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IBM Content Manager CommonStore for SAP
Server Installation and User's Guide

Version 7 Release 1

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About this book

Audience

This book describes the installation, customization, and usage of the IBM Content Manager CommonStore Server component in an SAP R/3 environment. It hence addresses *system administrators* and *application developers*. Client end users are referred to the *IBM Content Manager CommonStore Client Installation and User's Guide*.

It is assumed that the system administrators using this manual do not necessarily possess any previous experience with IBM Content Manager CommonStore, but do have a good working knowledge of the underlying operating system (i.e. platform). Thus, while they may need to learn tasks and concepts relating to IBM Content Manager CommonStore and ArchiveLink, they should already be familiar with the SAP three-tier architecture and document management basics.

It is assumed that the application developers using this manual are experienced Java programmers whose task is to create customized archive clients, who need to familiarize themselves with concepts specific to IBM Content Manager CommonStore and SAP R/3, and who require e.g. sample code that can be modified and extended.

Release information

The customizing information presented in this book refers to SAP Releases 3.0, 3.1, 4.0, 4.5, 4.6, MySap.com and all subsequent releases.

Names

Throughout this book, the brand name "IBM Content Manager" (formerly: "VisualInfo") is abbreviated as "Content Manager," while the brand names "IBM Content Manager OnDemand" and "IBM Content Manager CommonStore" are abbreviated as "CMOD" and "CMCS," respectively.

Since SAP Release 3.1, the names of some program components and products have changed. In such cases, this has been noted at the first appearance of each such name.

Highlighting conventions

Throughout this book, *italics* are used for
- book titles,
- emphasis, and
- options / variables / parameters / keywords.

Boldface is used for
- check box labels,
- choices in menus,
- column headings,
- commands and subcommands,
- entry fields,
- field names in windows,
- index classes
- menu-bar choices,
- menu names,
- radio button names,
- spin button names,
- statements, and
- tables.

`Monospace` is used for
- coding examples,
- entered data,
- file names,
- transaction codes (T-codes),
- group and user IDs,
- message text, and
- path names.

         <u>**Underlined bold**</u> indicates
- default values.

Further information and suggestions

Additional information about CMCS for SAP is available on the Web page:

`http://www.ibm.com/software/data/commonstore/`

You can send comments about the software by e-mail to

`cstore@de.ibm.com`

Be sure to state the Version and Release of CMCS you are using.

To comment on this book, fill out the form at the back and return it by mail, by fax, or by giving it to an IBM representative.

Part 1. CMCS — Overview

Chapter 1.1 What is CMCS for SAP

CommonStore and the SAP R/3 Archiving Interfaces

Starting with Release 2.2 of the R/3 system, SAP clearly recognized the requirement of enhancing R/3 through a robust archiving concept. Step by step, mechanisms evolved for offloading the operational R/3 database and processing business documents that reside in an external archiving system. With Release 3.0, all key applications and modules offered mature archiving functionality that was shipped as part of the standard R/3 package. These new features leveraged the power of tools like the *SAP Business Workflow, Document Management System, SAPoffice, SAPconnect* or *Archive Development Kit*.

While the enhanced application logic for handling external documents is fully integrated with R/3, SAP decided to leave the "core" archiving functionality to established business partners as part of their *Complementary Software Program*. The *SAP Business Framework* provides the interfaces necessary to integrate these external functions with R/3 and thus create the complete software architecture that fits the customer's business processes while protecting software and hardware investments. With mySAP.com, SAP established a new *Software Partner Program* that, like its predecessor, is committed to provide third-party vendors with integration consulting and standard, release-stable interfaces to connect their external products to R/3. As the primary interface for integrating storage and content management systems, *BC-AL* (SAP ArchiveLink) has been introduced with Release 2.2 and enhanced in Releases 3.0, 3.1, and 4.5 of the R/3 system. Additionally, *BC-HCS* (SAP HTTP Content Server Interface) has been defined in R/3 Release 4.5 as a subset of BC-AL that focuses on content rather than storage management. SAP offers its software partners certification for each of these interface releases.

Only a solution that builds on BC-AL or BC-HCS leverages the archiving potential of the enabled R/3 modules. **IBM Content Manager CommonStore for SAP** (hereinafter referred to simply as CMCS) is such a solution. While SAP uses the term *optical archive* to refer to a system that complies with the BC-AL specifications, this expression is misleading in that conformance with BC-AL is independent of hardware components used by the archive supplier (for example, optical storage media or scanners). In later R/3 Releases, the more general wording *external archiving system* or *external archive* appears in SAP publications. This term will be used throughout this document when referring to products based on BC-AL.

BC-HCS is a general, cross-application interface that connects the enabled R/3 business applications to a *content server* and allows them to process documents in logical *content repositories*. This content server can be a database, a file server, an R/3 system, or an external archive like CMCS. To elucidate the relevance of BC-HCS in the R/3 archiving context, only the last constellation will be considered in this section.

The BC-HCS interface is completely based on the industry-standard *HTTP* (Hypertext Transfer Protocol); servers and documents are addressed and parameters and functions are transmitted between CMCS and the R/3 application server using *URLs* (Universal Resource Locators). While both concepts are typically used to access objects on the World Wide Web, CMCS primarily focuses on BC-HCS to exchange content within a corporate intranet.

CMCS integrates with BC-HCS to perform functions like:

- storing, updating or appending documents in a content repository
- retrieving entire documents or document segments from a content repository
- obtaining information about documents and their components
- searching documents for text patterns (without retrieving them)
- performing attribute-based searches (on print lists, especially journals)
- deleting documents

To inhibit unauthorized access to archived documents, CMCS applies security measures to prevent the forgery or manipulation of URLs and eavesdropping on contents. These measures include the use of a PKCS#7 digital signature and public key procedure according to the Digital Signature Standard. The degree of protection and rights of access to a document can be specified when a document is stored by R/3.

As the name implies, a content server in the BC-HCS scenario exclusively acts as a web server that is contacted by R/3 to perform various functions. Unlike the R/3 system which acts as a web client, a content server like CMCS is unable to instigate communication between the two components.

In order to support archiving functions and scenarios that cannot be covered by the client/server perspective BC-HCS is based on, CMCS supports the additional protocols covered by BC-AL. In their entirety, the supported BC-AL 4.5 functions (which have not been changed with R/3 Release 4.6 or mySAP.com) comprise:

- BC-HCS (as described above)
- A *BAPI* (Business Application Programming Interface) for barcode-based archiving scenarios.

- *OLE* (Object Linking and Embedding) functionality for storing inbound documents or PC files and starting external viewing applications (for example, archive clients) on 32-bit Windows frontends.

When used with R/3 Releases prior to 4.5 (the first R/3 Release to support BC-HCS), CommonStore realizes the operations now covered by BC-HCS through RFCs (Remote Function Calls), a communication protocol defined by SAP. In Releases 4.5 and 4.6, HTTP messages replace the corresponding RFCs.

All BC-AL operations are based on the notion that the SAP database represents a master index catalog of all documents, including those whose content resides in the external archive. According to the approach, BC-AL passes no document-related information to the external archiving system. Instead, a symbolic *UUID* (Universal Unique Identifier) is created for each document and applied to identify it throughout its life cycle. BC-AL itself maintains a table that maps each business document (for example, credit memo or customer invoice) to its corresponding UUID. For many SAP users however, it is a requirement to access archived documents independently of R/3 or mySAP.com (that is, without using SAPGUI or the mySAP.com Workplace). For this case, to support searching the external archive for business information like customer number or fiscal year, CommonStore provides proprietary function modules that transfer these respective document attributes from R/3 to the archive database.

CMCS architecture

As illustrated in Figure 1, CMCS consists of the following two components:

1. The CMCS server is the most important component of CMCS. It handles the whole archiving functionality.
2. The CMCS client, which in turn consists of the CMCS Dynamic Link Library (DLL) and either the CMCS Archiving Client or the CMCS Viewing Client (alternatively, SAP's ArchiveLink Viewer can be used). See also CMCS Client Installation and User's Guide for more-detailed information.
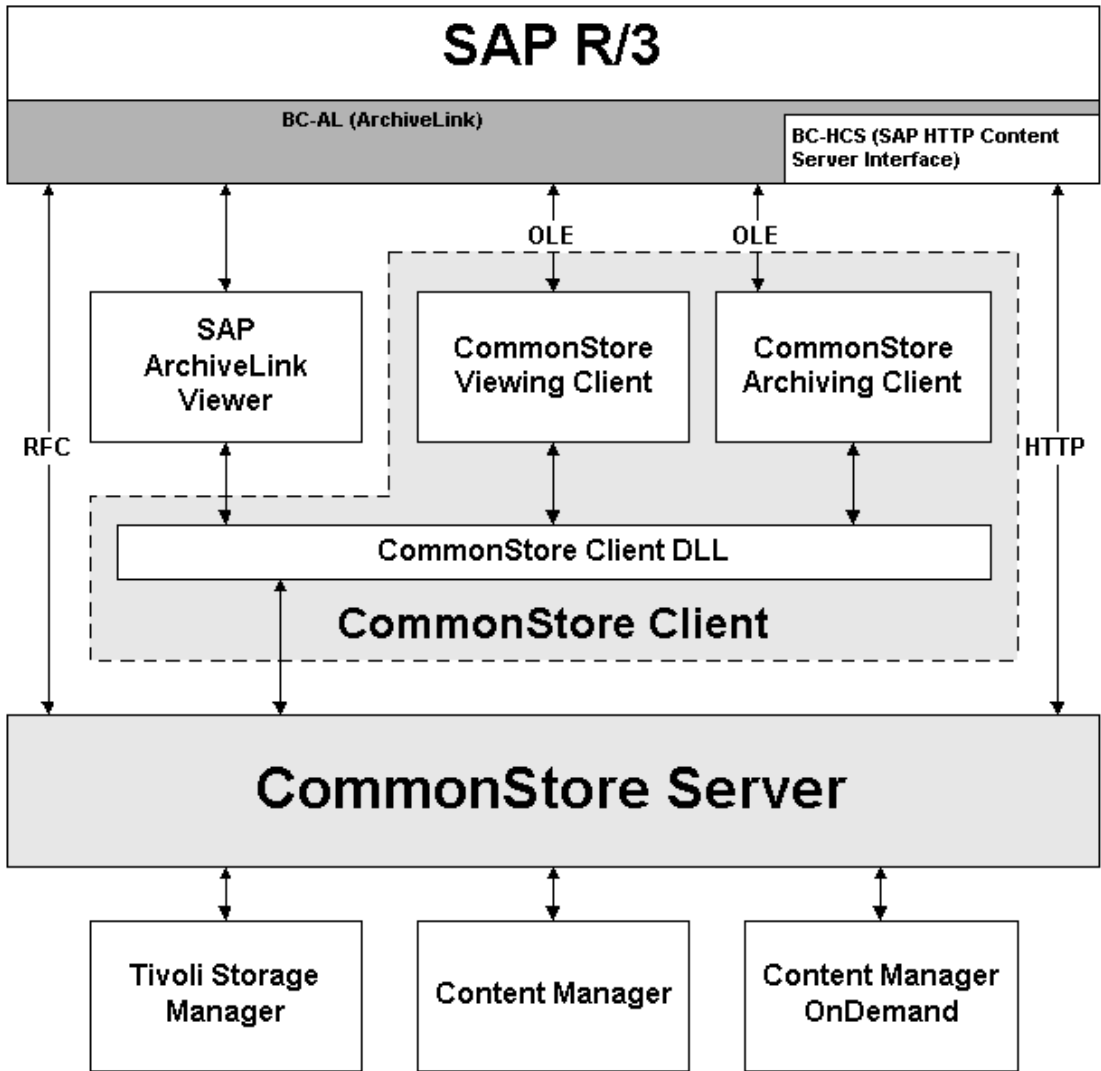
Figure 1. Interfaces of IBM Content Manager CommonStore with SAP R/3

Chapter 1.2 Scenarios and Features

As there are diverse applications for archiving and content management in the SAP R/3 and mySAP.com environments, integrating CMCS into the SAP landscape can bring multiple benefits. In the following sections, the most important aspects will be discussed, distinguishing *data archiving* (driven by system administration) and *document archiving* (driven by business process optimization).

Data Archiving

When an R/3 system goes into production, its database usually has a size that allows efficient storage of data on local hard disks of the database server. While new data is entered and generated during production, the database size increases continually. This approximately linear database growth depends on the intensity of system usage and may easily reach rates of 30 to 50 percent per annum.

This rapid evolution has several inadvertent side effects:

- Since the physical tables are usually stored on hard disks directly attached to the database server, **an increase in hard disk requirements** is unavoidable.
- Due to an **increase in administration effort** for the database, maintenance windows (for example, for system backup) claim unacceptable amounts of time.
- The increased number of rows per database table delays basic operations (for example, searching tables). The accumulation of these delays leads to a perceptible **degradation of response times** when accessing the database.

As practical experience has shown, the database growth noticeably affects the system performance and administration effort within one to two years of usage.

SAP recommends archiving application data to reduce database growth and counteract its consequences: "Nearly all customers will thus (have to) archive data which is no longer needed for on-line operation." (translation from the official SAP document *BC – Archivieren und Loschen von Anwendungsdaten* as of R/3 Release 3.1). This process removes mass data from the system which is not actively used. CMCS can be employed to perform the task of archiving inactive data concurrently with normal system operation.

Especially for SAP customers within the European Economic and Currency Union, the launch of the new Euro currency raises additional issues related to the R/3 database size. Though SAP itself provides the functionality relevant for the LCC (local currency changeover), this operation still requires system downtime for the conversion of currency-related database fields. This downtime is approximately proportional to the respective table sizes. SAP advises: "Data archiving offers a way to consistently reduce database tables, therefore you should seriously consider whether to implement it in the period before local currency changeover." (extract from the white paper *SAP Data Archiving and the Euro*, Version 3.0). Using CMCS to remove inactive currency data from the operational database minimizes the total conversion downtime and the runtime of a database restore in case the LCC should fail.

Application data archived through CMCS:

- Can be **stored on external media** independently of R/3 (for example, optical media or magnetic tape).
- Will be **compressed by** up to **a factor of 5** during archival.
- Is accessible by R/3 at any time and can even be **analyzed in the external archive**.
- Is **not affected by hardware or release changes** of the R/3 system.

Document Archiving

For legal and/or internal policy reasons, companies are required to keep records for a certain period of time

Conventionally filing these documents on paper or in microfiche archives results in:

- Extensive cost for **duplicating or filming** the documents to be stored.
- Expenditures for the **physical storage** of paper or microfiche media.
- Inefficient **retrieval** of stored documents.

However, most business processes supported by R/3 allow processing documents electronically (as opposed to a paper-based process).

The benefits of this approach include :

- The ability to use **cost-efficient storage media** for the document repository.
- **Direct access** by all authorized users without the delay caused by conventional archive inquiries.
- **Parallel access** by several users at the same time.
- The option of leveraging *SAP Business Workflow* to **improve** existing **work routines**.
- **Increased customer satisfaction** through optimized processes.

CMCS is capable of handling different kinds of electronically represented documents.

The following groups of document types should be differentiated:

- *Inbound documents* (for example, supplier invoices) that reach the enterprise via mail or telefax and are stored as raster images. For this document type, the advantages of using CMCS come to light most apparently.
- *Outbound documents*, which are normally printed and sent to their respective recipient. CMCS not only provides for fast retrieval in case of internal or external audits, but also for quick referral on inquiries by customers or suppliers.
- *Reports* and *print lists* (for example, journals), which are generated by R/3 and would normally be printed. The use of CMCS typically makes a physical print-out obsolete. The electronic journal (as opposed to its paper equivalent) is easily searchable and can even contain *hyperlinks* to other documents (as an example, a specific entry in a document journal might refer to a scanned original document). Furthermore, the archived lists can be used as input to other applications like data mining systems.
- *Desktop files* created by PC applications (for example, office or CAD applications), can be stored through CMCS and accessed by R/3 users via SAP office or DMS.

In addition to these "basic" document types handled by CMCS, a typical requirement for an archiving system is to store documents from external applications and make them available to R/3 users. This particularly includes *COLD* (computer output on laser disc) that was generated outside of R/3.

Part 2. CMCS Server Installation

Chapter 2.1 Prerequisites

CMCS supports a wide variety of hardware platforms from which customers are free to choose on the basis of the demands of the application scenario at hand. While CMCS itself runs on AIX, Windows NT, HP-UX, SUN SOLARIS and OS/400, the main archiving load can be distributed among every system supported by Tivoli Storage Manager, Content Manager OnDemand, or Content Manager, ranging from an NT-based PC to an S/390 mainframe computer. Through the flexible hardware support offered by Tivoli Storage Manager, CMCS also allows the storage of documents on quite arbitrary storage media, including hard disks, tape drives, optical media, or corresponding library systems.

> **Note:**
> The customizing information presented in this book refers to SAP Releases 3.1, 4.0, 4.5, 4.6, MySap.com and later.

> **Note:**
> Before you can begin installing CMCS you must ensure that there is an installed, tested, and operational SAP R/3 System, release 3.11 or higher.

Archive Server

Depending on which archive you want to use with CMCS the following prerequisites must be fulfilled on the archive server.

Archive	Archive Server Platform(s)	Prerequisites on archive server
Tivoli Storage Manager	NT, AIX, HP-UX, SUN Solaris, S390	installed, tested, and operational ADSM 3.0 (or later) or Tivoli Storage Manager 3.7 (or later). ADSM/Tivoli Storage Manager is configured with defined management classes and nodes — which should be used for archiving (see "Chapter 4.1 Base Setup" on page 59)
Content Manager	NT, AIX, S390	Installed, tested, and operational complete Content Manager System 2.4 (or later).

	AS/400	see 'IBM Content Manager CommonStore for SAP on AS/400 Server Installation and User's Guide'
		configured with defined index classes, workbaskets, and Content Manager users — which should be used for archiving (see "Chapter 4.1 Base Setup" on page 59)
Content Manager OnDemand	NT, AIX, HP-UX, SUN-Solaris, S390	installed, tested, and operational, complete Content Manager OnDemand 2.2.1.8 (or later).
		configured for CMCS as described in "Chapter 4.1 Base Setup" on page 59.

> **Note:**
> ADSM/Tivoli Storage Manager on HP-UX does not support optical devices.

CMCS server

You must prepare the environment before you can begin installing CMCS. You must therefore ensure that the appropriate software is already installed.

Operating system and additional software

Platform	Installation Prerequisites
NT	— installed Windows NT 4.0 SP5
AIX	— AIX 4.3 or higher
HP-UX	— HP-UX 11.0 (32 bit) or higher
SUN-SOLARIS	— SUN-SOLARIS 7 (32 bit)
all	— The latest Java runtime environment or Java development kit 1.1 must be installed. for NT and AIX it can be downloaded at `http:/www.ibm.com/java/jdk/download`

Archive client software

Depending on the archive system to which you want CMCS to archive your data you can find the necessary prerequisites for your CMCS server machine in the table below.

Archive	CMCS Platform(s)	Prerequisites
Tivoli Storage Manager	NT, AIX	— installed ADSM V3.7 or Tivoli Storage Manager client (API).
	HP-UX, SUN-SOLARIS	— Tivoli Storage Manager client 3.7.2 (AIP)
	all	— The Tivoli Storage Manager clients can be downloaded via FTP from the following servers : IBM internal : shasta.sanjose.ibm.com IBM external : index.storsys.ibm.com
Content Manager	NT, AIX	— Installed Content Manager client 2.4 (or later)
Content Manager OnDemand	NT, AIX, HP-UX, SUN-SOLARIS	— installed Content Manager OnDemand server 2.2.1.8

CMCS — Archive combinations

This section lists the possible platform combinations in which CMCS can work with the different archives. The combinations marked with an X are supported, those marked with a '—' are not supported, and those marked with a '?' may work but are not tested and not supported yet.

ADSM/Tivoli Storage Manger

CMCS on ADSM/TSM on	NT	AIX	HP-UX	SOLARIS	OS400
NT	X	X	X	X	—
AIX	X	X	X	X	—
HP-UX	X	X	X	X	—
SOLARIS	X	X	X	X	—
S390	X	X	X	X	—

Content Manager

CMCS on CM on	NT	AIX	HP-UX	SOLARIS	OS400
NT	X	X	—	—	—
AIX	X	X	—	—	—
OS400	—	—	—	—	X

S390	X	X	—	—	—

Content Manager OnDemand

CMCS on CMOD on	NT	AIX	HP-UX	SOLARIS	OS400
NT	X	X	X	X	—
AIX	X	X	X	X	—
HP-UX	X	X	X	X	—
SOLARIS	X	X	X	X	—
OS400	—	—	—	—	—
S390	1	—	—	—	—

1

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1. will be shipped as a fixpack for IBM Content Manager CommonStore release 7.1

Chapter 2.2 Installation of multiple instances

It is possible to run more than one instance of the CMCS server. In other words, several independent sets of CMCS processes can be activated at the same time on the same machine.

While the same set of executables can be employed for all instances of the CMCS server, it is necessary to maintain distinct CMCS server configuration profiles and (except the Windows platforms) distinct users, one for each instance of the CMCS server.

All profiles will employ identical values of BINPATH to make use of the same set of binaries. To distinct instance specific files every profile must define different values of INSTANCEPATH pointing to the instance directory.

All CMCS command invocations should include the option -i to specify the profile to be used (refer to "Chapter 3.3 Working with the CMCS server" on page 49). For unassisted operation, it is recommended that you configure the /etc/inittab file on AIX, or install corresponding CMCS services on Windows NT (refer to "Multiple installations of the CMCS service" on page 26), as appropriate.

The following steps are necessary for installing multiple instances :
- Create instance users and directories.
- Separate the CMCS server configuration profiles.

Create instance users and directories

AIX, HP-UX, SUN SOLARIS

For every CMCS server instance a user should be created. INSTANCEPATH should point to the users home directory. All instance related files are maintained in the users home directory.

NT Windows

Under Windows there should be only one CMCS user which installs the CMCS package. To separate the instance specific files every instance should have its own instance directory which has to be referenced by INSTANCEPATH in the instances configuration profile.

Separate the CMCS Server configuration profiles

It is necessary that each profile be assigned a unique name or, if they have the same name, that they be placed in distinct directories in the file system. Additionally, these configuration profiles must mutually differ in

- the INSTANCEPATH which should be the directory where all instance dependent files are stored, i.e.
  - *CMCS configuration profile* (archint.ini)
  - *TRACEFILE* (if *TRACE* is not switched to **OFF**);
  - *CONFIG_FILE*, (archint.cfg);
  - *LOGPATH* (if *LOG* is not switched to **OFF**);
  - *WAITQ_FILE*, *ACTIVEQ_FILE*, and *SENDQ_FILE*.
  - *nodelock* file (containing the license passwords for the instance)
- The DESTINATION section, which defines parameters controlling the connection to SAP R/3, and
- The TCP/IP ports used for communication to remote CMCS modules, i.e.
  - *ARCHWIN_PORT* (if the *ARCHWIN*S parameter is present and set to a non-zero value) and
  - *WEBPORT* (if the *WEBDPS* parameter is present and set to a non-zero value).

Note:

If using CMCS for SAP each instance of the CMCS server connects to exactly one R/3 System (SAPSID).

Chapter 2.3 Installation on UNIX

This section describes the steps to be performed to install the CMCS package on UNIX. In order to perform a base setup for archiving with the CMCS, please see "Chapter 3.1 Base setup" on page 39.

Base installation steps

To install CMCS correctly on your UNIX server the following steps have to be performed:

- Install the CMCS software package
- For every instance of CMCS do the following three steps:
    - Create an CMCS intance user
    - Log on as CMCS instance user
    - Modify *.profile* file of the CMCS instance user

> **Note:**
> If using CMCS for SAP each instance of the CMCS Server connects to exactly one R/3 System (SAPSID).

If not stated differently, root permission is required. The steps must be performed on the machine on which the CMCS will run.

Install the CMCS software package

AIX

To install the CMCS package on AIX, call SMIT and perform the following steps:

1. Install and Update Software.
2. Install/Update Selectable Software (Custom Install).
3. Install Software Products at Latest Level.
4. Install New Software Products at Latest Level.
5. Input device / directory for software.

Select your CD-ROM drive and then choose the components you want to install. The CMCS software will be installed in the directory **/usr/lpp/cssap**. This directory will be created if it doesn't already exist.

HP-UX

To install the CMCS package on HP-UX, perform the following steps:

1. Mount your CD-ROM drive
2. Type in the command

   ```
   > swinstall -s <path to CD-ROM>/hpux/cssap.depot cssap
   ```

This will install directly the package. If you omit the last option (which is the package name) you will get to the GUI where you will have to choose the CSTORE_SAP package. The CMCS software will be installed in the directory **/opt/cssap**. This directory will be created if it doesn't already exist.

Sun Solaris

To install the CMCS package on Sun Solaris, perform the following steps:

1. Mount your CD-ROM drive
2. Type in the command

   ```
   > pkgadd -d <path to CD-ROM>/solaris/cssap.pgk
   ```

This will install directly the package. The CMCS software will be installed in the directory **/opt/cssap**. This directory will be created if it doesn't already exist.

Create a CMCS instance user

To create and customize the instance user perform the following steps:

1. Create the CMCS instance user.
2. Log on as CMCS instance user.
3. Modify the .profile:

   on AIX add the line

   ```
   ./usr/lpp/cssap/bin/csenv.sh
   ```

   on HP-UX or Sun Solaris add the line

   ```
   ./opt/cssap/bin/csenv.sh
   ```

The home directory of the user should be the instance directory and therefore be specified under INSTANCEPATH in the instance profile.

> **Note**
>
> It is mandatory that the SAP user (operating system level) be located in the same primary group as the CMCS users.

SAP R/3 specific installation steps

1. Check the file */ect/services*
2. Create the exchange directory for the R/3 data to be archived.
3. Export this directory to all SAP R/3 application servers
4. Mount this remote directory on all R/3 application server machines

Check the file/etc/services

The installation procedure of the SAP components sets the required entries automatically on the machine where they are installed. If the CMCS is to run on a different machine, you will need to add the following entries in the file /etc/services :

1. sapdp00 3200/tcp
2. sapgw00 3300/tcp
3. If you use an instance other than 00 , please adjust the numbers accordingly, e.g.:
4. sapdp07 3207/tcp
5. sapgw07 3207/tcp

Create the exchange directory for the R/3 data to be archived

Create the exchange directory for the R/3 data to be archived.

This directory will preferably be located on the machine on which the CMCS Server is running, as all R/3 application servers need access to this directory.

> **Note:**
> The R/3 System and the CMCS user will need READ and WRITE permission to this directory.

Export this directory to all SAP R/3 application servers

Choose the following sequence of menus when using SMIT :

1. **Communications Applications and Services**
2. **NFS**
3. **Network File Systems (NFS)**
4. **Add a Directory to Exports List**

Mount this remote directory on all R/3 application server machines

Choose the following sequence of menus when using SMIT :

1. **System Storage Management (Physical and Logical Storage)**
2. **File Systems**
3. **Mount a FileSystem**

Chapter 2.4 Installation on Windows NT

This chapter describes the steps to be performed to install the CMCS package on Windows. In order to perform a base setup for the CMCS, please see "Chapter 3.1 Base setup" on page 39

Base installation steps

Install the CMCS Server code by running the setup program on the CMCS CD. This will run an installshield that guides you through installation. The setup program is located in the NT directory of your product CD-ROM

SAP R/3 specific installation steps

- Check the file %SystemRoot%\system32\drivers\etc\services.
- Create the exchange directory for the R/3 data to be archived Make the exchange directory accessible.

Check the Windows services file

The installation procedure of the SAP components sets the required entries automatically on the machine where they are installed. If the CMCS is to run on a different machine, you will need to add the following entries in the file %SystemRoot%\system32\drivers\etc\services :

1. sapdp00 3200/tcp
2. sapgw00 3300/tcp
3. If you use an SAP instance other than 00 , please adjust the numbers accordingly, e.g.:
4. sapdp07 3207/tcp
5. sapgw07 3207/tcp

Create the exchange directory for the R/3 data to be archived

This directory will preferably be located on the machine on which the CMCS Server is running, as all R/3 application servers need access to this directory.

> **Note:**
> The R/3 System and the CMCS user will need READ and WRITE permission to this directory.

Make the exchange directory accessible

When R/3 is running on a UNIX machine, the exchange paths must be made available to both the R/3 machine (UNIX) and the CMCS Server machine (Windows NT). This could be achieved for example using Hummingbird NFS. When both R/3 and the CMCS Server are running on a Windows NT machine, no additional software is necessary in order to make the exchange paths accessible to both.

Additional installation steps for Tivoli Storage Management

On Windows, the following settings are required when Tivoli Storage Manager archives are used:

1. Create client option files.
2. Set environment variables for Tivoli Storage Manager API client

Create Client option files

For each Tivoli Storage Manager archive server specified in the CMCS server configuration profile by:

1. ARCHIVE xx
2. STORAGETYPE ADSM
3. SERVER <server_name>

there must exist a separate client option file <server_name>.opt containing all Tivoli Storage Manager parameters required for connecting to the specified Tivoli Storage Manager server. All of these client option files must reside in the same directory, and this directory must contain a client option file named dsm.opt. Although the contents of dsm.opt are ignored by CMCS (it could be empty), dsm.opt must exist, and the environment variable DSMI_CONFIG must point to it (see next section).

Set environment variables for Tivoli Storage Manager API client

The Tivoli Storage Manager API client needs the following three environment variables to locate certain files:

1. *DSMI_CONFIG* - fully qualified name (path + file name) of the client option file named dsm.opt
2. *DSMI_DIR* - the path to the directory where the Tivoli Storage Manager message file named dscameng.txt resides
3. *DSMI_LOG* - the path to the directory where the Tivoli Storage Manager error log named dsierror.log resides.

In addition, the location of the two Tivoli Storage Manager API DLLs named adsm32.dll and blkhook.dll must be included in the *PATH* environment variable, e.g.:

1. set DSMI_CONFIG to `c:\ibm\cssap\adsm_opt\dsm.opt`
2. set DSMI_DIR to `c:\win32app\ibm\adsm\baclient`
3. set DSMI_LOG to `c:\ibm\cssap\adsm_opt`
4. set PATH to
   `%path%;c:\win32app\ibm\adsm\baclient;c:\win32app\ibm\adsm\api\dll`

In this example, it is assumed that you have created a directory
c:\ibm\cssap\adsm_opt containing all client option files with the extension
*.opt. You can define these environment variables at **Control
panel->System->Environment**.

Installing the CMCS server as a service

On a Windows NT machine, the CMCS server component can be installed as
a Windows NT service. This allows CMCS server to run continuously even if
all users have logged off.

> **Note:**
> The installation of the CMCS server as a service should be done only in
> the last step of the installation. See also "Hints" on page 26. The service
> functionality is implemented as a separate program named
> archservice.exe. This program (exe) must reside in the same directory as
> the other CMCS Server programs like archpro.exe . In addition to the
> service functionality, archservice.exe also implements the installation and
> deinstallation of the CMCS service. As soon as the CMCS service has
> been installed, it appears in the control panel's **Services** applet. The
> CMCS service can be started and stopped from the **Services** applet.
> When the CMCS service is removed, it disappears from the **Services**
> applet. The program archservice.exe contains none of the CMCS server
> functionality. Rather, the CMCS functionality is fully contained in
> archpro.exe and the other CMCS server executables. When the CMCS
> service () is started, it starts archpro.exe, which in turn starts the
> remaining programs. When the CMCS service is stopped, it stops
> archpro.exe, which in turn stops the other executables. The CMCS
> service checks every few seconds to see whether archpro.exe is still
> running. When the service detects that archpro.exe has died, the service
> will wait 1 minute and then restart archpro.exe .

Installation and deinstallation

Installation and deinstallation of CMCS service is performed as follows:

1. Open a command-line window.
2. Switch to the directory in which archservice.exe resides.
3. Enter archservice install to install the service.

4. Enter archservice help to get help.

Once the service is installed, the Windows NT Service Control Manager executes archservice.exe . It is not possible to run archservice.exe from the command line without specifying parameters. This way of executing the service is restricted to internal calls of the Windows NT Service Control Manager. During installation, some registry keys are created in the Windows NT registry. However, all modifications of the registry are displayed to the command-line window. Information about success or failure of installing, removing, starting, or stopping archservice.exe can be viewed in the Windows NT Application Event Log by using the Event Viewer tool.

Starting and stopping

The CMCS service can be started and stopped from the **Services** applet. From the command line, these actions will be performed when using the commands **archservice start** and **archservice stop**. The status can be displayed using the command **archservice status**.

Multiple installations of the CMCS service

Beginning with CMCS version 1.6.0.0, it is possible to install multiple instances of the CMCS service on a single machine. Each instance of the service must have a different name (set via command-line option -n while installing), and each instance must use a separate fixed port (set via parameter *ARCHWIN_PORT* in the CMCS Server configuration profile). This means that you have to specify a separate configuration profile for each instance of the CMCS service.

Example

- archservice install -i c:\ibm\cssap\instance02\archint.ini -n 2
- archservice remove -n 2
- The first command installs CMCS as a service under the name CommonStore_2 .
- The second command removes CommonStore_2 from the **Services** applet.

Hints

1. It is recommended that CMCS (i.e. archpro) first be run directly from the command line and that you go through the whole installation with this setup. Only if this works without problem may you install CMCS as a service. Once this is done, there is no longer any screen output. However, the CMCS trace file still contains all warnings and error messages. During initial testing, the tracing should therefore be activated in the CMCS server configuration profile.
2. When using Content Manager as an archive, it is necessary to run the CMCS service under the account of a Content Manager user (**Services applet->Start-Up->Log On As->account**). This provides the necessary

environment variables for the service, which might otherwise not be available if the service were to run under System Account.

3. In order to run CMCS service under a normal user account, that account requires the Log on as a service right. This right is assigned in **User Manager->User rights policy**. Please do not forget to activate the Show advanced user rights option.

4. Furthermore, the exchange paths defined by the keywords *BASEPATH* and *ARCHPATH* might not be available when running CMCS as a service. In this case, archpro will not start up, since archpro verifies that all paths are available. Again, the trace file contains all corresponding error messages.

Chapter 2.5 Installed files

Executable files

This section describes the most important executables files installed by CMCS. Not described are shared libraries used by CMCS. The CMCS for SAP package intstalls the following executables:

> **Note**
> The names of the executable files listed below are valid for installation on UNIX. When installed on Windows NT, the suffix .exe must be added to those files without a suffix.

archadmin

This program allows a (remote-) connection to a CMCS server in order to view the messages issued by the CMCS server. It is possible to open the connection across machine and platform boundaries.

archagent

This is the CMCS Tivoli Storage Manager agent program which runs at the request of the CMCS server. It is responsible for archiving/retrieving the data and contains the Tivoli Storage Manager API client functionality. The CMCS server starts as many parallel Tivoli Storage Manager agents as are defined in the CMCS server profile under the keyword *ADSMAGENTS*.

> **Note:**
> This program is needed only if Tivoli Storage Manager is the archiving system.

archagentod

Same function as archagent, but for Content Manager OnDemand. The CMCS server starts as many Content Manager OnDemand agents as are defined in the CMCS server profile under the keyword *ODAGENTS*

> **Note:**
> This program is needed only if Content Manager OnDemand is the archiving system.

archagentvi

Same function as archagent , but for Content Manager. The CMCS server starts as many Content Manager agents as are defined in the CMCS Server profile under the keyword *VIAGENTS*.

> **Note:**
> This program is needed only if Content Manager is the archiving system.

archbc This program is needed as a trigger for the archagentvi to scan the Content Manager workbaskets for documents with barcodes and to send them to SAP R/3. It should be initiated by an UNIX cron job or a Windows NT scheduler.

> **Note:**
> This program is needed only for the scenario of the late archiving of documents via barcode with Content Manager.

archdp

This is the dispatcher program which communicates with SAP R/3. The CMCS server starts as many dispatchers as are defined in the CMCS server profile under the keyword *DISPATCHERS*.

archpro

This is a continuously-running CMCS main program which controls all the other CMCS components.

archservice.exe

This program contains the whole service functionality of CMCS on Windows NT.

> **Note:**
> This program is available only on Windows NT.

archstop

This program stops the complete CMCS via a regular shutdown.

archwin

This is the CMCS DLL dispatcher, i.e. the program which communicates with the CMCS DLL. The CMCS DLL is needed to support the SAP ArchiveLink Viewer and the CMCS Client programs.

> **Note:**
> This program is needed only if the CMCS DLL or the CMCS Client are in use.

activation.jar
> This is a third party java class library.

archcls.jar and csmimes.properties
> Archcls.jar is a CMCS Java class library required for accessing CMCS server via HTTP. Among other things it contains the WEB dispatcher and DOMINO dispatcher functionality. The CMCS Server starts one Java runtime process with as many WEB dispatcher threads as are defined in the CMCS server profile under the keyword WEBDPS. The csmimes.properties is a resource file used by the WEB dispatcher. This file specifies the mappings of archive content types to mime types. The WEB browser needs this information to display retrieved content correctly.

client.jar (in subdirectory webroot)
> The CMCS Java class library required for WEB viewing.

infobus.jar
> This is a third party java class library.

ivjsap20.jar
> This is a third party java class library.

mail.jar
> This is a third party java class library.

Sample configuration profiles for CMCS server

The CMCS server configuration profile is also referred to as the initialization file or ini file. If, when performing an operation (starting, stopping, etc.) with the CMCS server, the option -i is not used (see "The option -i" on page 49), the CMCS server looks for the default configuration profile (name: archint.ini) in the local directory. You must create this file by taking one of the three sample configuration profiles corresponding to the type of archive you wish to configure making the appropriate settings, and then renaming the file. It contains all necessary information for the CMCS server and its connections to the archiving systems and to the application to be archived. It has to be configured when the CMCS server is set up, see "Chapter 3.1 Base setup" on page 39

> **Note:**
>
> The CMCS server needs only this file for customization (no sideinfo, no RFCDES, no environment variables).

The following three sample configuration profiles are provided as part of the CMCS package. They are intended for your use as templates. In other words, after you have opened and edited them (i.e. customized them according to your setup) as described below, they will assume the role of the CMCS server configuration profile whenever you specify them using the option -i (see also "The option -i" on page 49).

archint_sample_tsm.ini

This is the sample profile which you should take as a template when using Tivoli Storage Manager as an archiving system. The contents of this file are presented in "CMCS server on UNIX using Tivoli Storage Manager" on page 195 and "CMCS server on Windows NT using Tivoli Storage Manager" on page 193.

archint_sample_cm.ini

This is the sample profile which you should take as a template when using ContentManagers as an archiving system. The contents of this file are presented in "CMCS server on UNIX using Content Manager" on page 201 and "CMCS server on Windows NT using Content Manager" on page 198.

archint_sample_cmod.ini

Sample profile which you should take as a template when using Content Manager as an archiving system. The contents of this file are presented in "CMCS server on UNIX using Content Manager OnDemand" on page 208 and "CMCS server on Windows NT using Content Manager OnDemand" on page 204.

Chapter 2.6 Files created at runtime

The CMCS server configuration file archint.cfg

Before you can use CMCS server you have to register the passwords needed to access the archives and the application to be archived. This is done by calling archpro –f serverpasswd and archpro –f r3passwd. This will create or modify the CMCS server configuration file archint.cfg automatically. The passwords in it are stored in encrypted form.

Trace files

CMCS can produce different trace files to provide you and the support team with information about error cases. Tracing can be configured in the CMCS server profile. The following trace files are available.

archint_startup.trace

This file contains only error information on starting and stopping the CMCS server.

archservice.trace (only for Windows NT)

This file contains only error information on starting and stopping the CMCS service.

archint.trace

This file is written by the CMCS server if specified in the CMCS server configuration profile. The name of this file is also configurable in the CMCS server configuration profile. This file contains all CMCS server trace information (including information about starting, stopping, file names, and errors).

> **Note**
> All trace files are configurable in the CMCS server configuration profile.

dev_rfc

This file is written by SAP if specified in the TRACE statement of the CMCS server configuration profile. dev_rfc contains RFC trace information. It is strongly recommended that this trace be used only when setting up the CMCS server for the first time.

Log files

Operation Log

The operation log file contains the names of all files which are archived and retrieved. Errors will be recorded as well. A new file is created for each day. Log file names are all of the form aiYYYYMMDD.log.

Examples

1. `ai19980101.log`
2. `ai19980102.log`
3. `ai19980103.log`

> **note**
>
> Log files are written automatically if specified in the CMCS server configuration profile.

Error Log

The error log file records all errors occurring in a CMCS server operation. The error log file is a text file. The entries in the error log file consist of one section per failed operation. The error log file grows without size limitation. Name and location of the error log file can be configured in CMCS server profile by the ERRORLOG_FILE keyword. If the ERRORLOG_FILE keyword is not specified in your CMCS server configuration profile the error log file is named cserror.log and located in the directory specified by INSTANCEPATH.

Each error section in the error log file starts with a line containing the date and time when the error occurred. In the next four lines follows the detailed error information consisting of :

1. information about the code module where the error occurred.
2. internal return code. This is the return code returned by the CMCS server.
3. external return code. This contains additional return codes from an API if the error occurred in an API call.
4. error description. Additional textual information about the error.

Example

```
[2000/08/24  14:01:39]
```

1. error reported by CSS 2.2.0.6 module 'archagentvi (CM agent)',
2. internal return code is ' (6288)',
3. external return codes are RC = '6288', ExtRC = '9030', Reason = '0',
4. error description = "CSS6000E: API call 'SimLibLogon()' failed"

Queue files

q_wait

This file contains all asynchronous orders which are waiting to be processed by an agent. After restarting the CMCS server, these orders are set up again.

q_active

This file contains all asynchronous orders which are currently being processed by an agent. After restarting the CMCS server, these orders are set up again.

q_send

This file contains all asynchronous orders which were processed by archpro and which were waiting for final R/3 approval. After restarting the CMCS server, these orders are set up again. All orders which cannot be processed are held in this queue and reprocessed after issuing another successful order or restarting the CMCS server. If reprocessing should not take place, the file can be deleted manually. Keep in mind that this queue holds the orders which are already archived in Tivoli Storage Manager, Content Manager, or Content Manager OnDemand.

> **Note**
>
> Each restart of the CMCS server issues all orders which are saved in these queues. If an order exists which cannot be processed (e.g. because this order's connection parameters are invalid), the queue file can be deleted, whereupon the CMCS server must be restarted.

Part 3. CMCS Server Administration

Chapter 3.1 Base setup

CMCS server configuration profile setup

The installation package includes three sample profiles:
`archint_sample_tsm.ini` (for Tivoli Storage Manager), `archint_sample_cm.ini` (for Content Manager), and `archint_sample_cmod.ini` (for Content Manager OnDemand). They are intended for your use as templates. In other words, after you have opened and edited them (i.e. customized them according to your setup) as described below, they will assume the role of the CMCS server configuration profile whenever you specify them using the option *-i* (see also "The option -i" on page 49).

The CMCS server reads the configuration profile before executing.

Any change in the configuration profile requires that the CMCS server be restarted to effect the changes.

The following rules apply to the configuration profile's syntax:
- Every line is analyzed separately.
- Keywords can start in any column of the line.
- There must not be any strings — except for blanks — before keywords.
- If a keyword is encountered several times, the last one is used.
- Scanning of the file continues until the keyword *END* is encountered or the end of file is reached.
- Do not use a keyword as the value of a keyword. For example, do not set the keyword *SERVER* to the value ADSM.

For the basic setup, the following steps must be performed:
1. Copy the CMCS server sample configuration profile, renaming it `archint.ini`.
2. Adjust the paths specified in the profile to correspond to your environment, e.g. *BINPATH*, *LOGPATH*, *TEMPPATH*.
3. Set the keywords *BASEPATH* and the *ARCHPATH* to the exchange path as created in "Chapter 2.3 Installation on UNIX" on page 19 or "Chapter 2.4 Installation on Windows NT" on page 23.
4. Enter the settings according to your R/3 System:

   DESTINATION
         `<SID>`

   PROGID
         See "Creating an RFC destination" on page 84.

GWHOST
>host name or IP address of the gateway you want to use.

GWSERV
>service or port number of the gateway you want to use.

LU   host name or IP address of the application server.

TP   service or port number of the message dispatcher of your application server.

LOGICAL_SYSTEM
>A logical system linked to the R/3 client specified below. See also "Checking the logical system" on page 81.

CLIENT
>name of the R/3 client; see also "Checking the logical system" on page 81.

USER   name of the CPIC user; see also "Creating an SAP R/3 CPIC user" on page 80.

5. Enter the settings for an archive created in your archiving system. At this point, it will be enough if the DEFAULT archive and a test archive are customized in the CMCS Server profile. For each logical archive mentioned in the CMCS Server configuration profile, the following settings (depending upon your archiving environment) are necessary:

For Tivoli Storage Manager:
- *STORAGETYPE*   ADSM
- *SERVER*
- *MGMT_CLASS*
- *ADSMNODE*
- *LOGICAL_SYSTEM* (not for the DEFAULT archive).

> **Note:**
> If your Tivoli Storage Manager server is named ADSM, please include that name as 'ADSM' (i.e. contained in apostrophes).

> **Note:**
> If you are using password generate, please refer to "Tivoli Storage Manager options PASSWORDACCESS PROMPT and PASSWORDACCESS GENERATE" on page 63.

For Content Manager:

- STORAGETYPE   VI
- LIBSERVER
- INDEX_CLASS_SCAN (not for the DEFAULT archive)
- INDEX_CLASS
- WB_SCAN (not for the DEFAULT archive)
- WB_ERROR (not for the DEFAULT archive)
- VIUSER
- LOGICAL_SYSTEM (not for the DEFAULT archive)

For Content Manager OnDemand:
- STORAGETYPE   ONDEMAND
- ODHOST
- APPGROUP
- APPLICATION
- FOLDER
- LOGICAL_SYSTEM (not for the DEFAULT archive)
- ODUSER

6. Set the system type from which your CMCS server should archive. There are different systems from which CMCS server can archive. Depending on the licenses you bought, you specify the system type in the CMCS server configuration profile. Using the keyword *SYSTEMTYPE*, you can specify if archiving will be done in an SAP R/3 system, a Lotus Domino system, or in both systems.

7. To archive from an SAP R/3 system, specify:

   SYSTEMTYPE   SAPSYSTEM

   To archive from a Lotus Domino system, specify:

   SYSTEMTYPE   DOMINOSYSTEM

   To archive both SAP R/3 and Lotus Domino, specify:

   SYSTEMTYPE   SAPSYSTEM DOMINOSYSTEM

   If the keyword *SYSTEMTYPE* is not specified, its value defaults to:

   SYSTEMTYPE   SAPSYSTEM DOMINOSYSTEM

8. Set the number of agents to be used for each archiving system. The agent of the archiving system you are using should be set at least to 1. E.g. if you are using Tivoli Storage Manager, set *ADSMAGENTS* to 1.

> **Note:**
>
> CMCS supports a mixed archiving environment. In one CMCS server profile, you can specify agents for different archiving systems.
>
> **EXAMPLE:**
>
> ```
> ADSMAGENTS                    2
> VIAGENTS                      1
> ODAGENTS                      1
> ```

9. Set the value of *ARCHWINS* to 0.

> **Note:**
>
> If you are using CMCS clients in your environment, please check the *CMCS for SAP Client Installation and User's Guide* for the necessary settings.

Configuring the CMCS server for http

For communication via http the number of Web dispatchers must be at least 1 and a valid Web port must be specified in the CommonStore server profile

Passwords

When you start the CMCS server for the first time, you will be prompted for passwords.

Please start the CMCS server in the sequence listed below:

1. **archpro -f serverpasswd**

   You will be prompted for the passwords for each archiving system defined with the keyword *ARCHIVE* in the CMCS server configuration profile.

   > **Note:**
   >
   > Each time you want to change the Tivoli Storage Manager, Content Manager, or Content Manager OnDemand password, please enter this command.

2. **archpro -f r3passwd**

At least one password for the R/3 log-in procedure is needed (only for asynchronous calls), but you can enter a password for each logical R/3 System (corresponds to an R/3 client).

> **Note:**
> Each time you want to change the R/3 password, please enter this command.

Getting started

Start the CMCS server by issuing the command `archpro` or

```
archpro -i <ini file>
```

Please see "Starting the CMCS server" on page 49.

Chapter 3.2 License Setup

This section describes the new license model of IBM Content Manager CommonStore 7.1 and how to setup licensing for both try&buy usage and productive usage.

Changes to Version 2.1.5

The licensing model of CommonStore since version 2.1.5 needed the installation and configuration of *License Use Runtime* which is a set of services providing sophisticated license management.

Beginning with version 7.1 of CommonStore License Use Runtime is not needed any longer. All licenses are of the type *non-runtime-based simple nodelocked* and are managed by CommonStore itself. This simplifies license setup dramatically.

New License Types and Certificate Files

CommonStore distinguishes between two license types :

license type	features	license file
try&buy license	— 90 day validity (beginning with first start)	
	— full functionality	
production license	— unlimited validity	— **CSSAP7.lic** for SAP
	— full funcionality	— **CSLD7.lic** for Lotus Domino

CommonStore profile keywords

Since version 2.1.5 there have been two keywords and four subkeywords concerning license setup :

1. INSTANCENAME
2. SYSTEMTYPE
   - PRODUCTIONSYSTEM
   - TESTSYSTEM
   - SAPSYSTEM
   - DOMINOSYSTEM

Beginning with this version of CommonStore the keyword INSTANCENAME is obsolete and the keyword SYSTEMTYPE can only have the values SAPSYSTEM, DOMINOSYSTEM, or both. This will decide for which product CommonStore should request a license.

The values PRODUCTIONSYSTEM and TESTSYSTEM are obsolete because there won't be any longer a distinction between a productive license and a test license.

The new keyword INSTANCEPATH specifies the path in which instance specific files should be stored. Since there is exactly one nodelock file, containing the license password, for each instance of CommonStore server, this file cannot be stored in the binary path when running more than one instance of CommonStore server. Every instance will have its own nodelock file in its INSTANCEPATH.

Enrolling productive licenses

To run CommonStore server with a productive license, the license has to be enrolled previously. To enroll a productive license call archpro with the '-f license' parameter :

```
> archpro -f license
>
>
>          ****************************************************************
>          * IBM Content Manager CommonStore - Server 7.1.0.0             *
>          * (c) Copyright IBM Corporation, 1997-2000 All Rights Reserved *
>          * Build  92, Compiled at Nov 16 2000.                          *
>          ****************************************************************
>
> CSS0213I: Please enter the name of the certificate file:
```

Please enter the path to the certificate file containing the productive license. For SAP enter the path to the file **CSSAP7.lic**, and for Lotus Domino enter the path to **CSLD7.lic**. These files are placed in the directory named **license** on the respective product CD.

If the path is entered correctly the license password will be extracted from the file and registered in the **nodelock** file in INSTANCEPATH.

Now archpro can be started for productive use.

> **Note**
> The enrollment of the production license has to be done for each instance of CommonStore.

> **Note:**
> If you want to run the same instance of CommonStore server for both
> SAP and Lotus Domino you must specify in the profile :
>
> SYSTEMTYPE SAPSYSTEM DOMINOSYSTEM
>
> and you have to do the enrollment for both licenses.

Enrolling the try&buy license

When starting archpro without having enrolled any license previously, the
following dialog appears :

```
> archpro
>
>          ****************************************************************
>          * IBM Content Manager CommonStore - Server 7.1.0.0            *
>          * (c) Copyright IBM Corporation, 1997-2000 All Rights Reserved *
>          * Build  92, Compiled at Nov 16 2000.                         *
>          ****************************************************************
>
> CSS0910I: Trying to get a LUM Production License for IBM Content Manager
>           CommonStore for SAP
> CSS0916E: Could not get a LUM Production License for IBM Content Manager
>           CommonStore for SAP
> CSS0912I: Trying to get a LUM Try and Buy License for IBM Content Manager
>           CommonStore for SAP
> CSS0933I:
>          ****************************************************************
>          *                                                            *
>          * IBM Content Manager CommonStore for SAP                    *
>          * does not have a license enrolled.                          *
>          *                                                            *
>          * If you have purchased a license for this product, then you *
>          * have a production license, which you should now enroll.    *
>          * To do this, select 'EXIT', and call archpro -f license.    *
>          * Archpro will ask you for the full qualified path to the    *
>          * production license file. The product password will be      *
>          * installed in the 'nodelock' file in the directory          *
>          * specified by the INSTANCEPATH keyword in the CommonStore   *
>          * profile.                                                   *
>          * If you have not purchased a license for this product, you  *
>          * may select 'CONTINUE' to enroll an Evaluation license.     *
>          *                                                            *
>          *      to EXIT    enter: 1                                   *
>          *      to CONTINUE enter: 2                                  *
>          *                                                            *
>          ****************************************************************
```

Type '2' and press enter.

The try&buy license will then be saved in the nodelock file in INSTANCEPATH and will expire after 90 days.

> **Note:**
>
> The enrollment of the try&buy license can be done only once. Next time you try it archpro will show the following message :
>
> ```
> CSS0926E : Archpro could not find the certificate file
> ```

Running more than one instance with try&buy license

The try&buy license can be enrolled exactly once. During this enrollment a nodelock file is created in the current INSTANCEPATH. The license in this nodelock file will expire after 90 days. If you want to run multiple instances using the try&buy license you must copy this nodelock file to the INSTANCEPATH of each Commonstore instance.

Chapter 3.3 Working with the CMCS server

Starting the CMCS server

The CMCS server consists of a single main component (`archpro`) and numerous child processes (various dispatchers, agents, etc.) which it controls. In order to start the entire CMCS server, it is sufficient to simply start `archpro`. `archpro` then reads the CMCS server configuration profile (either `archint.ini` in the current directory or the particular configuration profile, which may be located elsewhere, which you specify) and automatically starts all of the configured child processes.

The syntax for starting `archpro` directly from the command line is as follows:

```
archpro [-i <ini file>] [-n <name>]
```

The option -i

If archpro is started without any parameters the CMCS server profile has to be located in the current directory and must be named `archint.ini`.

If you want archpro to use a profile located in another directory as the current one or a profile that is not named `archint.ini` you have to specify the fully qualified name (path + file name) of the profile. .

The option -n

The option *-n* <name> is necessary only on Windows NT and when the CMCS server is already installed as a service (see "Chapter 2.4 Installation on Windows NT" on page 23). In this case, you must use it to specify the name of the particular instance of the CMCS server you wish to use. Otherwise, this option is ignored.

The option -h

You can get on-line help for using the command syntax of **archpro** by entering the command **archpro -h**.

Examples

- `archpro`
- `archpro -i /usr/lpp/cssap/bin/archint.ini2` (UNIX)
- `archpro -i c:\ibm\cssap\instance02\archint.ini2 -n 2` (NT)

When starting the CMCS server, the connections to all configured archive servers are verified. When an archive server is not available, CMCS issues an error message describing the problem and then stops immediately. It is possible to disable this immediate shutdown by setting

CHECK_ARCHIVE_SERVER to **OFF** in the CMCS Server configuration profile. In this case, if an archive server is not available when starting up the CMCS Server, only a warning is issued. It is clear that CMCS cannot perform a successful operation on an archive which is not available. For this reason, disabling the initial check of the archives makes sense only if you are sure that the archives will be available before it comes time to actually access them.

As soon as CMCS is running, the main component (archpro) checks the other child processes every few seconds. If archpro detects that some process is no longer active, this component will be automatically restarted. When restarting, the archives are not checked for availability.

In order to allow (on Windows NT) CMCS to run continuously even if all of the users have logged off, the CMCS service must be started. This service must be installed before it can be used (see "Installing the CMCS server as a service" on page 25). This service can be started from the **Services** applet or by using the command **archservice start**. When the service is started, it executes archpro, checks regularly whether archpro is still active, and, if necessary, restarts it.

The CMCS service can be started either from the **Services** applet of the Control Panel or using the command **archservice start**.

Stopping the CMCS server

The CMCS server is stopped using the archstop program. This program opens a connection to the main component (archpro) and sends it a shutdown command. Whenever archpro receives the shutdown command, it shuts down all child processes and stops itself. All stop messages issued by the CMCS server will now also appear in the **archstop** command window.

The syntax for this command is as follows:
```
archstop [-p <port>] [-i <ini file>] [now]
```

The parameter *<port>* is the fixed port number specified in the CMCS server profile (here: archint.ini) under the keyword *ARCHWIN_PORT*. Alternatively, you could also specify the corresponding CMCS server configuration profile. In this case, the port is obtained directly from there. Without the keyword *NOW*, the CMCS server stops only after it has finished all currently active jobs. In order to stop the CMCS server immediately, the keyword *NOW* must be used.

EXAMPLES:

- archstop
- archstop -p 5510
- archstop -p 5510 now

- `archstop -i c:\ibm\cssap\archint.ini`

Again, you can obtain on-line help by entering the command **archstop -h**.

The CMCS service could be stopped either from the **Services** applet of the Control Panel or by issuing the command **archservice stop**. The **archstop** command cannot be used to stop the service. **archstop** will stop only `archpro`; however, the service will soon detect that `archpro` is down and will restart `archpro` automatically.

Chapter 3.4 Uploading Barcodes with archbc

CMCS provides two ways of sending documents with barcode to R/3.

- Either you can use the CMCS Client (as described in the Client Documentation), or
- you can use the server program `archbc` (in the case of large numbers of documents).

The scenario for `archbc` is that all documents are first scanned, after which the barcode on each document is recognized. After this, the document is put into a dedicated (incoming) index class and added to a Content Manager workbasket for further processing. For each item, the barcode is stored in the **SapBarCodeId** attribute field. All these operations are performed by an exteneral scan program. When `archbc` is started, the workbasket is scanned and all documents will be sent to R/3.

During this process, the items are re-indexed into their destination index classes and removed from the incoming workbasket. Please note that it is allowed that incoming and destination index class are the same. Then no re-indexing will be performed. In the event of a failure, the following happens:

1. CMCS can't connect to R/3. In this case, the items will be placed back to the incoming workbasket.
2. CMCS gets an Error from R/3. In this case, the items will stay in a error workbasket for further manual processing. Further, the error has to be found before the documents can be placed again in the incoming workbasket. The processing of all other documents is not effected.

If an error occured the failed items thus reside in the error workbasket. In order to re-process these items it is sufficient to move them into the incoming workbasket and to restart the scanning. No manual re-indexing is necessary.

In the CommonStore ini file the incoming index class and destination index class are denoted as INDEX_CLASS_SCAN and INDEX_CLASS, while the incoming workbasket and the error workbasket are denoted as WB_SCAN resp. WB_ERROR.

To initiate archiving with barcode, enter `archbc -p <port> -a <archive-id>`.

This command starts the Content Manager workbasket scanning (workbasket **WB_SCAN** on index class **INDEX_CLASS_SCAN**) for documents with

barcodes. This is done for the logical archive whose ID is <archiv_id>. This command can be started by an AIX cron job or the Windows NT Scheduler.

As soon as the workbasket is empty, all of the documents have been archived, and their ID has been sent to R/3, the program will finish automatically.

Usage

archbc -p <port> -a <archive-id>
    Starts the move operation.

archbc -p <port> -a <archive-id> abort
    Stops the move operation.

Options

-p **<port>**
    Fixed port used by archpro (as defined in the CMCS Server configuration profile).

-a **<archive-id>**
    Archive ID containing the scan and final index classes.

abort   Tells CMCS Server to abort the operation.

> **Note:**
> Only port numbers above 5000 are accepted.

> **Hint:**
> In order to abort an archbc run, it is recommended that you open another window and send the abort command from there. This allows you to continue receiving the archbc messages in the first window.

Chapter 3.5 Troubleshooting

Problem:

CMCS does not start.

Solution:

CMCS checks at startup whether all settings are correct and whether it was possible to establish a connection to R/3 and to the archive servers. Further, all paths and files specified in the the CMCS server configuration profile must be accessible. Proceed as follows:

Step 1:

Make sure that the paths and files are accessible for the user. Do not use file names where directories are expected or vice versa. When there is no screen output of `archpro` available, enable the tracing (*TRACE* **ON**) and look for error messages in the trace files.

Step 2:

Determine which child process has problems with the connection. There should be a corresponding error message displayed by `archpro`. The same error message is also found in the trace file. If you cannot find out which component failed, check them separately. Enable only one dispatcher, and disable all agents or vice versa.

Problem:

How can I tell that the CMCS child component is working (is ready)?

Solution:

The connection is working when `archpro` displays the following typical messages:

- `archpro` is informed that xxx has started (from dispatcher and agents).
- `archpro` is informed that xxx is ready to obtain order (only from agents).
- Dispatcher is ready and waiting for RFCs ... (only from dispatcher).

The message about xxx's start is sent by the child process immediately after the start. It means that a connection between `archpro` and the child process has been established. The ready message is sent by the child after the corresponding check has been done. For the dispatchers, this means that the connection to R/3 has been established. For the agents, it means that they have performed a log-on to the archive server and have verified all corresponding

settings (user name, password, management class, index class, ...). When you see the ready message, you know that this component is working completely.

Problem:
The Windows NT command **net start/stop** does not start/stop the CMCS service.

Solution:
Use CMCS's **archservice start/stop** command instead.

Part 4. Customizing the Archives

The CMCS Server is capable of interfacing with three different archiving systems: Tivoli Storage Manager, Content Manager, and Content Manager OnDemand. These archiving systems are described in the following chapters.

Chapter 4.1 Base Setup

Depending upon the archiving system you are using, proceed according to the steps described in the appropriate section below.

Tivoli Storage Manager

1. Create a Tivoli Storage Manager management class (see "Creating a Tivoli Storage Manager management class and node" on page 61).
2. Create a Tivoli Storage Manager node (see "Creating a Tivoli Storage Manager management class and node" on page 61).

Content Manager

1. Create a Content Manager user account (see "Creating Content Manager user accounts" on page 66).
2. Create a Content Manager index class (see "Creating Content Manager index classes" on page 66).
3. Create a Content Manager workbasket (see "Creating Content Manager workbaskets" on page 68).

Content Manager OnDemand

1. Create an CMOD user account (see "Creating Content Manager OnDemand user accounts" on page 74).
2. Create an CMOD application group (see "Creating Content Manager OnDemand application groups" on page 70).
3. Create an CMOD application (see "Creating Content Manager OnDemand applications" on page 72).
4. Create an CMOD folder (see "Creating Content Manager OnDemand folders" on page 73).

Chapter 4.2 Tivoli Storage Manager (ADSM)

General information on Tivoli Storage Manager

Tivoli Storage Manager (formerly: ADSM) is a client/server program providing storage management to customers in multivendor computer environments. Tivoli Storage Manager provides automated, centrally-scheduled, policy-managed backup, archive, and space management services for file servers and workstations. It is capable of storing data on a wide variety of media, including hard disk, magnetic tapes, and optical disks. The information on the physical location of individual data blocks is maintained in an internal database. This database enables Tivoli Storage Manager to locate the data without having to actually access the physical media. Rather, the storage devices are accessed only if the data is actually stored or retrieved. Additionally, the Tivoli Storage Manager database also contains all of the Tivoli Storage Manager server's setup information. In storing documents, CMCS makes use of Tivoli Storage Manager's archive facilities, only; in contrast, its HSM (Hierarchical Space Management) capabilities are not exploited.

In the following section, some typical steps which must be completed to use Tivoli Storage Manager as an archive for CMCS are described. It is assumed that the Tivoli Storage Manager server is already fully installed and functional. Our objective is to show only those additional steps needed in order to use Tivoli Storage Manager as an archive for CMCS. For users of ADSM 3.1.1.2 on AIX, partial retrieval of documents is not possible with this release of the ADSM software and may lead to unexpected errors. Please contact your IBM service representative to update to a later release of ADSM.

Creating a Tivoli Storage Manager management class and node

Connect to the Tivoli Storage Manager server as Tivoli Storage Manager administrator using for example `dsmadmc -se=<servername>`. Then enter the following commands:[2]

1. `register admin` *sapadmin* `<password>`
2. `grant authority` *sapadmin* `class=system`
3. `def stgpool` *archpool* `TAPE_DEV maxscr=`*10*
4. `def stgpool` *dummy* `DISK`
5. `def domain` *sap*

---

2. Character strings appearing in `monospace` font are to be taken verbatim; character strings appearing in *italics* are freely configurable.

6. `def policyset` *sap sap_policy*
7. `def mgmtclass` *sap sap_policy sap_mgmt*
8. `def copygroup` *sap sap_policy sap_mgmt* `type=archive destination=`*archpool* `ser=static retver=`*9999*
9. `def copygroup` *sap sap_policy sap_mgmt* `type=backup destination=`*dummy*
10. `assign defmgmtclass` *sap sap_policy sap_mgmt*
11. `validate policyset` *sap sap_policy*
12. `activate policyset` *sap sap_policy*
13. `register node` *cstore <password>* `domain=`*sap* `archdelete=yes`

Explanation:

Steps 1) and 2) create an additional Tivoli Storage Manager administrator with all Tivoli Storage Manager rights (`class=system`).

Step 3) creates a primary storage pool named *archpool* in the device class named *TAPE_DEV* with a capacity of ten scratch tapes. The device class describes the available storage devices (disk drives, tape drives, optical disk drives). It is assumed here that the necessary device class named *TAPE_DEV* has already been defined.

Step 4) creates a dummy storage pool on the `DISK` device class. `DISK` is a predefined Tivoli Storage Manager device class. This storage pool will not be used to store any data. It is necessary only for the definition of a dummy copy group of the backup type (step 9).

Steps 5) to 7) define a policy domain named *sap*, a policy set named *sap_policy* in this domain, and a management class named *sap_mgmt* in this policy set.

Step 8) and 9) create the archive copy group and the backup copy group in the *sap_mgmt* management class. The archive copy group defines on which storage pool the data will be stored physically (in this example, it is stored on *archpool*). It also defines how long the data will be retained by Tivoli Storage Manager (in this example: for 9999 days). The backup copy group is not used by CMCS. However, the Tivoli Storage Manager API requires that the default management class must contain a backup copy group. Hence, a dummy backup copy group is defined.

Step 10) declares *sap_mgmt* as the default management class.

Steps 11) and 12) validate and activate the previous definitions.

Step 13) creates a Tivoli Storage Manager node named *cstore* in the policy domain *sap* and allows the client program (CMCS) to delete archived data.

Tivoli Storage Manager options PASSWORDACCESS PROMPT and PASSWORDACCESS GENERATE

CMCS supports the Tivoli Storage Manager options *PASSWORDACCESS PROMPT* and *PASSWORDACCESS GENERATE* on UNIX and Windows NT. The option *PASSWORDACCESS* is specified on the client side, and not at the Tivoli Storage Manager server.

The necessary settings for each option are listed below.

Settings

Table 1. Settings for the Tivoli Storage Manager options PASSWORDACCESS PROMPT and PASSWORDACCESS GENERATE

	PASSWORDACCESS PROMPT	PASSWORDACCESS GENERATE
`dsm.sys` or `<my_srv>.opt`	SERVERNAME <my_srv> PASSWORDACCESS PROMPT	SERVERNAME <my_srv> PASSWORDACCESS GENERATE NODENAME <my_node>
`archint.ini`	ARCHIVE <xx> STORAGETYPE ADSM SERVER <my_srv> MGMT_CLASS <my_mgmt> ADSMNODE <my_node>	ARCHIVE <xx> STORAGETYPE ADSM SERVER <my_srv> MGMT_CLASS <my_mgmt>

The node is specified either in `dsm.sys` (UNIX) or `<my_srv>.opt` (Windows) or in the CMCS server configuration profile, but never at both locations (please see the table above).

PASSWORDACCESS PROMPT means that a password for a Tivoli Storage Manager node is specified. The same password must be specified in the CMCS installation:

```
archpro -f serverpasswd
```

This password is used for all connections. When it expires, it must be updated on the Tivoli Storage Manager server and (if a new password is used) on the CMCS server.

PASSWORDACCESS GENERATE means that for a Tivoli Storage Manager node, an initial password is set manually. This initial password must be specified when establishing the first connection to this Tivoli Storage Manager node. Tivoli Storage Manager changes this initial password immediately after

the first access to an automatic generated password. Later, the password is also updated by Tivoli Storage Manager automatically. The generated password is stored in a safe place on the client machine and on the Tivoli Storage Manager server. All subsequent connections are performed using the generated password.

The first connection to an Tivoli Storage Manager node must be performed for example with the following command (on UNIX as root user):

```
dsmc -se=<my_srv>            <-- login on ADSM server
dsmc> q mgm                  <-- query management classes
```

Tivoli Storage Manager prompts for the initial password.

Recommendation

PASSWORDACCESS PROMPT is easy to set up. This setting is highly recommended for initial testing. *PASSWORDACCESS GENERATE* is a little more difficult to set up. Once this step is done, you no longer need concern yourself with passwords (and password expiration). The latter is therefore preferred in production.

Troubleshooting Tivoli Storage Manager

Problem:
  PASSWORDACCESS GENERATE does not work.

Solution:
  Make sure that the node name is not specified in the CMCS Server configuration profile, but rather in dsm.sys (UNIX) or in <my_srv>.opt (Windows).

On Windows, *PASSWORDACCESS GENERATE* has been verified to work with Tivoli Storage Manager API 3.1.3. It does not work with Tivoli Storage Manager API 3.1.0.

Chapter 4.3 Content Manager (VisualInfo)

General information on Content Manager

With Content Manager, IBM is providing SAP users with a multi-platform client/server solution for the capturing, archiving and administering of documents and data covering the entire spectrum of corporate operations. Content Manager is seamlessly integrated into the business processes of SAP R/3 (accounting, logistics and human resources). All archiving functions are directly available through pulldown menus of the R/3 user interface, thus allowing clerical workers to work in the accustomed SAP R/3 environment. But in contrast to conventional SAP archiving systems, Content Manager cannot be used only to manage SAP-related data. Content Manager is a multi-purpose document management system that supports all kinds of information regardless of type and origin. SAP related documents and documents created with other applications can even be stored in common folders in order to provide archive users with convenient access to important business data.

Central or Distributed Archives

Content Manager supports the concept of distributed information management. Multiple object servers can be implemented within a common enterprise-wide archiving solution, allowing documents and data to be stored directly at the location of their users. This minimizes network utilization and facilitates fast access to all kinds of information. Users can access all distributed archives directly from their desktop workstation, regardless of server location and system platform.

The solution for your environment

In order to meet individual customer requirements for the configuration of archive solutions, Content Manager supports several different operating systems:

- Windows NT
- AIX
- MVS/ESA

This unique scalability allows for the main archive to be installed on a powerful IBM RS/6000, whereas smaller archives for decentral departments can be implemented on low-cost PC servers. Additional servers or jukeboxes can be added at any time in order to extend the Content Manager archiving solution.

IBM's well-known System Managed Storage technology (SMS) is another major advantage of Content Manager. Based on a customizable setup, SMS automates the transmission of data from one archive to another and supports the time-controlled migration of documents between different storage media.

Usability

With the graphical user interface of Content Manager, all important documents can be instantly searched and retrieved from the archiving system, whether they are scanned originals (such as letters or invoices), faxes, text files, spreadsheets, graphic files, or audio visual recordings. By using Content Manager, all these types of information can be stored in collective files and dealt with conveniently. Recurrent jobs can be automated using the built-in workflow component.

Creating Content Manager user accounts

CMCS does need its own log-in user. In Content Manager, you can create a user account by first starting the System Administration Client. Log in via a user with administrative rights. When the Client is started, you can select and open the **Users** folder. By using your right mouse button, you can select to create a new user account. By typing in the required information, the user will be customized. For the privileges, please set it to the highest level (`adminprivs`).

Creating Content Manager index classes

In order to create an index class, you have to first define the necessary key fields. To do this, log in to the Content Manager System Administration Client and open the **Fileroom & Data Formats** folder. The next step is to open the **Key Fields** folder. You can now use the right mouse button to get the context menu to create a new attribute. After you have defined all attributes, you can start creating an index class. Open the **Index Classes** folder and use the context menu to create a new one. Fill in all requested fields and select the key fields to define the index class.

For each logical archive or content repository defined in SAP R/3, at least two Content Manager index classes have to be defined which will be used for storing the documents and data for this repository. Multiple repositories can — but do not need to — share the same index classes. These index classes have to be declared in the archive section of the CMCS Server configuration profile as **INDEX_CLASS** and **INDEX_CLASS_COMP**. **INDEX_CLASS** is used to store folders that represent SAP R/3 content objects. Every folder will contain one or more Content Manager documents, each of them representing one component of the superordinate content object. These documents will be stored in **INDEX_CLASS_COMP**.

For the class employed as **INDEX_CLASS**, define the following key fields:

Key field name	Key field type	Character type	Length	Comment
DocId	variable character	other	1 — 40	required
TimeStampC	time stamp	n/a	n/a	required
TimeStampM	time stamp	n/a	n/a	required
DocProtection	variable character	other	1 - 10	required

For the index class employed as **INDEX_CLASS_COMP**, define the following key fields:

Key field name	Key field type	Character type	Length	Comment
ComponentId	variable character	other	1 — 254	required
ContentType	variable character	other	1 — 80	required
Charset	variable character	other	1 — 20	optional
Version	variable character	other	1 - 10	optional
SapBarcodeId	variable character	other	1 - 40	required for inbound documents with bar codes
DocId	variable character	other	1 - 40	required
TimeStampC	time stamp	n/a	n/a	required
TimeStampM	time stamp	n/a	n/a	required

Special customizing may be necessary if inbound documents are to be archived using the 'early archiving via bar code' or 'late archiving via bar code' scenarios. In the case where one of these scenarios applies and documents are to be captured using the Content Manager Client or external capturing software that interfaces to Content Manager, an additional index class needs to be defined. In the CMCS Server profile, this third class has to be declared as **INDEX_CLASS_SCAN**. When documents are captured, they should be stored in this index class by the Content Manager Client or the

capturing software. Upon linking the documents in SAP R/3, CMCS will transfer them from **INDEX_CLASS_SCAN** to their final repository, **INDEX_CLASS_COMP**.

The only key field required for **INDEX_CLASS_SCAN** is 'SapBarcodeId' (defined as above). Additional key fields may be provided that can be filled by the capturing software (e.g., through Optical Character Recognition during the capturing process). If these fields exist in **INDEX_CLASS_COMP** as well as in **INDEX_CLASS_SCAN**, their contents will be retained by CMCS while the documents are transferred between the two index classes. When accessing documents externally from SAP R/3, they can be used as attribute values to find the archived documents through the Content Manager Client.

Creating Content Manager workbaskets

Log in to the Content Manager System Administration Client and open the **Work Management** folder. Open **Workbaskets** and create a new one using the context menu.

Mark neither the 'Overload' function nor the 'Remove items after indexing' function.

Troubleshooting Content Manager

If you encounter problems with CMCS and Content Manager, stop the CMCS Server. Supply the parameter *TRACE VI* in the CMCS Server profile and switch folder manager tracing to **ON** by setting the environment variable *FRNFMTRACE* to the value /p on the command line (for release 2.3 or later of the Content Manager Client toolkit). Then, manually re-start CMCS using the **archpro** command in the same shell session.

Check the resulting CMCS trace file (usually `archint.trace`) as well as the Content Manager folder manager protocol (`fmtrace.txt`) and consult the Content Manager error logging facility on that library server to which the problematic logical archive refers. Consult the Content Manager publication *Messages and Codes* (publication no. GC31-9065-03) for detailed error descriptions or refer to the *System Administration Guide* (publication no. SC31-7774-03) for collecting further trace information. When in doubt, double-check the Content Manager key field, index class, and workflow definitions.

Chapter 4.4 Content Manager OnDemand

General information on Content Manager OnDemand

As IBM's strategic solution for electronic or optical storage of computer output, Content Manager OnDemand has a broad, world-wide installation base. This advanced system makes it possible to store, retrieve, distribute, print, and fax both SAP and non-SAP documents in just seconds — right from a user's workstation.

Tivoli Storage Manager, Content Manager, and Content Manager OnDemand all use a client/server architecture. There are two kinds of servers: a library server contains indexes and control information, runs under Windows, AIX, HP-UX, and Solaris and supports DB2 or, in contrast to Content Manager, Microsoft SQL server (Content Manager OnDemand for Windows NT, only); object servers contain the archived data and can optionally use Tivoli Storage Manager as a storage manager. Clients run under OS/2, Windows NT as well as in a CICS/ESA environment. Thin clients are available for Netscape Navigator or Microsoft Internet Explorer.

With CMCS, Content Manager OnDemand can be used as a universal archive for SAP R/3 inbound and outbound documents, print lists, and external documents handled by DMS or SAPoffice. These documents can be stored directly from R/3 (or scanned into the system using the CMCS Client) and retrieved through either R/3 or the Content Manager OnDemand client. Using the Content Manager OnDemand client's comfortable user interface, simple or advanced queries can be performed to find and retrieve documents for processing in a variety of ways. Users can view entire documents, portions of documents, or simultaneously view multiple documents — even if the documents are in different formats. Users can also annotate documents and copy sections to the clipboard for insertion into a spreadsheet or word processing application. Alternatively, documents can be retrieved using SAP's ArchiveLink viewer or the CMCS client in conjunction with an arbitrary generic document viewer.

Combined with its robust architecture and suitability for storage of high volumes of data, these features make Content Manager OnDemand a powerful solution for storing and retrieving all kinds of R/3 documents. Typical uses of the system in an SAP environment include customer service as well as microfiche and print replacement. Additionally, Content Manager OnDemand can be used to maintain inactive application data.

Apart from its capabilities as an archive platform for CMCS, the Content Manager OnDemand server can receive reports and documents from a production system, such as an MVS mainframe. The system then extracts index fields, such as customer name and account number, from the data and stores them in its relational database to provide fast retrieval of the desired information. Content Manager OnDemand thus proves to be a true open-systems application, compatible with industry-standard hardware and software.

Preparing Content Manager OnDemand for use with CMCS

Before Content Manager OnDemand can be employed to store SAP R/3 documents, several configuration steps have to be performed by the Content Manager OnDemand administrator to prepare the system for access by CMCS. These steps include:

1. creating application groups,
2. creating applications,
3. creating folders, and
4. creating user accounts.

Please refer to the Content Manager OnDemand publication entitled *Getting Started with the Administrator Interface for Windows NT and Windows 95* (document no. S544-5463-00) for information about Content Manager OnDemand concepts and detailed information on how to perform the operations requested in this chapter.

The duration and complexity of the configuration process strongly depends on your requirements. Please note that the user account, application, and folder may vary between different logical R/3 archives, so you may (but do not need to) prepare distinct users, application groups, applications, or folders to be used for different document types. For instance, it is possible to assign different storage policies to the application group used for print lists and the application group used for archive data, or to define different search masks for inbound and for outbound documents.

Creating Content Manager OnDemand application groups

For each logical archive or content repository defined in SAP R/3, an Content Manager OnDemand application group has to be specified which will be used for storing the documents and data for this repository. Multiple repositories can — but do not need to — share the same application group.

For every application group to be used by CMCS, choose a database organization with multiple loads per database table and a segment-oriented expiration policy. Also, if users should be able to access and annotate the

documents stored in the application group through the Content Manager OnDemand client, annotation flags must be provided in the document database table.

Define the following database fields for each application group, using **Filter** as a field type for all fields except **DOC_ID**:

Name	Data Type	String Type	Case	Length	Comment
CONT_REP	String	Variable	Mixed	10	
DOC_ID	String	Variable	Mixed	40	Type "Index"
AR_OBJECT	String	Variable	Mixed	10	
OBJECT_ID	String	Variable	Mixed	50	
SAP_OBJECT	String	Variable	Mixed	10	
COMP_ID	String	Variable	Mixed	254	
DOC_PROT	String	Variable	Mixed	10	
CONTENT_LENGTH	Integer	n/a	n/a	n/a	
CONTENT_TYPE	String	Variable	Mixed	80	
CHARSET	String	Variable	Mixed	20	
VERSION	String	Variable	Mixed	10	
DATE_TIME_C	Date/Time	n/a	n/a	n/a	Segment Field
DATE_TIME_M	Date/Time	n/a	n/a	n/a	

For database field **COMP_ID**, specify the following mapping:

Database Value	Displayed Value
data	Data file
descr	Attribute file
note	Note

For database field **CONTENT_TYPE**, specify the following mapping:

Database Value	Displayed Value
FAX	Inbound document (TIFF)
OTF	Outbound document (OTF)
PDF	Outbound document (PDF)
ALF	Print list (ALF)
REO	Archive data
BIN	Binary data

If you intend to use CMCS's Index Transfer feature to import additional lookup information into the Content Manager OnDemand archive, you have to provide these fields in the application group definitions. Use the R/3 database field name and type for each index field that you plan to transfer.

Creating Content Manager OnDemand applications

For each logical archive or content repository defined in SAP R/3, an Content Manager OnDemand application has to be specified which defines the data format for this repository. Multiple repositories can — but do not need to — share the same application.

> **Note:**
> A specific logical archive or content repository cannot refer to several applications; thus, a distinct repository has to be configured for each data format (i.e. for each application) to be archived in Content Manager OnDemand via CMCS.

Every application you create must be assigned to one of the application groups you have previously defined according to the description in the preceding section.

Use the following table as a basis for your application definitions (regarding data type, file extensions, and compression algorithm), depending on the type of the documents to be stored in the respective logical archive or content repository.

SAP R/3 Document Type	Technical Document Class	Data Type	Extension	Compression
Inbound Documents	FAX	TIFF	n/a	disabled
Outbound Documents (OTF)	OTF	User-defined	OTF	LZW/OD77
Outbound Documents (PDF)	PDF	PDF	n/a	LZW/OD77
Print Lists	ALF	User-defined	ALF	LZW/OD77
Archive Data	REO	None	n/a	LZW/OD77
Binary Data	BIN	None	n/a	LZW/OD77

Create additional applications for each desktop document type you plan to archive.

For each application that you define, specify **%Y%m%d %H%M%S** as the format to be used by the load preprocessor for the **DATE_TIME_C** and **DATE_TIME_M** database field.

Creating Content Manager OnDemand folders

For each logical archive or content repository defined in SAP R/3, an Content Manager OnDemand folder has to be specified which will be used for accessing the documents and data for this repository. Multiple repositories can — but do not need to — share the same folder.

Every folder should contain at least the following search fields:

Name	Field Type	Database Field Name	Operators defined
Logical Archive / Content Repository	String	**CONT_REP**	**Equal** (default), Not Equal, In, Not In
Document Identifier	String	**DOC_ID**	Equal, **Like** (default)
Object Identifier / Bar Code	String	**OBJECT_ID**	Equal, **Like** (default)
Component Identifier	String	**COMP_ID**	**Equal** (default)
Document Protection	String	**DOC_PROT**	Equal, **Like** (default)
Content Length (bytes)	Integer	**CONTENT_LENGTH**	**Equal** (default), Between, Less Than, L/T or Equal, Greater Than, G/T or Equal
Technical Document Class / Content Type	String	**CONTENT_TYPE**	**Equal** (default), Like
Character Set	String	**CHARSET**	**Equal** (default), Like
Application Version	String	**VERSION**	**Equal** (default), Between, Less Than, L/T or Equal, Greater Than, G/T or Equal
Created	Date/Time	**DATE_TIME_C**	Equal, **Between** (default), Less Than, L/T or Equal, Greater Than, G/T or Equal
Last Modified	Date/Time	**DATE_TIME_M**	Equal, **Between** (default), Less Than, L/T or Equal, Greater Than, G/T or Equal

You may want to specify `data` as a default value for the "Component Identifier" search field.

Specify **%m/%d/%Y %H:%M:%S** as the display and default formats for both the "Creation" and the "Last Modified" search fields.

Creating Content Manager OnDemand user accounts

For each logical archive or content repository, an Content Manager OnDemand user account has to be specified which will be used for archiving,

retrieving, or otherwise processing the documents and data for this repository. Of course, the same user account may be used for several or all repositories.

The virtual user(s) must be granted appropriate access to all of the application groups and folders of the respective repositories.

Preparing CMCS for use with Content Manager OnDemand

To use CMCS with Content Manager OnDemand, an Content Manager OnDemand library server must be installed on the CMCS server machine. The CMCS server configuration profile must be customized to contain all necessary Content Manager OnDemand-related parameters. Apart from the keyword *ODAGENTS*, which controls the number of parallel connections to the Content Manager OnDemand archive, these are all contained in the archive section of the CMCS Server configuration profile.

Provide at least one archive entry per document type that you intend to archive in Content Manager OnDemand. Content Manager OnDemand archive entries are marked by the header **STORAGETYPE   ONDEMAND** and must contain the keywords

- *ODHOST*,
- *APPGROUP*,
- *APPLICATION*,
- *FOLDER*, and
- *ODUSER*.

Here, *ODHOST* specifies the name of the Content Manager OnDemand library server while *APPGROUP*, *APPLICATION*, *FOLDER*, and *ODUSER* specify the names of the application group, application, folder and user account to be used for the respective logical archive or content repository (see "Preparing Content Manager OnDemand for use with CMCS" on page 70). A sample Content Manager OnDemand archive definition might look like this:

```
ARCHIVE  A1
  STORAGETYPE              ONDEMAND
  ODHOST                   asterix
  APPGROUP                 'Inbound SAP R/3 Documents'
  APPLICATION              'Inbound SAP R/3 Documents'
  FOLDER                   'SAP R/3 Documents'
    LOGICAL_SYSTEM         T90CLNT090
  ODUSER                   COMMONSTORE
```

Troubleshooting Content Manager OnDemand

If you encounter problems concerning CMCS and Content Manager OnDemand, stop the CMCS server and supply the parameter *TRACE AGENTS* in the CMCS server profile. Enable the message logging facility for all problematic operations in the respective application group definitions using the *Content Manager OnDemand Administrator*. Then, manually restart CMCS using the **archpro** command.

Check the resulting CMCS trace file (usually `archint.trace`) as well as the Content Manager OnDemand error protocol `od_errors.log` and consult the Content Manager OnDemand system log on that library server to which the problematic logical archive refers. When in doubt, double-check the Content Manager OnDemand application group and application definitions.

Part 5. SAP Archiving Scenarios

Chapter 5.1 Base Setup

Overview

With CommonStore all SAP archiving scenarios can be covered. Please find below information, which CommonStore components are needed to be installed for the different scenarios. Please see the CommonStore Client documentation for customizing steps refering to the client component.

	CommonStore Server	CommonStore Archiving Client	CommonStore Viewing Client
Archiving Inactive Data	X		
Displaying archived inactive data	X		
Archiving Print Lists	X		
Displaying archived Print Lists in the SAPGUI	X		
Displaying archived Print Lists via the ALViewer	X		X
Archiving Incoming Documents	X	X	
Displaying archived Incoming Documents via http	X		
Displaying archived Incoming Documents via OLE	X		X
Archiving Outgoing Documents	X		
Displaying archived Outgoing Documents via http	X		
Displaying archived Outgoing Documents via OLE	X		X

This chapter provides an overview of the basic steps to be performed in order to get the connection running between the R/3 System and the CommonStore Server.

> **Note**
> In order to setup a system for a certain scenario, you always need to perform the Base setup in addition to particular steps for that scenario.

Steps for Base Setup

Steps for Base Setup Communication via RFC

- **Step 1:** Create a SAP CPIC user for the RFC communication.
- **Step 2:** Create an RFC Destination.
- **Step 3:** Check the Logical System.
- **Step 4:** Maintain ArchiveLink number ranges (SAP Rel 4.0 and higher)
- **Step 5:** Create an ArchiveLink protocol.
- **Step 6:** Create ArchiveLink queues.
- **Step 7:** Create a content repository (logical archive) customized for RFC protocol.

Steps for Base setup Communication via the http

- **Step 1:** Send a certificate to the CommonStore Server.
- **Step 2:** Check the Logical System.
- **Step 3:** Maintain ArchiveLink number ranges (SAP Rel 4.0 and higher)
- **Step 4:** Create an ArchiveLink protocol.
- **Step 5:** Create ArchiveLink queues.
- **Step 6:** Create a content repository (logical archive) customized for http protocol.

Detailed customizing steps for Base Setup

Creating an SAP R/3 CPIC user

Use T-Code SU01.

Then enter the name of the CPIC user which you want to create.

Press the **Create** button.

The panel changes.

Enter the password.

Set the time frame for the validity of this user.

Set the **User type** to CPIC.

Set the **Authorization profiles** to **SAP_ALL** and **SAP_NEW**.

Click on the **Continue** icon.

Click on the **Save** icon.

Checking the logical system

Use T-Code BD54.

> **Note:**
>
> Changes will be client-independent.

If there are already logical systems specified in the table, use one of them.

> **Note:**
>
> Please avoid making changes to the settings of an existing logical system as this might have far-reaching consequences.

If no logical system has been set up, create one as described below:

Press the **New Entries** button.

Enter the name of your new logical system and a description.

Click on the **Save** icon.

Check the link of the R/3 Client to the logical system (see "Checking the link of the R/3 client to a logical system" on page 82).

> **Note:**
>
> The following must be entered in the CMCS Server configuration profile:
>
> LOGICAL_SYSTEM   the name of the chosen logical system
> CLIENT   the name of the client connected to the
>   logical system

Checking the link of the R/3 client to a logical system

Use T-Code `SCC4`.

Please see also "Checking the logical system" on page 81.

Double click your client's entry.

The panel changes.

> **Note:**
> If the *logical system* is already specified for this client, please avoid making any changes as this might have far-reaching consequences.

If no *logical system* has been specified, press the **Change** button.

> **Note:**
> Changes will be client-independent.

Enter the chosen logical system.

Click on the **Save** icon.

Maintaining ArchiveLink number ranges

In the IMG (T-Code `SPRO`, **F5**), go to **Basis Components->Basis->SAP ArchiveLink->Basic Settings->Maintain number ranges**. Click the **Execute** button. Click the **Change Intervals** button. Go to the menu path **Edit->Insert interval**. Add a new interval with the following settings:

```
No 01 From number              0000000001
To number                      9999999999
```

Don't change the setting for **Current number**.

Creating an ArchiveLink protocol

If it is necessary to create an ArchiveLink protocol, proceed as follows:

Use T-code 0AA3.

Click the **New protocol** button.

Enter the following settings:

Protocol   CSPRT (logical name)
Version   Choose the highest version, depending upon the
                                        release of your R/3 System.

> **Note**
>
> In general, you should use the version
> corresponding to your SAP system, e.g. for
> SAP release 3.1, use 0031. *Never* use 0040, as
> this SAP protocol version has a bug.

Description   Enter information on this protocol.

Click the **Save** icon.

Creating ArchiveLink queues

In R/3 release 3.1x and below:

Use T-Code 0AM1.

Press the **Create queues** button.

In R/3 release 4.0x and higher:

In the IMG (T-Code SPRO, **F5**), go to **Basis Components->Basis->SAP ArchiveLink->Basic Settings->Create Queues**.

Enable the checkboxes.

As Queue administrator specify a user in your SAP system who is to be informed by SAP when problems occur.

Press the **Execute** button.

Creating an RFC destination

Use T-Code SM59.

Click on **TCP/IP connections**.

Click on the **Create** button.

The panel changes.

Enter settings:

```
RFC destination              KD7.ARCHIFIX, where KD7 is the SAP SID and
                             ARCHIFIX is the name of the machine where the
                             CommonStore Server is installed. Using this
                             naming convention makes trouble shooting easier.
Connection type              T
Description                  CommonStore RFC Connection
```

Press **ENTER**.

The panel changes.

Click for **Activation Type** on **REGISTRATION**.

The panel changes.

Enter a program ID (e.g. KD7.ARCHIFIX).

It is recommended to keep RFC destination identical with Program ID, to make trouble shooting easier.

> **Note:**
> The following entry must be made in the CMCS Server configuration profile:
>
> ```
> PROGID                       the name of the Program ID as
>                              customized above (e.g. KD7.ARCHIFIX)
> ```

Choose the menu path: **Destination->Gateway-Options**

Enter the following settings:

`Gateway host`	same as for GWHOST in the CMCS Server configuration profile
`Gateway service`	same as for GWSERV in the CMCS Server configuration profile

Press the **OK** button.

Click on the **Save** icon.

Creating a content repository (logical archive) customized for RFC communication

Use T-code oac0.

Press the **Change** icon.

The panel changes.

Click on the **New Entries** button.

The panel changes.

in SAP Rel. 4.6 click the button 'Full administration'.

For SAP 4.5 and higher :

Enter settings :

Content rep.	e.g. AI
Description	CommonStore RFC Archive
Storage type	choose 'RFC Archive' from drop-down list
Protocol	e.g. CSPRT
Version no.	choose 3.1.
RFC destination	eg. KD7.ARCHIFIX (as customized in "Creating an RFC Destination")
Basic path	transfer directory between CommonStore runs and the SAP application server
Arch. path	transfer directory between CommonStore runs and the SAP application server

For SAP releases below release 4.5

Enter settings:

```
Opt. archive ID             AI
Description                 CommonStore Archive
RPC host                    (leave blank)
RPC service/RFC dest        KD7.ARCHIFIX (as customized in "Creating an RFC
                            destination" on page 84)
Arch. protocol              CSPRT (as customized in "Creating an ArchiveLink
                            protocol" on page 83
Version no.                 Corresponding to your SAP System e.g. for SAP
                            release 3.1, use 0031. Never use 0040, as this SAP
                            protocol version has a bug.
Connection name             (leave blank)
Basic path                  transfer directory between CommomnStore and the
                            SAP application server
Arch. path                  transfer directory between CommomnStore and the
                            SAP application server
SpoolPath
RFC                         YES (click)
RPC                         NO (don't click)
```

Note

It is recommended to specifiy the same path as Basic path and
Arch.path.

Note

The transfer directory needs to be shared between the machine where
CommonStore runs and the SAP application server, when using RFC.

Sending a certificate to the CommonStore Server

Use T-code oaht

Double click on the content repository you want to send a certificate to. A
certificate will be sent to the corresponding CommonStore Server.

The CommonStrore Server will save this certificate and will use it when
archiving and retrieve calls arrive for this content repository.

Creating a content repository (logical archive) customized for http communication

Use T-code OAC0.

Press the **Change** icon.

The panel changes.

Click on the **New Entries** button.

The panel changes.

Enter settings :

Content rep.	e.g. AI
Description	CommonStore http Archive
Storage type	http Content Server
Protocol	e.g. CSPRT
Version no.	always 0045
Http srvr:p	Server and port of the CommonStore Server seperated by a colon, e.g. Csarch:8080
Program:	cs
Basic path	transfer directory, where data can be temporarily saved.
Arch. path	transfer directory, where data can be temporarily saved.

> **Note**
> It is recommended to specify the same path as Basic path and Arch.path.

> **Note**
> When using http the transfer directory doesn't need to be shared between the machine where CommonStore runs and the SAP application server.

Chapter 5.2 Data Archiving

Overview

In a productive customer environment multiple processes are initiated by purchasing or sales actions. To each process usually several bookings belong to. One booking may automatically trigger the creation of another. Thus, data rapidly adds up in a SAP database. In fact after a process is completed, the associated bookings are not really used any more but must be kept for audit purposes for up to 10 years and even longer. Thinking of so much inactive data unnecessarily filling the database, the thought comes up to starting archiving inactive data. This is exactly what data archiving is all about: the inactive data is saved to an external archive, afterwards this data is deleted from the SAP database, but is still accessible from SAP as the necessary information on how to access to the archived data are saved in SAP.

When using data archiving the database doesn't grow as fast any more, which has a positive impact on the performance and the necessary backup window.

It is recommended to start data archiving soon after the SAP system is set up and running properly.

Waiting till the database performance is affected and only then starting archiving is not a good solution, because the archiving process itself also has impact on the database performance: data to be archived must be identified according to specified criteria, it must be read from the database and then finally deleted. Thus, starting archiving at a late point in time, would decrease the database performance even more.

Data archiving is a standard SAP scenario, which is fully supported by CommonStore.

CommonStore is an excellent solution for this scenario because the archive systems, where CommonStore saves the data, support different type of media, from hard disk, to tape, to WORM, etc. The customer can choose which media to be used according to cost aspects or depending on how often or how fast the archived information is accessed. Another big advantage of CommonStore is, that a lot of administrative work can be configured to run automatically. For example, bookings which have been archived recently will probably be accessed pretty often and should be saved on a fast media. After a certain period of time, they will be accessed very seldom, therefore they could in fact reside on a slower media. Moving the data from a media type to another is taken care of the archive system.

Another aspect is the aging process of the used media. It might happen that in 10 years media cannot be read any more as the read-facilities are not available any more. This data loss can be avoided by configuring the archive system, to move the data from the older media type to the newer one. The important aspect is that these processes are happening automatically and no system administrator has to bother with manually triggering this process.

Steps for Data Archiving

The necessary customizing steps for setting up data archiving are listed below.

Prerequisites:
1. the SAP Base setup (see"Chapter 5.1 Base Setup" on page 79)
2. the CommonStore Server must be setup properly (see "Chapter 3.1 Base setup" on page 39)
3. the archive system and the storage management are configured properly. Please make sure that the media type, the retention period etc are setup correctly.

Setup

Step 1:   Create an entry for data archiving in the link table.

Step 2:   Customize the ArchiveLink path.

Execution of the archiving process

As a sample, the necessary steps will now be explained for the archive object FI_BANKS, which refers to bank master data. In general bank master data is not archived, but it is helpful to use this archive object when setting up data archiving in a productive SAP system, because productive data will not be affected by the test runs.

Step 3:   Create test data for the archiving object FI_BANKS.

Step 4:   Run a data archiving session for the archiving object FI_BANKS

Execution of the retrieve process

Step 5:   Retrieve archived application data from the archive to the file system. This step may be necessary in SAP systems below release 4.0, when creating print lists on archive data. In these older releases it is not possible to access archived data from a report.

Step 6: Reload archived data to the database. This step should be used only for test purposes. In a productive environment, it is not recommendable to reload data to the database, as this may cause inconsistencies. Starting with SAP rel 4.6 reloading to the database isn't possible any more, anyway.

Detailed customizing steps for Data Archiving

Creating an entry for data archiving in the link table

Use T-Code 0AC3.

The explanations below refer to customizing for the REO document class.

Please check to see if there is already an entry in your link table with the following settings:

Obj.type	ARCHIVE
Doc.type	ARCHIVE

If there is such an entry, you may update only the **Arch.ID** for this entry.

In order to create a new entry in the link table, please proceed as follows:

Press the **Change** button.

The panel changes.

Click on the **New Entries** button.

The panel changes.

Enter the following settings:

Object type	ARCHIVE
Document type	ARCHIVE
Status	X
Opt. archive ID	AI
Link	TOA01
Retention per.	specify the retention period

Press the **Save** icon.

Please check the entry for the SAP object ARCHIVE as follows:

Use T-Code `SE16`.

Enter `TOAOM` as the table name.

Check the line where `SAP_OBJECT = ARCHIVE` and `AR_OBJECT = ARCHIVE`.

`DOCUMENT_TYPE` must be set to `REO`

> **Note:**
> If this entry is missing, CMCS will not receive orders for archiving
> application data.

Customizing the ArchiveLink Path

Use T-Code `FILE`.

The first magnifying glass (Logical file path definition) should be highlighted.

Mark **ARCHIVE_GLOBAL_PATH** in the **Select** window at the bottom of the
page.

Press the second magnifying glass (**Assignment of physical paths to logical
path**).

In the **Select** window, double click on the syntax group corresponding to the
operating system on which the R/3 System is installed.

As the **Physical path**, specify the path customized as **Basic path** in "Creating
a content repository (logical archive) customized for RFC communication" on
page 85 (e.g. `/sap/trans/base/archint/<FILENAME>`, where
`/sap/trans/base/archint` is the basic path specified when creating the logical
archive).

> **Note**
> In order instead to explicitly specifying the path, you can also customize
> the path as follows :
>
>   `<F=ARCHIVELINK><FILENAME>`

Press the third magnifying glass.

In the **Select** window, double click on
ARCHIVE_DATA_FILE_WITH_ARCHIVELINK.

Check if **Logical path** is set to **ARCHIVE_GLOBAL_PATH**.

Press the **Save** icon.

In the **Select** window, double click on **ARCHIVE_DATA_FILE**.

Check if **Logical path** is set to **ARCHIVE_GLOBAL_PATH**.

Press the **Save** icon.

Creating test data for the FI_BANKS archiving object

Use T-Code FI01.

Enter the following settings:

```
Bank country              AD
Bank key                  1234567
```

Press ENTER.

The panel changes.

Enter the following settings:

```
Bank                      Archiving test
```

Click the **Save** icon.

Running an archiving session of the FI_BANKS archiving object

Use T-Code SARA.

Choose **FI_BANKS** as the **Object name**.

Press **ENTER**.

Check the customization settings (see "Checking the customization settings for archiving" on page 94).

Press the **Archive** button.

Enter the name of a **Variant**.

- Press the **Maintain** button.
- Enter the following settings:

```
Bank country              AD
Min. no. of days in the system   0
```

- Disable **Only with delete flag**.
- Disable **Test run**.
- Enable **Detail log**.
- Press the **Continue** button.
- Enter CommonStore Test as the description.
- Press the **Save** icon.
- Press the **Back** icon.

Click on the **Start date** button.

- Press the **Immediate** button.
- Click on the **Save** icon.

Press the **Spool params.** button.

- If no **Output device** is specified, leave it blank.
- Press the **Save** button.
- (If **Output device** was blank, a warning will appear.)
- Click on the **Continue** button.

Click on the **Create job** icon.

Go to **Job overview**.

- You can see the different jobs started for this archiving session.
  ```
  SUB    submit
  WRI    write
  DEL    delete
  ```
- After the DEL job has been finished and if the **Start autom.** check box is enabled (see also "Checking the customization settings for archiving"), a request will be sent automatically to CMCS to archive the file generated from SAP.

Checking the customization settings for archiving

Use T-Code SARA.

Choose **FI_BANKS** as the object name.

Press the **Customizing** button.

Check if **Log.file name** is set to
ARCHIVE_DATA_FILE_WITH_ARCHIVELINK or to
ARCHIVE_DATA_FILE.

In the section **Connection to archiving system**, choose **ARCHIVE** as the
document type and then enable **Start autom.**

In the section **Settings for delete program**, enable **Start autom.**

Check if **Test run variant** is set to a test variant (e.g. **SAP&TEST**).

Check if **Prod.run variant** is set to a productive variant (e.g. **SAP&PROD**).

Click on the **Save** icon.

Click on the **Back** icon.

Retrieving archived files of FI_BANKS to the file system

Use T-Code SARA.

Choose **FI_BANKS** as the object name.

Press **ENTER**.

Press the **Management** button.

A list of processed archiving sessions will be displayed. Mark the session you
want to be retrieved.

Press the **Buffer** button.

The panel will display the files belonging to the marked archive run.

Press the **Retrieve files** button.

A call will be sent to CMCS and the retrieved files will be allocated in the file
system.

> **Note:**
> Please make sure that CMCS has WRITE access to the exchange path.

Reloading archived files to the R/3 database

> **Note**
> Reloading data to the database isn't possible in SAP Rel 4.6.

> **Note:**
> The files must first be retrieved from the archiving system (see
> "Retrieving archived files of FI_BANKS to the file system" on
> page 95)before a reload is possible.

Use T-Code SARA.

Choose **FI_BANKS** as the object name.

Press **ENTER**.

Press the **Reload** button.

Enter the name of a variant.
- Press the **Maintain** button.
- Enter following settings:
  Bank country   AD
- Disable **Test run**.
- Enable **Detail log**.
- Press the **Continue** button.
- Enter CommonStore Test as the description.
- Click on the **Save** icon.
- Click on the **Back** icon.

Press the **Archive selection** button. A list of reloadable archive runs will be
displayed.
- Mark the run to be reloaded.

Press the **Start date** button.
- Press the **Immediate** button.
- Click on the **Save** icon.

Press the **Spool params** button. If no **Output device** is specified, leave it blank.

- Press the **Save** button. (If **Output device** was blank, a warning will appear. Click on the **Continue** button.)

Click on the **Create job** icon.

Go to **Job overview**.

- A reload (REL) job for this archiving session will be executed.

Chapter 5.3 Print List Archiving

Overview

Archiving print lists is one of the three SAP document archiving scenarios. It refers to creating an analysis/journal on SAP bookings. For instance a journal created on invoice bookings could display information on what items a customer has purchased in the past, order number, the value of the specific orders etc.

Without archiving, several people in need of this analysis information would have to create the journal multiple times or print it out and then distribute it to the authorized users. But creating a journal is quite performance relevant, especially when a lot of bookings need to be taken into account.

A solution to creating a journal once and having it accessible multiple times is **archiving print lists.**

Print lists can be created also on archived data (starting with SAP Rel 4.0), without having to retrieve the data files to the file system.

Extensive search capabilities on archived print lists make searching in these possibly very large documents easy and performable, especially as searching is possible also via indices.

Another interesting feature are print lists with hyperlinks. Hyperlinks refer to the possibility to clicking on an SAP booking listed in the print list and thus displaying its linked archived original document. This modality to accessing archived documents makes the access to business information very fast and easy.

Steps for Archiving Print Lists

The necessary customizing steps for setting up the environment for archiving print lists are listed below.

Prerequisites:
1. the SAP Base setup (see"Chapter 5.1 Base Setup" on page 79)
2. the CommonStore Server must be setup properly (see "Chapter 3.1 Base setup" on page 39)

3. the archive system and the storage management are configured properly. Please make sure that the media type, the retention period etc are setup correctly.

Setup
- **Step 1:** Customize the archive device.
- **Step 2:** Create an entry in the link table for archiving print lists.
- **Step 3:** Create an ArchiveLink batch job.
- **Step 4:** Enable extended ALF viewing.
- **Step 5:** Customize the protocol for viewing print lists.

Execution of the archiving process
- **Step 6:** Create a print list.
  - In order to create print lists with hyperlinks, be aware that Extended ALF Viewing must be enabled.
  - In addition, when creating the print list you must choose via the menu Program->Execute and print (Shift + F1).
  - When using the Execute button, no hyperlinks will be created!

Displaying an archived print list
- **Step 7:** View the archived print list.

Detailed customizing steps for Print Lists

Customizing an archive device

Go to T-code SPAD.

Click the **Change** button.

Click the **Create** button.

Enter the following settings:

Device name	ARCH
Device type	ARCHLINK
Device class	A
Access method	I

Save the changes.

Creating an entry in the link table for archiving print lists

Use T-Code 0AC3.

The explanations below refer to customizing for the ALF document class.

Please check to see if there is already an entry in your link table with the following settings:

Obj.type	DRAW
Doc.type	D01

If there is such an entry, you may update only the **Arch.ID** for this entry.

In order to create a new entry in the link table, please proceed as follows:

Press the **Change** button.

The panel changes.

Click on the **New Entries** button.

The panel changes.

Enter the following settings:

Object type	DRAW
Document type	D01
Status	X
Opt. archive ID	AI
Link	TOA01
Retention per.	specify the retention period

Press the **Save** icon.

Please check the entry for the SAP object DRAW as follows:

Use T-Code SE16.

Enter TOAOM as the table name.

Check the line where SAP_OBJECT = DRAW and AR_OBJECT = D01.

DOCUMENT_TYPE must be set to ALF.

> **Note:**
> If this entry is missing, CommonStore will not receive orders for
> archiving `Print lists`.

Creating an ArchiveLink batch job

Go to T-code `SM36`.

Enter the following settings:

Job name	`ARCHIVELINK` (for example)
Job class	`C`

Click on **Start date**.

A new panel will pop up in which you can set your time preferences.

Click on the **Save** button

Click on button **Steps**

In section 'Program values' click on button 'ABAP/4'

Specify as ABAP program: `ILQBATCH`

Save your settings

Enabling extended ALF viewing

Use T-codes `RZ10` and `RZ11`.

Choose the profile of the SAP system and add the parameter with the value
as specified below:
`rspo/archive_format=2`

Customizing the protocol for viewing print lists

Use T-code `OAA3`.

Double click on the entry of the protocol used in the archive definition for print lists (for information on how to create a new ArchiveLink protocol, see "Creating an ArchiveLink protocol" on page 83).

Click on the entry **Display object** or (as the case may be) the **Display archived object** (the first entry in the list!).

Enable the **ALF** radio button.

Click on the **Edit** button.

Choose **Comm. method** = R/3 if you want to use the SAP GUI for viewing. In this case, no extra customizing step is necessary. This is the SAP-recommended way for the future. Starting with SAP Release 4.5/4.6, print lists with hyperlinks can also be viewed in the SAP GUI.

If you want to use the ArchiveLink Viewer, you need to install the CMCS Viewing Client package on the end-user machines (consisting of `csview.exe` and `CSClient.dll`). Please see the *IBM Content Manager CommonStore for SAP Client Installation and User's Guide* for more information on this topic.

Creating a print list

Use e.g. T-code OAC2.

A list of document types defined in the SAP System will be displayed.

Click on the **Printer** icon or **Ctrl** + **P**.

Choose an existing printer. Do not use 'ARCH'

Click on **Print Immed**.

Click **Delete after print**.

Choose archiving mode **Archive** or **Print and archive**, depending upon your preferences.

Click again the **Printer** icon or **Shift** + **F1**.

The panel changes.

Enter the following settings:

Object type	DRAW
Document type	D01
Information:	Enter a 3-character information.
Text:	Enter a description text.

Click on the **Archive** button.

A message will appear in the statusbar that a spool request has been created.

The print list will now be created and saved to the file system. As soon as the ArchiveLink batch job runs, it will be archived.

Viewing the archived print list

Use T-code OADR.

Enter your selection criteria.

Click on the **Execute** button or **F8**.

A list of all archived print lists will be displayed.

Highlight the print list to be viewed.

Click on the **Display from archive** button.

Depending upon the settings in the protocol, the print list will be displayed in the SAP GUI or with the ArchiveLink Viewer.

Chapter 5.4 Archiving Incoming Documents

Overview

Archiving incoming documents is one of the three SAP document archiving scenarios, which is needed for documents getting into the company. This may be supplier invoices, business correspondence, faxes and even voice mails.

CommonStore supports the following archiving scenarios for incoming documents:

- Early archiving
- Simultaneous archiving
- Late archiving

Depending on the companies business processes and requirements one of them may be established. The following chapters describe these archiving scenarios for incoming documents more detailed.

Early Archiving

The early archiving scenario is used for archiving documents before the corresponding SAP object (e.g. booking) is created. The process flow for this scenario is as follows:

1. The incoming documents get into the company mailroom. An employee responsible for scanning and archiving and sending information to SAP, archives the documents via CMCS.
2. SAP creates a workflow item for the archived document into an organizational object (e.g. user or group) inbox.
3. The paper document is not needed any longer. The document is routed through the company in electronic form only.
4. A employee responsible for processing the workflow task, processes the task and displays the electronic document from the archive via the CMCS Viewing Client and enters the required data into a SAP screen which appears when processing the workflow task.

The first two steps of the process flow above can be performed in two different ways. Early archiving may be triggered either by the SAP GUI *(Early archiving via OLE)* or external by CM CommonStore via RFC *(Early archiving without OLE)*.

Early archiving via OLE

Early archiving via OLE is supplied by SAP since release 3. This scenario requires concurrent running SAP GUI and CMCS Archiving Client on the scan workstation.

Documents need to be scanned by any scan application into electronic documents. In addition to the CMCS Archiving Client the SAP GUI has to be started, because it triggers the CMCS Archiving Client via OLE communication for archiving documents. The SAP GUI performs an OLE call to the CMCS Archiving Client for each single document to archive even if mass archiving is performed.

Early archiving without OLE

Early archiving without OLE is supplied by SAP from release 4.6C. SAP developed a new RFC function module for triggering workflow item creation from external applications.

CM CommonStore offers external applications (e.g. scan applications like Kofax Accent Capture) to use the CMCS API-DLL for implementing archiving functionality via CM CommonStore. Scan application can establish a One-Step-Process for scanning and continuous archiving documents. Early archiving without OLE can be performed with the CMCS Archiving Client as well.

There are four advantages using early archiving without OLE instead of using early archiving via OLE:

- Early archiving without OLE has increased performance.
- The employee responsible for scanning and archiving documents needs to run the CMCS Archiving Client on the scan workstation only.
- Early archiving can be done automatically between time intervals by using the automatic processing feature of the CMCS Archiving Client.
- Using a scan application (e.g. Kofax Accent Capture) scanning and archiving documents can be triggered by one action.

> **Note**
>
> Early archiving without OLE requires at least a CMCS server version 7 and a SAP system release 4.6C.

On information about setting up and performing early archiving see the **IBM Content Manager CommonStore for SAP Client Installation and User's Guide**.

Simultaneous Archiving

Simultaneous archiving is used if the document is archived immediately when the SAP business object is created. The process flow for this scenario is as follows:

1. The incoming documents get into the companies mailroom. An employee scans the documents and places the electronic documents in the file system.
2. A employee responsible for performing the booking, creates the booking and the corresponding document is archived immediately after the booking is entered.

The SAP Business Workflow is not needed in this scenario, because the booking and archiving is done at the same time.

Late archiving

Late archiving is used if the document is archived somewhen after the corresponding SAP business object is created. This requires the document is routed through the company in paper form until it is archived. The process flow for this scenario looks as follows:

1. The incoming documents gets into the company and is routed to the responsible clerks in paper form.
2. A employee responsible for creating the booking for the document, applies a barcode onto the paper document after he did the booking. The paper document is sent to the archiving department.
3. The documents are scanned and checked for quality and completeness. The scanning application recognizes the barcode and stores it.
4. The CMCS Archiving Client reads the electronic documents from the filesystem and archives them. The barcodes of the archived documents are sent to the SAP system.
5. ArchiveLink assigns the archived document to the appropriate business object in a link table.

Late archiving with barcodes requires a scan application and the CMCS Archiving Client on a workstation. A SAP GUI is not required.

The CMCS Archiving Client can perform late archiving with barcode periodically between time intervals using the automatic processing feature.

On information about setting up and performing late archiving with barcode see the **IBM Content Manager CommonStore for SAP Client Installation and User's Guide.**

Chapter 5.5 Displaying Archived Documents

Overview

When using document archiving, archived documents are linked to SAP objects (e.g. bookings). There are different possibilities to display archived documents.

Print Lists

For displaying print lists you may use
- the SAP GUI
- the ALViewer. As the ALViewer will not be delivered on the SAP CD Rel 4.5 and up, it is recommended to switch to displaying via the SAP GUI as soon as possible.For details on displaying print lists via the SAPGUI, please see section 'Archiving Print Lists'.

Incoming and Outgoing Documents

For displaying incoming and outgoing documents you may use
- the CommonStore native or http displaying,
- SAP http displaying
- the ALViewer. As the ALViewer will not be delivered on the SAP CD Rel 4.5 and up, it is recommended to switch to displaying via the SAP GUI as soon as possible.

CommonStore offers a very flexible solution to displaying archived documents, either via a browser (http displaying) or via your preferred viewer (native displaying). The big advantage when using the CommonStore browser viewing is, that for documents in different formats (e.g. TIFF, PDF) the same displaying program - the browser - can be used

Starting with release 4.5, SAP http displaying may be enabled.

CommonStore http displaying vs. SAP http displaying has following advantages:
- CommonStore http displaying is available for all SAP releases, whereas SAP http displaying is available only starting with rel. 4.5.
- When using CommonStore http displaying in lower SAP releases, the SAP users can continue using this displaying method after an SAP system upgrade.

- With CommonStore http displaying the same features are available for all document formats: notes can be attached to archived document , furthermore the archived document and the associated note can be sent via e-mail. Both features are not available with SAP http displaying.

Steps for Displaying Incoming and Outgoing Documents

In order to setup the CommonStore native or http displaying, the CommonStore Viewing Client needs to be installed. Please see the CommonStore Client documentation for more information.

The necessary customizing steps for displaying archived documents via SAP http displaying are listed below:

Prerequisites:

1. SAP Base setup (see "Chapter 5.1 Base Setup" on page 79).
2. The CommonStore Server must be setup properly for communication via http (see section "Configuring the CMCS server for http" on page 42).
3. the archive system and the storage management must be configured properly. Please make sure that the media type, the retention period etc are setup correctly.

Setup

- **Step 1:** Customize the ArchiveLink protocol for displaying via http.

Detailed customizing steps for Displaying Incoming and Outgoing Documents via http

Customizing the ArchiveLink protocol for displaying via http.

Use T-code 0AA3.

Double click on the entry of the protocol used in the archive definition (for information on how to create a new ArchiveLink protocol, see "Creating an ArchiveLink protocol" on page 83).

Click on the entry **Display object** or (as the case may be) the **Display archived object** (the first entry in the list!).

Enable the radio button of the document class corresponding to your document's format. (FAX for incoming documents)

Click on the **Edit** button.

Choose **Comm.method = http**

> **Note**
> The Version must be 4.5 or higher, in order this selection to be available

Save the settings.

Chapter 5.6 SAP Notes

In this chapter, only a few of the most important SAP notes are presented. For more information, please check in SAP's **SAPNet-R/3 Frontend** (previously known as Online Service System).

For users of SAP R/3 3.0D — 3.1l:
> Please consider SAP note number 0089324 to eliminate an error in the ADK (Archive Development Kit) and to improve the performance in the archiving process.

For users of SAP R/3 3.1G:
> Please consider SAP note 0119599 to eliminate an error in the ADK (Archive Development Kit) concerning the single access of archived application (reorganized) data.

For users of SAP R/3 4.0B:
> Multiple connections to the R/3 gateway (profile parameter *DISPATCHERS*) are not possible with this release of the R/3 software and may lead to error messages from the CMCS dispatcher and shutdown of the CMCS Server. Please consider SAP note number 0116377 and update the R/3 kernel to patchlevel 1.2.1.

For users of SAP R/3 3.x — 4.5:

> Users of the ArchiveLink Viewer release 4.5 should note that the ArchiveLink viewer 4.5 crashes. Please consider SAP note number 0150914.

For users of SAP R/3 3.x:

> Please consider R/3 notes 0089164 and 0087585 to eliminate the OLE Server is busy time-out problem.

For users of SAP R/3 3.x — 4.0:
> Please consider the SAP note 99388 for installing the SAP Archive Information System.

Part 6. Additional CMCS Features for SAP

Chapter 6.1 Index Transfer

The feature of transferring search index information already stored in the SAP R/3 System to Content Manager or Content Manager OnDemand systems enables the user to find and retrieve (without the R/3 System) documents that were archived by the SAP R/3 System. An external access to those documents prevents the installation of two front ends, the SAP GUI and the front end of either Content Manager or Content Manager OnDemand, for accessing archived documents. The transfer of search index information to an external system makes sense only if the Content Manager or Content Manager OnDemand system is already used by other users who do not need the SAP R/3 System for their normal job. If all users are connected to the R/3 System anyway, the R/3 integrated solution should be used; this is because the transfer of search index information is time intensive, the storage of search index information is redundant, and storing search index information in an external system is never on a par with storing the information in the original system. The CMCS Index Transfer feature works as a sample and may be adapted from case to case.

Prerequisites for the CMCS Index Transfer feature

Transferring search index information from the SAP R/3 System to an external system requires the use of either Content Manager or Content Manager OnDemand to store the archived documents. Search index information transfer can not be used for Tivoli Storage Manager archives. The CMCS Index Transfer feature is based on an SAP R/3 ABAP/4 program, which has to be implemented in the R/3 environment. In the case of Content Manager OnDemand , search index information transfer cannot be added to existing folders.

> **Note:**
> On UNIX, it is mandatory that the SAP user (operating system level) be located in the same primary group as the CMCS Server user.

Installing the CMCS Index Transfer feature

The ABAP/4 program is required for the CMCS Index Transfer feature. The messages and texts are installed using the SAP R/3 transport system.

A detailed description of the steps to be performed in order to add the CMCS Index Transfer feature to the R/3 System can be found in the INSTALL.TXT file provided with the CMCS Index Transfer files.

Customizing the CMCS Index Transfer feature

The customization of the CMCS Index Transfer feature divided in two parts: customizing the R/3 System and setting up the archive system to save the search index information.

Customizing the SAP R/3 System

Setting the transfer path
There are two possibilities for the customizing of the transfer path. The first way is to use the path also used for data archiving purposes ARCHIVE_GLOBAL_PATH. The second way is to create a new logical file path. The next steps guide through the customizing of a transfer path: Using the T-code FILE, a logical file path definition can be created by pressing the **New Entries** button. Enter the name for the logical file path as ZZ_ARCHIV_DOWNLOAD_PATH and save the new entry. Select now the newly created logical file path and press the **Assignment of physical paths to logical path** button. Add a new syntax group by clicking on the **New Entries** button. Choose the syntax group for the system (the syntax group applies to the host operating system on which the SAP R/3 System is running) and enter the absolute path to the transfer path in the **Physical path** field. The physical path must end with the R/3 parameter *<FILENAME>*, e.g. /sap/trans/base/<FILENAME>. This transfer path must be accessible by the CMCS Server. The transfer path can be the same as customized for archiving. The parameter can be specified to use the directory customized in the logical archive section, e.g. Define a logical file name by pressing the **Logical file name definition, client-independent** button. Create a new entry by clicking on the **New Entries** button and specify ZZ_ARCHIV_DOWNLOAD as the logical file. The physical file can be set as <PARAM_1>.<DATE><HOUR><MINUTE><SECOND>. Other parameters may also be specified, but keep in mind that parameters should be used which create unique file names. The data format has to be specified as ASC, the logical path is ZZ_ARCHIV_DOWNLOAD_PATH, which has already been customized. Finally, save the settings.

> **Note:**
> The physical path must end with the parameter *<FILENAME>*.

> **Note:**
> The transfer path must be accessible by the CMCS Server.

Customizing the attribute tables

The two tables, **ZICSFIELDS** and **ZICSKEYS**, are used to specify the database fields that should be exported as search index information. Customizing the **ZICSFIELDS** table enables the CMCS Index Transfer feature to export index information from a main table, such as **BKPF**, **EKKO**, or **VBAK**. Customizing the **ZICSKEYS** table enables the program to export index information for subtables, such as **BKPF** or **KNA1**. It has to be ensured that all table names specified in the attribute tables ZICSFIELDS and ZICSKEYS are included in a tables statement in the ABAP/4 code of the program ZICSXFER! The following paragraphs describe the fields of the two tables and their job.

Table ZICSFIELDS

SAP_OBJECT:
> The object type of the SAP object to be exported. This has to be the same object type as the one specified in the CMCS Index Transfer's parameter screen.

AR_OBJECT:
> The document format of the SAP object to be exported. If it is desired that no explicit document format be specified in the Index Transfer program's parameter screen, this field must be left blank.

FID: A unique field number between 0 and 9999.

FNAME:
> The name of the database field to be exported. This field must be contained in the database table specified using the **SAP_OBJECT** field or in the corresponding subtable.

SUBTAB:
> Specifies the subtable in which the **FNAME** field is located. If the **SUBTAB** field is blank, the **FNAME** field will be taken from the application table related to the SAP object. If the **SUBTAB** field contains the string ARCHLINK, the **FNAME** field will be taken from the corresponding table for optical archiving (**TOA01**, **TOA02**, **TOA03**, or **TOADL**). If this field contains the name of another database table, the **FNAME** field will be taken from the that table using the keys specified in the **ZICSKEYS** table to access this table.

EXPORT:
> If the export flag is set to **X**, the field will be stored in the export file. Not all fields are necessarily exported. Some fields are required only to access other fields in subtables.

ARNAME:
> Allows an alternative name for the attribute in the archive system to be specified. The standard name, which is taken when leaving this field blank, is the field name as specified in the **FNAME** field.

FESTTEXT:
> For some fields, it may be necessary to set a fix value for exportation. This value can be specified in this field. Leaving this field blank causes the value of the database field to be taken for the transfer.

ISKEY:
> Specifies if the exported field is used as a key field by the CMCS archive agent. Generally speaking, key fields are the same fields as the key fields in the R/3 database or a subset of them. The **ISKEY** field can be blank or assigned a value of **X**.

LISTHEADER:
> If this field is left blank, the exported field will not be displayed in the report generated when the program runs. To display the exported field in the report, the name of a text element has to be specified in this field, e.g. `text-060`.

Table ZICSKEYS

FID: A field identifier as entered in the **ZICSFIELDS** table. The key fields for accessing the subtable can be specified using this identifier.

FIELD_SUB:
> The name of the database key field in the subtable.

TAB_ORG:
> The name of the original table in which the **FIELD_ORG** field can be found.

FIELD_ORG:
> The name of the database key field in the original table. Using the two fields **TAB_ORG** and **FIELD_ORG**, a select value can be obtained. This value is used to find the corresponding record in the subtable using the key field **FIELD_SUB**.

VALUE_SUB:
> If a value is specified in this field, the database value of the field specified in **FIELD_SUB** will be compared with this value instead of the value obtained when using the two fields **TAB_ORG** and **FIELD_ORG**.

Table 2. Sample configuration for the ZICSFIELDS table

SAP_OBJECT	AR_OBJECT	FID	FNAME	SUBTAB	EXPORT	ARNAME	FEST TEXT	ISKEY	LISTHEADER
BKPF		0100	ARCHIV_ID	ARCHLINK	X				text-051
BKPF		0101	ARC_DOC_ID	ARCHLINK	X				text-050
BKPF		0102	DOC_TYPE	ARCHLINK	X				
BKPF		0103	AR_DATE	ARCHLINK					text-052
BKPF		0110	BUKRS		X			X	text-061
BKPF		0115	BELNR		X			X	text-060
BKPF		0120	GJAHR						
BKPF		0125	LIFNR	BSEG	X				
BKPF		0130	KUNNR	BSEG	X				
BKPF		0135	HKONT	BSEG	X				
BKPF		0140	MONAT		X				
BKPF		0145	BLDAT		X				
BKPF		0150	XBLNR		X				
BKPF		0155	GSBER	BSEG	X				
BKPF		0160	KOSTL	BSEG	X				

Table 3. Sample configuration for the ZICSKEYS table

FID	FIELD_SUB	TAB_ORG	FIELD_ORG	VALUE_SUB
0125	BELNR	BKPF	BELNR	
0125	BUKRS	BKPF	BUKRS	
0125	GJAHR	BKPF	GJAHR	
0130	BELNR	BKPF	BELNR	
0130	BUKRS	BKPF	BUKRS	
0130	GJAHR	BKPF	GJAHR	
0135	BELNR	BKPF	BELNR	
0135	BUKRS	BKPF	BUKRS	
0135	GJAHR	BKPF	GJAHR	
0155	BELNR	BKPF	BELNR	
0155	BUKRS	BKPF	BUKRS	
0155	GJAHR	BKPF	GJAHR	
0160	BELNR	BKPF	BELNR	
0160	BUKRS	BKPF	BUKRS	
0160	GJAHR	BKPF	GJAHR	

Note:
Remember to set the path variables *ZZ_ARCHIV_DOWNLOAD* and *ZZ_ARCHIV_DOWNLOAD_PATH* in the R/3 System (see also "Setting the transfer path" on page 118).

Note
It has to be ensured that all table names specified in the attribute tables ZICSFIELDS and ZICSKEYS are included in a tables statement in the ABAP/4 code of the program ZICSXFER!

Note:
The information document type and object type in the transaction ZIEX has to be set as customized in the **ZICSFIELDS** table, e.g. if **SAP_OBJECT** is BKPF, the object type field must also be set to BKPF; if **AR_OBJECT** is empty, the field document type in the transaction can be set to any existing document type for the object type.

Customizing Content Manager

The CMCS Index Transfer feature exports more index fields than possibly required. From all index fields those can be chosen that are wanted, by customizing Content Manager. The idea is to set up an index class containing only the key fields that are wanted in Content Manager. In principle, there is the possibility that one SAP business object has links to more than one archived document. For this reason, for every set of search index information, a Content Manager folder is created and the index information is stored in its attributes (key fields). After that, only a reference to the original archived document related to the index information is stored in the folder; this is to avoid the redundant storage of objects. When searching an archived document externally (i.e. searching in Content Manager), one must not search within the index class in which the original document has been stored, but rather within the index class containing the folders in which the search index information has been stored in their attributes.

Creating key fields

The System Administration Client application is required in order to create key fields in Content Manager. The key fields are named using a special naming scheme. For more information on this application, please refer to the Content Manager publication *Content Manager Administration Guide*. The naming scheme allows the key field to be assigned a "speaking" name for the user and an "internal" name for the CMCS system. The field names hence consist of two parts. The first part is the speaking name, which can be a string complying with the Content Manager naming guidelines. The second part is the internal name, which is the name of the index field as named in the R/3 database tables and surrounded by brackets ([and]). The index field names as named in the R/3 database are listed below. For every index field that should be imported into Content Manager, a key field must be created. The key field's internal name is required.

EXAMPLE:

> The key field for the reference number may be named `Reference number [BELNR]`. The key field for the fiscal year my be named `Fiscal year [GJAHR]`.

Using index class splitting

When transferring large amounts of search index information, the index class is filled up quickly. To maintain the Content Manager system's high performance, it is recommended that the index classes in which search information is stored be changed from time to time. This process can be automated by specifying a split criteria in the CMCS Server profile. When a split is necessary because the split criteria is valid, a previously manually created destination index class will be used. This index class must contain all key fields necessary to store the preferred search index information. To see how Content Manager is customized, please refer to "Customizing Content Manager". The split criteria can be customized in the CMCS Server profile.

The names for the index classes are specified by the keyword *SPLIT_CRIT*. To see how this works, please refer to "Customizing the CMCS Server configuration profile". If no split criteria are specified, all search index information is stored in an index class named `<class>_Search`, where `<class>` is the name of the index class in which the original archived documents are stored.

> **Note:**
> The index classes necessary for splitting must be created manually before the first index export runs. For the naming of these classes, please refer to "Customizing the CMCS Server configuration profile".

> **Note:**
> If no split criteria are specified, all search index information is stored in an index class named `<class>_Search`. This index class also has to be created manually.

Customizing Content Manager OnDemand

To use the Index Transfer feature with Content Manager OnDemand, all or some of the exported attributes must be configured as database fields in that Content Manager OnDemand application group to which the respective logical archive refers. If a subset of the exported attributes is defined, only the defined attributes will be imported into Content Manager OnDemand and thus be available for user queries through the Content Manager OnDemand Client.

As described in "Creating Content Manager OnDemand application groups" on page 70, each of the R/3 database fields to be exported has to be defined using the same name and type in the Content Manager OnDemand application group. Furthermore, users have to be enabled to access the extended application group features through corresponding folder definitions. Refer to the Content Manager OnDemand publication *Getting Started with the Administrator Interface for Windows NT and Windows 95* (document no. S544-5463-00) for information about Content Manager OnDemand concepts and detailed information on how to perform the above customizations.

Customizing the CMCS Server configuration profile

In cases of large search index information amounts, it is strongly recommended that the index class where the search information is stored be changed in regular intervals in order to ensure that the database tables do not grow too big. To activate splitting the search index information in several

index classes, the keyword *SPLIT_CRIT* can be used in the CMCS Server configuration profile (see also "The CMCS server configuration file archint.cfg" on page 33).

The SPLIT_CRIT split criteria keyword
In principle, every field exported by the CMCS Index Transfer feature can be used to split the exported data into more than one index class. Fields used for splitting must never be empty; this is because their value is required for the splitting process. However, fields in which the contents differ from record to record are unsuitable for splitting; in other words, it is quite unwise to use the archive document ID (which changes from document to document) for index class splitting. The split criteria should also incorporate information which is known when searching an archived document; this is because the index class in which the search is to be carried out must be chosen in advance in the Content Manager Client application's search dialog. It is not necessarily possible to perform a search on all index classes available in the Content Manager system. In the following, the rules for forming names for automatic index class creation are explained.

Every field belonging to a group of documents can be used, e.g. the field **BUKRS** which is the company code for accounting documents. For every company code, a new index class will be created. Date and year fields can be used to split data on a monthly, quarterly, or annual basis. In the case of date and year fields, there is an additional operation which makes use of the brackets. The individual months or the distance between the years can be specified in the brackets. The general syntax for this is as follows:

<field>[1A]
> where `<field>` must be a date or year field.

<field>[M01, ... ,M12]
> where `M01` to `M12` are the months of a year in any combination and `<field>` must be a date or month field.

<field>[M01, ... , M12,1A]
> This is the combination of the first two possibilities. In this case, `<field>` must be a date field.

<field>[1Q, ... ,4Q,1A]
> In this case, a quarterly split is performed. `<field>` must be a month field, and when using 1A, it must be a date field. This is the same as splitting at the months 01, 04, 07, and 10, with the difference being that the index classes are named `<class>_1Q` instead of `<class>_01`.

<field>[1H,2H,1A]
> In this case, a semi-annual split is performed. `<field>` must be a month field, and when using 1A, it must be a date field. The splitting will be done using the months 01 and 07; the index classes are named `<class>_1H` and `<class>_2H` instead of `<class>_01` and `<class>_07`.

Regarding the preceding explanations: `<field>` is the name of a field in an R/3 table that is exported and can be found in the export file. `<class>` is the name of an index class in Content Manager in which the original archived documents can be found. More than one index field can be used for splitting. The values are then concatenated in the index class name by inserting a _ between the individual values.

EXAMPLE:

From the **BKPF** table: `MONAT[M01,M07]` will use two index classes, **CSA1_01** and **CSA1_07**. All search index information for which the value of `MONAT` is less than `07` will go into the index class **CSA1_01**; if the value is greater than or equal to `07`, the index information will go into the index class **CSA1_07**.

> **Note:**
>
> The search index information for all the years from January to June will go into **CSA1_01**, while the search index information from July to December will go into **CSA1_07**! Further, in order to differentiate between years, it is necessary that more than one index field be used for splitting. The above example is the same as using the split criteria `MONAT[1H,2H]`. The only difference is that the names of the index classes are **CSA1_1H** and **CSA1_2H**.

EXAMPLE:

From the **BKPF** table: `MONAT[1Q,2Q,3Q,4Q] GJAHR` will use four index classes for every fiscal year. The classes are named e.g. **CSA1_1Q_1998**. To search documents, the fiscal year and the quarter must be well known.

EXAMPLE:

From the **BKPF** table: `GJAHR[1A]` will change the new index class after every fiscal year. Assuming that the first index class was named **CSA1_1997**, the next will be named **CSA1_1998**, the next **CSA1_1999**, and so on.

> **Note:**
>
> All index classes must be created manually using the Content Manager System Administration Client application.

> **Note:**
>
> Index fields used for splitting must never be empty. Their value is required to create or find the target index class.

> **Note:**
> Keep in mind that different index fields or the combination of index
> fields in a different manner can result in the same index class name!

> **Note:**
> <field> and <field>[1A] have the same meaning. The split will be
> annual. In this case, <field> must be a date field or a year field.

> **Note:**
> If no split criteria are specified, all search index information is stored in
> a index class named <class>_Search.

Using the CMCS Index Transfer feature

The CMCS Index Transfer feature can be activated using the T-code ZIEX. It is
designed to work as a report. The initial screen enables the user to specify
parameters which influence the selection results of the transfer program. The
report can be started in two manners: the interactive mode (in which the user
specifies the selection parameters, executes the program, and receives the
results of the export run on-line on a reporting screen), and the batch mode.
In the batch mode, the user also specifies the selection parameters, but the
report is executed by a job that has been defined. All output is sent to the job
protocol, and the user cannot see any result on-line. The effect in both cases is
the same: an export file is generated containing search index information
exported from the R/3 database tables. After creating the export file, the
report contacts the CMCS Server, which gets the export file and imports the
search index information into the Content Manager or Content Manager
OnDemand archive system. If everything went all right, the archive systems
client application can be used to search for documents externally using the
search index information from the SAP R/3 System.

> **Note:**
> Because the program is designed as an R/3 report and the transfer
> operation is an asynchronous request, the user does not get any
> notification if the import into the archive system was successful.
> Notification is made only when the CMCS Server was able get the
> export file and everything was all right.

The parameter screen

The CMCS Index Transfer report has several parameters. Some of them are obligatory, others have a default value. The next paragraphs describe the parameters that can be set in the parameter screen:

Archive ID: The archive ID specifies the exact logical R/3 archive for which index information should be exported. The archive ID parameter is obligatory. The archive ID can be chosen in a list of all valid logical R/3 archives by opening the parameters choice box.

Archiving Period: The archiving period specifies a date range in which all documents for which index information is to be exported must have been archived. A date (in the form a day in a month in a year) can be entered in these date fields. If the start date is left empty, the CMCS Index Transfer report determines the start date by itself by finding out the end date of the last export run for this parameter.

to: The end date is also left empty, which means that the date of the current day is used as the default. Using these settings — the start date field (empty) and the end date field (also empty) —all search index information that is not exported until today will be written into the export file. If the report is started all the times after all documents of the day are archived, it can be ensured that index information for all archived documents is exported. However, if the report runs in the middle of the day and documents are archived afterwards, the CMCS Index Transfer feature cannot run automatically; this is because the date of the current day must be specified as the start date. As a result, the index information already transferred for the documents archived before the last run will be exported again.

Document Type and Object Type: The document format and the object type are used to indicate the documents that should be exported. The object type is obligatory, the document format can be used to limit the amount of exported search index information. If this field is left empty, all documents of the specified object type will be used to export index information (of course restricted by the other parameters).

Maximum records per file: Using the load sharing parameters, the generation of more than one export file can be achieved. This feature is useful only when dealing with large amounts of search index information. Every export file contains a maximum number of records set using the '**Maximum records per file**' parameter. If the maximum count is reached, a new file is generated automatically. For every export file created, the CMCS server is contacted and receives a request to import the search index information into the archive system. If there are enough agents customized for the archive system, this can result in several parallel sessions, each of them importing search index information from a different file into the archive system.

> **Note:**
> The load sharing parameters should be coordinated with the CMCS
> Server administrator to determine the ideal number of parallel jobs.

Create statistics: If the **Create statistics** check box is checked, the time
required for the database selection and the overall time used by the report
(not the time used by the CMCS server) is taken and displayed after the
report has finished work in the reports output screen.

Remove file after error: The **Remove file after error** check box may be used
to determine problems pertaining to the export file, e.g. whether a certain
index field is contained in the export file or not. The default is to **delete** files
after errors. It should be unchecked only if your CMCS support instructs you
accordingly.

Interactive mode

The interactive mode can be started by clicking on the **Execute** button. The
report is started immediately, performs the database selection dependent on
the parameters set on the parameter screen, and displays the results on the
next screen. The output of the report is a kind of a print list and can be
printed or archived. If the report has run and the output is visible, the search
index information is not necessarily in the archive system. At this time, the
CMCS Server has received the request and must now submit the request to an
agent which will import the index information into the archive system. These
actions may take some time. Using the CMCS index transfer report in the
interactive mode, none of the transfer runs can be started periodically. An R/3
job must therefore created, and the report must be started in the batch mode.

Batch mode

To run the report in the batch mode, the parameter screen has to be saved as
a variant. Using this variant, a job can be created which runs e.g. once a day.
Defining a job can be done by choosing the **Tools/Administration/Jobs/Define
job** menu (SM36). A start date for the job can be entered by clicking on the
Start date button. If the job should run periodically, it has to be specified on
this screen. After saving the start date, the steps of the job can be defined by
clicking on the **Steps** button. By clicking on the **ABAP/4** button, the screen is
enabled to take the name of the ABAP/4 report that should be started using
this job. The name of the ZICSXFER CMCS Index Transfer report must be
specified in the **Name** field. The previously saved variant can be chosen as the
variant. The list created by the CMCS Index Transfer report is a kind of a
print list and can also be archived as a protocol of the transfer run. If this
feature is desired, the settings for printing and archiving this print list can be
performed by clicking the **Print specifications** button. After saving the steps
screen, the job definition is ready and the job starts at its customized time. For

more information on the running job, a job log can be displayed using the job overview screen (**Tools/Administration/Jobs/Job overview**, T-code SM37).

Technical description for SAP administrators

The CMCS Index Transfer feature ZICSXFER is designed as an R/3 report which generates a print list as output. The report performs a SQL selection on the database tables used for optical archiving (**TOA01**, **TOA02**, **TOA03**, and **TOADL**). The selection uses the specified parameters to get information about archived documents. The fields that should be exported as search index information are taken from the **ZICSFIELDS** table. Fields that should be exported from subtables can be accessed using the **ZICSKEYS** table. All matching objects are stored in an internal table (one record for every matching document). A loop writes them out one by one in a file to disk. After the file has been created, the RFC named Z_IBMCS_ARCHIV_IDX_EXPORT is called which connects to the specified RFC destination (can be determined using the logical R/3 archive) and thus also to the CMCS Server. To track the export runs, the parameter set of each run is written to the **ZICSPARM** customer table using a unique reference number created by the program. The CMCS Server sends back information for every reference number, using the RFC named Z_IBMCS_ARCHIV_IDX_RESPONSE regardless as to whether the import of the search index information into the archive system was successful or not. Only if the response returns a reference number for a successfully transferred export file is the parameter set committed as exported in the **ZICSPARM** table.

If the report is started leaving the start date of the archiving period empty, the **ZICSPARM** table is checked for entries that match the current parameter set. If a committed set was found, the day after the end date of the archiving period is taken and set to be the start date of the archiving period of the current parameter set entered in the parameter screen. If the report is started all the times after all documents of the day are archived, it can be ensured that index information for all archived documents is exported. However, if the report runs in the middle of the day and documents are archived afterwards, the CMCS Index Transfer feature cannot run automatically; this is because the date of the current day must be specified as the start date. As a result, the index information already transferred for the documents archived prior to the last run are exported again. The path and file name that is generated in the report for every export file is specified in the variable for the logical path ZZ_ARCHIV_DOWNLOAD_PATH in the T-code FILE. This path has to be the archive transfer path that is also used for regular archiving. When generating multiple files using the load sharing feature, the names are extended using a sequential number starting with 000. The CMCS Server receives the RFC named Z_IBMCS_ARCHIV_IDX_EXPORT from the SAP R/3 System and moves the transfer request to a agent for the related archive system. The agent analyses the file and puts for every item as many index fields as possible into the archive

system. For a detailed description of how and which index fields are imported into the archive system, please refer to "Customizing the CMCS Index Transfer feature" on page 118. After the agent has put the search index information successfully to the archive system, the CMCS Server sends back a commit message to the SAP R/3 System by means of an RFC named Z_IBMCS_ARCHIV_IDX_RESPONSE. An ABAP/4 function module receives the call and sets the parameter set for the export file to "committed," which means that the transfer run for this set of parameters was correct and the index information of documents archived in this date range will not be transferred again automatically. The next time a transfer run is started, the report program checks the **ZICSPARM** table to obtain the parameters from the last run and creates the new run as a follow-up task to the previous one.

Splitting the export run into multiple files

To use the feature of multiple parallel Content Manager or Content Manager OnDemand connections, a transfer run can be split into several files. To do this, the maximum number of records per file must be adapted to spread the index information into multiple files. To use the feature of multiple parallel Content Manager or Content Manager OnDemand connections, a transfer run can be split into several files. To do this, the maximum number of records per file must be adapted to spread the index information into multiple files. The CMCS Index Transfer feature then generates as many files as necessary for not exceeding the maximum number of records per file, e.g. if there are 5000 index records to transfer and the maximum number of records per file is set to 1000, five files will be generated.

Leaving files in the file system after errors

In cases of determining problems regarding the export file, e.g. if a certain index field is contained in the export file or not, the **Remove file after error** check box may be checked. Keep in mind that all export files generated by the report are then left in the file system if an error occurs. The file must be deleted manually. In cases of large amounts of search index information, the files may be big and numerous.

Considerations when using the SAP Transport Management System

When using the SAP Transport Management System to transfer the object from one system to another, the following objects must be included in the request:

R3TR DEVC ZIBM and all subcomponents

R3TR TABU ZICSFIELDS, the data of the ZICSFIELDS table

R3TR TABU ZICSKEYS, the data of the ZICSKEYS table

the customizing of the transfer path ZZ_ARCHIVE_DOWLOAD and ZZ_ARCHIVE_DOWNLOAD_PATH in the transaction FILE.

If all objects have been transported properly, no further customizing is required in the target system.

Chapter 6.2 Importing Documents into SAP R/3 ArchiveLink

CommonStore Cold Import Program (T-Code: ZCSI)

Overview

Using the CMCS Cold Import Program, it is possible to import SAP-external documents into the SAP R/3 system and to archive them at the same time. When doing this, documents referring to an SAP business object are linked to the corresponding business object. They are then accessible via SAP ArchiveLink, i.e. they can be displayed both directly via the SAP applications and indirectly via generic ArchiveLink search panels. In the case of documents lacking a reference to an SAP business object, the CMCS Cold Import Program inserts them into the system as SAP Print Lists. They can then be displayed both directly via the SAP DMS (Document Management System) and indirectly via generic ArchiveLink search panels. The data is stored by the CMCS server in the defined archive system (Tivoli Storage Manager, ContentManager, or ContentManager OnDemand) and the requisite linking information permitting direct access from SAP R/3 is generated in the corresponding SAP tables.

Functions

- Inserts SAP – external documents into SAP R/3
- Documents can be attached to existing SAP business objects or inserted as SAP Print Lists
- SAP DMS can be used in addition
- The program features User Exit, a functional component permitting barcode values to be manipulated on the basis of SAP R/3 data.
- The program automatically generates hyperlinks in the corresponding protocol. Thus, while this import programÆs protocol is being archived, you can simultaneously access the imported documents via the hyperlink.

Prerequisites

- Each document is available in the form of a file on a file system accessible to the CMCS client.
- All documents must be archived insofar as CMCS must generate an archive ID. If the documents are already available within the archive system, the CommonStore List Importer can be used instead to insert the documents into the open barcode table.
- Documents with a reference to an SAP object must be provided with the corresponding object ID, either in the file name or in an external description

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file. The object id, which is needed to link the documents to the corresponding SAP Business Objects is transmitted in the barcode field.

Sequence of events

1. Documents in the form of files (scanned e.g. with the Kofax Ascent Capture Release Module or Cornerstone Input Accel) are made available on a file system.
2. The CMCS client reads the files and archives the documents via the CMCS server in the corresponding archive.
3. The CMCS client transmits the information on the documents to SAP by means of a Remote Function Call (INSERT_BARCODE_RFC). The information is thus available in the temporary Open Barcode table in the SAP system. Following a successful report, the files in the file system are erased.
4. In the SAP system, the CMCS Cold Import Program is first triggered. It then reads the entries in the Open Barcode table and, depending upon the stated business object (DRAW for print lists), links the documents with an existent SAP business object or places them in the SAP application DMS (Document Management System). In this context, the transmitted barcode is interpreted either as a business object ID or as a print list description. If it proves impossible to directly interpret the barcode as an SAP business object ID, the User Exit function can be invoked to determine the corresponding SAP business object ID on the basis of the transmitted barcode. Upon request, the User Exit function simultaneously generates hyperlinks in the import protocol.

Report selection and fields

The ABAP/4 report ZCSI can be invoked together with the following parameters:

ARCHIV ID (TOA01– ARCHIV_ID)
> Using this parameter, one can specify which values are to be read from the Open Barcode table. Further, the archive's ID (needed for the ArchiveLink) can likewise be set.

BUSINESS OBJECT (TOA01– SAP_OBJECT DEFAULT 'DRAW')
> Using this parameter, one can specify the SAP business object to which the documents are to be linked. If you choose the value DRAW for this parameter, this indicates to the CMCS Index Import Program that the documents have no reference to an SAP business object and are hence to be collected as SAP print lists with an automatic entry and sent to DVS.

DOCUMENT TYPE (TOA01– SAP_OBJECT DEFAULT 'D01')
> Using this parameter, one can define the kind of document upon which the SAP business object is dependent.

DOCUMENT TYPE TEC (TOADV-DOC_TYPE DEFAULT 'ALF')
> Using this parameter, once can define the technical document type. In the case of print lists, the document class is automatically defined as ALF.

OBJECT ID (DEFAULT 'C0000000')
> Using this parameter, one can define the eight-digit starting number for the automatic generation of print list numbers. The value must have the following structure: AIIIIIII. The first digit is an alphabetic character, and the following seven digits are single-digit integers. The CMCS Index Import Program checks the existence of the same ID (on the TOADL table) and automatically increments numerically. Thus, there is a maximum of 99,999,999 imported documents per leading alphabetic character. This parameter takes effect only when importing print lists.

INFO (DEFAULT 'IMP')
> Any desired value (representing information) can be specified using this parameter. It is displayed in DVS and thus serves as index

PRINTER (DEFAULT 'LP01')
> Any desired value (to identify the printer) can be specified using this parameter. It is displayed in DVS and thus serves as index information. This parameter can be assigned a value each time that the CMCS Cold Import Program runs. This parameter takes effect only when importing print lists.

FORMULAR (DEFAULT 'CS_INDEX')
> Any desired value (to identify the form) can be specified using this parameter. It is displayed in DVS and thus serves as index information. This parameter can be assigned a value each time that the CMCS Cold Import Program runs. This parameter takes effect only when importing print lists.

CREATE DMS Entry (DEFAULT 'X')
> Using this parameter, one can specify whether documents interpreted as being print lists are to be accessible not only via ArchiveLink, but also via DMS.

Example

In this example, SAP personnel data is to be linked with personnel documents — specifically, scanned resumes. The SAP business object is the personnel data file and the business object ID is the SAP personnel number. The resumes are of the TIFF type, and each resume is available as an individual file. All of the documents receive the SAP personnel numbers as their file names. The CMCS client loads the PDF documents, archives them via the CMCS server, and then transmits the documents to the SAP system's Open Barcode table. In doing so, not only the archive document IDs are sent, but the personnel numbers (in the form of barcode IDs), too. The CMCS Import Program reads

the Open Barcode table, recognizes the personnel numbers, and links the personnel data file with the corresponding documents. After successfully linking them, the entry in the Open Barcode table is erased. From now on, the documents are accessible via the SAP application HR.

CommonStore List Importer Program (T-Code: ZCSL)

Overview

The CMCS List Importer can be called before the CMCS Cold program is performed. It allows inserting entries into the open barcode table (TOABC), which are provided in an ASCII text file. Each line within the import file is interpreted as one document. Any errors will be written in another file: the error file. The CMCS List Importer reads the ASCII text file and each line separated is generating one entry in the open barcode table. Starting from there the CMCS Cold program can insert the respective document links as described above.

Functions

- Documents, which are already archived, can be imported into SAP R/3
- Different file input formats are recognized
- Error file can be written
- Testmode can be performed

Prerequisites

- Documents must be archived in exactly the same structure as described in the respective chapters before, e.g. document ID, date, SAP object id must be available. Otherwise they cannot be accessed by CMCS later on.
- Unique archive id must be used to avoid conflicts.
- Program may not be started in parallel.
- CommonStore Cold Import program must run after the CommonStore List Importer program.
- Make sure that the archived documents within the archive system do meet the requirements, such as archive id and archive document id, as described in the prerequisites.
- The ASCII file must contain document id, archive date and SAP object id.
- The ASCII file entries must be comma separated.
- Example of ASCII file: `199912348888d,19990103,document1`
  `1999432421abc,19990102,document2 1999zzzzzzzzzz,19990101,document3`

Report selection and fields

The ABAP/4 report ZCSL can be invoked together with the following parameters:

Archive ID (DEFAULT 'A1')
> Using this parameter, one can define the archive ID, which will be inserted into the open barcode table.

Doc Type (DEFAULT 'FAX')
> Using this parameter, once can define the technical document type. In the case of incoming documents, the document class is automatically defined as FAX.

From archive date (DEFAULT '01.01.1999')
> Using this parameter, one can specify that only line items from the input file starting with this date range should be processed.

To archive date (DEFAULT '01.01.2000')
> Using this parameter, one can specify that only line items from the input file ending with this date range should be processed.

Run in Testmode (DEFAULT 'X')
> Using this parameter, one can specify that the input file should not be touched and no entries in the barcode table are generated. Only the SAP R/3 report will be written to screen.

Filename of Import File (DEFAULT '/usr/sap/put/transfer/base/import.txt')
> Using this parameter, one can specify the physical location and the case sensitive filename of the input file.

Position of Archive DocID (DEFAULT '1')
> This parameter specifies the position of the DOC ID within the input file. Type is character of maximal length 40.

Position of Archive Date (DEFAULT '2')
> This parameter specifies the position of the Archive Date within the input file. Type is character: YYYYMMDD.

Position of Object ID (DEFAULT '3')
> This parameter specifies the position of the Object ID within the input file. Type is character of maximal length 50.

Ignore Header Line (DEFAULT NO)
> Using this parameter, one can specify that the first line of the input file will be ignored.

Delete file after import (DEFAULT NO)
> Using this parameter, one can specify that the input file will be deleted after processing.

Filename of Error File (DEFAULT '/usr/sap/put/transfer/base/error.txt')
> Using this parameter, one can specify the location and name of the error file.

Append errors in Error File (DEFAULT NO)

> Using this parameter, one can specify that the existing error file will be kept and further errors are appended within this file. If this parameter is set to 'X' the old error file will be overwritten.

Example

1. An external printing application, such as IBM AFP Printing, generated documents that are automatically archived in the archive system, such as IBM Content Manager OnDemand.

2. IBM Content Manager OnDemand generates an ASCII file containing all archived documents with the respective query command. All entries are comma separated.

3. The CommonStore List Importer program reads the ASCII file and generates for each line of the file one entry in the open barcode table. Entries with errors are written in another so-called error file. Only entries within a specified date range are performed.

4. The CommonStore Cold Import program does generate for each document one link entry in the SAP Print List tables and the documents are available within SAP GUI.

Chapter 6.3 CMCS DMSImport

Overview

The CMCS Server can handle incoming documents supplied by scanning applications or the CMCS Archiving Client. The standard SAP scenarios for incoming documents (early, late and simultaneous archiving) cover only documents linked directly to any business objects like financial documents whereas documents like contracts, customer correspondence and other business related documents are not considered.

The **CMCS DMSImport** is an additional tool in the Content Manager CommonStore suite designed for importing documents into the SAP Document Management System (DMS) and make them accessible via ArchiveLink. Documents imported in such a manner do not waste SAP database space, because they reside in a CMCS archive.

Documents can be read from both the local file system or remote file server. CMCS DMSImport can handle also several queues containing documents of different types.

CMCS DMSImport is a command line based tool, opening a connection to a specified SAP System (release 3.0H or higher) via the CAD interface. It creates document info records in the SAP DMS and stores given index data in the SAP classification system. The document's index data will be read from a description file which has to be supplied. After successful creation of the document info record, the SAP System is triggered to archive the document original via ArchiveLink into a CMCS archive. After successful archiving documents are accessible via SAP Document Management System.

Additionally there is a Microsoft Word integration in order to import documents in MS Word format with Microsoft Word directly into the SAP DMS.
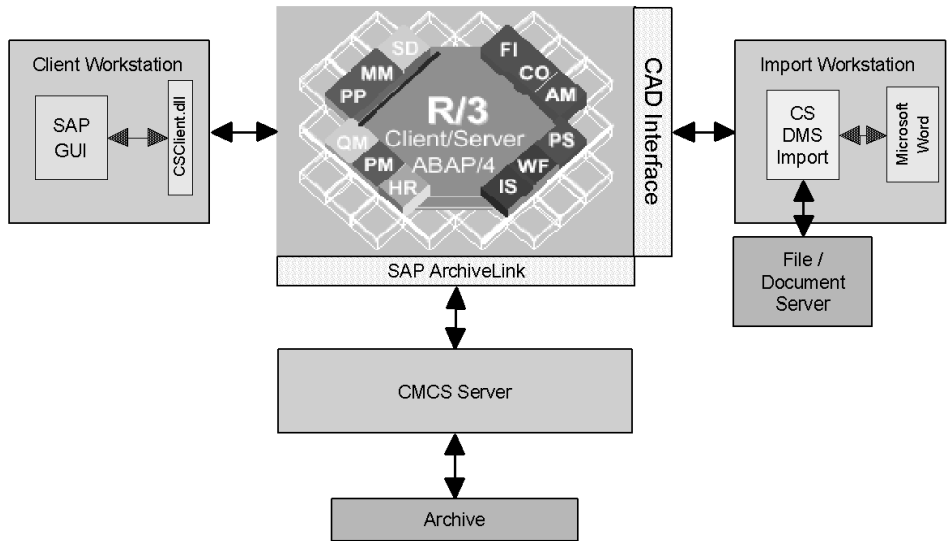
Figure 2. CMCS DMSImport Overview

Prerequisites

Hardware/Software requirements:

- Intel Pentium 166 Mhz compatible machine with 32 MB RAM.
- Windows NT 4.0 Server or Windows NT 4.0 Workstation (Service Pack 5)
- SAP 3.1H (or higher)
- Running CMCS Server

Skill requirements:

- SAP Customizing/Basis
- SAP ArchiveLink
- SAP DMS

Installation

The CMCS DMSImport is installed by an install package which resides on the CMCS server CD in the subdirectory DMSImport. In order to run the install procedure start the setup.exe. The following files will be copied to the installation directory you have chosen:

CADDialg.dll	SAP CAD interface library
CADRfcxx.dll	SAP CAD interface library

CADTool.dll	SAP CAD interface library
CADRfc.ini	SAP CAD interface configuration file
DMSImport.dll	CMCS DMSImport language DLL (EnUS only)
DMSImport.exe	CMCS DMSImport executable
DMSImport.ini	CMCS DMSImport configuration file
LibRfc32.dll	RFC library
SapRfc.ini	SAP RFC configuration file
MS Word\Sample Doc	Sample MS Word document
MS Word\Template	Sample MS Word Template
MS Word\CSDMSOff.ini	MS Word Integration configuration file

Note

The CMCS DMSImport might either run on a client machine (workstation) or on the same machine the CMCS Server is running.

Configuration

CMCS server

Due to CMCS DMSImport is archiving the documents via ArchiveLink after they were imported into SAP DMS via the CAD interface we recommend to define at least one CMCS archive used for archiving SAP DMS documents only. It is also possible to use multiple archives for SAP DMS documents.

In SAP DMS archives are assigned to so called Workstation Applications, known as file types like PDF or DOC. Thus it is possible to put all PDF files into one archive whereas DOC files are put into another archive. It depends on your workload and your requirements whether you need only one or multiple archives for SAP DMS documents.

In order to create new archive(s) in the CMCS server refer to Part 4 Customizing the Archives. The archives also need to be customized in the SAP system, which is described in "Chapter 4.1 Base Setup" on page 59. Information referring to the communication protocol used for DMS document archives you can find in "Communication protocol setup" below.

SAP

The SAP Document Management System as part of the base module is highly integrated into the SAP ArchiveLink and CAD interface. Therefore it's necessary to customize three components of the R/3 System to get the CMCS DMSImport working properly.

CAD Integration

The DMSImport application uses a virtual CAD system name in order to establish a connection to a SAP system, which is specified by the keyword *CadDialogCadSystem* the `CADRfc.ini` file. Depending on the CAD system name the SAP system gives access to exported CAD functions calls.

The first step is to check whether all required CAD interface functions are available. Use transaction **OD55** to get a function overview. All of them consist of a process code and subprocess code (e.g. BOMCR MR). The following CAD functions are required by CMCS DMSImport :

Table 4. CAD interface process codes needed by DMSImport

Process code	Subprocess code	Description
DOCCH	MC	Change document info record with classification
DOCCH	MD	Create change document info record data
DOCCH	MR	Change document info record without classification
DOCCH	NC	Create assignment to new class
DOCCH	RF	Change class type/class/organizational area
DOCCI	MR	Check in original application file
DOCCR	CR	Create characteristic values for class
DOCCR	MR	Create a document info record
DOCCR	RF	Change class type/class/organizational area

Some of the CAD interface functions mentioned in Table 4 must be allocated to so called DATASETs, collections of several variables comparable with arrays used for data transmission. Use transaction **OD56** to establish the DATASET allocations shown in Table 5. The field 'CAD system' is generic but needs to be unique and has to be coincident with the value for keyword *RfcCadSystem* in the `CADRFC.INI` file at the client side.

Table 5. DATASET allocations for CAD interface functions

CAD system	Process code	Subprocess code	Direction	Set name
CM_CSTORE	DOCCH	MC	U	DOC_KEY
CM_CSTORE	DOCCH	MD	D	DCRQDAT
CM_CSTORE	DOCCH	MD	U	DCCRDAT *
CM_CSTORE	DOCCH	MR	U	DOC_KEY
CM_CSTORE	DOCCR	MR	U	DCCRDAT

Table 5. DATASET allocations for CAD interface functions (continued)

CM_CSTORE	DOCCR	MR	D	DOC_KEY

> **Note**
>
> An error may occur when creating the table entries marked by asterisk. Apply OSS note 0087851 to your SAP system, to solve the problem.

Document type setup

The term 'document type' is not consistent within the SAP area, because the document type DRW within the ArchiveLink module has a different meaning than DRW within the SAP DMS. Within ArchiveLink, DRW represents all DMS document info records whereas document type DRW within the DMS represents a construction drawing. This section describes how to set up a DMS document type for using it by CMCS DMSImport.

CMCS DMSImport supports both standard and user defined DMS document types. Check the following properties:

1. Archive authentication has to be enabled
2. Document number assignment has to be done by R/3 (Value 1)

Customizing of DMS document types can be done in transaction **OVPS** using the following path **Control Data->Document types**.

The SAP Document Management System also provides status management for documents in order to support different information-/workflows in a company. The status management is based on networks consisting of multiple statuses where each of them has a different meaning depending on the status type. For example there is a status type 'S' which permits processing the original of the document info record.

Status networks have to be defined separately for each document type. CMCS DMSImport requires at least two statuses for each document type in order to get documents imported and archived (see Table 6). The first one is the initial status which is set when a document info record is created and the second one is the archived status set after successful archiving an imported document.

The document statuses can be edited in transaction **OVPS** using menu path **Control Data-->Document status**. The two following statuses have to be defined:

Table 6. SAP DMS status definitions required by DMSImpor

	Initial Status	Archive status
Document status	AA	AR
Release indicator		X
Log entry	.	.
Status type	I	A

The status network can be checked by creating a test document info record using transaction **CV01**. At the initial screen enter only the document type. Before the Basic data screen is shown you will be asked for a log entry, which is optional. Within the Basic data screen you can choose the document status. There have to be two status entries in the selection list AA and AR.

After this steps the document type setup is complete. You may define additional document types. The documents may also have more than the two statuses mentioned above.

> **Note**
>
> It is required that the archive status has no predecessor in the status network, that this status can be set from any other status.

Communication protocol setup

In section "CMCS server" on page 141 the DMS archive(s) were set up on the CMCS server and the SAP side. Additionally you need to customize a communication protocol required for archive and retrieve process. Protocols can be customized in transaction **OAA3**. In order to enable SAP for archiving and retrieving DMS documents in the right way customize the following settings for the communication protocol that is used by your DMS archive(s).

Function	Document class	Comm. type
Display object	BIN	ICC
Retrieval for frontend	BIN	Standard
Display local file	BIN	Standard
Archive from frontend	BIN	ICC
Archive file on frontend	BIN	Standard
Archive file from frontend	BIN	Standard
Synch. archiving server	BIN	RFC
Synch. retrieval server	BIN	RFC

In addition it is required by the SAP Document Management System, that the archives used for DMS originals are defined as so called *Data Carriers*. A Data Carrier has to be defined for each archive which will be used for archiving DMS originals. Use transaction **OD06** in order to create Data Carriers for DMS archive definitions.

Workstation Application Setup

As mentioned in section "CMCS server" on page 141 Workstation Applications are used as synonym to file types known from any operating system e.g. DOC, PDF, TXT. Depending on these Workstation Applications SAP is checking which document originals become archived into which archive. You have to define a Workstation Application for each file type you want to be archived. It is possible also to use one archive for multiple Workstation Applications. Use transaction **OD37** for creating a new Workstation Application and ensure that checkboxes *Interface* and *StartAut* are checked.

> **Note**
>
> The archive you specify for the Workstation application has to be customized in ArchiveLink transaction **OAC3**. You need to customize an entry with object type DRAW, document type DRW and the archive you have specified for the Workstation Application. The status of this entry may not be 'X'.

Document Handling Setup

Many different types of workstations may log on to a SAP System. Especially in the scenario of document processing different departments may use different operating systems. May be in a construction and design department Macintosh computers are used whereas other departments use Windows NT workstations. A realistic scenario can be that product designers create construction drawings using Macintosh software and checking them into the SAP DMS but clerks from the department establishing material lists for the construction drawings are working with Windows NT machines. They also access the documents created by the designers. Usually they will use different software than the designers on their Macintosh machines. So SAP needs to be aware of which operating system is used by which machine and which application it has to use for viewing/editing the document.

SAP identifies logged on machines by their system variable *HOSTNAME* and assigns them to defined frontend types. If the variable is not set on the client machines they become assigned to a default frontend type. The frontends can

be setup manually or automatically. Clients using a DMS transaction for the first time, they will be asked for it's frontend type. For manual frontend customizing you have to use transaction **OD07**.

> **Note**
>
> User defined frontend types can be customized in transaction **OD20** which is used for defining Data Carriers are customized.

Anyway you have to define which way document originals have to be handled depending on the frontend types. Open transaction **OD25** and click the **New entries** button. Enter the following data for each Workstation Application:

Data Carrier type	Frontend type, e.g. NT
Applic	Workstation Application
ApplTyp	Action 1 = View, 2 = Edit, 3 = Print
Programm	Program to start for the previous action %auto%, if SAP shall run the application associated with this file type in the Windows Registry.
SourcePath	Path where to find the application. Leave empty if %auto% is defined.
StartAuth	Check this check box to enable SAP for starting the defined application.
Description	Description for the application.

> **Note**
>
> Three entries for each Workstation Application have to be done - one for each action that can be performed (view, edit, print).

Save the changes you have made.

Classification System setup

The SAP classification system is used to hold index information for miscellaneous SAP business objects like document info records. In order to transfer index data of the documents into the SAP DMS you need to customize the classification system which means to establish classes and allocate index fields (characteristics) to them. Transaction code **CL00** leads you to the entry point of the classification system.

> **Note**
> At first create the characteristics you want to assign to a class, before creating the class.

Follow the steps below for creating new characteristics:

1. Open transaction **CT01**.
2. Type in a name for the new characteristic and press enter (use characters A-Z, 0-9 and hypens only).
3. At the new panel enter a description into the field *Description*.
4. Select a *Data Type*. It's recommended to use data type CHAR in order to prevent conversion problems while importing documents.
5. After entering the *Data Type* fill in the options in the appearing dialog (e.g. length of the string). *Do not change the Value assignment!*
6. You may check the *Entry required* checkbox, if this characteristic is required.
7. Save the settings.

> **Note**
> It is possible to summarize characteristics by creating characteristic groups. This can be done in transaction **O045**.

After creating all necessary characteristics the class can be creating . Please follow the steps below:

1. Open transaction **CL01**
2. In the appearing dialog choose the standard class type for the document management system (default: 017).
3. Enter a name of the new class.
4. Give a description for the class in the class basic data panel.
5. In order to add characteristics click the **Characteristics** button.
6. Save the class after adding the characteristics.

Check the settings by creating a document info record that is assigned to this class. You can check which characteristics have to be supplied.

DMSImport Setup

After the installation of CMCS DMSImport (see "Installation" on page 140) the installation directory contains two SAP configuration files `CADRFC.INI` and `SAPRFC.INI`. They contain several parameters required for logon to a SAP

system. Edit these two files and change the parameter values to fit your system enviroment. For detailed information on the keywords see "Configuration files" on page 213.

> **Note**
>
> Some parameters are marked as required - follow these instructions.

There are two system variables that can be set in order to ensure that the CAD interface can find it's two configuration files:

CADRFC	directory of the file `CADRFC.INI` file
RFC_INI	full qualified file name of the `SAPRFC.INI` file

There is another configuration file `DMSProf.INI` which is needed by the CMCS DMSImport application. See appendix "Configuration files" on page 213 for a detailed description of the keywords.

After the customizing the configuration files it is necessary to give CMCS DMSImport the password required for SAP log on. Run DMSImport with following options.

```
DMSImport −i < name of the profile> −f r3passwd
```

The SAP user name is extracted from the file `CADRFC.INI` and displayed on the screen. Enter the password of the SAP user name. The password is encrypted and saved into the file specified by the keyword *CONFIG_FILE* in the DMSImport configuration file.

In order to check whether CMCS DMSImport is working now, create a sample description file meeting the syntax described in appendix "DMSImport description file" on page 218. Run DMSImport with following command line options.

```
DSMImport -i <name of the profile> -f import -d <name of the description file>
```

The output should look similar to the following:
```
CSS5017I: Started at 06/14/00 12:05:36
CSS5008I: Building document list for queue
'c:\commonstore\dmsimport\sfd_queue\document2.txt'.
CSS5009I: Document list with 1 item(s) for queue
'c:\commonstore\dmsimport\sfd_queue\document2.txt' built.
CSS5016I: Processing queue:
c:\commonstore\dmsimport\sfd_queue\document2.txt
```

```
CSS5003I: Establishing Connection to R3 system ........
CSS5004I: Connected to server 'miraculi'!
CSS5007I: Importing document 'Test Document4' .........
CSS5006I: Document 'Test Document4' imported successfully. (Elapsed time: 13.493 sec).
CSS5013I: Document Info Record is: 10000000110 DOC 000 00.
CSS5014I: Queue 'c:\commonstore\dmsimport\sfd_queue\document2.txt' processed.
```

If your description file was processed successfully the CMCS DMSImport
setup is done.

Setup the Word Macro

The Microsoft Word Macro consists of "Visual Basic for Applications" code
and a configuration file. Microsoft Word requires document templates to hold
Macro code. Therefore a CMCS document template containing the DMSImport
Macro code is released.

For using the macro it's is necessary to rename the file `DMSImport.dot` in the
subdirectory `MS Word\Templates` of your DMSImport installation path to
`Normal.dot` and copy it into the Microsoft Office Template subdirectory (you
may rename the existing `Normal.dot` to `Normal.dot.bak` in order to have a
backup). The file `CSDMSOff.ini` has to be copied into the Windows directory
where all the other INI files reside.

The template `Normal.dot` is used as default template by MS Word. The CMCS
DMSImport macro is available when Microsoft Word is started next time. You
can see the CM CommonStore icon in the toolbar
The macro requires some configuration information supplied by the file

Figure 3. MS Word Toolbar for CMCS DMSImport.

`CSDMSOff.ini` which resides in the Windows NT directory now. Depending on
the document template used in MS Word, the macro maps template fields to
index fields within user defined SAP class(es). Furthermore the SAP DMS
document type depends also on the Word document template.

Before customizing the macro's INI file it is necessary to establish a document
template you want to use for import purposes. The steps below show what
you need to do:

1. Click on the new document button in the toolbar of MS Word
2. Now you can create a template by this document. Click the right mouse
   button on the toolbar and select the *Forms* toolbar to be displayed.

3. Click the **Text Form Field** button from this toolbar. A grayed text markup will appear in your document.
4. Select **Properties** from the context menu of this text field. The dialog shown in the figure below will appear.
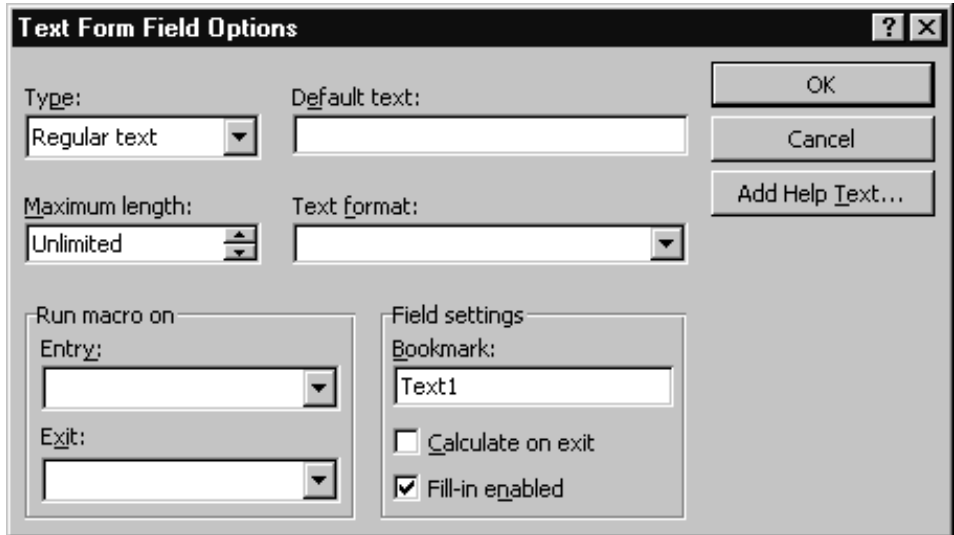
Figure 4. Text Form Field Options

5. You may restrict the data format of this field by changing the *Type*. Define the maximum size of the text field. You may enter a default text in order to explain the user what information is expected at this field. The most important field setting is the bookmark which has to match with the corresponding characteristic in a SAP class. If you define the text field *Test* for example, there has to exist a SAP characteristic *Test* too. It does not matter in which SAP class this character is defined.
6. Click the *OK* button on the dialog to apply the settings.
7. You may define additional text fields for your document template containing important index information. Proceed as in steps 1 to 6.
8. You may protect the template from unauthorized modifications. Select menu path **Tools->Protect document...**. In the appearing dialog select the **Forms** radio button and specify a password.
9. Save this document as a template with the file extension *.dot*.

Note

Do not overwrite the Normal.dot template. This would delete the DMSImport macro.

Subsequently you need to customize the INI file CSDMSOff.ini. There are four
sections in it *Common, Template, DocType* and *Class*. In section *Template* you
need to map the MS Word template to a document type alias. The entry may
look like the following:

```
[Template]
. . . .
Test.dot = Test Documents
```

The document type alias needs to be allocated to a three character SAP
document type and SAP index classes if you got index fields in the document
template.

```
[Template]
. . . .
Test Documents = TST,CLASS_TEST
```

In this example MS Word documents of type Test Documents are allocated to
SAP DMS document type TST and SAP class CLASS_TEST. The last customizing
step in the INI file is to specify the characteristics of the SAP index classes
used in section *DocType*. The following example shows the entry for SAP class
CLASS_TEST which contains the characteristics INDEX1 and INDEX2:

```
[Class]
. . . .
CLASS_TEST  = INDEX1,INDEX2
```

Regarding to the *Common* section in the INI file there is one required keyword
called *DMSProfile*. You need to define the profile that should be used by
CMCS DMSImport when the macro is started otherwise the default profile is
used. In order to access the DMSImport application you need specify the
keyword *DMSImportPath* or extend the system variable *PATH* by the path
DMSImport resides in.

For more detailed information regarding the CMCS DMSImport MS Word
macro's INI file see appendix "Microsoft Word macro configuration file" on
page 219.

Using CMCS DMSImport

Command Line

The CMCS DMSImport supports several command line scenarios using it for
single or mass document importing/archiving.

1. Documents can be archived by a single command line call
2. Call DMSImport by the *Task Scheduling* feature of Windows NT for
   archiving documents from a file server or local directory periodically.

For a complete command line syntax refer to appendix "Command reference"
on page 217.

MS Word Macro

After customizing the MS Word Macro as described in "Setup the Word Macro" on page 149 the CM CommonStore icon should appear in the MS Word toolbar.

Create a new document using a document template which is customized in the macro's configuration file and fill out the index fields. Now click on the CM CommonStore toolbar icon and the dialog *CMCS DMSImport Word Macro for SAP* appears, see Figure 5 on page 153.

The group *Document information* displays common information about the document. In the drop down list *Document Type* by default the document type mapped to the current document template is displayed but it can be changed manually. The *Classes* listbox displays the document type's class allocation.

The *Field/Values* listbox shows the index fields and their values of the highlighted index class. The values can be changed by clicking on the field. The value appears in the *Value* text field where they can be edited.

The **Advanced...** button lets you customize whether the CMCS DMSImport should started as background task or not (background is default). Furthermore the macro's configuration file is displayed. The description file name which is used when the **Submit** button is clicked in order to transmit the document data to CMCS DMSImport can be changed by editing the field **Export file**.

After checking the index data of the document you are working on, click the **Submit** button. The CMCS DMSImport program is now started in order to create a document info record in the SAP DMS and archive the document.

CMCS DMSImport Word Macro for SAP

Document Information

Title: Reminder to IB Services

Author: Heiko Hänsel

Company: IBM Deutschland Entwicklung GmbH

Template: Reminder.dot

Submit

Close

Document Type:

Reminder to customer

Classes:

ADDRESS_DATA
INV_DAT

Fields/Values:

Address	Mr.
Firstname	Graig
Lastname	Pherson
Company	IB Services
Street1	5th ave
Street2	
City	New York
Zip	454351

Value:

Version 7.0.1.1 (Build 1)

Advanced...

Figure 5. CMCS DMSImport Word Macro for SAP

While the DMSImport program is running the title of the dialog window is blinking. After the import process is finished a message pops up and shows the document key which is returned by SAP if the document was created successfully. Otherwise an error message box appears and displays the exit code of CMCS DMSImport (see appendix "CMCS DMSImport exit codes-" on page 221 For a complete listing of the exit codes).

Part 7. Appendixes

Appendix A. CMCS server profile keywords

General remarks

- Please do not use the name of keywords as values. It is especially important that you not use VI as an archive ID (keyword *ARCHIVE*), nor should you use ADSM as the name of a Tivoli Storage Manager server (keyword *SERVER*).
- The character # is the comment symbol. When a line in the CMCS server configuration profile begins with #, this line is skipped completely.
- The keywords *ARCHAGENT*, *ARCHAGENTVI*, *ARCHAGENTOD*, *DISPATCHER*, *ARCHWIN*, and *ARCHREG* are obsolete and are therefore no longer documented here. Nevertheless, CMCS server still accepts these keywords when found in the CMCS server configuration profile, though a warning will be displayed. These obsolete keywords should be replaced by *BINPATH* (see page 162), which specifies the directory in which all CMCS server binaries reside.

ACTIVEQ_FILE *filename*

Using this general CMCS keyword, you can specify the complete path and file name of the active queue file.

EXAMPLE:

```
ACTIVEQ_FILE   /usr/lpp/cssap/bin/q_active
```

ADSMAGENTS *number*

Using this TSM-specific keyword, you can specify the total number of parallel Tivoli Storage Manager Client sessions (name: archagent) the CMCS Server establishes. For a direct archive/retrieve operation on tape drives, keep the following in mind: The number of sessions must be equal to or lower than the number of tape drives available for archiving. For performance reasons, it is recommended that you use as many agents as there are tape drives available. The default is **0**.

EXAMPLE:

```
ADSMAGENTS   3
```

ADSMNODE *nodename*

Using this TSM-specific keyword, you can specify the Tivoli Storage Manager node name for the Tivoli Storage Manager log-in procedure. If Tivoli Storage Manager's *Password Generate* option is used, the node name must not be specified in the CMCS Server configuration profile.

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> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement
> and is used only for Tivoli Storage Manager archives.

APPGROUP *group*

Using this Content Manager OnDemand-specific keyword, you can
specify the name of the Content Manager OnDemand application
group. All application group names containing spaces must be
enclosed in single quotation marks.

EXAMPLE:

```
APPGROUP   'SAP R/3 Documents'
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statements
> and is used only for Content Manager OnDemand archives.

APPLICATION *app*

Using this Content Manager OnDemand-specific keyword, you can
specify the name of the Content Manager OnDemand application. All
application names containing spaces must be enclosed in single
quotation marks.

EXAMPLE:

```
APPLICATION   'SAP R/3 Print Lists'
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement
> and is used only for Content Manager OnDemand archives.

ARCHIVE *archive_ID*

Using this general CMCS keyword, you can specify the SAP R/3
logical archive ID (e.g. A1). The archive ID must be unique. It is used
by CMCS to identify the requested archive. All keywords required to
access this archive are combined in the so-called **ARCHIVE** statement.
The keyword *STORAGETYPE* must be specified as the second
keyword. All following keywords depend on the storage type.
Keywords belonging to different storage types must not be combined
in a single **ARCHIVE** statement.

A default archive could be specified. All requests not matching any of
the explicitly specified archive IDs are routed automatically to the

default archive. Using a default archive could be very convenient. However, a default archive is potentially dangerous since documents intended for storage in a specific archive are saved in a completely different archive when an erroneous archive ID is used.

Examples for each of the three storage types are shown below. The archive **A3** is a little more complex than the others since it is used to support the scenario of the late archiving of documents via barcode with Content Manager.

EXAMPLE:

```
ARCHIVE  DEFAULT
  STORAGETYPE             ADSM
  SERVER                  ADSMSERV01
  MGMT_CLASS              SAP_MGMT01
  ADSMNODE                CSTORE01
```

EXAMPLE:

```
ARCHIVE  A1
  STORAGETYPE             ADSM
  SERVER                  ADSMSERV02
  MGMT_CLASS              SAP_MGMT02
  ADSMNODE                CSTORE02
  LOGICAL_SYSTEM          T90CLNT090
```

EXAMPLE:

```
ARCHIVE  A2
  STORAGETYPE             VI
  LIBSERVER               LIBSERV2
  INDEX_CLASS             SapA10
  VIUSER                  FRNUSER
```

EXAMPLE:

```
ARCHIVE  A3
  STORAGETYPE             VI
  LIBSERVER               LIBSERV2
  INDEX_CLASS_SCAN        SapA11
  INDEX_CLASS             SapScanA11
  WB_SCAN                 SapScanWB_A11
  WB_ERROR                SapScanSaveWB_A11
  VIUSER                  FRNUSER
  LOGICAL_SYSTEM          T90CLNT090
```

```
ARCHIVE  A4
  STORAGETYPE              ONDEMAND
  ODHOST                   asterix
  APPGROUP                 'SAP R/3 Documents'
  APPLICATION              'Inbound SAP R/3 Documents'
  FOLDER                   'SAP R/3 Documents'
  LOGICAL_SYSTEM           T90CLNT090
  ODUSER                   CSTORE
```

> **Note:**
> In general, keywords of the CMCS server configuration profile
> should *not* be used as names. However, if a setting *is* identical
> with a CMCS keyword, that setting should be added contained
> within apostrophes, e.g.
>
> ```
> STORAGETYPE   'ADSM'
> ```

> **Note:**
> Once set up, these settings should be saved and not changed;
> this is because any restoration operations will depend upon
> them.

ARCHPATH *path*

Using this general CMCS keyword, you can specify the path under
which objects to be retrieved are made available for the SAP
applications. The CMCS server retrieves the files in this directory. It
can be shared by all Application and Database Servers via NFS. The
CMCS server must have access to this path as well.

If not specified, the default path is /tmp.

EXAMPLE:

```
ARCHPATH   /sap/trans/base/archint/
```

> **Note:**
> This must be the same path as provided in the SAP R/3 System
> (T-code OAC0). Check ownership and rights in the file system. If
> more than one SAP R/3 Application Server is running, this path
> must be shared via NFS by all Application Servers.

Only for archive data: The path which is used by the SAP ADK (T-code SARA) must be the same; this is because ADK, ArchiveLink, and the CMCS Server share their data in this path. It can be customized in the ADK (**->Environment->Customizing**). Further changes can be done using the T-code FILE.

ARCHWINS *number*

Using this general CMCS keyword, you can specify the total number of parallel sessions (name: archwin) which the CMCS Server establishes for the CMCS Client and the CMCS DLL. If not specified, the default is **1**.

EXAMPLE:

```
ARCHWINS   3
```

> **Note:**
>
> If you do not use CMCS Client or the CMCS DLL, 0 should be specified.

ARCHWIN_PORT *portnumber*

Using this general CMCS keyword, you can specify the TCP/IP registration port used by all CMCS Clients and all CMCS DLLs for connecting to the CMCS Server. This port must correspond to the settings in the CMCS Client configuration profile (name: CSClient.ini) on Windows PCs (NT and 9x). This fixed port is also used by archstop and archbc.

EXAMPLE:

```
ARCHWIN_PORT   5500
```

> **Note:**
>
> This is the fixed registration port of all Windows PCs. If more than one CMCS Server is installed on a single machine, each instance requires a different *ARCHWIN_PORT*.

BASEPATH *path*

Using this general CMCS keyword, you can specify the path under which objects to be archived are made available by the SAP applications. Before issuing an order to the CMCS Server, the files can be found in this directory. It can be shared by all Application and Database Servers via NFS. The CMCS Server must have access to this path as well. *ARCHPATH* and *BASEPATH* can specify the same physical path. If not specified, the default path is /tmp.

EXAMPLE:

```
                    BASEPATH    /sap/trans/base/archint/
```

> **Note:**
> This must be the same path as provided in the SAP R/3 System
> (T-code OAC0). Check ownership and rights in the file system.

Only for archive data: The path which is used by the SAP ADK
(T-code SARA) must be the same; this is because ADK, ArchiveLink,
and the CMCS Server share their data in this path. It can be
customized in the ADK (**->Environment->Customizing**). Further
changes can be done using T-code FILE.

BINPATH *path*
> Using this general CMCS keyword, you can specify the complete path
> to the following CMCS binary files: archpro, archagent, archagentvi,
> archagentod, archdp, archwin, and archweb (in the case of UNIX) and
> archpro.exe, archagent.exe, archagentvi.exe, archagentod.exe,
> archdp.exe, archwin.exe, and archweb.exe (in the case of Windows
> NT).

> **EXAMPLES:**

```
        BINPATH    /usr/lpp/cssap/bin/ (UNIX)

        BINPATH    c:\ibm\cssap\ (Windows NT)
```

> **Note:**
> The binaries archpro, archagent, etc. (in the case of UNIX) and
> archpro.exe, archagent.exe, etc. (in the case of Windows NT)
> *must not* be renamed. Further, it is expected that they reside in a
> *single* directory.

CHECK_ARCHIVE_SERVER *ON|OFF*
> Using this general CMCS keyword, you can specify the reaction of
> CMCS in case an archive is not available when starting up the CMCS
> Server. When set to **ON**, all archives for the configured agents must
> be available at startup; otherwise, CMCS will refuse to start. When set
> to **OFF**, CMCS prints a warning if an archive is not available;
> nevertheless, it will continue to start up. The default is **ON**.

CLIENT *ddd*
> Using this general CMCS keyword, you can specify the client in the
> SAP R/3 System (T-code SCC4). *ddd* is a three-digit number. This
> keyword is required if you specify any **LOGICAL_SYSTEM** section.

> **EXAMPLE:**

```
CLIENT   800
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

CLIENT_ALL_PORTS_FIXED *YES|NO*

When this general CMCS keyword is set to **YES**, the archwin dispatcher uses fixed port numbers for connecting to the CMCS Clients. This is necessary when there is a firewall between the CMCS Server and the CMCS Client.

The port numbers immediately following *ARCHWIN_PORT* are used for the multiple archwin dispatchers.

Suppose for example that *ARCHWIN_PORT*=5500 and *ARCHWINS*=3 and *CLIENT_ALL_PORTS_FIXED*=YES. Then the port numbers 5500 and 5501 are used by archpro and the port numbers 5502, 5503, and 5504 are used by the three instances of archwin.

The default is **NO**.

EXAMPLE:
```
CLIENT_ALL_PORTS_FIXED   YES
```

COMMENT

This is an additional keyword for the **ARCHIVE** statement. Using this general CMCS keyword, you can specify a comment for this archive ID. The comment is displayed by the HTTP command server info.

EXAMPLE:
```
COMMENT   'Archive is used for testing only'
```

CONFIG_FILE *filename*

Using this general CMCS keyword, you can specify the fully qualified name (path + file name) of the configuration file (archint.cfg) in which the CMCS Server is to store all variable parameters (such as passwords, user names, and current version number). This keyword is required.

EXAMPLE:
```
CONFIG_FILE   /usr/lpp/cssap/archint.cfg
```

> **Note:**
> The configuration file is encrypted.

DESTINATION *destination_name*

> Using this general CMCS keyword, you can specify the name for an SAP R/3 destination. You should use your SAP R/3 System's destination name. The **DESTINATION** statement unites all settings required to connect to R/3; see also the following example.

> **EXAMPLE:**

```
DESTINATION                    KD7
  PROGID                       KD7.ARCHINT
  GWHOST                       /H/sapserver
  GWSERV                       sapgw00
  LU                           sapserver
  TP                           sapdp00
  LOGICAL_SYSTEM               T90CLNT090
    CLIENT                     800
    USER                       MUSTER
  LOGICAL_SYSTEM               T90CLNT091
    CLIENT                     801
    USER                       MUSTER1
```

> In this example, KD7 is the R/3 System ID. Though you can specify only one **DESTINATION** statement, you can specify several logical systems (R/3 clients).

DISPATCHERS *number*

> Using this general CMCS keyword, you can specify the total number of parallel dispatchers (name: archdp) to SAP R/3 which the CMCS Server establishes. The default is **1**.

> **EXAMPLE:**

> ```
> DISPATCHERS    3
> ```

> > **Note:**
> > If one dispatcher is blocked, the SAP Gateway will automatically take recourse to the next dispatcher.

END Using this general CMCS keyword, you can specify the end of the parameter definitions. When *END* is encountered, the CMCS Server stops searching its configuration profile for keywords.

ERRORLOG_FILE *filename*

> Specifies a directory and file where all errors occurring in a CommonStore operation will be recorded. The error log file is a text file. The entries in the error log file consist of one section per failed

operation. The first error in a failed operation is recorded in the error log file. The entries in the error log file contain the following information:

1. date and time when the error occurred
2. component where the error occurred (Tivoli Storage Manager, Content Manager, Content Manager OnDemand, R/3, etc..)
3. return code, extended return code if present, reason code if present
4. error description obtained from API or generated by Common

The error log file grows without size limitation.

DEFAULT
> value of INSTANCEPATH + ″csserror.log″

EXAMPLE
> **ERRORLOG_FILE** `c:\ibm\cssap\log\srverror.log`

FOLDER *folder*
> Using this Content Manager OnDemand-specific keyword, you can specify the name of the Content Manager OnDemand folder. *folder* must be the name of a folder which references the Content Manager OnDemand application group specified using the keyword *APPGROUP*. Folder names containing spaces must be enclosed in single quotation marks.

EXAMPLE:
> ```
> FOLDER   'SAP R/3 Documents'
> ```

> ---
> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager OnDemand archives.
> ---

FORMAT *format*
> Using this Content Manager-specific keyword, you can specify the Content Manager data format to be used for archived documents. Defaults to **TIFF6**.

EXAMPLE:
> ```
> FORMAT SAPALF
> ```

> ---
> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives.
> ---

GWHOST *hostname*

Using this general CMCS keyword, you can specify the host on which the SAP Gateway server runs. If not specified, the default host name is `localhost`.

EXAMPLE:

```
GWHOST   /H/sapj30
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

GWSERV *service*

Using this general CMCS keyword, you can specify the service the SAP Gateway server can be reached with. If not specified, the default service is **sapgw00**.

EXAMPLE:

```
GWSERV   sapgw00
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

INDEX_CLASS *index_class_name*

Using this Content Manager-specific keyword, you can specify the Content Manager index class which the CMCS Server uses to archive the folders that make up SAP R/3 content objects (for every object stored, CMCS will create a folder in this index class which in turn contains Content Manager documents representing the individual components of the content object). This index class must be defined on the corresponding Content Manager library server.

EXAMPLE:

```
INDEX_CLASS   SapA11
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives.

INDEX_CLASS_COMP *index_class_name*

Using this Content Manager-specific keyword, you can specify the Content Manager index class which the CMCS Server uses to archive

the single components of a document. This index class represents the final index class where the components of an archived document are stored. If this keyword is omitted, a default index class named `<INDEXCLASS>comp` will be used. This index class must be defined on the corresponding Content Manager library server.

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives.

INDEX_CLASS_SCAN *index_class _name*

Using this Content Manager-specific keyword, you can specifythe index class where the Content Manager-based scanning application has temporary stored the scanned documents. A corresponding index class must be specified in Content Manager.

EXAMPLE:

```
INDEX_CLASS_SCAN   SapScanA11
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives. It is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager.

INSTANCEPATH *path*

Specifies the directory where the instance related files (profile, config file, ...) are located. On AIX for every CommonStore server instance a user should be created. Then the INSTANCEPATH should point to the users home directory. All instance related files are maintained in the users home directory. On Windows for every CommonStore server instance a sub-directory should be created. The INSTANCEPATH of every single instance should point to the related subdirectory. All instance related files are maintained in these directories.

The error log file grows without size limitation.

DEFAULT

value of BINPATH

EXAMPLE

INSTANCEPATH /home/csadm1

LANGUAGE *name*

Using this general CMCS keyword, you can specify the language for the internal communication between the CMCS Server and R/3.

LIBSERVER *server_name*

Using this Content Manager-specific keyword, you can specify the name of the Content Manager Library Server to which a connection with the subsequent definitions will be established. The FRNTABLE contains all necessary communication parameters for Content Manager.

EXAMPLE:

```
LIBSERVER   LIBSRVESD
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives. It is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager.

> **Note:**
> Check to see if you have a valid FRNTABLE.

LOG *ON|OFF*

By setting this general CMCS keyword to **ON**, a log file containing information about all archived and retrieved data for each day will be created.

The log files are generated in the following format:

```
aiyyyymmdd.log
```

where

- yyyy = the year,
- mm = the month, and
- dd = the day.

LOGICAL_SYSTEM *name*

Using this general CMCS keyword, you can specify the logical system name customized in the SAP R/3 System (T-code SCC4). This keyword appears in two places in the CMCS Server configuration profile: in the **DESTINATION** statement and in the **ARCHIVE** statement.

The main location is the **DESTINATION** statement. There it unites the parameters *CLIENT* and *USER* necessary for the connection to R/3. Each client can have its own user for sending CFBC/CFBA messages to the R/3 System. CMCS uses these settings when

asynchronous R/3 orders are answered. In the following example, the **LOGICAL_SYSTEM** statement appears in the **DESTINATION** statement:

EXAMPLE:

```
LOGICAL_SYSTEM               T90CLNT090
  CLIENT                     800
  USER                       MUSTER
```

The *LOGICAL_SYSTEM* specified in the **ARCHIVE** statement is only a reference to the main location. When for a request only the archive ID is known, then CMCS uses the *LOGICAL_SYSTEM* specified in the **ARCHIVE** statement to look up the connection parameters to R/3 from the corresponding *LOGICAL_SYSTEM* specification of the **DESTINATION** statement. These connection parameters are necessary for sending the answer to R/3. The *LOGICAL_SYSTEM* specification in the **ARCHIVE** statement is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager. In the following example, the *LOGICAL_SYSTEM* appears in the **ARCHIVE** statement:

EXAMPLE:

```
ARCHIVE  A1
  STORAGETYPE                ADSM
  SERVER                     ADSMSERV02
  MGMT_CLASS                 SAP_MGMT02
  ADSMNODE                   CSTORE02
  LOGICAL_SYSTEM             T90CLNT090
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** and **ARCHIVE** statements. See also explanation above.

LOGPATH *path*

Using this general CMCS keyword, you can specify the complete path of the log file. The names of the log files are generated automatically.

EXAMPLE:

```
        LOGPATH   /usr/lpp/cssap/bin/
```

LU *hostname*

Using this general CMCS keyword, you can specify the host the Application Server runs on (Logical Unit). If not specified, the default host name is `localhost`.

Please enter the complete SAP router string, starting with /H. If TCP/IP firewalls are involved, the router string could be for example: `/H/tdben2/H/siccfw1.isicc.ibm.com/H/sapgate1/S/3297/H/hs8100`

EXAMPLE:

```
LU    /H/sapj30
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

MAILSRV *host[:port]*

Using this general CMCS keyword, you can specify the host and port of an SMTP e-mail server to which the e-mails created in the CMCS Browser Viewing are sent. By default, **no** e-mail server is predefined.

EXAMPLE:

```
MAILSRV   mailserv:47110
```

MAXBCTRANSFER *number*

Using this Content Manager-specific keyword, you can specify the number of entries which should be read in the Content Manager workbasket per scan and sent to SAP R/3.

EXAMPLE:

```
MAXBCTRANSFER   100
```

> **Note:**
> An `archbc` job always tries to send *all* documents with barcode for R/3 which can be located in the specified workbasket. This parameter determines only the maximum number of barcodes (maximum `INSERT_BARCODE_RFC` to SAP R/3) per R/3 call. This parameter is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager.

MGMT_CLASS *management_class*

Using this TSM-specific keyword, you can specify the Tivoli Storage Manager management class which the CMCS Server uses to archive the documents. The parameter string can consist of up to 16

characters. If there is no management class, it uses the Tivoli Storage Manager default management class.

> **Note:**
>
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Tivoli Storage Manager archives. Further, keep in mind that the Tivoli Storage Manager expiration date (specified under the management class in the Tivoli Storage Manager archive storage pools) should be checked; this is because Tivoli Storage Manager automatically deletes all files as soon as the expiration period is reached.

MULTIPART *ON/OFF*

Applies to Content Manager/VisualInfo archives only. Specifies if documents should be stored in the Content Manager server in multiple parts or not. It is recommended to store the document in one part, as documents in multiple parts can cause problems, when displaying them in the Content Manager viewer. Setting the value of MULTIPART to OFF or NO will store any document in one single part. Setting the value of MULTIPART to ON or YES stores documents in multiple parts in the Content Manager server

DEFAULT

OFF

EXAMPLE

MULTIPART ON

ODAGENTS *number*

Using this Content Manager OnDemand-specific keyword, you can specify the maximum number of parallel Content Manager OnDemand sessions (name: `archagentod`). If not specified, the default is **0**.

EXAMPLE:

ODAGENTS   1

ODHOST *hostname*

Using this Content Manager OnDemand-specific keyword, you can specify the host name or IP address of the Content Manager OnDemand library server.

EXAMPLE:

ODHOST   asterix

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement
> and is used only for Content Manager OnDemand archives.

ODUSER *username*

Using this Content Manager OnDemand-specific keyword, you can
specify an Content Manager OnDemand user permitted to view, add,
and delete documents contained in the application group specified
using the keyword *APPGROUP* and who has access to the folder
specified using the keyword *FOLDER*.

EXAMPLE:

```
ODUSER   admin
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement
> and is used only for Content Manager OnDemand archives.

PROGID *program_id*

Using this general CMCS keyword, you can specify the program ID
under which the dispatcher program is registered at the SAP Gateway
server. This keyword must be defined in the corresponding
DESTINATION statement. It can be any name but it has to be the
same name as specified in the SAP R/3 System (T-code SM59) under
register mode.

EXAMPLE:

```
PROGID   anyname
```

> **Note:**
> This specified program ID must be the same one provided in the
> SAP R/3 System (T-code SM59) and can be tested in the same
> SAP panel. This keyword refers to the corresponding
> **DESTINATION** statement.

> **Note:**
> Please make sure that the register mode is clicked in SAP R/3.

PROTECTION *prot_flags* | *OFF*

This is an additional keyword for the **ARCHIVE** statement. Using this

general CMCS keywords keyword, you can specify the default protection for this archive ID. `prot_flags` is a combination of the letters 'r' (read), 'c' (create), 'u' (update) 'd' (delete). The default is `rcud`.

When set to **OFF**, this archive is not protected, i.e. all operations are allowed. Typically, **OFF** is used in connection with the CMCS WEB Access.

EXAMPLE:

```
PROTECTION      rcu
```

In this example, READ, CREATE, and UPDATE are enabled, while DELETE is *not* enabled.

REPORT *ON|OFF*

By setting this general CMCS keyword to **ON**, the CMCS Server will provide some additional information. The output is written to `stdout`, which is normally the console. If not specified, the default is **OFF**.

> **Note:**
>
> **ON** should be used for tracing purposes (e.g. setup of the CMCS Server or in case of errors).

SENDQ_FILE *filename*

Using this general CMCS keyword, you can specify the complete path and file name of the send queue file.

EXAMPLE:

```
SENDQ_FILE   /usr/lpp/cssap/bin/q_send
```

SERVER *server_name*

Using this TSM-specific keyword, you can specify the name of the Tivoli Storage Manager server to which a connection with the subsequent definitions will be established. The `dsm.sys` file contains all necessary communication parameters for Tivoli Storage Manager.

EXAMPLE:

```
SERVER   ADSMSERV01
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for the Tivoli Storage Manager archives.

SERVICE_TRACEFILE *filename*

Using this general CMCS keyword, you can specify an additional

trace file to record the startup and shutdown of the CMCS service. Useful only for analyzing problems with the CMCS service on Windows NT. If not specified, no service trace file is written.

SPLIT_CRIT *split_criteria*

Enabling this Content Manager-specific keyword causes the Content Manager agent to automatically create a new index class in which search index information is stored if *split_criteria* is valid. Splitting index classes into regular intervals is strongly recommended in cases of large amounts of search index information in order to prevent the database tables from growing too big. *split_criteria* consists of an R/3 database field name that must be available in the CMCS export file generated by the CMCS Index Transfer feature. For a detailed description of when and how to use *split_criteria*, please refer to "The SPLIT_CRIT split criteria keyword" on page 125. In principle, every field found in the export file can be used to split the exported data into more than one index class. In the case of date, month, and year fields, the following special rules and constraints apply:

- `<field>[1A]`, where `<field>` must be a date or year field.
- `<field> [M01, ... ,M12]`, where M01 to M12 are the months of a year in any combination and `<field>` must be a date or month field.
- `<field> [M01, ... , M12,1A]`. This is the combination of the two aforementioned possibilities. `<field>` must be a date field in this case only.
- `<field> [1Q, ... ,4Q,1A]`. In this case, a quarterly split is performed. `<field>` must be a month field, and if 1A is used, it must be a date field. This is the same as splitting at the months 01, 04, 07 and 10, with the difference that the index classes are named _1Q instead of _04.
- `<field> [1H,2H,1A]`. In this case, a semi-annual split is performed. `<field>` must be a month field, and if 1A is used, it must be a date field. The splitting will be done at months 01 and 07. The index classes are named _1H and _2H instead of _01 and _07. `<field>` is the name of a field in an R/3 table that is exported and can be found in the export file, while `<class>` is the name of an index class in Content Manager where the original archived documents can be found.

EXAMPLE:

```
SPLIT_CRIT   BLDAT[1A]
```

> **Note:**
> The keyword *SPLIT_CRIT* can be specified for every Content Manager archive.

STARTUP_TRACEFILE *filename*
Using this general CMCS keyword, you can specify the full file name of the so-called startup trace file. When a non-empty file name is specified, all CMCS executables record messages during the initial startup phase in this file. This trace file is very useful in case of initial communication problems among the server executables. For all other problems, it is typically of no help. The default is **no** startup trace file.

EXAMPLE:

```
STARTUP_TRACEFILE   /usr/lpp/cssap/archint.startup_trace
```

> **Note:**
> The startup trace file is re-written on each start of the CMCS Server.

STORAGETYPE *ADSM|VI|ONDEMAND*
Using this general CMCS keyword, you can specify whether documents assigned to the specified logical archive are to be stored in Tivoli Storage Manager, Content Manager, or Content Manager OnDemand.

EXAMPLE:

```
STORAGETYPE   ADSM
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used for all archives. Any further archiving parameters which you specify will apply to the archive set with this setting.

SYSTEMTYPE *SAPSYSTEM|DOMINOSYSTEM*
Specifies whether CommonStore is used for SAP and/or Lotus Domino. These settings affect only the LUM licensing part.

Default :
both SAPSYSTEM and DOMINOSYSTEM

EXAMPLE:

```
SYSTEMTYPE   DOMINOSYSTEM
```

TEMPPATH *path*

Using this general CMCS keyword, you can specify the directory in which the CMCS Server writes temporary files needed for processing.

If this setting is missing in your profile, the environment variable `TMPDIR` will be checked. If this variable is not set either, the temporary files will be written to the system's temporary directory.

EXAMPLE:

```
TEMPPATH   /tmp
```

TP *service*

Using this general CMCS keyword, you can specify the service with which the message dispatcher at the R/3 gateway can be reached. If not specified, the default service is **sapdp00**. The last two digits are used for the SAP R/3 System ID.

EXAMPLE:

```
TP   sapdp00
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

TRACE *ON|OFF*

By setting this general CMCS keyword to **ON**, the CMCS Server is told to write trace information into the trace file. If set to **ON**, a second trace is written: `dev_rfc`. You can specify the directory of the RFC trace file by setting the environment variable `RFC_TRACE_DIR` to the desired directory. This trace is an SAP trace containing all RFC trace information.

If you specify the following parameters, you can force the CMCS Server to write only specific trace information:

- *DISP* (for information on the CMCS dispatcher program)
- *FILEIO* (for information on the input/output file activities)
- *ARCHPRO* (for information coming from the CMCS `archpro` program)
- *AGENTS* (for information coming from the CMCS Tivoli Storage Manager, Content Manager, or Content Manager OnDemand agents)
- *DEBUG* (for debug information on the CMCS Server)
- *ADSM* (for information coming from the Tivoli Storage Manager Client)
- *REPORT* (for the information which is written to `stdout`)

- *RFC* (for switching on the `dev_rfc` trace)
- *RFC_OFF* (for selectively disabling the RFC trace)

The value **ON** includes all of these parameters except *DEBUG*.

EXAMPLES:
```
TRACE   ON
TRACE   ARCHPRO RFC DEBUG
TRACE   ON RFC_OFF
```

> **Note:**
>
> This keyword should be used only for the purpose of detecting problems. If not specified, the default is **TRACE OFF**. Do not delete the trace file while the CMCS Server is running as this will affect further writing to this file. Keep in mind that the RFC trace file and the CMCS trace file could grow quite large in a very short time.

TRACEFILE *filename*

Using this general CMCS keyword, you can specify the trace file for the CMCS Server where all the trace information will be stored. *filename* specifies the full path and name of the file. This setting will be used only if tracing has been activated. If not specified, the default is `archint.trace`.

EXAMPLE:
```
TRACEFILE   /usr/lpp/cssap/bin/archint.trace
```

> **Note:**
>
> It is not allowed to delete any trace file while the CMCS server is running. Rather, the CMCS server must first be stopped using the **archstop** command.

TRACEMAX *number*

Using this general CMCS keyword, you can specify the maximum size (in KB) of the CMCS Server trace file.

EXAMPLE:
```
TRACEMAX   500
```

TRANSFORM *filter*

Using this general CMCS keyword, you can specify an optional command to be invoked before archiving document files. *filter* is a shell command which accepts the data delivered by SAP R/3 from standard input and writes the data to be archived to standard output.

A non-zero exit code returned by *filter* will be interpreted as failure and will result in an archiving error being reported to R/3.

EXAMPLE:

```
TRANSFORM   cat
```

> **Note:**
> It is assumed that *filter* is re-entrant (i.e. that it can be invoked several times in parallel) to be able to handle parallel connections to the archive. If making the process re-entrant is not an option, the number of parallel connections to the archive (using the keywords *ADSMAGENTS*, *ODAGENTS*, or *VIAGENTS*, respectively) has to be set to 1, thus serializing all requests.

> **Note:**
> Where this is an issue, the CMCS administrator is responsible for establishing an overall archiving process which holds up against audits. CMCS itself performs checks on neither the command specified nor the data generated by this command.

USER *username*

Using this general CMCS keyword, you can specify the SAP R/3 user name. The password corresponding to the user name and destination will be stored in the configuration file archint.cfg.

EXAMPLE:

```
USER    MUSTER
```

> **Note:**
> This keyword refers to the corresponding **DESTINATION** statement.

VIAGENTS *number*

Using this Content Manager-specific keyword, you can specify the total number of parallel Content Manager Client sessions (name: archagentvi) which the CMCS Server establishes. If not specified, the default is **0**.

EXAMPLE:

```
VIAGENTS   3
```

VIUSER *username*

Using this Content Manager-specific keyword, you can specify the Content Manager user name for the Content Manager log-in procedure.

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives.

WAITQ_FILE *filename*

Using this general CMCS keyword, you can specify the complete path and file name of the waitqueue file.

EXAMPLE:

```
WAITQ_FILE   /usr/lpp/cssap/bin/q_wait
```

WB_ERROR *workbasket _name*

Using this Content Manager-specific keyword, you can specify the workbasket where documents which had errors while processing through the Content Manager agent are saved. Usually, this workbasket should be empty. A corresponding workbasket must be specified in Content Manager.

EXAMPLE:

```
WB_ERROR    SapScanSaveWB_A11
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives. It is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager.

WB_SCAN *workbasket_name*

Using this Content Manager-specific keyword, you can specify the workbasket where the Content Manager-based scanning application has temporarily stored the scanned documents. After processing these documents through the Content Manager agent, the workbasket should be empty. A corresponding workbasket must be specified in Content Manager.

EXAMPLE:

```
WB_SCAN    SapScanWB_A11
```

> **Note:**
> This keyword refers to the corresponding **ARCHIVE** statement and is used only for Content Manager archives. It is needed only for support of the scenario of the late archiving of documents via barcode with Content Manager.

WEBDPS *number*

Using this general CMCS keyword, you can specify the total number of parallel sessions for the CMCS WEB Access. If not specified, the default is **0**.

EXAMPLE:

```
WEBDPS    5
```

> **Note:**
> By default, **no** WEB Access to the CMCS archive is possible. To enable WEB Access, the keyword *WEBDPS* must be specified.

WEBPORT *port*

Using this general CMCS keyword, you can specify the TCP/IP port number used to access the Web dispatcher using a Web browser. The port number must match the port number specified under the `~archive` setting in the WEB Access service file for the SAP Internet Transaction Server (ITS). .

EXAMPLE:

```
WEBPORT   5501
```

> **Note:**
> The HTTP protocol used for communication with the Web dispatcher uses the TCP/IP port **80** by default. If no Web server is running on the machine on which the CMCS Server is running, the default TCP/IP port **80** can be used.

WEBROOT *path*

Specifies the directory where the HTTP interface of the CommonStore server expects the files necessary for the WEB operations, e.g. Browser Viewing.

EXAMPLE:

```
WEBROOT /home/csadm1/webroot
```

Appendix B. CMCS server commands

archadmin

This program allows a connection to a CMCS server to be opened in order to view the messages issued by the CMCS server. It is possible to open the connection across machine and platform boundaries.

Usage

`archadmin [-m <machine>] [-p <port>] [-i <ini file>] [-h]`

Options

-m   specifies the machine or IP address where `archpro` is running

-p   specifies the fixed port used by `archpro`

-i   specifies the fully qualified name (path + file name) of the CMCS server configuration profile used by `archpro` (local machine only)

-h   show this help

Remarks

The connection to `archpro` is established using the specified (remote) machine and fixed port. When no machine is specified, `localhost` is assumed. The fixed port could also be read from the specified the CMCS server configuration profile. When neither *-p* nor *-i* is specified, the default (local) CMCS server configuration profile (name: `archint.ini`) is read. Only port numbers above 5000 are accepted. Connections between different machine types (Windows and AIX) are supported!

Examples

`archadmin`
connects to `archpro` using port from the default (local) CMCS server configuration profile (name: `archint.ini`)

`archadmin -p 5510`
connects to `archpro` running on fixed port 5510

`archadmin -m obelix -p 5510`
connects to `archpro` running on 'obelix' on port 5510

`archadmin -m obelix -p 5510`
connects to `archpro` running on 'obelix' on port 5510

`archadmin -m 9.164.10.20 -p 5510`
connects to `archpro` on '9.164.10.20' on port 5510

```
archadmin -i c:\ibm\cssap\instance01\archint.ini
```
connects to local `archpro` using port from the CMCS server
configuration profile (name: `archint.ini`) in the instance01 directory.

> **Note:**
>
> When using `archadmin` on a Windows machine on which the CMCS
> Server is not installed, you must also copy the message catalog file
> `CSSrvMsg.dll` to the directory containing `archadmin`.

---

archbc

Usage

```
archbc -p <port> -a <archive-id>
```
starts the "move" operation

```
archbc -p <port> -a <archive-id> abort
```
stops the "move" operation

```
archbc -h
```
shows this help

Options

-p **<port>**
fixed port used by `archpro`

-a **<archive-id>**
archive ID containing the scan and final index classes

abort   tells the CMCS server to abort the operation

Remarks

Only port numbers above 5000 are accepted.

Examples

```
archbc -p 5500 -a A1
```
starts the "move" operation on archive A1

```
archbc -p 5500 -a A1 abort
```
aborts the "move" operation on archive A1

> **Hint:**
>
> In order to abort an `archbc` run, it is recommended that you open
> another window and send the abort command from there. This allows
> you to continue receiving the `archbc` messages in the first window.

archpro

archpro is the continuously-running CMCS server main program which controls all of the other CMCS server components.

Usage

```
archpro [-i ][-f r3passwd | serverpasswd | license][-n ][-h]
```

Options

-i `<ini file>`
> fully qualified name (path + file name) of the CMCS server configuration profile

-f **license**
> enroll a production license

-f `r3passwd [<R/3 user> [<passwd>]]`
> enter R/3 password (setup only)

-f `serverpasswd [<srv> [<node> [<passwd>]]]`
> enter Tivoli Storage Manager, Content Manager, Content Manager OnDemand password(s) (setup only)

-n   instance name of the CMCS service

-h   show this help

Remarks

If CMCS is installed in more than just a single path, specify the appropriate path to the desired CMCS server configuration profile.

It must be specified before any other option.

Examples

archpro
> start the CMCS server with the default (local) CMCS server configuration profile (name: `archint.ini`)

archpro -i /home/cs/archint.ini
> same as above

archpro -f r3passwd
> ask for all R/3 passwords

archpro -f serverpasswd
> ask for all Tivoli Storage Manager, Content Manager, Content Manager OnDemand passwords

archpro -f serverpasswd SRV
> ask password for server SRV and all nodes/users

```
archpro -f serverpasswd SRV USR
```
        ask password for server SRV and node/user USR

```
archpro -f serverpasswd SRV USR PWD
```
        accept password for server SRV and node/user USR

```
archpro –f license
```
        ask for license certificate file containing a productive license and
        enroll the license

---

archservice (only on Windows NT)

This program contains the whole service functionality of CMCS on Windows
NT.

Usage

```
archservice install [-i <ini file>] [-n <name>]
```
        installs the service

```
archservice remove [-n <name>]
```
        removes the service

```
archservice start [-n <name>]
```
        starts the service

```
archservice stop [-n <name>]
```
        stops the service

```
archservice status [-n <name>]
```
        queries the service's status

```
archservice -h
```
        show this help

Options

-i `<ini file>`
        fully qualified name (path + file name) of the CMCS server
        configuration profile

-n `<name>`
        instance name of the CMCS service

Remarks

If CMCS is installed in more than just a single path, specify the appropriate
path to the desired CMCS server configuration profile.

The instance name permits installation of multiple instances of the CMCS
service on a single machine.

The corresponding service instance is labelled as `CommonStore_<name>`.

Examples

archservice install
: installs `CommonStore` as a service

archservice install -n 2
: installs `CommonStore_2` as a service

archservice remove -n 2
: removes the `CommonStore_2` service

archservice start -n 2
: starts the `CommonStore_2` service

archservice stop -n 2
: stops the `CommonStore_2` service

archservice status -n 2
: queries the status of the `CommonStore_2` service

> **Note:**
> **archservice** must not be executed from the command line *without*
> parameters. This way of executing **archservice** is restricted to internal
> Windows NT calls.

---

archstop

Usage

This program completely stops CMCS server by means of a regular shutdown.

`archstop [-p <port>] [-i <ini file>] [now] [-h]`

Options

-p **<port>**
: specifies the fixed port used by `archpro`

-i **<ini file>**
: specifies the fully qualified name (path + file name) of the CMCS
server configuration profile used by `archpro`

now stop immediately without waiting for completion of jobs

-h show this help

Remarks

The connection to `archpro` is established using the specified fixed port. This
fixed port could also be read from the specified CMCS server configuration
profile. When neither -p <port> nor -i <ini file> is specified, the default
(local) CMCS server configuration profile (name: `archint.ini`) is read.

Only port numbers above 5000 are accepted.

Examples

archstop
>stops `archpro` using the port of the default (local) CMCS server configuration profile (name: `archint.ini`)

archstop -p 5510
>stops `archpro` on port 5510 after all jobs have been completed

archstop -p 5510 now
>stops `archpro` on port 5510 immediately

archstop -i c:\ibm\cssap\instance01\archint.ini
>stops `archpro` using port from the specified CMCS server configuration profile

Appendix C. CMCS server error codes

CS_RC_OK (0)
Operation completed successfully (no error).

CS_RC_CLOSE_SOCKET (-1)
This return code indicates that the corresponding socket will be closed. Typically this does not mean that an error occured.

CS_RC_CHILDINIT_FAILED (-3)
Initialisation of a CommonStore child process failed. This indicates a startup problem of a CommonStore child process.

CS_RC_CHECKARCHIVE_FAILED (-5)
A CommonStore agent could not be started since the startup check of the corresponding archive failed.

CS_RC_VERSION_ERROR (-6)
CommonStore does not start since a child process with a wrong version has been detected. You must replace the corresponding executable by one of the correct version.

CS_RC_CHILD_TERMINATED (-10)
CommonStore has detected that a child process has terminated unexpectedly. The child process will be restarted automatically.

CS_RC_SHUTDOWN (-99)
CommonStore was shut down by a shutdown request from archstop.

CS_RC_SHUTDOWN_NOW (-100)
CommonStore was shut down by an immediate shutdown request from archstop.

CS_RC_NOMEM (-110)
A CommonStore process is running out of memory.

CS_RC_NOTFOUND (-115)
The requested data was not found. Please see CommonStore trace for further details.

CS_RC_ERRDELETE (-116)
An archived document or component could not be deleted. This error code could also occur when data is appended to a component or a component is updated.

CS_RC_NOTSUPPORTED (-118)
The requested operation is not supported. For example, an index transfer request sent to ADSM agent or an invalid action for an update operation.

CS_RC_FILENOTFOUND (-200)
A file or a document could not be found.

CS_RC_UNKNOWNDOC (-201)
The requested document was not found in the archive.

CS_RC_QUERYNOTFOUND (-202)
The document was not found in the archive (query request only).

CS_RC_ACCESSDENIED (-203)
Insuffcent access rights for archived document.

CS_RC_DOCEXISTS (-204)
The document could not be archived since the same document already
exists in the archive.

CS_RC_ERRCERT (-205)
Failure when administering a certificate.

CS_RC_COMPNOTFOUND (-206)
Issued in an append request when the corresponding component does
not exist in the archive. When data is appended to a component it is
necessary that this component already exists in the archive.

CS_RC_CONTREP_NOTFOUND (-207)
The specified content repository (archive ID) was not found in the
CommonStore profile (ARCHINT.INI).

CS_RC_INVALIDOFFSET (-208)
Issued in a part retrieve request when the specified offset is beyond
the end of document.

CS_RC_FREESEARCH_NOTFOUND (-210)
The specifed pattern was not found in a free search request.

CS_RC_ATTRSEARCH_NOTFOUND (-211)
The specified pattern was not found in an attributed search request.

CS_RC_OK_VERSION1 (-213)
A document archived with CommonStore version 1 was found (no
error).

CS_RC_READONLY (-214)
Document cannot be modified in the archive since it was stored with
CommonStore version 1.

CS_RC_LOGSYS_NOTFOUND (-215)
The DESTINATION statement in the CommonStore ini file does either
not contain the specified logical system or does not contain any
logical system.

CS_RC_NO_ATTR_ARCHIVED (-216)
The plain document data were archived successfully, but all attributes

provided in the attribute list were dropped since the archive cannot store the provided attributes. Issued typically by the CommonStore TSM agent when processing an archive request with additional attributes created by CSLD.

CS_RC_NOCOPYGROUP (-217)
> CommonStore cannot use the specified TSM management class due to a problem with the copy group.

CS_RC_SAP_ATTR_NOTALLOWED (-240)
> An archive operation failed since the attribute list in the archive request contains one of the reserved SAP attributes. These SAP attributes are filled automatically by CommonStore and hence are not allowed to be specified a second time.

CS_RC_SAP_ATTR_MISSING (-241)
> Certain SAP attributes required by CommonStore are missing in the index class or application group.

CS_RC_FILEOPEN_ERROR (-250)
> Error when opening a file or requesting the status of a file.

CS_RC_FILEREAD_ERROR (-251)
> Error when reading data from a file.

CS_RC_FILEWRITE_ERROR (-252)
> Error when writing data to a file.

CS_RC_ADSM_ERROR (-260)
> Some error has occurred in the CommonStore TSM agent, but the related TSM API call did not fail.

CS_RC_VI_ERROR (-261)
> Some error has occurred in the CommonStore CM agent, but the related CM API call did not fail.

CS_RC_OD_ERROR (-262)
> Some error has occurred in the CommonStore OD agent, but the related OD API call did not fail.

CS_RC_HTTP_REQUEST_WRONG_VERSION (-500)
> The HTTP request sent to CommonStore HTTP dispatcher did contain a newer version. This request is not yet supported by the current CommonStore HTTP dispatcher.

CS_RC_HTTP_REQUEST_WRONG_METHOD (-501)
> The HTTP request sent to CommonStore HTTP dispatcher did contain wrong HTTP method.

CS_RC_HTTP_REQUEST_MISSING_PARAMETER (-502)
> The HTTP request sent to CommonStore HTTP dispatcher did not contain all (or empty) mandarory parameters.

CS_RC_HTTP_REQUEST_MISSING_ENTITY (-503)
>
> The HTTP request sent to CommonStore HTTP dispatcher did not contain a body.

CS_DO_WRONG_SEARCHATTR (-1003)
>
> The specified search attribute pattern is not correct.

CS_DO_ARCHIVELIST_EMPTY (-1004)
>
> A search operation failed since the provided list of archive IDs is empty.

CS_DO_FOLDER_ISEMPTY (-1006)
>
> The folder operation cannot be completed since the specfied folder is empty.

CS_VI_RETRIEVE_ERROR (-1112)
>
> The retrieve operation failed although the called API functions did not return an error. The error was detected by additional consistency checks.

CS_VI_TOO_MANY_HITS (-1114)
>
> When searching a folder with the specified doc ID in the archive index class more than one hit was found.

CS_VI_PARTS_INCONSISTENT (-1116)
>
> The part numbers returned by the CM API are inconsistent. There is a gap in the returned part numbers.

CS_VI_INDEXCLASS_NOTFOUND (-1118)
>
> The specified index class was not found on the specified CM server.

CS_VI_CONTENTCLASS_NOTFOUND (-1120)
>
> The specified content class was not found on the specified CM server.

CS_VI_NO_DATA_RETURNED (-1121)
>
> An API function did not return the requested data. The API function itself did not fail, however.

CS_BC_RFC_ABORT_BY_USER (-7095)
>
> Archbc processing was stopped by a user (no error).

CS_BC_RFC_ERROR_TABLE (-7096)
>
> Creating the barcode entry table failed. CommonStore was unable to send the barcodes to SAP.

CS_BC_RFC_ERROR_INSERT (-7097)
>
> Sending the barcodes to SAP was not successful, since the remote function call ARCHIV_BARCODE_INSERT_RFC resp. BAPI_BARCODE_SENDLIST failed.

CS_BC_RFC_ERROR_CONNECTION (-7098)
>
> CommonStore could not open the connection to SAP. The remote

function calls ARCHIV_BARCODE_INSERT_RFC resp. BAPI_BARCODE_SENDLIST were not executed. No barcodes were sent to SAP.

CS_BC_RFC_NO_DATA_TO_SEND (-7099)

The barcode table was empty. There are no barcodes to be sent to SAP.

CS_VI_ITEM_IN_WRONG_INDEXCLASS (-7111

An item was requested to be re-indexed but the item did neither reside in the scan index class nor in the target component index class.

CS_VI_ARCHIVE_HAS_NO_SCAN_IC (-7125)

The operation failed since there is no scan index class defined for the specified content repository (archive ID).

CS_VI_ARCHIVE_HAS_NO_SCAN_WB (-7127)

The operation failed since there is no scan workbasket defined for the specified content repository (archive ID).

CS_VI_ARCHIVE_HAS_NO_ERROR_WB (-7128)

The operation failed since there is no error workbasket defined for the specified content repository (archive ID).

CS_RC_CWI_R3_CONNECTION_ERROR (-7201)

The create workitem request failed since CommonStore could not connect to SAP.

CS_RC_CWI_R3_FAILED (-7202)

SAP returned an error when receiving the create workitem request.

CS_RC_CWI_ARCHIVE_FAILED (-7203)

The create workitem request failed since the archive operation failed. The create workitem request was not sent to SAP.

CS_RC_SOCKET_PROBLEM (-10000)

A problem with the socket communication in CommonStore occured. Please see CommonStore trace file for further details.

CS_RC_NO_HANDLER (-10001)

A CommonStore process received a request for which no message handler was installed.

CS_RC_INTERNAL_ERROR (-10002)

An internal error in CommonStore or in the socket communication occured. Please see CommonStore trace file for further details.

CS_RC_WRONG_TYPE (-10003)

When parsing a CommonStore message sent over a socket a wrong data type is encountered.

Appendix D. Sample profiles

In the following sections, the sample profiles for Tivoli Storage Manager, Content Manager, and Content Manager OnDemand are presented. If you decide to use archives of more than one type, you can for example adapt the sample file for Content Manager by adding Tivoli Storage Manager archives as described in the sample file for Tivoli Storage Manager.

CMCS server on Windows NT using Tivoli Storage Manager

```
#######################################################################
#                                                                     #
#           CommonStore Interface to SAP R/3 ArchiveLink              #
#                                                                     #
#           Copyright IBM Deutschland Entwicklung GmbH                #
#                                                                     #
#                     Profile for CommonStore                         #
#                                                                     #
#######################################################################

#---------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
#---------------------------------------------------------------------#
BINPATH          c:\ibm\cssap\bin


#---------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the instance directory of the server installation.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
#---------------------------------------------------------------------#
INSTANCEPATH     c:\ibm\cssap\instance01


#---------------------------------------------------------------------#
# REPORT        ON|OFF
# Switches reporting to STDOUT on or off
#---------------------------------------------------------------------#
REPORT           ON


#---------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE          ON
# TRACE          AGENTS RFC DEBUG
#---------------------------------------------------------------------#
TRACE            ON
```

```
#-------------------------------------------------------------------------#
# Size of the trace file in KB
#-------------------------------------------------------------------------#
TRACEMAX        500


#-------------------------------------------------------------------------#
# LOG           ON|OFF
# Switches the writing of the log file on or off
#-------------------------------------------------------------------------#
LOG             ON


#-------------------------------------------------------------------------#
# Path for temporary files
#-------------------------------------------------------------------------#
TEMPPATH        c:\temp\


#-------------------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#-------------------------------------------------------------------------#
BASEPATH        \\SAPSERVER\transfer\base\


#-------------------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#-------------------------------------------------------------------------#
ARCHPATH        \\SAPSERVER\transfer\arch\


#-------------------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#-------------------------------------------------------------------------#
DESTINATION             KD7
    PROGID              KD7.ARCHINT
    GWHOST              /H/sapserver
    GWSERV              sapgw00
    LU                  sapserver
    TP                  sapdp00
    LOGICAL_SYSTEM      T90CLNT090
        CLIENT          800
        USER            MUSTER


#-------------------------------------------------------------------------#
# Technical connection parameters when ADSM is used as archive.
# The first entry could be ARCHIVE DEFAULT.
# Further entries with explictly defined archive ID are needed
# if different ADSM Servers and/or different ADSM Management Classes
# should be used for storing R/3 documents.
#-------------------------------------------------------------------------#
ARCHIVE A1
    STORAGETYPE         ADSM
    SERVER              ADSMSERV02
    MGMT_CLASS          SAP_MGMT02
    ADSMNODE            CSTORE02
```

```
    LOGICAL_SYSTEM        T90CLNT090


#-------------------------------------------------------------------------#
# Number of parallel instances of the CommonStore child programs
#-------------------------------------------------------------------------#
DISPATCHERS     2
ADSMAGENTS      2
VIAGENTS        0
ODAGENTS        0
ARCHWINS        2
WEBDPS          0


#-------------------------------------------------------------------------#
# TCP/IP port numbers used by CommonStore.
# ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#-------------------------------------------------------------------------#
ARCHWIN_PORT    5500
WEBPORT         5580


#-------------------------------------------------------------------------#
# LUM
#-------------------------------------------------------------------------#
SYSTEMTYPE      SAPSYSTEM


#-------------------------------------------------------------------------#
# End of profile
#-------------------------------------------------------------------------#
END
```

CMCS server on UNIX using Tivoli Storage Manager

```
##########################################################################
#                                                                        #
#           CommonStore Interface to SAP R/3 ArchiveLink                 #
#                                                                        #
#           Copyright IBM Deutschland Entwicklung GmbH                   #
#                                                                        #
#              Profile for CommonStore                                   #
#                                                                        #
##########################################################################


#-------------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
# On HP-UX and Sun Solaris :
# BINPATH /opt/cssap/bin
#-------------------------------------------------------------------------#
BINPATH         /usr/lpp/cssap/bin/


#-------------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the home directory of the instance admin user.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
```

```
#---------------------------------------------------------------------------#
INSTANCEPATH    /home/csadm1/


#---------------------------------------------------------------------------#
# REPORT        ON|OFF
# Switches reporting to STDOUT on or off
#---------------------------------------------------------------------------#
REPORT          ON


#---------------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE         ON
# TRACE         AGENTS RFC DEBUG
#---------------------------------------------------------------------------#
TRACE           OFF


#---------------------------------------------------------------------------#
# Size of the trace file in KB
#---------------------------------------------------------------------------#
TRACEMAX        500


#---------------------------------------------------------------------------#
# Path for temporary files
#---------------------------------------------------------------------------#
TEMPPATH        /tmp/


#---------------------------------------------------------------------------#
# LOG           ON|OFF
# Switches the writing of the log file on or off
#---------------------------------------------------------------------------#
LOG             ON


#---------------------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#---------------------------------------------------------------------------#
BASEPATH        /sap/trans/base/


#---------------------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#---------------------------------------------------------------------------#
ARCHPATH        /sap/trans/arch/


#---------------------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#---------------------------------------------------------------------------#
DESTINATION          KD7
    PROGID           KD7.ARCHINT
    GWHOST           /H/sapserver
```

```
        GWSERV              sapgw00
        LU                  sapserver
        TP                  sapdp00
        LOGICAL_SYSTEM      T90CLNT090
            CLIENT          800
            USER            MUSTER


#-------------------------------------------------------------------------#
# Technical connection parameters when ADSM is used as archive.
# The first entry could be ARCHIVE DEFAULT.
# Further entries with explictly defined archive ID are needed
# if different ADSM Servers and/or different ADSM Management Classes
# should be used for storing R/3 documents.
#-------------------------------------------------------------------------#
ARCHIVE A1
    STORAGETYPE         ADSM
    SERVER              ADSMSERV02
    MGMT_CLASS          SAP_MGMT02
    ADSMNODE            CSTORE02
    LOGICAL_SYSTEM      T90CLNT090


#-------------------------------------------------------------------------#
# Number of parallel instances of the CommonStore child programs
#-------------------------------------------------------------------------#
DISPATCHERS     2
ADSMAGENTS      2
VIAGENTS        0
ODAGENTS        0
ARCHWINS        2
WEBDPS          0


#-------------------------------------------------------------------------#
# TCP/IP port numbers used by CommonStore.
# ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#-------------------------------------------------------------------------#
ARCHWIN_PORT    5500
WEBPORT         5580


#-------------------------------------------------------------------------#
# LUM
#-------------------------------------------------------------------------#
SYSTEMTYPE      SAPSYSTEM


#-------------------------------------------------------------------------#
# End of profile
#-------------------------------------------------------------------------#
END
```

CMCS server on Windows NT using Content Manager

```
########################################################################
#                                                                      #
#             CommonStore Interface to SAP R/3 ArchiveLink             #
#                                                                      #
#             Copyright IBM Deutschland Entwicklung GmbH               #
#                                                                      #
#                     Profile for CommonStore                          #
#                                                                      #
########################################################################


#----------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
#----------------------------------------------------------------------#
BINPATH         c:\ibm\cssap\bin


#----------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the instance directory of the server installation.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
#----------------------------------------------------------------------#
INSTANCEPATH    c:\ibm\cssap\instance01


#----------------------------------------------------------------------#
# REPORT        ON|OFF
# Switches reporting to STDOUT on or off
#----------------------------------------------------------------------#
REPORT          ON


#----------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE         ON
# TRACE         AGENTS RFC DEBUG
#----------------------------------------------------------------------#
TRACE           OFF


#----------------------------------------------------------------------#
# Size of the trace file in KB
#----------------------------------------------------------------------#
TRACEMAX        500


#----------------------------------------------------------------------#
# LOG           ON|OFF
# Switches the writing of the log file on or off
#----------------------------------------------------------------------#
LOG             ON


#----------------------------------------------------------------------#
# Path for temporary files
#----------------------------------------------------------------------#
```

```
TEMPPATH          c:\temp\

#----------------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#----------------------------------------------------------------------#
BASEPATH          \\SAPSERVER\transfer\base\

#----------------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#----------------------------------------------------------------------#
ARCHPATH          \\SAPSERVER\transfer\arch\

#----------------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#----------------------------------------------------------------------#
DESTINATION             KD7
    PROGID              KD7.ARCHINT
    GWHOST              /H/sapserver
    GWSERV              sapgw00
    LU                  sapserver
    TP                  sapdp00
    LOGICAL_SYSTEM      T90CLNT090
        CLIENT          800
        USER            MUSTER

#----------------------------------------------------------------------#
# Technical connection parameters when ADSM is used as archive.
# The first entry could be ARCHIVE DEFAULT.
# Further entries with explicitly defined archive ID are needed
# if different VIsualInfo Servers and/or different Index Classes
# should be used for storing R/3 documents.
#----------------------------------------------------------------------#
ARCHIVE A1
    STORAGETYPE         VI
    LIBSERVER           LIBSERV2
    INDEX_CLASS         SapA10
    VIUSER              FRNUSER
    FORMAT              SAPALF

ARCHIVE A2
    STORAGETYPE         VI
    LIBSERVER           LIBSERV2
    INDEX_CLASS_SCAN    SapScanA11
    INDEX_CLASS         SapA11
    WB_SCAN             SapScanWB_A11
    WB_ERROR            SapScanSaveWB_A11
    VIUSER              FRNUSER
    LOGICAL_SYSTEM      T90CLNT090

#----------------------------------------------------------------------#
# Specifies how many documents will be transferred at the same time
```

```
# from the workbasket to the R/3 system
#------------------------------------------------------------------------#
MAXBCTRANSFER    100


#------------------------------------------------------------------------#
# Number of parallel instances of the CommonStore child programs
#------------------------------------------------------------------------#
DISPATCHERS      2
ADSMAGENTS       0
VIAGENTS         2
ODAGENTS         0
ARCHWINS         2
WEBDPS           0


#------------------------------------------------------------------------#
# TCP/IP port numbers used by CommonStore.
# ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#------------------------------------------------------------------------#
ARCHWIN_PORT     5500
WEBPORT          5580


#------------------------------------------------------------------------#
# LUM
#------------------------------------------------------------------------#
SYSTEMTYPE       SAPSYSTEM


#------------------------------------------------------------------------#
# End of profile
#------------------------------------------------------------------------#
END
```

CMCS server on UNIX using Content Manager

```
########################################################################
#                                                                      #
#           CommonStore Interface to SAP R/3 ArchiveLink               #
#                                                                      #
#           Copyright IBM Deutschland Entwicklung GmbH                 #
#                                                                      #
#               Profile for CommonStore                                #
#                                                                      #
########################################################################

#----------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
# On HP-UX and Sun Solaris :
# BINPATH /opt/cssap/bin
#----------------------------------------------------------------------#
BINPATH          /usr/lpp/cssap/bin/


#----------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the home directory of the instance admin user.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
#----------------------------------------------------------------------#
INSTANCEPATH    /home/csadm1/


#----------------------------------------------------------------------#
# REPORT      ON|OFF
# Switches reporting to STDOUT on or off
#----------------------------------------------------------------------#
REPORT          ON


#----------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE        ON
# TRACE        AGENTS RFC DEBUG
#----------------------------------------------------------------------#
TRACE           OFF


#----------------------------------------------------------------------#
# Size of the trace file in KB
#----------------------------------------------------------------------#
TRACEMAX        500


#----------------------------------------------------------------------#
# Path for temporary files
#----------------------------------------------------------------------#
TEMPPATH        /tmp/


#----------------------------------------------------------------------#
# LOG         ON|OFF
```

```
# Switches the writing of the log file on or off
#------------------------------------------------------------------------#
LOG             ON


#------------------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#------------------------------------------------------------------------#
BASEPATH        /sap/trans/base/


#------------------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#------------------------------------------------------------------------#
ARCHPATH        /sap/trans/arch/


#------------------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#------------------------------------------------------------------------#
DESTINATION             KD7
    PROGID              KD7.ARCHINT
    GWHOST              /H/sapserver
    GWSERV              sapgw00
    LU                  sapserver
    TP                  sapdp00
    LOGICAL_SYSTEM      T90CLNT090
        CLIENT          800
        USER            MUSTER


#------------------------------------------------------------------------#
# Technical connection parameters when ADSM is used as archive.
# The first entry could be ARCHIVE DEFAULT.
# Further entries with explicitly defined archive ID are needed
# if different VIsualInfo Servers and/or different Index Classes
# should be used for storing R/3 documents.
#------------------------------------------------------------------------#

ARCHIVE A1
    STORAGETYPE         VI
    LIBSERVER           LIBSERV2
    INDEX_CLASS         SapA10
    VIUSER              FRNUSER
    FORMAT              TIFF6

ARCHIVE A2
    STORAGETYPE         VI
    LIBSERVER           LIBSERV2
    INDEX_CLASS_SCAN    SapScanA11
    INDEX_CLASS         SapA11
    WB_SCAN             SapScanWB_A11
    WB_ERROR            SapScanSaveWB_A11
    VIUSER              FRNUSER
    LOGICAL_SYSTEM      T90CLNT090
```

```
#------------------------------------------------------------------------#
# Specifies how many documents will be transferred at the same time
# from the workbasket to the R/3 system
#------------------------------------------------------------------------#
MAXBCTRANSFER    100


#------------------------------------------------------------------------#
# Number of parallel instances of the CommonStore child programs
#------------------------------------------------------------------------#
DISPATCHERS      2
ADSMAGENTS       0
VIAGENTS         2
ODAGENTS         0
ARCHWINS         2
WEBDPS           0


#------------------------------------------------------------------------#
# TCP/IP port numbers used by CommonStore.
# ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#------------------------------------------------------------------------#
ARCHWIN_PORT     5500
WEBPORT          5580


#------------------------------------------------------------------------#
# LUM
#------------------------------------------------------------------------#
SYSTEMTYPE       SAPSYSTEM


#------------------------------------------------------------------------#
# End of profile
#------------------------------------------------------------------------#
END
```

CMCS server on Windows NT using Content Manager OnDemand

```
#######################################################################
#                                                                     #
#              CommonStore Interface to SAP R/3 ArchiveLink           #
#                                                                     #
#              Copyright IBM Deutschland Entwicklung GmbH             #
#                                                                     #
#                   Profile for CommonStore                           #
#                                                                     #
#######################################################################


#---------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
#---------------------------------------------------------------------#
BINPATH         c:\ibm\cssap\bin


#---------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the instance directory of the server installation.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
#---------------------------------------------------------------------#
INSTANCEPATH    c:\ibm\cssap\instance01


#---------------------------------------------------------------------#
# REPORT        ON|OFF
# Switches reporting to STDOUT on or off
#---------------------------------------------------------------------#
REPORT          ON


#---------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE         ON
# TRACE         AGENTS RFC DEBUG
#---------------------------------------------------------------------#
TRACE           OFF


#---------------------------------------------------------------------#
# Size of the trace file in KB
#---------------------------------------------------------------------#
TRACEMAX        500


#---------------------------------------------------------------------#
# LOG           ON|OFF
# Switches the writing of the log file on or off
#---------------------------------------------------------------------#
LOG             ON


#---------------------------------------------------------------------#
# Path for temporary files
#---------------------------------------------------------------------#
```

```
TEMPPATH        c:\temp\

#-----------------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#-----------------------------------------------------------------------#
BASEPATH        \\SAPSERVER\transfer\base\

#-----------------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#-----------------------------------------------------------------------#
ARCHPATH        \\SAPSERVER\transfer\arch\

#-----------------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#-----------------------------------------------------------------------#
DESTINATION             KD7
    PROGID              KD7.ARCHINT
    GWHOST              /H/sapserver
    GWSERV              sapgw00
    LU                  sapserver
    TP                  sapdp00
    LOGICAL_SYSTEM      T90CLNT090
        CLIENT          800
        USER            MUSTER

#-----------------------------------------------------------------------#
# Technical connection parameters when OnDemand is used as archive.
# The first entry could be ARCHIVE DEFAULT (not specified here).
# Further entries with explicitly defined archive ID are needed
# if different OnDemand application groups or applications
# should be used for storing R/3 documents.
#-----------------------------------------------------------------------#
ARCHIVE A1
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'Inbound SAP R/3 Documents'
    APPLICATION         'Inbound SAP R/3 Documents'
    FOLDER              'SAP R/3 Documents'
    LOGICAL_SYSTEM      T90CLNT090
    ODUSER              CSTORE

ARCHIVE A2
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'Outbound SAP R/3 Documents (OTF)'
    APPLICATION         'Outbound SAP R/3 Documents (OTF)'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE

ARCHIVE A3
    STORAGETYPE         ONDEMAND
```

```
                ODHOST            asterix
                APPGROUP          'Outbound SAP R/3 Documents (PDF)'
                APPLICATION       'Outbound SAP R/3 Documents (PDF)'
                FOLDER            'SAP R/3 Documents'
                ODUSER            CSTORE

        ARCHIVE A4
                STORAGETYPE       ONDEMAND
                ODHOST            asterix
                APPGROUP          'SAP R/3 Archive Data'
                APPLICATION       'SAP R/3 Archive Data'
                FOLDER            'SAP R/3 Documents'
                ODUSER            CSTORE

        ARCHIVE A5
                STORAGETYPE       ONDEMAND
                ODHOST            asterix
                APPGROUP          'SAP R/3 Binary Data'
                APPLICATION       'SAP R/3 Binary Data'
                FOLDER            'SAP R/3 Documents'
                ODUSER            CSTORE

        ARCHIVE A6
                STORAGETYPE       ONDEMAND
                ODHOST            asterix
                APPGROUP          'SAP R/3 Print Lists'
                APPLICATION       'SAP R/3 Print Lists'
                FOLDER            'SAP R/3 Documents'
                ODUSER            CSTORE

        #------------------------------------------------------------------------#
        # Number of parallel instances of the CommonStore child programs
        #------------------------------------------------------------------------#
        DISPATCHERS     2
        ADSMAGENTS      0
        VIAGENTS        0
        ODAGENTS        3
        ARCHWINS        3
        WEBDPS          0

        #------------------------------------------------------------------------#
        # TCP/IP port numbers used by CommonStore.
        # ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
        # WEBPORT is used by the web dispatcher for the internet access.
        #------------------------------------------------------------------------#
        ARCHWIN_PORT    5500
        WEBPORT         5580

        #------------------------------------------------------------------------#
        # LUM
        #------------------------------------------------------------------------#
        SYSTEMTYPE      SAPSYSTEM
```

```
#----------------------------------------------------------------------#
# End of profile
#----------------------------------------------------------------------#
END
```

CMCS server on UNIX using Content Manager OnDemand

```
#######################################################################
#                                                                     #
#              CommonStore Interface to SAP R/3 ArchiveLink           #
#                                                                     #
#              Copyright IBM Deutschland Entwicklung GmbH             #
#                                                                     #
#                   Profile for CommonStore                          #
#                                                                     #
#######################################################################


#---------------------------------------------------------------------#
# Path (directory) of the CommonStore binaries
# On HP-UX and Sun Solaris :
# BINPATH /opt/cssap/bin
#---------------------------------------------------------------------#
BINPATH         /usr/lpp/cssap/bin/


#---------------------------------------------------------------------#
# Path (directory) of the CommonStore instance.
# Should point to the home directory of the instance admin user.
# All instance related files will be located in this directory, e.g.
#  trace files, log files, config files, etc.
#---------------------------------------------------------------------#
INSTANCEPATH    /home/csadm1/


#---------------------------------------------------------------------#
# REPORT       ON|OFF
# Switches reporting to STDOUT on or off
#---------------------------------------------------------------------#
REPORT          ON


#---------------------------------------------------------------------#
# TRACE    DISP FILEIO ARCHPRO AGENTS DEBUG ADSM RFC ON OFF
# Switches trace levels
#
# Examples for usage:
# TRACE         ON
# TRACE         AGENTS RFC DEBUG
#---------------------------------------------------------------------#
TRACE           OFF


#---------------------------------------------------------------------#
# Size of the trace file in KB
#---------------------------------------------------------------------#
TRACEMAX        500


#---------------------------------------------------------------------#
# Path for temporary files
#---------------------------------------------------------------------#
TEMPPATH        /tmp/


#---------------------------------------------------------------------#
# LOG          ON|OFF
```

```
# Switches the writing of the log file on or off
#-----------------------------------------------------------------#
LOG             ON


#-----------------------------------------------------------------#
# Path in which SAP R/3 is storing the data for CommonStore. It should
# be shared through all R/3 application servers via NFS mount.
#-----------------------------------------------------------------#
BASEPATH        /sap/trans/base/


#-----------------------------------------------------------------#
# Path in which CommonStore is storing the data for SAP R/3. It should
# be shared through all R/3 application servers via NFS mount.
#-----------------------------------------------------------------#
ARCHPATH        /sap/trans/arch/


#-----------------------------------------------------------------#
# Technical connection parameters for SAP R/3. Similar to the sideinfo
# file provided by the SAP.
# Multiple LOGICAL_SYSTEM sections can be specified.
#-----------------------------------------------------------------#
DESTINATION             KD7
    PROGID              KD7.ARCHINT
    GWHOST              /H/sapserver
    GWSERV              sapgw00
    LU                  sapserver
    TP                  sapdp00
    LOGICAL_SYSTEM      T90CLNT090
        CLIENT          800
        USER            MUSTER


#-----------------------------------------------------------------#
# Technical connection parameters when OnDemand is used as archive.
# The first entry could be ARCHIVE DEFAULT (not specified here).
# Further entries with explicitly defined archive ID are needed
# if different OnDemand application groups or applications
# should be used for storing R/3 documents.
#-----------------------------------------------------------------#
ARCHIVE A1
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'Incoming SAP R/3 Documents'
    APPLICATION         'Incoming SAP R/3 Documents'
    FOLDER              'SAP R/3 Documents'
    LOGICAL_SYSTEM      T90CLNT090
    ODUSER              CSTORE

ARCHIVE A2
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'Outgoing SAP R/3 Documents (OTF)'
    APPLICATION         'Outgoing SAP R/3 Documents (OTF)'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE
```

```
ARCHIVE A3
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'Outgoing SAP R/3 Documents (PDF)'
    APPLICATION         'Outgoing SAP R/3 Documents (PDF)'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE

ARCHIVE A4
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'SAP R/3 Archive Data'
    APPLICATION         'SAP R/3 Archive Data'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE

ARCHIVE A5
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'SAP R/3 Binary Data'
    APPLICATION         'SAP R/3 Binary Data'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE

ARCHIVE A6
    STORAGETYPE         ONDEMAND
    ODHOST              asterix
    APPGROUP            'SAP R/3 Print Lists'
    APPLICATION         'SAP R/3 Print Lists'
    FOLDER              'SAP R/3 Documents'
    ODUSER              CSTORE

#------------------------------------------------------------------------#
# Number of parallel instances of the CommonStore child programs
#------------------------------------------------------------------------#
DISPATCHERS     2
ADSMAGENTS      0
VIAGENTS        0
ODAGENTS        2
ARCHWINS        2
WEBDPS          0

#------------------------------------------------------------------------#
# TCP/IP port numbers used by CommonStore.
# ARCHWIN_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#------------------------------------------------------------------------#
ARCHWIN_PORT    5500
WEBPORT         5580

#------------------------------------------------------------------------#
# LUM
#------------------------------------------------------------------------#
SYSTEMTYPE      SAPSYSTEM
```

```
#----------------------------------------------------------------------#
# End of profile
#----------------------------------------------------------------------#
END
```

Appendix E. DMSImport

Configuration files

Parameters of CADRFC.INI

CadRfcUser *<user_name>*	*user_name* defines the user for SAP log-on. This has to be a CPIC user at least.
	Required: Yes
CadRfcClient *<client_number>*	The *client_number* defines the SAP client DMSImport logs on to.
	Required: Yes
CadRfcLanguage *<lang>*	*lang* defines the language DMSImport logs on with.
	Required: Yes
CadRfcDestination *<dest>*	*dest* is an alias name for the R/3 System DMSImport logs on to. This string has to correspond to a *DEST* keyword in the SAPRFC.INI file.
	Required: Yes
CadRfcHostname	This keyword is required by the CAD interface but no value is necessary, because it needs to be customized in SAPRFC.INI.
	Required: Yes
CadRfcSysnr	This keyword is required by the CAD interface but no value is necessary, because it needs to be customized in SAPRFC.INI.
	Required: Yes
CadRfcUseSapMsgFile Y|N	This parameter is used for load balancing. If it is not used, set this keyword to N. If Y is entered, sapmsg.ini has to be customized too.
	Required: Yes
CadDialogSapVersion R/2|R3	Version of the SAP system. Default is R/3.
	Required: No
CadDialogCadSystem *<CADSystem>*	*CADSystem* defines the CAD system DMSImport logs on with. The entry made here has to be equal to the SAP CAD customizing in "CAD Integration" on page 142. (e.g. CM_CSTORE)
	Required: Yes

CadDialogNetAddress [<*hostname*>]	A *hostname* has to be supplied, if the system variable HOSTNAME is not set on this machine. This keyword value is used by SAP to identify this machine. See "Document Handling Setup" on page 145 for further details.
	Required: Yes
CadDialogStandardTrace 0|1	LOG_XXXX.LOG will be created. 1 - On. 0 - Off
	Default: 0
	Required: No
CadDialogSapCadTrace 0|1	SAP_CAD.LOG will be created. 1 - On. 0 - Off
	Default: 0
	Required: No
CadTraceDir <*trace_dir*>	*trace_dir* defines a directory, the CAD interface will write it's log and trace files into.
	Required: No

Sample :

```
*----------------------------------------
* Parameters for SAP R/3 Log-On
*----------------------------------------


CadRfcUser                          haensel
CadRfcClient                        800
CadRfcLanguage                      E
CadRfcDestination                   MIRA
CadRfcHostname
CadRfcSysnr
CadRfcUseSapMsgFile                 N


*----------------------------------------
* Parameters for Dialog interface
*----------------------------------------


CadDialogSapVersion                 R/3
CadDialogCadSystem                  CM_CSTORE
```

```
CadDialogNetAddress


*---------------------------------------
* Trace Parameters
*---------------------------------------


CadDialogStandardTrace              1
CadDialogSapCadTrace                1
CadTraceDir                         F:\SAP\Trace\
```

Parameters of SAPRFC.INI

The character '=' is used to separate the identifiers from their values.

DEST=<*destination*>	*destination* defines a destination identifier which has to match with keyword `CadRfcDestination` in file `CADRFC.INI`.
TYPE=A|B	defines the type of connection. A = connect to a specific application server. B = R/3 System using load balancing.
ASHOST=<*hostname*>	*hostname* defines a hostname or IP address of an specific application server.
SYSNR=<*system*>	Define the R/3 System number by *system*.
RFC_TRACE=0|1	1 - turns RFC interface trace on, `Rfcxxxxx.trc` files will be written. 0 - turns RFC tracing off.
USE_SAPGUI=0|1	1 - turns the SAPGUI on. We recommend to turn the SAPGUI off for CAD interface usage, so set it to 0.

Sample :
```
#
# IMPORTANT:  Use no whitespaces between '=' and the identifiers
#
DEST=MIRA
TYPE=A
ASHOST=miraculix
SYSNR=01
RFC_TRACE=1
USE_SAPGUI=0
```

Parameters of DMSImport profile

CLEAR_TRACE YES|NO	If this parameter is set to ON, the previous trace file is overwritten each time you start DMSImport. NO means the trace file is continued each run. Default: YES
CLS_TYPE *<DMS_class_type>*	*DMS_class_type* defines the class type that is customized in R/3 for the Document Management System. Default: 017
CONFIG_FILE *<config_file>*	*config_file* is the full qualified file name for the file where the DMSImport is saving it's configuration Default: DMSImport.cfg (within the current directory)
END	Reading the profile stops if this statement was found.
LOG *<logfile_path>*	*logfile_path* defines the name of an existing directory where log files will be written to. If this keyword is omitted no logging will be turned off. Default: Logging Off
QUEUE *<name>*	*name* of the queue, which can be given by import function.
LOCATION *<directory>*	*directory* where description files are located in. Default: current directory
DESCR_EXT *<extension>*	File *extension* of description files. Default: txt

> **Note**
> Multiple queues can be defined.

SEPARATOR *<separator_character>*	*Separator_character* is the character that is used as field separator in description files. Default: ,
TRACE *<tracefile>*[TABCON] [DATASET] [DEBUG]	*tracefile* defines the name of a file the trace messages should be written to. Additionally the following options can be defined.
	TABCON trace internal table contents

DATASET	trace SAP data sets
DEBUG	trace additional debug options.

TRACEMAX <max_size>	Specify the maximum size of the trace file in kilobytes by *max_size*. If this keyword is not specified, the trace file may flood your hard disk. If the maximum trace file size is reached the top of the cut and new trace messages are appended. Valid range is 0 - 2097151.

Sample :

LOG	C:\CommonStore\DMSImport\Log
TRACE	C:\CommonStore\DMSImport\DMSImport.trace DATASET TABCON
CLEAR_TRACE	YES
TRACEMAX	1024
CONFIG_FILE	c:\CommonStore\DMSImport\DMSImport.cfg
CLS_TYPE	017
SEPERATOR	?
QUEUE	Q1
LOCATION	C:\CommonStore\DMSImport\Queue1
DESCR_EXT	txt
END	

Command reference

Usage

```
dmsimport.exe [[-i <profile>] -f <function>]] | [-h]
```

Parameters

–i <profile>	*profile* is the full qualified file name of the DMS Import profile. By default the file DMSImport.ini in the current directory.
–h	shows the usage screen.
–f <function>	perform the specified *function* described below.

Functions

r3passwd   set the password for the R/3 user that is given in file
`CADRFC.INI`.

`import [<Queue>* | —d <Description file>]`

Imports content of queues defined by *queue* or one
dedicated *description file.*

Remarks

File names containing whitespaces have to be enclosed by double quotes. The
sequence of the specified commandline options has to be conform to the
description above.

Samples

`dmsimport.exe -f r3passwd`

Runs the DMSImport in order to set the password for the R/3 user that is
extracted from `CADRFC.INI`.

`dmsimport.exe -i c:\dmsimport\myprofile.ini -f import`

DMSImport is forced to use the specified profile and import the document of
all queues defined in the profile.

`dmsimport.exe -i c:\dmsimport\myprofile.ini -f import QUEUE1 QUEUE3`

DMSImport is going to import the documents of queues `QUEUE1` and `QUEUE3`
defined in the specified profile.

`dmsimport.exe -f import -d C:\dmsimport\description.txt`

DMSImport imports the document(s) written in the description file given by
option -d. The queue definitions are not relevant in this case.

DMSImport description file

Description files contain information about one or multiple documents where
documents are separated by line breaks. The token <SEP> stands for the
separation character defined by the keyword *SEPARATOR* in the DMSImport
profile.

Line syntax

[<Name><SEP>]<File
name><SEP><DocType>[<SEP><SEP><Class>[<SEP><Identifier><SEP><Value>]+]*

Token description

Name	Document description. If not specified the <File name> is used as document name.
File name	Full qualified file name of the document file.
Doc Type	Document type (see "Document type setup" on page 143).
Class	Class which provides characteristics given by *Identifier* tokens.
Identifier	Characteristic defined in SAP class *Class*.
Value	Value for the preceding *Identifier*.

Sample

```
Document Sample?C:\Temp\Queue1\DocSampl.pdf?DOC??INV_DAT?
INVOICE_NUMBER?23454543?INVOICE_DATE?02/01/2000
```

In the sample above the separator character '?' is used. The document is classified to one class only.

Notices

Tokens have to be enclosed by quotations, if the separator character is used within a token for example:

```
Document1\"c:\temp\doc.tif"\DOC\\INV_DAT\INVOICE_NUMBER\
234654\INVOICE_DATE\02/01/2000.
```

The separator is '\' which is used within the documents file name too.

Microsoft Word macro configuration file

The CMCS DMSImport MS Word macro requires a configuration file called CSDMSOff.ini which resides in the Windows NT system root directory defined by the system variable SYSTEMROOT. The INI file's structure is Windows conform. It consists of multiple sections and keywords.

Complete lines can be commented by using symbol # at the beginning of the line. Between the keywords, '=' and the values whitespaces can be inserted. The keywords are case sensitive, also the file name of templates.

Section "**Common**"

The section "Common" contains general keywords setting the environment for the DMSImport macro.

Keywords :

DMSDescriptionFileName = *\<file\>*	The full qualified file name of the description file to be created.
DMSImportPath = *\<path\>*	Specify the full qualified path of DMSImport application. If the path is not specified DMSImport has to be accessible via the PATH system variable.
	Required: No
DMSImportProfile = *\<profile\>*	Specify the full qualified file name of the profile should be used by DMSImport.
	Required: YES
ShowApp = 0 │ 1	Show a commandline window when running DMSImport make to,,
	0 - Off
	1 - On (default)
	Required: No

Section ″**Template**″

The section ″Template″ assigns alias document types to MS Word templates, because each template is mapped to a SAP document type.

Syntax:
    \<Template\> = \<Alias_for_document_type\>

Example:
    `Test.dot = Test Documents`

Section ″**DocType**″

The section ″DocType″ assigns the alias document types to one SAP document type and SAP classes.

Syntax:
    \<Alias_for_document_type\> = \<SAP_document_type\>[,\<SAP_class\>]*

Example:
    `Test Documents = TST, CLASS_TEST`

Section ″**Class**″

The section ″Class″ assigns SAP characteristics to SAP classes specified in section ″DocType″ by token SAP_class.

Syntax:
    \<SAP_class\> = \<SAP_characteristic\>[,\<SAP_characteristic\>]*

Example:
    `CLASS_TEST = INDEX1, INDEX2`

CMCS DMSImport exit codes-

DMSImport returns one of the following exit codes. The descriptions explain what they mean.

Exit code	Description
0	application finished successfully
1	wrong parameters where given
2	unable to establish a connection to the SAP system
3	error while uploading to SAP
4	error within the DMSImport configuration file definitions
5	unable to read/write the config file (used for SAP password)
6	unable to open CadRfc.INI
7	error on application initialization
8	no documents to process
10	error because neither queues defined nor '-d' option specified. No import can be performed
11	error during reading a queue

Appendix F. FAQ

Question: What happens if SAP changes the ArchiveLink interface (in a new R/3 version)?

>**Answer:** We would like to emphasize that IBM will always support the full ArchiveLink functionality of the current SAP R/3 version. Though SAP guarantees that new releases of R/3 will provide backward compatibility to previous ArchiveLink versions, SAP will inform IBM (as the provider of a certified product) about any new feature that they are going to announce. IBM will then implement these new features as soon as possible and provide updates to the customers. It's then up to the customer to decide whether he wants to install the update or not. Installing the update enables the customer to utilize the new ArchiveLink features. The solution will also work if the update is not installed, but new functions won't be usable in this case.

Question: Is your solution certified by SAP AG?

>**Answer:** Yes. CMCS was first certified as interface software for the SAP R/3 3.0 system in April, 1996. This certification test was carried out at the SAP headquarters in Waldorf, Germany using Content Manager OS/2. In May of 1997, we re-certified the new AIX-based CMCS solution for R/3 3.1 thus having CMCS certified for all relevant R/3 versions today. The certificates confirm the existence of product functionality in accordance with SAP's certification procedure. IBM will continue to (re)certify CMCS (AIX, Windows NT) for new R/3 versions as part of an "enterprise certification agreement" signed with SAP. In May of 1997, we re-certified the CMCS solution for R/3 3.1; in July 1999, we re-certified it for R/3 4.5. CMCS has thus now been certified for all relevant R/3 versions.

Question: Do we need separate archive client licenses besides the CMCS client licenses?

>**Answer:** No, CMCS server provides the full functionality for retrieving and viewing of R/3 archived documents. You can use either the ArchiveLink Viewing Client (delivered with the SAP GUI), or other viewers you like. So if you always request the document through SAP, you don't need any additional archive client licenses. You will need these clients only if you want to search for archived documents outside of SAP.

Question: If I have several instances of CMCS server for different SAP-Systems, can I retrieve archived data from one client workstation for all of them?

>**Answer:** Yes, you can. If you do have distinct archive names over all

your SAP systems, you can customize the CMCS server for client access to all these archives, regardless of what SAP system you're logged in to. So it will be completely transparent for the user.

Question: Can I run multiple instances of CMCS server on one server?
Answer: Yes, you can. Multiple instances of the CMCS server can be started on the same system. You only have to take care of distinct values of some initialization parameters (e.g. *port* and *trace-/log-files* should be different). Thus, you must use distinct parameters for all CMCS server configuration profiles used. The executables can be unique and do not have to be copied.

List of Abbreviations

The abbreviations used in this document are listed below.

ADK	Archive Development Kit
ADSM	ADSTAR Distributed Storage Manager
AFP	Advanced Function Printing
AIX	Advanced Interactive Executive (IBM implementation of UNIX)
ALF	Advanced List Format
API	Application Program Interface
CCMS	Computer Center Managing System
COLD	Computer Output on Laser Disk
DLL	Dynamic Link Library (files with the extension `.dll`)
DVS	Dokumenten-Verwaltungs-System (Document Administration System)
GUI	Graphic User Interface
IAC	Internet Application Component
IBM	International Business Machines Corporation
ITS	Internet Transaction Server
NT	New Techno logy (Microsoft operating system Windows NT)
OCR	Optical Character Recognition
OLE	Object Linking and Embedding
OS/2	Operating System/2
OS/390	Operating System/390
OTF	Output Text Format (files with the extension `.otf`)
PDF	Portable Document Format (files with the extension `.pdf`)
R/3	SAP R/3 system
S/390	System/390
SAP	Systems, Applications, Products in Data Processing (software vendor)
TCP/IP	Transmission Control Protocol/Internet Protocol
TIFF	Tag Image File Format (files with the extension `.tif`)
UNIX	An operating system developed at Bell Laboratories
URL	Uniform Resource Locator

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Server Installation and User's Guide
Version 7 Release 1

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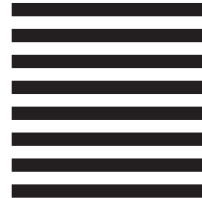
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CommonStore for SAP

IBM Content Manager CommonStore for SAP
Server Installation and User's Guide

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