which the objects in your system are stored.

W

work item. A work activity that is active within a *workflow*.

work packet. A collection of *documents* that is routed from one location to another. Users access and work with work packets through *worklists*.

work state. The status of an individual *work item*.

workflow. A sequence of steps, and the rules governing those steps, through which a *work packet* travels while it is being processed.

For example, a process called claims approval would describe the steps that a *work packet* related to approving an insurance claim must follow.

workflow coordinator. User who receives notification that a *work item* in the *workflow* has not been processed in some specified time. The user is selected for a specific *user group* or upon creation of the workflow.

workflow state. The status of an entire *workflow*.

worklist. A collection of *work items* assigned to a user and retrieved from a workflow management system.

X

XDO. See *extended data object*.

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