FileNet Document Warehouse for SAP

Installation and Configuration Manual-Server

Release 5.1

March 2003

Contents

4. General Server Configuration 45

5. IDM Services for R/3 Configuration 51

6. Customizing SAP 85

7. Server Configuration 112

Appendix A – OSS Notes 127

Appendix B – Software License Agreement 128

Index 130

About this Manual

The FileNet Document Warehouse for SAP (DWSAP) Installation and Configuration Manual, dated February 2003, supports the 5.1 release of the DWSAP software. It covers the new IDM Services for R/3 (formerly known as ServerLink or Server Components), the applications related to it and the new IDM Desktop for R/3 as well as the possibility to use a web-based client.

Skill Level Requirements

The installer will need an in-depth understanding of FileNet and SAP systems, as well as a working knowledge of Windows 2000 and the corresponding hardware platforms. Specifically, the installer will need to understand the following:

- FileNet system operations.

- SAP R/3 System.

- PC Operations.

- Windows 2000 procedures.

Related Publications

The DWSAP software integrates the standard FileNet system with the SAP system through the SAP ArchiveLink interface.

The following FileNet manuals and SAP documentation will prove useful in the software installation, operation, and administration of DWSAP:

- System Administrator's Handbook for IDM Image Services

- System Administrator's Companion for your platform

- Software installation procedure for your platform

- Web Services online documentation

- Online documentation for R/3 System, in particular SAP ArchiveLink documentation

It is recommended that the SAP R/3 documentation for the SAP ArchiveLink interface be obtained and studied.

Tips, Notes, Cautions, and Background Information

Throughout this manual, there are assorted brief messages designed to draw your attention to different kinds of information:

Tip: Indicates hints to improve efficiency of performing a task.

Note: Provides important information, such as situations that can affect the outcome of an operation or affect some other part of the system

CAUTION: Signals, where possible loss of data or time may occur

Background: Explains the concepts behind specific features and provides helpful information for understanding the design of SAP ArchiveLink and Document Warehouse for SAP.

Bold Type Indicates menu names, menu items, component names

Blue text Indicates a link to another topic, a link to another section in the same topic, or a link to an external topic**.**

Education

FileNet provides various forms of instruction. Please visit the Global Learning Services in FileNet's Service & Support area at www.FileNet.com.

Comments and Suggestions

FileNet invites all customers to communicate with the Documentation group on any question or comment related to FileNet manuals and online help. Send email to docs@filenet.com. We will make every effort to respond within one week. Your suggestions help us improve the products we deliver.

1
Document Warehouse for SAP

What's new in this Release?

DWSAP release 5.1 is an enhanced version of DWSAP release 5.0.1. The scope of this release is limited to certain functional enhancements. This release has been qualified to run with Web Services 3.2, Desktop 3.2 and Capture 4.0.

DWSAP release 5.1 supports all the features of DWSAP release 5.0.

Here is a brief overview of the major new functionalities that have been introduced, or enhanced in DWSAP release 5.1:

- Multiple, simultaneous RFC requests

- On-line administration

- Windows event logging

- SAP namespace

- Enhanced SAP Document Management System (DMS) support

- Pure thin document viewing

- Capture CIM support for Capture 4.0

- DMS viewing and linking ASP sample application

Multiple, simultaneous RFC requests

SAP with release 4.6c has changed the processing of data archiving requests. SAP processes the data archiving requests synchronously. This means that the requests are processed sequentially only. This may result in time out for the other requests present in the queue.

In this release, DWSAP registers multiple instances of RFC server at the SAP gateway. This enables DWSAP to process multiple RFC requests simultaneously.

The administrator can configure the number of RFC threads that are required for a particular SAP system using the configuration tool.

On-Line Administration

DWSAP Server components detect and use changes in configuration, without restarting the corresponding services, for example, FileNet RFC Service, WWW Service, and FileNet Barcode Service. Requests that are received by the Server components before the configuration changes are saved are processed with the old configuration. The requests received after re-initialization of the server components are processed with the new configuration.

Online Administration feature can be enabled/disabled through a check box in the configuration tool.

Note: This feature has been enabled only for IDM Services for R/3; it is not available for IDM Desktop for R/3.

Windows event logging

DWSAP supports logging of messages related to its operations in the Windows Application Event log. The log levels supported for logging in the Event log are:

- Log all information
- Log errors and warning only
- Log errors only

Logging in the Windows event log is supported for the following DWSAP components:

- IDM Services for R/3
- IDM Desktop for R/3
- Thin-Client

The log levels for the event logging are maintained separately from log levels for logging to a file.

Windows event logging feature can be enabled/disabled through a check box in the configuration tool.

SAP NameSpace

DWSAP differentiates among requests from different copies of the R/3 instances running on different servers but sharing the same authenticity id and archive id.

To identify different R/3 instances in the configuration program define the SAP system in the configuration, as

<SAP System Name> - <SAP Server Name (host name)>

For example, if FN1 is the SAP system, fnetsap, and fnsap are the servers that have this R/3 instance. The entries in the configuration tool in this case are FN1-fnetsap and FN1-fnsap.

Enhanced SAP Document Management Support

While creating a new Document Information Record (DIR) in DWSAP 5.1 release, DWSAP end users can use the default value for DIR Description and Initial Status as defined in the configuration or are prompted to change the default values at run-time.

This feature can be enabled/disabled through a check box in the configuration tool.

Pure Thin Document Viewing

DWSAP supports pure thin viewing of documents. In a pure thin client scenario, only SAPGUI is installed on the client machine. There is no IDM component or DWSAP client component installed on the client machine. In the pure thin client scenario, communication occurs directly between SAPGUI and DWSAP server components installed on the Web server.

The end user can view the documents with either a Java-based viewer, or IDM Viewer.

Pure thin client viewing of documents is not supported for documents that use Remote Function Call (RFC) protocol.

This feature can be enabled/disabled through a check box in the configuration tool.

FileNet Capture for R/3 Upgrade

DWSAP component FileNet Capture for R/3 is qualified to run with Capture version 4.0.

DMS Viewing and Linking ASP Sample Application

DWSAP has a new sample Document Management System (DMS) application, which demonstrates the instantiation of DMS objects in a Web based environment. To access DMS sample application, additional installation is required on the server. This is provided as Server Add On for the Server Components.

2
Concepts

This chapter provides an overview of DWSAP and its interaction with SAP ArchiveLink.

Overview

DWSAP is an application that has resulted from the integration of FileNet's Image Services (IS) and Content Servcies (CS) with the SAP system using the SAP ArchiveLink interface. DWSAP enables the business applications of SAP to process FileNet document images and archiving of document and data archiving. DWSAP consists of two parts:

- IDM Services for R/3: Represents the product components that integrate SAP R/3 servers with IS and CS, by implementing SAP ArchiveLink server-side interface. All components of IDM Services for R/3 run on server machines.

- IDM Desktop for R/3: Represents the product components that implement SAP ArchiveLink client-side interface either on the client desktop, or on a Web server.

SAP ArchiveLink and DWSAP

SAP ArchiveLink connects document management & imaging systems such as, FileNet IS and CS to SAP R/3 systems. SAP ArchiveLink is an intermediate layer between SAP business application, and FileNet IS and CS.

SAP ArchiveLink provides a library of functions to all SAP application modules that manage documents stored on FileNet system. SAP ArchiveLink and the FileNet IS and CS communicate using a standard set of messages. These messages are independent of SAP business applications.

The SAP ArchiveLink interface requires the archive vendor to provide a server component that fulfils archiving-related requests, such as archive a document asynchronously, restore a document synchronously, and search for a pattern in a print list.

SAP supports two protocols, RFC and HTTP. The versions 3.0 and 3.1 of SAP ArchiveLink use the RFC protocol. The RFC protocol is proprietary

to SAP. The version 4.5 of SAP ArchiveLink interface uses HTTP protocol.

In conjunction with the FileNet system, SAP ArchiveLink:

- Processes incoming documents before, during, and after archiving.

- Links incoming documents to transactions in an SAP system.

- Links incoming documents to work items that are routed and processed, using SAP business workflow.

- Archives SAP-generated outgoing documents and print lists to FileNet libraries.

- Retrieves documents linked to a transaction in an SAP application from FileNet libraries, and displays the documents.

- Automatically stores data archiving files on optical media, and transparently accesses the files as needed.

The following table contains examples of the types of documents that are SAP ArchiveLink enabled. Check the SAP R/3 online documentation for a complete list for each SAP R/3 release:

SAP Module	Original Documents	SAP-Generated Documents
Document Management System (DMS)	Any document	Any document
Financial Accounting (FI)	Credit Memo Invoice Payment	Line Item Journal Full Audit Trail Classic Audit Trail Document Journal
Human Resources (HR)	Applications Contracts and related correspondence Photo of Employee Regulatory documents Certificates.	No documents are generated
Materials Management (MM)	Credit Memo Invoice	LIFO valuation report Outline Agreement Purchase Order Schedule Line Master Material

SAP Module	Original Documents	SAP-Generated Documents
Sales & Distribution (SD)	Complaint Contract Delivery Note Delivery Schedule Order Schedule Agreement Inquiry	Complaint Contract Credit Memo Delivery Note Delivery Schedule Order Confirmation Quotation Schedule Agreement Inquiry Invoice
Workflow (WF)	Any document	Any document

New Component Names

To reflect the usage of DWSAP product, the component names have been changed. The following table lists the old and new names of the components, for the respective releases:

Old Name (Release 2.x)	Old Name (Release 4.0)	Release 5.x
Document Warehouse for SAP	Document Warehouse for SAP	Document Warehouse for SAP
ServerLink	IDM Services for R/3	IDM Services for R/3
SrvLink, SrvQLink	SrvLink, SrvQLink	cServer
LinkSAP	LinkSAP	cBarcode
SAPSearch, Search	SAPSearch, Search	SAPSearch
ClientLink, CliLink	IDM Desktop for R/3	IDM Desktop for R/3
Not Available	CIM, Custom CIM	View
Not Available	Browse CIM	FileNet Browse for R/3
Not Available	Queue CIM	FileNet Queue for R/3
Not Available	Capture CIM	FileNet Capture for R/3

System Architecture

The two components of DWSAP use Web services API to communicate with IS and CS libraries. They are:

- cServer: Refers to the server component that processes SAP ArchiveLink requests using the RFC and HTTP protocols. For more information, refer to section IDM Services for R/3 Component cServer.

- cBarcode: Refers to the server component that uses document barcodes to transfer information about new documents to SAP ArchiveLink. For more information, refer to section

  IDM Services for R/3 Component cBarcode

IDM Services for R/3 Component cServer

cServer component runs on a dedicated Document Warehouse Gateway machine that hosts the Microsoft Internet Information Server (Microsoft IIS).

CServer communicates with multiple SAP systems in a single installation using both RFC and HTTP communication protocols. For RFC communication, multiple SAP Gateways can be configured. HTTP communication makes use of a Web server, which can in itself already serve more than one client. cServer can also access multiple FileNet IS and CS libraries simultaneously.
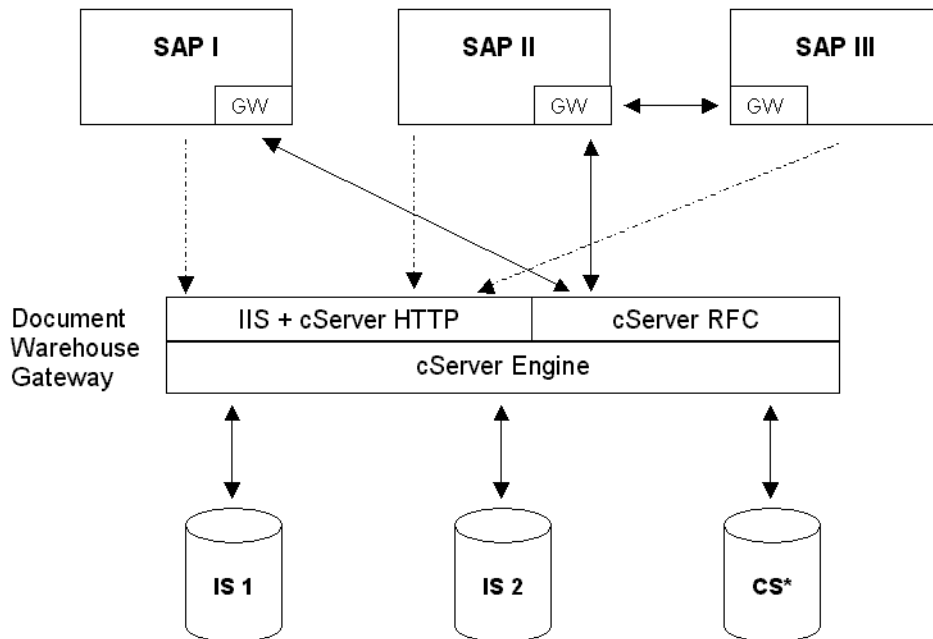
IDM Services for R/3 Component cBarcode

SAP ArchiveLink provides several input scenarios; some of which use barcodes, for example the Late Input with Barcode scenario. In this scenario, the SAP end user enters information such as the business data

from an incoming document, into an SAP system. The end user then passes the document to a scan station where the document is captured into a FileNet library. The business data within SAP is linked to the FileNet document through the barcodes, thereby completing the input. The user attaches a barcode label to the paper document, and enters the barcode along with the business data. During capturing, FileNet reads the barcode label and stores its value as a property of the document. The cBarcode component of IDM Services for R/3 sends information about the new document, along with its barcode to an SAP system. A program finds the corresponding business data, and creates the link information stored in SAP system.

cBarcode uses a FileNet IS distributor queue, which contains references to the documents that have to be linked to SAP R/3 business objects. The cBarcode configuration requires at least one mapping of a FileNet queue to an SAP system that serve as source and destination for the transfer of barcodes. Multiple FileNet queue / SAP system mappings can be configured.

cBarcode runs as a Windows Service. When the FileNet barcode service starts, cBarcode looks up the Queue/SAP System mapping configuration, and processes all queue entries of the first mapping. Subsequently, the queue entries of the second, third, and fourth mapping are processed. After all the mappings have been processed, cBarcode waits for a configurable sleep interval before processing all configured FileNet Queue/Sap system mappings again.

The following figure shows an example of a mapping configuration: (from Queue I in a first IS library to SAP system I, from Queue II in the same IS library to SAP system II, and from Queue III in a second IS library to SAP system II). Arrows indicate the flow of information:
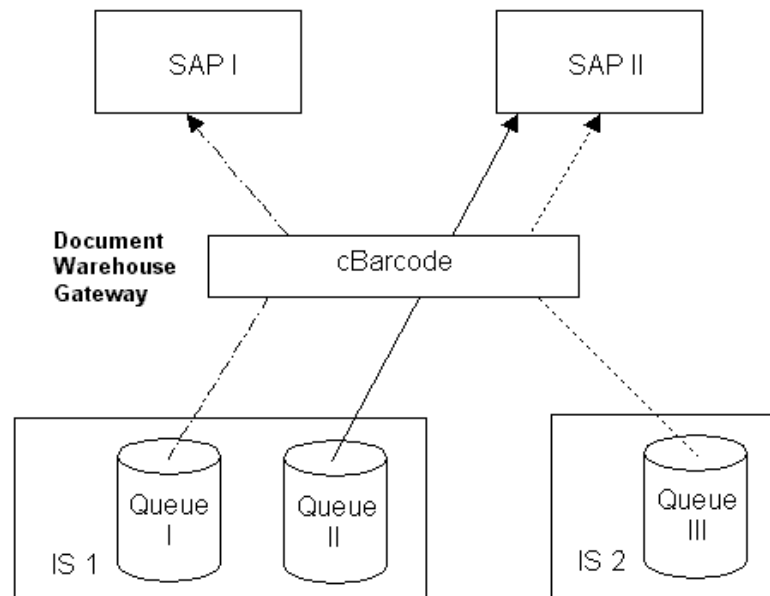
3
Installation of IDM Services for R/3

Prerequisites to Install IDM Services for R/3

The hardware and software prerequisites for the installations of IDM Services for R/3 are:

Hardware

The minimum hardware requirements are:

- P III processor
- 256 MB RAM
- 25 MB hard disk space for installation

Software

The software requirements are:

- Windows 2000 Server with Service Pack 2 or 3
- TCP/IP networking protocol
- Web Services 3.2

CAUTION: Web Services must not be installed on the same machine as Image Services or Content Services.

The DWSAP has been qualified to run with:

- Image Services 3.6.0.
- Content Services 5.2

Note: Storage and retrieval of SAP generated documents for Content Services is not supported. The server side components are only able to answer status and delete request against an object in an Content Services Library.

Installation process

The installation program for IDM Services for R/3 is a GUI-based application. This application copies the program files to the target machine, registers the programs, and creates appropriate entries in the **Start** menu of Windows.

CAUTION: DWSAP can only be installed using Administrator login of the server.

Click the **setup.exe** to begin installation.
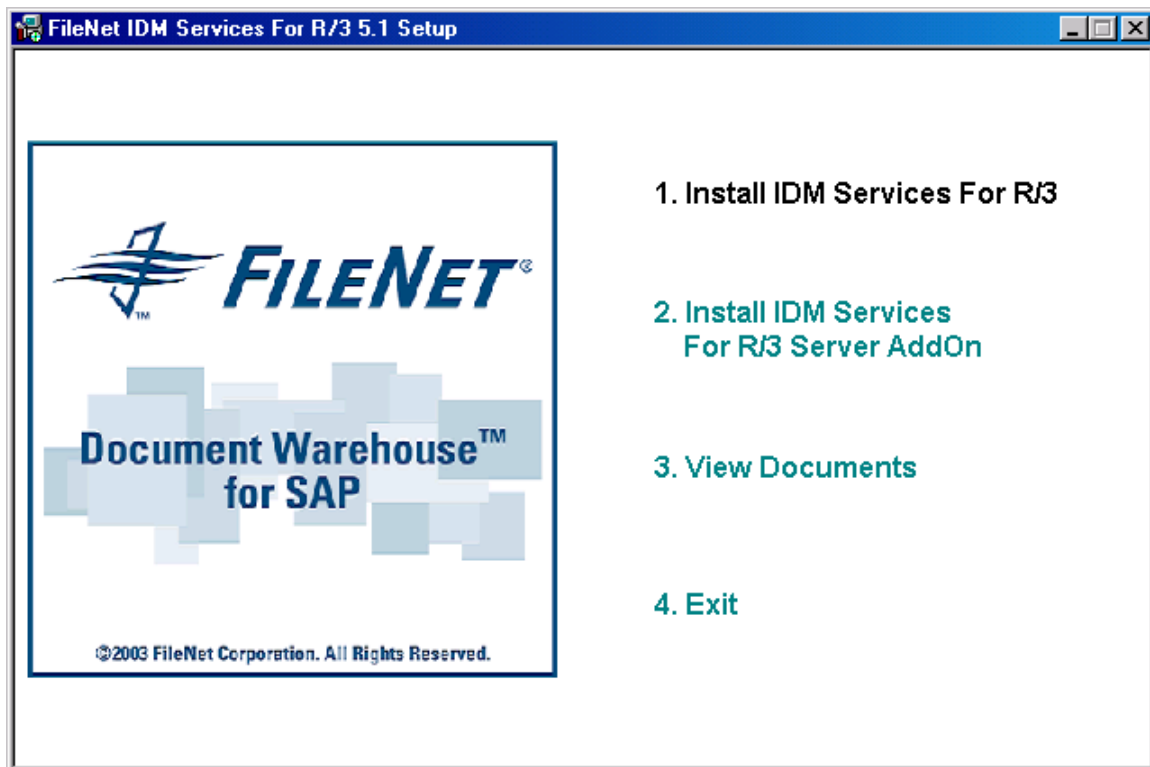
The following options are provided:

- **Install IDM Services for R/3**:

- **Install IDM Services for R/3 Server Addon**: This will install the essential ASP pages and server components, for pure thin client viewing, DMS sample application, and thin client viewing of document.

- **View Documents**: Facilitates the end user to view all the DWSAP documents.

- **Exit**: Enables the end user to exit from the setup program.

Install IDM services for R/3

1. Click **the Install IDM Services for R/3** option. The following screen is displayed:
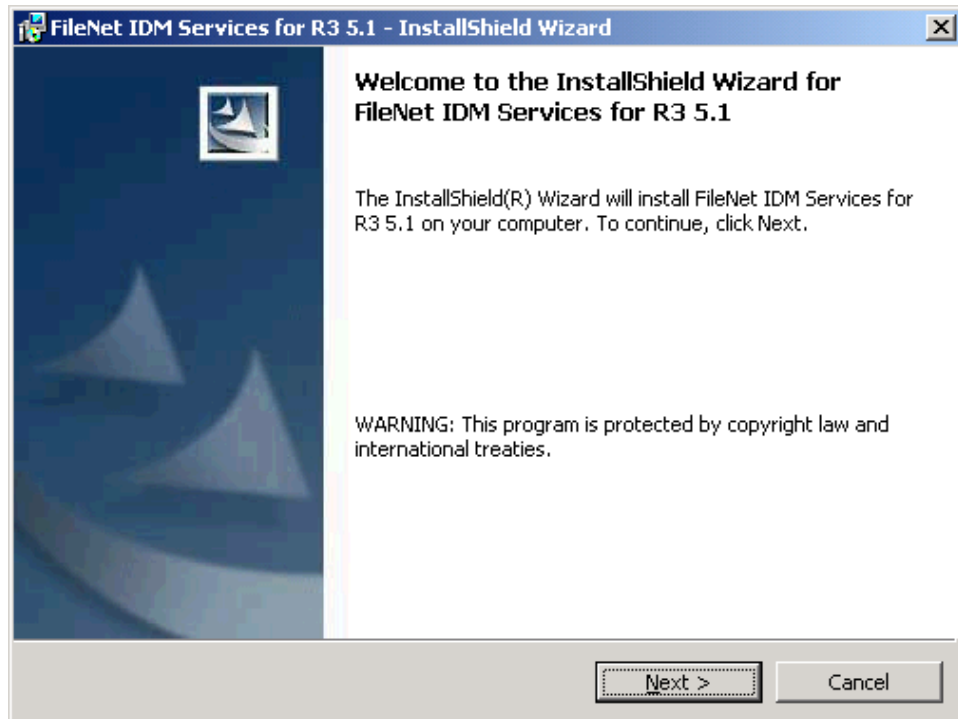
2. Click **Next** button to continue. Following screen is displayed:
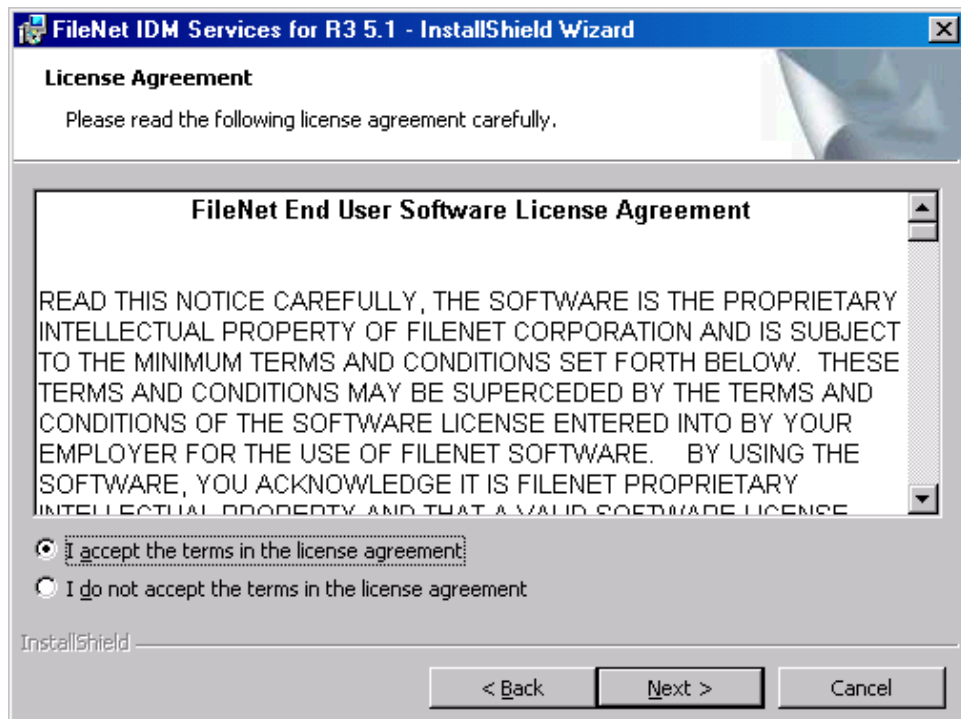
3. Accept the agreement and click **Next** to continue. Following screen is displayed:
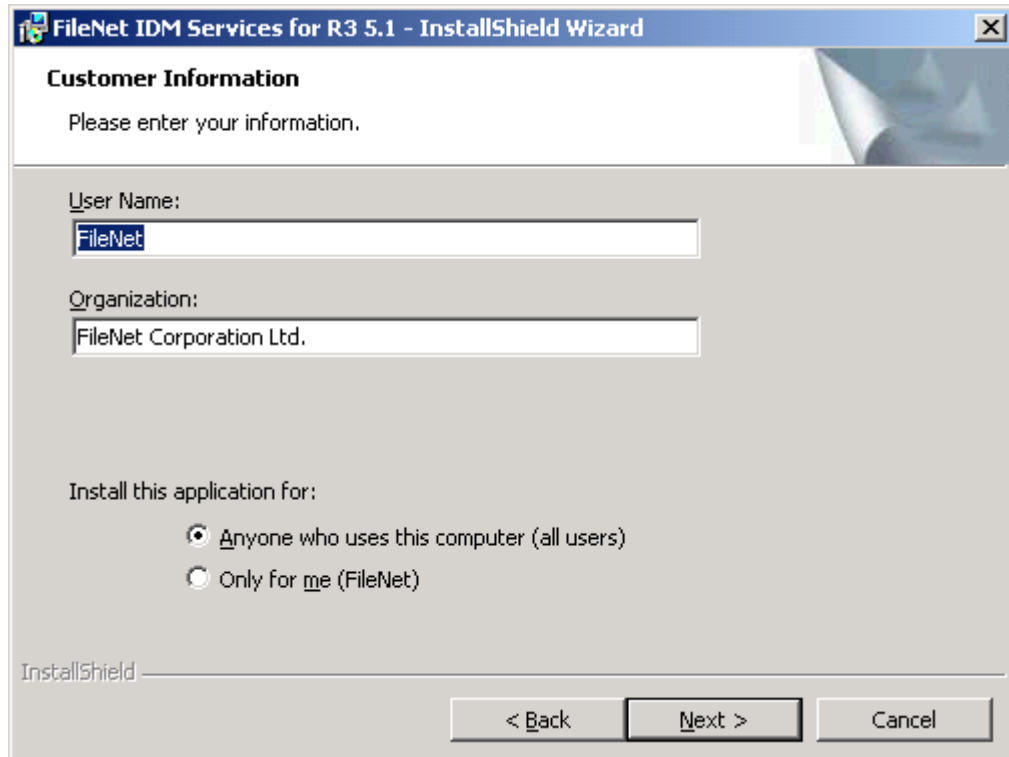
4. Verify that the entries are correct. Click **Next** to continue. The following screen is displayed:
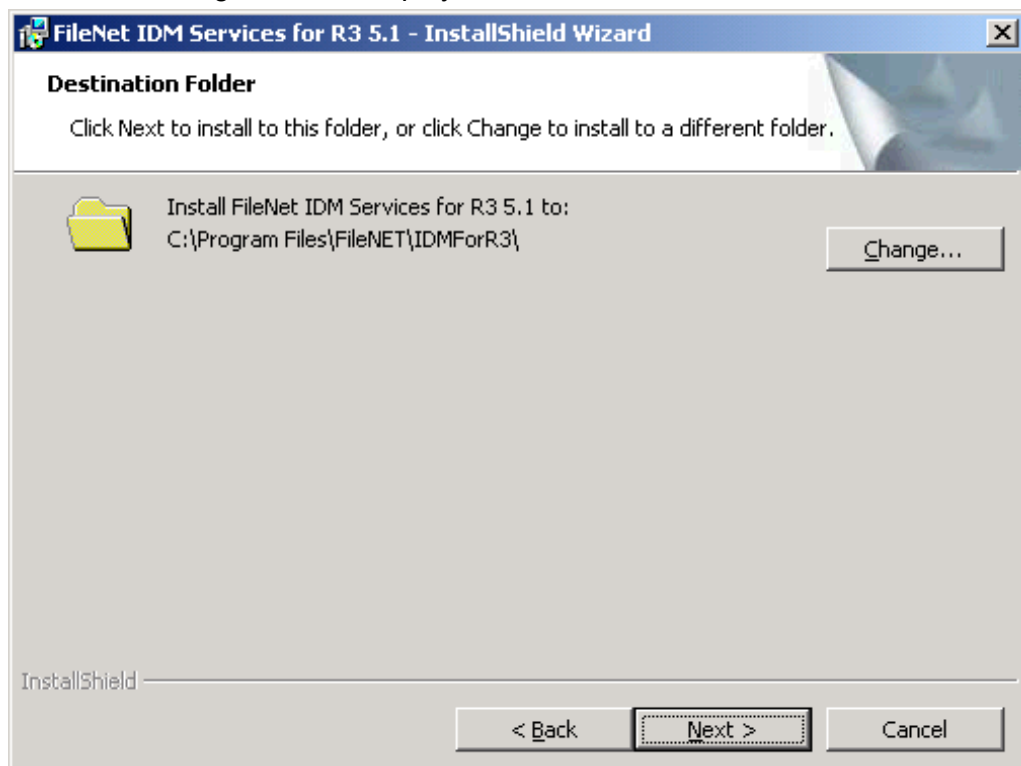
5. Change the installation folder if required. Click **Next** to continue. Following screen is displayed:
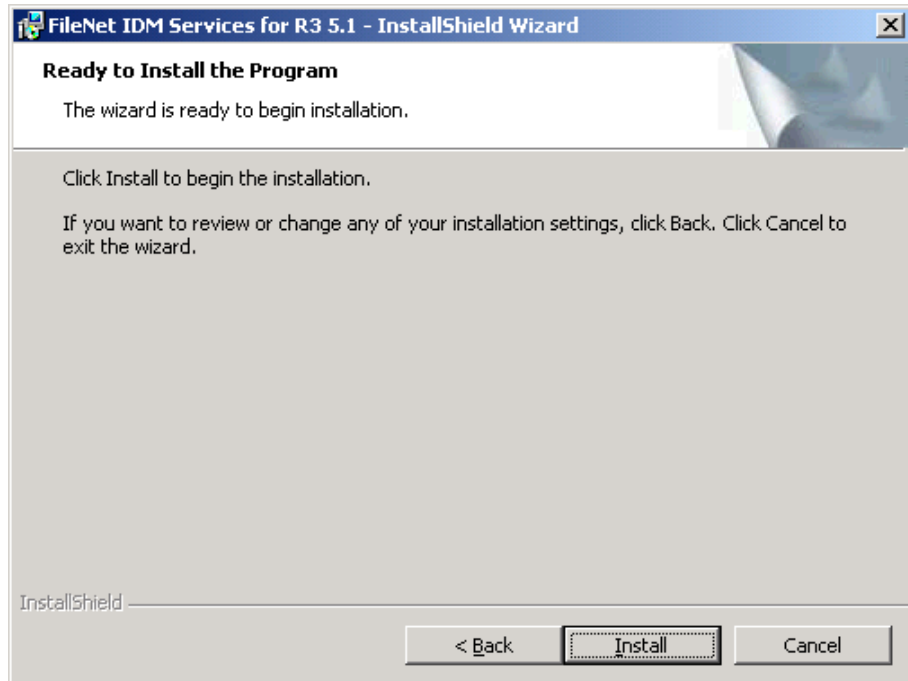
Tip: *Until this point each screen allows the end user to cancel the installation, which would leave the system as it was before the installation program had been invoked.*

6. Click **Install** to continue. Following screen is displayed:
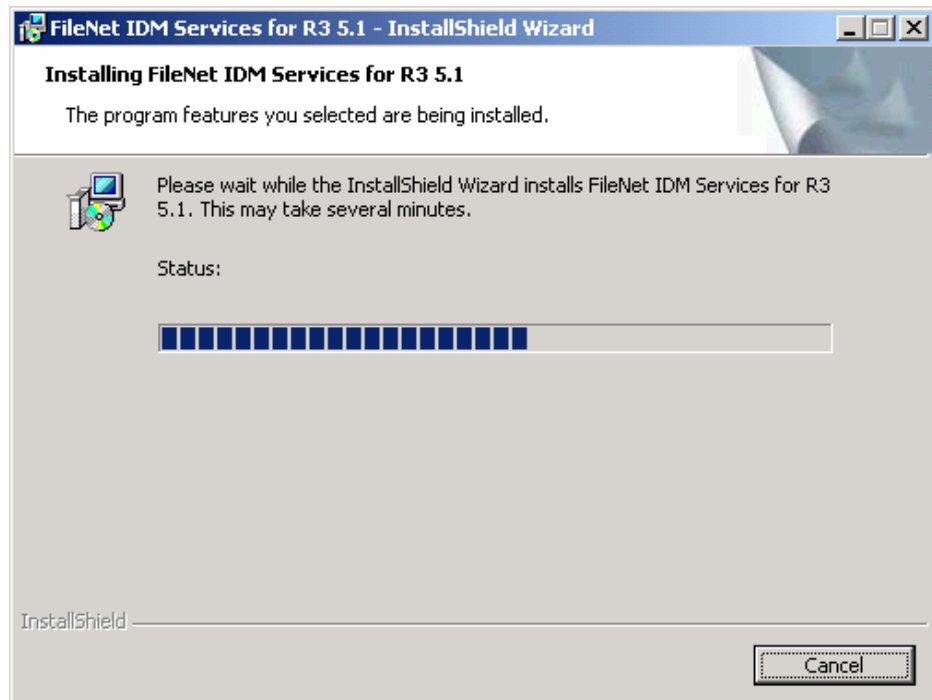
7. After the installation is completed, following screen is displayed:
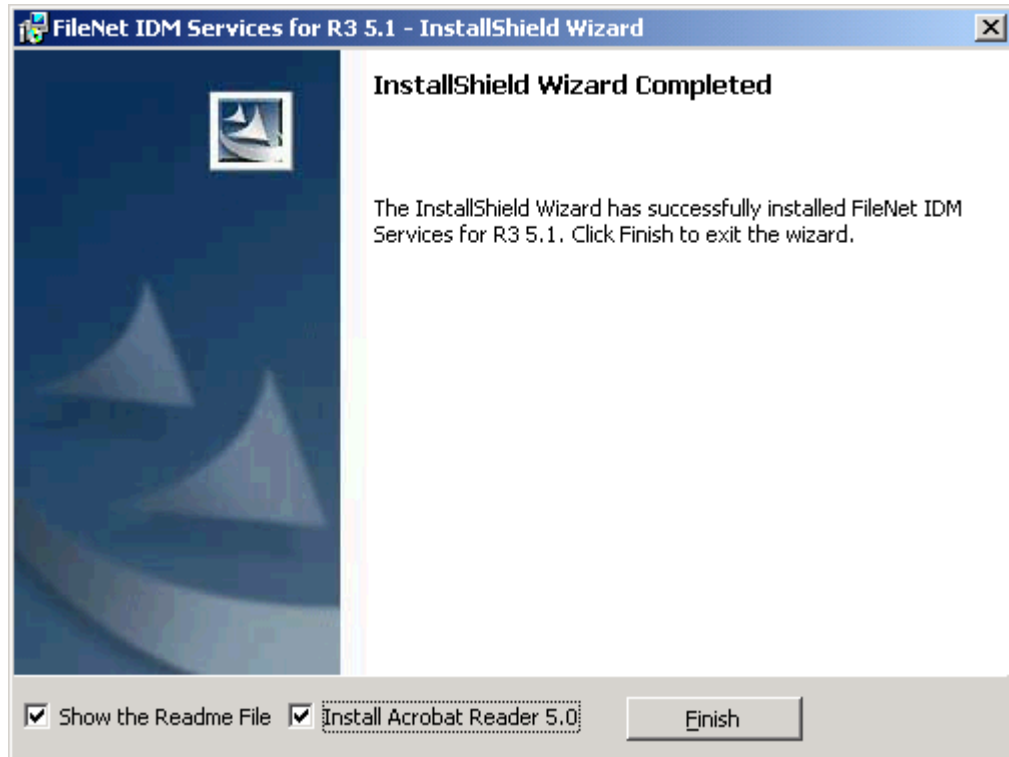
8. Click **Finish** to continue. The following screen is displayed:

9. To complete the installation, click on **Yes** to restart the server.

Note: After the installation has completed successfully, the configuration program must be used to create the settings for the IDM Services for R/3 components.

To use HTTP communication protocol, configure IDM Services for R/3 in IIS. Refer to section Configuring IDM Services for R/3 in Internet Information Server for HTTP communication.

Install IDM Services for R/3 Server Add On
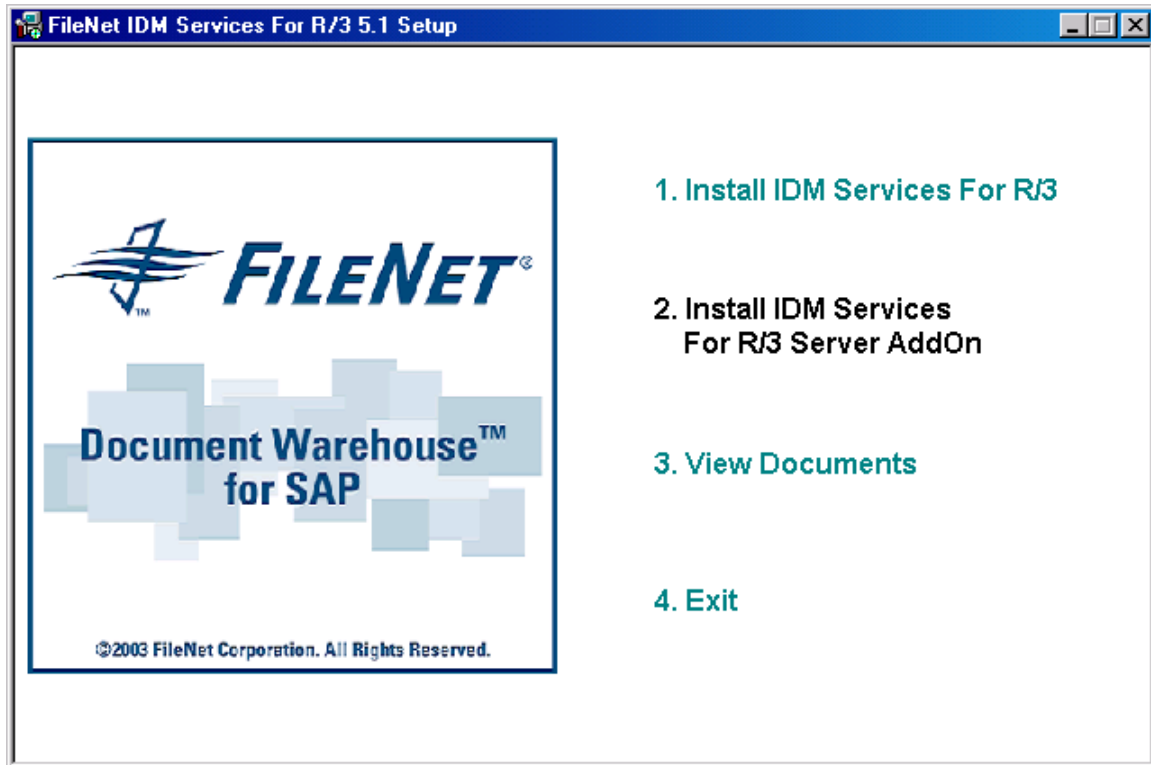
1. Click **Install IDM services for R/3 Server Add On**. The following screen is displayed:
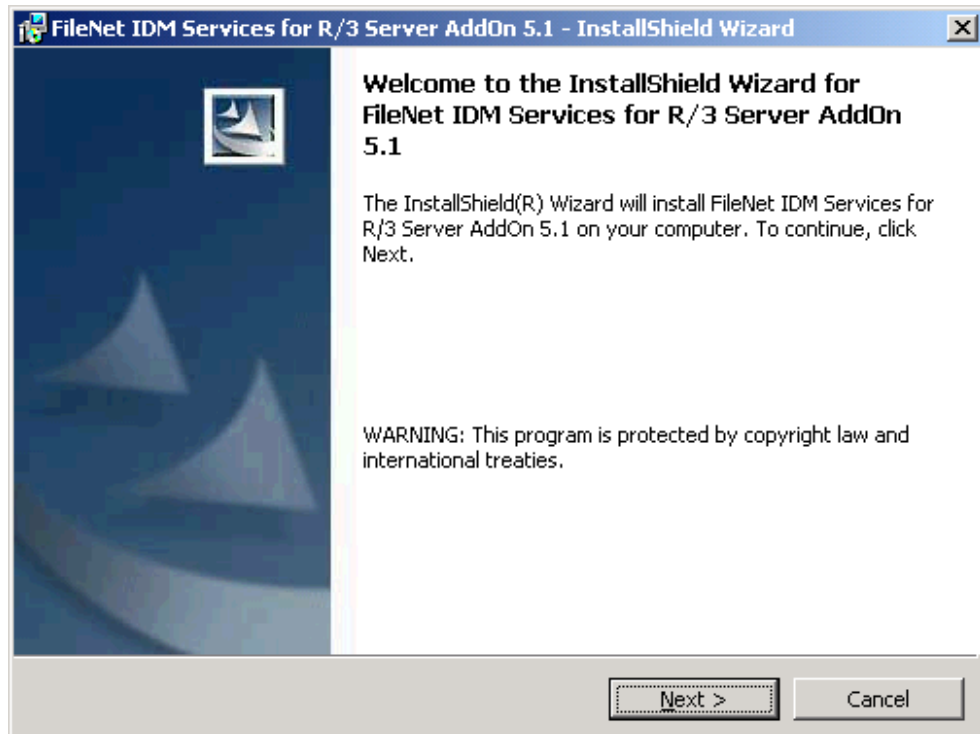
2. Click **Next** to continue. The following screen is displayed:
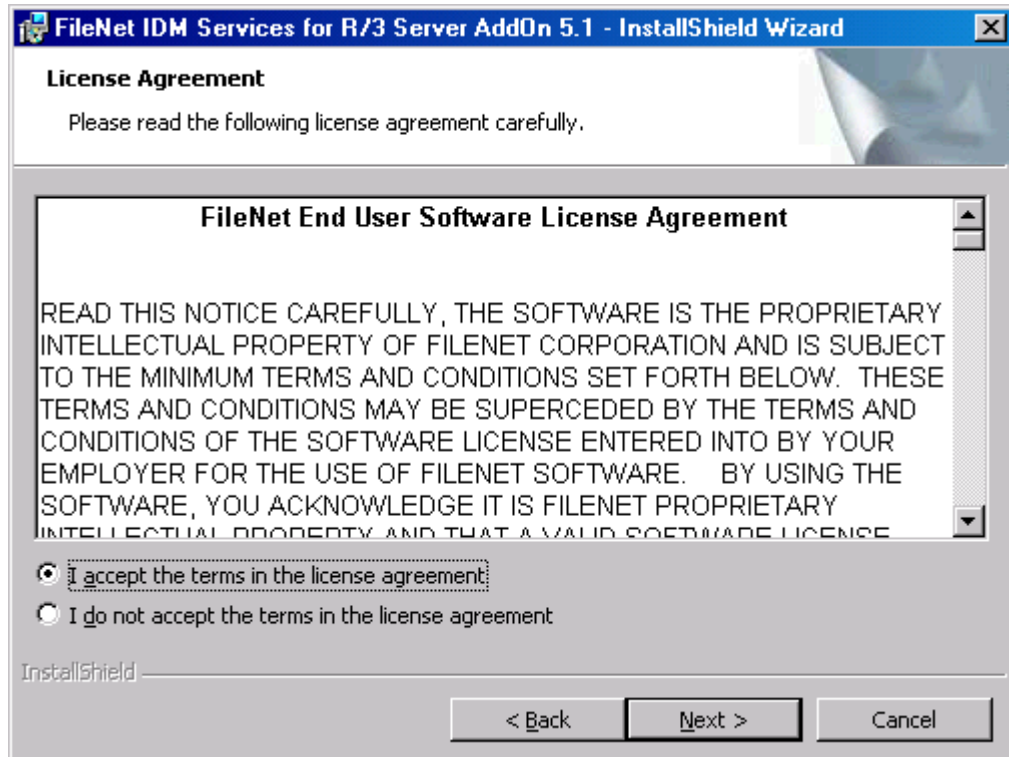
3. Accept the agreement and click **Next** to continue. The following screen is displayed:
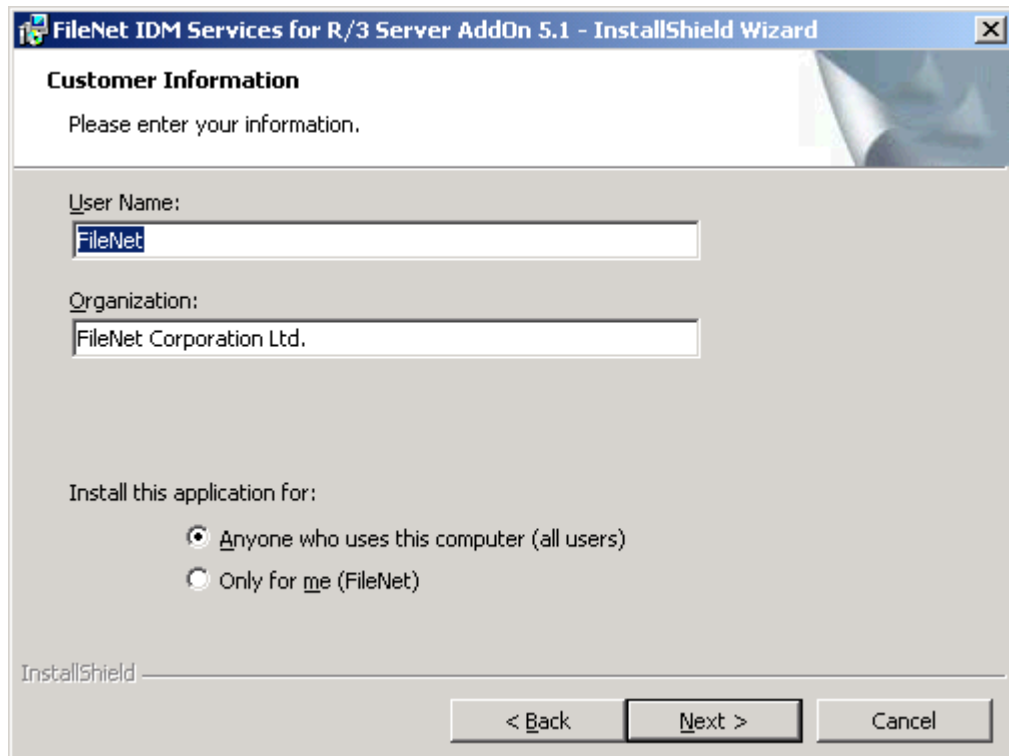
4. Verify that the entries are correct. Click **Next** to continue. The following screen is displayed:
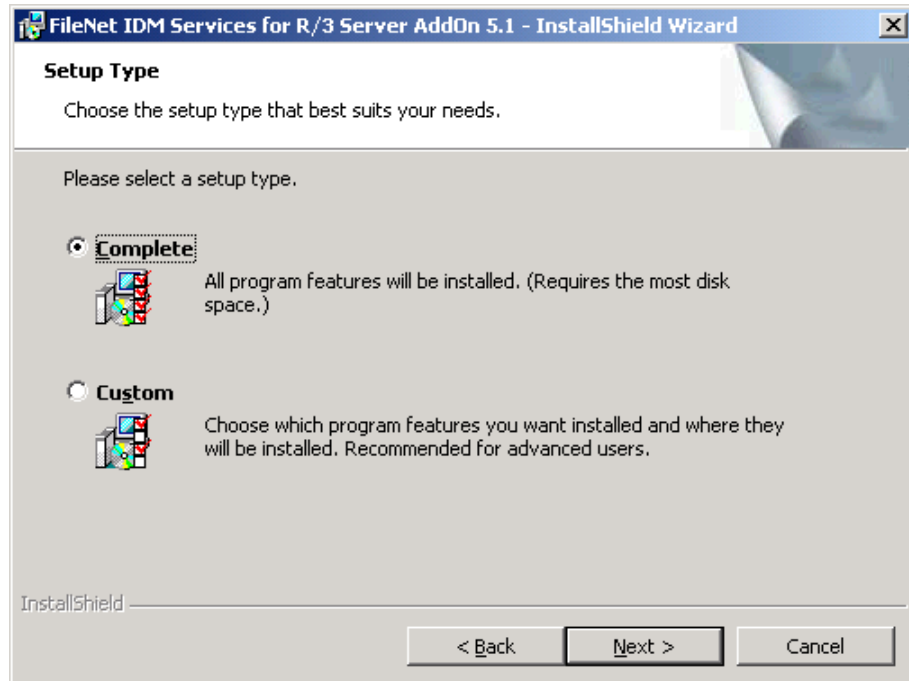
5. Select the type of Installation that is required: **Complete** or **Custom**. The **Complete** option contains all IDM services for R/3 Server Add on components. This includes ASP pages for pure thin document viewing, DMS Sample application and thin client document viewing. The **Custom** option lets you customize your installation by choosing the specific components you want to install.

    a   Select **Complete** option. Click **Next** to continue. The following screen is displayed:
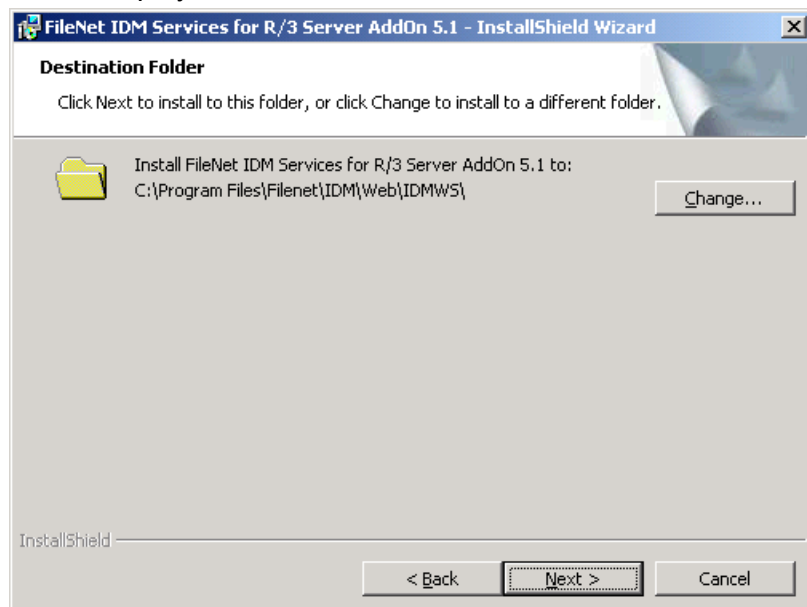
b   Select **Custom** option. Click **Next** to continue. The following screen is displayed:
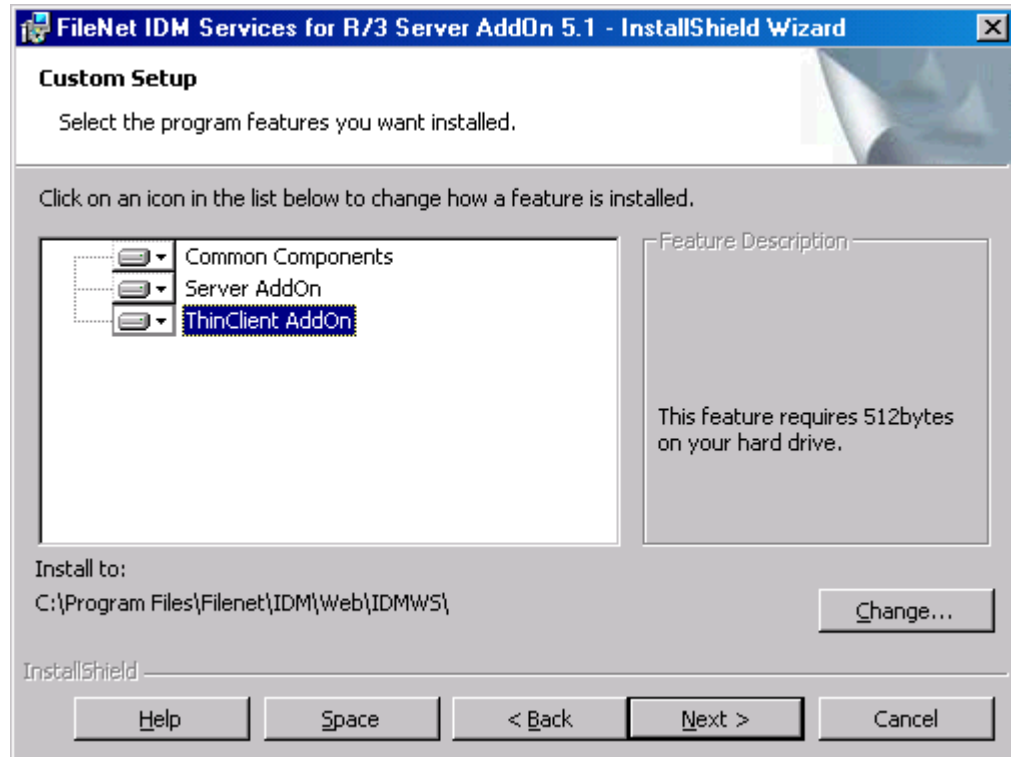
6.   Click **Next** to continue. The following screen is displayed:
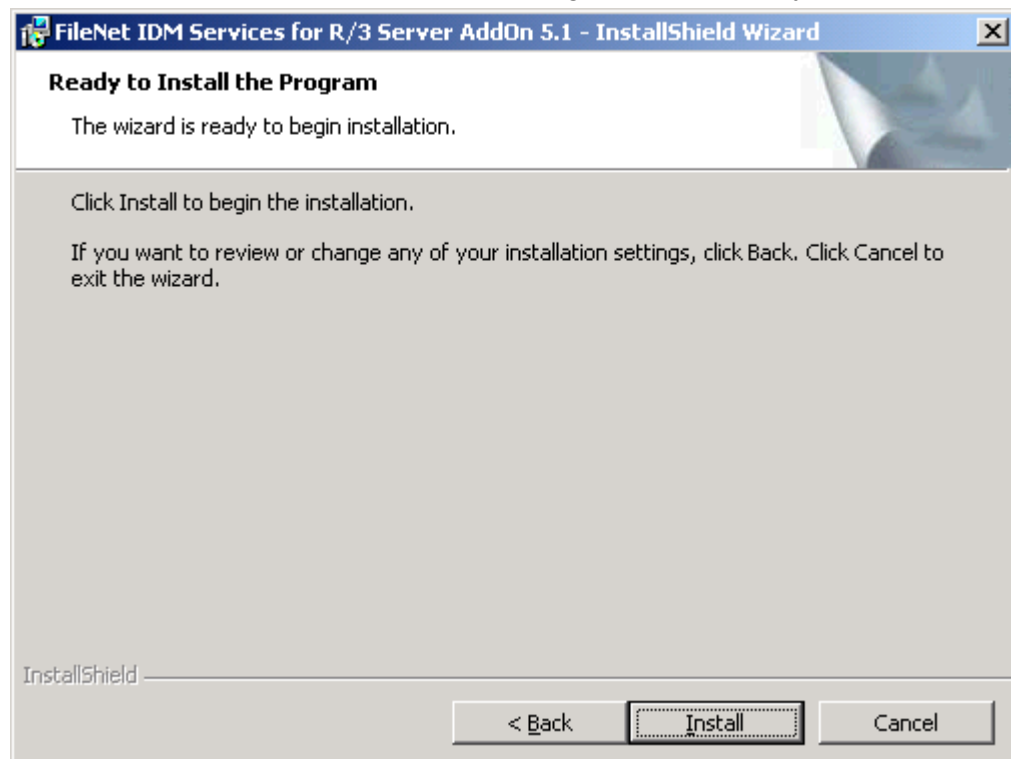
7. Click **Install** to continue. The following screen is displayed:

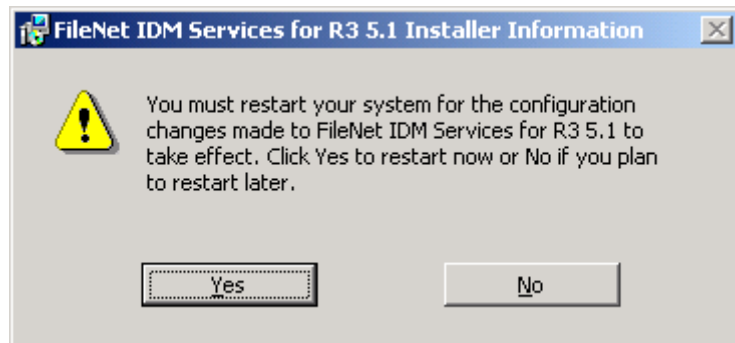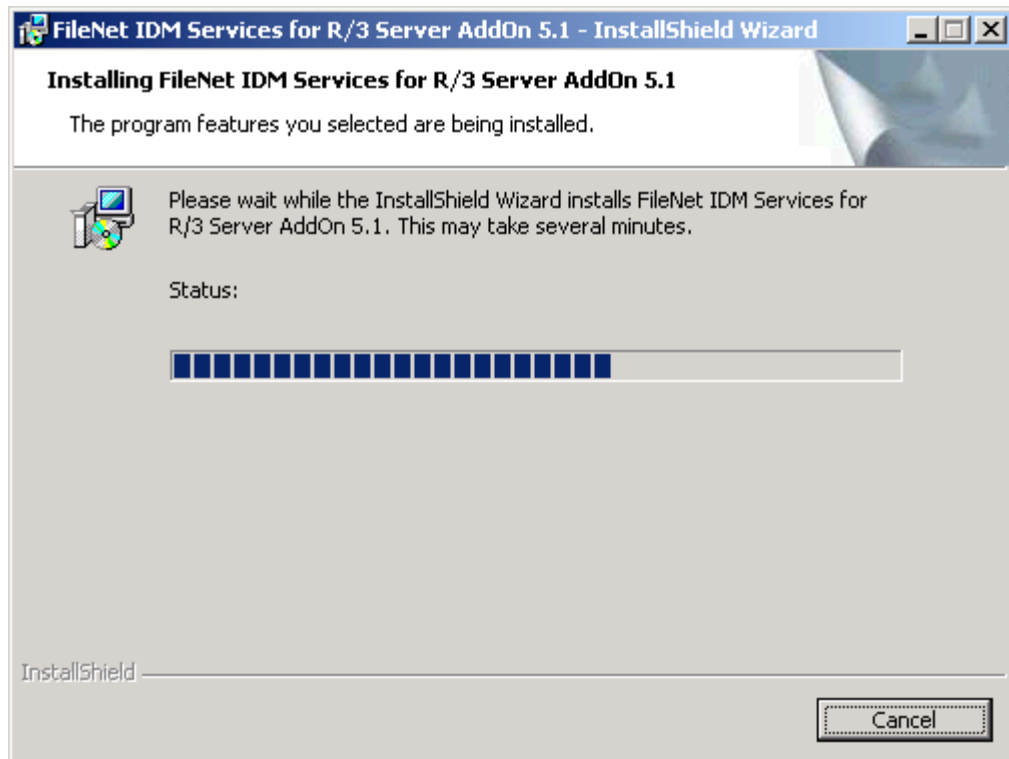8. After the installation is complete, the following screen is displayed:
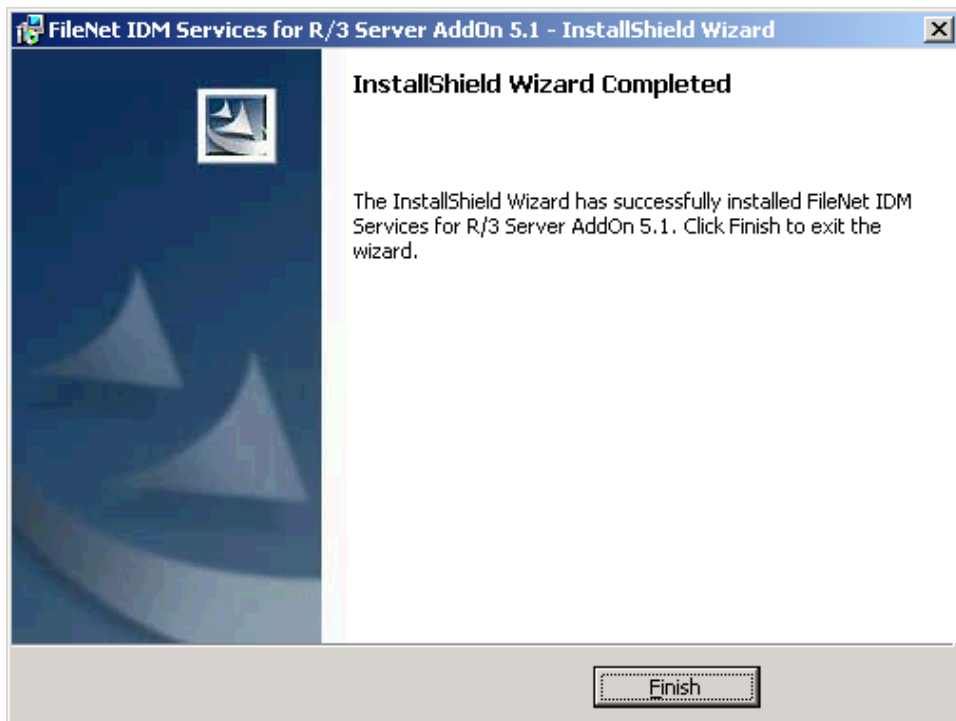
9. Click **Finish** to close the Installation Wizard.

View Documents
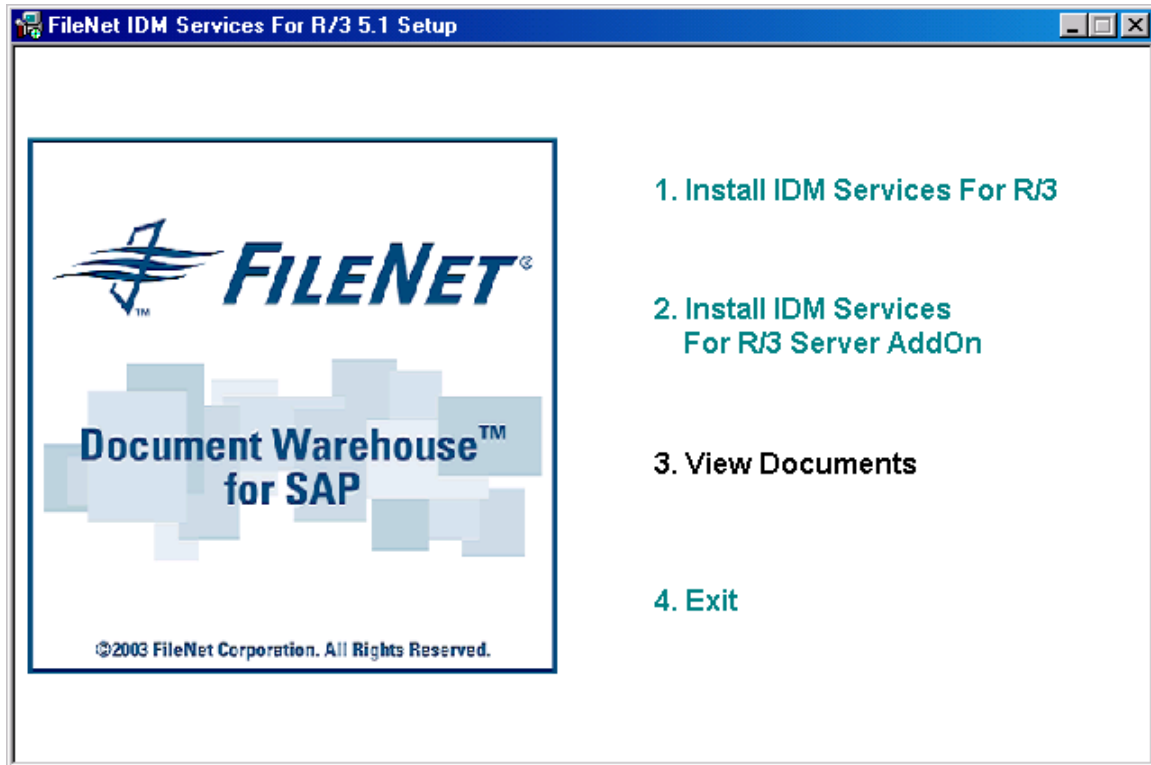
1. Click **View Documents**. The following screen is displayed:
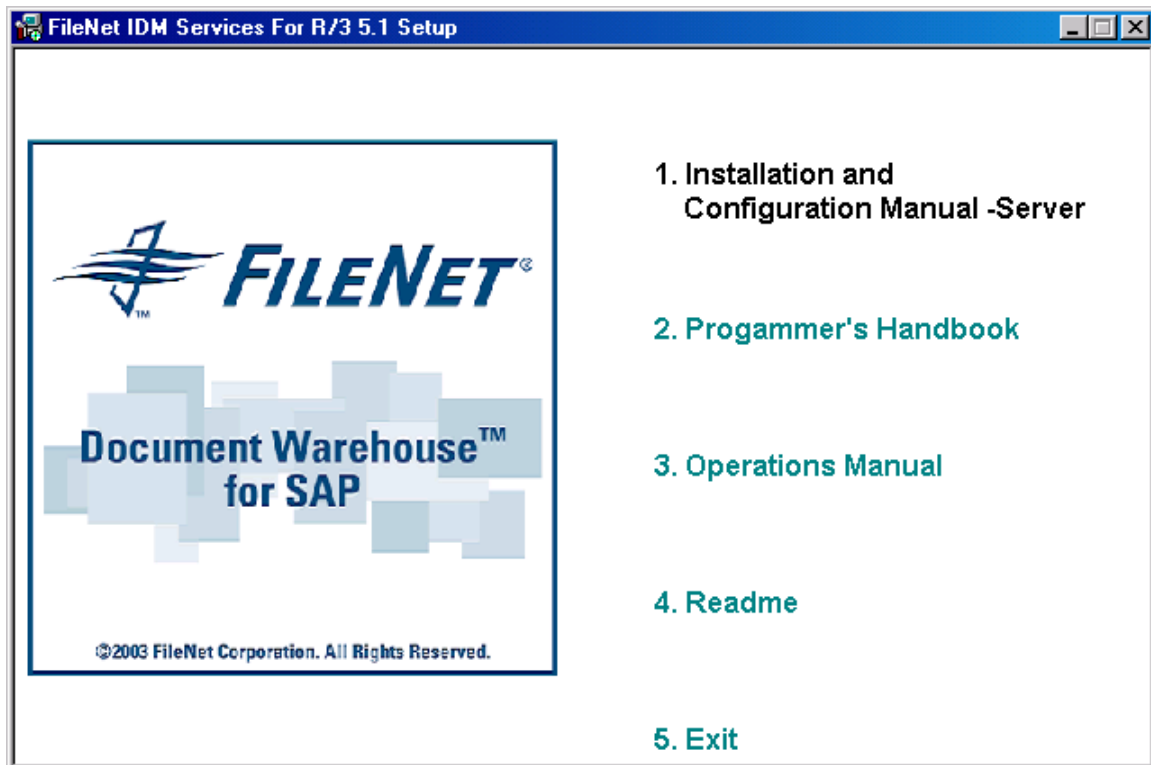
2. Click on appropriate option to view documents.

Note: To view all DWSAP documents **Acrobat Reader** must be installed on the system.

---

3. Click **Exit** to go back to the previous screen.

Upgrading from DWSAP Releases

DWSAP 5.x does not perform automated upgrades from previous releases. To upgrade DWSAP from earlier releases:

1. Backup configuration files such as srvlink.cfg, saprfc.ini, and RFCDES.

2. Remove earlier release of DWSAP and Image services toolkit (Formerly known as WAL).

3. Install IDM Services for R/3.

Note: Prior to version 5.x, DWSAP was configured using three configuration files, such as srvlink.cfg, saprfc.ini, and RFCDES, along with environment variable settings. These files and variables are obsolete because the storage location and structure of the configuration options have changed. During upgrade, it is necessary to enter the configuration information contained in these files into the configuration program.

The following table lists how previous configuration settings can be converted to the new configuration settings, using the configuration program, a new setting of **n/a** refers to an obsolete setting:

Source	Setting	New Setting
Environment	RFCSYS	n/a
	RFC_INI	n/a
	SRVLINK	n/a
Srvlink.cfg	LOGFILE	Logging / Log file name
	LOGALL	Logging / Log level
	CONSOLE	n/a
	SAP_VERSION	n/a
	PROGNUM	n/a
	VERSION	n/a
	TIME_FORMAT	n/a

Source	Setting	New Setting
	BASEPATH, ARCHPATH	Available for a specific SAP archive under SAP Systems / <system name> / <archive id>. These paths are set individually for each archive; the default paths are not available anymore.
	DOC_DELETE	See new setting for BASEPATH.
	ARCHIVE=<id>, <fnlib>:<user>:<pw>	Is split into FileNet Library and SAP-specific. Add the FileNet library (fnlib) under FileNet Libraries that contain the user and password information. Subsequently, add the archive to the appropriate SAP system at SAP Systems / <system name>. Note that the list of archives is configured individually for each SAP system.
	[DOCTYPES] <sapdocclass>= <fndocclass> DEFAULT= <fndocclass>	Maps SAP Technical Document Classes to FileNet Document Classes. Document Class is used while creating a new document in a FileNet library. This list is now configured individually for each SAP archive under SAP Sytems / <system name> / <archive name> / Document Classes.
	[LINKSAP] WORKSPACE=… QUEUE=… INDEX=… BARCODELEN=…	cBarcode was formerly called LinkSAP. cBarcode information is configured individually, for each SAP archive. You can access the information in two ways: under SAP Sytems / <system name> / <archive name> / cBarcode, and under cBarcode / <system name> / <archive name>. Note that the INDEX setting is now called Barcode Property.
	[ASYNCQUEUE] FNLOGON=… WORKSPACE=… QUEUE=…	The Asynchronous Queue of Document Warehouse for SAP release 4 and the Request Queue of Document Warehouse for SAP release 5 are not compatible with each other. Delete old queue to create a new queue using configuration tool.

Source	Setting	New Setting
	[<LOGSYSTEMID>. <ARCHIVEID>]	The concept of defining default values in general sections with potential override in an SAP storage system-specific section is no longer available. Instead of the default information, only SAP archive-specific information is available. This improves the comprehensibility of configuration. To convert the information of this section, gather the default information of sections CONFIG, DOCTYPES, and LINKSAP and merge it with the information defined under this section. This results in the SAP archive specific setting. A description of how to convert the individual settings is present in the CONFIG, DOCTYPES, and LINKSAP conversion details.
saprfc.ini	DEST=<sapsys> DEST=<sapsys>_SV	Maps to the SAP system name under SAP Systems. IDM Services for R/3 configuration has removed the need to have separate configurations for RFC servers (TYPE=R) and clients (TYPE=A). It uses a single set of RFC connection information for both RFC Servers and RFC Clients This set of information is entered under SAP Systems / <system name> / RFC communication.
	TYPE=R TYPE=A	n/a
	ASHOST	Maps to SAP Application Server.
	SYSNR	Maps to SAP Sytem Number.
	GWHOST	Maps to SAP Gateway Host.
	GWSERV	Maps to SAP Gateway Service.
	PRODID	Maps to Program ID.
	RFC_TRACE	Maps to RFC Trace Enabled in RFC Server and RFC Client sections.
RFCDES	<first identifier>	Enter the information contained in each line under SAP Systems / <system name> / RFC Communication, where <system name> maps to the first identifier of the RFCDES line.
	C=<client>	Maps to SAP Client.
	U=<user>	Maps to SAP User.
	P=<password>	Maps to SAP Password.

Source	Setting	New Setting
	L=<language>	n/a
	M=<mode>	n/a
	T=<trace>	Maps to RFC Trace Enabled in the RFC Client section.

Subsequent to converting the previous configuration, it is mandatory to enter the new configuration information introduced with this release of Document Warehouse for SAP. For more information, see section IDM Services For R/3 Configuration.

It is possible to maintain a previous release of Document Warehouse for SAP, if it is running on a separate machine. For this scenario, different RFC destinations must be used.

Re-installation of IDM Services for R/3

1. Choose the Add/Remove Software (Add/remove programs in Windows 2000) program of the Windows control panel. The following screen is displayed:
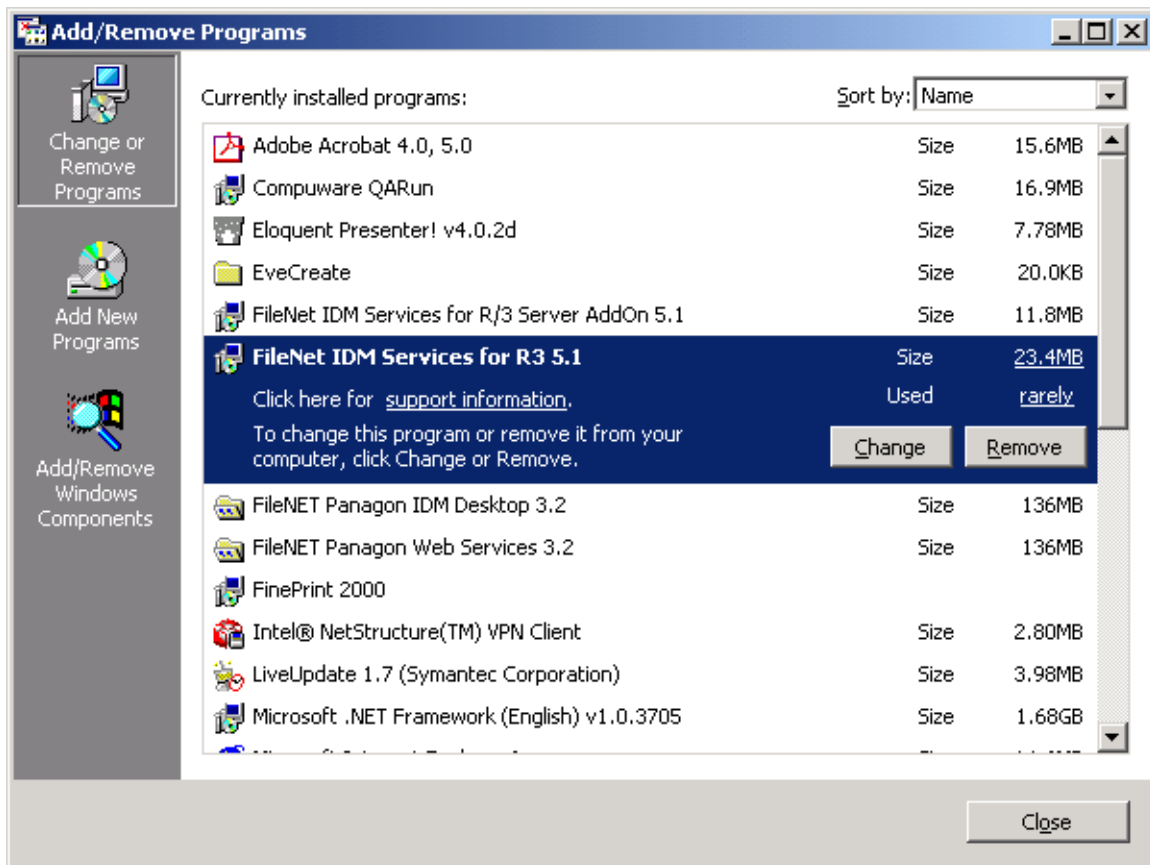
2. Select FileNet IDM Services for R/3. Click **Change**. The following screen is displayed:
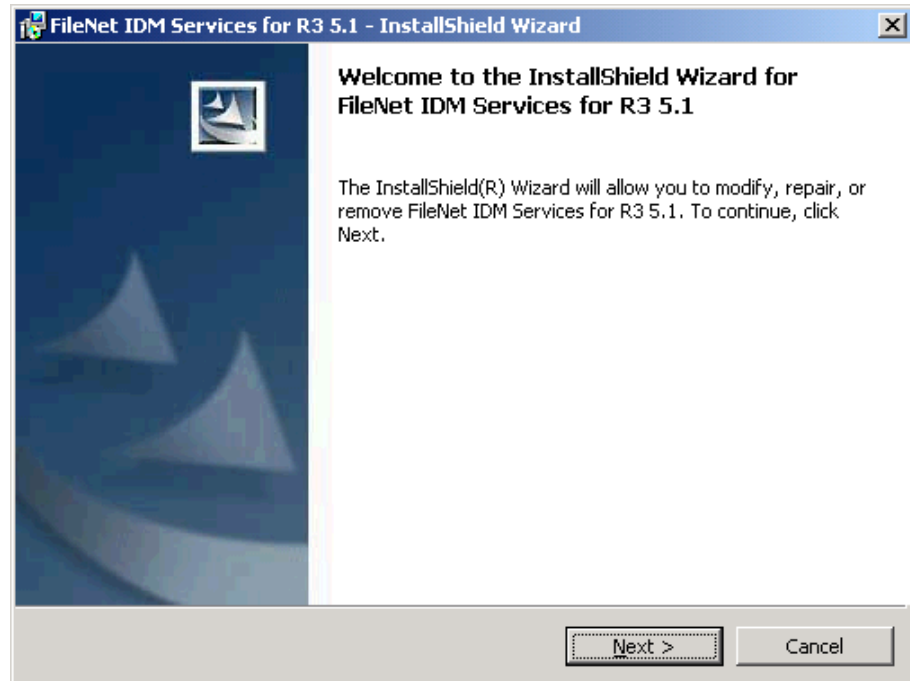
3. Click **Next** to continue. The following screen is displayed:
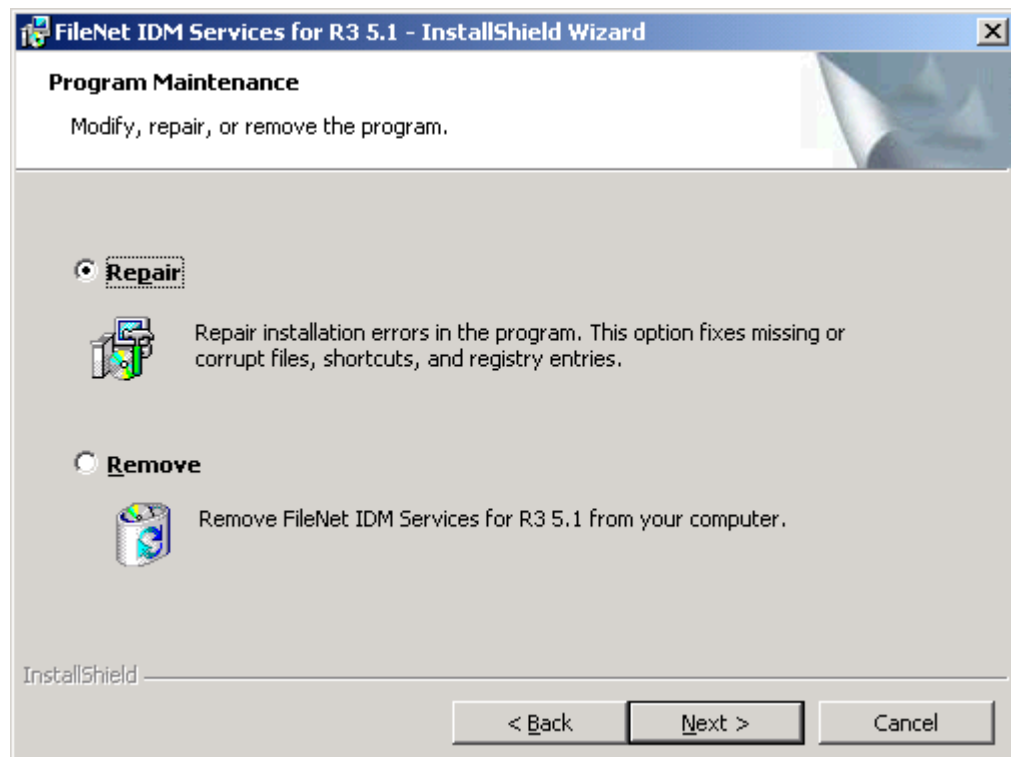
4. Select **Repair** option and click **Next** to continue. The following screen is displayed:
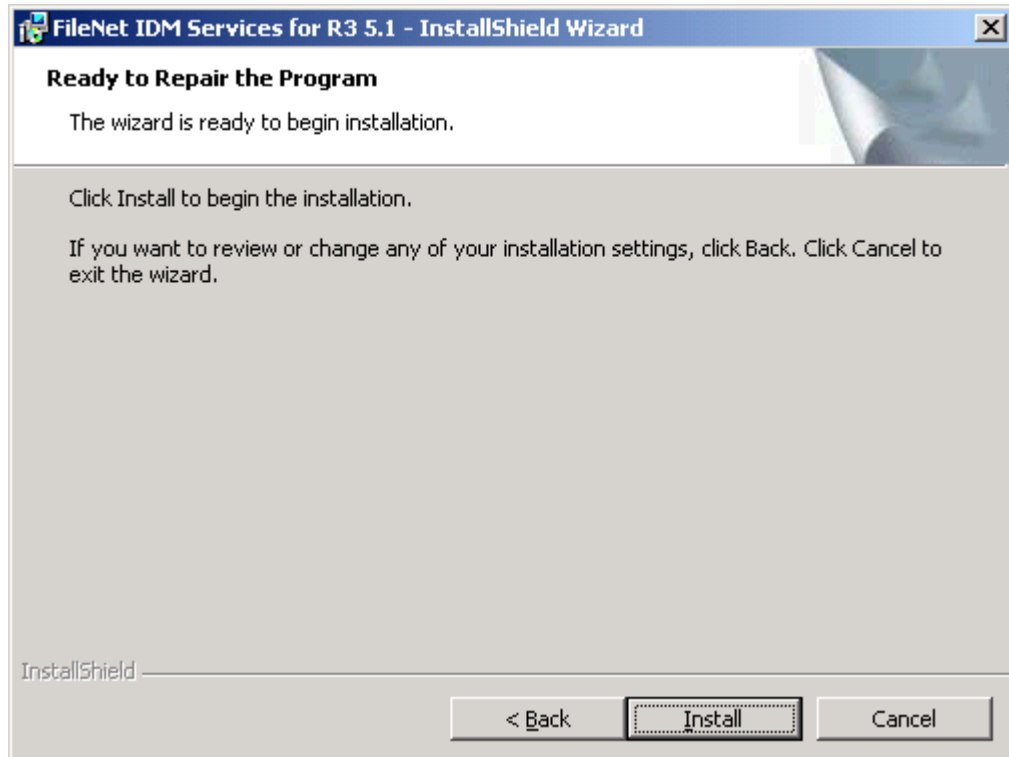
5. Click **Install** to continue. The following screen is displayed:
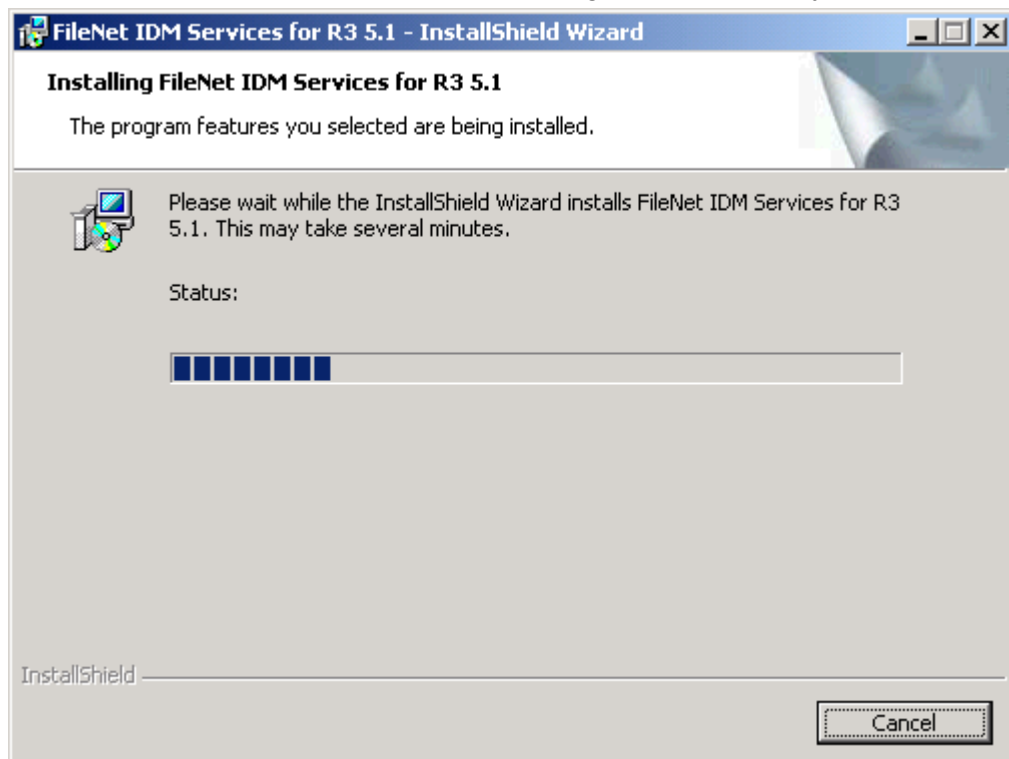
6. After the installation is complete, the following screen is displayed:
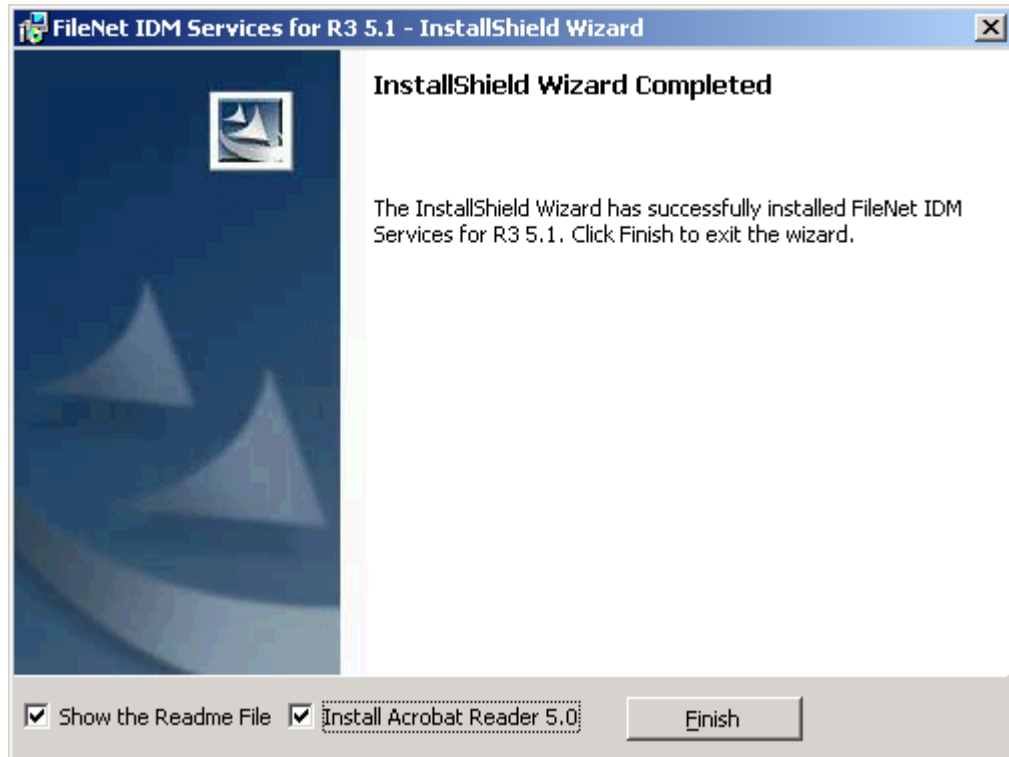
7. Click **Finish**. The following screen is displayed:
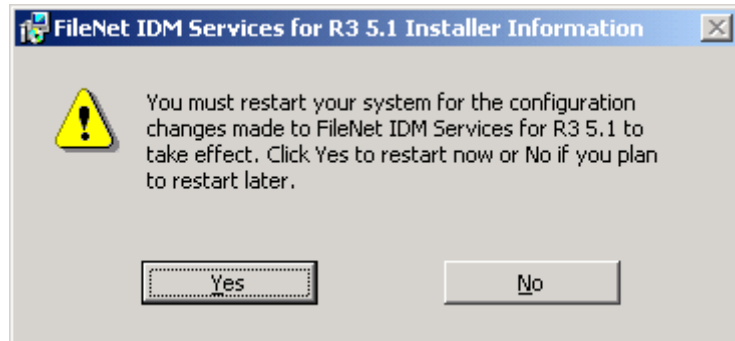
8. To complete the installation, click **Yes** to restart the server.

Removal of IDM Services for R/3

Choose **the Add/remove** programs in the Windows control panel. The following screen is displayed:
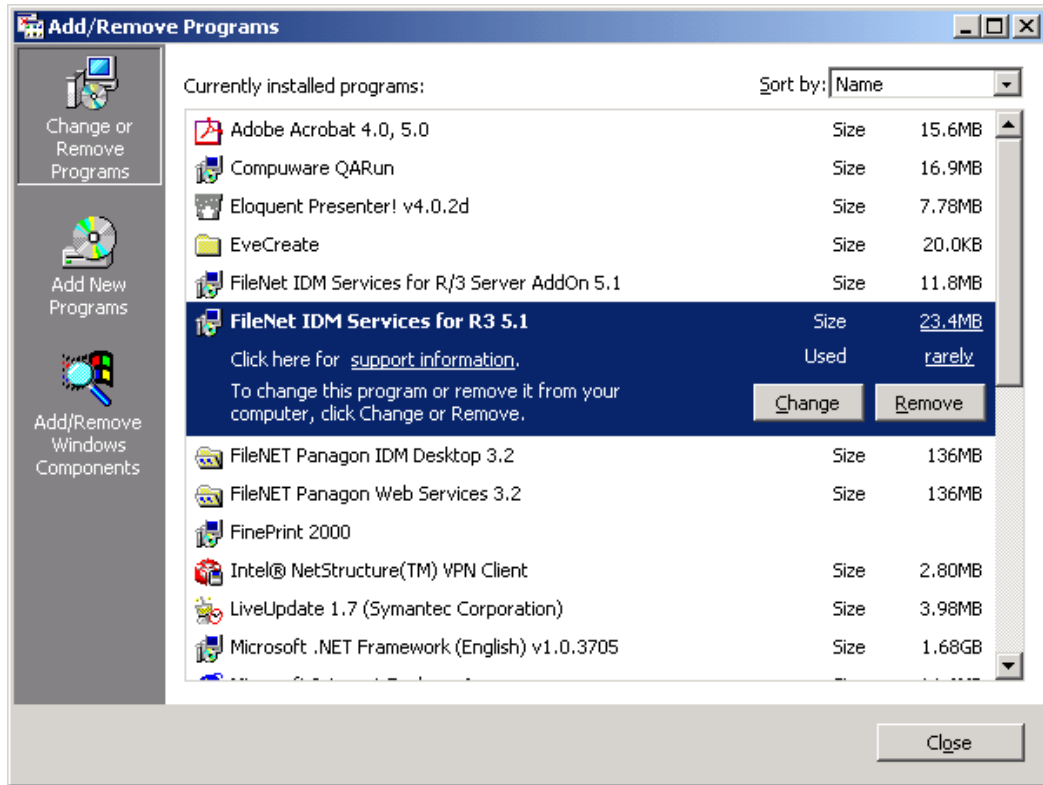
Removal of IDM Services for R/3 using Remove Button

1. Select FileNet IDM Services for R/3. Click **Remove**. The following screen is displayed:
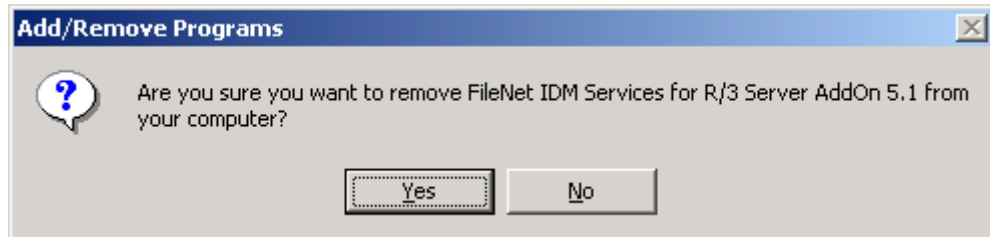
2. Click **Yes** to continue. The following screen is displayed:
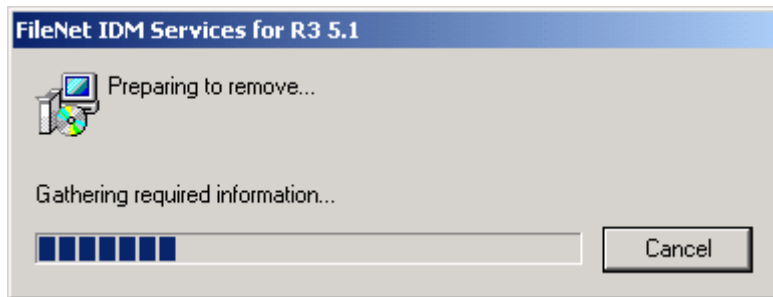
3. After the removal is complete, following screen is displayed:
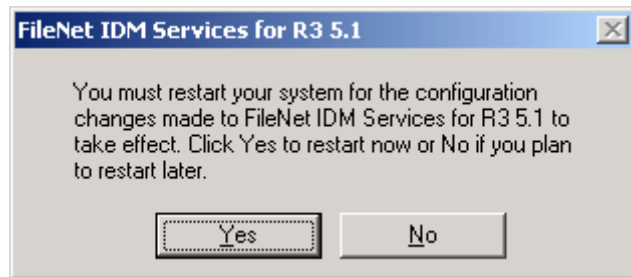
4. To complete the removal, click on **Yes** to restart the server.

Removal of IDM Services for R/3 using Change Button

1. Select FileNet IDM Services for R/3. Click **Change**. The following screen is displayed:

2. Click **Next** to continue. The following screen is displayed:
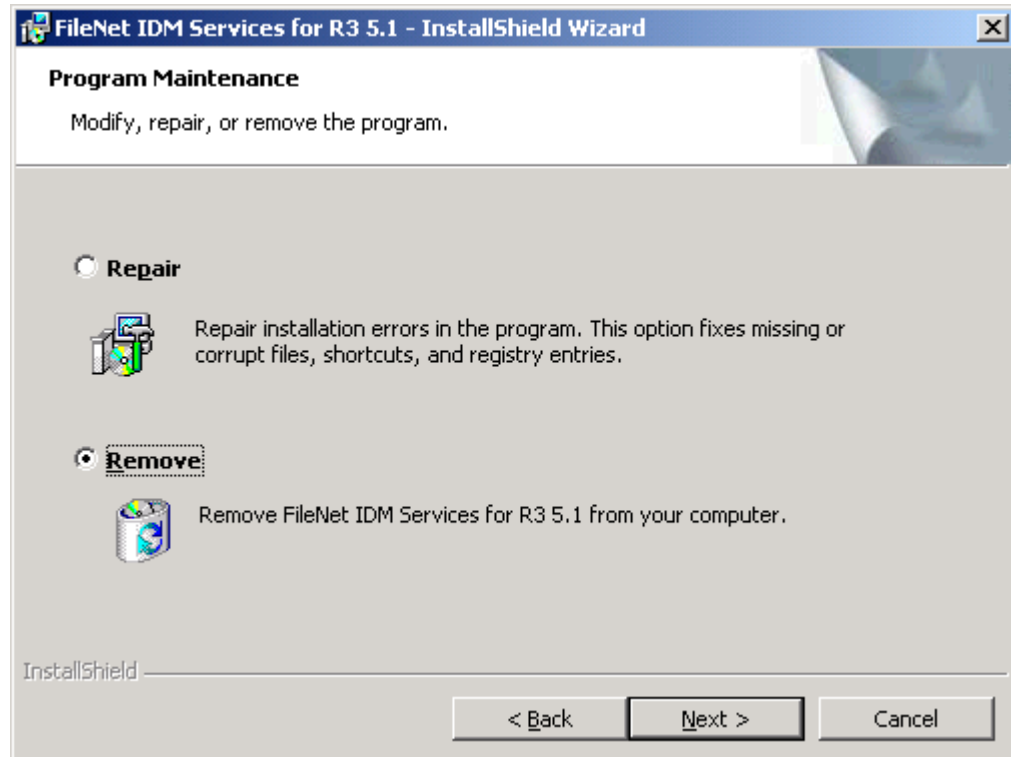
3. Select **Remove** option and click **Next**. The following screen is displayed:
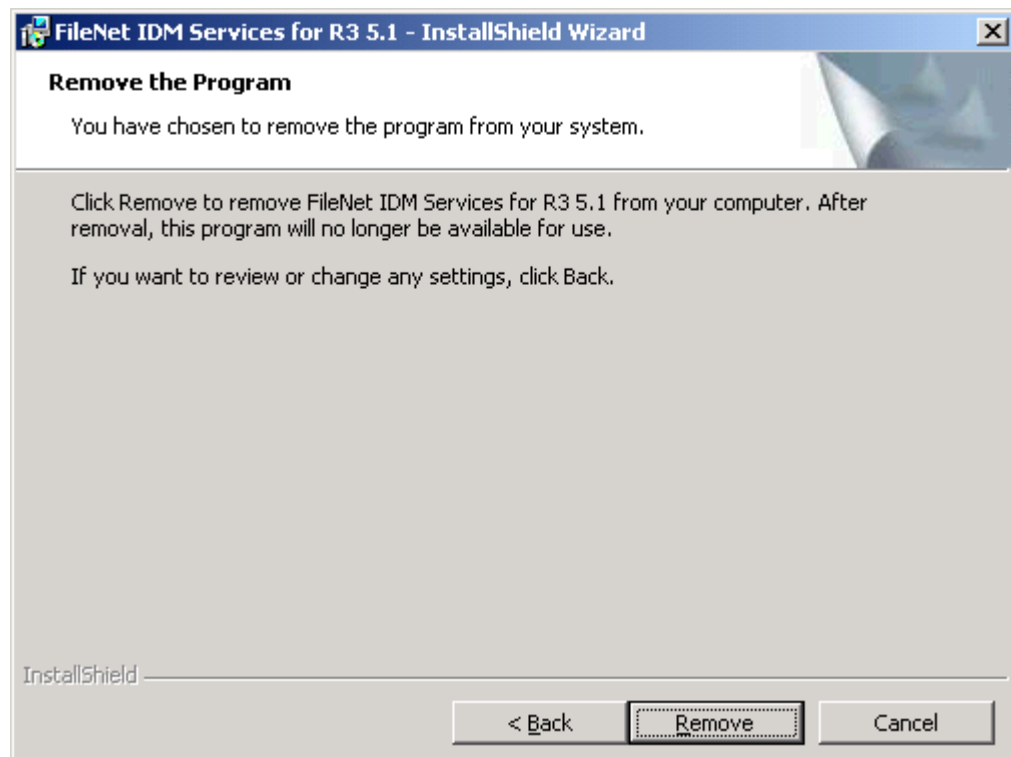
4. Click **Remove** to continue. The following screen is displayed:

5. Click **Finish**.
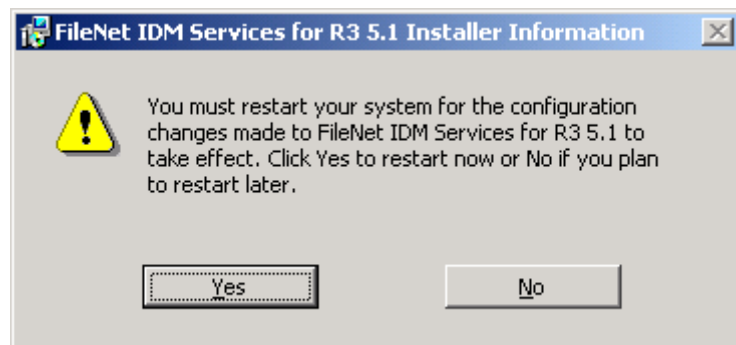
6. To complete the removal, click on **Yes** to restart the server.

Modifying the setup of IDM Services for R/3 Server Add On

In order to reinstall IDM Services for R/3 Server Add On, following steps needs to be followed:

1. Choose the Add/Remove Software (Add/remove programs in Windows 2000) program of the Windows control panel. The following screen is displayed:
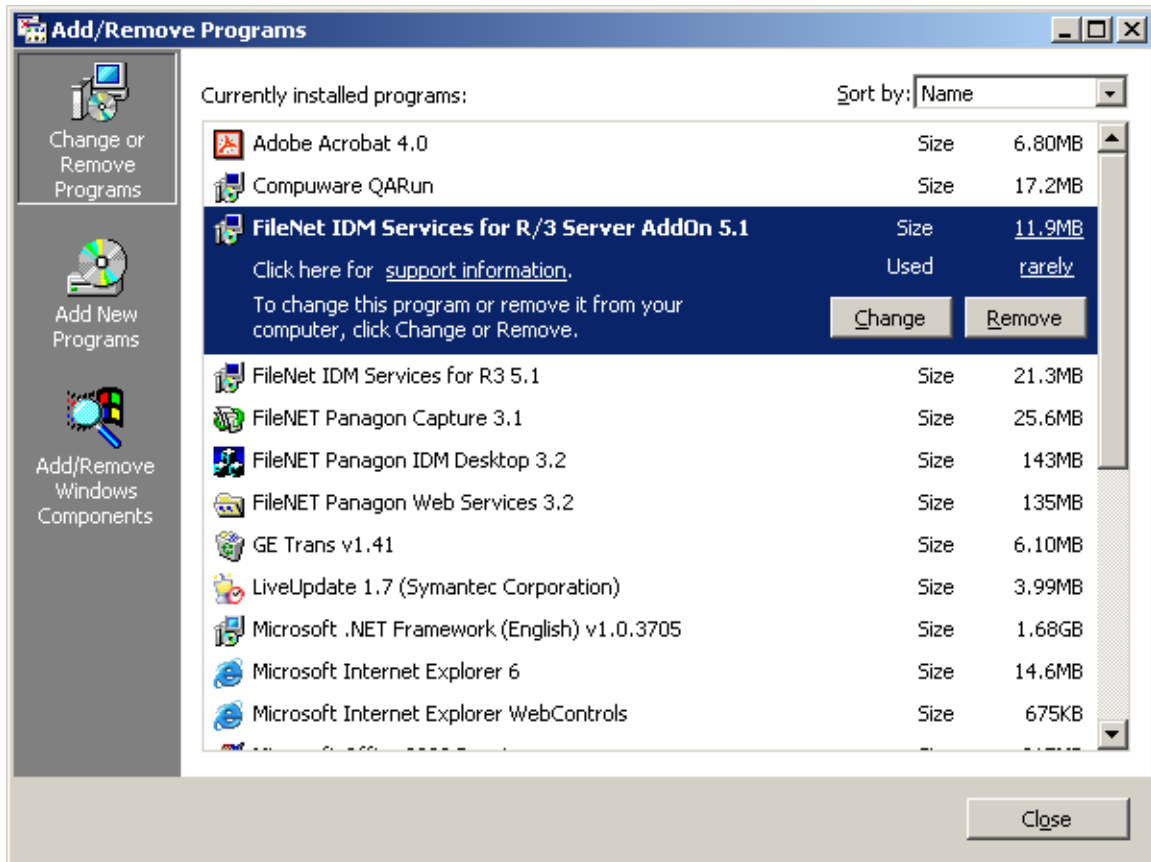
2. Select FileNet IDM Services for R/3 Server Add on 5.1. Click **Change**.
    The following screen is displayed:

3. Click **Next** to continue. The following screen is displayed:

4. Select **Modify** option and click **Next** to continue. The following screen is displayed:
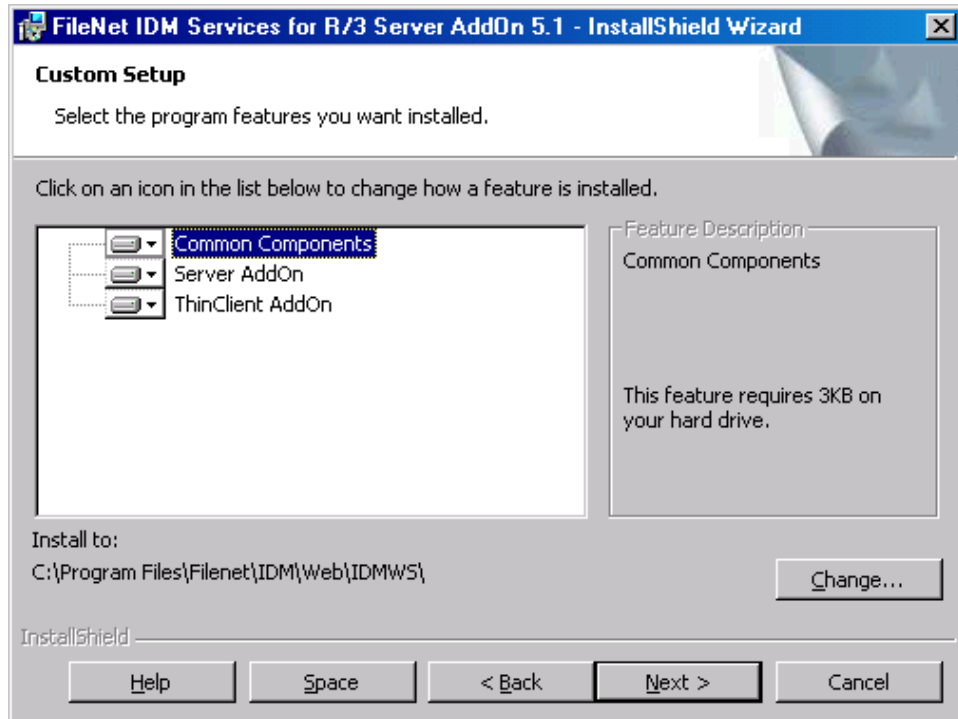
5. Click **Next** to continue. The following screen is displayed:
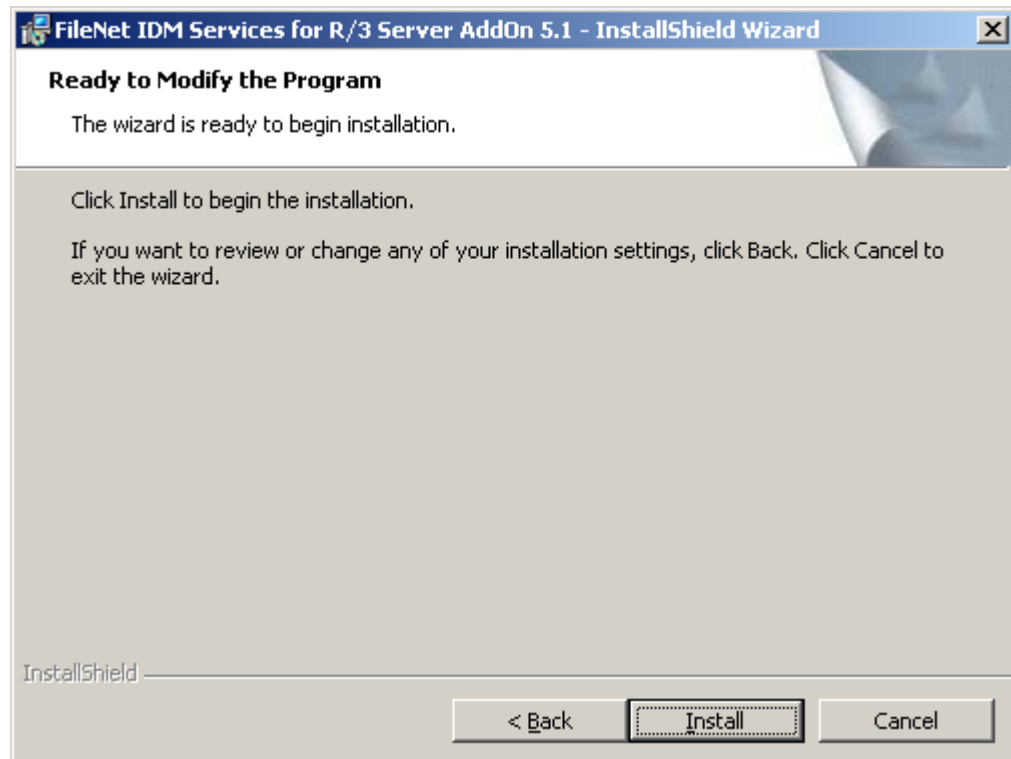
6. Click **Install** to continue. The following screen is displayed:
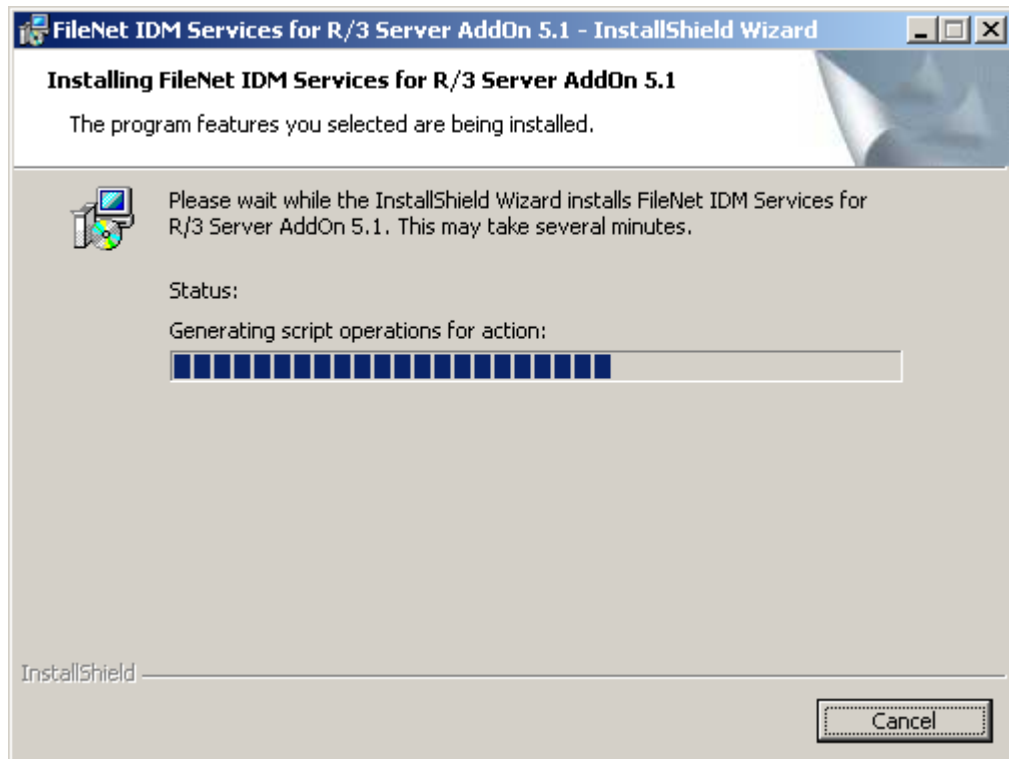
7. After the installation is complete, the following screen is displayed:
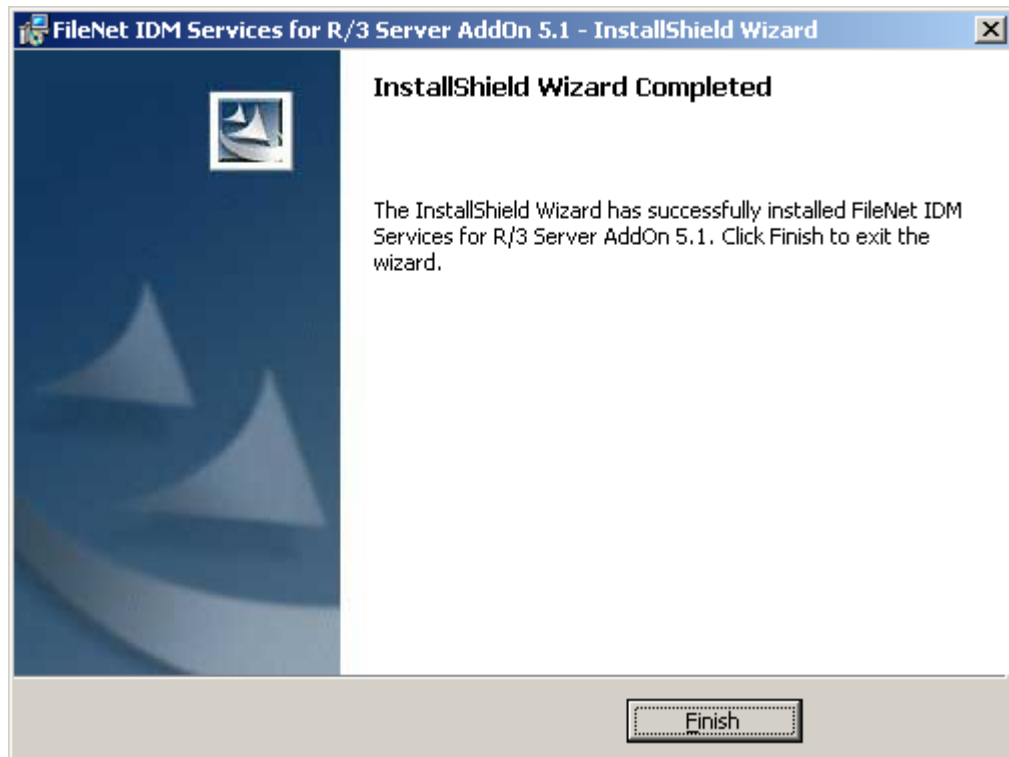
8. Click **Finish** to complete the reinstallation.

Repair and Removal of IDM Services for R/3 Server Add On

The steps to re-install and remove the IDM Service for R/3 Server Add on, are similar to those outlined in the sections Re-Installation of IDM Services for R/3 and Removal of IDM Services for R/3.

4
General Server Configuration

This chapter provides an overview of the configuration settings that should be done either on the Image Services (IS) and/or Content Services (CS) to run DWSAP.

Configuring FileNet IDM Libraries

> **Background**: Document Warehouse for SAP uses FileNet Libraries to store document types such as incoming original documents, print lists, outgoing documents, document images, and data archived from the SAP system.

Each FileNet Library system should be configured to use with DWSAP by performing these steps:

1. Defining FileNet Index Fields.

2. Defining Document Classes.

3. Creating an IS queue for asynchronous SAP ArchiveLink requests for RFC communication.

4. Creating distributor queues for barcode transfer.

5. Creating distributor queues for further processing of new documents.

Note: Steps 4 and 5 are optional in the configuration process.

Defining FileNet Index Fields

> **Background**: Documents stored in a FileNet library through SAP ArchiveLink are indexed in the SAP system, using the link tables in SAP database. Some additional information must be stored as part of the FileNet document requiring the definition of specific index fields for use in document classes.

The following table lists the index fields that should be defined in IS:

Index Field	Description
SAPType	Refers to SAP Technical Document Class. This is a mandatory field. Required.

Index Field	Description
ALFpages	Refers to the number of IS document pages containing the data component of a print list. This index field is required to store print lists, and applies to IS only. Large print lists are split into multiple pages for faster retrieval.
ALFdpages	Refers to the number of IS document pages containing the description component of a print list. This index field is required to store print lists, and applies to IS only.
SAPDocId	Refers to an identifier for the documents created by an SAP system. This is required for SAP ArchiveLink 4.5 and later releases.
SAPContType	Refers to MIME type information, such as character set and application version. FileNet Libraries store the MIME type of a file during committal, yet SAP requires different information. This is required for SAP ArchiveLink 4.5 and later releases.
SAPDocProt	Refers to the SAP document protection information. It is a combination of the access modes read, create, update, and delete, representing the need to verify the digital signature of SAP ArchiveLink requests. Required for SAP ArchiveLink 4.5 and laters.
SAPCompCreated	Refers to the timestamp on which SAP document component is created. This index field is required for SAP ArchiveLink 4.5 and later releases.
SAPCompLengths	Refers to the length of the SAP document component. This index field is required for SAP ArchiveLink 4.5 and later releases.
SAPCompModified	Refers to the timestamp on which SAP document component is modified. This index field is required for SAP ArchiveLink 4.5 and later releases.
SAPComps	Refers to SAP document component IDs. SAP references components of a document by ID, instead of page numbers. This index field is required for SAP ArchiveLink 4.5 and later releases.
SAPDocDate	Refers to the timestamp on which SAP document is created and modified. This index field is required for SAP ArchiveLink 4.5 and later releases.

Tip: Define these index fields using the Database Maintenance for IS, or DocType and CVL tool for CS.

The index fields that were required for the previous releases of DWSAP are mandatory for the current release also.

The following table lists the index field parameters for IS:

Index Name	Type	Retrieval Key	Length	Convert to Uppercase
SAPType	String	No	3	Yes
ALFpages	String	No	3	No
ALFdpages	String	No	3	No
SAPDocId	String	Yes	32	Yes
SAPContType	String	No	239	No

Index Name	Type	Retrieval Key	Length	Convert to Uppercase
SAPDocProt	String	No	4	No
SAPCompCreated	String	No	239	No
SAPCompLengths	String	No	239	No
SAPCompModified	String	No	239	No
SAPComps	String	No	239	No
SAPDocDate	String	No	239	No

An additional index field is required to process the documents to which the barcodes are attached. This additional index field contains the barcode value. It is referenced in the configuration of the cBarcode component. For more information, refer to section IDM Services for R/3 Category 'cBarcode'.

Note: The names of index fields are case sensitive.

Defining FileNet Document Classes

> **Background**: A FileNet document class defines attributes of documents such as index fields, and security. While storing a new document, it should be assigned to a FileNet document class, from which this document inherits its attributes. DWSAP uses the SAP-provided MIME type if the protocol is HTTP or SAP Technical Document Class if the protocol is RFC to determine the FileNet document class in which to store a new document. The configuration tool configures this mapping of SAP types, to FileNet document classes.
>
> Depending on the type, format, and contents of document, different index fields are required. For example, SAP print lists require ALFpages and ALFdpages index fields in their document class, whereas barcode scenarios require a barcode index field.

All index fields, except ALFpages and ALFdpages, are required for document classes to be used with SAP R/3. ALFpages and ALFdpages are required for printlist document classes. For IS, while assigning index fields to document classes, leave the attributes Verify, Batch Total, and Auto Index blank.

You can define FileNet document classes using Database Maintenance for IS, or DocType and CVL tool for CS.

Tip: It is recommended that a separate FileNet document class should be created for each SAP Technical Document Class defined and used on the SAP system.

Additional customer-specific index fields can be assigned to the DWSAP document classes. These index fields cannot be evaluated or changed by the DWSAP components.

Creating IDM Services for R/3 Request Queue

Background: DWSAP uses an IS queue to store processing and status information for SAP ArchiveLink requests, such as asynchronous RFC requests.

Use the DWSAP configuration tool to create IDM Services for R/3 Request Queue. For more information, refer to section IDM Services for R/3 Category 'cServer'.

Creating IDM Image Services Queues for Barcode Transfer

The following table lists the user-defined fields that should be present in a cBarcode compliant queue:

User-defined Field	Type	Length	Required	Unique	Rendezvous	Display	Sorting
DocumentNumber	Document	4	Yes	Yes	No	Yes	No
DWStatus	String	20	No	No	No	Yes	No
DWRemark	String	239	No	No	No	Yes	No

The configuration tool provides a means to create a queue containing this set of user-defined fields. For more information on how to create this queue, refer to section IDM Services for R/3 Category 'cBarcode'.

Creating Image Services Queues to Process Incoming Documents

Background: Subsequent to capturing and storing the incoming documents in a FileNet IS library, the FileNet Queue for R/3 can process them further. IS distributor queues facilitate this approach by assigning a queue to a document class. This distributor queue automatically receives a new entry when a new document is committed to the document class.

A queue to be used for Incoming Documents must contain at least the following user defined field:

User defined Field	Type	Length	Required	Unique	Rendezvous	Display	Sorting
DocumentNumber	Document	4	Yes	Yes	No	Yes	No

If the distributor queue has a user-defined field of type Document, this field automatically receives the document id of the newly created document.

Use the IDM Desktop **FNQMaint** program to create this queue.

Configuring FileNet Web Services

IDM Services for R/3 use Web services to access IS and CS libraries. While configuring FileNet Web services it is important to:

- Configure at least one FileNet IS library. Response times have been found to be very slow if no default network library exists.

- Disable FileNet Trace while running IDM Services for R/3. If FileNet Trace is enabled, none of the DWSAP components can run.

Guidelines to Define File Exchange Directories

Background: Print lists, outgoing documents, document images, data archiving data, and other document types are archived from the SAP system and stored in FileNet library systems. Documents that are archived to the library can also be restored to the SAP system. When using RFC, documents can be archived and restored between the FileNet and SAP systems by reference. This means that the messages exchanged between FileNet and SAP contain names of the data files to be processed, instead of the document data. The data files for processing are stored in the following temporary directories:

Archival Path/Basic Path: Contains data files to be stored in an archive (FileNet library)

Retrieval Path /Archive Path: Contains data files restored by Document Warehouse for SAP.

The Archive and Basic directories should be part of a Network File System (NFS), which is accessible to SAP Application Server and IDM Services for R/3. SAP ArchiveLink can then be scheduled to send archiving requests to IDM Services for R/3 at a time that suits the traffic on the network. This can be important if many documents are archived, or if size of the documents is large. If the SAP system contains more than

one application server, each application server should be able to access the directories.

The factors that affect the amount of disk space required for the Archive and Basic directories are:

- The number and size of new documents being archived, and the size of data files being written to the Archive directory.

- The number and size of new documents being retrieved from the FileNet IS/CS, and the corresponding files being written to the data directory.

- The number of indexed printlists being committed. Indexed print list have data files as well as description files, which increases the amount of disk space required.

- Files not deleted by IDM Services for R/3 after the document has been successfully committed to FileNet IS.

Note: Whenever the IDM Services for R/3 components and SAP are present in different domains or the exchange directories are configured on a machine which is in a different domain then for the exchange directories to be accessible to both IDM Services for R/3 components and SAP, a trust relationship should be established between the domains.

5

IDM Services for R/3 Configuration

To start the configuration tool, click **Start → Programs → FileNet IDM Services for R3 → Configure,** in Windows.

The Configuration Tool

The configuration tool provides a menu bar, a tool bar, a tree of configuration categories, a status bar, and an area in which actual preferences are set and modified. These are illustrated in the following figure:
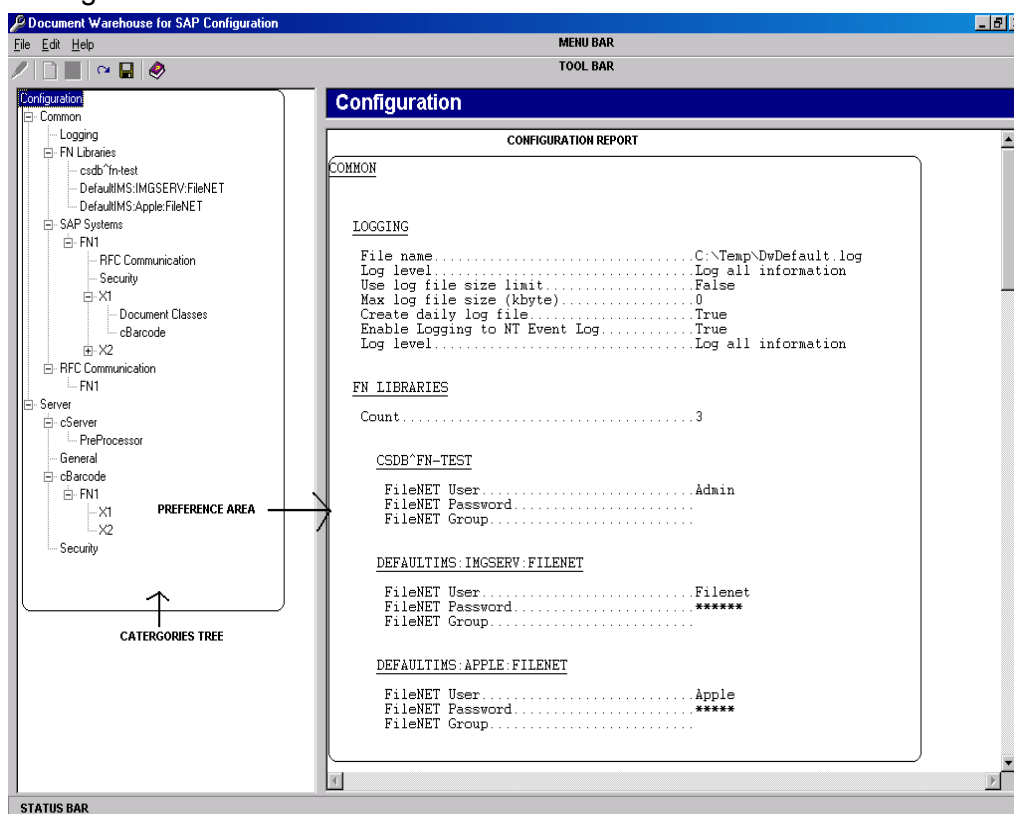
The following table lists the menus and menu items provided by the menu bar:

Menu	Menu Item	Description
File	Reload Configuration	Reloads the configuration from its storage location discarding all the unsaved changes.

Menu	Menu Item	Description
	Save Configuration	Saves the current configuration permanently in Windows registry.
	Import	Imports a configuration from DwSettings.dwc file overwriting the current configuration.
	Export	Exports the current configuration in *.dwc file, which is saved on the hard disk.
	Exit	Closes the configuration program without saving. If any preference is modified, the user is prompted to save the changes.
Edit	Rename	This option is enabled only when a selected category represents the name of a SAP system, SAP archive, or FileNet library.
	Add	This option is enabled only when a category contains a variable list of sub categories. This applies to the following categories: • SAP systems where Administrator can Add SAP systems or SAP Archives. • FileNet Libraries where Administrator can Add FileNet Library.
	Remove	Removes the sub categories that are added using the Add function.
Help	Contents	Displays the **Installation & Configuration Manual**.
	About	Displays the message box, which gives information about DWSAP configuration tool.

The **toolbar** provides fast access to more frequently used features such as Add and remove a sub category. The following table lists all the features provided through the toolbar:

Icon	Name	Description
	Rename	Renames a sub category.
	Add	Adds a sub category.
	Remove	Removes a sub category.
	Reload	Reloads the configuration from its storage location.
	Save	Saves the configuration in its storage location.
	Help	Displays the online documentation.

The **categories tree** provides a list of categories that should be configured. When a particular category or a sub category is selected, its related preferences are displayed in the preference area where configuration information can be altered. Other additional options, like adding a sub category, renaming a category or removing a category are also available.

The **status bar** shows brief information such as status of the tool, the success or failure of the last action. The status bar is updated after an action is performed.

Note: All configuration information is currently stored in the Windows registry.

Configuration Overview

DWSAP configuration tool displays IDM Services for R/3-specific categories such as cServer and cBarcode in the categories tree.

The following table gives a description for each category:

Category	Category	Sub Category	Description
Configuration			The preference area displays a summary report of the current configuration.
Common			No information in preference area. Top-level branch for Logging, FileNet Libraries, SAP Systems and RFC Communication.
	Logging		Configuration of logging related preferences.
	FileNet Libraries		Contains the list of FileNet libraries as sub categories.
		<fnlibid>	Refers to the Name (identifier) of a configured FileNet library, such as **DefaultIMS:IMGSERV:FileNet**.
	SAP Systems		Defines SAP systems known to IDM Services for R/3.

Category	Category	Sub Category	Description
		<sapsystemname>	Names a configured SAP system, such as **FN1**. This name is arbitrary but it reflects the actual name of the SAP system that it represents.
		RFC Communication	RFC communication related preferences specific to a SAP system such as SAP gateway host and SAP gateway service.
		Security	Refers to security related preferences specific to a SAP system.
		<storagesystemname>	Refers to name of a SAP archive used by SAP system such as **X1**. A SAP system can have multiple SAP archives.
		Document Classes	SAP and FileNet document classes used for storing a document in a specific SAP archive.
		cBarcode	cBarcode component related preferences which are specific to a SAP archive.
RFC Communication			Configuration of preferences related to RFC communication.
		<sapsystemname>	RFC communication related preferences specific to a SAP system.
Server			No information in preferences area. Top-level branch of cServer, General, cBarcode, Security.
	cServer		Configuration of preferences specific to the cServer component.
		PreProcessor	Configuration of preferences if a PreProcessor is used.
	General		Configuration of commonly used preferences.

Category	Category	Sub Category	Description
	cBarcode		Configuration of preferences specific to the cBarcode component.
		<sapsystemname>	Name of a SAP system defined under SAP Systems.
		<storagesystemname>	Configuration of preferences related to the cBarcode component, which are specific to a SAP archive.
		Security	Configuration of preferences related to security

Certain SAP system specific or SAP archive specific information is available through two or more sub categories of the categories tree. For example, selecting the sub category

Common/SAPSystems / <sapsystemname> / <storagesystemname> / cBarcode

displays the same (identical) information in the preferences area as

Server / cBarcode / <sapsystemname> / <storagesystemname>.

Tip: The preferences altered under one of the two categories as specified above are instantly reflected under the other sub category because the information is identical.

In the following section all the IDM Services for R/3 categories and sub categories are explained:

IDM Services for R/3 Category Logging

Background: All IDM Services for R/3 components record information regarding the operations in the system. This information can be helpful in finding problems with the configuration or troubleshooting after an error has occurred.

The **Logging** category contains preferences that determine the amount and location of the logged information.
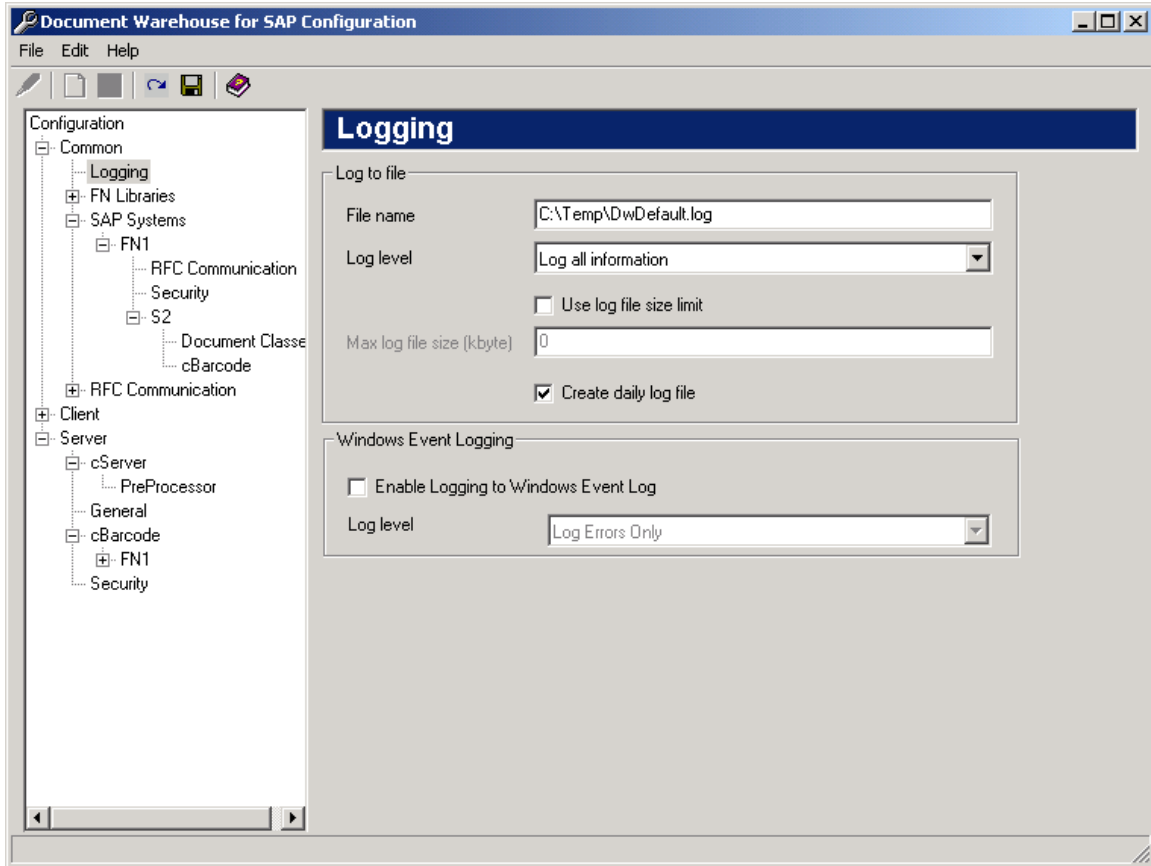
The following table lists the preferences specific to the IDM services for R/3 category Logging:

Preference	Description
File name	Enter a file name with path for logging the information.
Log level (Log to file)	Determines the category of information to be logged. The log levels available for logging to a file are: • Log errors and warnings only (Recommended) • Log all information.
Use log file size limit Max log file size(Kbyte)	The size of the log file is restricted to the maximum file size. The Max Log file size option is enabled only if the Use log file size option is checked.
Create daily log file	Creates a new log file everyday. The file is named as <filename>_<yyyymmdd>_<extension>.
Enable Logging to Windows Event Log	The information is logged in the application log of the Windows event viewer.

Preference	Description
Log level (Windows event log)	Determines the category of information to be logged. The levels available are: • Log errors only, (Recommended) • Log errors and warnings only • Log all information.

Configuring FileNet Libraries

Background: The FileNet libraries used by IDM Services for R/3 should be defined in the configuration tool. Different SAP systems and SAP archives can access the same library. There can however be one set of credentials, containing user name and password that can be configured for each library.

To add a new FileNet library:

1. Select the FN Libraries category in the categories tree.

2. Add a new sub category using menu **Edit → Add**.
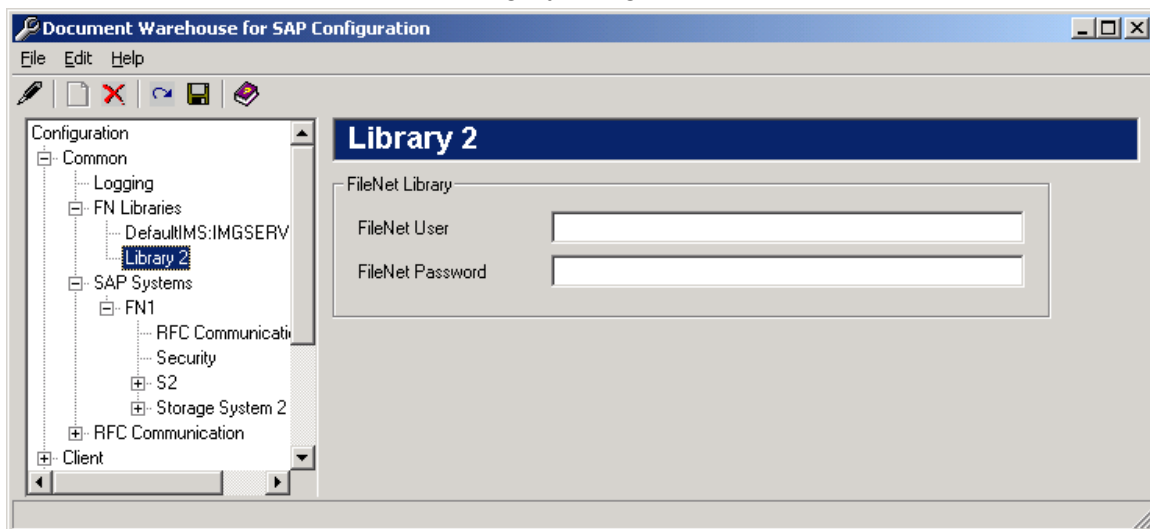
3. The newly added library name, for example Library 2, is in edit mode. Enter the identifier of the FileNet library. For example **DefaultIMS:IMGSERV:FileNet** for IS libraries, or **csdb^fn-test** for CS libraries. Selecting a FileNet library in the categories tree displays the library preferences in the preference area.
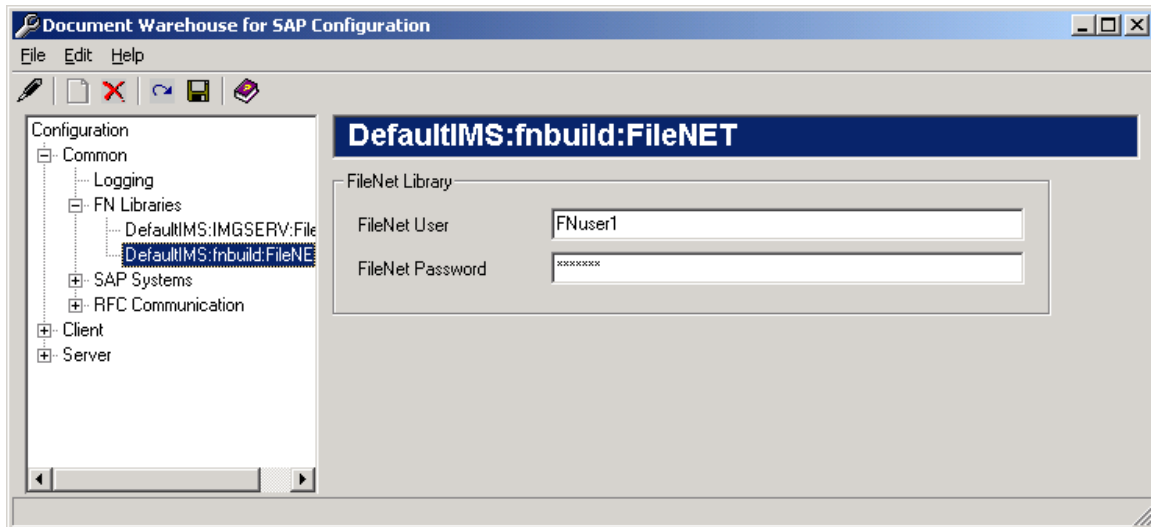
4. Enter the preferences referring to the following table:

Preference	Description
FileNet User	Represents the logon user name, and is mandatory.
FileNet Password	Represents the logon password.

Note: The user credentials and the library name will be validated when the configuration is saved. If the credentials are wrong, configuration will not be saved.

Configuring SAP Systems

Background: SAP System preference in IDM Services for R/3 configuration is a DWSAP internal logical name for a SAP system. An SAP system identifies itself to DWSAP through multiple means depending on whether RFC or HTTP communication protocol is used. Multiple archives can be defined for a SAP system.

To add a new SAP system:

1. Select the SAP systems category in the categories tree.

2. Add a new sub category using the menu Edit → Add. Default sub category of SAP Systems is created automatically.

Tip: With DWSAP release 5.x descriptive names can be used, unlike the earlier releases, in which the name had to be equivalent to the Logical System ID of SAP R/3 system.

SAP system sub categories can be renamed or removed by similar means as described for adding.

Configuring Multiple R3 Instances

DWSAP differentiates requests coming from different copies of the R/3 instances that run on different servers, but share the same authenticity id and archive id.

Different R/3 instances should be identified in the configuration tool as:

<SAP System Name> - **<SAP Server Name (host name)>**

For example, if SAP System Name is **FN1** and the servers that have this R/3 instance are **fnetsap**, and **fnsap**, then the entries in the configuration tool are FN1-fnetsap, FN1-fnsap.
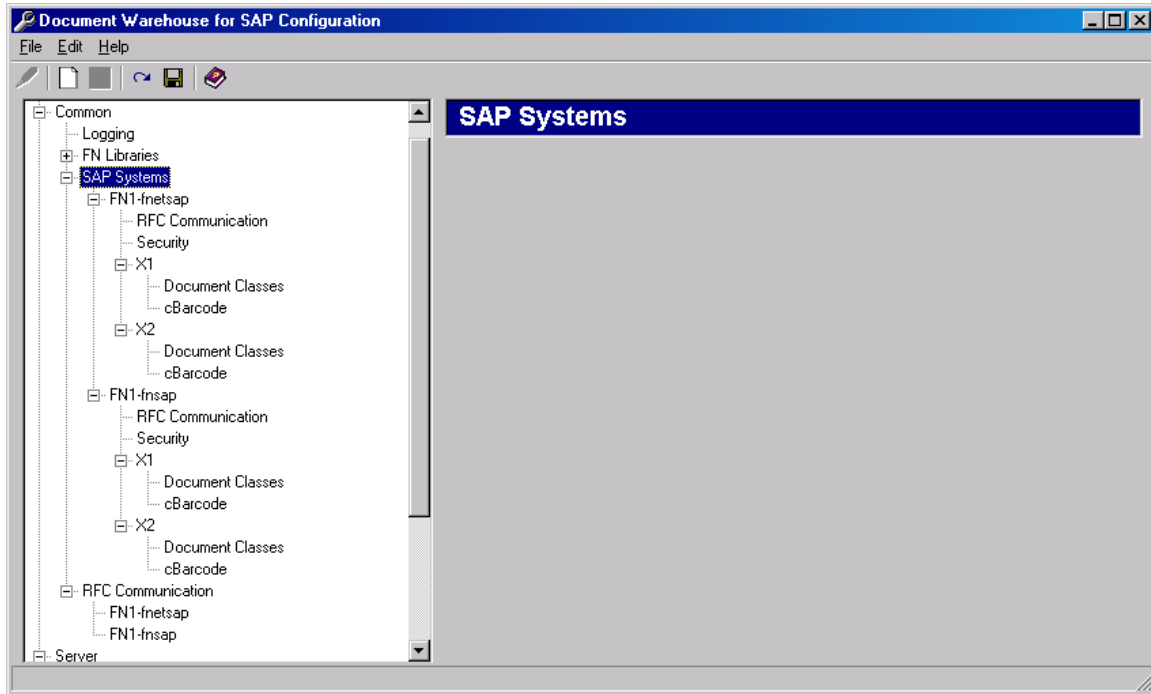
SAP system does not provide any preferences except its name.

Each SAP system category has RFC Communication and Security sub categories. If SAP archives are defined for SAP system, each archive is represented as a distinct sub category under the SAP system category. These sub categories are described in subsequent sections.

Configuring RFC Communication

Background: The SAP ArchiveLink Interface release 3.0 and 3.1 use SAP proprietary RFC protocol to communicate with IDM Services for R/3. RFC communication has a RFC client program that invokes a remote function implemented in a RFC server program. For example, the cBarcode component is a RFC client, which calls a barcode function in SAP system. This barcode function sends the document and barcode information. The cServer component implements both sides. The SAP ArchiveLink software calls a function of RFC server, ARCHIV_REQUEST, to request the status, and archival and retrieval of

documents. On the other hand, while fulfilling asynchronous requests, cServer acts as an RFC client. This client calls a function in SAP system to send fulfillment or confirmation information. With DWSAP release 5.x, RFC communication is always specific to SAP system. This means, each DWSAP release 5.x has an additional feature to register itself as an RFC server at multiple SAP gateways, simultaneously.

To configure RFC communication information for SAP system, select the appropriate SAP system sub category under the RFC communication category.

Tip: Most of these values are available with the SAP Administrator.
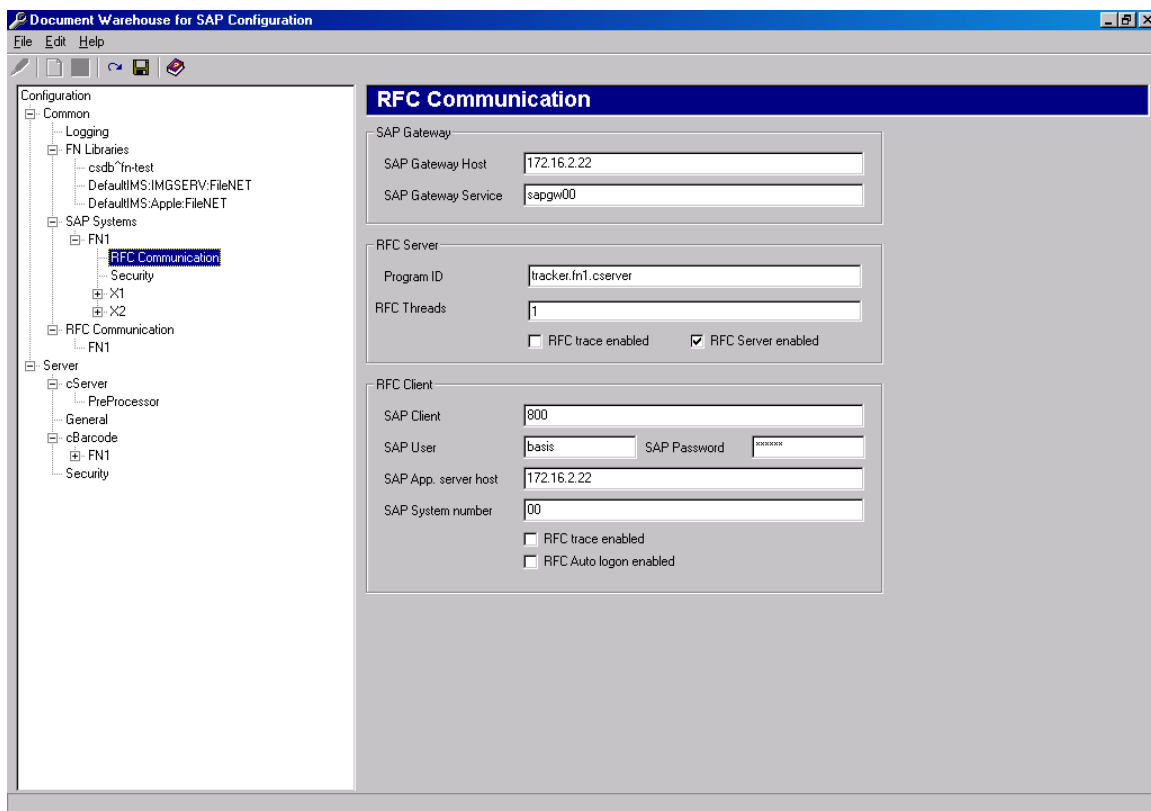
The following preferences are displayed in the preference area:

Preference	Description
SAP Gateway Host	Refers to the machine on which SAP gateway is running. IDM Services for R/3 use this gateway to communicate with SAP system. Both RFC server and client use this value.
SAP Gateway Service	Refers to the service the SAP gateway listens on , a value in the range of sapgw00 to sapgw99. Both the RFC server and RFC client use this value. These service numbers should be defined in the services file on IDM Services for R/3 machine.

Preference	Description
Program ID	Identifier with which cServer registers at the SAP gateway. This id must be unique on the SAP gateway machine. The syntax of the id is: <IDM Services for R/3 machine name>.<sapsystemname>.cServer
RFC Threads*	Refers to the number of instances of RFC server that are be registered at the SAP gateway.
RFC Trace enabled	Enables logging RFC server trace information to a file. This file, dev_rfc*.trc, is located in the installed directory of the application.
RFC Server enabled	Registers cServer as an RFC server at SAP gateway to receive SAP ArchiveLink requests through RFC. This option disables registration at the configured gateway.
SAP Client	Represents the logon client number.
SAP User	Represents the logon user name.
SAP Password	Represents the logon password.
SAP Application Server Host	Represents the machine name of the SAP application server where the RFC server is registered.
SAP System Number	Represents the system number of SAP system.
RFC Client Trace enabled	Enables logging RFC client trace information to a file.
RFC Auto logon enabled	Enables the automatic logon of RFC to SAP system.

To communicate with SAP gateway, add information such as

sapdp##, 32##/tcp,

sapgw##, and 33##/tcp

to the services file on the IDM Services for R/3 machine. Here, ## refers to the actually used service port number. This service port number is a two-digit number that ranges from 0 to 99. The services file is located in the Windows operating system directory, under system32\drivers\etc.

The machine entered as SAP gateway host should be pinged from the IDM Services for R/3 machine. It is necessary to add the machine name as an IP alias in the host file, on IDM Services for R/3 machine. The host file is located in the same directory as the services file.

Note: Information about SAP gateway host and service can be obtained from the SAP administrator. For information on how to ensure that the preference values are valid, refer to section Testing RFC Communication Parameters.
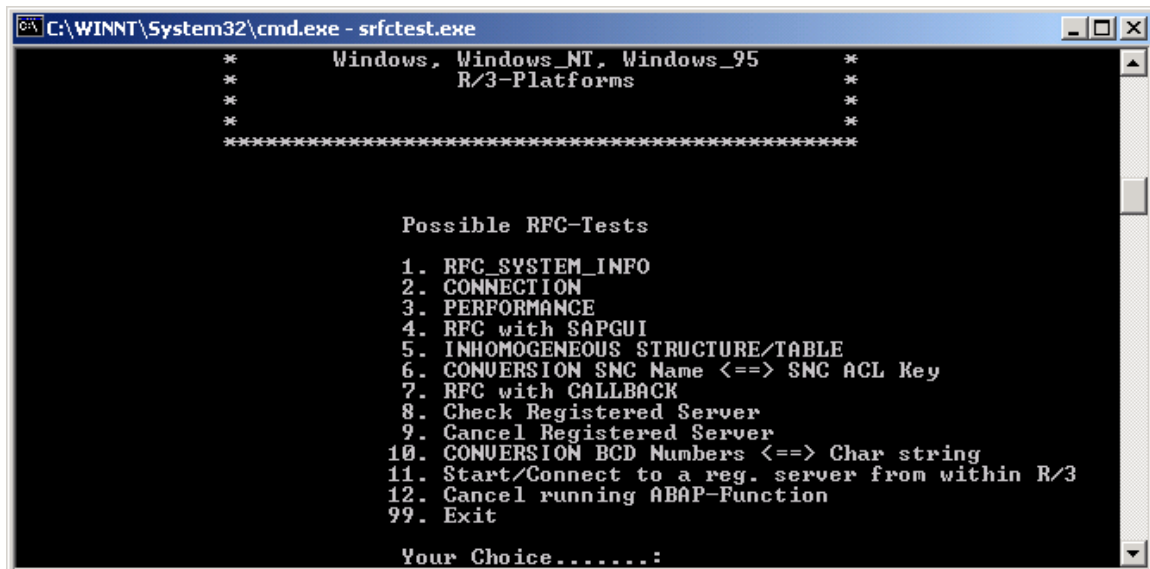
Testing RFC Communication Parameters

The tools provided by SAP to test RFC communication are: RFC client **srfctest.exe,** and RFC server **srfcserv.exe**. Both of these are command line tools that accept your RFC communication settings as command line parameters.

Testing RFC client parameters

In order to test the RFC client parameters, follow the steps.

1. Ensure that SAP application server host can be pinged from IDM Services for R/3 machine.

2. Open a command line box, change the current directory to IDM Services for R/3 directory/FileNet and invoke **srfctest.exe**. The following screen is displayed:

```
C:\WINNT\System32\cmd.exe - srfctest.exe                          _ □ ×
           *        Windows, Windows_NT, Windows_95      *      ▲
           *               R/3-Platforms                 *
           *                                             *
           *                                             *
           ***********************************************


           Possible RFC-Tests

            1. RFC_SYSTEM_INFO
            2. CONNECTION
            3. PERFORMANCE
            4. RFC with SAPGUI
            5. INHOMOGENEOUS STRUCTURE/TABLE
            6. CONVERSION SNC Name <==> SNC ACL Key
            7. RFC with CALLBACK
            8. Check Registered Server
            9. Cancel Registered Server
           10. CONVERSION BCD Numbers <==> Char string
           11. Start/Connect to a reg. server from within R/3
           12. Cancel running ABAP-Function
           99. Exit

           Your Choice.......:                                    ▼
```

3. From the Options menu, select the option (2.) **Connection**. The following screen is displayed:

```
C:\WINNT\System32\cmd.exe - srfctest.exe                                _ □ ×

           CONNECTION PARAMETERS:
              Server is R/2, R/3 or External (2/3/E)3.: (3):
              Using data of saplogon (Y/N)Y...........: (Y): n
              Working with 'saprfc.ini' (Y/N)N........: (N): n
              Use load balancing (Y/N)Y...............: (Y): n
              Host name of an application server......: (binmain): 172.16.2.2
 2
              System number...........................: (53): 00
              Working with SNC (Y/N)N.................: (N): n

           RFC-SPECIFIC PARAMETERS:
              Working with ABAP debugger (Y/N)N.......: (N): n
              Use SAPGUI (Y/N)N.......................: (Y): n
              RFC trace (Y/N)N........................: (N): n

           SAP LOGON DATA:
              Client..................................: (800):
              UserID..................................: (BASIS):
              Password................................: (XXXXXXXX):
              Language (E)............................: (E):

           #Calls of this RFC-function...............: (00001):

           Do You Want To Test With These Parameters (Y/N)..: y
```

4. Enter the RFC connection parameters.

5. The program then informs the user, if the connection was established and the logon was successful. If not, the program provides error information.

Testing RFC server parameters

In order to test the RFC server parameters, follow the steps.

1. Ensure that SAP gateway host can be pinged from IDM Services for R/3 machine.

2. Open a command line box, change the current directory to IDM Services for R/3 directory/FileNet and invoke srfcserv.exe with the following parameters:

   srfcserv.exe   –aYourProgramId   –gYourSapGatewayHost   –xYourSapGatewayService

e.g. c:\program files\FileNet\idmforr3> srfcserv.exe –afntest.fn1.cserver –g172.16.2.22 -xsapgw00

3. If the program does not terminate, it has successfully registered its RFC function STFC_CONNECTION at the SAP gateway specified by the –g option in the command line above. If the program terminates, reason for failure is provided.

4. Open SAPGUI and log on to the SAP system from which the requests are to be received.

5. Go to RFC destinations maintenance transaction, through transaction code **sm59**.

6. If RFC destination for your archive has already been defined, select this destination. Otherwise, create a temporary destination to test by following the steps:

a Click the **Create** button or select **Create** from the RFC menu. For the temporary destination, enter a name, a description and T in the connection type field and press **Enter**.

b Choose the Activation Type as **Registration** and enter the Program ID. Select Gateway options from the Destination menu and enter the SAP gateway parameters. The temporary destination must be saved for the test to function properly. If an existing destination is being used, make sure the Program ID matches the Program ID used with **srfcserv.exe**. For more information on defining new RFC Destinations refer to section RFC Destinations
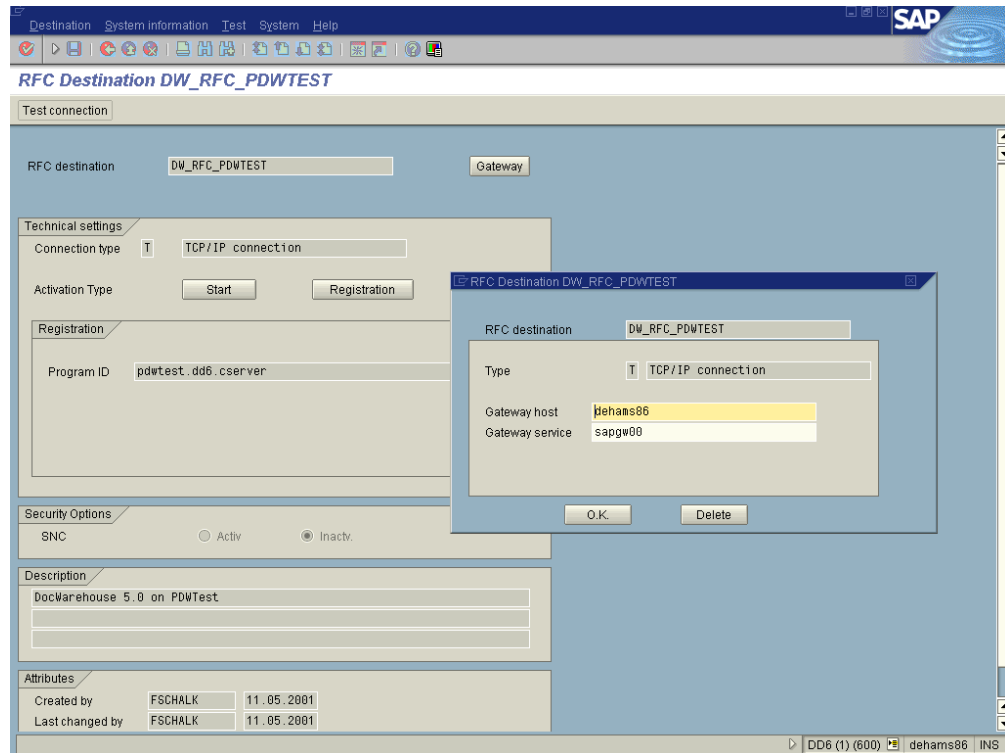
7. Click **Test Connection** button.
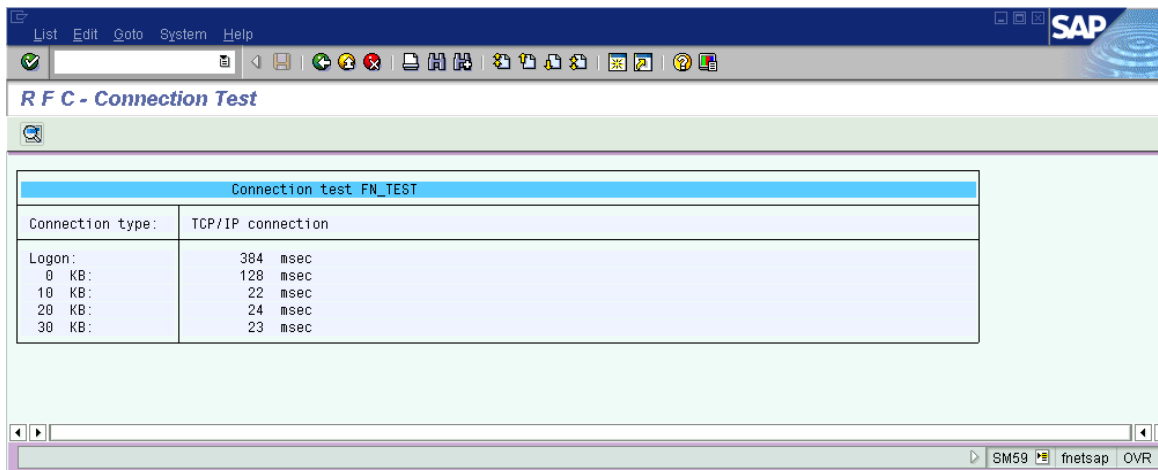
8. On the command line box following line will appear:

< == RfcDispatch…

< == RfcDispatch   rfc_rc = 0

If registration of RFC server at the SAP gateway failed, reason for the failure will also be provided.

9. If a temporary destination was used delete it.

10. Use the SAP gateway monitor (transaction **smgw**) to view the RFC servers that are using a gateway. In transaction **smgw**, use the menu option **Goto→Logged on systems**.

Configuring SAP System-Specific Security

Background: When SAP sends an HTTP request to cServer, the request identifies itself by an authenticity id. The authenticity id is **CN=**, followed by a three letter identifier such as **ID3**. cServer uses this authenticity id to identify configuration for this SAP system.

To configure authenticity id Select **Security** under the relevant SAP system in the categories tree control.
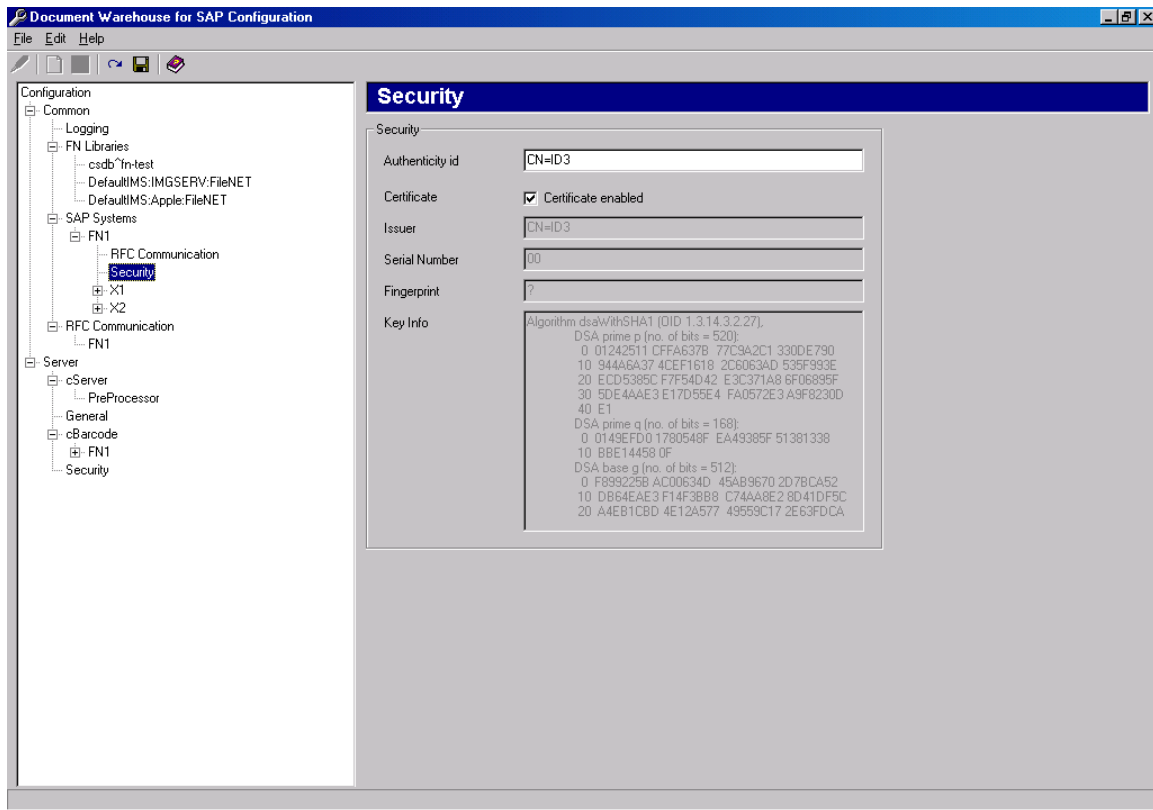
The following preferences are displayed in the preference area:

Preference	Description
Authenticity id	Refers to the SAP system authenticity id in the form CN=<three letter identifier>. **Note**: In SAP 4.5, authenticity id is built from the system name, for example, **FN1**. In SAP 4.6, the default authenticity id is **ID3**. The SAP administrator can change this.
Certificate	Activates SAP certificate, if selected.
Issues	Information from SAP system regarding the SAP certificate
Serial Number	Information from SAP system regarding the SAP certificate
Fingerprint	Information from SAP system regarding the SAP certificate
Key Info	Information from SAP system regarding the SAP certificate

To enable IDM Services for R/3 to work with an SAP system through HTTP, SAP system certificate (public key) should be sent to IDM Services for R/3 and manually configured by an administrator. If the SAP system certificate for an archive has been transferred, the fields **Certificate**, **Issues**, **Serial Number**, **Fingerprint** and **Key Info** contain information about the certificate. The certificate should only be enabled if an administrator has checked this information. For information on how to send the authenticity id, refer to section Send a Certificate to an Archive.

Configuring SAP Archives

> **Background:** A **SAP archive** corresponds to an archive, defined while customizing SAP ArchiveLink. **Content Repository** is also a synonym for SAP archive. Multiple SAP archives can be configured to point to the same FileNet library.

To add a new SAP archive:

1. Select the SAP system to which a new archive is to be added.

2. To add a new sub-category, click **Edit → Add** menu. A new archive is added under the category SAP System.
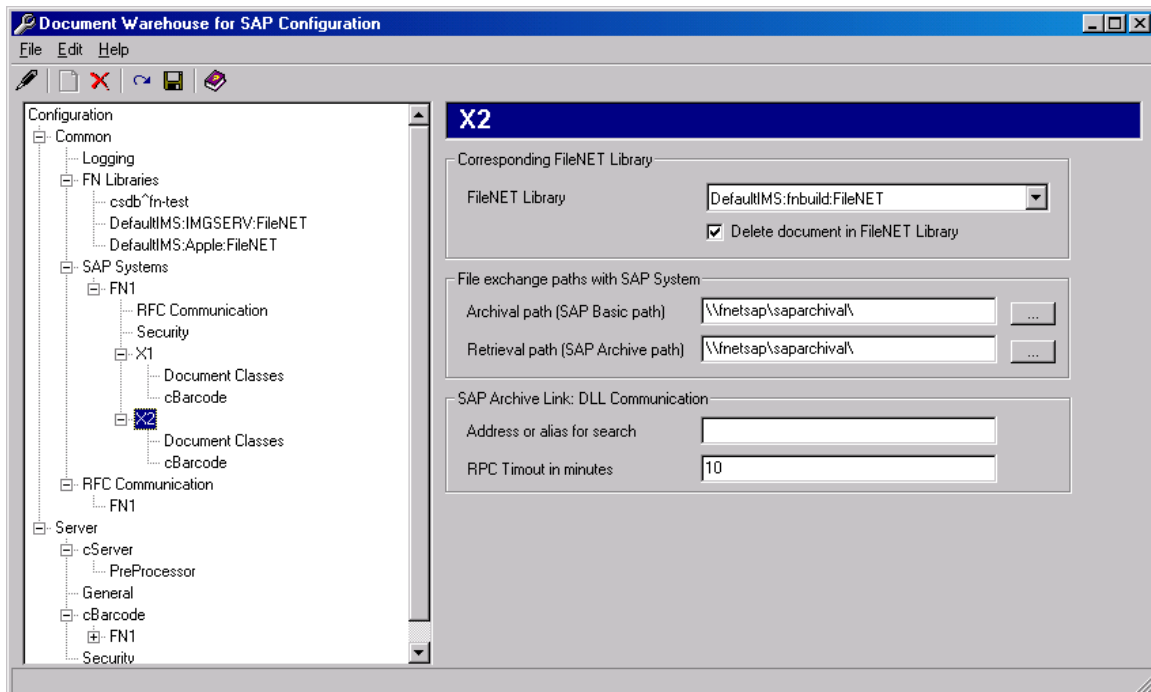
3. Enter the two-character name as defined in the SAP during archive definition. Following table lists the preferences for the archive:

Preference	Description
FileNet Library	Refers to a FileNet library. This entry creates a logical assignment from a SAP System + SAP archive to a FileNet Library.
Delete Document	Deletes the documents in IS when SAP requests to delete a document. If disabled, just sets the document status top closed.
Archival Path	Identifies fully qualified directory containing files to be stored in an archive. Use the **Browse…** button to select a directory or enter a path. A UNC path name can also be specified directly, i.e. \\<machine>\<share>\<directory>.

Preference	Description
Retrieval Path	Identifies the fully qualified directory containing files restored by IDM Services for R/3. Use the **Browse…** button to select a directory or enter a path. For more information on defining Retrieval path, refer to section Guidelines to Define File Exchange Directories
Address or alias for search	Required only while configuring IDM Desktop for R/3.
RPC timeout in minutes	Required only while configuring IDM Desktop for R/3.

Tip: Distinct exchange paths for each SAP system should be created, and the Archival and Retrieval path should be different. The directory name could contain the SAP system name and its functions, such as \FN1_Arch to define a Archival path and \FN1_Retr to define a Retrieval path.

There are two sub-categories to each SAP archive:

- Document Classes contain the mapping of SAP technical document classes and MIME types to FileNet document classes for storage. For more information on document classes, refer to section Configuring Document Classes.

- cBarcode contains SAP archive specific settings for the cBarcode component. For more information on cBarcode, refer to section IDM Services for R/3 Category 'cBarcode'.

Configuring Document Classes

Background: SAP uses technical document classes and MIME types to distinguish different classes of documents. Document class is passed on with the archive request. IDM Services for R/3 use this information to determine which document class to use, while storing the document in a FileNet library.

To configure the FileNet document class used for an archive, select **Document Classes** in the tree control. The following figure is displayed:
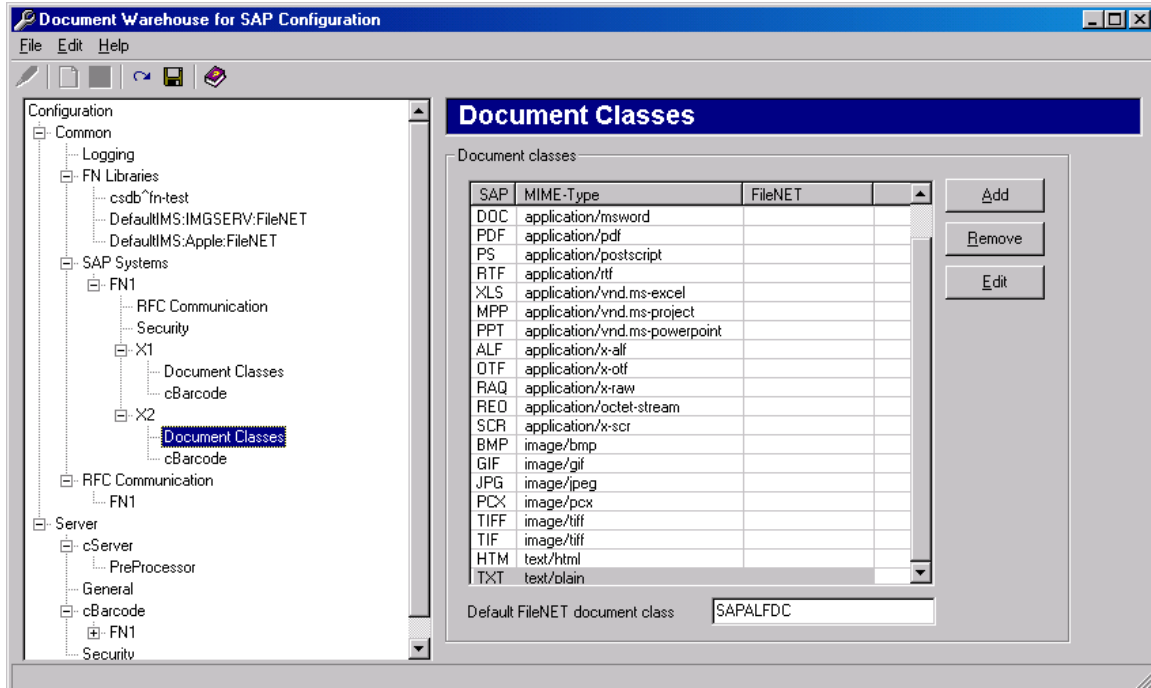
In the table in the figure above, for each SAP document class or MIME type, there is a corresponding FileNet document class, which is used to archive documents.

HTTP requests contain a MIME type, not a SAP type. This table determines the value for the mandatory FileNet index field **SAPType**.

- If there is no predefined mapping from a MIME type to a **SAPType**, the **SAP Type ZZZ** is used.

- If SAP does not send a MIME type, the Web server adds a default MIME type of an application/octet-stream.

- cServer uses a default MIME type of application/octet-stream**.**

Tip: HTTP archival requests contain a MIME type instead of a SAP document class name. The MIME type must be translated into a SAP document class before being stored in the SAPType index field.

Default FileNet document class will be used in the following cases:

- If SAP sends an archive request for an SAP document class or MIME type that has no configured FileNet Document Class

- An unknown SAP document class or MIME type is encountered,

IDM Services for R/3 Category 'cServer'

The **cServer** category contains preferences specific to the cServer component.
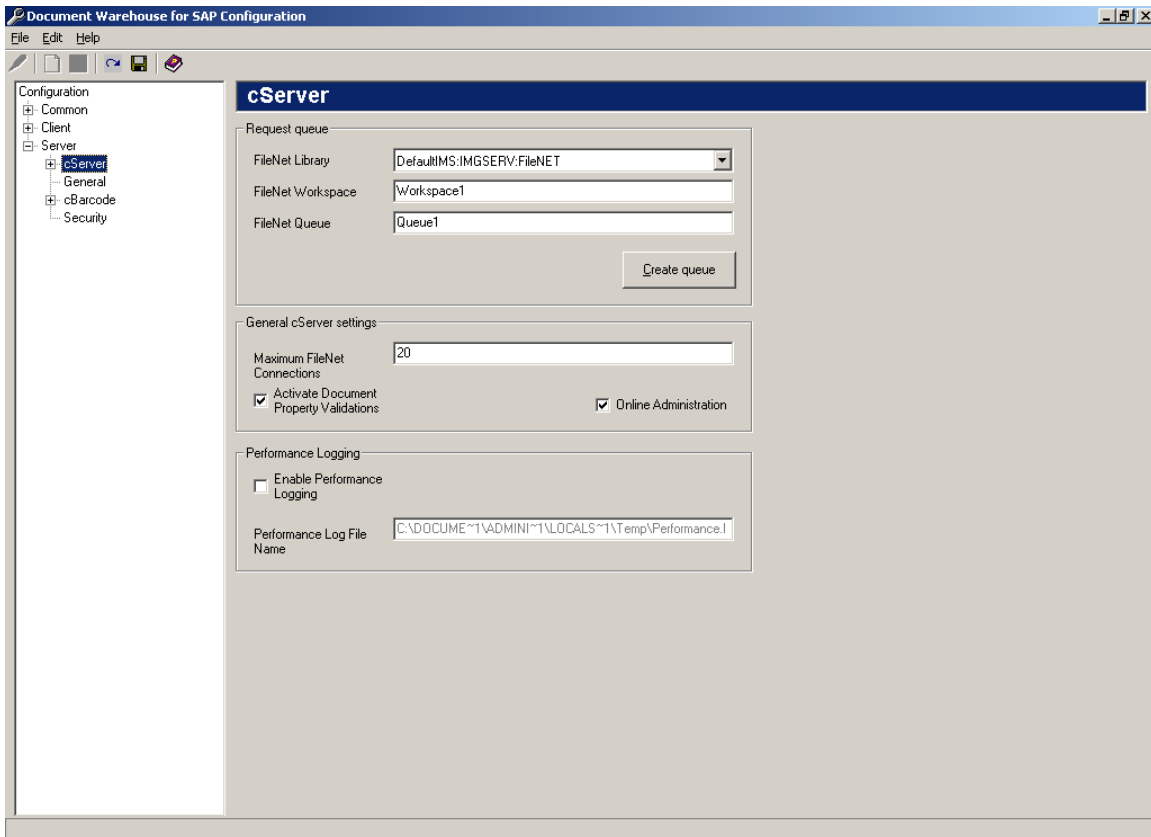
On selecting the cServer category, following preferences are displayed:

Preference	Description
FileNet Library	Refers to a FileNet library.
FileNet Workspace	Refers to the name of the FileNet Workspace, where the request queue resides.
FileNet Queue	Refers to the name of the request queue, where the status information should be stored.
Create Queue	If the request queue does not exist yet, enter the values and click the **Create Queue** button.
Maximum FileNet Connections	Represents the maximum number of connections with FileNet Library that can be maintained in the connection pool. Change the number of sessions for the specified user in the IS Security Services to this value.
Activate Document property validations	Enables or disables document property validations using ADO for create request. Disabling document property validations removes the checks for uniqueness of SAP document id, its document class and its properties.
Online Administration	If checked, IDM Services for R3 detects & use changes in configuration without requiring restart of the corresponding services (FileNet RFC Service, WWW Service, FileNet Barcode Service).

Preference	Description
Enable Performance Logging	Performance logging has been added to three components **cServerHTTP**, **cServer** and **DwRepos**. This checkbox can be used to enable or disable the performance logging for these components. The performance information includes time, available physical memory and thread id.
Performance Log File Name	Specifies the path and filename for the file to be used for logging performance information.

The limitations with Online Administration are:

- Any change in the RFC communication category of the specific SAP system requires a restart of RFC services.

- The configuration program reads and saves the configuration information in the registry. If any configuration changes are made by directly editing the registry, the services should be restarted. This means that all changes should be made using the configuration program only.

- When the configuration is changed, the new configuration will be read by the server components only when there are no pending requests. If a large print list is already being processed in the system, the configuration changes will not be visible until the request is processed.

Configuring PreProcessor

> **Background**: DWSAP provides an interface that enables cServer to use a custom external preprocessor, while processing archive requests from SAP. IDM Services for R/3 interface allow integration of custom preprocessors and performing tasks, specific to the needs of the customer, while archiving documents. The preprocessor can direct an application to extract indexing information from a document, and pass it to cServer, to be indexed with the document. The preprocessor interface can also convert SAP documents from proprietary format to a standard file format. This enables easy viewing of documents before being archived by cServer. The external preprocessor interface for IDM Services for R/3 involves a synchronous program call to the external preprocessor. The SAPTYpe index field included in the archive request determines which preprocessor program is called.

Following table lists the preferences for the Preprocessor sub category:

Preference	Description
Filename for DocIds	Refers to a full pathname of the file, which contains the document Ids of the files cServer archives. This file contains the entire template file's (specified in the result) document ids archived by cServer. If filename is not specified, the name is **DAT2OTF.DID**. This entry is related to the **LINK** section of the result file, explained in the following section.
Keep preprocessor result file	If this box is checked the system will keep the result file produced by the preprocessor after cServer has finished reading it. The preprocessor creates a result file to return the output information such as optional indexes, document class names, and names of related documents to cServer. cServer parses the result file and continues archiving the documents according to the content.
Document classes	Specifies the document classes to be used by the preprocessor. Click **edit** and uses the button to select a directory or enter a path for the appropriate exe file of the PreProcessor.

Preprocessor and the Output File

When cServer is configured, it automatically calls the appropriate preprocessor. The string arguments that cServer passes to the preprocessor are:

- Input: Refers to the filename of the document to be archived.

- Output: Refers to the filename of the result file, INI file.

Note: If the preprocessor is configured, cServer waits for the preprocessor to finish processing. When finished, the preprocessor returns zero on successful completion, or one on failure. cServer returns a general archiving error message to SAP, when the preprocessor fails.

The preprocessor creates the result file that provides cServer with archiving instructions from the preprocessor. This output file defines how a data file and any related file is archived and indexed. The result file format is similar to INI file format. . The sections of result file format are shown in the listing below:

```
[GLOBAL]

File=[<filename1>,<filename2>]...

DocType=<New doctype>

DocClass-<FN DocClass>

Link=[<LinkId1>,<LinkId2>]...


[<LinkId>.LINK]

File=<link filename>
```

```
DocClass=<FN DocClass>

Index=<index field>

<index field1>=<index value1>

<index field2>=<index value2>


[<LinkId2>.Link]

File=<link filename>

DocClass=<FN DocClass>

Index=<index field>

<index field1>=<index value1>

<index field2>-<index value2>


[INDEX]

<index field1>=<index value1>

<index field2>=<index value2>
```

Note: The preprocessor can return an empty result file. In this case, cServer assumes that no customizing is needed, and continues archiving the original file, as before.

[GLOBAL]

This section describes the data file to be archived, its document class, and any links to other section. The entries in the [GLOBAL] section are listed in the table below:

Entry	Description
File	Refers to the name of the file to be archived. Multiple files can be specified in this entry for a FAX document type. For any other document type, only a single file is allowed. This entry is committed if the original file generated by ArchiveLink is used for archiving.
DocType	Refers to new SAP doctype such as OTF, ALF, and FAX. This is an optional entry.
DocClass	Refers to the IS document class under which the document is to be archived. This is an optional entry.
Link	Specifies the <LinkId> of subsequent sections, containing further instructions to archive related documents. This entry can have more than one LinkId. This is an optional entry.

If DocType and/or DocClass entries are not specified, cServer will uses the SAP DocType in the archive request, and the DocClass, specified in the configuration file.

[<LinkId.Link>]

This section is required if <LinkId> is specified in the Link entry in the **GLOBAL** section. It specifies a template file that should be archived with the original document produced by SAP ArchiveLink. The resulting document id can be indexed with the data file. The entries in the [LinkId.Link] section are listed in the table below:

Entry	Description
File	Represents the file to be archived.
DocClass	Refers to IS document class, under which the document is archived. If you do not include this entry, the DocClass specified in the GLOBAL section is used.
Index	The index field name of the document class specified in the GLOBAL section. Once the file is archived, its document id must be assigned to this index field.
<Index field1>	Represents additional index information to be indexed with the file. More than one index entry can be specified in this section.

The resulting docId of the archived template file is written to a default link file, DAT2OTF.DID. The resulting docId can also be written to a specified link file, defined in the Filename DID entry in the cServer configuration tool.

[INDEX]

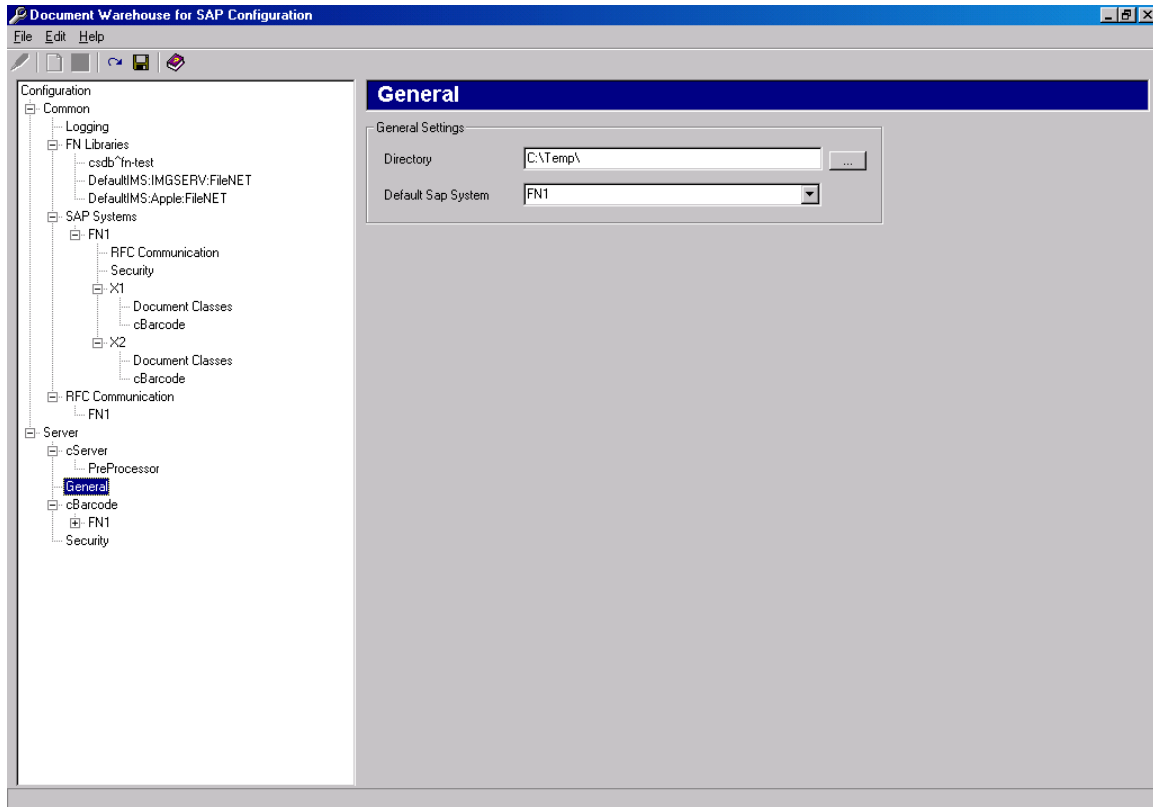To direct cServer to add additional indexes while archiving a document, the [INDEX] section is used. It describes index information to be indexed with the document specified under the GLOBAL section. The [INDEX] section is optional.

There can be several valid index entries that are defined under the document class. This document class is specified in the GLOBAL section. cServer can index string, numeric, and date data types.
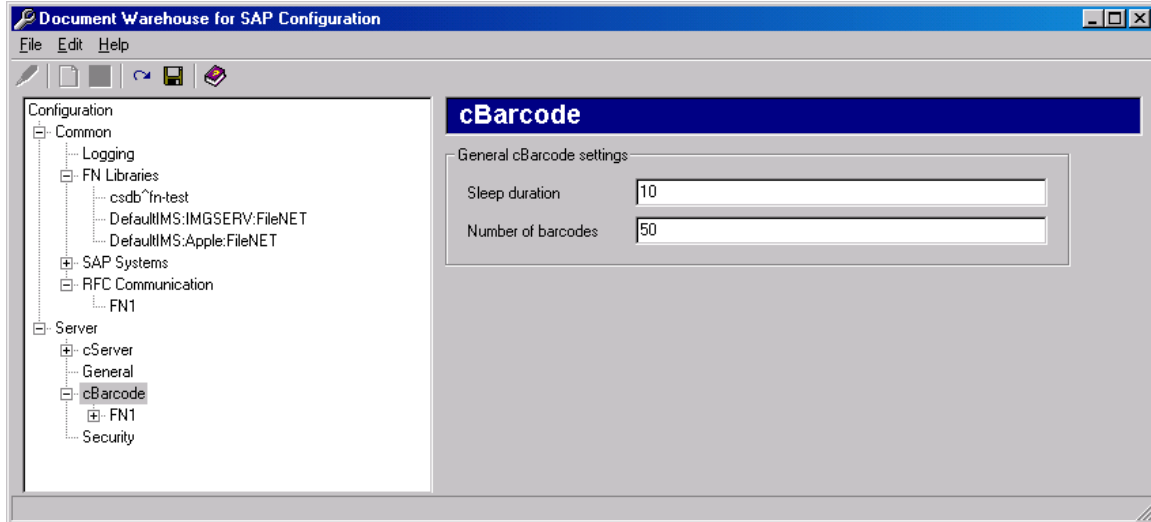
IDM Services for R/3 Category - General

The General category contains preferences used by IDM Services for R/3.

Preference	Description
Directory	Refers to a path to store temporary files, e.g. c:\temp.
	IDM Services for R/3 require sufficient space in this directory for proper operation. There should be at least 250 MB of free space. Several files are created and deleted in this directory; therefore, it is recommended that the drive should be defragmented on a regular basis.
Default SAP System	If no authenticity id is sent by the SAP system, the settings of the default SAP system are used.

IDM Services for R/3 Category - cBarcode

The cBarcode category contains preferences specific to the cBarcode component.

Following table lists the preferences specific to the cBarcode category:

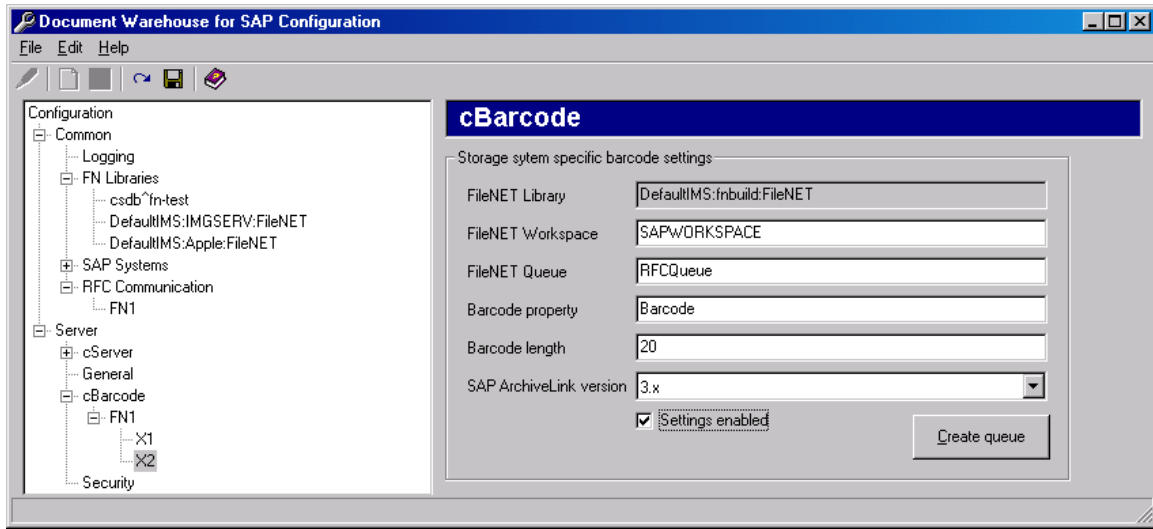| Preference	Description
Sleep Duration	Refers to the number of minutes that cBarcode waits, after processing the configured queue / SAP system combinations, prior to restarting processing. The default value is 10 minutes. **Caution:** If the option **Online Administration** is enabled then sleep interval should be an integer value greater than zero. This field should not be left blank.
Number of Barcodes	Refers to the number of barcodes to be transferred in a single transactional step. The default value is 50. A greater value may increase performance, but it also increases the number of failures.

The cBarcode category provides sub-categories that contain SAP archive specific preferences. SAP archives to be used by the cBarcode component should be added under the SAP systems category first. The archives will then be available under the cBarcode category.

Note: Every SAP archive has a unique barcode Queue. This definition serves as the source (the queue to read from) and the destination (the SAP system to send to) at the same time.

To define a FileNet queue / SAP system mapping,

1. Expand the appropriate SAP system node under the cBarcode category

2. Select the SAP archive, in which the queue and the documents reside.

The selected category contains the following preferences as shown in figure:

Preference	Description
FileNet Library	Refers to the FileNet library, in which the queue resides. This setting cannot be changed because it is defined in the archive setting of the SAP system.
Workspace	Refers to the workspace of FileNet library, in which the queue resides.
Queue	Refers to queue that contains document references.
Barcode Property	Refers to the property of document such as index field, which contains the barcode.
Barcode Length	Represents the maximum length of a barcode. cBarcode truncates longer barcode values, before transferring them to SAP system.
SAP ArchiveLink version	Refers to the SAP ArchiveLink interface version to be used for transfer.
Settings Enabled	Refers to enabling or disabling of processing Barcode information by cBarcode for the selected SAP archive.

Note: The configuration tool does not check the above information for validity or consistency.

The configuration tool can create the barcode queue, if the latter does not exist. To create a barcode queue containing the set of queue fields required by the cBarcode component, enter the preferences as described above. Click the **Create Queue** button. The configuration program creates a barcode queue containing the set of queue fields required by the cBarcode component. The definition permissions of the queue are set to SysAdminG group. The content permissions are set to the primary

group of currently logged on user, if no primary group has been specified for the logged on user then the content permissions are set to the user.

CAUTION: Queues defined using IDM Desktop and SysAdmin user of IDM Image Services library are inaccessible under certain circumstances. Use a user other than SysAdmin, to create barcode queues, while creating barcode queue.


Configuring Security

Background: When SAP sends a HTTP request to cServer, SAP sends a URL to cServer. This URL encodes the type of request e.g. info and the parameters of the request, such as the archive and document id.

To ensure that some other user does not change this URL, SAP calculates a security key from the URL and private key of SAP system. SAP adds this security key to the URL it sends to cServer. CServer compares the URL with the certificate, which is a public key. SAP had sent this public key at the time of initial configuration of the archive. These certificates are stored by cServer in an address book file. In SAP, the process of signing a URL with a security key and verification by cServer, is called security check. The security check is independent of FileNet security.

While creating a document, SAP also determines for what access modes this security check has to be performed by cServer. Security check is performed for create, read, delete, and update access modes. For example, SAP instructs cServer that delete should be protected (i.e. the URL that encodes a delete request for this document has to be signed with a security key) while read does not have to be protected (i.e. that the URL does not have to be signed with a security key). This document protection is stored in the FileNet index, SAPDocProt. For documents where SAP does not explicitly determine at creation time which access modes should be protected, cServer provides configurable default document protection values These values determine whether a security check is required. For legacy documents created with an earlier version of ArchiveLink, the security check is performed for all access modes.

The SAP user does not have to be concerned with these settings or with the process of signing a URL for archive requests. This is all done by the SAP R/3 system and cServer.

The preferences for the security category are shown below in the figure.
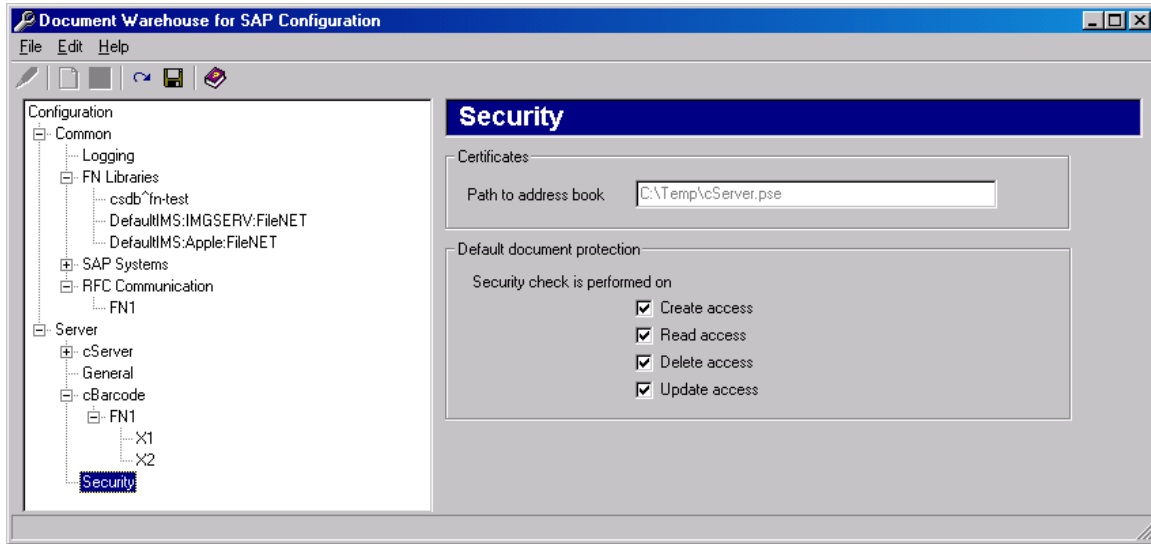
Following table describes the various preferences in the security category:

Preference	Description
Path to address book	This is a mandatory preference and specifies the full path and name of the address book file used to store certificates sent from SAP system to cServer. This preference cannot be changed in the configuration tool. The address book is stored in the temp directory specified under the general category of Server node in the configuration tool.
Default document protection	Determines whether a security check is performed for an access mode, if no document protection is set by SAP, while the document is created. If checked, the specific access method is protected. The recommended value is to perform the security check for all access modes.

Configuring Web-Based Client Environment

If the additional installation for a Web-based client environment on the server occurs, the configuration tool changes slightly. A new main category **Client** is added.

Following figure shows the preferences available in the category Client:
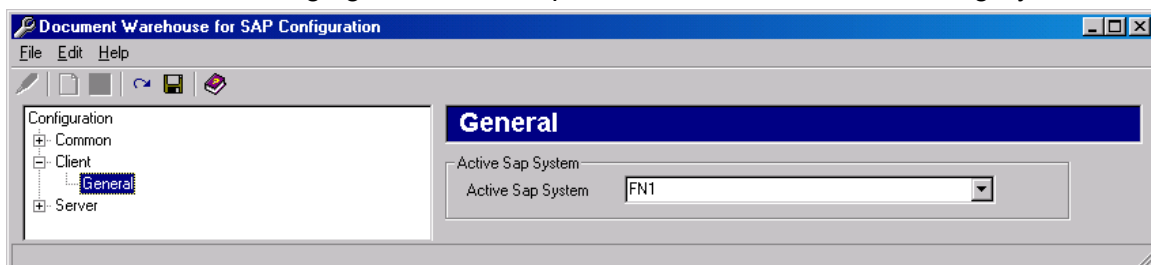
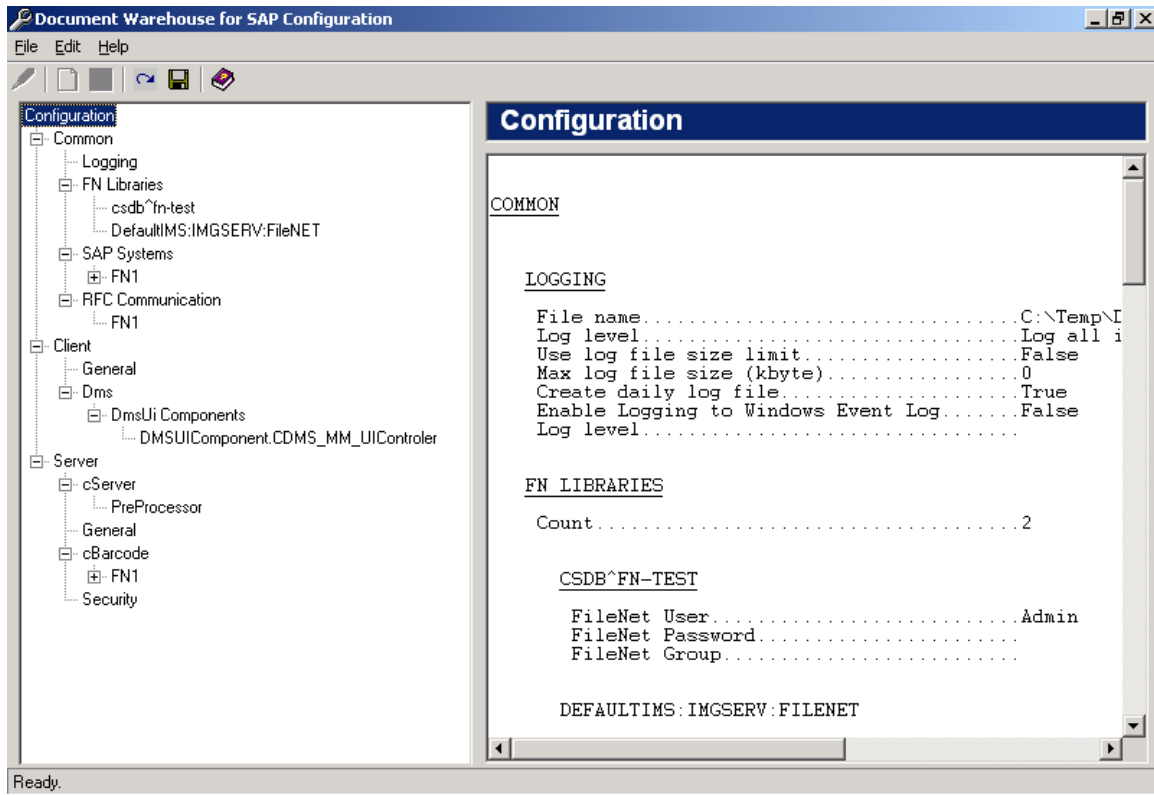Following table describes the preferences available in the category Client:

Preference	Description
Active Sap System	Choose the active SAP system from the drop down list.

Configuring Server AddOn Environment

The configuration tool changes slightly, if the additional installation for a Server Addon on the server is done for pure thin document viewing, and DMS viewing and linking ASP sample application.

Configuration of DMS Viewing and Linking ASP Sample Application

A new main category **Client** is added in the configuration tool. This category is described in the figure below.


Following table gives a short description of the Client category; refer to subsequent sections for details on configuring the preferences of a certain category:

	Category	Sub Category	Description
Client			Refers to the top-level branch of General, DMS.
	General		Refers to the configuration of commonly used preferences.
	DMS		Refers to DMS related preferences, which are used in DMS Web applications.
		DMSUI Components	Refers to the list of DmsUI components as the sub-category.

Configuration of Category DMS

Background: DWSAP provides DMS functions such as creating and modifying Document Info Records (DIRs) in the SAP R/3 system through the DMS BAPI, as well as linking objects from FileNet repositories to SAP R/3 DIRs. These functions are encapsulated in two separate components: DMS Component and DMS UI Component.

The configuration required in the category DMS is depicted in the following figure:
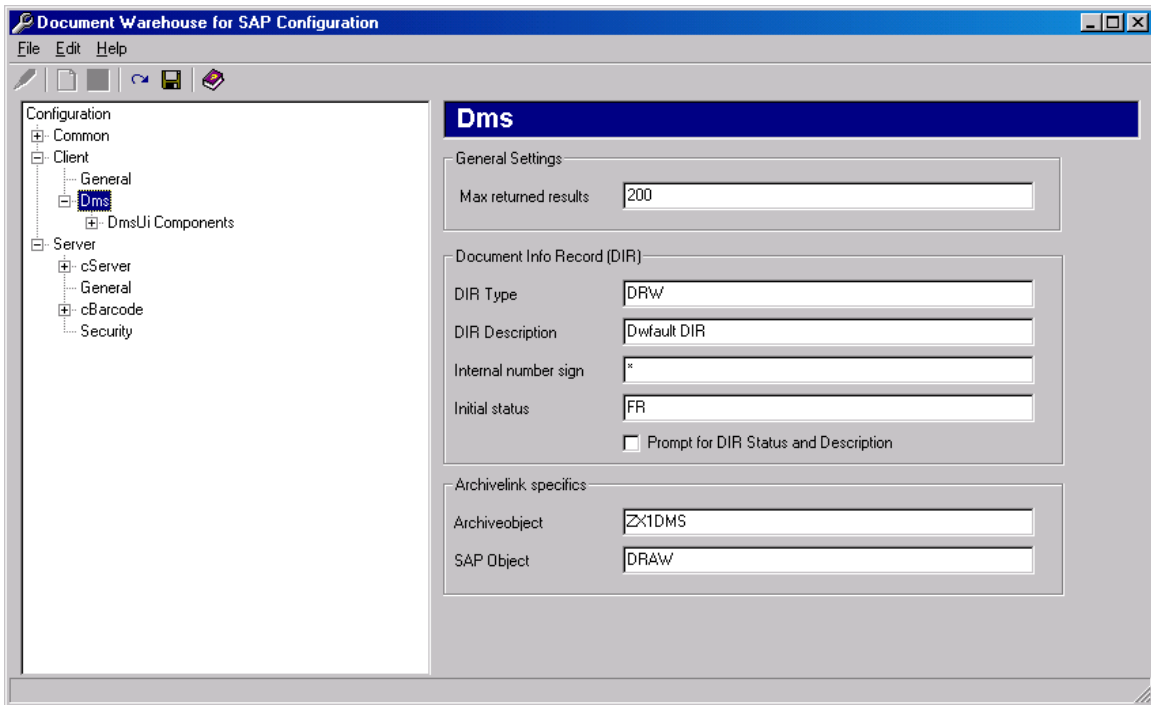
Following table describes the preferences available in the sub category DMS:

Preference	Description
Maximum returned results	Refers to the maximum number of results returned, while issuing a search for SAP master records.

Preference	Description
DIR Type	Defines the possible states a document can have e.g. **DRW**. It also lists with which master records a document can be linked.
DIR Description	Represents the default description that will be assigned to a newly created DIR.
Internal number sign	Defines the numbering system of DIR. The predefined DMS document type DRW uses the (*****) character to create a new id.
Initial status	Defines the initial status a newly created DIR will be assigned as a default value. (see transaction **cv01**). **FR** (released) is the initial status for **DRW**.
Prompt for Dir Status and Description	Refers to a checkbox which if checked will prompt the user to select values for Initial Status and DIR description when a new DIR is created.
Archive object	Represents the SAP document type, which was created in transaction **oac2**.
SAP Object	Represents the SAP Object type, which needs to be **DRAW**.

DMS UI Components

> **Background**: DMS UI Components offer functions to access information about SAP R/3 master records. DMS UI Components also offer functions to search and select SAP R/3 master records. These functions have an interactive interface, in form of user dialog boxes.
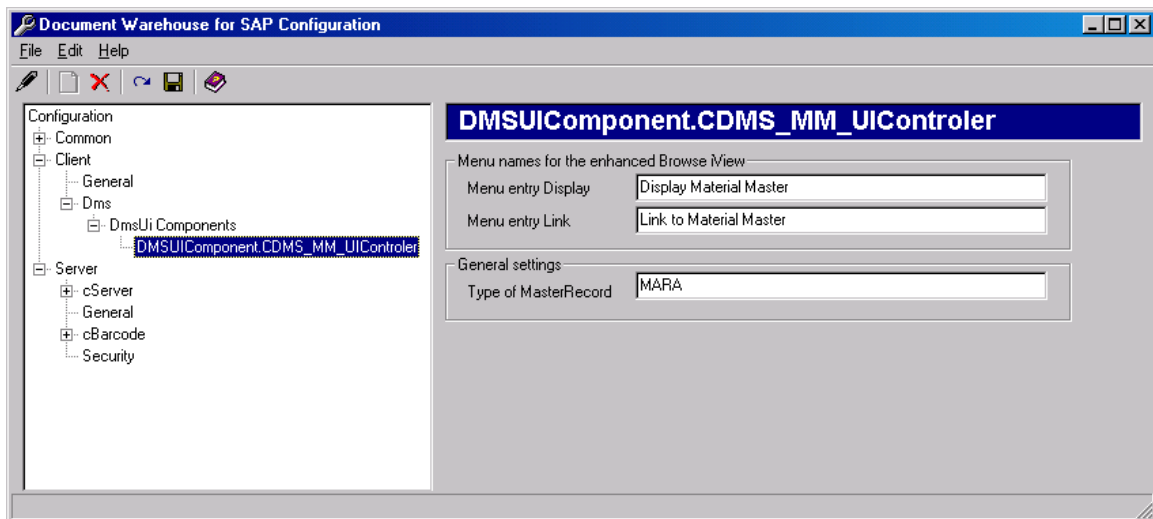

You can create a custom DMS UI Component, to use the same functions with other SAP master records, for example, equip masters

To add a new DMS UI Component:

1. Select the sub-category **DMS UI Components** in the categories tree.

2. Add a new sub-category using the menu **Edit→Add**. The new sub-category represents the individual DMS UI Component and **<libraryname>.<classname> <Count>**.

Following figure shows the preferences that need to be entered for a newly added DMS UI Component:
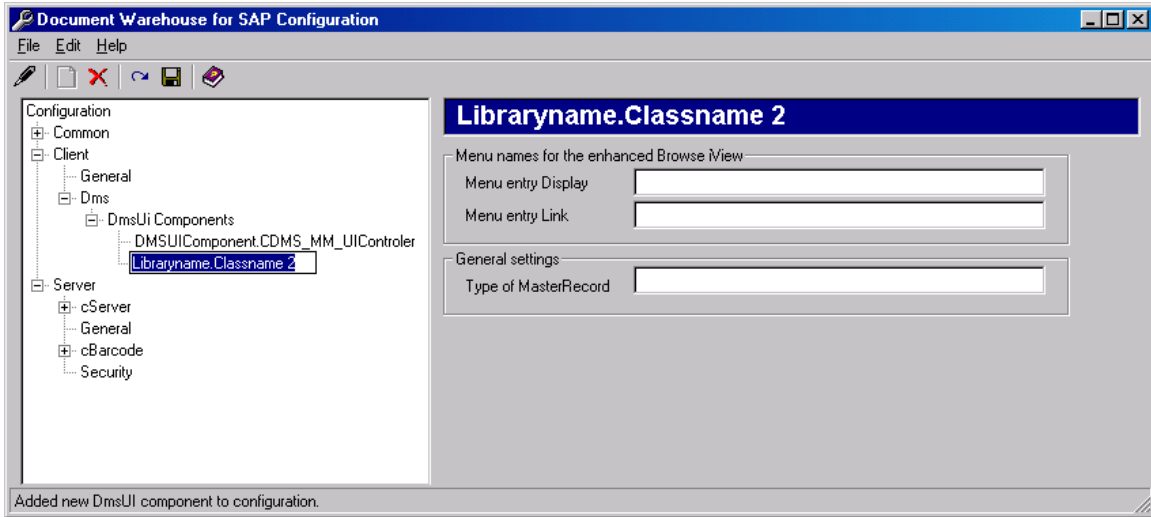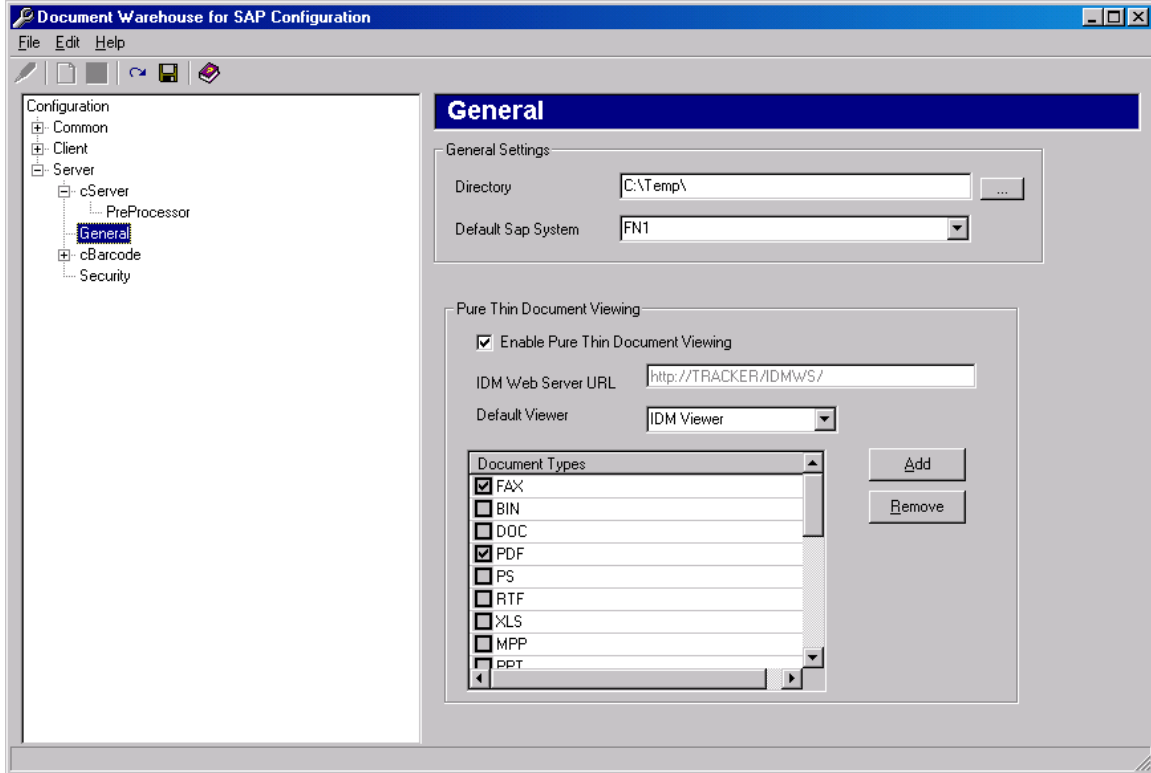

Following table describes the preferences shown in the figure above:

Preference	Description
Menu entry Display	Displays the description, which appears in the menu **DMS**. This is not required for a DMS web environment.
Menu entry Link	Displays the description, which appears in the menu **DMS**. This is not required for a DMS web environment.
Type of Master Record	Displays the ID of the master record that is used, for example, **EQUI** for Equipment Master or **MARA** for material master.

Note: The master records in SAP R/3 system are identified by an id and type id. The type id is a combination of four characters, and is a part of the primary key of the record.

Configuration of Pure Thin Document Viewing

In the configuration tool, the **Server → General** section contains configuration options section for Pure Thin Document Viewing. These options under the sub-category General and the section Pure Thin Document Viewing are shown in the Right frame of the following figure:

Following table describes the various preferences for the Pure Thin Document Viewing configuration:

| Option	Description
Enable Pure Thin Document Viewing	Enables or disables pure thin document-viewing support.
IDM Web Server URL	Indicates the machine, where IDM services for R3 and Server Addon are installed. This URL is non-configurable, and its value is: http://<machine name>/idmws/
Default Viewer	Refers to either ViewOne, or IDM viewer, with which the document is displayed.
Document Types	Allows the user to select document types such as PDF ALF or FAX that require pure-thin document viewing support. Addition and removal of user defined document types is allowed.

6
Customizing SAP

SAP ArchiveLink requires customization of R/3 systems, to work with a content/archiving system vendor such as FileNet. The following sections describe the necessary customizing for SAP R/3 system:

Tip: If SAP system had been processed with a former release of DWSAP, such as 4.0, most of the customizing is already done. Only the supplementary SAP customizing for using cServerHTTP needs to be done.

Overview

Most of SAP ArchiveLink customizing starts in, **SAP Easy Access**, which, displays the possible choices such as basic settings in a hierarchical structure as shown in the following figure:
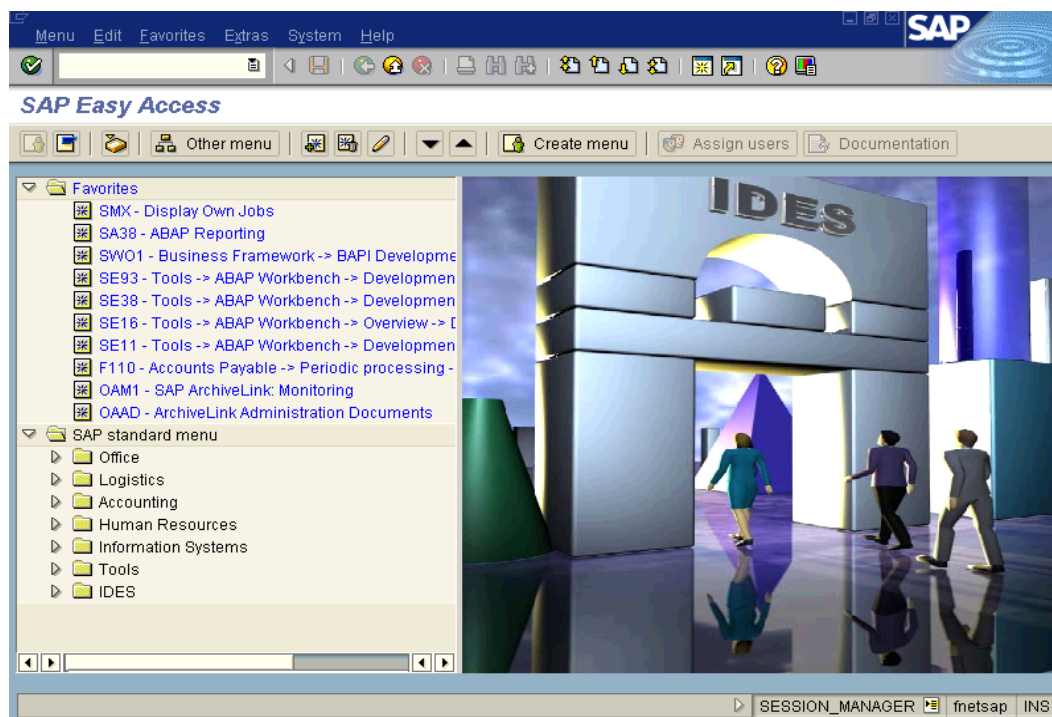
Note: As an alternative, to customize your SAP system, use the SAP Implementation Guide (IMG). The IMG guide lists the necessary steps, provides context-sensitive SAP online documentation, and automatically displays the customizing screens for all SAP related functions. The IMG

can be found under **Tools → AcceleratedSAP → Customzing** menu, or through transaction code **spro**.

There are two types of SAP ArchiveLink customizing required, which are as follows:

- Customizing specific to DWSAP. The tasks necessary for this type of customization are SAP Archive definition, SAP Archive Protocol definition.

- Customizing for SAP modules such as FI and SD, which is independent of the archive used. This type of customization is not part of this documentation. Refer to the SAP Online documentation for more information on the customizing of SAP modules.

Initial Customizing

This is the initial customizing that needs to be done on the SAP side for configuring the ArchiveLink interface of SAP. Following section, describe in detail the specific type of customizing that is required on SAP side:

Basic Settings

Following figure shows the Basic Settings, transaction code **oag1**:
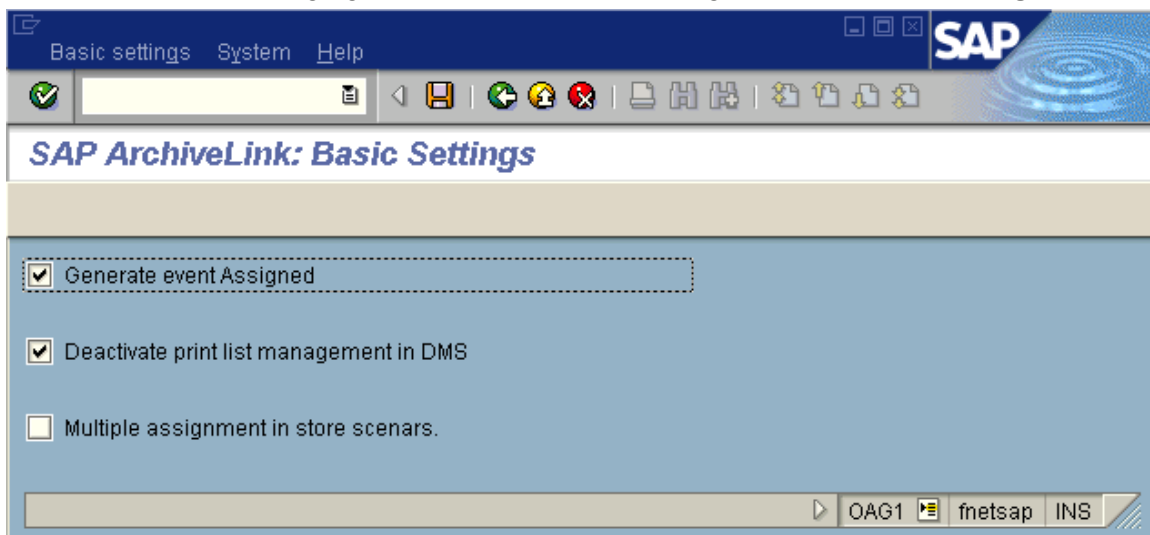
The values that DWSAP requires for the options shown in figures above are explained in the following table:

Setting	Value	Remark
Generate event Assigned	Check	Required to store the value **Storing for subsequent entry** and **Store and Enter** (formerly known as Early and Simultaneous Input).
Deactivate print list management in DMS	Check or uncheck	This option is not relevant to IDM Services for R/3.
Multiple assignment in store scenarios	Check or uncheck	Not relevant to IDM Services for R/3.

Creating SAP Queues

Background: SAP ArchiveLink maintains several queues, to temporarily store asynchronous archiving and retrieval request, and confirmation messages exchanged with IDM Services for R/3. SAP system does not automatically create these queues. This means that the queues must be created as part of SAP ArchiveLink setup. This needs only be done once per SAP system.

In order to create queues in SAP, access the following menu: **Business Documents → Environment → Knowledge Provider → Kpro → Create queues** or use the transaction code **oaqi.** The following screen is displayed:

CAUTION: Re-creating the SAP queues deletes the contents of the queues. In SAP ArchiveLink Monitor, transaction code oam1, check the Queues section. If numeric values are displayed next to the buttons Storage, Confirmation, and Retrieve, it means that SAP queues already exist.
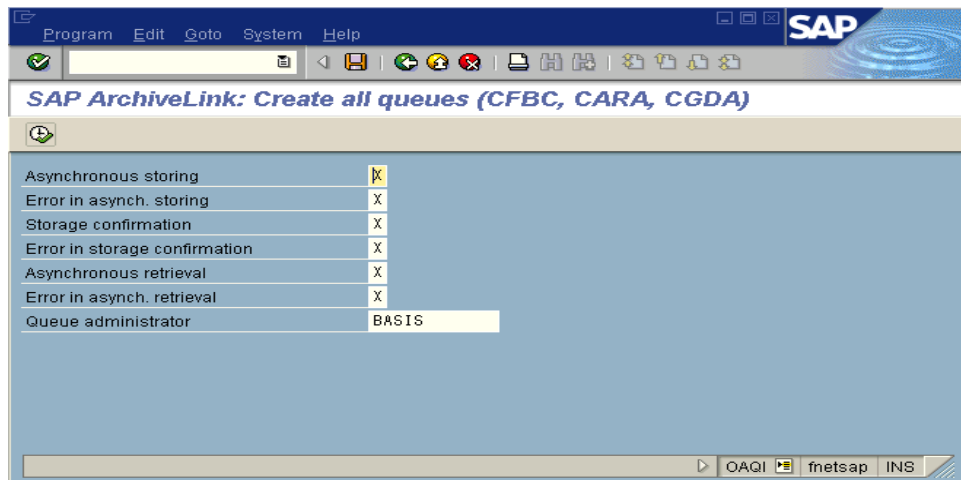
Enter the alphabet X for all queues to be created as shown in above figure. Enter SAP user name of the administrator, to receive notifications about errors that occur during queue processing.

Tip: It is not necessary, but it is recommended that all queues should be created at the same time.

Maintaining Number Range

Background: SAP ArchiveLink requires a number range to generate unique file names, and IDs for asynchronous requests.

In order to maintain the number range, access the following menu: **Business Documents → Environment → Knowledge Provider → Kpro → Maintain number range** or use the transaction code **oanr**. The following screen is displayed:
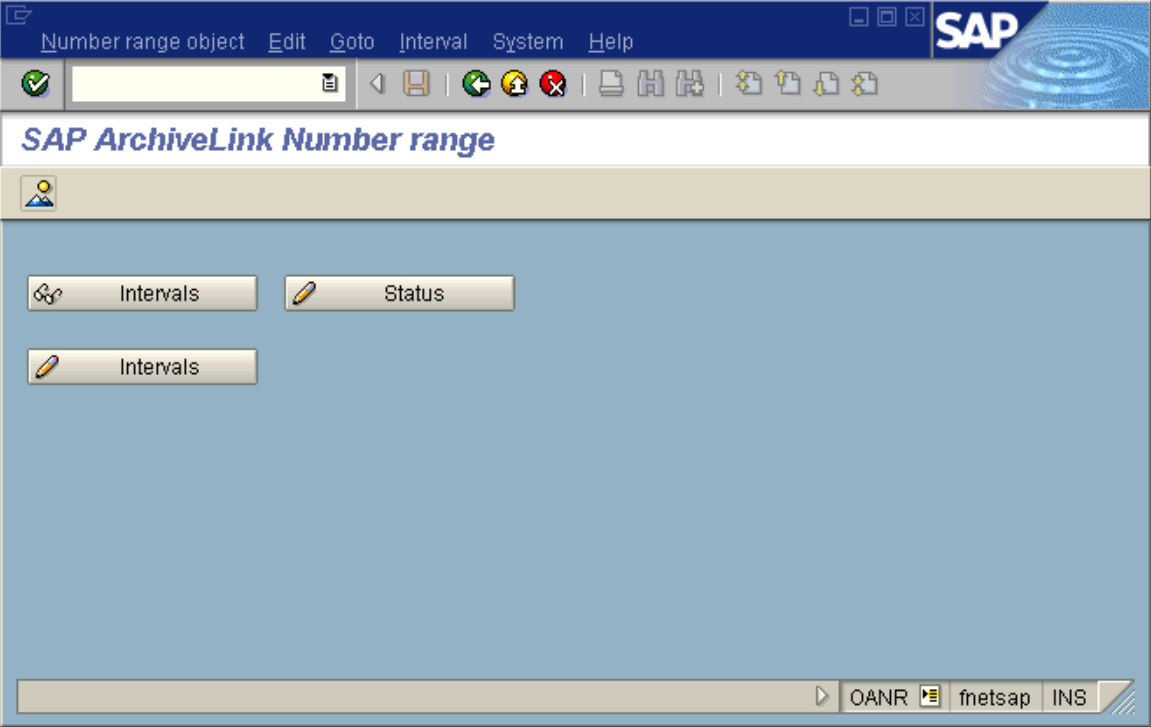
Following steps are to be followed for maintaining the number range:

1. Check whether the required number range already exists. Click **Number range object → Overview** in the main menu. The following screen is displayed:
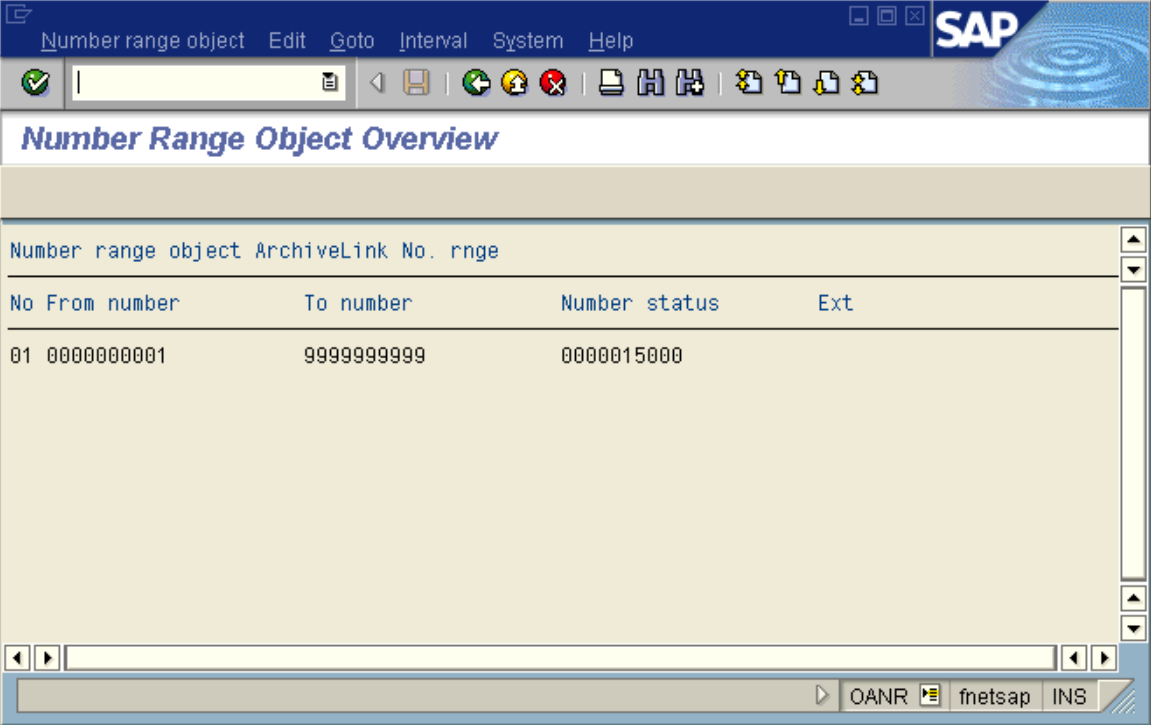
2. If a number range object for example, 01 exists, as shown in the screen shot above, another number range should not be created. If the number range does not exist, proceed to the next step.

3. Create a number range. Click **Interval → Change** in the main menu. The following screen is displayed:
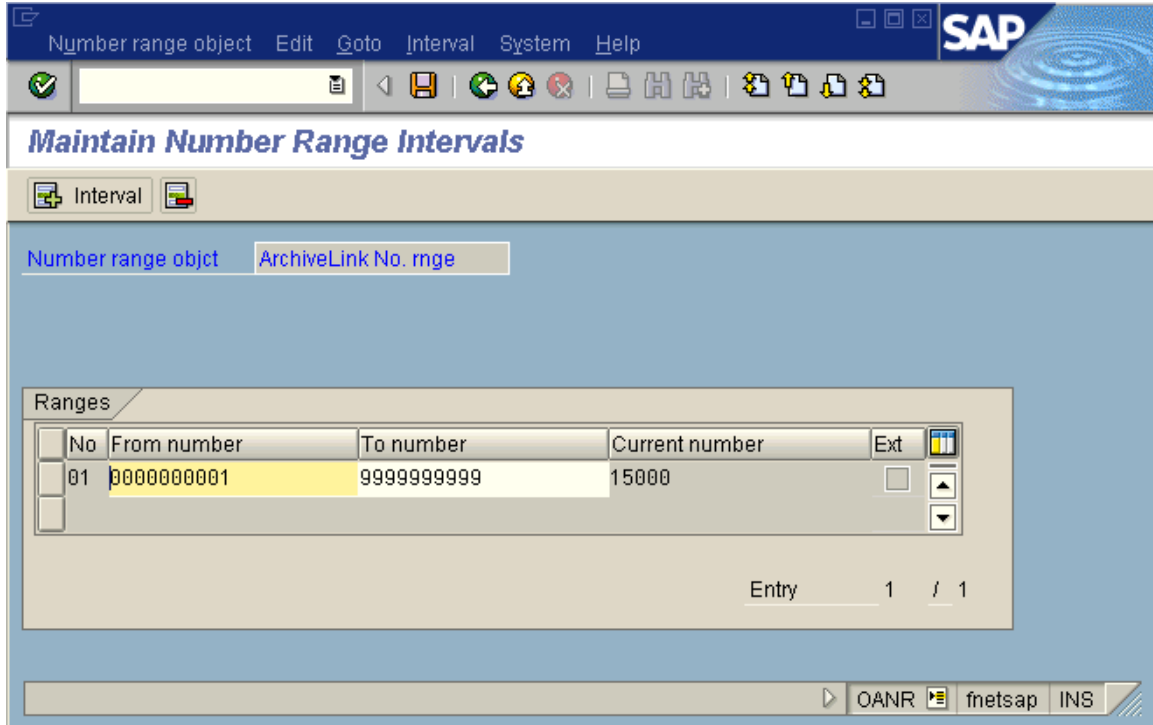
4. To insert a new interval, click **Edit → Insert** interval menu in the main menu or click the Interval button in the above screen. The following screen is displayed:

5. Enter the following values for the various fields that are shown:

No   "01"

From Number   "0000000001"

To Number   "9999999999"

Current Number   "1"

Ext   " " (leave blank)

Maintaining Archive Device

> **Background:** You can specify an archive-specific archive device, overriding the default archive device **ARCH**. This is an optional step.

> **Note**: The archive specific archive device can be set in the Content Repository transaction. For more information on defining an archive device, refer to section SAP Archive Definition.

Communicating with Archives

This section describes the protocol that is used to communicate with an archive. Before configuring a new archive, the protocol should be configured, as it is used while defining the archive.
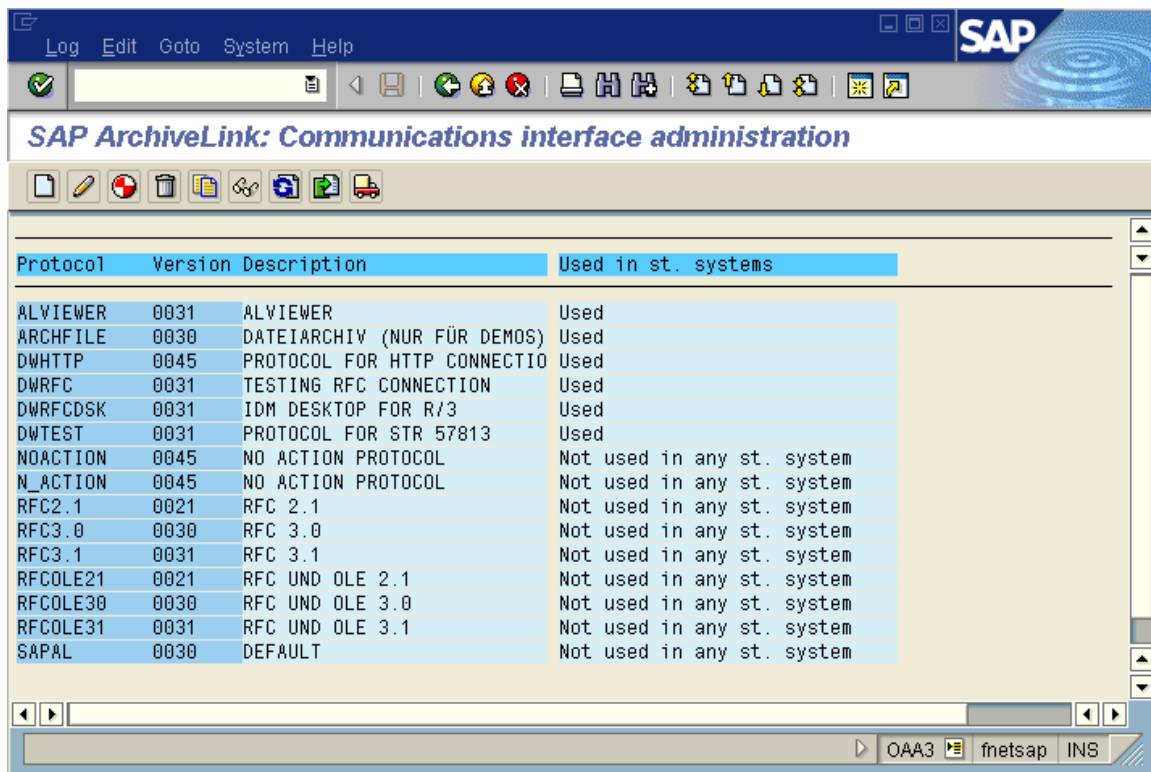
SAP ArchiveLink Protocols

> **Background**: SAP ArchiveLink uses protocols to determine the type of communication to be used for a specific SAP ArchiveLink function. This communication is based on the document format such as ALF, PDF. While defining an archive, identify the SAP ArchiveLink protocol to be used with the archive.

Defining a protocol for thick-client document viewing

In order to define a new protocol for thick client document viewing , follow the steps listed below:

1. Access the following menu: **Tools → Business Documents → Basic settings → Communication → Protocol** or use the transaction code **oaa3**. Following screen is displayed:


2. Select menu item **Log → Create** or click the **New Protocol** icon. The following screen is displayed:

3. Enter the name of the new protocol, the SAP ArchiveLink version number, and a short description. If HTTP communication is used, choose SAP ArchiveLink release 0045 or later. If RFC communication is used, choose ArchiveLink version 0031.

Note: The combination of protocol name and releases form the identifier of the protocol.

4. Click the icon, circled in above screen. The following screen is displayed which shows the protocol overview:
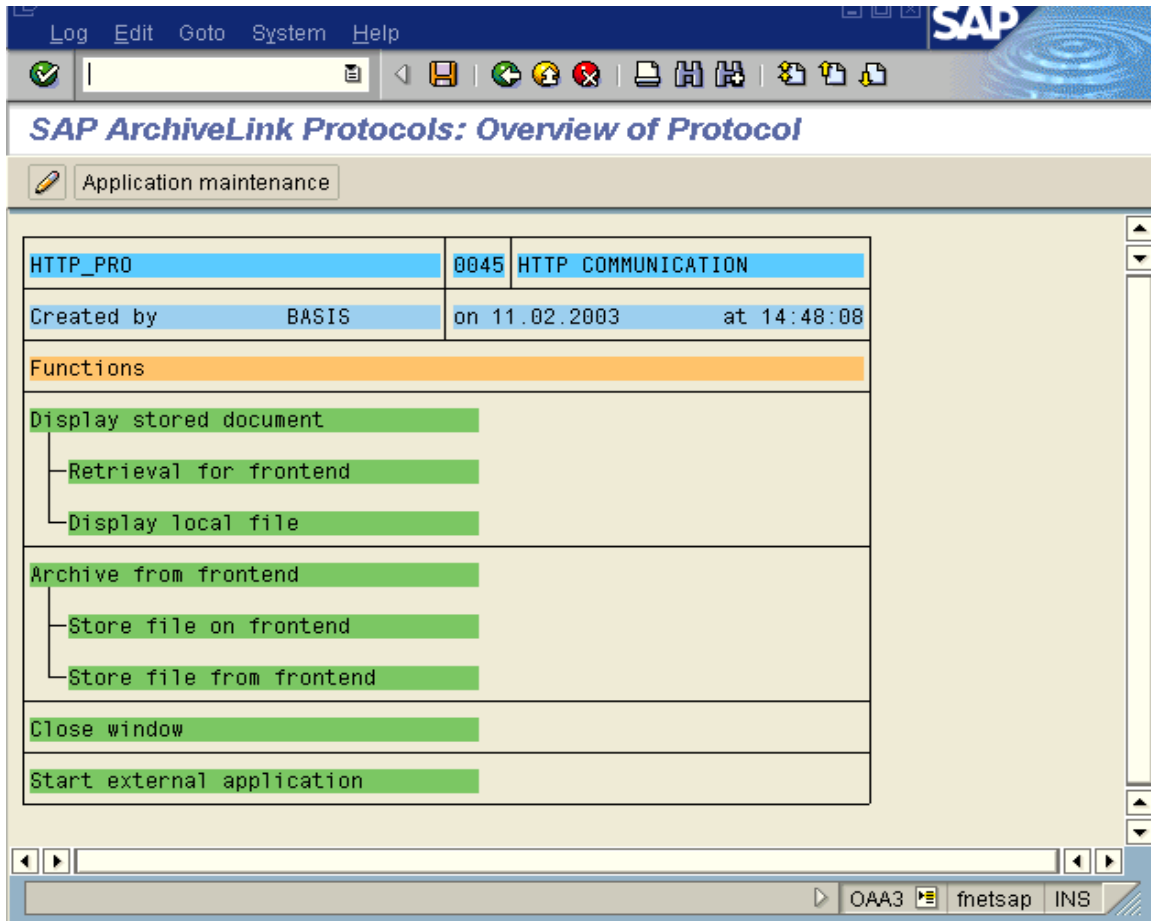

5. In SAP R/3 4.6B, the following functions are available for protocol customization:

   a   Display stored document

   b   Retrieval for frontend

   c   Display local file

   d   Archive from frontend

   e   Store file on frontend

   f   Store file from frontend

   g   Close window

h Start external application

All other functions use the standard communication defined for the archive, for example, HTTP for an HTTP content server and RFC for an RFC archive.

6. The SAP ArchiveLink protocol overview screen displays SAP ArchiveLink functions that can be configured. Double-click a function to select it. The following screen is displayed, showing the list of available SAP technical document classes; the (*) document class represents the default class for the selected function:
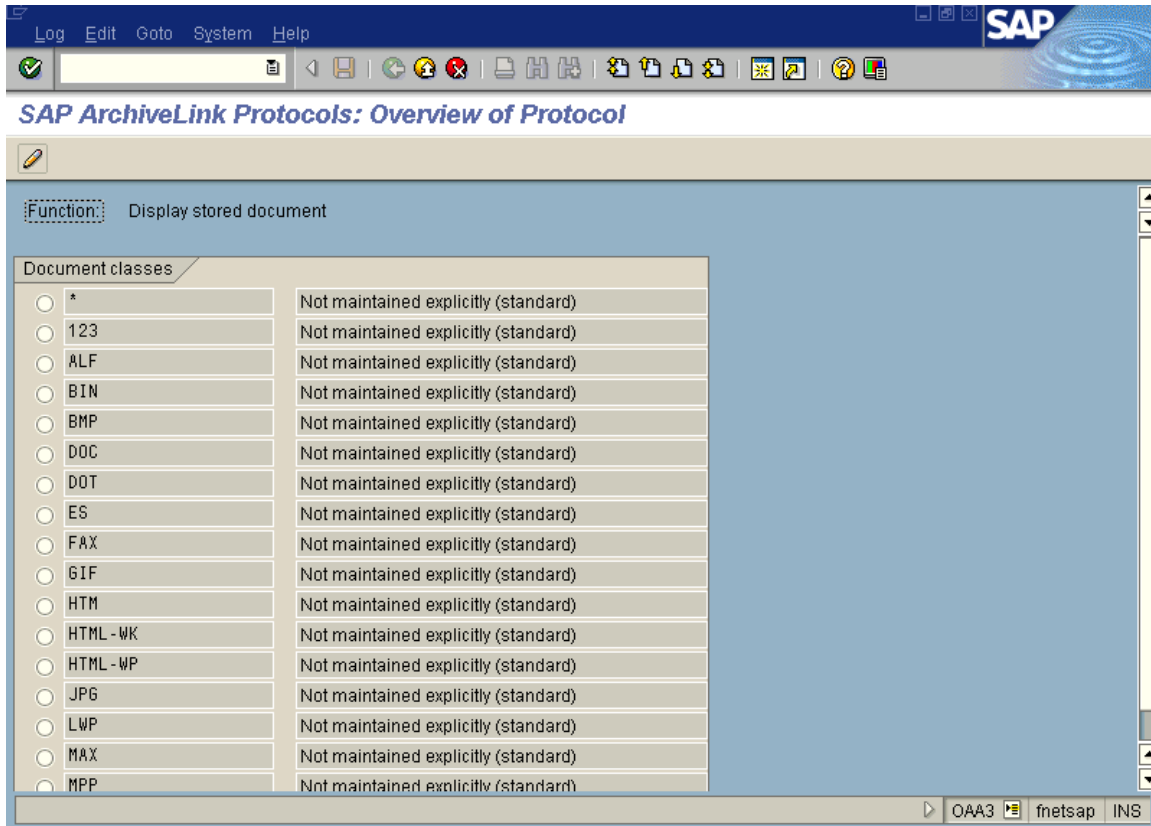
7. To specify a communication type for a document class, select a document class by selecting the radio button and double-clicking the document class name. The following screen is displayed:
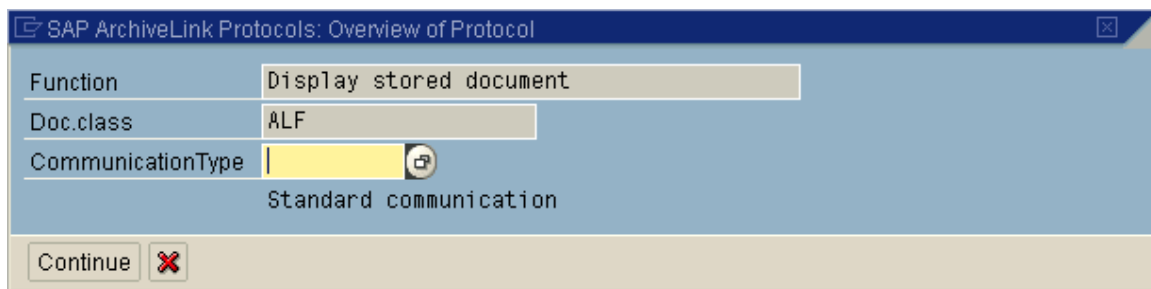
8. The default document class (*) can be overridden by a specific setting for a document class.

9. Enter the communication type that is used in this protocol for the stated function and the stated document class.

Repeat steps 7 through 9 for all SAP ArchiveLink functions, as specified in the table below.

The following table lists the communication types frequently used by DWSAP customers. It is not comprehensive with regard to the possible communication types. Refer to SAP ArchiveLink online documentation for detailed information on SAP ArchiveLink functions.

Function	Document Class	Comm. method	Comments
Display stored document	*	OPEN	Refers to IDM Desktop for R/3 application. Details about defining IDM Desktop for R/3 as an OLE application are provided in Installation and Configuration Manual-Client.
	ALF	ICC	Refers to print list display in SAP ArchiveLink Viewer.
	ALF	R/3	Refers to print list display in SAPGUI. Protocol version 0045 required for searching in print lists.
	ALF	OPEN	Refers to print list display in ArchiveLink Viewer. In this case give the OLE application as ALVIEWER.
	OTF	ICC	Refers to displaying of OTF documents. OTF format has been replaced with PDF. Can only be displayed by SAP ArchiveLink Viewer.
Retrieval for frontend	*	OPEN	Refers to IDM Desktop for R/3 application.
Display local file			Define separately for each document class.
Archive from frontend	*	OPEN	Refers to IDM Desktop for R/3 application.
Store file on frontend			Define separately for each document class.
Store file from frontend	*	OPEN	Refers to IDM Desktop for R/3 application.

Note: In table above, additional parameters may be required, for OPEN communication where the OLE application to be called is entered. In addition, for some document classes, more than one communication type is provided. See the respective comments field for more information.

To review the protocol definitions, choose **Log → Display** in the **Communication Interface Administration** screen. The screen displays the list of protocols.

CAUTION: After having customized the SAP ArchiveLink protocol, ensure to save the changes. Some SAP R/3 releases do not notify the user about unsaved protocol changes when leaving the transaction.

Defining a Protocol for Pure thin document viewing

In order to define a new protocol for Pure thin document viewing, save a new protocol without any customization for the SAP Archivelink functions.
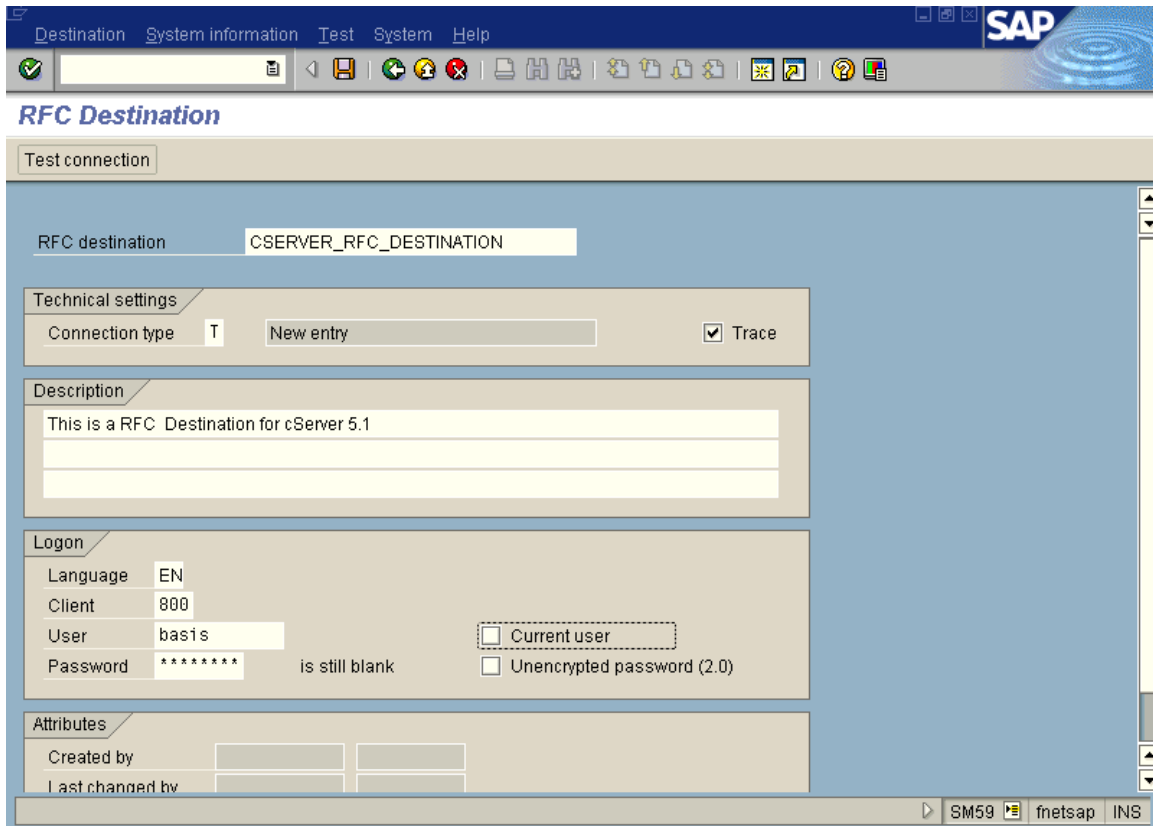
RFC Destinations

Background: When using DWSAP as a RFC archive, the definition of an SAP archive requires an RFC destination. The RFC destination defines how SAP R/3 system communicates with IDM Services for R/3. The parameters of RFC destination are: type of transport communication - TCP/IP, SAP gateway at which IDM Services for R/3 is registered as an RFC server, and the program ID under which it is registered. This information is also entered in IDM Services for R/3 configuration. The values should match to ensure a smooth communication.

In order to define a new RFC Destination, follow the steps listed below:

1. Access the menu: **Tool → Administration → Administration → Network → RFC Destinations** or transaction code **sm59**. The following screen is displayed:
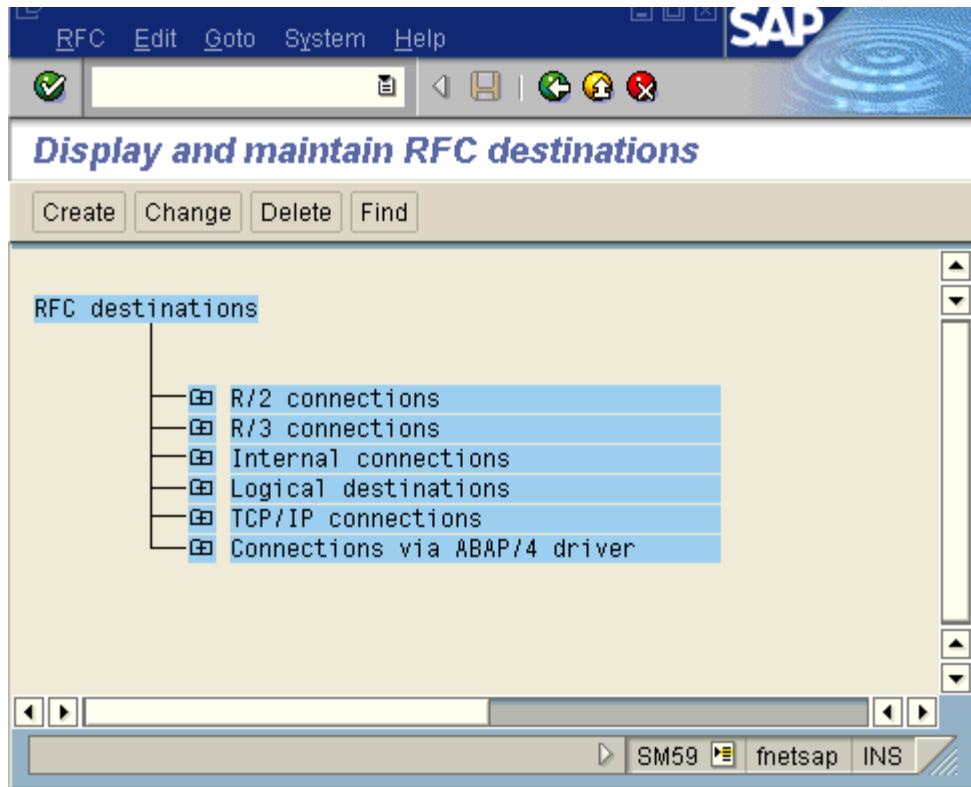
2. Expand the TCP/IP connections node.

3. To create a new RFC Destination click **Edit → Create** from the main menu. The following screen is displayed:

4. Enter the name of the new RFC destination, and a description in the screen shown above.

5. Type **T** for TCP/IP as the **Connection type** and press **Enter**. The screen will change to the one shown below.
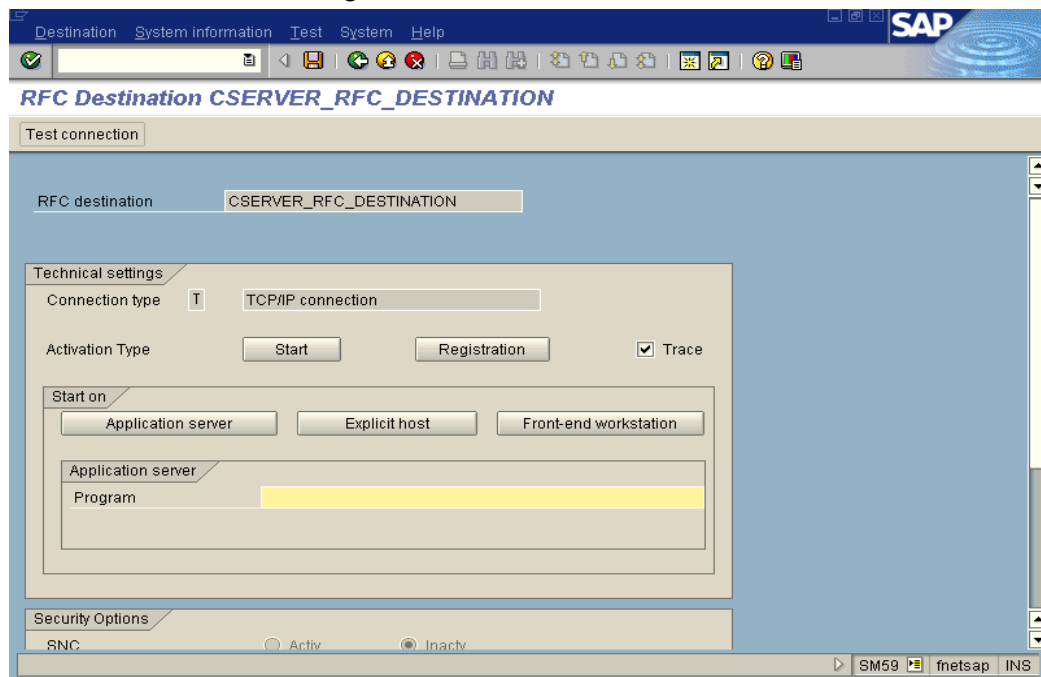
6. Select the **Registration** button as the **activation type.** The following screen is displayed:
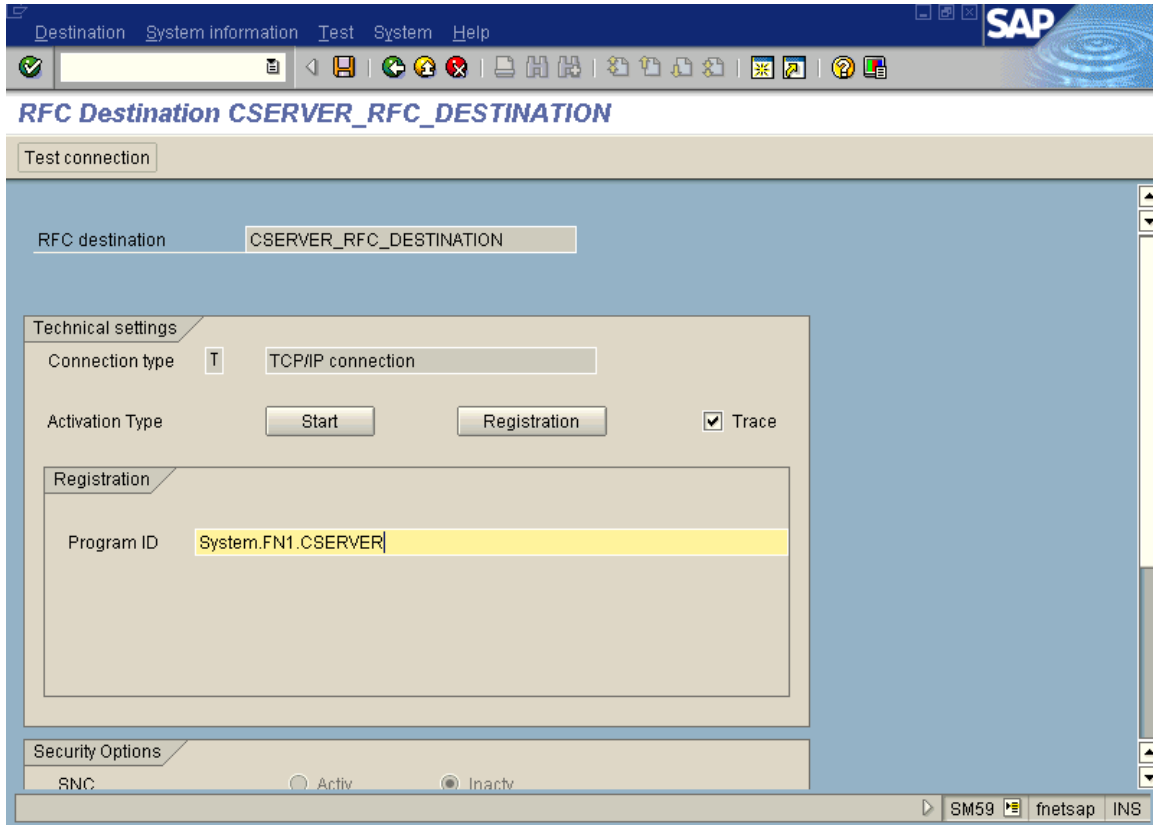
7. Enter the program ID you have defined using IDM Services for R/3's configuration tool. For more information, about configuring the RFC program ID refer to section Configuring RFC Communication.

8. If you are not using the standard SAP Gateway of your SAP R/3 system, select **Destination → Gateway options**. The following screen is displayed:

9. Enter the SAP gateway parameters as defined in the configuration tool and click **O.K.**

10. To save your destination, click **Save**.

For more information on how to test RFC destination, refer to section Testing RFC Communication Parameters.

SAP Archive Definition

Background: An archive is a logical representation of a physical storage system, for example, a specific FileNet Image Services library.

Note: Archives are called storage systems in R/3 4.5B, and content repositories in 4.6B.
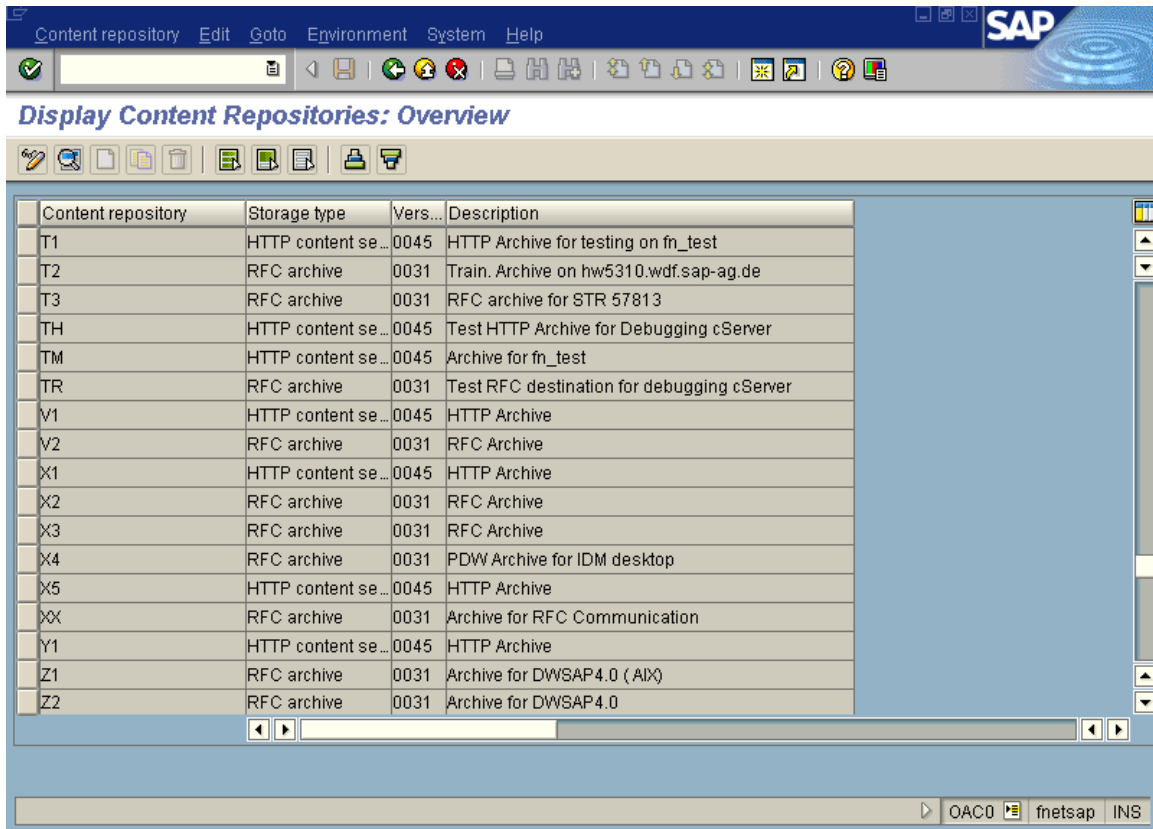
Before defining a new archive, the following settings must be done:

- The SAP ArchiveLink protocol for the new archive should exist. For more information, see section SAP ArchiveLink Protocols.

- The RFC Destination (if RFC is used) should exist.

- Obtain a Change Request ID from your SAP System Administration under which the settings can be saved.

SAP Archive Definition in R/3 4.6B

In order to define a new archive for RFC communication, follow the steps listed below.

1. Access the following menu: **Tools → Business Documents → Environment → Knowledge Provider → Kpro → Content Repositories** or use the transaction code **oac0**. The following screen is displayed:

Display Content Repositories: Overview

Content repository	Storage type	Vers...	Description
T1	HTTP content se...	0045	HTTP Archive for testing on fn_test
T2	RFC archive	0031	Train. Archive on hw5310.wdf.sap-ag.de
T3	RFC archive	0031	RFC archive for STR 57813
TH	HTTP content se...	0045	Test HTTP Archive for Debugging cServer
TM	HTTP content se...	0045	Archive for fn_test
TR	RFC archive	0031	Test RFC destination for debugging cServer
V1	HTTP content se...	0045	HTTP Archive
V2	RFC archive	0031	RFC Archive
X1	HTTP content se...	0045	HTTP Archive
X2	RFC archive	0031	RFC Archive
X3	RFC archive	0031	RFC Archive
X4	RFC archive	0031	PDW Archive for IDM desktop
X5	HTTP content se...	0045	HTTP Archive
XX	RFC archive	0031	Archive for RFC Communication
Y1	HTTP content se...	0045	HTTP Archive
Z1	RFC archive	0031	Archive for DWSAP4.0 (AIX)
Z2	RFC archive	0031	Archive for DWSAP4.0

2. Click on the icon **Create** or choose **Content Repository → Create**.
    The following screen is displayed:
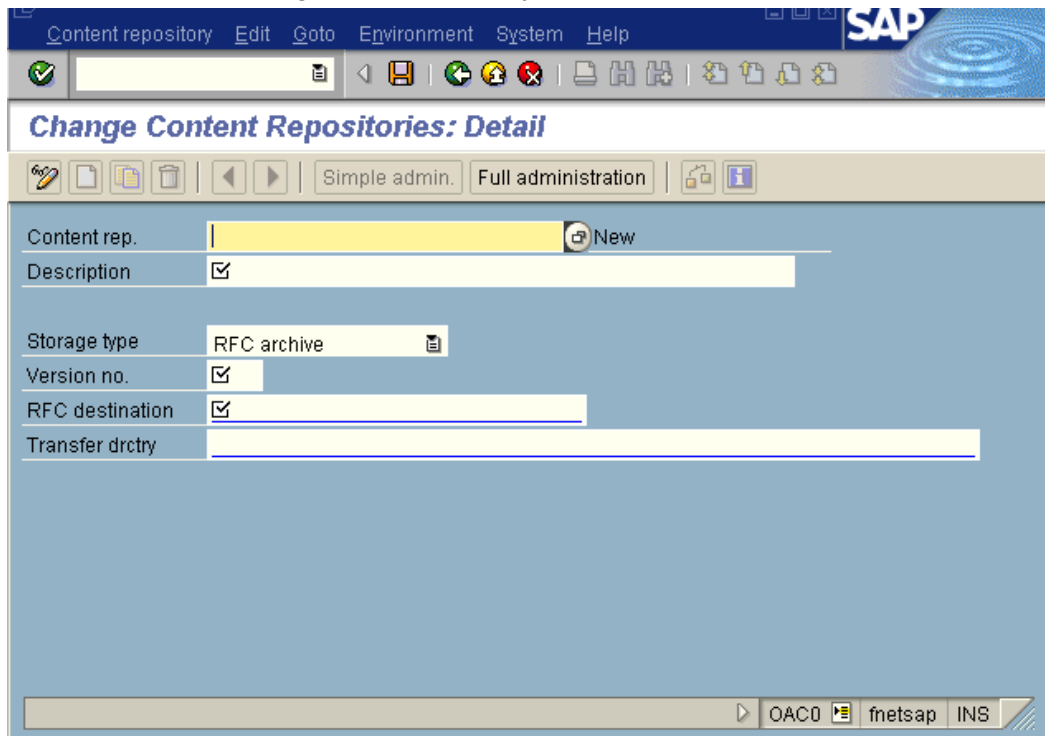
Change Content Repositories: Detail

Content rep.	New
Description	
Storage type	RFC archive
Version no.	
RFC destination	
Transfer drctry	

3. Select the **Full administration** button. The following screen is displayed:

4. Enter the values in all the fields. The values for the new archive are listed in the table below:

Setting	Remark
Content rep.	Refers to the name of archive. The name is one alphabetical character and one alphanumeric character. Although the screen allows you to enter more than two characters, SAP ArchiveLink can only work with two character identifiers.
Description	Represents language dependent description.
Storage Type	Refers to the type of Archive. Choose **RFC Archive** from the drop down box.
Protocol	Refers to the name of SAP ArchiveLink protocol defined in a different step of SAP ArchiveLink customizing. For more information, refer to section SAP ArchiveLink Protocols.
Version no.	Represents the SAP ArchiveLink version to be used. Enter the values 0031.
RFC destination	Refers to the RFC destination that will be used by the archive. Enter the name of the RFC Destination to be used. For more information, refer to section RFC Destinations

Setting	Remark
Basic path	Refers to the complete path of a directory in which SAP ArchiveLink can store files temporarily or for exchange with FileNet IDM Services for R/3 (called **Archival path** in IDM Services for R/3 Configuration tool). The path must end with a (\\) in Windows, or (/) in UNIX because the actual file name is concatenated to this path value.
Archive path	Refers to the complete path of a directory into which FileNet IDM Services for R/3 restores documents (called **Retrieval path** in IDM Services for R/3 Configuration tool).
Output device	Refers to the Archiving Device. Specify an archive-specific archive device, overriding the default archive device ARCH.

5. To save the settings, click **Save**. Depending on the SAP R/3 system administrative customization, change request information will have to be entered.

Note: If cServer is running, it is possible to verify some of these settings with the **Test Connection** icon. If the test is successful, SAP R/3 can properly communicate with cServer.

In order to define a new archive for HTTP communication, follow the steps listed below.

1. Access the following menu: **Tools → Business Documents → Environment → Knowledge Provider → Kpro → Content Repositories** or use the transaction code **oac0**. The following screen is displayed:

2. Click on the icon **Create** or choose **Content Repository → Create**. The following screen is displayed:

3. Select the **Full administration** button. The following screen is displayed:

4. Enter the values in all the fields. The values for the new archive are listed in the table below:

| Setting	Remark
Content rep.	Refers to the name of archive (one alphabetical character plus one alphanumeric character). Although the screen allows you to enter more than two characters, SAP ArchiveLink can only work with two character identifiers.
Description	Refers to the language dependent description
Storage Type	Refers to the Archive type. Chose **HTTP content server** from the drop down box. For other values, the screen changes.
Protocol	Refers to the protocol. Enter the Name of the SAP ArchiveLink protocol defined in a different step of the SAP ArchiveLink customizing. For more information, see section SAP ArchiveLink Protocols.
Version no.	Refers to the SAP ArchiveLink version to be used. Enter 0045.
HTTP srvr;p	Refers to the HTTP server address. Enter the domain of the web server under which FileNet IDM Services for R/3 runs. Do not enter **http://** or any path information. The domain could also be the IP address or the IP alias of the web server machine. If the HTTP Server uses a non-standard port, you can also enter this port by adding: **<port number>**.
Program	Refers to the program, which will listen to the Http request from the SAP. This is value is **IDMForR3/cServerHTTP.dll.**
Basic path	Refers to the complete path of a directory in which SAP ArchiveLink can store files temporarily or for exchange with FileNet IDM Services for R/3 (called **Archival path** in IDM Services for R/3 Configuration tool). The path must end with a (\) in Windows, or (/) in UNIX because the actual file name is concatenated to this path value.
Archive path	Refers to the complete path of a directory into which FileNet IDM Services for R/3 restores documents (called **Retrieval path** in IDM Services for R/3 Configuration tool).
Output device	Refers to the Archiving Device. Specify an archive-specific archive device, overriding the default archive device ARCH.
No signature	Do not check.

5. To save the settings, click **Save**. Depending on the SAP R/3 system administrative customization, change request information will have to be entered.

Note: When cServerHTTP is operational, you can verify some of these settings with the **Test connection** icon. If the test is successful, SAP R/3 can properly communicate with cServer.

Sending a Certificate to an Archive

> **Background:** SAP R/3 signs the URL of HTTP requests that it sends to cServer. cServer uses a certificate that SAP R/3 had sent earlier, to verify that the URL was unchanged, and was sent by SAP system designated in the URL. For a detailed description of this process, refer to section Configuring Security.

In order to send a certificate to an archive, access the following menu Tools → **Environment** → **Knowledge Provider** → **Edit** → **Send certificates** or use transaction code **oaht**. The following screen is displayed:
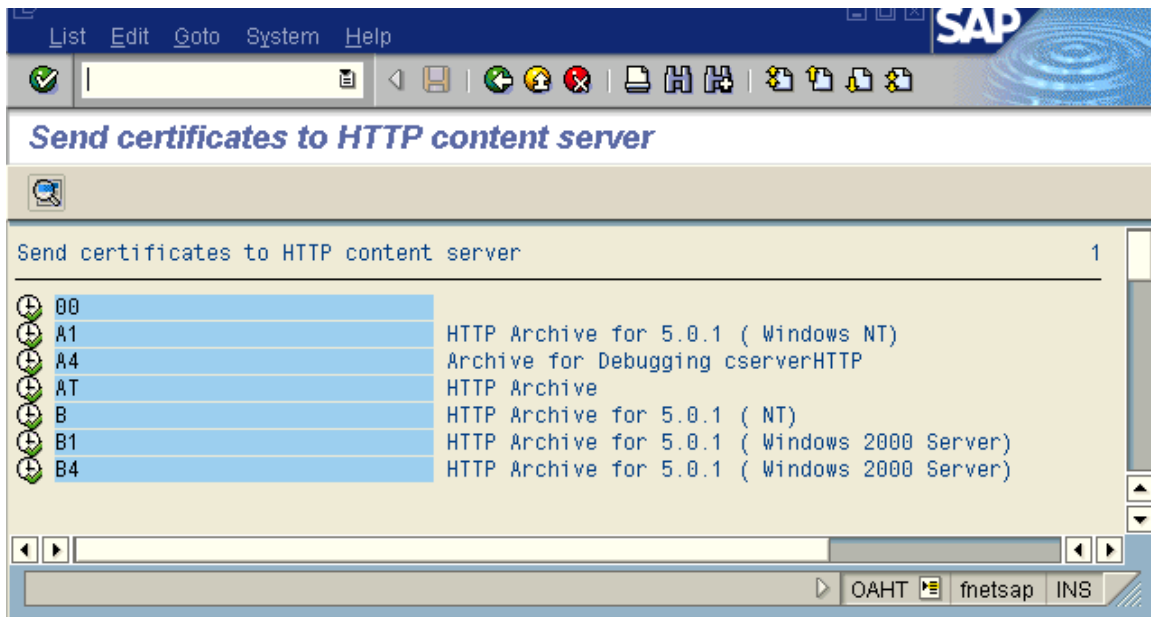
To send a certificate for an archive to cServer, click the **Execute** button on the left hand side of the archive ID.

If the certificate is sent successfully, the status bar will be cleared. If not, a message box is displayed on the screen, informing whether a problem occurred while communicating with cServer, or whether an internal problem occurred in the cServer.
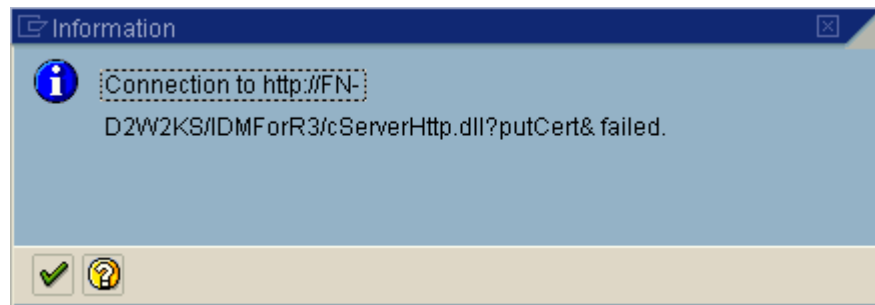
> **Note:** Certificate sent to cServer, should be activated in the configuration tool. For more information on sending certificate, refer to section Configuring SAP System-Specific Security.

Business Configuration Elements

This section describes the definition of SAP technical document classes and associating them with the configured archives. The section also describes steps required to associate technical document classes with SAP business objects.

SAP Technical Document Classes and MIME Types

> **Background:** SAP ArchiveLink uses SAP Technical Document Classes to identify the format of a document stored in an archive, for example, print lists in Technical Document Class **ALF**, or MS Word documents in Technical Document Class **DOC**. The technical document class of a document is maintained in the SAP ArchiveLink link tables as well as a document index in the FileNet library. SAP ArchiveLink protocol uses technical document class to determine how to perform an ArchiveLink function such as **Display**, or **Retrieve**. Beginning with SAP ArchiveLink 4.5, each SAP Technical Document Class corresponds to a MIME type, which is used in HTTP protocol rather than the technical document class itself, which is used in the RFC protocol. DWSAP handles technical document classes as well as MIME types.

In order to configure document classes, access the following menu: **Tools → Business Documents → Basic settings → Customizing → DocClasses** or use the transaction code **oad2**. The following screen is displayed:
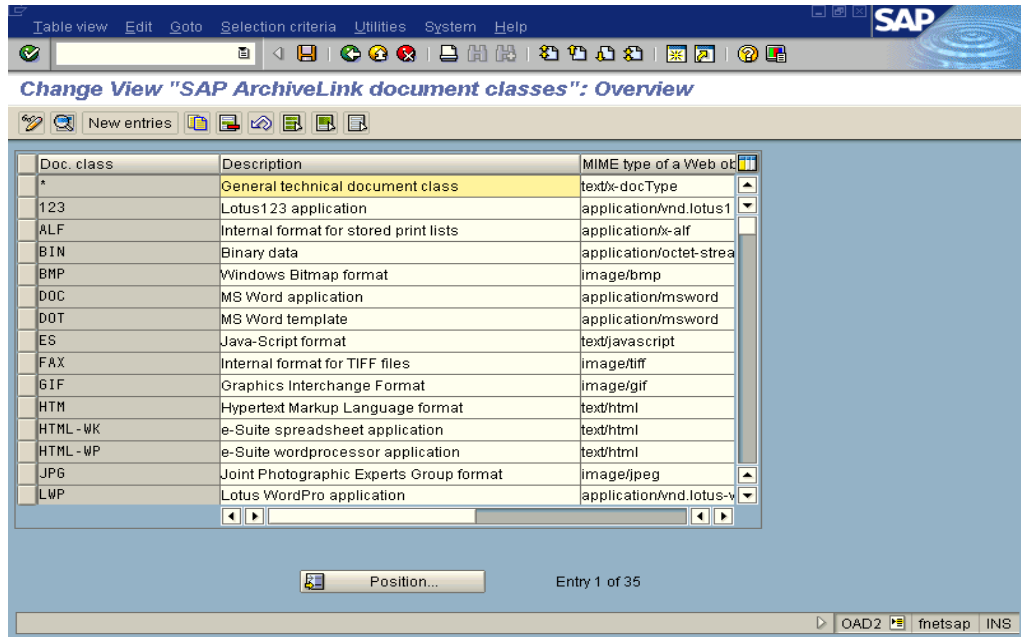
SAP ArchiveLink provides a list of predefined SAP Technical Document Classes, along with their corresponding MIME types. You can define additional Technical Document Classes, or change the description and MIME types of the existing ones.

ArchiveLink Document Types

Background: An ArchiveLink document type is a content-related business definition of a document that can be stored in FileNet repository. For example, **Incoming Financial Invoice** and **Outgoing Sales Order**. There is one SAP Technical Document Class associated with each document type. This SAP technical document class defines the document format.

In order to configure document types, access the following menu: **Tools → Business Documents → Document Types → Global document types** or use the transaction code **oac2**. The following screen is displayed:
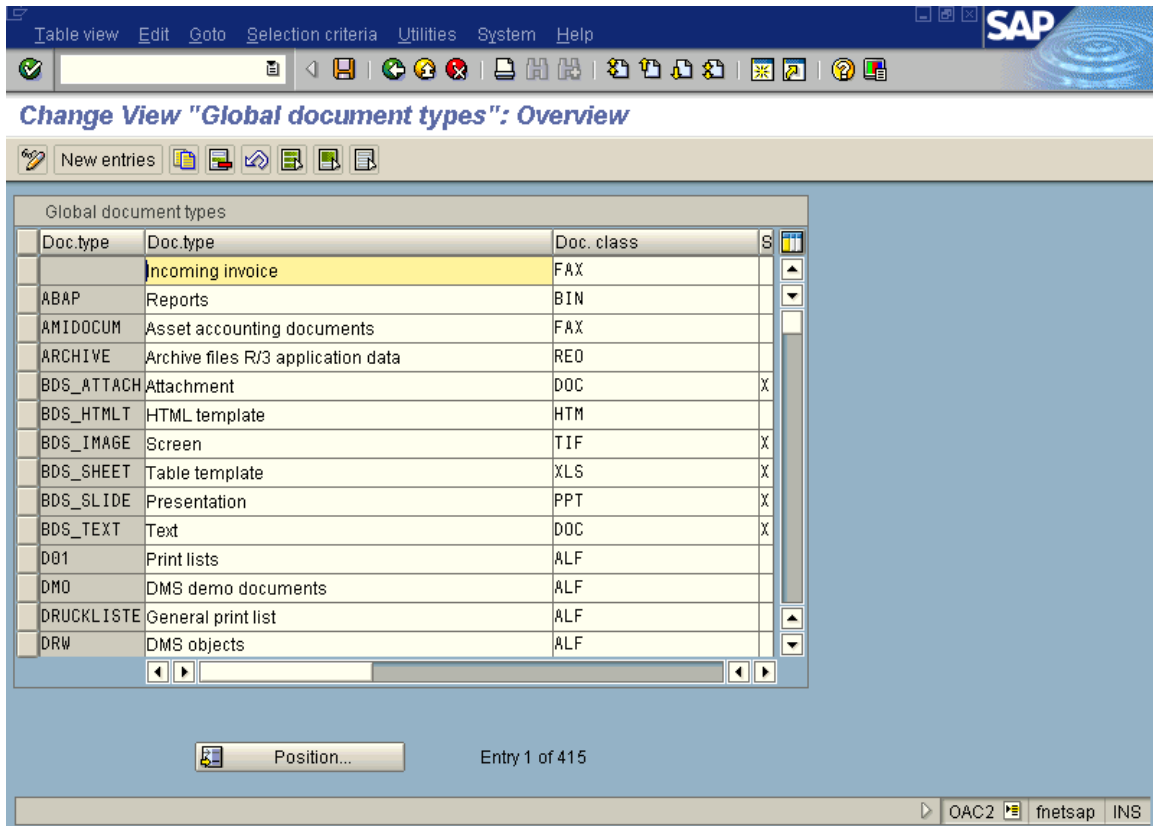
Naming conventions: The name of a new document type *should* be a concatenation of
<name space id> <sap application> <direction> <description>.

The name space id is **Y** or **Z** as described above. The SAP application is the usual SAP abbreviation for one of its business applications such as FI (financials), SD (sales and distribution), or HR (human resources). The direction is either **I** (incoming) or **O** (outgoing). The description specifies the contents of the document in detail, such as **INVOICE** or **ORDER**. Valid names, according to the naming convention, would therefore be **ZFIIINVOICE** and **YSDOORDER**.

To create a new document type:

1. Obtain a Change Request ID from your SAP System Administration. This is necessary to save the changes.

2. To create the global document type, click **Document Types → Global document types** menu. or transaction code **oaa3**

3. To add new entries for document types click **Edit → New** entries menu.

4. Enter the name for the new document type (observing the Y or Z name space), the language-dependent description, and the technical document class.

There can be any number of new document types entered.

> **CAUTION:** SAP requires new document type names to start with a **Y** or with a **Z**. Document types of this name space will not be overwritten or deleted when updating SAP system software.

Defining Links

> **Background:** SAP R/3 uses a single transaction to define a document type such as FIINVOICE, which SAP object types it belong to (e.g. VBAK, a specific FI business object type). The archive, which is used to store documents of this type (e.g. A1, and the SAP link table is used to store the link information between a specific document and a specific SAP object (e.g. TOA01). During this transaction, all this information is called a link.

A document type can have multiple links, but only one of these links can be active at a given time.

In order to define a link, access the following menu: **Basic Settings →
Links** or use the transaction code **oac3**. The following screen is displayed:
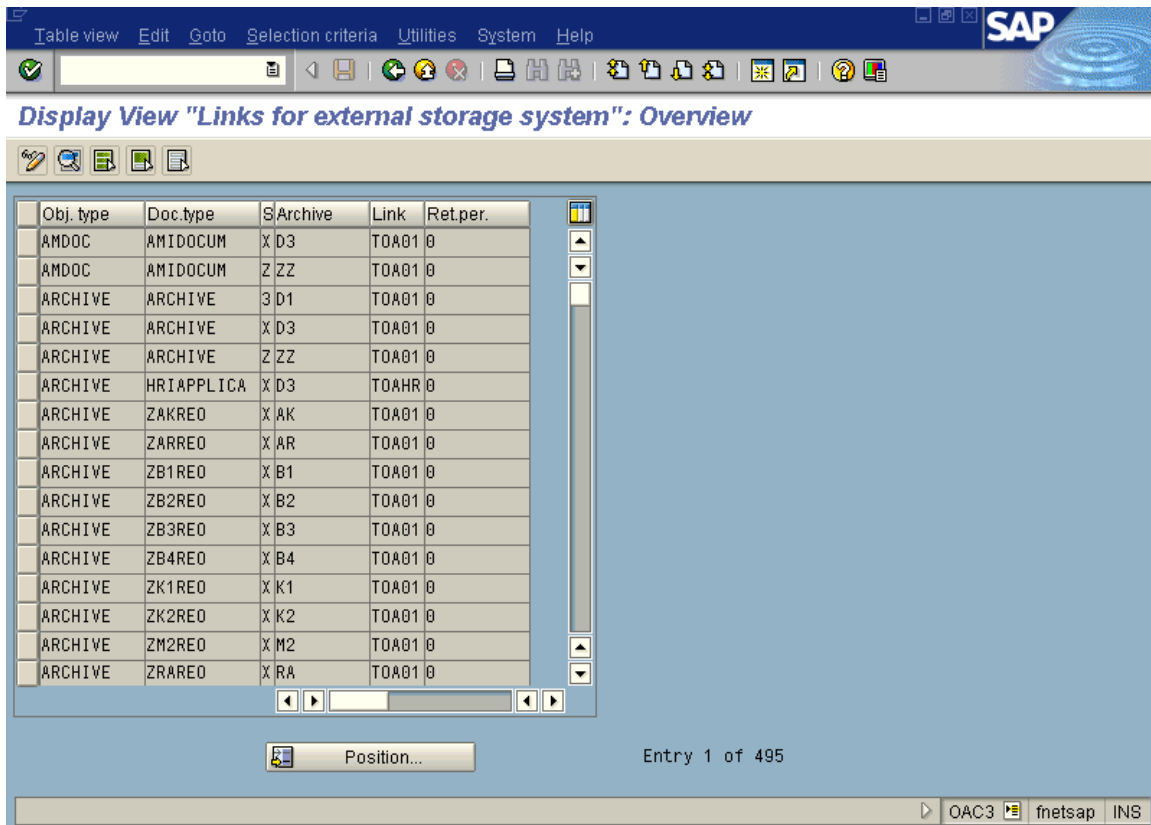
To create a new document link:

1. Start the transaction **oac3**.

2. To switch to change mode (click on the **Display** ➔ **Change** icon or select table **view** ➔ **display change** from the menu).

3. To create a new entry, click the **New** entries button. An empty line is added. Enter the appropriate values for different fields as shown in the above screen.

4. To save the new entry, click **Save**.

8
Server Configuration

This chapter provides an overview of the additional configuration that is to be done on the IDM Services for R/3 Server machine.

Configuring the cServer RFC Service

IDM Services for R/3 component cServerRFC, is installed as a Windows service in order to start up each time the machine it is installed on is started.

The user that is used to run the FileNet RFC Service can be configured as follows:

1. To start the Services applet, click **Start → Programs → Administrative Tools**. The following screen is displayed:
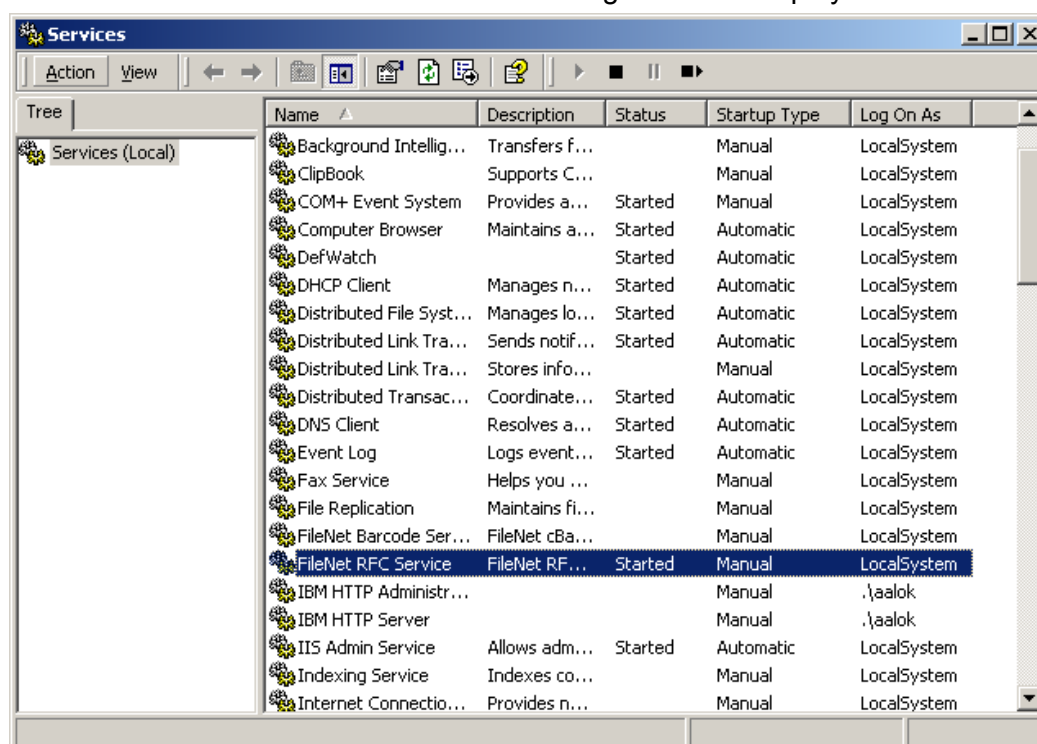
2. Double-click the **FileNet RFC Service** from the list on the right side. The following screen is displayed:
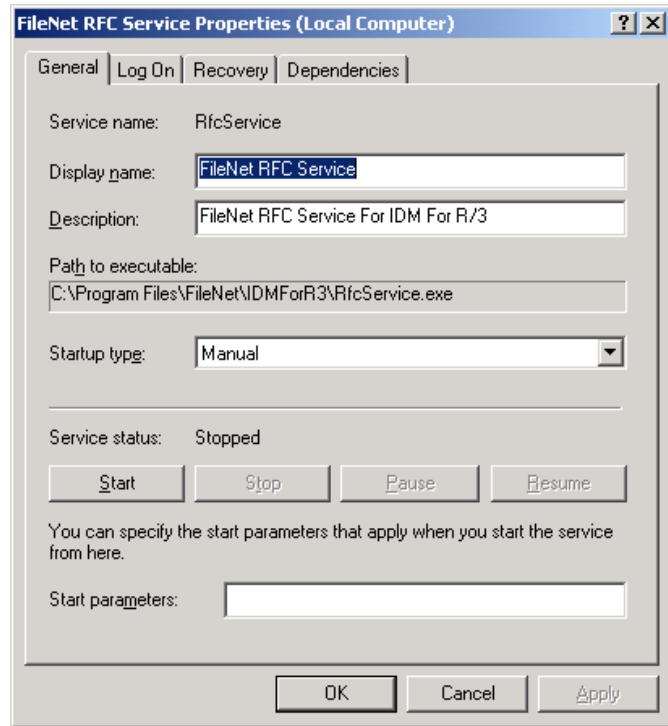
3. Click the **Log On As** tab. The following screen is displayed:
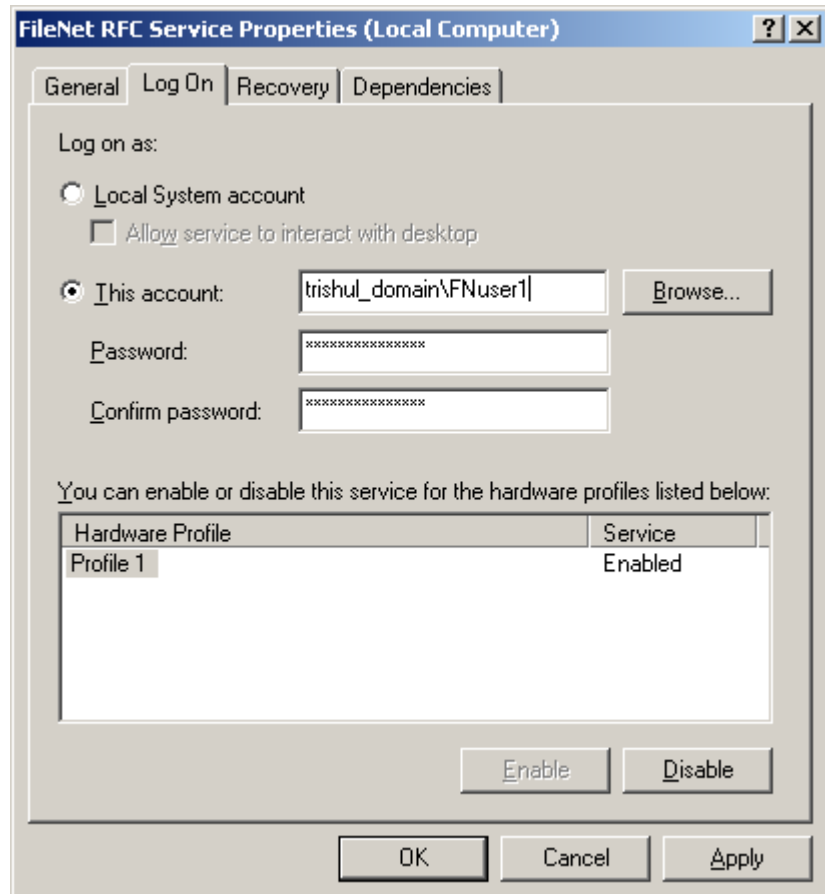
4. Click the **This Account**: radio button, and enter the user in the adjacent field. Enter the user password in the corresponding text boxes below.

The rights that the user, who runs the cServerRFC service must possess are:

- Windows user rights **Logon as a Service** and **Create a token object**. These rights can be configured by invoking **Start → Programs → Administrative Tools → Local Security Policies**. Open **Local Policies** and then **User Right Assignment** in the tree view. A window **Local security setting** opens up. Choose the appropriate policy (**Logon as a Service** and **Create a token object**) and click on the **Add** button. Select the right user to run the cServerRFC service and click on **add** again.

- The user should have read, write, and delete rights on the directories used to transfer files between SAP R/3 server and cServer. For more information on how to configure the exchange directories, refer to section Guidelines to Define File Exchange Directories

Configuring IDM Services for R/3 in Internet Information Server for HTTP communication

IDM Services for R/3 use Microsoft IIS as its Web server for HTTP communication with SAP server. To add IDM Services for R/3 to IIS please follow the following steps:

1. Click **Start → Programs → Administrative Tools → Internet Service Manager**, to start the Internet Service Manager.
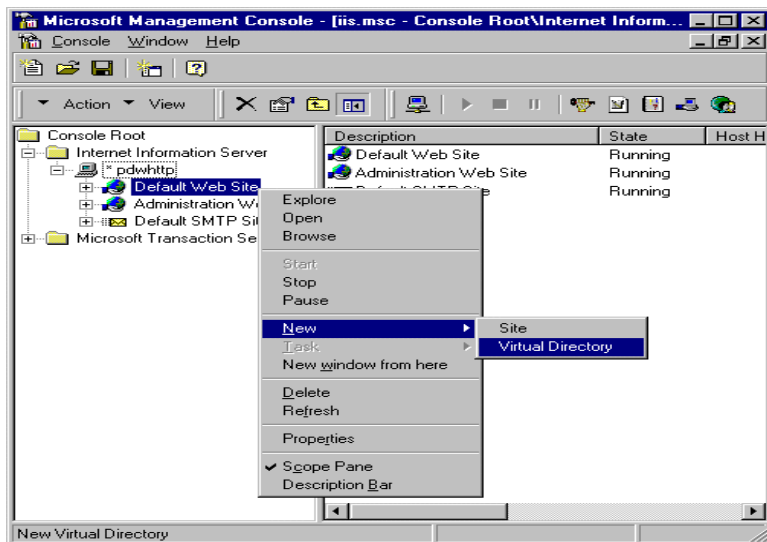
2. In the Internet Information Server folder, right click **Default Web Site→ New → Virtual Directory**. The New Virtual Directory Wizard screen is displayed.

3. Enter a name to be used as an alias to access the virtual directory, for example IDMF for R3. Click **Next**. The following screen is displayed:

4. Click **Browse** to enter the physical path of the IDM Services for R/3 directory, and click **Next**. The following screen is displayed:
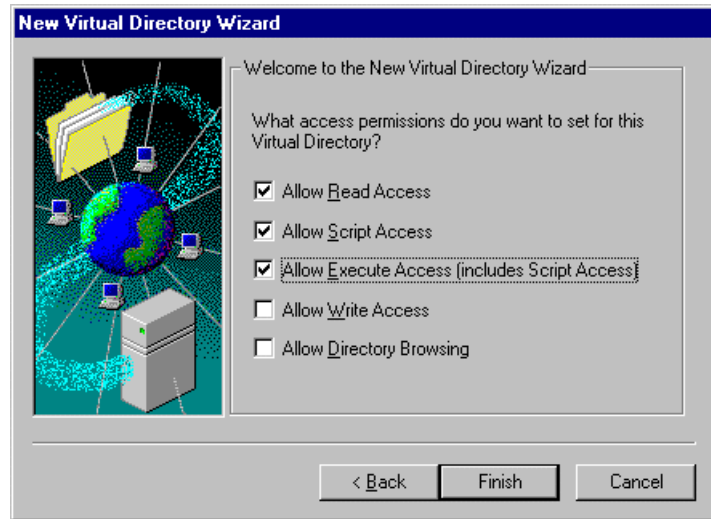
5. Check the access permissions: Allow Read Access, Allow Script Access, and Allow Execute Access. Click **Finish** to add virtual directory to the default Web site.

Changing Registry Rights to Use HTTP on Windows 2000 Server

If Windows 2000 is the operating system for the server, the amendments that should be made in the registry, to use HTTP are:

1. Run **regedt32**.

2. Select the window HKEY_LOCAL_MACHINE . The following screen is displayed:
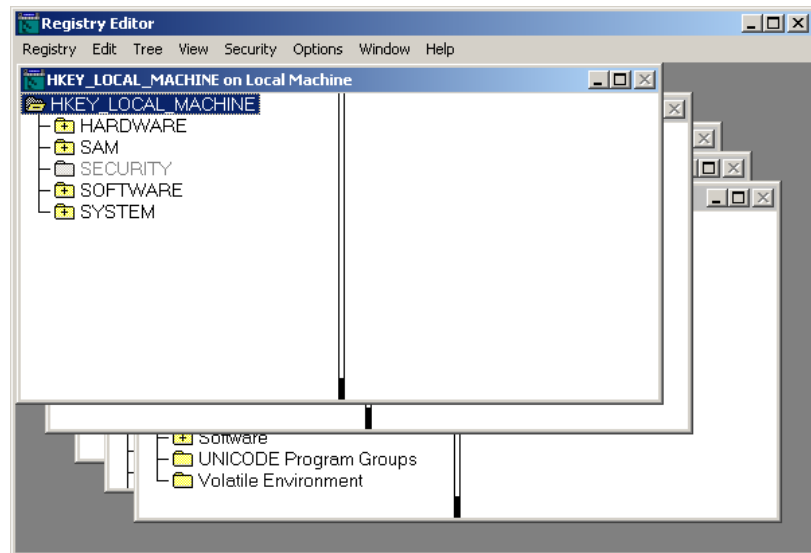
3. Select **Software → FileNet → Document Warehouse**.

4. In the **Security** menu of the window, click **Permissions**. The following screen is displayed:
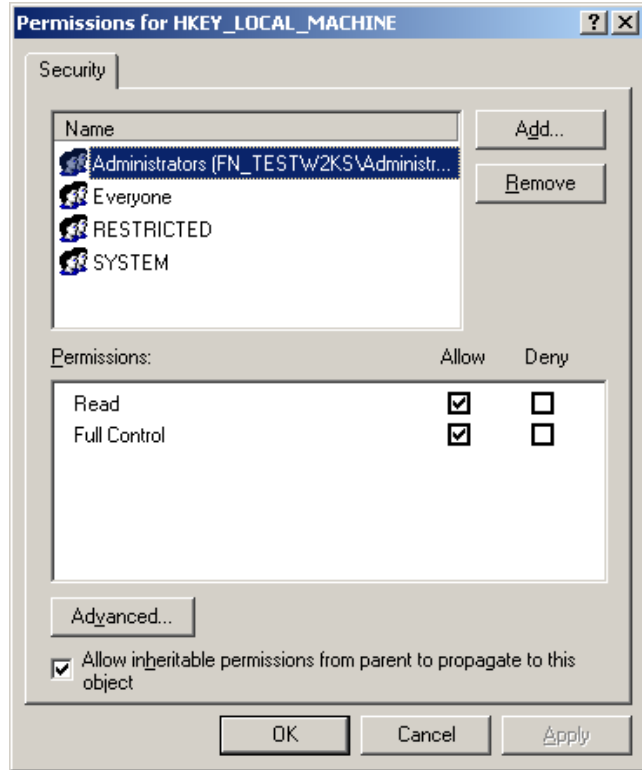
5. Click **Add** and choose the local machine in the Look in field. A list of all the users is displayed.
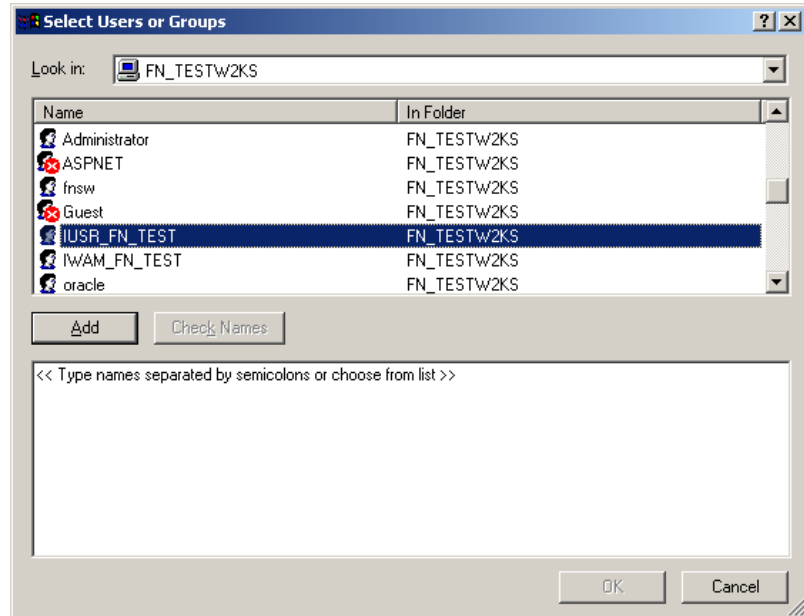
6. Select the user **IUSR_<machinename>** and click **Add**.

7. After the user appears in the bottom window, click **OK**. The following screen is displayed:
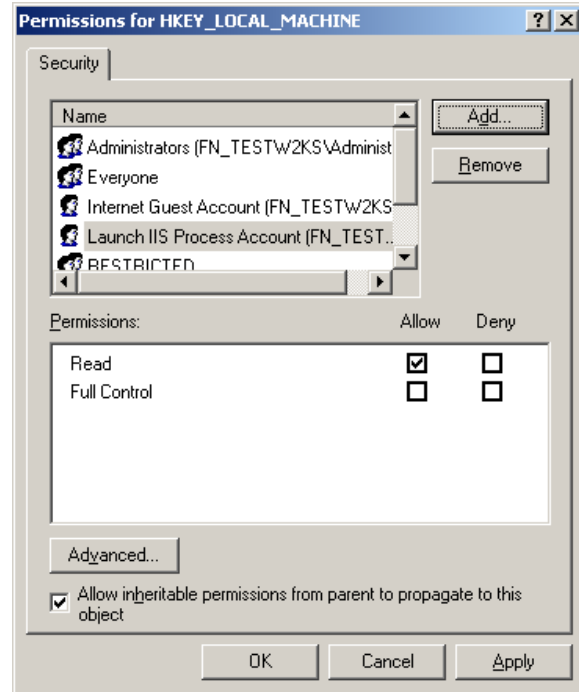
8. Select **Internet Guest Account** from the options listed in the Name tab and click **Advanced**. The following screen is displayed:
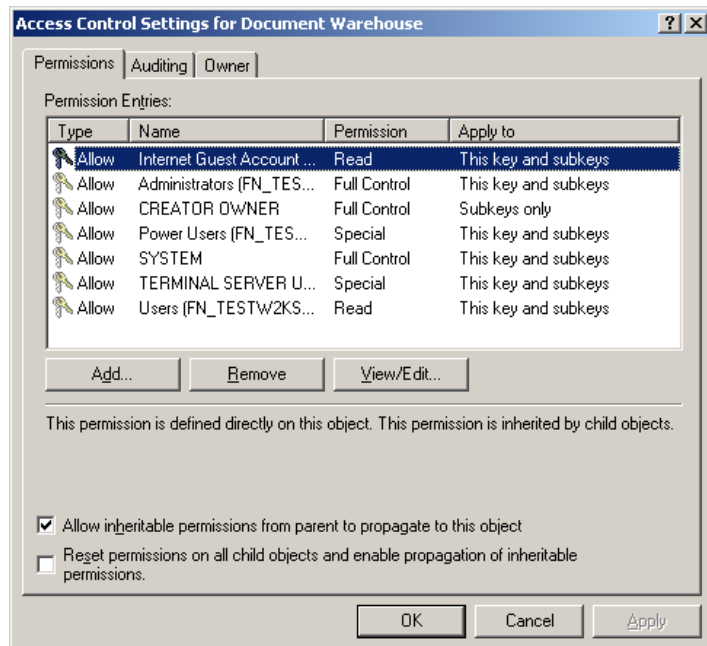
9. Click **View/Edit**. The following screen is displayed:
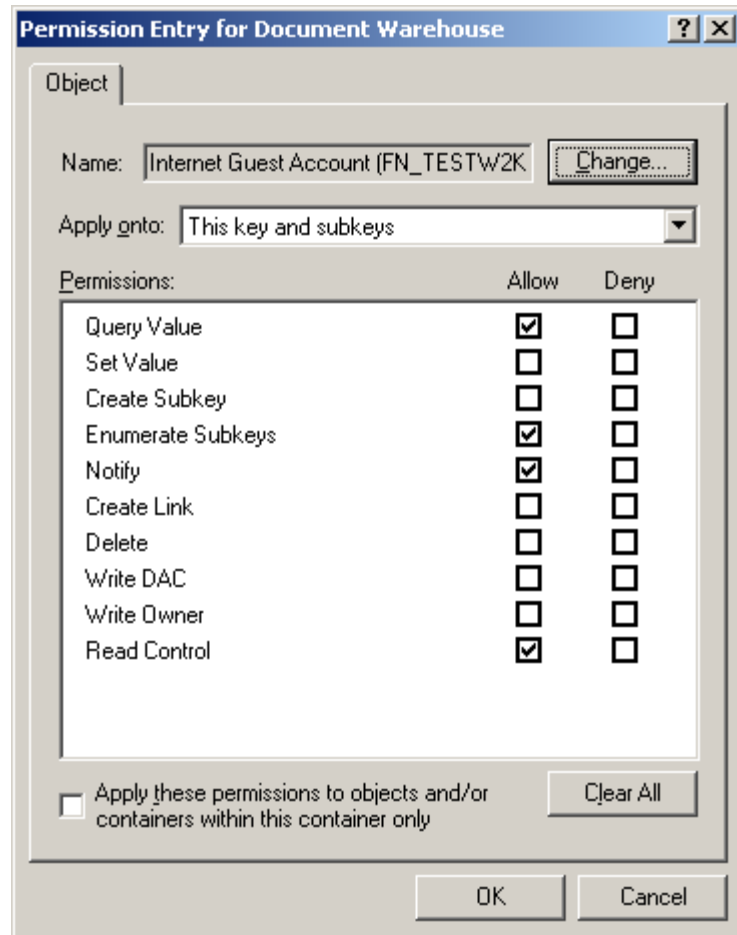
10. Check the **Allow** checkbox for Set Value and Create Sub key permissions. This will allow the creation of new sub keys and modification of existing key values.

11. Click **OK** to close all the windows.

Changing Permissions to Use HTTP on Windows 2000 Server

Security Changes in DCOMCNFG

If Windows 2000 is the operating system for the server, the amendments that should be made in the **DCOMCNFG**, to use HTTP are:
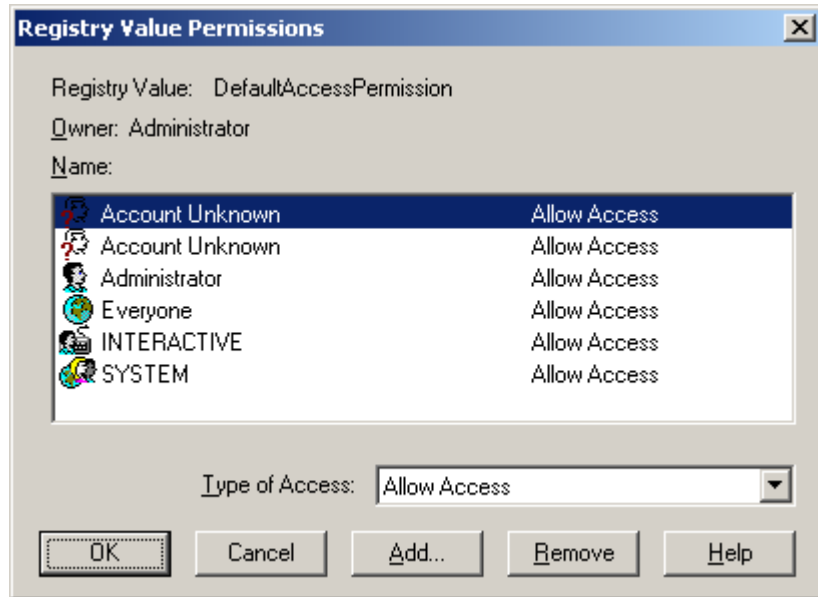
1. Launch **DCOMCNFG** by clicking the **Start** button, selecting **Run** and typing **Dcomcnfg.exe** in the Run dialog box.
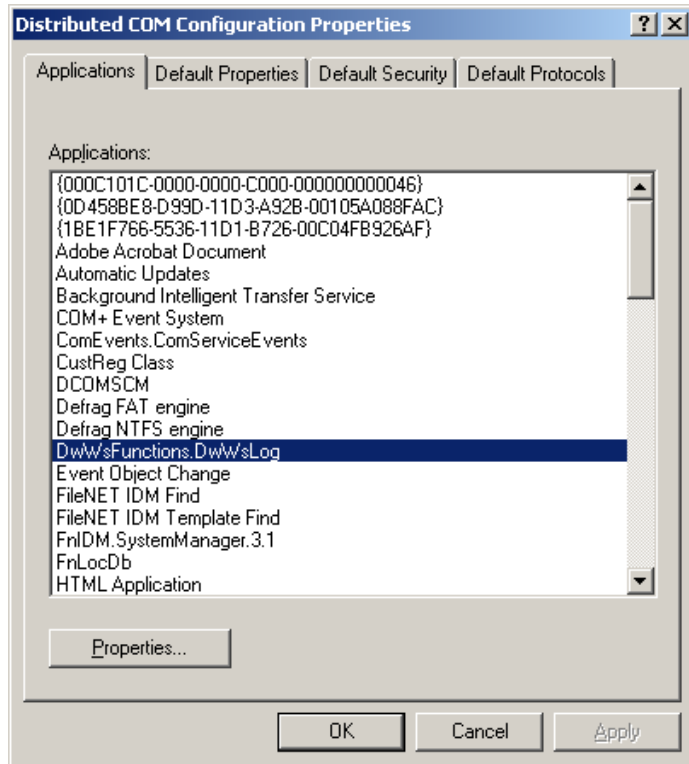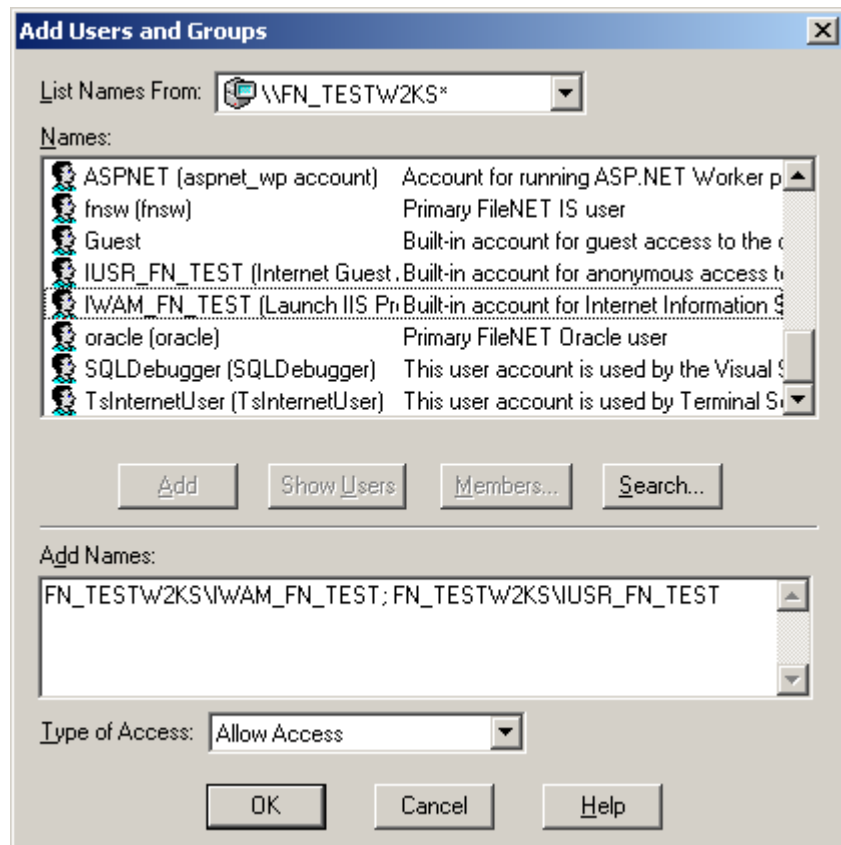
2. Select the entry **DwWsFunctions.DwWsLog** from the Applications tab. Click on the **Default Security** tab. The following screen is displayed:
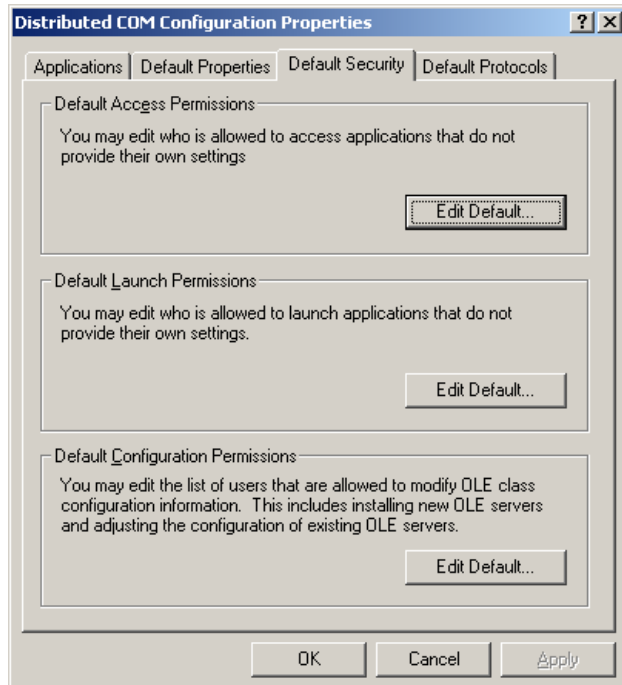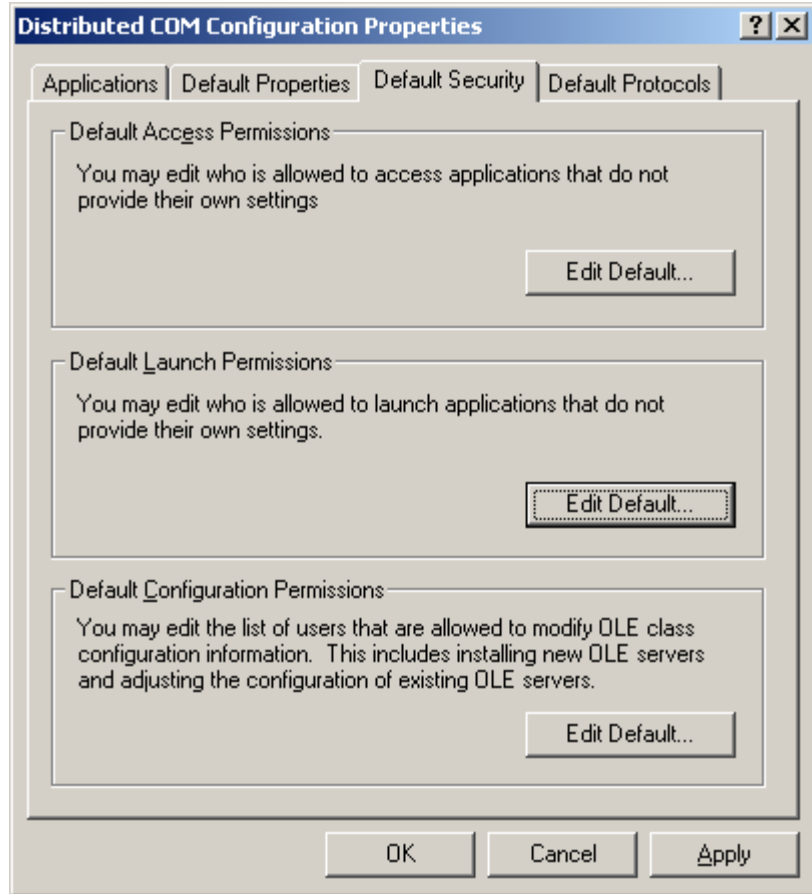

3. Click the button **Edit Default** in the frame Default Access Permissions. The following screen is displayed:
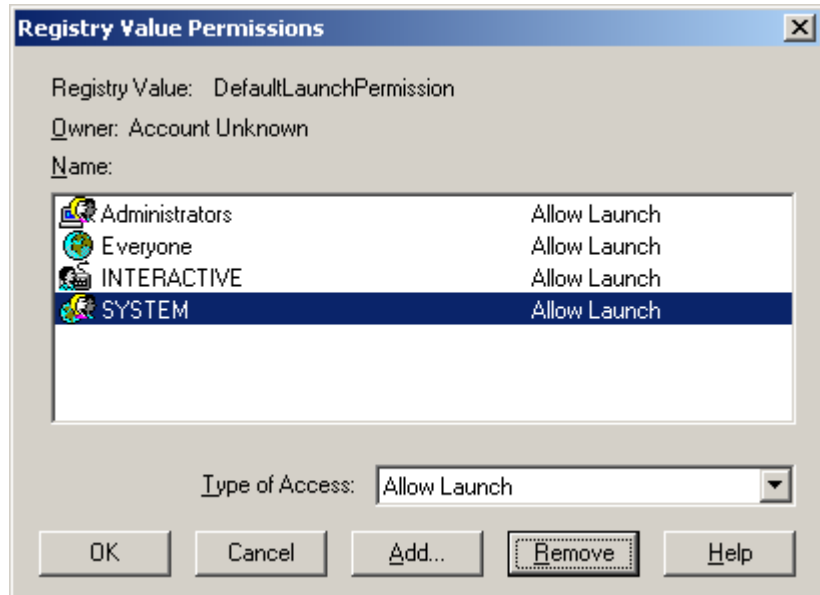
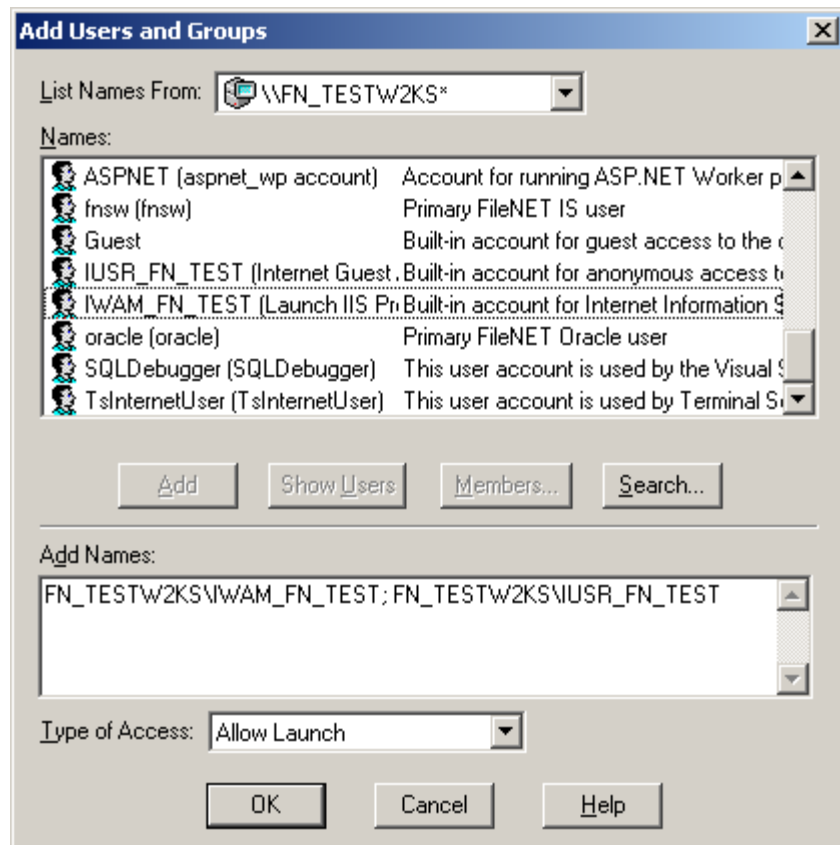4. Click on the **Add** button. The following screen is displayed:

5. Add **IUSR_<machine_name>** account and the **INTERACTIVE** account to the registry value permissions dialog box and click **OK**. The following screen is displayed:

6. In the **Default Security** tab, click the button **Edit Default** in the frame **Default Launch Permissions**. The following screen is displayed:

7. Click on **Add**.

8. Add **IUSR_<machine_name>** account and the **INTERACTIVE** account to the registry value permissions dialog box and click **OK**.

9. Exit from **DCOMCNFG**.

10. Restart the IIS Admin Service and World Wide Publishing Service.
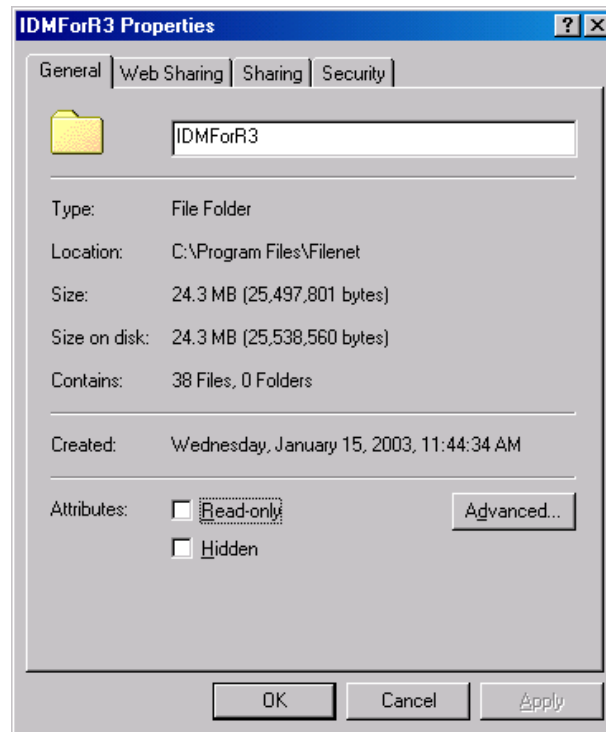
Security changes for Installed Directory of cServer

If Windows 2000 is the operating system for the server, the amendments that should be made in the DWSAP Installed Directory (IDMForR3), to use HTTP are:
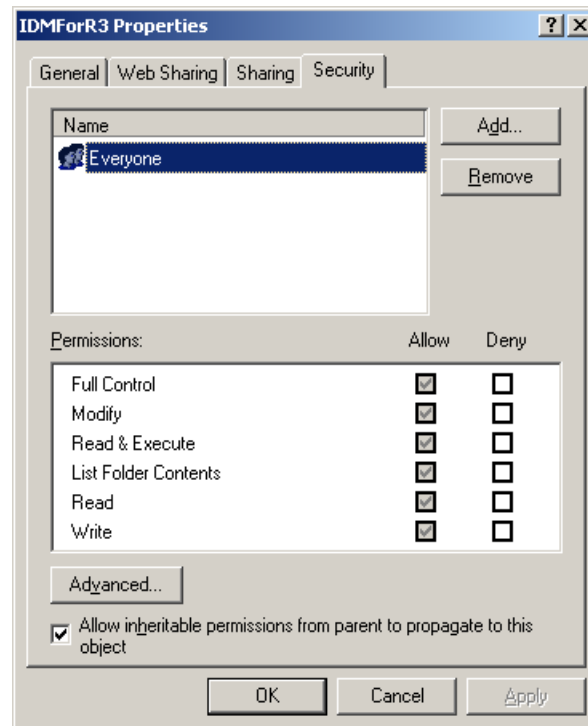
Note: These security setting are done, only if Multiple R3 Instances are configured in the Configuration Tool. Adding these security permissions will enable the cServer to create and update the **SAPNameSpace.ini** file in the installed path of the cServer.

The steps to be followed are outlined below:

1. Launch the Windows Explorer and browse, to the Installed Directory where DWSAP Server Components are installed. By default, it is **Program Files/FileNet/IDMForR3.** Right click on the **IDMForR3** folder, by selecting the folder in the tree view. Select **properties** from the context menu. The following screen is displayed:

IDMForR3 Properties

General | Web Sharing | Sharing | Security

IDMForR3

Type:	File Folder
Location:	C:\Program Files\Filenet
Size:	24.3 MB (25,497,801 bytes)
Size on disk:	24.3 MB (25,538,560 bytes)
Contains:	38 Files, 0 Folders
Created:	Wednesday, January 15, 2003, 11:44:34 AM

Attributes: ☐ Read-only   Advanced...
☐ Hidden

OK   Cancel   Apply

2. Select the **Security** menu in the above screen. The following screen is displayed:

IDMForR3 Properties

General | Web Sharing | Sharing | Security

Name
Everyone

Add...
Remove

Permissions: Allow   Deny

	Allow	Deny
Full Control	☑	☐
Modify	☑	☐
Read & Execute	☑	☐
List Folder Contents	☑	☐
Read	☑	☐
Write	☑	☐

Advanced...

☑ Allow inheritable permissions from parent to propagate to this object

OK   Cancel   Apply

3. Click on the **Add** button and choose the local machine in the **Look in** field. A list of all users is displayed as shown below.
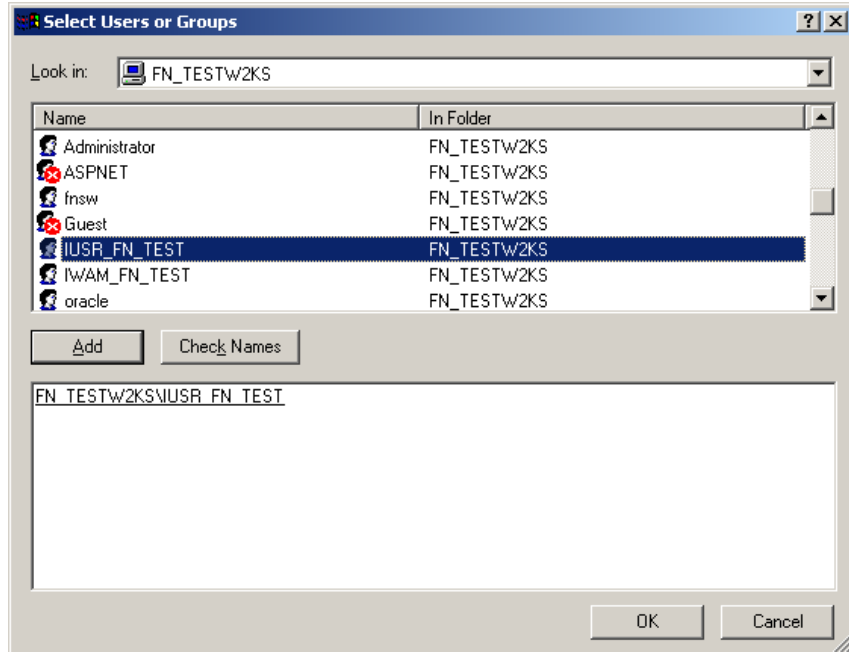
4. Select the entry IUSR_<machine_name> from the list displayed in the upper window and click the **Add** button. After the user appears in the bottom window, click **OK**. The following screen is displayed:
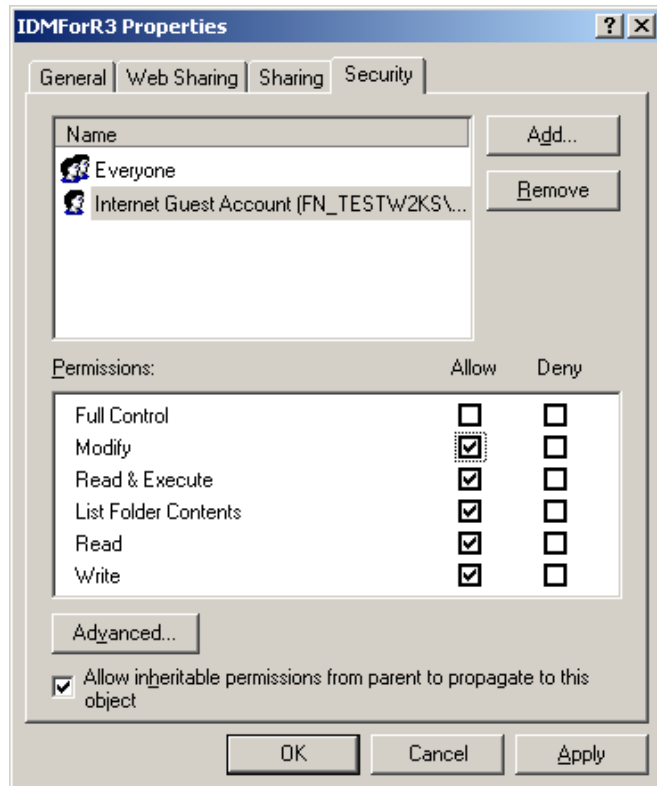
5. Select **Internet Guest Account** from the options listed. Allow the following security permissions by checking the checkboxes listed below:

- Modify

- Read & Execute

- List Folder Contents

- Read

- Write

6. Click **OK** to close all windows.

Stopping and Starting cServer

Start cServer: cServer has two components **cServerHTTP, cServerRfc** that need to be started for starting up the respective HTTP and RFC functionality of cServer.

For starting cServerRFC, start the **FileNet RFC Service**, which is registered with the service control manager once IDM Services for R/3 is installed on your machine. The service can be started by launching the Services applet that can be reached through the windows control panel.

cServerHTTP is automatically loaded and unloaded by IIS. Once the **World Wide Web Publishing Service** is started, cServerHTTP is loaded and it is started as soon as first request is sent by SAP R/3.

Stop cServer:

To stop cServerRfc, stop the **FileNet RFC Service** using the Services applet.

To stop cServerHTTP, stop IIS by stopping the **World Wide Web Publishing Service** using the Services applet. Stopping the Web site in the Microsoft management console is not sufficient.

Appendix A – OSS Notes

As Document Warehouse for SAP is an interface between FileNet Libraries and an SAP system, certain issues can occur without finding the reason for it within Document Warehouse for R/3. During testing, certain issues with SAP R/3 have been observed. Consult the following SAP OSS notes for the required SAP coding corrections:

0193715   In 4.6B system, OLE calls do not work for an RFC archive.

Error message: "The content repository is not configured completely."

0357207   In 4.6B to 4.6D systems, attribute search in printlists does not work.

Error message: "No attribute information available." or an endless loop in SAPGUI occurs.

0368569   In 4.6A to 4.6C systems, in transaction FB03, existing document links are not available.

0144097   In 4.5B, Files which are stored by the application server via HTTP, are not accessible. The problem does not occur there if the document class FAX or ALF is used.

0164203   No specific SAP release, Problems with SAPHTTP

Customer's help for how to use HTTP Tracefiles

0387010   In 4.6D system, SAPHTTP generates Dr. Watson errors.

SAPHTTP is terminated and the following error message appears:

Exception number: c0000005 (access violation)

#91133   Functions.Add call fails with 'Illegal Variant type'

Appendix B – Software License Agreement

FileNet End User Software License Agreement

READ THIS NOTICE CAREFULLY, THE SOFTWARE IS THE PROPRIETARY INTELLECTUAL PROPERTY OF FILENET CORPORATION AND IS SUBJECT TO THE MINIMUM TERMS AND CONDITIONS SET FORTH BELOW. THESE TERMS AND CONDITIONS MAY BE SUPERCEDED BY THE TERMS AND CONDITIONS OF THE SOFTWARE LICENSE ENTERED INTO BY YOUR EMPLOYER FOR THE USE OF FILENET SOFTWARE. BY USING THE SOFTWARE, YOU ACKNOWLEDGE IT IS FILENET PROPRIETARY INTELLECTUAL PROPERTY AND THAT A VALID SOFTWARE LICENSE WITH FILENET CORPORATION IS APPLICABLE. THEREFORE AT A MINIMUM, YOU AGREE TO BE BOUND BY THE FOLLOWING FILENET END USER SOFTWARE LICENSE TERMS AND CONDITIONS (HEREINAFTER "Agreement"):

1. **Definition of Software**

   The software consists of software owned by FileNet, as well as software owned by certain third party providers ("Third Party Providers"). Each software product includes any documentation relating to or describing such software, such as, logic manuals, flow charts, reference materials, and improvements or updates provided by FileNet (software and documentation collectively called "Software").

2. **Grant of License**

   A. Each Software product, including any documentation relating to or describing such Software, such as, but not limited to, manuals, flow charts and improvements or updates provided by FileNet (collectively "Software"), is furnished to End User under a personal, non-exclusive, nontransferable license solely for End User's own internal use on End User's servers and client devices ("System") in compliance with this license and all applicable laws and regulations. End User agrees that this license does not permit End User to: (1) use the Software for a service bureau application or (2) rent, lease, or sublicense the Software; (3) modify or remove any proprietary notices; or (4) transfer the Software without prior written consent from FileNet. The Software is licensed to the End User, not sold.

   B. The Software may only be copied, in whole or in part (with the proper inclusion of FileNet's copyright notice and any other proprietary notice and/or trademarks on such Software), as may be necessary and incidental for archival purposes or to replace a worn or defective copy.

   C. Title to and ownership of the Software and any portions (or any modifications, translations, or derivatives thereof, even if unauthorized) and all applicable rights in patents, copyrights and trade secrets in the Software shall remain exclusively with FileNet and its licensors, if any. Software provided hereunder is valuable, proprietary, and unique, and End User agrees to be bound by and observe the proprietary nature thereof as provided herein. End User agrees to take diligent action to fulfill its obligations hereunder by instruction or agreement with its employees or agents (whose confidentiality obligations shall survive termination of employment or agency) who are permitted access to the Software. Access shall only be given on a need-to-know basis. Except as set forth in this Agreement or as may be permitted in writing by FileNet, End User shall not use, provide or otherwise make available the Software or any part or copies thereof to any third party. End User shall not reverse engineer, decompile or disassemble the Software or any portion thereof, nor otherwise attempt to create or derive the source code. End User acknowledges that unauthorized reproduction, use, or disclosure of the Software or any part thereof may cause irreparable injury to FileNet and/or its licensors, who may therefore be entitled to injunctive relief to enforce these license restrictions, in addition to any other remedies available at law, in equity, or under this Agreement. Further, the trademarks are owned by the respective trademark holder.

   D. FileNet agrees that End User's affiliates (business entities of which End User owns or controls more than fifty {50%} percent of the voting rights or the controlling body of the business entity) may use the Software; provided that prior to any affiliate's use of the Software: (i) End User accepts responsibility for the acts or omissions of such affiliates as if they were End User's acts or omissions; (ii) End User shall indemnify FileNet against losses or damages suffered by FileNet arising from breach of this Agreement by any such affiliate; and (iii) such use shall not constitute an unauthorized exportation of the Software or documentation under U.S. Government laws and regulations.

3. **Termination.** FileNet shall have the right to terminate End User's license if End User fails to pay any and all required license fees or otherwise fails to comply with these license terms and conditions. Upon expiration of the license term or upon notice of such termination, End User shall immediately return or destroy the Software and all portions and copies thereof as directed by FileNet and, if requested by FileNet, shall certify in writing as to the destruction or return of the same. All confidentiality and non-disclosure obligations herein shall survive termination.

4. **Limited Warranty**

   A. FileNet warrants that it has good and clear title to or has the right to sublicense the Software being licensed hereunder, free and clear of all liens and encumbrances.

   B. FileNet warrants for a period of one year from the Shipment Date, Software used in a manner for which it was designed will perform the functions described in the applicable FileNet documentation supplied at the time of delivery provided that, (i) Software is continuously subject to a FileNet Software Support contract, (ii) any substantial nonconformance is reproducible, and (iii) the substantial nonconformance is not caused by third party software or hardware not specified in FileNet's documentation or not expressly authorized in advance by FileNet. FileNet's sole obligation and liability hereunder shall be to use reasonable efforts to remedy any material non-conformance which is reported to FileNet in writing within the warranty period.

   C. End User accepts sole responsibility for, system configuration, design and requirements, selection of the software for the intended results, modifications, changes or alterations.

   D. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT WITH RESPECT TO THIS AGREEMENT, THE AGREEMENT, OR THE SOFTWARE LICENSED HEREUNDER. FILENET DOES NOT WARRANT THAT THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPPTED, THAT THE SOFTWARE IS ERROR-FREE, OR THAT ALL ERRORS CAN BE CORRECTED.

5. **Export.** End User agrees that the Products purchased hereunder will not be exported directly or indirectly, separately or as part of any system, without first obtaining a license from the U.S. Department of Commerce or any other appropriate agency of the U.S. Government, as required.

6. **Restrictions on Use.** End User acknowledges that one of FileNet's Third Party Providers provides application integration software as part of the Software (the "Integration Software"). End User agrees to use the Software solely as follows: (i) FileNet's workflow or content management software will be the triggering source and/or the destination of the transaction managed by the Integration Software; (ii) FileNet's workflow or content management functionality must be a necessary part of the transaction managed by the Integration Software such that without such FileNet functionality, the transaction managed by the Integration Software could not process; (iii) the Software will not be used or configured in such a way as to only provide the functionality that the Integration Software provides; and (iv) all derivative works of the Software made by or for End User are subject to the foregoing restrictions.

7. **Choice of Law.** The laws of the State of California will govern the construction and operation of this Agreement without regard to the conflict of laws provisions thereof.

8. **U.S. Government Restricted Rights**. The Software is Commercial Software and the Software and Documentation are provided with Restricted Rights. Use, duplication or disclosure by the Government is subject to restrictions as set forth in paragraph (c) (1) (ii) of the Rights in Technical Data and Computer Software Clause at DFARS 252.227-7013 or subparagraphs (c) (1) and (2) of the Commercial Computer Software-Restricted Rights at 48 CFR 52.227-19, as applicable. Contractor/manufacturer is FileNet Corporation, 3565 Harbor Blvd., Costa Mesa, California 92626.

Index