

IBM Content Manager



# CommonStore for SAP Server Installation and User's Guide

*Version 8.1*



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**Note!**

Before using this information and the product it supports, be sure to read the general information under Appendix G, "Notices" on page 201.

**First Edition, September 2002**

This edition applies to Version 8.1 of IBM Content Manager CommonStore for SAP, program number 5724-B87, and to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this book

This book provides detailed information on the following subjects:

- Installing and configuring CommonStore for SAP
- Administering CommonStore for SAP
- Customizing archiving processes

Reading this book enables you to set up, control, and customize CommonStore for SAP. It is divided into the following parts:

- Part 1, “CommonStore — Overview” on page 1. This part introduces CommonStore for SAP.
- Part 2, “Installing CommonStore for SAP” on page 11. This part discusses the installation of the CommonStore Server.
- Part 3, “The CommonStore Server” on page 29. This part discusses the administration of the CommonStore Server.
- Part 4, “Configuring the archives” on page 57. This part describes how to customize the archives for use with CommonStore.
- Part 5, “SAP archiving scenarios” on page 81. This part deals with the customization of the SAP system.
- Part 6, “Additional CommonStore features for SAP” on page 113. This part covers the additional CommonStore features for SAP.

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## Who should read this book

This book is intended for administrators. In addition, it contains some background information for developers. Administrators and developers should have in-depth knowledge of SAP R/3 and the archive system that they intend to use.

System administrators using this manual need not possess experience with CommonStore, but should have a good working knowledge of the underlying operating system. It is further assumed that they are familiar with the SAP three-tier architecture and that they have a basic understanding of document management.

This book also addresses programmers whose task it is to create customized archive clients, and who must therefore familiarize themselves with concepts of CommonStore and SAP R/3, allowing them to modify and extend sample code.

This book is not primarily intended for end users. However, it contains some conceptual information that is relevant for users involved in archiving procedures.

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## What’s new in this version

CommonStore for SAP Version 8.1 offers you the following new features:

1. Function that allows you to access archived non-SAP documents from SAP R/3. See Chapter 19, “Linking external documents to SAP R/3 objects” on page 127.
2. Conversion of documents into the Tagged Image File Format (TIFF). See Chapter 21, “Converting documents to TIFF before archiving” on page 135.

3. Enhanced overall availability. See “Increasing the system availability” on page 46.
4. Facility to archive print stream data. See Chapter 20, “Archiving bulks of printed documents (LaserSoft integration)” on page 133.
5. Archiving of multiple copies in different archives. See “Preparing CommonStore for multiple archiving” on page 36.
6. Enhanced server log allowing the extraction of performance data. See “CommonStore Server log file” on page 49.
7. Interface to the SAP Document Finder. See Chapter 22, “Using the SAP Document Finder” on page 137.
8. Content Manager Version 8 support

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## 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.

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## Conventions and terminology used in this book

This section describes the abbreviations, acronyms, and highlighting conventions used in this book.

### Product names

To facilitate reading, the product name CommonStore for SAP is most of the times shortened to CommonStore. Content Manager OnDemand is often abbreviated to CMOD. Likewise, the names ADSM or TSM refer to ADSTAR Distributed Storage Manager and Tivoli® Storage Manager.

Throughout this book, the brand name VisualInfo™ refers to the products IBM EDMSuite™ VisualInfo and IBM Content Manager. The name OnDemand refers to the products IBM EDMSuite OnDemand and IBM Content Manager OnDemand.

Since SAP Release 3.1, the names of some program components and products have changed. The change is hinted at on the first occurrence of such a name.

### Highlighting conventions

Highlighting is necessary to set product-related terms, product elements, and code examples off from the text flow. This book uses the following highlighting conventions

Throughout this book, *italics* are used for

- Book titles
- Emphasis
- Options / variables / parameters / keywords

**Boldface** is used for the following elements:

- Check box labels
- Choices in menus
- Column headings
- Commands and subcommands
- Entry fields
- Field names in windows
- Forms and subforms
- Index classes

- Items
- Menu-bar choices
- Menu names
- Radio button names
- Spin button names

Monospace is used for

- Coding examples
- Entered data
- Group and user IDs
- Message text
- Transaction codes (T-codes)

Underlined bold indicates default values.

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## How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other CommonStore documentation:

- Visit our home page at <http://www.ibm.com/software/data/commonstore/>. There, you find the feedback page where you can enter comments and send them.
- Send your comments by e-mail to [swsdid@de.ibm.com](mailto:swsdid@de.ibm.com). Be sure to include the name of the book, the part number of the book, the version of CommonStore, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).
- Fill in one of the forms at the back of this book and return it by mail, by fax, or by giving it to an IBM representative. The mailing address is on the back of the Readers' Comments form. The fax number is +49-(0)7031-16-4892.



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## List of Abbreviations

The abbreviations used in this document are listed in Table 1.

*Table 1. Abbreviations used in this book*

<b>ADK</b>	Archive Development Kit
<b>ADSM</b>	ADSTAR Distributed Storage Manager
<b>AFP™</b>	Advanced Function Printing™
<b>AIX®</b>	Advanced Interactive Executive (IBM implementation of UNIX)
<b>ALF</b>	Advanced List Format
<b>API</b>	Application Program Interface
<b>AS/400</b>	Application System/400®
<b>CCMS</b>	Computer Center Managing System
<b>CICS/ESA®</b>	Customer Information Control System/Enterprise Systems Architecture
<b>COLD</b>	Computer Output on Laser Disk
<b>DLL</b>	Dynamic Link Library (files with the extension .dll)
<b>DMS</b>	Document Management System (Document Administration System)
<b>GUI</b>	Graphical User Interface
<b>IAC</b>	Internet Application Component
<b>ITS</b>	Internet Transaction Server
<b>MVS™</b>	Multiple Virtual Storage
<b>NT</b>	New Technology (Microsoft operating system Windows NT®)
<b>OCR</b>	Optical Character Recognition
<b>OLE</b>	Object Linking and Embedding
<b>OS/2®</b>	Operating System/2®
<b>OS/390®</b>	Operating System/390
<b>OS/400®</b>	Operating System/400®
<b>OTF</b>	Output Text Format (files with the extension .otf)
<b>PDF</b>	Portable Document Format (files with the extension .pdf)
<b>R/3</b>	SAP R/3 system
<b>S/390®</b>	System/390®
<b>SAP</b>	Systems, Applications, Products in Data Processing (software vendor)
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol
<b>TIFF</b>	Tagged Image File Format (files with the extension .tif)
<b>UNIX®</b>	An operating system developed at Bell Laboratories
<b>URL</b>	Uniform Resource Locator



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## **Part 1. CommonStore — Overview**





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## Chapter 1. What is CommonStore for SAP?

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 business processes of the customer 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 CommonStore) 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.

---

### CommonStore and the SAP R/3 archiving interfaces

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 CommonStore. 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 CommonStore 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, CommonStore primarily focuses on BC-HCS to exchange content within a corporate intranet.

CommonStore 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, CommonStore 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 CommonStore 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, CommonStore 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 bar code-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 the 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.

## CommonStore architecture

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

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

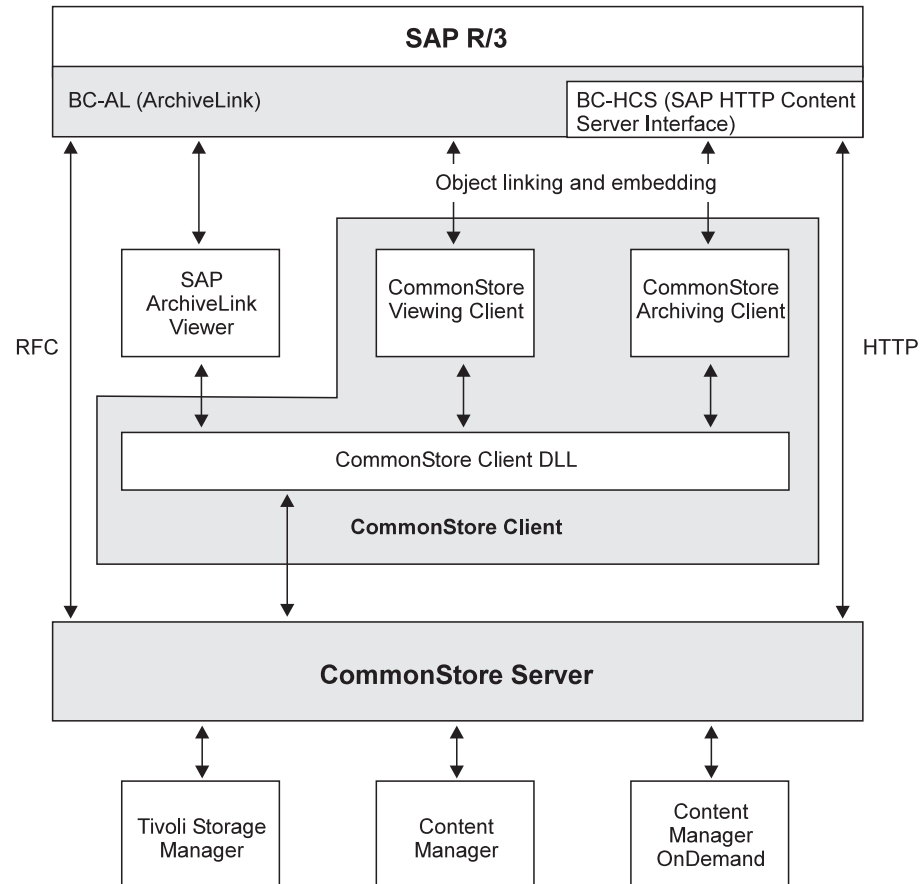


Figure 1. Interfaces of IBM Content Manager CommonStore with SAP R/3



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## Chapter 2. Scenarios and features

As there are diverse applications for archiving and content management in the SAP R/3 and mySAP.com environments, integrating CommonStore 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 Löschen von Anwendungsdaten* as of R/3 Release 3.1). This process removes mass data from the system which is not actively used. CommonStore 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 CommonStore 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 CommonStore:

- 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.

CommonStore 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 rasterized images. For this document type, the advantages of using CommonStore come to light most apparently.
- *Outbound documents*, which are normally printed and sent to their respective recipient. CommonStore 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 CommonStore 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 CommonStore and accessed by R/3 users via SAP office or DMS.

In addition to these "basic" document types handled by CommonStore, 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.





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## **Part 2. Installing CommonStore for SAP**



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## Chapter 3. Migrating older versions to CommonStore for SAP Version 8

The upgrade from CommonStore for SAP Version 1.6 to CommonStore for SAP Version 8 requires a number of migration steps. Upgrading from version 2 or 7.x to version 8, on the contrary, does not involve special migration tasks.

When upgrading from version 1.6 to version 8, follow these steps *before* you install CommonStore for SAP Version 8:

1. Keep a copy of the archint.ini and archint.cfg files in a safe place.
2. Uninstall CommonStore for SAP Version 1.6. Remove the code entirely.
3. Make sure that you meet all requirements for the installation of CommonStore for SAP Version 8. See “Server prerequisites” on page 15 for more information.
4. Install CommonStore for SAP Version 8.
5. Copy the archint.ini and archint.cfg files to the instance path, that is, the directory referred to by the INSTANCEPATH keyword in the archint.ini file.
6. Depending on the archive system that you use, perform the appropriate steps where necessary:

### **Tivoli Storage Manager**

If your archive system is Tivoli Storage Manager, additional steps are not required.

### **Content Manager**

If your archive system is Content Manager, proceed as follows:

- a. Create new index classes as described in Chapter 9, “Configuring Content Manager” on page 63.
- b. Extend the definition of the logical archives in the server configuration profile as follows:
  - 1) Keep the existing names.
  - 2) Add references to two new index classes by using the INDEX\_CLASS and INDEX\_CLASS\_COMP keywords. See Chapter 9, “Configuring Content Manager” on page 63 for more information.

Although the old index classes that contain documents archived with version 1.6 are not listed anymore in the server configuration profile, the CommonStore Server is still able to access them. However, this only works for documents archived with version 1, but not for documents archived with versions 2 or 7 of of CommonStore. To access documents that you archived using version 2 or 7, you must keep the old logical archives including the index-class definitions in the server configuration profile.

### **Content Manager OnDemand**

If your archive system is Content Manager OnDemand, proceed as follows:

- a. Keep the old definitions of logical archives in the server configuration profile.
- b. Define a new logical archive for CommonStore for SAP Version 8.
- c. Perform the required customizing steps in your SAP system.



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## Chapter 4. Installing the CommonStore Server

This chapter describes how to install the CommonStore Server component. The server contains, among other modules, the archiving engine, that is, the archpro program. This program performs the true archiving jobs, that is, it stores or retrieves messages and attachments from an archive.

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### Server prerequisites

You must prepare the environment before you can install the CommonStore Server. Therefore, make sure that all of the software listed under “Operating system and additional software” and at least one of the packages listed under “Archive client software” and “Archive server software” on page 16 are already installed.

#### Operating system and additional software

The operating system and additional software listed in Table 2 must be installed before you can install the CommonStore Server.

*Table 2. Operating system and software requirements*

Platform	Installation prerequisites
AIX	AIX 4.3.3 (or later) Minimum hardware: 256 MB system memory
HP-UX	HP-UX 11.0 (32 bit) or later
Sun Solaris	Sun Solaris 8 (32 bit)
Windows® 2000	Windows 2000 including Service Pack 2 (or later)
All	<ul style="list-style-type: none"><li>• Java™ Runtime Environment (JRE) or Java Development Kit (JDK) version 1.3 or later. You can download it at <a href="http://www.ibm.com/java/jdk/download">http://www.ibm.com/java/jdk/download</a> Add the path to the JRE or the JDK to the system path statement by setting the PATH environment variable accordingly.</li><li>• SAP R/3 graphical user interface (SAP GUI)</li></ul>

#### Attention

Before installing Service Pack 2 for Windows 2000, check Microsoft information sources for possible problems with existing applications. Carefully decide whether you want to install the service pack if there are known problems.

#### Archive client software

Table 3 on page 16 shows the required release level of the supported archive client software. Before installing CommonStore, the listed version or a later release of your client software must be installed on the workstations connected with the archive server.

*Table 3. Prerequisites for the client software of your archive system*

Archive	Prerequisites
Tivoli Storage Manager	Tivoli Storage Manager client (API) version 4.2  The Tivoli Storage Manager clients can be downloaded from the following server:  <a href="http://www.tivoli.com">http://www.tivoli.com</a>
Content Manager	Content Manager client 7.1 including fixpack 1 (7.1.0.1)
Content Manager Version 8	Enterprise Information Portal (EIP) Version 8.1 with local connector for Content Manager Version 8.1
Content Manager OnDemand	Content Manager OnDemand for Multiplatforms 7.1.0.5 (same as server package; this package includes the APIs)

The CommonStore Server supports a wide variety of hardware platforms from which customers are free to choose based on the requirements of the given application scenario. While CommonStore itself runs on AIX, Windows NT, or Windows 2000, the main archiving load can be distributed among every system supported by Tivoli Storage Manager, CMOD, or Content Manager, ranging from an NT-based PC to a zSeries™ (S/390) mainframe computer. Through the flexible hardware support offered by Tivoli Storage Manager, CommonStore also allows the storage of documents on quite arbitrary storage media, including hard disks, tape drives, optical media, or corresponding library systems.

## Archive server software

Table 4 shows the required release level of the supported archive server software. Before installing CommonStore, the listed version or a later release of your server software must be installed on the archive server.

*Table 4. Prerequisites for the server software of your archive system*

Archive	Archive server platform	Prerequisites on archive server
Tivoli Storage Manager	AIX, HP-UX, Sun Solaris, Windows NT, z/OS™ (OS/390)	Installed, tested, and operational Tivoli Storage Manager 3.7  Tivoli Storage Manager is configured with defined management classes and nodes — which should be used for archiving (see “Basic setup” on page 31).
Content Manager	AIX, Windows, z/OS, OS/390	Completely installed, tested, and operational Content Manager 7.1 including fixpack 1 (7.1.0.1)  Configured with defined index classes, workbaskets, and Content Manager users — which should be used for archiving (see “Basic setup” on page 31).
Content Manager Version 8	AIX, Windows, Sun Solaris	Configured with defined index classes, workbaskets, and Content Manager users — which should be used for archiving (see “Basic setup” on page 31).  Content Manager Version 8.1

Table 4. Prerequisites for the server software of your archive system (continued)

Archive	Archive server platform	Prerequisites on archive server
Content Manager OnDemand for Multiplatforms	AIX, HP-UX, Sun Solaris, Windows	Completely installed, tested, and operational Content Manager OnDemand for Multiplatforms 7.1 including fixpack 5 (7.1.0.5)  Configured for CommonStore as described in “Basic setup” on page 31.
Content Manager OnDemand for iSeries	iSeries, OS/400	Content Manager OnDemand for iSeries Version 5.1
Content Manager OnDemand for z/OS and OS/390	z/OS, OS/390	Content Manager OnDemand for z/OS and OS/390 Version 7.1

**Attention**

ADSM/Tivoli Storage Manager on HP-UX does not support optical devices.

## Installation steps

This section describes how to install the CommonStore Server package on a UNIX or a Windows system. For a basic configuration of CommonStore, see “Basic setup” on page 31.

### Installing the CommonStore Server package on UNIX systems

To install the CommonStore Server on a UNIX system, perform the following steps:

- Install the CommonStore software package
- For every instance of the CommonStore Server, proceed as follows:
  - Create a CommonStore instance user.
  - Log on as the CommonStore instance user.
  - Modify the notesenv.sh file to set your Lotus Notes run-time environment.
  - Modify the .profile file of the CommonStore instance user.

**Note**

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

### Providing access to Content Manager archives

If your archive system is Content Manager, you must add the details for connecting to the library server to your Content Manager network table. If you have not configured the network table during the installation of Content Manager, you can do it now by following these steps:

1. Log in as user root.
2. Enter frnnetcfg.
3. Enter the details of your library server in the dialog box that opens.

When you close the dialog, the `frmolint.tbl` file is updated, which contains the Content Manager network table.

### Installing Lotus Domino

Integrating the Lotus Domino server is uncomplicated because CommonStore only needs the Lotus Notes run-time environment to connect. You do not even have to start or configure the Domino server. To install Lotus Domino R5 for use with CommonStore, follow these steps:

1. Log in as user root.
2. Add a volume group to the computer hosting the Domino server.
3. Add the following logical volumes to the new volume group:
  - `dom50lv`
  - `notes50lv`
4. Add large file-enabled journal file systems (JFSs) for the following purposes:
  - One JFS for the binary Lotus Domino code in the logical volume `dom50lv`, for example:  
`/usr/dom50`
  - One JFS for the Notes data directory in the logical volume `notes50lv`, for example:  
`/notes50`
5. Mount the new file systems.
6. Create a group called `notes`.
7. Create a user `notes` and make this user a member of the `notes` group.
8. Start the Lotus Domino installation routine, for example by entering the following commands:
  - a. `cd /cdrom/ibmpow`
  - b. `./install`

Before the installation process starts, you must enter the following information:

- a. Server type: Mail Server
- b. Program directory: `/usr/dom50`
- c. More than one Domino server on this computer: No
- d. Data directory: `/notes50`
- e. UNIX user: `notes`

After the installation, you find the `notes.ini` file of the Lotus Domino server in the `/notes50` subdirectory.

### Installing the software package

This section gives you the details about how to install the software package for the CommonStore Server on the supported UNIX systems.

**AIX:** To install the CommonStore Server on AIX, follow these steps:

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



7. Select your CD-ROM drive and then choose the components that you want to install.

The CommonStore software will be installed in the directory `/usr/lpp/cssap`. This directory is created if it does not exist.

**HP-UX:** To install the CommonStore Server package on HP-UX, perform the following steps:

1. Mount your CD-ROM drive
2. Enter the command  
`> swinstall -s <path to CD-ROM>/hpux/cssap.depot cssap`

If you omit the last option (which is the package name), a GUI opens. Select the `CSTORE_SAP` package on this GUI. The CommonStore Server is installed in the directory `/opt/cssap`. This directory is created if it does not exist.

**Sun Solaris:** To install the CommonStore Server package on Sun Solaris, perform the following steps:

1. Mount your CD-ROM drive.
2. Enter the command  
`pkgadd -d <path to CD-ROM>/solaris/cssap.pgk`

This will install the package directly. The CommonStore software is installed in the directory `/opt/cssap`. This directory is created if it does not exist.

### Creating a CommonStore instance user

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

1. Create the CommonStore instance user.
2. Log on as CommonStore instance user.
3. Modify the file `.profile` by adding one of the following lines:

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

```
HP-UX or    . opt/cssap/bin/csenv.sh
Sun Solaris
```

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 CommonStore users.

### SAP R/3-specific installation steps

1. Check the file `/etc/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.
5. Download the SAP security library `sapsecu`.

**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 CommonStore 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 , adjust the numbers accordingly, for example:
  - `sapdp07 3207/tcp`
  - `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 CommonStore Server is running, as all R/3 application servers need access to this directory.

**Note**

The R/3 System and the CommonStore 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 File System**

**Download the *sapsecu* security library:** Download the *sapsecu* library from SAP download server for your country. The server names follow the pattern *sapservX*, where X is the country identifier. Download the library package to the bin directory of your CommonStore Server installation:

AIX                    `/usr/lpp/cssap/bin`

HP-UX or  
Sun Solaris        `/opt/cssap/bin`

## Installing the CommonStore Server package on Windows

Install the CommonStore Server code by running the setup program in the CommonStore Server subdirectory on the CD-ROM. This starts an InstallShield that guides you through the installation process. To install the CommonStore Server, follow these steps:

1. Run the CommonStore for SAP InstallShield. You see the Welcome page.
2. Click **Next**. The License Agreement page opens.

3. Select **I accept the terms in the license agreement**.
4. Click **Next**. The Customer Information page opens.
5. Enter your user name and the name of your organization in the appropriate fields. Leave the radio button on **Anyone who uses this computer**.
6. Click **Next**. You reach the Select Type page.
7. Select the **Custom** radio button and click **Next**. You see the Custom Setup page.
8. Unless you want to install other components on the same computer, deselect all components except for *CommonStore Server*.  
You deselect components by clicking the icons next to their names and selecting **This feature will not be available** from the pop-up menu.
9. By default, the selected components are installed in folders under C:\Program Files\IBM\CSSAP\server. To change this, click **Change** and select another folder. Click **OK** when finished to return to the Custom Setup page.

**Note**

When you change the installation folder, you must also change the corresponding entries in the server configuration profile (usually archint.ini).

10. Click **Next**. You reach a page with the heading *Ready to Install the Program*.
11. Click **Install**. The InstallShield wizard starts copying files. You see a progress bar. When the installation is successful, you see a page with the heading *InstallShield Wizard Completed*.
12. Click **Finish**.

## SAP R/3-specific installation steps

- Checking the file %SystemRoot%\system32\drivers\etc\services
- Creating the exchange directory for the R/3 data to be archived
- Making 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 CommonStore 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, for example:
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 CommonStore Server is running, as all R/3 application servers need access to this directory.

**Note**

The R/3 System and the CommonStore 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 CommonStore Server machine (Windows). This could be achieved for example using Hummingbird® NFS. When both R/3 and the CommonStore Server are running on a Windows machine, no additional software is necessary in order to make the exchange paths accessible to both.

**Download the *sapsecu* security library**

Download the *sapsecu* library from SAP download server for your country. The server names follow the pattern *sapservX*, where X is the country identifier. Download the library package to the bin directory of your CommonStore Server installation, for example:

```
C:\Program Files\IBM\CSSAP\Server\bin
```

**Additional installation steps for Tivoli Storage Manager**

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

1. Creating client option files
2. Setting environment variables for Tivoli Storage Manager API clients

**Creating client option files**

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

- ARCHIVE *xx*
- STORAGETYPE ADSM
- SERVER *servername*

there must exist a separate client option file *servername.opt* containing all Tivoli Storage Manager parameters required for connecting to the specified Tivoli Storage Manager server. It is recommended that you keep all client option files in a separate directory. To create the client option files, you can use the following procedure:

1. Copy the *dsm.opt* file, which comes with your Tivoli Storage Manager product package, to the appropriate directory.
2. Create another copy of the *dsm.opt* file under another name in the target directory. Specify the new name by replacing the prefix *dsm* with the required server name. You now have a copy of *dsm.opt* and the required *servername.opt* file.

All client option files must reside in the same directory. This directory must contain a copy of the *dsm.opt* file. Although CommonStore ignores the contents of *dsm.opt*, *dsm.opt* must exist, and the environment variable *DSMI\_CONFIG* must point to it. To avoid potential errors, it is recommended that you delete the content of the *dsm.opt* file, that is, keep it as an empty file. See “Setting environment variables for Tivoli Storage Manager API clients” on page 23.

## Setting environment variables for Tivoli Storage Manager API clients

Tivoli Storage Manager API clients need the following environment variables to locate certain files:

### DSMI\_CONFIG

Fully qualified name (path and file name) of the client option file named `dsm.opt`

### DSMI\_DIR

Path to the directory in which the Tivoli Storage Manager message file named `dscameng.txt` resides

### DSMI\_LOG

Path to the directory in which the Tivoli Storage Manager error log named `dsmerror.log` resides

In addition, the location of the Tivoli Storage Manager API DLLs must be included in the `PATH` environment variable. See the following example:

1. Set `DSMI_CONFIG` to `C:\Program Files\IBM\CSSAP\server\adsm_opt\dsm.opt`
2. Set `DSMI_DIR` to `C:\Program Files\Tivoli\tsm\api`
3. Set `DSMI_LOG` to `C:\Program Files\IBM\CSSAP\server\adsm_opt`
4. Set `PATH` to `%path%;C:\Program Files\Tivoli\tsm\api\dll`

In this example, it is assumed that you have created a directory `C:\Program Files\IBM\CSSAP\server\adsm_opt` containing all client option files with the extension `*.opt`. You can define these environment variables on the Environment page of the System Properties sheet. To open this window, follow these steps:

1. Click **Start** → **Settings** → **Control Panel**.
2. Double-click the **System** icon.
3. Click the **Advanced** tab.
4. Click the **Environment Variables** button.

---

## Installed files

During the installation, the InstallShield wizard copies numerous files to your computer. This section discusses the most important of these files.

## Programs

This section describes the most important programs installed by CommonStore. Not described are the shared libraries that CommonStore uses.

### Note

The file names listed below are valid for UNIX systems. If the CommonStore Server is installed on a Windows system, the file names listed without an extension also consist of the suffix `.exe`.

The CommonStore Server package contains the following executable files:

### archadmin

This program allows a (remote) connection to a CommonStore Server in order to view the messages issued by the CommonStore Server. You can establish a connection across machine and platform boundaries.

**archagent**

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

**Note**

You only need this program if Tivoli Storage Manager is the archive system.

**archagentod**

Same function as archagent.exe, but for Content Manager OnDemand. The CommonStore Server starts as many CMOD agents as are defined by the keyword ODAGENTS in the server configuration profile.

**Note**

You only need this program if Content Manager OnDemand is the archiving system.

**archagentvi**

Same function as archagent.exe, but for Content Manager. The CommonStore Server starts as many Content Manager agents as are defined by the keyword VIAGENTS in the CommonStore Server profile.

**Note**

You only need this program if Content Manager is the archiving system.

**archbc** This program triggers the archagentvi program to scan the Content Manager workbaskets for documents with bar codes and to send them to SAP R/3. Initiate this program by a scheduled job or manually.

**Note**

This program is only needed for late archiving of documents via bar code with Content Manager.

**archdp**

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

**archpro**

This is the continuously-running main program of the CommonStore Server, which controls all other CommonStore components.

**archservice**

This program installs and uninstalls the CommonStore Server as a Windows service.

**archstop**

This program shuts down the CommonStore Server.

**archwin**

This is the CommonStore DLL dispatcher, that is, the program which communicates with the CommonStore DLL. The CommonStore DLL is needed to support the SAP ArchiveLink viewer and the CommonStore client programs.

**Note**

This program is needed only if the CommonStore DLL or the CommonStore Client are in use.

**archcls.jar and csmimes.properties**

The archcls.jar file is a Java class library required for accessing the CommonStore Server by using the Hypertext Transfer Protocol (HTTP).

The csmimes.properties file is a resource file. It specifies the mappings of archive content types to MIME types. The Web browser needs this information to display the retrieved content correctly.

## Sample configuration profiles for the CommonStore Server

The server configuration profile is also referred to as the initialization file or ini file. If the option *-i* is not used in connection with the **archpro** command, the CommonStore Server looks for the default server configuration profile (usually archint.ini) in the local directory.

The easiest way to create this file is by modifying the appropriate sample profile. You edit the sample profile that is suitable for your archive system, and then save it as archint.ini or whatever name might be required by your system setup. The server configuration profile contains all necessary information for the CommonStore Server and its connections to the archive systems. See “Basic setup” on page 31.

**Notes:**

1. The CommonStore Server needs only this file for customization (no side information, no environment variables , no RFCDES).
2. The following sample configuration profiles are provided as part of the CommonStore package. They are intended for use as templates. In other words, after you have customized them according to your setup, they assume the role of the server configuration profile whenever you specify them using the option *-i*.

**archint\_sample\_tsm.ini**

Use this sample profile as a template when your archive system is Tivoli Storage Manager.

**archint\_sample\_cm.ini**

Use this sample profile as a template for your Content Manager archive system.

**archint\_sample\_cmod.ini**

Use this sample profile as a template when your archive system is Content Manager OnDemand.

3. You can configure the CommonStore Server to work with different archive types. To do so, follow these steps:

- a. Open the appropriate sample profiles and copy the sections beginning with the ARCHIVE keyword to your server configuration profile (usually archint.ini).
- b. Change the settings in the copied sections so that they work with the archive systems that you want to use.
- c. Specify the number of agents to be employed by using the following keywords in the server configuration profile:
  - VIAGENTS for Content Manager archives
  - ADSMAGENTS for Tivoli Storage Manager archives
  - ODAGENTS for Content Manager OnDemand archives

If you are not sure about the settings to use, have a look at the other sample profiles or see Appendix A, “Keywords in the server configuration profile” on page 143.

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## Installing the CommonStore Server as a service

On a Windows machine, you can install the CommonStore Server component as a service. This allows the server to run continuously even if all users have logged off.

### Notes:

1. Make the installation of the server as a service the last step in the installation procedure. See also “Hints” on page 27. The service functionality is implemented as a separate program named archservice.exe. This program must reside in the same directory as the other CommonStore Server programs, such as archpro.exe.
2. In addition to the service functionality, archservice.exe also implements the functionality to install and uninstall the CommonStore service. As soon as the service is installed, it appears in the **Services** window that you can open from the Control Panel. You can also start or stop the CommonStore service from this window. If you remove this service, the name of the service disappears from the **Services** list.
3. The program archservice.exe contains none of the CommonStore Server functionality. The server functionality is fully contained in the archpro.exe program and in the other CommonStore Server programs. When the CommonStore service is started, it starts the archpro.exe program, which in turn starts the other programs. When the service is stopped, it stops archpro.exe, which in turn stops the other programs. The CommonStore service checks every few seconds if archpro.exe is still running. When the service detects that this program has stopped, it waits for one minute and then restarts it.

## Installing and uninstalling the CommonStore service

To install or uninstall the CommonStore service, follow these steps:

1. Open a Command Prompt window.
2. Switch to the directory in which the file archservice.exe resides.
3. Enter **archservice install** to install the service. To obtain help, you can enter **archservice -h**

When the service is installed, the Windows Service Control Manager runs the archservice.exe program. You cannot run archservice.exe from the command prompt without specifying parameters. This way of starting the service is restricted



to internal calls of the Windows Service Control Manager. During the installation, registry keys are created in the Windows registry. All modifications of the registry are displayed in the Command Prompt window. You can view information about the success or failure of installing, removing, starting, or stopping archservice.exe in the Windows Application Event Log by using the Event Viewer tool.

## Starting and stopping the CommonStore service

You can start and stop the CommonStore service using the **Services** program, which you can access from the Windows Control Panel. You can also do this from a Windows Command Prompt:

- To start the CommonStore service, enter **archservice start**.
- To stop the CommonStore service, enter **archservice stop**.
- To obtain status information about the CommonStore service, enter **archservice status**.

## Multiple installations of the CommonStore service

You can install multiple instances of the CommonStore service on a single machine. Each instance must have a different name. You determine the name by using the command-line option *-n* when you install the CommonStore service.

In addition, each instance must use a separate fixed port. You specify this port in the server configuration profile, using the ARCHWIN\_PORT keyword. This means that you must use a separate profile for each instance of the CommonStore service.

### Examples:

- `archservice install -i c:\ibm\cssap\instance02\archint.ini -n 2`
- `archservice remove -n 2`

The first command installs CommonStore as a service under the name `CommonStore_2`. The second command removes the service `CommonStore_2`.

## Hints

Read the following list of hints carefully. It reflects a thoroughly tested setup and might help you if you run into problems during the installation process.

- When you start the CommonStore Server for the first time, run the archpro program from the command line and complete the configuration process with the initial settings. Only install the CommonStore Server as a service if it runs without problems. You have achieved this when you no longer see any screen output. As you might need the error information for future reference, switch on tracing (TRACE=ON) in the server configuration profile during initial testing. The trace file keeps all warnings and error messages, even if you no longer see any screen output.
- When using Content Manager as an archive, you must run the CommonStore service under the account of a Content Manager user. The following procedure reflects the steps in a Windows 2000 system. The labels and controls on the panels differ from those in a Windows NT system. Bear this in mind if you still use Windows NT.
  1. Open the Services window by clicking **Start → Settings → Control Panel → Administrative Tools → Services**.
  2. Select the CommonStore service in the list and click **Action → Properties**. The CommonStore Service Properties window opens.
  3. Click the Log On tab.

4. Click the **This Account** radio button.
5. Enter the name of the Content Manager account in the field next to the radio button. If you cannot remember the name, click the **Browse** button to select the account from the Select User window.
6. Click **OK** to close window.
7. Click **Close** to close the Services window.

This action automatically sets the appropriate environment variables for the service. If you leave the default setting and run the service under the System Account, these variables are probably not set properly.

- To run the CommonStore service under a normal user account, provide the account with the *Log on as a service* right. To do so, follow these steps:
  1. Open the Windows User Manager by clicking **Start → Settings → Control Panel → Administrative Tools → Local Security Policy**.
  2. Expand the Local Policies folder in the Tree pane on the left.
  3. Click the User Rights Assignment folder. A list of user rights becomes visible in the right pane.
  4. Right-click *Log on as a service* in the list and select **Security** from the pop-up menu. A window called Local Security Policy Setting opens.
  5. Click **Add**. The Select Users or Groups window opens.
  6. Select the Content Manager user account from the list and click **Add**. The account name is displayed in the lower pane of the window.
  7. Click **OK**.
  8. Click **OK** again to leave Local Security Policy Setting window.
  9. Close the Local Security Settings window.
- This right is assigned in **User Manager → User rights policy**. Please do not forget to activate the **Show advanced user rights** option.
- Furthermore, the exchange paths defined by the keywords BASEPATH and ARCHPATH are probably not available when you run CommonStore as a service. However, for the archpro program to start, all paths must be available. If the archpro program cannot verify that this is the case, it does not start. Again, the trace file contains all corresponding error messages.

---

## **Part 3. The CommonStore Server**



---

## Chapter 5. Administration

---

### Basic setup

This section provides an overview of the basic steps you must perform to configure the CommonStore Server. The following steps are described:

1. Setting up the basic server configuration profile
2. Enabling the Hypertext Transfer Protocol (HTTP)
3. Creating the passwords to access the archive server
4. Starting the CommonStore Server using the configured profile

### CommonStore Server configuration profile setup

The installation package includes a sample profile for each of the supported archiving systems:

- The `archint_sample_tsm.ini` profile for Tivoli Storage Manager
- The `archint_sample_cm.ini` profile for Content Manager
- The `archint_sample_cm8.ini` profile for Content Manager Version 8
- The `archint_sample_cmod.ini` profile for Content Manager OnDemand

Depending on the operating system that you use to run the CommonStore Server, the sample profiles are copied to one of the directories shown in Table 5.

Table 5. Where to find the sample profiles

AIX	/usr/lpp/cssap
HP-UX Sun Solaris	/opt/cssap
Windows	C:\Program Files\ibm\cssap\server\instance01

They are intended for your use as templates. After you have customized the profiles according to your setup, they assume the role of the CommonStore Server configuration profile whenever you specify them using the option `-i`. For more information, see “Starting the CommonStore Server” on page 43.

The CommonStore Server reads the profile before it executes. Any change in this profile requires that you restart the server for the changes to take effect.

### Syntactical rules

The following rules apply to the syntax of the entries in a server configuration profile:

- Every line is analyzed separately.
- Keywords can start in any column of the line.
- There must not be any characters — 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 the file is reached.
- It is strongly recommended that you do not use keywords as the values of keywords. However, you can use keywords as values when you *enclose them in single quotes*, for example: `SERVER 'VI'`.

## Performing basic setup steps

For the basic setup, perform the following steps:

1. Copy the appropriate sample profile to a file named archint.ini.
2. Adjust the paths specified in the profile to reflect your environment. This usually involves setting the following keywords:
  - BINPATH
  - LOGPATH
  - TEMPPATH
3. Set the keywords BASEPATH and ARCHPATH to the exchange path that you created by following the instructions in the sections “Installing the CommonStore Server package on UNIX systems” on page 17 or “Installing the CommonStore Server package on Windows” on page 20.
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 that you want to use

### **GWSERV**

Service or port number of the gateway that 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 by the CLIENT keyword. See below.

### **CLIENT**

Name of the R/3 client; see also “Checking the logical system” on page 85.

### **USER**

Name of the CPIC user; see also “Creating an SAP R/3 CPIC user for the RFC communication” on page 84.

5. Enter the settings for an archive created in your archive system. At this point, it is enough to specify a test archive in the server configuration profile. For each logical archive in the archint.ini file, the following settings (depending on your archive system) are necessary:

#### **Tivoli Storage Manager:**

- STORAGETYPE ADSM
- SERVER
- MGMT\_CLASS
- ADSMNODE
- LOGICAL\_SYSTEM

#### **Note**

If your Tivoli Storage Manager server is named ADSM, enclose that name in single quotes, that is, 'ADSM'.

**Note**

If you use the PASSWORDACCESS GENERATE option, refer to “Using Tivoli Storage Manager options” on page 60.

**Content Manager:**

- STORAGETYPE VI
- LIBSERVER
- LOGICAL\_SYSTEM
- INDEX\_CLASS
- INDEX\_CLASS\_SCAN
- VIUSER
- WB\_ERROR
- WB\_SCAN

**Content Manager Version 8:**

- STORAGETYPE CM
- LIBSERVER
- LOGICAL\_SYSTEM
- ITEM\_TYPE
- INDEX\_CLASS\_SCAN
- CMUSER
- WB\_ERROR
- WB\_SCAN

**Content Manager OnDemand:**

- STORAGETYPE ONDEMAND
- ODHOST
- APPGROUP
- APPLICATION
- FOLDER
- LOGICAL\_SYSTEM
- ODUSER

6. Set the system type of the server application from which you want to archive documents with CommonStore. Depending on the server application, add or change the SYSTEMTYPE statement in the server configuration profile as shown:

**For Exchange 2000:** SYSTEMTYPE EXCHANGESYSTEM

**For Lotus Domino:** SYSTEMTYPE DOMINOSYSTEM

**For SAP R/3:** SYSTEMTYPE SAPSYSTEM

If you have a mixed setup, and want to archive from two or all of these server applications, add the appropriate value to the statement. In the sample profile, all applications are enabled so that you probably do not have to change anything:

SYSTEMTYPE DOMINOSYSTEM EXCHANGESYSTEM SAPSYSTEM

7. Set the number of agents for your archive system. Use at least one agent for your archiving system, that is, set the value to 1 for the archive system employed.

**Example:**

CommonStore supports a mixed archiving environment. In one server configuration profile, you can specify agents for different archiving systems.

ADSMAGENTS	1
VIAGENTS	2
ODAGENTS	1

8. Set the value of ARCHWINS to 0.

**Note**

If you use the CommonStore Client, check the *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide* for the necessary settings.

## Configuring the CommonStore Server for the Hypertext Transfer Protocol

For communication by the Hypertext Transfer Protocol (HTTP), you must specify a valid Web port in the server configuration profile.

### Passwords

When you start the CommonStore Server for the first time, you are prompted for passwords. Proceed as follows:

- Start the CommonStore Server by entering the following command at the command prompt:  
`archpro -f serverpasswd`
- Enter at least one password for the R/3 log-in procedure by using this command:  
`archpro -f r3passwd`

You only need one password for asynchronous calls, but you can enter a password for each logical R/3 system. A logical R/3 system corresponds to an R/3 client.

**Note:**

You must enter this command each time you want to change the R/3 password.

### Getting started

Start the CommonStore server by issuing one of the following commands. Bear in mind that the archpro program always needs to know which server instance to start.



### **archpro**

When using the archpro command without additional parameters, enter it from the instance directory of the server instance that you want to start. Using the default setup with only one CommonStore Server, this is the instance01 directory.

### **archpro -i <ini file>**

Choosing this option, you can start the CommonStore Server from any directory. It also allows you to specify a server configuration profile other than archint.ini. Note that in addition to the server configuration profile (<ini file>), you must specify the relative or absolute path to the profile. See the following example:

```
archpro -i c:\Program Files\IBM\CSSAP\instance02\archint2.ini
```

#### **Note**

It is very important that you set the CPYENVVAR parameter to \*YES.

See “Starting the CommonStore Server” on page 43 for more information.

---

## **Creating multiple server instances**

It is possible to run more than one instance of the CommonStore Server. In other words, several independent sets of CommonStore 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 CommonStore Server, it is necessary to maintain distinct server configuration profiles, one for each instance of the CommonStore Server. These profiles must reside in separate instance directories.

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

If you want to use a particular instance, change to the instance directory first, and enter all commands from there. Alternatively, include the option -i in all command invocations to specify the profile to be used (refer to Chapter 6, “Working with the CommonStore Server” on page 43).

For unassisted operation, it is recommended that you install corresponding CommonStore services on Windows (refer to “Installing multiple instances of the CommonStore service” on page 36) as appropriate. The following steps are necessary for installing multiple instances:

1. Creating instance directories
2. Separating the server configuration profiles
3. Creating additional Windows services (optional)

## **Creating instance directories**

To create multiple instances of the CommonStore Server on the same machine, you must place each instance in its own instance directory. For example, to create a second instance, create a directory named instance02 at the same level as the instance01 directory. Copy the content of the instance01 directory to the new directory. In the instance02 directory, change the settings in the server

configuration profile (archint.ini) as needed. In the server configuration profile of each instance, set the INSTANCEPATH keyword to the instance directory. To run multiple instances as a Windows service, refer to “Installing multiple instances of the CommonStore service”.

## Separating the server configuration profiles

It is necessary that you place each server configuration profile in a distinct directory in the file system. Additionally, these profiles must contain different values for the following keywords:

- INSTANCEPATH. This keyword specifies the directory in which the profile itself resides and in which instance-dependent files are stored. In particular, make sure that the following keywords, which are connected with the INSTANCEPATH keyword, have different values in each server configuration profile:
  - The name of the server configuration profile itself (archint.ini)
  - TRACEFILE (if TRACE is not switched to OFF)
  - CONFIG\_FILE (archint.cfg)
  - LOGPATH (if LOG is not switched to OFF)
  - QUEUEPATH
  - Nodelock file (containing the license passwords for the instance)
- The TCP/IP ports used for communication to remote CommonStore modules, that is:
  - WEBPORT (if the WEBDPS parameter is present and set to a non-zero value)
  - ARCHPRO\_PORT (the port over which an instance accepts connections)

## Installing multiple instances of the CommonStore service

You can install multiple instances of the CommonStore service on a single machine. Each instance of the service must have a different name. You define the names by using the -n option when entering the installation command from the command prompt.

Each instance must also use a separate fixed port. You set the port numbers using the ARCHPRO\_PORT keyword in the server configuration profile. You must specify a separate configuration profile for each instance of the CommonStore service.

### Examples:

- archservice install -i c:\Program Files\IBM\CSSAP\server\instance02\archint.ini -n 2
- archservice remove -n 2

The first command installs CommonStore as a service under the name CommonStore\_2. The second command removes the instance CommonStore\_2.

---

## Preparing CommonStore for multiple archiving

CommonStore allows you to archive the same document in more than one archive during a single archiving operation. This greatly enhances the availability and security of your archived documents because the break-down of a technical device such as a storage tape or hard drive no longer results in a loss of data. When a repository fails during a retrieval operation, CommonStore addresses the next archive containing the desired document and tries to retrieve it from there. As it is

unlikely that all repositories fail at the same time, you can be sure that at least one of the archives is available, even if you face technical difficulties.

To archive the same documents in multiple archives, you must set up the server configuration profile appropriately. This basically means that you must specify several (physical) archives with the same logical archive ID in your server configuration profile.

## Requirements

Archiving multiple copies only works if the archive system is Tivoli Storage Manager (TSM) and if the archives are truly independent. The latter requirement demands that you organize each archive under a different TSM node. It goes without saying that your documents are safest if the nodes are on different servers, and if the servers are on physically separate machines. Place the copies themselves on different storage media.

The need for archives to be truly independent is related to program-specific circumstances: Each copy of a document is archived with the same document ID. Before a document is archived, CommonStore checks whether another document, located under the same node, already uses this ID. The document is archived only if CommonStore cannot find the ID, that is, if the ID does not exist. If the archives are not truly independent, this leads to a failure because the archiving process is sequential, and before the document is archived for the second time, CommonStore discovers that the document ID already exists and stops archiving.

## Profile setup

The following example shows an extract of a server configuration profile that contains correct settings for multiple archiving:

```
ARCHIVE U1
STORAGETYPE ADSTM
SERVER blackbox
MGMT_CLASS arc1
ADSMNODE PRIMARY

ARCHIVE U1
STORAGETYPE ADSTM
SERVER whitebox
MGMT_CLASS arc2
ADSMNODE SECONDARY
```

When you archive documents using this profile, CommonStore creates two copies of your documents. One copy is placed in management class arc1 on the server blackbox, the other in management class arc2 on the server whitebox.

### Notes:

1. If your profile contains incorrect definitions for multiple archives, the CommonStore Server does not start and consequently documents are not archived. See the following example a common error:  
The archives have the same logical ID, but the STORAGETYPE definitions do not match. For example, the STORAGETYPE of one logical archive is ADSTM, and the STORAGETYPE of another archive is VI. Make sure that all the archives in one profile are of the STORAGETYPE ADSTM.
2. An archiving operation is successful only if the documents could be archived in all specified archives. If CommonStore cannot access an archive for various reasons, it deletes the copies it already created in the other archives. Hence, the documents were not archived at all.

3. A retrieval operation is successful if CommonStore can retrieve the document from one of the multiple archives. So, if CommonStore can retrieve the desired documents from an archive, it ignores any errors in connection with the other archives.
4. CommonStore treats multiple archiving like a single archiving operation. Hence only one job is created, and you receive only one return message.
5. Archiving documents in more than one archive decreases the performance because more operations are necessary.

---

## Enrolling licenses

This section describes the new license model of IBM Content Manager CommonStore 8.1 and how to set up licensing for both Try & Buy usage and productive usage.

### License types and certificate files

CommonStore distinguishes between different license types, as shown in Table 6.

*Table 6. License types*

License type	Features	License file
Try & Buy license	<ul style="list-style-type: none"> <li>• 90 day validity (beginning with first start)</li> <li>• Full functionality</li> </ul>	None required
Production license	Unlimited validity	<ul style="list-style-type: none"> <li>• <b>CSLD8.lic</b> for archiving from a Lotus Domino server</li> <li>• <b>CSX8.lic</b> for archiving from an Exchange 2000 server</li> <li>• <b>CSSAP8.lic</b> for archiving from an SAP R/3 system</li> </ul>

### CommonStore profile keywords

The following keywords and subkeywords concern the license setup:

- SYSTEMTYPE
- DOMINOSYSTEM
- EXCHANGESYSTEM
- SAPSYSTEM

The keyword SYSTEMTYPE can have the values DOMINOSYSTEM, EXCHANGESYSTEM, SAPSYSTEM, or a combination of two or all of these.

Unless you use the Try & Buy license, you must enroll a production license for each specified system type.

The keyword INSTANCEPATH specifies the path to the directory in which instance-specific files are stored. This is particularly important with regard to nodelock files, which contain the license passwords. Since there is one nodelock file for each instance of the CommonStore Server, this file cannot be stored in the bin directory when running more than one instance of the CommonStore Server. Instead, each instance must have its own nodelock file in the directory specified by the INSTANCEPATH keyword.

## Enrolling productive licenses

To run the CommonStore Server with a productive license, you must register the license before you start the server. To enroll a productive license for an instance, call the archpro program with the *-f license* parameter from the instance directory:

```
> archpro -f license
>
>
> *****
> * IBM Content Manager CommonStore - Server 8.1.0.0 *
> * (c) Copyright IBM Corporation, 1997-2002. All rights reserved.*
> * Build 92, Compiled at Mar 4 2002. *
> *****
>
> CSS0213I: Please enter the name of the certificate file:
```

Enter the path to the certificate file containing the productive license. For SAP, enter the path to the CSSAP8.lic file. This file resides in the directory named license on the product CD-ROM.

If you enter the path correctly, the license password is extracted from the file and registered in the nodelock file, which is located in the directory specified by the INSTANCEPATH keyword. You can now start archpro for productive use.

### Notes:

- You must enroll a production license for each instance of the CommonStore Server.
- If you want to run the same instance of the CommonStore Server for different applications, you must specify the values of the SYSTEMTYPE keyword accordingly in the server configuration profile (default archint.ini). For example, to use the same instance with SAP R/3 and Lotus Domino, specify the system type with the following values:  
SYSTEMTYPE SAPSYSTEM DOMINOSYSTEM

When you have saved the profile, you must enroll the license for each application.

## Enrolling the Try & Buy license

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

```
> archpro
>
> *****
> * IBM Content Manager CommonStore - Server 8.1.0.0 *
> * (c) Copyright IBM Corporation, 1997-2002. All rights reserved.*
> * Build 92, Compiled at Mar 4 2002. *
> *****
>
> CSS0926E: Archpro could not find the certificate file
> CSS0910I: Trying to get a LUM Production License for IBM Content Manager
> CommonStore
> CSS0916E: Could not get a LUM Production License for IBM Content Manager
> CommonStore
> CSS0912I: Trying to get a LUM Try and Buy License for IBM Content Manager
> CommonStore
> CSS0933I:
> *****
```

```

> *
> * IBM Content Manager CommonStore for Exchange Server *
> * 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 fully 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 is saved in the nodelock file residing in the directory specified by the INSTANCEPATH keyword in your server configuration profile. It expires after 90 days.

**Note:**

You can enroll the Try & Buy license only once. If you try it again, archpro shows the following message:

CSS0926E: Archpro could not find the certificate file

## Running more than one instance with the Try & Buy license

You can enroll the Try & Buy license only once. During the enrollment, a nodelock file is created in the INSTANCEPATH directory of the instance that you currently use. The license in this nodelock file expires after 90 days. If you want to run multiple instances using the Try & Buy license, copy this nodelock file to the remaining INSTANCEPATH directories, that is, to the INSTANCEPATH directories specified in the server configuration profiles of the other instances you defined.

---

## Enabling the browser-viewing function

To display content, your Web browser reads the MIME type information that was assigned to a file type, and starts the appropriate plug-in for displaying this MIME type. You must prepare your browser for displaying archived content by mapping the content types of archived attachments to the appropriate MIME types. You do this in a file called *csmimes.properties*. MIME types are assigned to content types by use of the equals character. You first type the content type, then the equals character, and then the MIME type. There must be exactly one mapping per line. See the following example:

```

TIFF6=image/tiff
PDF=application/pdf

```

The *csmimes.properties* file must reside in the INSTANCEPATH directory, that is, the directory that the INSTANCEPATH keyword points to in the server

configuration profile (usually `archint.ini`). See Appendix A, “Keywords in the server configuration profile” on page 143 for more information about keywords and their use.

A sample version of the `csmimes.properties` file is copied to the `instance01` directory at installation time. If you run more than one instances of the CommonStore server, you must have a copy of this file in each instance directory.

If CommonStore cannot find a copy of `csmimes.properties` in the `INSTANCEPATH` directory, it checks the directories specified in the `BNPPATH` statement. If it can neither find a copy of `csmimes.properties` in any of these directories, it reads the required information from the compressed sample version, which is included in the `archcls.jar` Java archive. This file is also copied at the time you install the CommonStore server. The sample version contains the following mappings:

```
FAX=image/tiff
TIFF6=image/tiff
PDF=application/pdf
ALF=application/x-alf
OTF=application/x-otf
WAV=audio/wav
HPG=application/vnd.hp-HPGL
MP3=audio/x-mpeg
MPG=video/mpeg
MPEG=video/mpeg
JPG=image/jpeg
GIF=image/gif
TXT=text/plain
HTM=text/html
XML=text/xml
```

In most cases, you must edit and customize the sample file because it probably does not cover all your needs. In a normal setup with only one instance of the CommonStore Server, edit the copy in the `instance01` directory.

#### **Important**

- To apply the changes that you made in any copy of `csmimes.properties`, you must restart the corresponding instances of the CommonStore Server (`archpro`).
- If you use the sample file as a basis, check if the content types match the content types that you defined in your archive. For example, if an `.mp3` file has `MPEG3` as its content type, the mapping `MP3=audio/x-mpeg`, as included in the sample file, does not work. You would have to change it to `MPEG3=audio/x-mpeg`.





---

## Chapter 6. Working with the CommonStore Server

This section explains how to start and stop the CommonStore Server in various run time environments, including operation as a Windows service. It also tells you how to turn off the initial archive availability check. This section uses syntax diagrams to illustrate the syntax of commands that you enter at the command prompt. If you are not familiar with reading syntax diagrams, read the brief explanation in Appendix F, "Reading syntax diagrams" on page 199.

---

### Starting the CommonStore Server

The CommonStore Server consists of several components. These components are all controlled by `archpro`, the continuously-running CommonStore main program. To start the entire CommonStore Server, it is sufficient to enter `archpro` at the command prompt. The `archpro` program then reads the server configuration profile (either the `archint.ini` file in the current directory or the specified ini file) and automatically starts all configured components (so-called child processes).

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

#### **archpro**

►—archpro

--f	r3passwd
-i	ini file
-n	name
-h	

#### **-f r3passwd**

Use this parameter to specify the password of a logical R/3 system. You only have to do this when you set up CommonStore for SAP and when you must change the password.

**-h** Specify this parameter to obtain online help for the `archpro` command. This parameter is exclusive. If you specify it, you cannot use any other parameter.

#### **-i ini file**

If `archpro` is started without any parameters, the server configuration profile must reside in the current directory. It must be named `archint.ini`. If you want `archpro` to use a profile located in a directory other than the current one or a profile that is not named `archint.ini`, you can specify the parameter `-i` followed by path and file name of the profile you want to use.

#### **-n name**

The parameter `-n` followed by a name specifies the CommonStore instance that you want to use. This is necessary when the CommonStore Server is already installed as a Windows service (see "Installing the CommonStore Server as a service" on page 26). The option is ignored if CommonStore is not installed as a service.

#### **Examples:**

- `archpro`
- `archpro -i /usr/lpp/cssap/bin/archint.ini2` (AIX)

- `archpro -i /opt/cssap/bin/archint.ini2` (HP-UX and Sun Solaris)
- `archpro -i C:\Program Files\IBM\CSSAP\server\instance02\archint.ini2 -n 2` (Windows)

As soon as CommonStore is running, the main component (archpro) checks the other child processes every few seconds. If the archpro program detects that a process is no longer active, it automatically restarts the corresponding component. The archives are not checked for availability before a restart.

---

## Starting CommonStore as a service

To run the CommonStore Server continuously, even if all users have logged off, you must start CommonStore as a service. You must install the service before you can use it. See “Installing the CommonStore Server as a service” on page 26 for more information. You can start the CommonStore service in the following ways:

- Enter **archservice start** in a Command Prompt window.
- Use the Services program that comes with Windows 2000. To do so, follow these steps:
  1. Open the Services window by clicking **Start → Settings → Control Panel → Administrative Tools → Services**.
  2. Select the CommonStore service in the list and click the **Start** button.
  3. Click **Close** to exit the Services program.

When the service is running, it starts the archpro program. It then checks regularly whether archpro is still active, and restarts it if necessary.

---

## Turning archive availability checks off

If the check remains enabled, you receive an error message and the archpro program does not start.

By default, the archpro program verifies the connections to all configured archive servers when you start the CommonStore Server. If an archive server is unavailable, CommonStore issues an error message describing the problem and then stops. It is possible to disable this immediate shutdown. Change the setting for the following keyword in the server configuration profile as shown:

```
CHECK_ARCHIVE_SERVER=OFF
```

In this case, only a warning is issued. It is clear that CommonStore cannot perform a successful operation on an archive that is not available. For this reason, disabling the initial check of the archives makes sense only if you are sure that the archives become available before CommonStore accesses them.

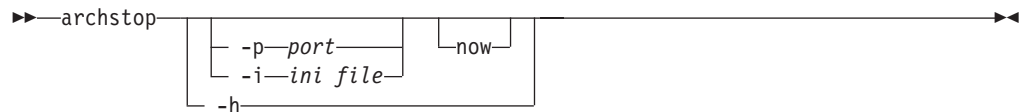
---

## Stopping the CommonStore Server

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

The syntax for this command is as follows:

## archstop



**-h** Specify this parameter to obtain online help for the **archstop** command. This parameter is exclusive. If you specify it, you cannot use any other parameter.

**-p** *port*

Specifies the port, where *port* is the fixed port number as defined in the server configuration profile by the ARCHPRO\_PORT keyword.

**-i** *ini file*

Instead of the port, you can specify the path and the file name of the server configuration profile. In this case, the port number is taken from the profile.

**now**

Causes the server to stop immediately. If this parameter is left out, CommonStore first finishes the active jobs before it terminates.

### Examples:

- archstop
- archstop -p 5510
- archstop -p 5510 now
- archstop -i C:\Program Files\IBM\CSSAP\instance01\archint.ini

You can stop the CommonStore service from the Windows 2000 Services application or by issuing the **archservice stop** command. The archstop command cannot be used to stop the service. The archstop command only stops the archpro program; however, the service soon detects that archpro is down and restarts it automatically.

---

## Stopping the CommonStore service

When you started the CommonStore Server as a Windows service, you must stop this service to terminate the archpro program. If you just end the archpro program, the service detects that it is no longer running, and, consequently, restarts it. You can stop the CommonStore service in the following ways:

- Enter **archservice stop** at a Windows Command Prompt.
- Use the Services application that comes with Windows 2000. To do so, follow these steps:
  1. Open the Services window by clicking **Start** → **Settings** → **Control Panel** → **Administrative Tools** → **Services**.
  2. Select the CommonStore service in the list and click the **Stop** button.
  3. Click **Close** to exit the Services application.

This stops the CommonStore service, and, as a result, terminates the archpro program.

---

## Increasing the system availability

CommonStore for SAP provides a high availability feature, which ensures that the connections between the involved components remain intact. The feature is a timeout switch that causes the RFC dispatcher and the archive agents to close and reopen network connections to the SAP Gateway or the archives after a period of inactivity. This means that each time the specified timeout period has elapsed without network communication, the connection to the component in question is closed and then opened again. Using timeout settings has the following advantages:

- If you have additional SAP machines to take over if the primary machine fails, the RFC dispatcher automatically establishes a working connection to the new machine without you having to restart the CommonStore Server.
- If you use Content Manager or Content Manager OnDemand, you can shut down and restart your archive servers independently of the CommonStore Server. As long as the CommonStore Server is up, the archive agents automatically create new connections when the archive servers become available again.
- If you use Tivoli Storage Manager, you can make sure that the connection to the archive remains active for the specified timeout period. This way, you can, for example, avoid mounting and unmounting tape drives, which is especially useful if you know that numerous requests address the same tape drive. Without a timeout setting, Tivoli Storage Manager closes the network connection after each request. As a result, the tape drive is mounted and unmounted for each request.

You set timeout values by using the TIMEOUT keyword in the server configuration profile (usually archint.ini). You can specify timeouts for the RFC dispatcher and the archive agents independently. If you do not set timeout values, the CommonStore Server uses the default settings in Table 7 for the RFC dispatcher and the archive agents:

*Table 7. Default timeout values*

Components	Value in seconds
Tivoli Storage Manager agents	0
Content Manager agents	86400 (1 day)
Content Manager OnDemand agents	86400 (1 day)
RFC dispatcher	86400 (1 day)

## Setting timeout periods for the RFC dispatcher

To specify a timeout period for the RFC dispatcher, add the TIMEOUT keyword to the DESTINATION statement in your server configuration profile (usually archint.ini). Set the keyword to an integer value equal to or greater than zero. The value represents seconds. See the following example:

```
DESTINATION      'T01'  
PROGID          U1.ROXI  
GWHOST          /H/MIRACULIX  
GWSERV         SAPGW01  
LU             MIRACULIX  
TP             SAPDP01  
TIMEOUT        15 # 15 seconds  
LOGICAL_SYSTEM T90CLNT090  
CLIENT         800  
USER          STRAUB
```

## Setting timeout periods for archive agents

To specify a timeout period for an archive agent, add the TIMEOUT keyword to the ARCHIVE statement of the corresponding archive in the server configuration profile (usually archint.ini). You must do this for each archive that you want to specify a timeout period for. Set the keyword to an integer value equal to or greater than zero. The value represents seconds. See the following example:

```
ARCHIVE UA
  STORAGETYPE      ADSM
  SERVER           iceberg
  MGMT_CLASS       docs
  ADSMNODE         docs
  LOGICAL_SYSTEM   T90CLNT090
  TIMEOUT          10 # 10 seconds
```

---

## Uploading bar codes

It is possible to link a bar-code scanning application to a Content Manager archive so that captured documents are immediately placed in a Content Manager index class. This is a detached process because it is unrelated to your SAP environment. CommonStore allows you to process these documents so that users can access them through SAP R/3. It archives these documents in a “regular” archive, that is, an index class with your preferred set of archive attributes. In addition, CommonStore notifies SAP R/3 of the existence of these documents by sending it the bar codes and the archive document IDs. SAP R/3 is capable of using this information for the creation of archive links. The links allow you to access and process the scanned documents like any other archived document.

CommonStore for SAP provides the following methods for this process:

- Using the CommonStore Client (as described in the *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide*)
- Using the *archbc* program, which is part of the CommonStore Server. This method is recommended for great numbers of scanned documents.

This section discusses the use of the *archbc* program. An external scan program scans all documents, after which the bar code 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 bar code is stored in the **SapBarCodeId** attribute field. All these operations are performed by an external scan program.

When you start the *archbc* program, the workbasket is scanned, its content is archived, and the bar codes and document IDs are sent to R/3.

During this process, the items are re-indexed to match the format of the documents in the destination index class. Finally, they are removed from the incoming workbasket. It is possible to specify the same index class as the incoming index class and the destination index class. In this case, CommonStore does not re-index the documents in the incoming workbasket. The following error scenarios are thinkable:

1. CommonStore cannot connect to R/3. In this case, the items are moved back to the incoming workbasket.
2. CommonStore receives an error from R/3. In this case, the items are moved to an error workbasket for further (manual) processing. You must find and eliminate the error before you can place the documents in the incoming workbasket again. This does not affect the processing of other documents.

If an error occurred 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 bar code, 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 bar codes. 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 CommonStore Server configuration profile). This is port that you set the ARCHPRO\_PORT keyword to.

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

**abort** Tells CommonStore 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 7. Files created at run time

CommonStore for SAP creates a number of files at run time. The most important ones are discussed in this section.

---

### Trace files

The CommonStore Server can produce different trace files to provide you and the support team with information about error cases. You can configure tracing in the CommonStore Server profile. The following trace files are available:

**archint\_startup.trace**

This file contains only error information on starting and stopping the CommonStore Server.

**archservice.trace**

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

**archint.trace**

This file is written by the CommonStore Server if specified in the server configuration profile. You can also change the name of this file in the server configuration profile. The file contains all CommonStore Server trace information, including information about starting, stopping, file names, and errors.

---

### CommonStore Server log file

The log file produced by the CommonStore Server gives you detailed information about the most recent operations or events. You can use the data in the server log to display information about performance bottlenecks or errors in self-developed applications. The server log file contains one line for each operation. These lines contain an error code. If you encounter problems, you can look up the error codes in the server log file. Unless your errors go back to a misconfigured setup, you rarely need to switch on the additional trace facility.

The CommonStore Server log file is basically a table. The first block of columns is the same under all conditions, whereas the second block varies with respect to the type of the operation. The structure of the first block of columns is reflected in the example in Table 8.

*Table 8. The common block of columns in the server log file*

1	2	3	4	5	6	7	8
Time stamp	Return code	Job number	Operation	Archive ID	CS server exec. time	Agent exec. time	Agent PID
18:47:32	-50	17	Archive	A1	0.456	0.123	A123F
14:02:21	0	16	Append	A1	0.217	0.035	B14C
...	...	...	...	...	...	...	...
09:42:04	0	1	Att Search	A1	0.158	0.020	34FC

The following list briefly explains the meaning of the data in each column:

**Time stamp**

Points of time when the CommonStore Server received the jobs for processing.

**Return code**

The validation codes that the CommonStore Server returned for each processed job. A return code of 0 indicates a successful operation. All other codes indicate an error.

**Job number**

The numbers assigned to the jobs that were processed by the CommonStore Server.

**Operation**

Indicates the type of an operation or the stages in the process of completing it. See Table 9 for reference.

Table 9. Operation types as indicated in the server log file

Value	Meaning
Archive	Archiving
Append	Append (adding content to an archived document)
Update Comp	Component update
Update Doc	Document update
Retrieve	Retrieval
Part-Retrieve	Partial retrieval
Delete	Deletion
Status	Obtaining status information
Free search	Searching the whole content of archived documents
Attr Search	Searching archive attributes
Change IC	Moving archived documents from one index class to another
Send BC	Sending bar codes to SAP R/3
Read WB	Reading the bar codes of the documents in a Content Manager workbasket

**Archive ID**

The logical archive IDs of the archives addressed in the operations, as specified in the server configuration profile.

**CS server exec. time**

The times that the CommonStore Server needed to process the jobs. The numbers reflect the times in seconds.

**Agent exec. time**

The times that the agent needed to process the jobs. The numbers reflect the times in seconds.

**Agent PID**

The identification numbers (process IDs) that an agent assigns to the jobs that it processes. These are hexadecimal values.

## Variable columns for operation type *Archive*

If the operation type of a job is *Archive*, the second block of the CommonStore Server log file shows the columns of the example in Table 10 on page 51.



Table 10. Columns in the server log for operation type *Archive*

9	10	11
DocID	Content type	Full source file name
2000021421141232#405A.0908	FAX	D:\cstore\test\notice.txt
...	...	...
1000911493141728#405A.0908	TXT	D:\cstore\test\invoice.txt

### Variable columns for operation type *Append*

If the operation type of a job is *Append*, the second block of the CommonStore Server log file shows the columns of the example in Table 11.

Table 11. Columns in the server log for operation type *Append*

9	10	11	12
DocID	ComponentID	Content type	Full source file name
2000021421141232#405A.0908	note	FAX	D:\cstore\test\notice.txt
...	...	...	...
1000911493141728#405A.0908	note	TXT	D:\cstore\test\invoice.txt

### Variable columns for operation type *Update Comp*

If the operation type of a job is *Update Comp*, the second block of the CommonStore Server log file shows the columns of the example in Table 12.

Table 12. Columns in the server log for operation type *Update Comp*

9	10	11	12
DocID	ComponentID	Content type	Full source file name
2000021421141232#405A.0908	note	FAX	D:\cstore\test\notice.txt
...	...	...	...
1000911493141728#405A.0908	note	TXT	D:\cstore\test\invoice.txt

### Variable columns for operation type *Update Doc*

If the operation type of a job is *Update Doc*, the second block of the CommonStore Server log file shows the columns of the example in Table 13.

Table 13. Columns in the server log for operation type *Update Doc*

9	10	11	12
DocID	ComponentID	Content type	Full source file name
2000021421141232#405A.0908	data1	FAX	D:\cstore\test\notice.txt
...	...	...	...
1000911493141728#405A.0908	data1	TXT	D:\cstore\test\invoice.txt

The log file entry lists all the components to which the update request applies. For each of these components, the fields **ComponentID**, **Content type**, and **Full source file name** are created.

### Variable columns for operation type *Index transfer*

If the operation type of a job is *Index transfer*, the second block of the CommonStore Server log file shows the columns of the example in Table 14.

Table 14. Columns in the server log for operation type *Index transfer*

9	10
Full source file name	Successes and failures
D:\transfer\test\BKPF:20020228114509000	100 successful, 5 failed
...	...
D:\transfer\test\BKPF:200202§0336501000	83 successful, 4 failed

### Variable columns for operation type *Retrieve*

If the operation type of a job is *Retrieve*, the second block of the CommonStore Server log file shows the columns of the example in Table 15.

Table 15. Columns in the server log for operation type *Retrieve*

9	10	12
DocID	ComponentID	Full target file name
2000021421141232#405A.0908	data	D:\cstore\test\notice.txt
...	...	...
1000911493141728#405A.0908	data	D:\cstore\test\invoice.txt

### Variable columns for operation type *Part-Retrieve*

If the operation type of a job is *Part-Retrieve*, the second block of the CommonStore Server log file shows the columns of the example in Table 16.

Table 16. Columns in the server log for operation type *Part-Retrieve*

9	10	11	12
DocID	ComponentID	Offset	Length
2000021421141232#405A.0908	data	21373.0	208.0
...	...	...	...
1000911493141728#405A.0908	data	14577.0	217.0

If an operation was successful, the value of the **Length** field reflects the actual length of the retrieved item. Otherwise, the **Length** field shows the length value of the request.

### Variable columns for operation type *Delete*

If the operation type of a job is *Delete*, the second block of the CommonStore Server log file shows the columns of the example in Table 17 on page 53.

Table 17. Columns in the server log for operation type *Delete*

9	10
DocID	ComponentID
2000021421141232#405A.0908	data
...	...
1000911493141728#405A.0908	data

### Variable columns for operation type *Status*

If the operation type of a job is *Status*, the second block of the CommonStore Server log file shows column 9 as in the example in Table 18.

Table 18. Column 9 in the server log for operation type *Status*

9
DocID
2000021421141232#405A.0908
...
1000911493141728#405A.0908

### Variable columns for operation type *Free Search*

If the operation type of a job is *Free Search*, the second block of the CommonStore Server log file shows the columns of the example in Table 19.

Table 19. Columns in the server log for operation type *Free Search*

9	10	11	12	13	14	15
DocID	Pattern to be searched	From offset	To offset	Number of results	Offset of first hit	Length of first hit
2000021421141232#405A.0908	abc	17473.0	32000.0	8	21373.0	3
...	...	...	...	...	...	...
1000911493141728#405A.0908	qrs	17473.0	32000.0	5	21373.0	3

If an operation was successful, the **Number of results** field contains the actual number of hits. If it was unsuccessful, it contains the requested number of hits. The fields **Offset of first hit** and **Length of first hit** contain values only if the operation was successful.

### Variable columns for operation type *Attr. Search*

If the operation type of a job is *Attr. Search*, the second block of the CommonStore Server log file shows the columns of the example in Table 20 on page 54.

Table 20. Columns in the server log for operation type *Attr. Search*

9	10	11	12	13	14	15
DocID	Pattern to be searched	From offset	To offset	Number of results	Offset of first hit	Length of first hit
2000021421141232#405A.0908	0+10 +abc# 20+30 +xyz#	17473.0	32000.0	8	21373.0	3
...	...	...	...	...	...	...
1000911493141728#405A.0908	0+15 +def# 15+16 +qrs#	17473.0	32000.0	5	21373.0	3

The values in column 10, the **Pattern to be searched** field, have the following structure:

```
<offset>+<length>+<value>#<offset>+<length>+<value>#
<offset>+<length>+<value>#...
```

If an operation was successful, the **Number of results** field contains the actual number of hits. If it was unsuccessful, it contains the requested number of hits. The fields **Offset of first hit** and **Length of first hit** contain values only if the operation was successful.

## Variable columns for operation type *Change IC*

If the operation type of a job is *Change IC*, the second block of the CommonStore Server log file shows the columns of the example in Table 21.

Table 21. Columns in the server log for operation type *Change IC*

9	10	11	12
DocID	Source IC	Target IC	Target workbasket
2000021421141232#405A.0908	noindex	SAP45comp	CSWBB2Save
...	...	...	...
1000911493141728#405A.0908	noindex	SAP45comp	CSWBL5Save

If an operation fails, the **Target workbasket** field shows the name of the scan or error workbasket as defined in the server configuration profile by the keywords `WB_SCAN` or `WB_ERROR`.

## Variable columns for operation type *Send BC*

If the operation type of a job is *Send BC*, the second block of the CommonStore Server log file shows the columns of the example in Table 22.

Table 22. Columns in the server log for operation type *Send BC*

9	10
DocID	Bar code
2000021421141232#405A.0908	barcode73211

Table 22. Columns in the server log for operation type *Send BC* (continued)

9	10
DocID	Bar code
...	...
1000911493141728#405A.0908	barcode45801

The archpro program handles requests of this type directly. Agents are not involved, and consequently, the agent execution time and the agent process ID (PID) are zero.

### Variable columns for operation type *Read WB*

If the operation type of a job is *Read WB*, the second block of the CommonStore Server log file shows the columns of the example in Table 23.

Table 23. Columns in the server log for operation type *Read WB*

9	10
Workbasket to be read	Number of items
SB45Scan	5
...	...
SB38Scan	11

The name of the workbasket to be read is taken from the server configuration profile, in which you must define it by using the INDEX\_CLASS\_SCAN keyword. The number of items read from the workbasket is shown in the CommonStore Server log file, but the individual items are not.

### Variable columns for operation type *GetAttrSpec*

There are no additional variable columns for this operation type.

### Variable columns for operation type *Create SAP WorkItem*

If the operation type of a job is *Create SAP WorkItem*, the second block of the CommonStore Server log file shows the columns of the example in Table 24.

Table 24. Columns in the server log for operation type *Create SAP WorkItem*

9	10	11	12	13
DocID	Content repository	DocType	SapArObject	Bar code
2000021421141232#405A.0908	A1	ALF	FIINVOICE	barcode0815
...	...	...	...	...
1000911493141728#405A.0908	A1	FAX	FAXMSG	barcode1428



---

## **Part 4. Configuring the archives**





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## Chapter 8. Configuring Tivoli Storage Manager

Tivoli Storage Manager (formerly: ADSM) provides automated, centrally-scheduled, policy-managed backup, archive, and space management services for file servers and workstations in a multivendor environment. It is capable of storing data on a wide variety of media, including hard disks, magnetic tapes, and optical disks. The information on the physical location of individual data blocks is kept in an internal database. This database enables Tivoli Storage Manager (TSM) to locate the data without having to access the physical media. It only accesses the storage devices if data is stored or retrieved. The TSM database also contains the TSM server setup information. In storing documents, CommonStore makes use of TSM's archiving facilities. However, its Hierarchical Space Management (HSM) capabilities are not exploited.

To prepare Tivoli Storage Manager for use with CommonStore, you must perform these steps:

1. Create a Tivoli Storage Manager management class.
2. Create a Tivoli Storage Manager node.

Before you begin, make sure that the Tivoli Storage Manager server is already installed and properly configured.

---

### Creating Tivoli Storage Manager management classes and nodes

Connect to the TSM server as administrator by entering, for example, the following command at a Windows Command Prompt:

```
dsmadm -se=<servername>
```

Then enter the following commands<sup>1</sup>:

1. `register admin msxadmin <password>`
2. `grant authority msxadmin class=system`
3. `def stgpool archpool TAPE_DEV maxscr=10`
4. `def stgpool dummy DISK`
5. `def domain msx`
6. `def policyset msx msx_policy`
7. `def mgmtclass msx msx_policy msx_mgmt`
8. `def copygroup msx msx_policy msx_mgmt type=archive destination=archpool ser=static retver=9999`
9. `def copygroup msx msx_policy msx_mgmt type=backup destination=dummy`
10. `assign defmgmtclass msx msx_policy msx_mgmt`
11. `validate policyset msx msx_policy`
12. `activate policyset msx msx_policy`
13. `register node cstore <password> domain=msx archdelete=yes`

**Explanation:**

---

1. Enter the character strings in monospace verbatim; replace the character strings in *italics* so that they reflect your environment settings.

Steps 1 and 2 on page 59 create an additional Tivoli Storage Manager administrator with all rights (`class=system`).

Step 3 on page 59 creates a primary storage pool named *archpool* in device class TAPE\_DEV with a capacity of ten scratch tapes. The device class defines the available storage devices (disk drives, tape drives, optical disk drives). It is assumed that the device class TAPE\_DEV has already been defined.

Step 4 on page 59 creates a dummy storage pool in device class DISK. DISK is a predefined Tivoli Storage Manager device class. It is not used to store any data. It merely satisfies a requirement for the definition of the backup copy group in step 9 on page 59.

Steps 5 to 7 on page 59 define a policy domain named *msx*, a policy set named *msx\_policy* in this domain, and a management class named *msx\_mgmt* in this policy set.

Step 8 on page 59 and step 9 on page 59 create the archive copy group and the backup copy group in the *msx\_mgmt* management class. The archive copy group defines the storage pool in which the data is stored physically (in this example, it is stored in *archpool*). It also defines how long Tivoli Storage Manager retains the data (in this example: for 9999 days). The backup copy group is not used by CommonStore. However, the application programming interface of Tivoli Storage Manager requires that the default management class contains a backup copy group. Hence, you must define a dummy backup copy group.

Step 10 on page 59 declares *msx\_mgmt* as the default management class.

Steps 11 on page 59 and 12 on page 59 validate and activate the previous definitions.

Step 13 on page 59 creates a Tivoli Storage Manager node named *cstore* in the policy domain *msx* and allows the client program (CommonStore) to delete archived data.

---

## Using Tivoli Storage Manager options

CommonStore supports the following Tivoli Storage Manager options:

- PASSWORDACCESS PROMPT
- PASSWORDACCESS GENERATE

Both options are specified on the client side rather than on the Tivoli Storage Manager server. See the necessary settings for each option below.

### Tivoli Storage Manager option settings

Table 25 on page 61 shows the settings for the options PASSWORDACCESS PROMPT and PASSWORDACCESS GENERATE.

Table 25. Settings for the Tivoli Storage Manager options `PASSWORDACCESS PROMPT` and `PASSWORDACCESS GENERATE`

	<code>PASSWORDACCESS PROMPT</code>	<code>PASSWORDACCESS GENERATE</code>
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 in the <my\_srv>.opt file or in the server configuration profile, but never at both locations (see the table above).

The use of `PASSWORDACCESS PROMPT` presupposes that you specified a password for the Tivoli Storage Manager node that the option relates to. You must specify the same password when you install CommonStore:

```
archpro -f serverpasswd
```

This password is used for all connections. When it expires, update it on the Tivoli Storage Manager server and (if a new password is used) on the CommonStore Server.

The use of `PASSWORDACCESS GENERATE` presupposes that you manually set an initial password for the node that the option relates to. You must specify this initial password when you connect to the Tivoli Storage Manager node for the first time. Tivoli Storage Manager changes the initial password to an automatically generated one after the first access. Later, Tivoli Storage Manager updates the generated password 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 established by using the generated password.

Connect to the Tivoli Storage Manager node for the first time by entering the following commands in a Command Prompt window:

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

After entering the command for querying the management classes, Tivoli Storage Manager prompts you for the initial password.

## Recommendation

`PASSWORDACCESS PROMPT` is easy to set up. This setting is recommended for initial testing. `PASSWORDACCESS GENERATE` is a little more difficult to set up, but once this step is done, you no longer need to concern yourself with passwords and password expiration. The latter is therefore the preferable solution for everyday use of CommonStore.

---

## Tivoli Storage Manager – troubleshooting

**Problem:** The PASSWORDACCESS GENERATE option does not work.

**Solution:** Make sure that the node name is not specified in the server configuration profile, but rather in `<my_srv>.opt`

**Important**

The PASSWORDACCESS GENERATE option has been verified to work with the Tivoli Storage Manager application programming interface (API) version 3.1.3. It does not work with API Version 3.1.0.

---

## Chapter 9. Configuring Content Manager

With Content Manager, IBM provides a multi-platform client/server solution for capturing, archiving and administering documents and data, covering the entire spectrum of corporate operations. Content Manager is a multi-purpose document management system that supports all kinds of information regardless of type and origin. 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. You can implement multiple object servers 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 2000, Windows NT
- AIX
- MVS/ESA™
- OS/400

This unique scalability allows to install the main archive on a powerful UNIX or mainframe computer, whereas smaller archives for decentralized organization structures can be implemented on low-cost PC servers. You can add servers or jukeboxes to extend the Content Manager archiving solution at any time.

IBM's well-known System Managed Storage technology (SMS) is another 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, you can search and retrieve all important documents 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, you can store all these types of information in collective files and thus deal with them in a convenient manner. Furthermore, Content Manager lets you automate recurrent jobs using the built-in workflow component.

To prepare Content Manager for use with CommonStore, you must perform these steps:

1. Create a Content Manager user account.

2. Create a Content Manager index class.
3. Create a Content Manager workbasket.

---

## Creating Content Manager user accounts

CommonStore needs its own log-in user. In Content Manager, you can create a user account by following these steps:

1. Start the System Administration Client.
2. To log in, select a user ID with administrative rights.
3. Select and open the **Users** folder.
4. Right-click somewhere in the folder and select **New** from the pop-up menu.
5. Enter the required information. Make sure that the new user has administration privileges.

---

## Creating Content Manager index classes

In Content Manager, documents of the same type are grouped in index classes. Documents of the same index class have the same set of descriptive search attributes. CommonStore maps document properties to index attributes. For every document type (form) that you want to archive, you must create an index class. For every document property that you want to search for in the archive, you must create an attribute.

To create an index class, you must first define the necessary key fields. To do this, follow these instructions:

1. Log on to the Content Manager System Administration Client and open the **Fileroom** folder.
2. Open the **Key Fields** folder.
3. Right-click somewhere in the folder and select **New** from the pop-up menu. Repeat this step until you have defined the necessary attributes.
4. Open the **Index Classes** folder.
5. Right-click in the folder and select **New** from the pop-up menu. Fill in the requested fields and select the key fields to define the index class.

Multiple archives can — but do not need to — share the same index classes.

For each logical archive or content repository defined in SAP R/3, you must define two Content Manager index classes. These are used to store the documents and the data in a content repository. In the specified index class, you store folders that represent SAP R/3 content objects. Every folder contains one or more Content Manager documents, each of them representing one component of the superordinate content object. These documents are stored in the index class declared by the INDEX\_CLASS\_COMP keyword.

For the index class you declare by using the INDEX\_CLASS keyword in your server configuration profile, define key fields in Content Manager as shown in Table 26.

*Table 26. Key fields to define in the index class declared by INDEX\_CLASS*

Key field name	Key field type	Character type	Length	Comment
DocId	Variable character	Other	1 - 40	Must be defined

Table 26. Key fields to define in the index class declared by INDEX\_CLASS (continued)

Key field name	Key field type	Character type	Length	Comment
<b>DocProtection</b>	Variable character	Other	1 - 10	Must be defined
<b>TimeStampC</b>	Time stamp	N/A	N/A	Must be defined
<b>TimeStampM</b>	Time stamp	N/A	N/A	Must be defined

For the index class you declare by using the INDEX\_CLASS\_COMP keyword in your server configuration profile, define key fields in Content Manager as shown in Table 27.

Table 27. Key fields to define in the index class declared by INDEX\_CLASS\_COMP

Key field name	Key field type	Character type	Length	Comment
<b>ComponentID</b>	Variable character	Other	1 - 254	Must be defined
<b>ContentType</b>	Variable character	Other	1 - 80	Must be defined
<b>Charset</b>	Variable character	Other	1 - 20	Must be defined
<b>Version</b>	Variable character	Other	1 - 10	Must be defined
<b>SapBarcodeId</b>	Variable character	Other	1 - 40	Must be defined for inbound documents with bar codes
<b>DocId</b>	Variable character	Other	1 - 40	Must be defined
<b>TimeStampC</b>	Time stamp	N/A	N/A	Must be defined
<b>TimeStampM</b>	Time stamp	N/A	N/A	Must be defined

None of the attributes defined by the INDEX\_CLASS or INDEX\_CLASS\_COMP keyword are set to *required*, and they are all single-value fields.

You must probably customize your setup if you want to archive inbound documents using the *early archiving via bar code* or *late archiving via bar code* method. To apply one of these methods, which usually involves the capturing of documents using the Content Manager client or an external capturing software that interfaces to Content Manager, you must define an additional index class. To declare this index class in your server configuration profile, use the INDEX\_CLASS\_SCAN keyword.

A setup is recommended where the Content Manager client or the capturing software stores the captured documents in this index class. After linking the documents in SAP/R3, CommonStore transfers these documents from the “scan” index class to their final repository, the index class declared by the INDEX\_CLASS\_COMP keyword.

The only key field you must define when using INDEX\_CLASS\_SCAN is **SapBarcodeId** (see Table 27). You can also provide additional fields. This makes sense if you use Optical Character Recognition (OCR) software, which is able to fill these fields. If these fields exist in the index classes declared by the keywords

INDEX\_CLASS\_COMP and INDEX\_CLASS\_SCAN, Content Manager retains their content when transferring documents between the two index classes. In addition, when accessing the archive from SAP/R3, you can specify values of these fields as search attributes when you query documents using the Content Manager client.

---

## Creating Content Manager workbaskets

To create a Content Manager workbasket, follow these instructions:

1. Log on to the Content Manager System Administration Client and open the **Work Management** folder.
2. Open **Workbaskets** folder.
3. Right-click somewhere in the folder and select **Create workbasket** from the pop-up menu.
4. Provide the requested information, but do *not* select the **Overload** function or the **Remove items after indexing** functions.

---

## Content Manager – troubleshooting

If you encounter problems with CommonStore and Content Manager, try to track down and solve the problem by using the following procedure:

1. Stop the CommonStore Server.
2. Specify TRACE ON DEBUG in the server configuration profile.
3. Switch on folder manager tracing by entering the following command in a Command Prompt window:  
FRNFMTRACE=/p
4. Manually restart the CommonStore Server by using the archpro command in the same window.
5. Check the resulting trace file (usually archint.trace) and the folder manager protocol of Content Manager, the fmtrace.txt file.
6. Check the Content Manager error log on the library server to which the problematic logical archive refers.
7. See the book *IBM EDMSuite ImagePlus VisualInfo: Messages and Codes* for detailed error descriptions or the *IBM EDMSuite ImagePlus VisualInfo: System Administration Guide* for further trace information.
8. When in doubt, double-check the Content Manager key fields, the index classes, and workflow definitions.



---

## Chapter 10. Configuring Content Manager Version 8

The steps for configuring Content Manager Version 8 are basically the same as for previous versions of Content Manager. However, there are a few differences regarding the setup and the naming of objects on the System Administration panel. These subjects are discussed in this chapter.

With Content Manager Version 8, CommonStore currently does not offer the same range of features as with earlier versions of Content Manager. Thus, you cannot perform the following actions:

- Use the SAP Document Finder to search the archives
- Use the index-transfer feature

---

### Preparing CommonStore for use with Content Manager Version 8

CommonStore connects to Content Manager Version 8 through a local connector, which is part of the Content Manager Version 8 API. The API is included in the Enterprise Information Portal (EIP), which is delivered with Content Manager Version 8. Before you can use the CommonStore, install the following software on all computers running an instance of the CommonStore Server:

- Enterprise Information Portal
- DB2 Client

#### Setting the classpath environment variable:

CommonStore needs access to the .zip and .jar files of the EIP local connector. Therefore, you must include the path to these files by setting the classpath environment variable accordingly. Include the paths to the following files in the classpath statement:

- cmbcm81.jar
- cmbicm81.jar
- cmbicmc81.jar
- db2java.zip
- xerces.jar
- cmblog4j81.jar
- log4j.jar
- cmbsdk81.jar

#### Example:

```
classpath=C:\CMBROOT\cmbcm81.jar;C:\CMBROOT\cmbicm81.jar;  
C:\CMBROOT\cmbicmc81.jar;C:\SQLLIB\java\db2java.zip;C:\CMBROOT\xerces.jar;  
C:\CMBROOT\cmblog4j81.jar;C:\CMBROOT\log4j.jar;C:\CMBROOT\dmbsdk81.jar
```

In this example, it is assumed that you have installed the EIP in the C:\CMBROOT directory and the DB2 Client in the C:\SQLLIB directory. You can change the setting of the CLASSPATH environment variable on the Environment page of the System Properties sheet. To open this window in Windows 2000, follow these steps:

1. Click **Start** → **Settings** → **Control Panel**.

2. Double-click the System icon. The System Properties window opens.
3. Click the Advanced tab.
4. Click **Environment Variables**.
5. In the lower box labelled System variables, select the **classpath** environment variables and click **Edit**. If the classpath environment variable is unset, click **New**.
6. Append the paths to the .jar and .zip files to the current setting, or, if the classpath variable is unset, enter the paths in **Variable Value** field.
7. Click **OK** until the System Properties window closes.

---

## Creating user accounts in Content Manager Version 8

To create new users in Content Manager Version 8, follow these steps:

1. Start the Content Manager System Administration program and log on.
2. Expand the **Authentication** item in the tree-view on the left.
3. Right-click the item **Users** in the expanded view.
4. Select **New** from the context menu. A wizard starts that guides you through the remaining steps.

---

## Structuring Content Manager Version 8 archives

In Content Manager Version 8, documents of the same type are grouped in item types. Documents in an item type have the same set of descriptive search attributes. CommonStore maps document properties to attributes. For each document property that you want to search for in the archive, you must create an attribute. For every document type or form to be represented in the archive, you must create an item type. Hence, to make CommonStore work with Content Manager Version 8, you must perform the following tasks:

1. Creating attributes
2. Creating part item-types
3. Creating item types

### Creating attributes in Content Manager Version 8

The procedure of creating attributes in Content Manager Version 8 is different to that of older Content Manager versions. Follow these steps:

1. Log on to the Content Manager System Administration Client.
2. Expand the **Data Modelling** item in the tree-view on the left.
3. Right-click the item **Attributes** in the expanded view.
4. Select **New** from the context menu. A wizard starts that guides you through the remaining steps.

Use this procedure to create the attributes listed in Table 28. When creating an item type later on, you must include these attributes in the item-type definition. In addition, you must declare the item type in the server configuration profile (usually archint.ini) by using the ITEM\_TYPE keyword. See “Creating item types” on page 70 for more information.

*Table 28. Required attributes for Content Manager 8*

Attribute name	Key field type	Character type	Length	Comment
DocId	Variable character	Other	1 - 40	Must be defined

Table 28. Required attributes for Content Manager 8 (continued)

Attribute name	Key field type	Character type	Length	Comment
<b>DocProtection</b>	Variable character	Other	1 - 10	Must be defined
<b>CompId</b>	Variable character	Other	1-40	Must be defined
<b>Charset</b>	Variable character	Other	1-20	Must be defined
<b>Version</b>	Variable character	Other	1-10	Must be defined
<b>Checksum</b>	Variable character	Other	1-20	Must be defined

**Important**

Running CommonStore with Content Manager Version 8, you can only use first-level attributes.

## Creating part item-types

Follow these steps to create part item-types:

1. Start the Content Manager System Administration program and log on.
2. Right-click the item **Item types** in the tree-view on the left.
3. Select **New** from the context menu. A tabbed notebook opens with the *Definition* page in front.
4. On the Definition page, enter a name for the part item-type in the **Name** field. You must at least create the part item-types in Table 29. These must both contain the attributes listed in step 6. How to associate these attributes with the part item-types is explained in 7.

Table 29. Required part item-types

Part item-type	Description
ICMBASECS	Part item-type for holding document content, such as attachments, images and so on.
ICMNOTELOGCS	Part item-type for holding SAP notes.

5. From the **Item type classification** drop-down list, select **Document Part**.
6. Click the Attributes tab. The available attributes are listed in the box on the left. The following attributes are mandatory for the part item-types ICMBASECS and ICMNOTELOGCS:
  - CompId
  - Charset
  - Version
  - Checksum
7. Select the mandatory attributes for the required part item-types. Click **Add**. The selected attributes are displayed in the box labelled *Selected attributes and components* on the right. To remove attributes from this box, select one or more attributes and click **Remove**. For more information about attributes, see "Creating attributes in Content Manager Version 8" on page 68.

8. Click **OK** to complete the part item-type.

## Creating item types

In version 8 of Content Manager, the term *index class* is replaced with the term *item type*. Follow these steps to create item types:

1. Start the Content Manager System Administration Client and log on.
  2. Right-click the item **Item Types** in the tree-view on the left.
  3. Select **New** from the context menu. A tabbed notebook opens with the *Definition* page in front.
  4. On the Definition page, enter a name for the item type in the **Name** field.
  5. From the **Item type classification** drop-down list, select **Document**.
  6. Click the Document Management tab.
  7. On the Document Management page, click **Add**. A window with the title Define Document Management Relations opens.
  8. From the **Part type** drop-down list, select **ICMBASECS** and click **Apply**.  
ICMBASE is a required part type for basic parts, holding document content, such as attachments, images, and so on.
  9. Repeat step 8 to select the part type ICMNOTELOGCS. Click **OK**. The selected part types are listed in the box on the Document Management page.
  10. Click the Attributes tab. The available attributes are listed in the box on the left.
  11. Select the attributes that you want to make searchable in the archive and click **Add**. The selected attributes are displayed in the *Selected attributes and components* box on the right.  
For CommonStore for SAP, you must at least select the following attributes:
    - DocId
    - DocProtection
- To remove attributes from this box, select one or more attributes and click **Remove**. For more information about attributes, see “Creating attributes in Content Manager Version 8” on page 68.
12. Click **OK** to complete the item type.

To make the item types known to CommonStore, define a logical archive for each item type in the server configuration profile (usually archint.ini) by using the ITEM\_TYPE keyword.

CommonStore logs on to the archive with the CommonStore archive user ID specified in the server configuration profile. Provide this ID with full access rights to the item type. Create a separate user ID just for CommonStore. Whether other archive user IDs must be granted access to your item types depends on your requirements. If the archive is only accessed by CommonStore, restrict access to the CommonStore user ID and the archive administrator.

---

## Content Manager Version 8 troubleshooting

If you encounter errors or unexpected behavior in connection with CommonStore and Content Manager Version8, follow this procedure:

1. Start the Content Manager System Administration program and log on.
2. Expand the **LibServerName** item in the tree-view on the left.
3. Expand **Library Server Parameters**.

4. Right-click the item **Configuration** in the expanded view.
5. Select **Explore** from the context menu. A window with the title Library Server Configuration opens.
6. Click the Log and Trace tab.
7. Select all check boxes under Trace level.
8. In the **Trace file name** field, enter the path and the name of your trace file, for example C:\ICMSERV.LOG.
9. Run the problematic CommonStore process again.
10. Submit the trace file along with other information to the CommonStore support team.



---

## Chapter 11. Configuring 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 the following kinds of servers:

### Library servers

The library server contains indexes and control information. It runs under Windows, AIX, HP-UX, and Sun Solaris. In addition, it supports DB2<sup>®</sup>. The Windows NT version of the CMOD library server supports Microsoft SQL Server instead of DB2.

### Object servers

Object servers contain the archived data and can optionally use Tivoli Storage Manager as a storage manager. Clients run under OS/2, Windows NT, and CICS/ESA. Clients are available for Netscape Navigator or Microsoft Internet Explorer.

With CommonStore, 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 CommonStore Client) and retrieved through either R/3 or the Content Manager OnDemand client. Using the comfortable user interface of Content Manager OnDemand, you can perform simple or advanced queries to find and retrieve documents for processing in a variety of ways. You can view entire documents, portions of documents, or simultaneously view multiple documents — even if the documents are in different formats. You 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 CommonStore 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 CommonStore, the Content Manager OnDemand server can receive reports and documents from a production system, such as an MVS mainframe computer. The system then extracts index fields, such as customer name and account number, from the data and stores them in a relational database to provide fast information.

To prepare Content Manager OnDemand for use with CommonStore, you must perform these steps:

1. Create a CMOD user account.
2. Create a CMOD application group.

3. Create a CMOD application.
4. Create a CMOD folder.

Refer to *IBM Content Manager OnDemand for Multiplatforms: Administrator's Guide* for concepts and detailed information on how to perform the operations requested in this section. The duration and complexity of the configuration process strongly depends on your requirements.

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 user accounts

It is recommended that you create a CMOD user account for each logical archive or content repository. The account is used for all processing transactions between the CMOD archive and the SAP R/3 content repository. Of course, you can also use the same user account for several or all repositories. Grant the users of a specific content repository appropriate access to all CMOD application groups and folders that you created for the repository.

---

## Creating Content Manager OnDemand application groups

It is recommended that you specify a CMOD application group for each logical archive or content repository in SAP R/3. Multiple repositories can, but need not, share the same application group.

For every application group to be used by CommonStore, choose a database organization with multiple loads per database table and a segment-oriented expiration policy. Also, if you want to enable users to access and annotate documents stored in an application group through the Content Manager OnDemand client, provide fields for annotation flags in the database table.

*Table 30. Fields to define for each CMOD application group*

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 the database field COMP\_ID, specify the mapping shown in Table 31.

Table 31. Value mapping for the COMP\_ID field

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

For the database field CONTENT\_TYPE, specify the mapping shown in Table 32.

Table 32. Value mapping for the CONTENT\_TYPE field

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

**Important**

You must set the Expiration Type to 'Segment' because this is no longer a default. Otherwise, CommonStore does not work with CMOD. To set the Expiration Type accordingly, click **Application Group** → **Storage Management** in CMOD.

If you intend to use the index transfer feature of CommonStore to import additional lookup information into the Content Manager OnDemand archive, you must list these fields in the application group definitions. Specify the R/3 database field name and the field type for each index field that you want to transfer.

---

## Creating Content Manager OnDemand applications

It is recommended that you specify a CMOD application for each logical archive or content repository in SAP R/3. The application defines the data format for this repository in the CMOD archive. Multiple repositories can, but need not, share the same application.

**Note:**

A specific logical archive or content repository cannot refer to several applications; thus, you must configure a distinct repository for each data format (application) to be archived in Content Manager OnDemand via CommonStore.

You must assign every application you create to one of the application groups that you have defined before. See “Creating Content Manager OnDemand application groups” on page 74 for more information.

With regard to the document type you want to store in a CMOD archive, look up the appropriate data type, file extension, and compression method in Table 33. Assign those parameters in your application definition.

*Table 33. Data types, extensions, and compression methods to assign to the supported document types*

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 document type that you want 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 the `DATE_TIME_M` fields.

---

## Creating Content Manager OnDemand folders

It is recommended that you create a CMOD folder for each logical archive or content repository in SAP R/3. A folder is necessary for accessing the archived documents and the meta-data archived in this repository. Multiple repositories can, but do need not share the same folder.

You must map the fields defined in the folder to the attributes of the application group. The names in the folder need not have the same names as the ones in the application group.

In each folder, include at least the search fields listed in Table 34.

Table 34. Search fields to be included in CMOD archive folders

Name	Field type	Database field name	Operators defined
Logical archive/content repository	String	CONT_REP	<u>Equal</u> (default), Not Equal, In, Not In
Document identifier	String	DOC_ID	Equal, <u>Like</u> (default)
Object identifier/bar code	String	OBJECT_ID	Equal, <u>Like</u> (default)
Component identifier	String	COMP_ID	<u>Equal</u> (default)
Document protection	String	DOC_PROT	Equal, <u>Like</u> (default)
Content length (bytes)	Integer	CONTENT_LENGTH	<u>Equal</u> (default), Between, Less Than, L/T or Equal, Greater Than, G/T or Equal
Technical document class/content type	String	CONTENT_TYPE	<u>Equal</u> (default), Like
Character set	String	CHARSET	<u>Equal</u> (default), Like
Application version	String	VERSION	<u>Equal</u> (default), Between, Less Than, L/T or Equal, Greater Than, G/T or Equal
Created	Date/Time	DATE_TIME_C	Equal, <u>Between</u> (default), Less Than, L/T or Equal, Greater Than, G/T or Equal
Last modified	Date/Time	DATE_TIME_M	Equal, <u>Between</u> (default), Less Than, L/T or Equal, Greater Than, G/T or Equal

It is useful to specify *data* as the 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.

---

## Adapting the server configuration profile

To use CommonStore with Content Manager OnDemand, you must install a CMOD library server on the CommonStore server machine. As a consequence, you must adapt the server configuration profile so that it contains all necessary CMOD-related parameters. You find most of the keywords whose values you must change to reflect your CMOD setup in the archive section of the server configuration profile. The only exception is the ODAGENTS keyword, which controls the number of parallel connections to the CMOD archive.

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

- ODHOST
- APPGROUP
- APPLICATION
- FOLDER
- ODUSER

You use the ODHOST keyword to specify the name of the CMOD library server. The keywords APPGROUP, APPLICATION, FOLDER, and ODUSER are used likewise to refer to the application group, the application, the folder and the user account of the CMOD archive that you want to enable. See Chapter 11, “Configuring Content Manager OnDemand” on page 73 for more information. Here is a sample archive definition:

```

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

```

---

## Changing the Content Manager OnDemand server port

You can change the port that is used on the Content Manager OnDemand (CMOD) server. This is useful if you run into conflicts when using the default port or if you want to run several instances of the Content Manager OnDemand system on the same computer. In the latter case, you must specify a different port number for each instance and also a different IP address.

You can set the port number by using the ODHOST keyword in the server configuration profile (usually archint.ini). If Content Manager OnDemand cannot find an ODHOST entry in the server configuration profile, it uses the default port with the instance name as the IP address.

If you have several CMOD library servers in a multiple-instance environment or a single library server using a non-default port, you must perform a few configuration steps to enable CommonStore access to these servers. See the appropriate section below.

### Accessing CMOD library servers from UNIX systems

If CommonStore is installed on AIX, HP-UX, or Sun Solaris, you can add entries for various CMOD library servers or a library server with a non-default port to the ars.ini file. Edit the file to create a CMOD instance for each library server, including the port number and the IP address. This enables CommonStore to access these CMOD library servers.

### Accessing CMOD library servers from Windows systems

If CommonStore is installed on a Windows system, you can use the server configurator program delivered with Content Manager OnDemand to add CMOD instances for remote AIX, HP-UX, iSeries, Sun Solaris, or z/OS library servers. You can also use it to add CMOD instances for another Windows system.

---

## Content Manager OnDemand – troubleshooting

If you encounter problems with CommonStore and Content Manager OnDemand, try to track down and solve the problem by using the following procedure:

1. Stop the CommonStore Server.
2. Specify TRACE ON DEBUG in the server configuration profile.
3. Enable the message logging facility for all problematic operations by changing the corresponding application group definitions accordingly. Use the *Content Manager OnDemand Administrator* for that purpose.
4. Manually restart the CommonStore Server by using the archpro command from a Command Prompt window.
5. Check the resulting trace file (usually archint.trace) and the CMOD error protocol.
6. Check the CMOD system log on the library server to which the problematic logical archive refers.
7. When in doubt, double-check the CMOD application group and the application definitions.



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## **Part 5. SAP archiving scenarios**





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## Chapter 12. Basic setup

With CommonStore, you can cover all SAP archiving scenarios. Table 35 shows the components that you must install for the different scenarios. For customization steps regarding the CommonStore Client, refer to the *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide*.

Table 35. Components to install for the various SAP archiving scenarios

	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 the basic setup

#### Setting up communication using RFC

The following list shows the necessary steps for setting up RFC communication. Each step is described in a section of its own. The steps listed here are the titles of the corresponding sections.

1. Creating an SAP CPIC user for the RFC communication
2. Creating an RFC destination

3. Checking the logical system
4. Maintaining ArchiveLink number ranges (SAP Rel 4.0 and higher)
5. Creating an ArchiveLink protocol
6. Creating ArchiveLink queues
7. Creating a content repository (logical archive) customized for RFC communication

## Setting up communication using the Hypertext Transfer Protocol (HTTP)

The following list shows the necessary steps for setting up HTTP communication. Each step is described in a section of its own. The steps listed here are the titles of the corresponding sections.

1. Checking the logical system
2. Maintaining ArchiveLink number ranges (SAP Rel 4.0 and higher)
3. Creating an ArchiveLink protocol
4. Creating ArchiveLink queues
5. Creating a content repository (logical archive) customized for HTTP communication
6. Sending a certificate to the CommonStore Server

---

## Detailed customizing steps for the basic setup

### Creating an SAP R/3 CPIC user for the RFC communication

1. Use T-Code SU01.
2. Then enter the name of the CPIC user which you want to create.
3. Press the **Create** button.
4. The panel changes.
5. Enter the password.
6. Set the time frame for the validity of this user.
7. Set the **User type** to CPIC.
8. Set the **Authorization profiles** to SAP\_ALL and SAP\_NEW.
9. Click on the **Continue** icon.
10. Click on the **Save** icon.

**Note:**

In archint.ini, you must enter:

USER

name of the CPIC user

### Creating an RFC destination

1. Use T-Code SM59.
2. Click on **TCP/IP connections**.
3. Click on the **Create** button. The panel changes.

4. Enter the following settings:

<b>RFC destination</b>	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.
<b>Connection type</b>	T
<b>Description</b>	CommonStore RFC Connection

5. Press **ENTER**. The panel changes.
6. Click for **Activation Type** on **REGISTRATION**. The panel changes.
7. Enter a program ID (for example KD7.ARCHIFIX).  
It is recommended that you keep the RFC destination identical with the program ID, to make troubleshooting easier.

**Note:** Add the following entry to the server configuration profile:

PROGID	the name of the Program ID as customized above (for example KD7.ARCHIFIX)
--------	--

8. Choose the menu path: **Destination → Gateway-Options**
9. Enter the following settings:

<b>Gateway host</b>	Same as for GWHOST in the CommonStore Server configuration profile
<b>Gateway service</b>	Same as for GWSERV in the CommonStore Server configuration profile
10. Click the **OK** button.
11. Click the **Save** icon.

## Checking the logical system

1. Use T-Code BD54.

**Note:** The changes do not affect the client.

2. 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.

3. If no logical system has been set up, create one by following these instructions:
  - a. Press the **New Entries** button.
  - b. Enter the name of your new logical system and a description.
  - c. Click on the **Save** icon.

4. 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”).

**Note:**

The following must be entered in the CommonStore 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

1. Use T-Code SCC4. See also “Checking the logical system” on page 85.
2. Double-click the entry of your client. 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.

3. If no *logical system* has been specified, press the **Change** button. Else move on to the next step.

**Note:**

Changes do not affect the clients.

4. Enter the chosen logical system.
5. Click on the **Save** icon.

## Maintaining ArchiveLink number ranges (SAP Rel. 4.0 and higher)

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

No 01 From number	0000000001
To number	9999999999

Do not change the setting for **Current number**.

## Creating an ArchiveLink protocol

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

1. Use T-code 0AA3.
2. Click the **New protocol** button.

3. Enter the following settings:

<b>Protocol</b>	CSPRT (logical name)
<b>Version</b>	0031 for RFC communication.
	If you use HTTP communication instead of RFC communication, specify 0045.
	Never use 0040 because this SAP protocol version does not work correctly.
Description	Enter information on this protocol.

4. Click the **Save** icon.

## Creating ArchiveLink queues

The procedure differs with respect to your SAP R/3 release. Follow the correct column of instructions where appropriate:

1. The procedure differs with respect to your SAP R/3 release. Follow the instructions in the appropriate column.

### For older R/3 releases:

- a. Use T-Code 0AM1.
- b. Click the **Create queues** button.

### For Release 4.0x or later:

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

2. Enable the checkboxes.
3. As the queue administrator, specify a user in your SAP system who is to be informed by SAP when problems occur.
4. Press the **Execute** button.

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

The procedure differs with respect to your SAP R/3 release. Follow the correct column of instructions where appropriate:

1. Use T-code OAC0.
2. Click the **Change** icon. A list of content repositories is displayed.
3. Click the appropriate button or icon.

### For older R/3 releases:

**New Entries** button

### For Release 4.5 or later:

**Create** icon

The panel changes.

4. In SAP Rel. 4.6 click the **Full administration** button.

5. Enter the appropriate settings according to your SAP release:

**For older R/3 releases:**

**Opt. archive ID**  
AI

**Description**  
CommonStore RFC 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 86)

**Version no.**  
Corresponding to your SAP  
system, for example, 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  
CommonStore and the SAP  
application server

**Arch. path**  
Transfer directory between  
CommonStore and the SAP  
application server

**Spool path**  
Leave blank

**RFC** YES (Click)

**RPC** NO (Do not click)

**For Release 4.5 or later:**

**Content rep.**  
For example AI

**Description**  
CommonStore RFC Archive

**Storage type**  
Choose **RFC Archive** from  
drop-down list

**Protocol**  
For example CSPRT

**Version no.**  
0031

**RFC destination**  
For example KD7.ARCHIFIX (as  
customized in “Creating an RFC  
destination” on page 84)

**Basic path**  
Transfer directory between  
CommonStore runs and the SAP  
application server

**Arch path**  
Transfer directory between  
CommonStore runs and the SAP  
application server

**Notes**

- It is recommended that you specify the same path as in the fields **Basic path** and **Arch.path**.
- The transfer directory needs to be shared between the machine where CommonStore runs and the SAP application server, when using RFC.

## Creating a content repository (logical archive) customized for HTTP communication

1. Use T-code 0AC0.
2. Click the **Change** icon. The panel changes.

3. Click the **New Entries** button. The panel changes.

4. Enter the following settings:

<b>Content rep.</b>	For example AI
<b>Description</b>	CommonStore HTTP Archive
<b>Storage type</b>	HTTP Content Server
<b>Protocol</b>	For example CSPRT
<b>Version no.</b>	Always 0045
<b>Http svr:p</b>	Server and port of the CommonStore Server separated by a colon, for example, Csarch:8080
<b>Program:</b>	cs
<b>Basic path</b>	Transfer directory in which data can be temporarily saved
<b>Arch. path</b>	Transfer directory in which data can be temporarily saved

#### Notes

- It is recommended that you specify the same path as in the fields **Basic path** and **Arch.path**.
- When using the HTTP the transfer directory does not need to be shared between the machine where CommonStore runs and the SAP application server.

## Sending a certificate to the CommonStore Server

1. Use T-code 0AHT.
2. Double click on the content repository you want to send a certificate to. A certificate will be sent to the corresponding CommonStore Server.
3. The CommonStore Server will save this certificate and will use it when archiving and retrieve calls arrive for this content repository.





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## Chapter 13. Data archiving

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 does not 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. For maximum security, it is advisable to use the multiple-archiving feature. See “Preparing CommonStore for multiple archiving” on page 36 for more information.

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. Set up your SAP system (see Chapter 12, “Basic setup” on page 83 ).
2. Set up the CommonStore Server (see “Basic setup” on page 31).
3. Configure the archive system and the storage management. Make sure that the media type, the retention period, and so on are set up correctly.

### Setup:

1. Creating an entry for data archiving in the link table.
2. Customizing 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.

3. Creating test data for the archiving object FI\_BANKS.
4. Running a data archiving session for the archiving object FI\_BANKS
5. Checking the customizing settings for archiving

### Execution of the retrieve process

6. Retrieving 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.
7. Reloading archived data to the R/3 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 Release 4.6 reloading to the database is not possible any more, anyway.

---

## Detailed customizing steps for data archiving

### Creating an entry for data archiving in the link table

1. Use T-Code 0AC3. The explanations below refer to customizing for the reorganization (REO) document class.
2. Check if there is already an entry in your link table with the following settings:

<b>Obj.type</b>	ARCHIVE
<b>Doc.type</b>	ARCHIVE

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

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

- a. Click the **Change** button. The panel changes.
- b. Click on the **New Entries** button. The panel changes.

c. Enter the following settings:

<b>Object type</b>	ARCHIVE
<b>Document type</b>	ARCHIVE
<b>Status</b>	X
<b>Opt. archive ID</b>	AI
<b>Link</b>	TOA01
<b>Retention per.</b>	Specify the retention period (not used by CommonStore!)

d. Click the **Save** icon.

3. Check the entry for the SAP object ARCHIVE as follows:

- a. Use T-Code SE16.
- b. Enter TOA0M as the table name.
- c. Check the lines containing the following entries:
  - SAP\_OBJECT = ARCHIVE
  - AR\_OBJECT = ARCHIVE
- d. Set the DOCUMENT\_TYPE to RE0.

**Note:**

If this entry is missing, CommonStore does not receive orders for archiving application data.

## Customizing the ArchiveLink path

1. Use T-Code FILE.
2. Click the first magnifying glass (logical file path definition).
3. Mark **ARCHIVE\_GLOBAL\_PATH** in the **Select** window at the bottom of the page.
4. Click the second magnifying glass (**Assignment of physical paths to logical path**).
5. In the **Select** window, double-click on the syntax group corresponding to the operating system on which the R/3 System is installed.
6. As the **Physical path**, specify the path customized as **Basic path** in “Creating a content repository (logical archive) customized for RFC communication” on page 87 (for example /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>

7. Click the third magnifying glass.
8. In the **Select** window, double-click on **ARCHIVE\_DATA\_FILE\_WITH\_ARCHIVELINK**.
9. Check if **Logical path** is set to **ARCHIVE\_GLOBAL\_PATH**.
10. Click the **Save** icon.

11. In the **Select** window, double-click on **ARCHIVE\_DATA\_FILE**.
12. Check if **Logical path** is set to **ARCHIVE\_GLOBAL\_PATH**.
13. Click the **Save** icon.

## Creating test data for the archiving object FI\_BANKS

1. Use T-Code FI01.
2. Enter the following settings:

<b>Bank country</b>	AD
<b>Bank key</b>	1234567

3. Press the ENTER key. The panel changes.
4. Enter the following settings:

<b>Bank</b>	Archiving test
-------------	----------------

5. Click the **Save** icon.

## Running a data archiving session of the archiving object FI\_BANKS

1. Use T-Code SARA.
2. Choose **FI\_BANKS** as the **Object name**.
3. Press **ENTER**.
4. Check the customization settings (see “Checking the customization settings for archiving” on page 95).
5. Click the **Archive** button.
6. Enter the name of a **Variant**.
7. Press the **Maintain** button.
8. Enter the following settings:

**BankAD**  
**country**  
**Min. 0**  
**no.**  
**of**  
**days**  
**in**  
**the**  
**system**

9. Disable **Only with delete flag**.
10. Disable **Test run**.
11. Enable **Detail log**.
12. Click the **Continue** button.
13. Enter CommonStore Test as the description.
14. Click the **Save** icon.
15. Click the **Back** icon.
16. Click on the **Start date** button.
17. Click the **Immediate** button.
18. Click on the **Save** icon.

19. Click the **Spool params.** button.
20. If no **Output device** is specified, leave it blank.
21. Click the **Save** button. (If **Output device** was blank, a warning will appear.)
22. Click the **Continue** button.
23. Click the **Create job** icon.
24. 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 CommonStore to archive the file generated from SAP.

## Checking the customization settings for archiving

1. Use T-Code SARA.
2. Choose **FI\_BANKS** as the object name.
3. Press the **Customizing** button. The next steps in this procedure differ with respect to your SAP R/3 release.
4. Follow the instructions in the appropriate column:

### For older R/3 releases:

- a. Make sure that the **log. file name** is one of the following:
  - ARCHIVE\_DATA\_FILE
  - ARCHIVE\_DATA\_FILE  
\_WITH\_ARCHIVELINK
- b. In the section **Connection to archiving system**, choose **ARCHIVE** as the document type and then enable **Start autom.**

### For Release 4.5 or later:

- The Data Archiving Customizing panel opens.
- a. Under the heading *Archiving object-specific Customizing*, click **Technical settings**.
  - b. Make sure that the **log. file name** is one of the following:
    - ARCHIVE\_DATA\_FILE
    - ARCHIVE\_DATA\_FILE  
\_WITH\_ARCHIVELINK
  - c. In section **File storage to storage system**, select an archive from the selection box that opens when you click the button next to the **Content Repository** field.
  - d. Select the **Start automatic.** check-box.

5. In the section **Settings for delete program**, enable **Start autom.**
6. Check if **Test run variant** is set to a test variant (for example **SAP&TEST**).
7. Check if **Prod.run variant** is set to a productive variant (for example **SAP&PROD**).
8. Click the **Save** icon.
9. Click the **Back** icon.

## Retrieving archived application data from the archive

1. Use T-Code SARA.
2. Choose **FI\_BANKS** as the object name.
3. Press **ENTER**.

4. Click the **Management** button.
5. The next steps in this procedure differ with respect to your SAP R/3 release. Follow the instructions in the appropriate column:

**For older R/3 releases:**

- a. In the list of archiving sessions, expand the item **Processed archiving sessions**.
- b. Expand any sub-items until you see the session documents..
- c. Mark the session that you want to retrieve.
- d. Press the **Buffer** button.

**For Release 4.5 or later:**

- a. In the list of archiving sessions, expand the item **Completed archiving sessions**.
- b. Expand any sub-items until you see the session documents..
- c. Mark the session that you want to retrieve.
- d. Press the **Storage system** button.

6. The panel will display the files belonging to the marked archive run.
7. Click the **Retrieve files** button. A call is sent to CommonStore and the retrieved files are allocated in the file system.

**Note**

Make sure that CommonStore has WRITE access to the exchange path.

## Reloading archived files to the R/3 database

**Notes**

- Reloading data to the database is not possible in SAP Rel. 4.6.
- The files must first be retrieved from the archiving system (see “Retrieving archived application data from the archive” on page 95) before a reload is possible.

1. Use T-Code SARA.
2. Choose **FI\_BANKS** as the object name.
3. Press **ENTER**.
4. Click the **Reload** button.
5. Enter the name of a variant.
6. Press the **Maintain** button.
7. Enter following settings:  
Bank country AD
8. Disable **Test run**.
9. Enable **Detail log**.
10. Click the **Continue** button.
11. Enter CommonStore Test as the description.
12. Click the **Save** icon.
13. Click the **Back** icon.
14. Press the **Archive selection** button. A list of reloadable archive runs is displayed.
15. Mark the run to be reloaded.
16. Press the **Start date** button.
17. Press the **Immediate** button.

18. Click the **Save** icon.
19. Press the **Spool params** button. If no **Output device** is specified, leave it blank.
20. Click the **Save** button. (If **Output device** was blank, a warning appears. Click the **Continue** button.)
21. Click on the **Create job** icon.
22. Go to **Job overview**. A reload (REL) job for this archiving session is executed.





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## Chapter 14. Print list archiving

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. Set up your SAP system (see Chapter 12, "Basic setup" on page 83).
2. Set up the CommonStore Server (see "Basic setup" on page 31).
3. Configure the archive system and the storage management. Make sure that the media type, the retention period, and so on are set up correctly.

#### **Setup**

1. Customizing the archive device
2. Creating an entry in the link table for archiving print lists
3. Checking the entry in the TOAOM table
4. Creating an ArchiveLink batch job
5. Enabling extended ALF viewing
6. Customizing the protocol for viewing print lists

#### **Execution of the archiving process**

7. Creating a print list. Consider the following points:
  - To create print lists with hyperlinks, enable Extended ALF Viewing.
  - You must customize the protocol for viewing print lists. See "Customizing the protocol for viewing print lists" on page 102.

- Create the print list as described in “Creating a print list” on page 102.

### Displaying an archived print list

8. Viewing the archived print list

## Detailed customizing steps for print lists

### Customizing the archive device

1. Go to T-code SPAD.
2. Click the **Change** icon.
3. Click the **Output device** button. The window *Spool Administration: List of Output Devices* opens.
4. Double-click the **ARCH** entry in the list.
5. Enter ARCH in the **Output device** field.
6. On the tabbed page labeled DeviceAttributes, select **ARCHLINK: SAP ArchiveLink Archiver** from the **Device type** drop-down list.
7. From the **Device class** drop-down list, select **Archiving program**.
8. Click the HostSpoolAccMethod tab.
9. From the **Host spool access method** drop-down list, select **I: Archive service**.
10. **Save** the changes.

### Creating an entry in the link table for archiving print lists

1. Use T-Code 0AC3. The explanations below refer to customizing for the ALF document class.
2. Check if there is already an entry in your link table with the following settings:

<b>Obj.type</b>	DRAW
<b>Doc.type</b>	D01

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

To create a new entry in the link table, please proceed as follows:

- a. Press the **Change** button. The panel changes.
- b. Click the **New Entries** button. The panel changes.
- c. Enter the following settings:

<b>Object type</b>	DRAW
<b>Document type</b>	D01
<b>Status</b>	X
<b>Opt. archive ID</b>	AI
<b>Link</b>	TOA01
<b>Retention per.</b>	Specify the retention period

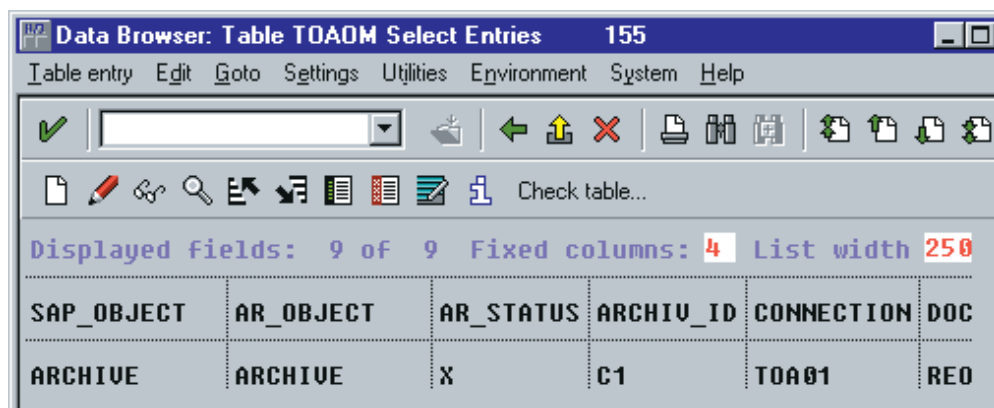
- d. Click the **Save** icon.
3. Check the entry for the SAP object DRAW as follows:
    - a. Use T-Code SE16.
    - b. Enter TOA0M as the table name.
    - c. Check the lines containing SAP\_OBJECT=DRAW and AR\_OBJECT=D01.
    - d. DOCUMENT\_TYPE must be set to ALF.

**Note:**

If this entry is missing, CommonStore will not receive orders for archiving Print lists.

## Checking the entry in the TOAOM table

1. Use T-Code SE16.
2. Enter TOAOM as the table name.
3. Check the line in which SAP\_OBJECT and AR\_OBJECT columns have the value ARCHIVE. See the example in Figure 2.



The screenshot shows the SAP Data Browser interface for the TOAOM table. The title bar reads "Data Browser: Table TOAOM Select Entries 155". The menu bar includes "Table entry", "Edit", "Goto", "Settings", "Utilities", "Environment", "System", and "Help". The toolbar contains various icons for navigation and actions. Below the toolbar, the status bar indicates "Displayed fields: 9 of 9 Fixed columns: 4 List width 250". The main table has the following data:

SAP_OBJECT	AR_OBJECT	AR_STATUS	ARCHIV_ID	CONNECTION	DOC
ARCHIVE	ARCHIVE	X	C1	TOA01	REO

Figure 2. Example of a TOAOM table

**Note**

The DOCUMENT\_TYPE must be set to REO. If this entry is missing, CommonStore does not accept orders for archiving application data (reorganizing).

To create ArchiveLink queues, see "Creating ArchiveLink queues" on page 87.

## Creating an ArchiveLink batch job

1. Go to T-code SM36.
2. Enter the following settings:

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

3. Click the appropriate button or icon:

**For older R/3 releases:** Start date  
**For Release 4.5 or later:** Start condition

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

4. Click the **Save** button.

5. Click the **Steps** button.
6. In section *Program values*, click the appropriate button.

**For older R/3 releases:**

ABAP/4

**For Release 4.5 or later:**

ABAP/Program

7. Specify as ABAP program: ILQBATCH.
8. Save your settings.

## Enabling extended ALF viewing

1. Use T-code RZ10.
2. Select or enter a profile name in the **Profile** field.
3. Click the **Extended maintenance** radio button.
4. Click the **Change** button.
5. Click the **Parameter** button with the blank-sheet icon (new parameter) or press F5.
6. Add the following parameter as specified:  
rsपो/archive\_format=2
7. Save your changes.

## Customizing the protocol for viewing print lists

1. Use T-code OAA3.
2. Double-click 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 86).
3. Follow the instructions in the column appropriate for your SAP R/3 release:

**For older R/3 releases:**

- a. Double-click the entry **Display object** or **Display archived object** (the first entry in the list).
- b. Enable the **ALF** radio button.
- c. Click on the **Edit** button.
- d. Enter R/3 in the **Comm. method** field.

**For Release 4.5 or later:**

- a. Double-click the entry **Display stored document**.
- b. Enable the **ALF** radio button.
- c. Click the **Change** icon.
- d. Enter R/3 in the **Communication Type** field.

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 CommonStore Viewing Client package on the end-user machines (consisting of `csview.exe` and `CSCClient.dll`). See the *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide* for more information.

## Creating a print list

1. Use T-code OAC2. A list of document types defined in the SAP system is displayed.
2. Click the **Printer** icon or press **Ctrl+P**.
3. Click the **Printer** icon again.

4. Choose an existing printer.
5. Make sure that the following check boxes are selected in section *Spool options*:
  - **Print immediately**
  - **Delete after output**
6. Depending on your preferences, select **Archive only** or **Print and archive** from the **Archiving mode** drop-down list.
7. Click the **Continue** button. The panel changes.
8. Enter the following settings:

<b>Object type</b>	DRAW
<b>Document type</b>	D01
<b>Information</b>	Enter a 3-character information.
<b>Text</b>	Enter a description text.

9. Click the **Archive** button. A message appears in the status bar that a spool request has been created.  
The print list is created and saved to the file system. As soon as the ArchiveLink batch job runs, it is archived.

## Viewing the archived print list

1. Use T-code OADR.
2. Enter your selection criteria.
3. Click the **Execute** button or **F8**. A list of all archived print lists will be displayed.
4. Select the print list to be viewed.
5. Click 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.



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## Chapter 15. Archiving incoming documents

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### 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 (for example 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 CommonStore.
2. SAP creates a workflow item for the archived document into an organizational object (for example 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 CommonStore 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 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 CommonStore Archiving Client on the scan workstation.

Documents need to be scanned by any scan application into electronic documents. In addition to the CommonStore Archiving Client the SAP GUI has to be started, because it triggers the CommonStore Archiving Client via OLE communication for archiving documents. The SAP GUI performs an OLE call to the CommonStore 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.

CommonStore offers external applications (for example scan applications like Kofax Accent Capture) to use the CommonStore 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 CommonStore 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 CommonStore Archiving Client on the scan workstation only.
- Early archiving can be done automatically between time intervals by using the automatic processing feature of the CommonStore Archiving Client.
- Scanning and archiving documents can be triggered by one action.

### Note

Early archiving without OLE requires at least a CommonStore Server version 7 and a SAP system release 4.6C.

For information on how to set up and perform 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 bar code 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 bar code and stores it.
4. The CommonStore Archiving Client reads the electronic documents from the filesystem and archives them. The bar codes 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 bar codes requires a scan application and the CommonStore Archiving Client on a workstation. A SAP GUI is not required.

The CommonStore Archiving Client can perform late archiving with bar code periodically between time intervals using the automatic processing feature.

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



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## Chapter 16. Displaying archived documents

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

### Print Lists

To display print lists, you can use the following devices:

- The SAP GUI
- The ALViewer

As the ALViewer is not delivered with SAP Release 4.5 and later releases, it is recommended that you display print lists on the the SAP GUI. For details on displaying print lists using the SAPGUI, see Chapter 14, "Print list archiving" on page 99.

### Incoming and Outgoing Documents

To display incoming and outgoing documents you can use the following functions or devices:

- CommonStore native or HTTP displaying,
- SAP HTTP displaying
- As the ALViewer is not delivered with SAP Release 4.5 and later releases, it is recommended that you display print lists on the the SAP GUI. For details on displaying print lists using the SAPGUI, see Chapter 14, "Print list archiving" on page 99.

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

Starting with Release 4.5, you can enable HTTP displaying in SAP. Compared with SAP HTTP displaying, CommonStore HTTP displaying has the following advantages:

- CommonStore HTTP displaying is available for all SAP releases, whereas SAP HTTP displaying is only available with Release 4.5 and above.
- When using CommonStore HTTP displaying with earlier SAP releases, 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: You can attach notes to archived documents and you can send the archived documents and the associated notes 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. See the *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide* for more information.

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

**Prerequisites**

1. Set up your SAP system (see Chapter 12, “Basic setup” on page 83 ).
2. Set up the CommonStore Server for HTTP communication (see “Configuring the CommonStore Server for the Hypertext Transfer Protocol” on page 34).
3. Configure the archive system and the storage management. Make sure that the media type, the retention period, and so on are set up correctly.

**Setup:**

You must customize the ArchiveLink protocol to enable HTTP displaying.

---

## Customizing the ArchiveLink protocol for HTTP communication

This section explains how to customize the ArchiveLink protocol for displaying incoming and outgoing documents using the Hypertext Transfer Protocol (HTTP).

1. Use T-code 0AA3.
2. 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 86).
3. Click the appropriate entry according to your SAP R/3 release.

**For older R/3 releases:**

**For Release 4.5 or later:**

**Display object or Display archived object**  
(the first entry in the list)

**Display stored document**

4. Select the radio button of the document class corresponding to the format of your document (FAX for incoming documents).
5. Follow the instructions in the column appropriate for your SAP R/3 release.

**For older R/3 releases:**

**For Release 4.5 or later:**

- a. Click the **Edit** button.
- b. Choose **Comm.method = http**.

- a. Click the **Change** icon.
- b. Enter http in the **Communication Type** field.

**Note**

The protocol version must be 4.5 or higher for this selection to become available.

6. Save the settings.

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## Chapter 17. SAP notes

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

**For users of SAP R/3 3.0D — 3.11:**

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 CommonStore dispatcher and shutdown of the CommonStore 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.



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## **Part 6. Additional CommonStore features for SAP**





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## Chapter 18. 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 Content Manager or Content Manager OnDemand, for accessing archived documents. The transfer of search index information to an external system makes sense only if Content Manager or Content Manager OnDemand 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 CommonStore index-transfer feature works as a sample and may be adapted from case to case.

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### Prerequisites for the index-transfer feature

Transferring search index information from the SAP R/3 System to an external system requires the use of 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 CommonStore 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.

**Important**

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

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### Installing the index-transfer feature

The ABAP/4 program is required for the CommonStore 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 CommonStore index-transfer feature to the R/3 System can be found in the INSTALL.TXT file provided with the CommonStore Index Transfer files.

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### Customizing the index-transfer feature

The customization of the CommonStore 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>, that is, /sap/trans/base/<FILENAME>. This transfer path must be accessible by the CommonStore Server. The transfer path can be the same as the one for archiving. You can specify the parameter so that the directory defined in the logical archive section is used. For example, you can define a logical file name by clicking 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.

#### Important

- The physical path must end with the parameter <FILENAME>.
- The transfer path must be accessible by the CommonStore Server.

### Customizing the attribute tables

The ZICSFIELDS and ZICSKEYS tables are used to specify the database fields that should be exported as search index information. Customizing the ZICSFIELDS table enables the CommonStore 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.

#### ZICSFIELDS table

##### 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 the parameter screen of CommonStore index transfer.

##### 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 parameter screen of the Index Transfer program, 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 fixed 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 CommonStore 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**.

**ZICSKEYS table**

**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 36. Sample configuration for the ZICSFIELDS table

SAP_OBJ	AR_OBJ	FID	FNAME	SUBTAB	EXPORT	ARNAME	FEST	ISKEY	LISTHEADER
JECT	JECT						TEXT		
BKPF		0100	ARCHI V_ID	ARCHLINK	X				text-051
BKPF		0101	ARC_D OC_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 37. 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	

### Important

- 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 116).
- 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 information document type and object type in the transaction ZIEX has to be set as customized in the ZICSFIELDS table, for example, 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 CommonStore 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, that is, searching in Content Manager, you must not search within the index class in which the original document has been stored, but rather within the index class containing the folders with the search index information.

### 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, refer to the *IBM EDMSuite ImagePlus VisualInfo: System Administration Guide*. The naming scheme allows the key field to be assigned a “speaking” name for the user and an internal name for the CommonStore 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 internal name of the key field is required.

#### EXAMPLE:

The key field for the reference number may be named Reference number [BELNR]. The key field for the fiscal year may 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 high performance of the Content Manager system, 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 CommonStore 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, refer to “Customizing Content Manager” on page 119. The split criteria can be customized in the CommonStore 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 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.

**Important**

- The index classes necessary for splitting must be created manually before the first index export runs. For the naming of these classes, refer to “Customizing the server configuration profile”.
- 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 74, 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 *IBM Content Manager OnDemand for Multiplatforms: Administrator’s Guide* for information about Content Manager OnDemand concepts and detailed information on how to perform the above customizations.

## Customizing the 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 server configuration profile. See the entry for this keyword in Appendix A, “Keywords in the server configuration profile” on page 143.

### The SPLIT\_CRIT split criteria keyword

In principle, every field exported by the 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; it is therefore 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 search dialog of the Content Manager Client application. 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, for example 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**.

**Important**

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**. Furthermore, 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, for example, **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.

**Important**

- All index classes must be created manually using the Content Manager System Administration Client application.
- Index fields used for splitting must never be empty. Their value is required to create or find the target index class.
- 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.
- **<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.
- If no split criteria are specified, all search index information is stored in a index class named **<class>\_Search**.

---

## Using the index-transfer feature

The CommonStore 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 CommonStore 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.



**Important**

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 CommonStore Server was able to get the export file and everything was all right.

## The parameter screen

The 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 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 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 CommonStore 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.

**Important**

The load sharing parameters should be coordinated with the CommonStore 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 CommonStore 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 CommonStore 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 CommonStore 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 index-transfer report in the interactive mode, none of the transfer runs can be started periodically. An R/3 job must therefore be 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 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 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 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 CommonStore 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 CommonStore 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 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 CommonStore 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 index-transfer feature" on page 115. After the agent has put the search index information successfully to the archive system, the CommonStore 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 over multiple files. The index-transfer feature then generates as many files as necessary for not exceeding the maximum number of records per file. For example, if there are 5000 index records to transfer and the maximum number of records per file is set to 1000, five files are 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 customization of the transfer path ZZ\_ARCHIVE\_DOWNLOAD 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 19. Linking external documents to SAP R/3 objects

CommonStore for SAP contains a program package called *Cold*, which allows you to link documents that you cannot process using ArchiveLink methods. Cold links external documents to SAP objects. These are documents that have no direct connection to SAP. Linking these documents by use of the Cold program makes them accessible from the SAP GUI.

### Example:

You print a document that is available from an SAP object and send it to a customer. The customer signs the sheet of paper and sends it back. This document is related to data in your SAP system, but the connection to this data was lost in the moment the document was “converted” into paper. After scanning and archiving the signed document, the Cold program creates a link to the SAP source object. You can now access the archived document directly from the SAP GUI.

Cold allows you to create object links to the following types of documents:

- Not yet archived external documents
- Archived external documents

Technical constraints made it necessary to produce two versions of the Cold package, one for older R/3 releases, the other for releases 4.5 and above. If you intend to use Cold, make sure that you install the package that is compatible with your SAP R/3 release. Table 38 shows which package to choose for which SAP release. It also gives you the sub-paths to the directories containing these packages on the product CD-ROM.

Table 38. The location of the Cold packages on the product CD-ROM

Older R/3 releases	Release 4.5 and above
Cold/cold_below_4.5	Cold/cold_higher_4.5

---

### Linking not yet archived documents (T-Code: ZCSI)

If you want to link a not yet archived external document to an existing SAP object (as described in the example above), the external document must provide information to identify the SAP object. The Cold important program can then use this information to create a link to the corresponding SAP object.

If there is no SAP object to link the external documents to, the CommonStore Cold import program can create references to these documents in the form of SAP print lists.

This scenario involves the following steps:

1. The CommonStore Archiving Client or Kofax Ascent Capture triggers the archiving process and sends information to SAP by which the proper SAP objects can be identified. This information is temporarily stored in the SAP bar-code table.
2. The Cold program uses the identification information to detect the proper SAP objects, and links the archived documents to the SAP objects. The information that permits direct access from SAP R/3 is generated in the corresponding SAP

tables. The CommonStore Server stores the data in the defined archive system (Tivoli Storage Manager, Content Manager, or Content Manager OnDemand).

## Functions

- Makes SAP-external documents accessible from the SAP GUI
- Documents can be attached to existing SAP business objects or inserted as SAP print lists.
- SAP DMS can be used in addition.
- The program provides a user exit, which allows to implement the method used for identifying the SAP object.
- If the linking information is provided in form of a print list, you can additionally use the SAP Document Management System (DMS) to display the linked documents. The program automatically generates hyperlinks in the corresponding log. Thus, while the log of this import process is being archived, you can simultaneously access the imported documents via the hyperlink.

## Prerequisites

- Each document can be accessed using the CommonStore Client or Kofax Ascent Capture.
- All documents must be archived insofar as CommonStore must generate a document ID. If the documents are already available in 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 an identifier, for example, the corresponding SAP object ID, either in the file name or in an external description file. The object ID, which is needed to link the documents to the corresponding SAP objects, is transmitted to SAP as a bar code.

## Sequence of events

The sequence of processing steps differs with regard to the application that forwards the external documents to the CommonStore Server.

If you use the CommonStore Client, the procedure is as follows:

1. The documents are made available in a file system, for example by a scanning application.
2. The CommonStore Client reads the files and submits them to the CommonStore Server for archiving.
3. The CommonStore Client transmits the information on the documents to SAP using the late archiving method. The identifier of the document is sent to SAP as a bar code. The information is thus available in the temporary *Open Barcode* table in the SAP system. After a successful completion, the files in the file system are erased.
4. In the SAP system, the CommonStore Cold import program is first triggered. It reads the entries in the Open Barcode table and, depending on the stated business object (DRAW for print lists), links the documents with an existing SAP business object or places them in the SAP application DMS (Document Management System). In this context, the transmitted bar code is interpreted either as a business object ID or as a print-list description. If it proves impossible to directly interpret the bar code as an SAP business object ID, the user-exit function can be implemented to determine the corresponding SAP

object ID on the basis of the transmitted bar code. On request, the user-exit function simultaneously generates hyperlinks in the import protocol.

If Kofax Ascent Capture is integrated into the CommonStore environment, the procedure is as follows:

1. The scanned documents are sent to SAP using the late archiving method. The identifiers of the documents are sent to SAP as a bar code.
2. In the SAP system, the CommonStore Cold import program is first triggered. It reads the entries in the Open Barcode table and, depending on the stated business object (DRAW for print lists), links the documents with an existing SAP business object or places them in the SAP application DMS (Document Management System). In this context, the transmitted bar code is interpreted either as a business object ID or as a print-list description. If it proves impossible to directly interpret the bar code as an SAP business object ID, the user-exit function can be implemented to determine the corresponding SAP object ID on the basis of the transmitted bar code. On 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 ID of the archive (needed for the ArchiveLink) can likewise be set.

### **BUSINESS OBJECT (TOA01- SAP\_OBJECT DEFAULT 'DRAW')**

Using this parameter, you 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 CommonStore 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 DMS.

### **DOCUMENT TYPE (TOA01- SAP\_OBJECT DEFAULT 'D01')**

Using this parameter, you can define the kind of document on which the SAP business object depends.

### **DOCUMENT TYPE TEC (TOADV-DOC\_TYPE DEFAULT 'ALF')**

Using this parameter, you can define the technical document type. In case of print lists, the document class is automatically defined as ALF.

### **OBJECT ID (DEFAULT 'C0000000')**

Using this parameter, you 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 CommonStore index-import program checks the existence of the same ID (in 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 you import print lists.

### **INFO (DEFAULT 'IMP')**

Any desired value (representing information) can be specified using this parameter. It is displayed in DMS 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 DMS and thus serves as index information.

This parameter can be assigned a value each time that the CommonStore Cold Import Program runs. This parameter takes effect only when importing print lists.

**FORMULAR (DEFAULT 'CS\_INDEX')**

Specifying this parameter, you can use any value to identify the form. It is displayed in DMS and thus serves as index information. This parameter can be assigned a value each time that the CommonStore Cold import-program runs. This parameter takes effect only when importing print lists.

**CREATE DMS Entry (DEFAULT 'X')**

Using this parameter, you can additionally make print-list documents accessible through DMS.

## Example

In this example, SAP personnel data is 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 in TIFF format, and each resume is available as an individual file. All of the documents receive the SAP personnel numbers as their file names. The CommonStore Client loads the PDF documents, archives them via the CommonStore Server, and then transmits the documents to the Open Barcode table in the SAP system. In doing so, not only the archive document IDs are sent, but also the personnel numbers (in the form of bar-code IDs). The CommonStore 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.

---

## Linking archived documents (T-Code: ZCSL)

This section describes how to create links to documents that already reside in one of the supported archives. Since the documents are already archived, the remaining task is to make them accessible from SAP. For this purpose, certain entries must be created in the SAP system.

**Example:**

1. An external printing application, such as IBM AFP, 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 separated by a comma.
3. The CommonStore list importer program reads the ASCII file and generates an entry in the Open Barcode table for each line of the file. Faulty entries are written to an error file. Only entries within the specified date range are processed.
4. The CommonStore Cold import program generates a link for each document in the SAP print-list tables, which makes the documents available from the SAP GUI.

The CommonStore list importer becomes active before the CommonStore Cold program. It inserts entries into the Open Barcode table (TOABC for older R/3 releases, bds\_bar\_ex for Release 4.5 and above), which are provided in an ASCII



text file. Each line within the import file is interpreted as a document. Errors are written to the error file. The CommonStore list importer reads the ASCII text file and each line generates one entry in the Open Barcode table. Starting from there, the CommonStore Cold program can insert the respective document links as described above.

## Functions

- Makes archived external documents accessible from the SAP GUI
- Different input-file formats are recognized.
- An error file can be written.
- You can use a test mode.

## Prerequisites

- Documents must be archived in exactly the same structure as described in the respective chapters before, for example, the document ID, date, and SAP object ID must be available. Otherwise they cannot be accessed by CommonStore.
- Unique archive IDs must be used to avoid conflicts.
- Programs may not be started in parallel.
- CommonStore Cold import program must run after the CommonStore list-importer program.
- Make sure that the documents in the archive system do meet the requirements. For example, they must have an archive ID and an archive document ID, as described in the prerequisites.
- The ASCII file must contain the document ID, the archiving date, and SAP object ID.
- The entries in the ASCII file must be separated by a comma.
- Example of ASCII file: 19991234888d,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, you can define the archive ID, which is inserted in the Open Barcode table.

### **Doc Type (DEFAULT 'FAX')**

Using this parameter, you can define the technical document type. In case of incoming documents, the document class is automatically defined as FAX.

### **From archive date (DEFAULT '01.01.1999')**

Using this parameter, you can select lines in the input file for processing that start with a certain date.

### **To archive date (DEFAULT '01.01.2000')**

Using this parameter, you can select lines in the input file for processing that end on a certain date.

### **Run in Testmode (DEFAULT 'X')**

Using this parameter leaves the input file unprocessed, and entries are not generated in the bar-code table. Only the SAP R/3 report is written to the 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 file name of the input file.

**Position of Archive DocID (DEFAULT '1')**

This parameter specifies the position of the archive document ID in the input file. The type is *character*. The maximum length is 40.

**Position of Archive Date (DEFAULT '2')**

This parameter specifies the position of the archiving date in the input file. The type is *character*. The format is YYYYMMDD.

**Position of Object ID (DEFAULT '3')**

This parameter specifies the position of the Object ID in the input file. The type is *character*. The maximum length is 50.

**Ignore Header Line (DEFAULT NO)**

Using this parameter, you can specify that the first line in the input file is ignored.

**Delete file after import (DEFAULT NO)**

Using this parameter, you can specify that the input file is deleted after processing.

**Filename of Error File (DEFAULT '/usr/sap/put/transfer/base/error.txt')**

Using this parameter, you can specify the location and the name of the error file.

**Append errors in Error File (DEFAULT NO)**

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

---

## Chapter 20. Archiving bulks of printed documents (Lasersoft integration)

Often when you print SAP documents, you want to add overlay information to the raw information in the documents. For example, think of invoices that you send to customers. Not only do you want the invoices to include the billing data, but also a header, a footer, a company logo, and so on. Adding this information by using SAP script makes the printing process very slow. The overlay information is added to each document individually; when printing high volumes, the performance of the SAP application server usually decreases massively.

For this reason, many companies use an external application for high-volume printing, such as Lasersoft. Lasersoft works in the following way: It receives just the raw data of the SAP documents to be printed. It identifies the start and the end of each single document in the print stream, and to each of these parts in the print list adds the overlay information before sending the document to the printer. This way, the task of adding overlay information is taken away from the SAP application server, and does not affect its performance any more.

You can archive outgoing documents using ArchiveLink, but this would only store the raw data in the archive. Mostly, it is much more favorable to archive documents exactly the way they were printed. You can recognize documents more easily when viewing or retrieving them from the archive. In addition, it takes a burden off your shoulder if you are legally obliged to keep exact copies of the documents that you sent to customers.

CommonStore can archive electronic copies of your printouts and produce links to the archived documents in the corresponding SAP business objects. This ensures that your documents are archived in the same format as you sent them, and that you can still access them from SAP.

---

### Sequence of events

Integrating Lasersoft with SAP R/3 and CommonStore for SAP allows you to run printing and archiving processes as shown in Figure 3.

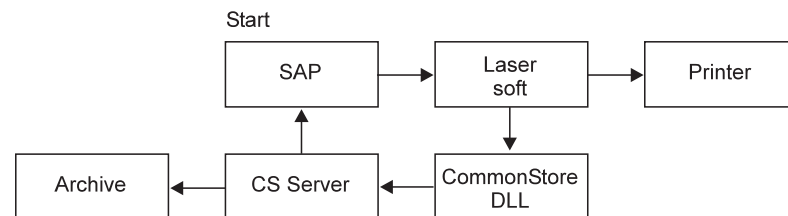


Figure 3. Lasersoft integration

1. After activating the RDI interface, SAP adds an identifier to each document and sends the documents to the Lasersoft printing application. The identifiers are generated using the information in the DARA lines. The identifiers are stored in the SAP system for later use.
2. Lasersoft receives the data from SAP and adds the overlay data to each document.

3. Lasersoft passes the modified print stream to the printer and sends the identifiers and archiving requests for each document to CommonStore.
4. CommonStore archives the documents and sends the archive document IDs and the identifiers to SAP.
5. SAP receives the identifiers and document IDs through ArchiveLink and assigns them to the proper business objects.

---

## Setup

To integrate Lasersoft into your SAP/CommonStore environment, first make sure that SAP R/3, CommonStore, and Lasersoft are properly installed. The next step is to activate the RDI interface in SAP R/3. For information on how to do this, see your SAP documentation. You can also request payable service support by doing one of the following:

- Opening an SAP OSS note
- Opening a Problem Management Record (PMR) for CommonStore support

Set up the communication between Lasersoft and SAP. See the Lasersoft documentation for information.

To enable Lasersoft communication with CommonStore, the CommonStore DLL and a file named csclient.ini must reside on the Lasersoft server. The easiest way to create and configure these files is to install the CommonStore Viewing Client on the Lasersoft server because this automatically places the files in the proper directories. For Lasersoft and the CommonStore Server to communicate with each other, the CommonStore DLL requires the following parameters, which are written to the csclient.ini file:

**Server** The name or IP address of the CommonStore Server.

**Port** The port number that the CommonStore Server uses. Your entry must match the port number specified in the server configuration profile (usually archint.ini). The number must be greater than 5000.

**API tracefile**

The name of the API trace file including the full path. The API trace file records all communication processes between Lasersoft and the CommonStore DLL. It facilitates the detection of errors. Make sure that API tracing is enabled in the CommonStore Viewing Client.

---

## Chapter 21. Converting documents to TIFF before archiving

You can connect CommonStore for SAP with an external application called Compart DocBridge. This program converts office documents, such as Microsoft Word and Excel files, into the Tagged Image File Format (TIFF) before they are archived. This has several advantages:

- Files in TIFF take up only little space in the archives.
- You cannot easily modify TIFF files. This is important if you must preserve information and safeguard it against unauthorized manipulation.
- TIFF is a widespread standard. It is easy to find an inexpensive or even free viewer capable of displaying TIFFs. Mostly, this is not possible with documents in a proprietary format, which often require that you have a licensed copy of the software that they were created with. In addition, such formats frequently involve migration issues. That is, you must convert older files if you want to view them using a newer version of the application.

CommonStore for SAP provides a user exit written in Java, which allows you to communicate with the Compart rasterizing server, the main component of Compart DocBridge. To use this feature, it is required that you use the Hypertext Transfer Protocol (HTTP) for archiving. The RFC protocol does not work.

You must add a few keyword settings to your server configuration profile (usually `archint.ini`) to make the user exit work. Which keywords you need depends on your individual setup. For each archive that you want to enable the user exit for, you must add the required keyword specifications to the corresponding ARCHIVE statement.

### TRANSFORM CLASS

Enables the user exit for HTTP archiving. Set the value to 'CPRaster' (including the single quotes).

You cannot use this keyword in conjunction with the TRANSFORM keyword.

### REMOTEHOST

Specifies the name of the computer that hosts Compart DocBridge. Use this keyword if Compart DocBridge resides on a computer other than the CommonStore Server. Otherwise, use the WORKDIR keyword.

### USERPROFILE

Makes Compart DocBridge use a profile when it is invoked through the user exit. This keyword is optional because the use of a profile is not required. Possible values are ON and OFF.

### CONTENTDETECTION

Enables the detection of the content type by Compart DocBridge. Any content-type information that comes with the document is ignored if you set this keyword. If you switch off content detection, documents are archived according to the content-type information that they contain. Possible values are ON and OFF.

**Attention**

Using this keyword might result in the detection of an unknown content type, in which case the documents are not archived.

**WORKDIR**

Specifies the working directory of Compart DocBridge. Use this keyword if Compart DocBridge resides on the same computer as the CommonStore Server. Contrary, if the external application resides on a remote computer, use the REMOTEHOST keyword.

If you set the WORKDIR and REMOTEHOST keywords together, the WORKDIR statement is ignored. To set the WORKDIR keyword correctly, specify the full path to the working directory, enclosed in single quotes.

**Example:**

See the following extract of a server configuration profile:

```
ARCHIVE D2TSM
  STORAGETYPE      ADSM
  SERVER           Archive1
  MGMT_CLASS       TSM2
  ADSMNODE         TSM2
  LOGICAL_SYSTEM   T90CLNT090
  TRANSFORM_CLASS  'CPRaster'
  REMOTEHOST       Compart
  CONTENTDETECTION ON
```

For information on Compart DocBridge, contact Compart or see the DocBridge documentation. You can reach Compart by the following e-mail address and phone number:

E-mail: [info@compart.net](mailto:info@compart.net)

Phone: +49-7031-620523

---

## Chapter 22. Using the SAP Document Finder

You can use the SAP Document Finder to search and view documents in a Content Manager archive. Thus, you need not switch to another application for archive queries.

When you start the Document Finder and select archive index classes as the document area to search, you see entry fields for the archive attributes in the search mask. This allows you to search directly in the archive. The CommonStore support feature for the SAP Document Finder shows the search results in a hit list, which provides clickable links to the documents.

A newly generated hit list shows the index classes that contain matching documents. The index classes are represented by folder icons. To view a document, you proceed as follows:

1. Display the documents in an index class by clicking the twistie next to the folder icon.
2. Select the desired documents.
3. Display the documents by use of the context menu.

Figure 4 on page 138 shows the hit list that CommonStore returns when you enter a successful archive query in the SAP Document Finder.

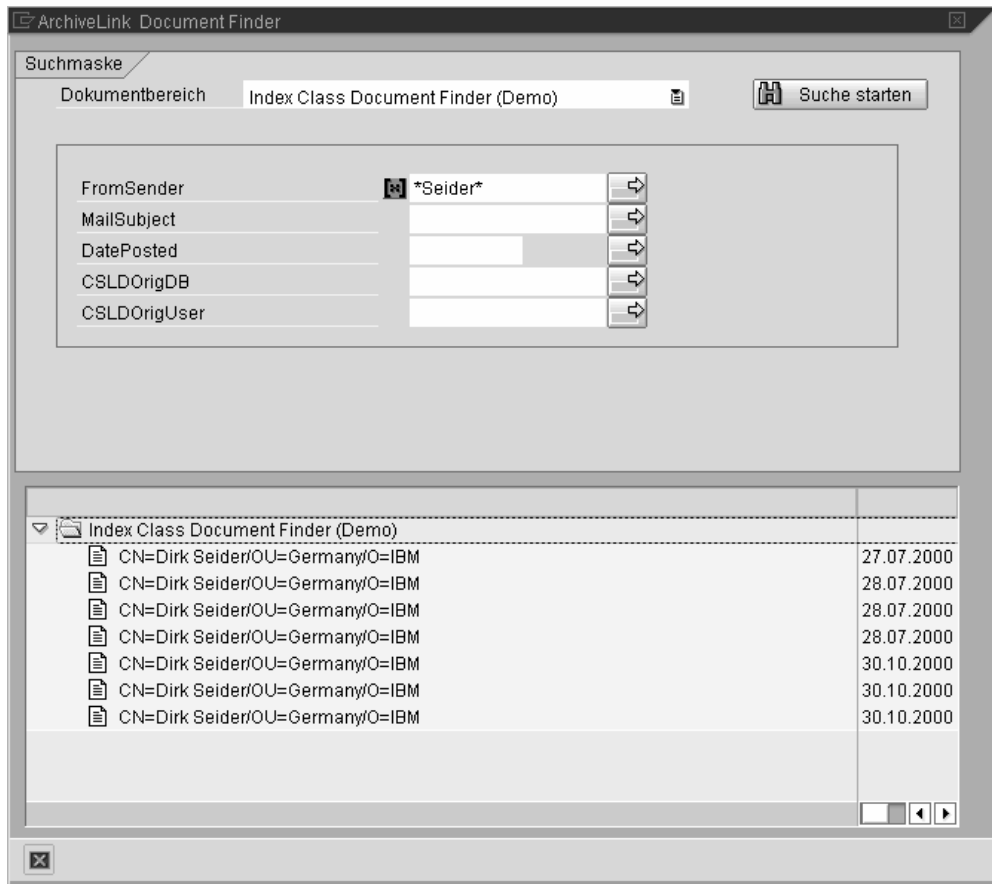


Figure 4. Hit list displayed in the SAP Document Finder

## Document Finder prerequisites

To use the CommonStore interface for the SAP Document Finder, you need the software shown in Table 39.

Table 39. Software prerequisites for the SAP Document Finder support feature

Software	Version
SAP R/3 GUI and front end	Release 6.10 (or later)
IBM Content Manager	

The option to use the Document Finder is generally available in SAP R/3 Release 6.10. To make it available with release 4.6, contact SAP or CommonStore support.

## Customizing the Document Finder for use with CommonStore

It is strongly recommended that you see the online documentation for SAP R/3 Release 6.10 on this subject. Since SAP is a complex system and each setup is different, covering all the topics that might be of importance is beyond the scope of this book. This section can only give you a few basic instructions.



You must first create SAP document areas for the logical archives that you defined in the server configuration profile. Name the document areas exactly like the logical archives. You must create one document area for each logical archive.

The SAP Document Finder uses the RFC protocol to request attribute lists, hit lists, and so on. Therefore, you must maintain an RFC destination in your SAP system. When you enter transaction code SM59 on the SAP front-end, you reach the panel that allows you to provide the appropriate settings. Name the program ID of the RFC destination after the ID in the server configuration profile (usually *archint.ini*). For more information, see “Creating an RFC destination” on page 84 or the appropriate section in your SAP documentation.

To set the program ID in the server configuration profile, use the *PROGID* keyword. The CommonStore Server then creates an internal program ID. To the name you specified using the *PROGID* keyword, it appends the number 1.

**Example:**

If your server configuration profile contains the entry *PROGID CSTORE.RFC*, the program ID for Document Finder RFC communication is *CSTORE.RFC1*.

This implies that you need two RFC destinations if you want to use the RFC protocol for archiving and Document Finder queries.

In addition, the SAP Document Finder uses the Hypertext Transfer Protocol (HTTP) to display query results. Therefore, you must also enable HTTP communication for the involved logical archives. For more information, see “Creating a content repository (logical archive) customized for HTTP communication” on page 88.



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## Part 7. Appendixes



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## Appendix A. Keywords in the server configuration profile

The keywords allow you to adapt server configuration profiles to your needs. Each keyword is explained in detail; the following sections describe the function of each keyword, the context in which to use it, and the parameters or values you can specify. The keywords are in alphabetical order.

---

### General remarks

To avoid unnecessary errors, read the following general remarks carefully *before* you start modifying a server configuration profile.

#### **Important::**

1. Do not use the names of keywords as values. It is especially important that you do *not* use VI as an archive ID by setting the ARCHIVE keyword to this value.
2. The # character is the comment symbol. When a line in the server configuration profile starts with a #, CommonStore does not process it.
3. Some keywords are now obsolete. Therefore, they are no longer documented. The CommonStore Server still accepts these keywords, but issues a warning if it detects one of them in a server configuration profile. The following keywords are obsolete:
  - ARCHAGENT
  - ARCHAGENTOD
  - ARCHAGENTVI
  - ARCHREG
  - ARCHWIN
  - DISPATCHER
  - ACTIVEQ\_FILE
  - SENDQ\_FILE
  - WAITQ\_FILE

Use the BINPATH keyword to replace ARCHAGENT, ARCHAGENTOD, ARCHAGENTVI, ARCHREG, ARCHWIN, and DISPATCHER. BINPATH specifies the directory in which the binary files of the CommonStore Server reside. For more information, see the entry for BINPATH on page 146.

Likewise, replace the keywords ACTIVEQ\_FILE, SENDQ\_FILE, and WAITQ\_FILE with QUEUEPATH. The QUEUEPATH keyword specifies the directory for all queue files. See the entry under QUEUEPATH for more information.

#### **ACCESS\_CTRL YES|NO**

Additional keyword for the ARCHIVE statement. Causes CommonStore to call the CSExit.DLL file to replace the registered Exchange 2000 user with another Content Manager user. The CSExit.DLL file must be provided by the companies themselves.

**DEFAULT**  
NO

**EXAMPLE:**  
ACCESS\_CTRL YES

**ADSMAGENTS** *number*

For use with Tivoli Storage Manager only. Using this TSM-specific keyword, you can specify the total number of parallel Tivoli Storage Manager client sessions (name: *archagent*) that the CommonStore Server establishes. For a direct archiving or retrieval 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. For performance reasons, it is recommended that you use as many agents as there are tape drives available. The default value is 0.

**EXAMPLE:**

```
ADSMAGENTS 3
```

**ADSMNODE** *nodename*

For use with Tivoli Storage Manager only. Using this TSM-specific keyword, you can specify the node name for the Tivoli Storage Manager log-in procedure. Do not add this keyword to the ARCHIVE statement if you use the PASSWORD GENERATE option of Tivoli Storage Manager.

**APPGROUP** *group*

For use with Content Manager OnDemand only. Adding this CMOD-specific keyword to the ARCHIVE statement, you can specify the name of the Content Manager OnDemand application group. Enclose application group names containing spaces in single quotation marks.

**EXAMPLE:**

```
APPGROUP 'CSX Mail Demo'
```

**APPLICATION** *app*

For use with Content Manager OnDemand only. Adding this CMOD-specific keyword to the ARCHIVE statement, you can specify the name of the CMOD application. Enclose application group names containing spaces in single quotation marks.

**EXAMPLE:**

```
APPLICATION 'CSX Mail Demo'
```

**ARCHIVE** *archive\_ID*

The value *archive\_ID* specifies the logical archive ID, for example A1. The archive ID must be unique. CommonStore uses it to identify the requested archive. All keywords required to access this archive are combined in the so-called ARCHIVE statement. The STORAGETYPE keyword 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. See the following example:

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

**Important**

- You must not use VI as an archive ID. In general, keywords of the server configuration profile must not be used as names.
- It is recommended that you save these settings and do not change them after you have completed the set-up; this is because any retrieval operation depends on them.
- The specification ARCHIVE DEFAULT is no longer valid. If you cannot access an archive, check if this statement is in the server configuration profile (usually archini.ini). If the answer is yes, replace DEFAULT with the logical archive ID.

**ARCHIVETYPE GENERIC | SAP**

This is an additional keyword for the ARCHIVE statement. If you set it to SAP, CommonStore verifies if certain special attributes exist, which are required for SAP archives.

**ARCHPATH** *path*

Using this keyword, you can specify the path under which objects to be retrieved are made available to SAP applications. The CommonStore Server retrieves the files in this directory. It can be shared by all application and database servers using NFS. The CommonStore 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 (transaction 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 CommonStore 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.

**ARCHPRO\_PORT** *port*

Using this keyword, you can specify the TCP/IP registration port used by all CommonStore clients and all CommonStore DLLs for connecting to the CommonStore Server. ARCHPRO\_PORT replaces ARCHWIN\_PORT.

This port must correspond to the settings in the client configuration profile (name: CSClient.ini) on Windows PCs. This fixed port is also used by the archstop and the archbc programs. See also the entry for CLIENT\_ALL\_PORTS\_FIXED.

**EXAMPLE:**

```
ARCHPRO_PORT 5500
```

**Note**

The port number you specify must be greater than or equal to 5000.

This is the fixed registration port of all Windows PCs. If more than one CommonStore server is installed on a single machine, each instance requires a different setting of the ARCHPRO\_PORT keyword.

**ARCHWINS** *number*

Using this keyword, you can specify the total number of parallel sessions (name: *archwin*) which the CommonStore Server establishes for the CommonStore Client and the CommonStore DLL. The default is 1.

**EXAMPLE:**

```
ARCHWINS 3
```

**Note**

If you do not use CommonStore Client or the CommonStore DLL, specify 0.

**ARCHWIN\_PORT** *portnumber*

This keyword is obsolete. Use ARCHPRO\_PORT instead.

ARCHPRO\_PORT has exactly the same effect and is used in the same manner. For more information, see ARCHPRO\_PORT.

**BASEPATH** *path*

Using this 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 CommonStore Server, the files can be found in this directory. It can be shared by all application and database servers using a Network File System (NFS). The CommonStore Server must have access to this path as well. The ARCHPATH and BASEPATH keywords 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 (transaction code OAC0). Check ownership and rights in the file system.

Only for archive data: The path that is used by the SAP ADK (transaction code SARA) must be the same; this is because ADK, ArchiveLink, and the CommonStore Server share their data in this path. It can be customized in the ADK (**Environment** → **Customizing**). To further change the path, use the transaction code FILE.

**BINPATH** *path*

Specifies the complete path to the binary files of the CommonStore Server.

**EXAMPLE:**

```
BINPATH C:\Program Files\ibm\cssap\bin
```



**Attention**

Do not rename any binary files. In addition, make sure that they reside in a single directory.

**CHECK\_ARCHIVE\_SERVER ON|OFF**

Specifies whether the CommonStore Server starts if an archive is not available. When set to ON, all archives for the configured agents must be available and have the mandatory attributes defined at startup; otherwise, CommonStore refuses to start. When set to OFF, CommonStore displays a warning if an archive is not available; nevertheless, it continues to start up. The default value is ON.

**CLIENT *ddd***

Using this keyword, you can specify the client in the SAP R/3 System (transaction code SCC4). The placeholder *ddd* is a three-digit number. This keyword is required if you specify any section using the LOGICAL\_SYSTEM keyword.

**EXAMPLE:**

CLIENT 800

**Note**

This keyword refers to the corresponding DESTINATION statement.

**CLIENT\_ALL\_PORTS\_FIXED YES|NO**

When keyword is set to YES, the archwin dispatcher uses fixed port numbers for connecting to the CommonStore Clients. This is necessary when there is a firewall between the CommonStore Server and the CommonStore Client.

The port numbers immediately following the ARCHPRO\_PORT keyword are used for the multiple archwin dispatchers.

Suppose, for example, that the ARCHPRO\_PORT keyword is set to 5500, ARCHWINS is set to 3, and that CLIENT\_ALL\_PORTS\_FIXED is set to YES. Then the port numbers 5500 and 5501 are used by the archpro program and the port numbers 5502, 5503, and 5504 are used by the three instances of the archwin program. See also the entry for ARCHPRO\_PORT.

The default is NO.

**EXAMPLE:**

CLIENT\_ALL\_PORTS\_FIXED YES

**CMAGENTS**

For use with Content Manager Version 8 only. The keyword allows you to specify the number of parallel Content Manager sessions. This is the number of agents that CommonStore starts simultaneously to access Content Manager Version 8. The default value is 0, which means that no agent is configured. To access a Content Manager Version 8 archive, you must specify at least one agent.

**EXAMPLE:**

CMAGENTS 3

## CMUSER

For use with Content Manager Version 8 only. The keyword allows you to specify a user ID to log on to Content Manager Version 8. This way, CommonStore logs on to Content Manager Version 8 automatically, that is, at the time when you start the CommonStore Server.

## COMMENT

This is an additional keyword for the ARCHIVE statement. Using this general 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*

Specifies the configuration file for the CommonStore Server to store all variable parameters such as passwords, user names, and the current version number. The value *filename* specifies the full path and the name of the file. This keyword is required.

### EXAMPLE:

```
CONFIG_FILE c:\ibm\cssap\archint.cfg
```

### Important

The configuration file is encrypted.

## CONTENTDETECTION ON|OFF

Enables the detection of the content type by an external application, such as Compart DocBridge. Any content-type information that comes with the document is ignored if you set this keyword. If, on the contrary, you switch off content detection, documents are archived according to the content-type information that they contain. Possible values are ON and OFF.

You must specify this keyword for every archive separately. To do so, add the keyword and the value to the appropriate ARCHIVE statements in the server configuration profile (usually *archint.ini*). You must use this keyword in conjunction with the TRANSFORM CLASS, and REMOTEHOST or WORKDIR keywords. See Chapter 21, “Converting documents to TIFF before archiving” on page 135 for more information.

### Attention

Using this keyword might result in the detection of an unknown content type, in which case the documents are not archived.

## DESTINATION *destination\_name*

Using this keyword, you can specify the name for an SAP R/3 destination. Use the destination name of your SAP R/3 system. 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 keyword, you can specify the total number of parallel dispatchers (name: *archdp*) to SAP R/3 that the CommonStore 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 keyword, you can specify the end of the parameter definitions. When *END* is encountered, the CommonStore Server stops searching the configuration profile for keywords.

### ERRORLOG\_FILE *filename*

Specifies a directory and a file in which all errors occurring during a CommonStore operation are 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, CMOD, R/3, and so on).
3. Return code, extended return code if present, reason code if present.
4. Error description obtained from the application programming interface or generated by CommonStore.

The error log file grows without size limitation.

### DEFAULT

Value of *INSTANCEPATH* + "csserror.log"

**EXAMPLE**

```
ERRORLOG_FILE C:\Program  
Files\IBM\CSSAP\server\instance01\log\csserror.log
```

**FOLDER** *folder*

Using this CMOD-specific keyword, you can specify the name of the Content Manager OnDemand folder. The term *folder* must be the name of a folder which references the CMOD 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. The default is **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 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 keyword, you can specify the service that 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*

For use with VisualInfo or Content Manager only. Specifies the index class

that the CommonStore server uses to archive documents content. This index class must be defined on the corresponding Content Manager or VisualInfo library server.

**EXAMPLE:**

```
INDEX_CLASS TestClass1
```

**INDEX\_CLASS\_COMP** *index\_class\_name*

Using this Content Manager-specific keyword, you can specify the Content Manager index class which the CommonStore 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*

For use with Content Manager or VisualInfo only. The keyword allows you to specify the index class in which the Content Manager or VisualInfo-based scanning application temporarily stores scanned documents. A corresponding index class must be specified in the archive system.

**EXAMPLE:**

```
INDEX_CLASS_SCAN SapScanA11
```

**Note**

This keyword refers to the corresponding ARCHIVE statement and is used only for Content Manager and VisualInfo archives. You only need it to archive documents via bar code using the late archiving method.

**INSTANCEPATH** *path*

Specifies the directory in which the instance-related files (profile, configuration file, ...) are located. Create a sub-directory for each CommonStore server instance that you use. Set the INSTANCEPATH keyword for each instance, that is, for each instance specify a path that points to the related subdirectory. All instance-related files are maintained in these directories.

**DEFAULT**

Value of the BINPATH keyword.

**EXAMPLE**

```
INSTANCEPATH c:\cssapinst\inst1
```

**ITEM\_TYPE**

For use with Content Manager Version 8 only. Specifies an item type (formerly: index class) that the CommonStore Server archives to. You must also define this item type on the Content Manager library server.

**EXAMPLE:**

ITEM\_TYPE TestType1

**LANGUAGE** *name*

Using this keyword, you can specify the language for the internal communication between the CommonStore Server and R/3.

**LIBSERVER** *server\_name*

Specifies the name of the Content Manager library server. CommonStore establishes a connection to this server with the subsequent definitions. The FRNTABLE file contains all necessary communication parameters for Content Manager.

**EXAMPLE:**

```
LIBSERVER LIBSRVESD
```

**Note**

- You only need this keyword if you want to use the recent *Archive documents with bar code* facility of CommonStore.
- Check if you have a valid FRNTABLE file.

**LOG ON|OFF**

If you set this keyword to ON, CommonStore creates a log file containing information about all archived and retrieved data for each day.

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 keyword, you can specify the logical system name customized in the SAP R/3 System (transaction code SCC4). This keyword appears in two places in the CommonStore Server configuration profile: in the DESTINATION statement and in the ARCHIVE statement.

The main location is the DESTINATION statement. There it unites the parameters set by using the CLIENT and the USER keywords, which are necessary for the connection to R/3. Each client can have its own user for sending CFBC/CFBA messages to the R/3 System. CommonStore 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 CommonStore 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. You only need the LOGICAL\_SYSTEM specification in the ARCHIVE statement to archive documents via bar code using the late archiving method in connection with Content Manager or VisualInfo. In the following example, the LOGICAL\_SYSTEM appears in the ARCHIVE statement:

**EXAMPLE:**

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

**Note**

This keyword refers to the corresponding DESTINATION and ARCHIVE statements. See also the explanation above.

**LOGPATH** *path*

The value path defines the complete path to the log file. The log files' file names are generated automatically.

**EXAMPLE:**

```
LOGPATH C:\Program Files\ibm\cssap\bin
```

**LU** *hostname*

Using this keyword, you can specify the host the Application Server runs on (Logical Unit). If not specified, the default host name is *localhost*.

Enter the complete SAP router string, starting with /H. If TCP/IP firewalls are involved, the router string can 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 keyword, you can specify the host and port of an SMTP e-mail server to which the e-mails created in the CommonStore browser view are sent. By default, no e-mail server is predefined.

**EXAMPLE:**

```
MAILSRV mailserv:47110
```

**MAXBCTTRANSFER** *number*

For use with Content Manager or VisualInfo only. The keyword allows you to specify the number of entries that the workbasket reads per scan and that are sent to SAP R/3.

**EXAMPLE:**

**Note**

An archbc job always tries to send *all* documents with bar code for R/3 which can be located in the specified workbasket. This parameter determines only the maximum number of bar codes (maximum INSERT\_BARCODE\_RFC to SAP R/3) per R/3 call. You only need it to archive documents via bar code using the late archiving method.

**MGMT\_CLASS** *management\_class*

For use with Tivoli Storage Manager only. You must specify this keyword. It defines the TSM management class that the CommonStore Server uses to archive documents. The parameter string can consist of up to 16 characters.

**Attention:**

Keep in mind that Tivoli Storage Manager automatically deletes all files as soon as the expiration period is reached. Therefore, check the Tivoli Storage Manager expiration date (specified in the management class in the Tivoli Storage Manager archive storage pools).

**MULTIPART ON | OFF**

Applies to Content Manager and VisualInfo archives only. Specifies if documents are stored on the Content Manager server in multiple parts or not. It is recommended that you store the documents in one part because documents in multiple parts can cause problems if they are displayed in the Content Manager viewer. Setting the value of MULTIPART to OFF or NO stores any content in one part. Setting the value of MULTIPART to ON or YES stores documents in multiple parts on the Content Manager server.

**DEFAULT**

OFF

**EXAMPLE**

MULTIPART ON

**ODAGENTS** *number*

For use with Content Manager OnDemand only. Using this keyword, you can specify the maximum number of parallel CMOD sessions (name: *archagentod*). The default value is 0.

**EXAMPLE:**

ODAGENTS 1

**ODHOST** *hostname*

For use with Content Manager OnDemand only. Using this keyword, you can specify the host name or IP address of the CMOD library server.

**EXAMPLE:**

ODHOST asterix

**ODUSER** *username*

Using this CMOD-specific keyword, you can grant a CMOD user the right to view, add, and delete documents contained in the application group that you specified by using the APPGROUP keyword. At the same time, this user gains access to the folder specified by the FOLDER keyword.

**EXAMPLE:**



**QUEUEPATH**

Specifies the directory in which the queue files are stored. Use this keyword to change the default queue directory, which is a subdirectory that is appended to the path you specified using the INSTANCEPATH keyword. The name of this directory is *queue*. See the following example:

**EXAMPLE:**

```
D:\Program Files\IBM\cssap\server\instance01\queue
```

**PROGID** *program\_id*

Using this keyword, you can specify the program ID under which the dispatcher program is registered on 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 (transaction code SM59) in register mode.

**EXAMPLE:**

```
PROGID anyname
```

**Notes**

- This specified program ID must be the same one provided in the SAP R/3 System (transaction code SM59) and can be tested in the same SAP panel. This keyword refers to the corresponding DESTINATION statement.
- 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 keyword, you can specify the default protection for this archive ID. Note that this only works if you use the HTTP protocol for archiving.

The value of *prot\_flags* is a combination of the letters r (read), c (create), u (update), and d (delete). The default is **rcud**. When set to OFF, the archive is not protected, that is, all operations are allowed. Typically, OFF is used in connection with CommonStore Web access.

**EXAMPLE:**

```
PROTECTION rcu
```

In this example, READ, CREATE, and UPDATE are enabled, while DELETE is *not enabled*.

**REMOTEHOST** *hostname:port*

Specifies the connection parameters of a remote computer that hosts an external application for use with CommonStore for SAP (RMI server). The external application links to CommonStore for SAP over a user exit.

Specify REMOTEHOST if the external application resides on a computer other than the CommonStore Server. Otherwise, use the WORKDIR keyword.

You must set the REMOTEHOST keyword separately for every archive. To do so, add the keyword and the hostname of the RMI server to the appropriate ARCHIVE statements in the server configuration profile (usually archint.ini). The specification of a port number is not required unless you run into conflicts. This might happen if another application

uses port 1099, which is the default communication port for the RMI server. In that case, specify a port number other than 1099 after the host name, as shown in the following example.

**EXAMPLE:**

```
REMOTEHOST RMSERV:1111
```

**REPORT ON|OFF**

If set to ON, the CommonStore Server produces some additional information. The output is written to an output unit called stdout, which is normally the console. The default value is OFF.

**Note**

Set the keyword to ON for tracing purposes, for example, when you set up the CommonStore Server or track down errors.

**SERVER** *server\_name*

For use with Tivoli Storage Manager only. Using this keyword, you specify the name of the Tivoli Storage Manager library server. CommonStore establishes a connection to this server with the subsequent definitions. The dsm.sys file contains all necessary communication parameters for Tivoli Storage Manager.

**EXAMPLE:**

```
SERVER ADSMSERV01
```

**SERVICE\_TRACEFILE** *filename*

Specifies an additional trace file to record the startup and shutdown of the CommonStore service. This trace file is useful only for analyzing problems with the CommonStore service. If the keyword is not specified, a service trace file is not written.

**SPLIT\_CRIT** *split\_criteria*

For use with Content Manager or VisualInfo only. Enabling this keyword causes the archive agent to automatically create a new index class in which search index information is stored if the value of *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 CommonStore export file generated by the CommonStore Index Transfer feature. For a detailed description of when and how to use the SPLIT\_CRIT keyword, refer to "The SPLIT\_CRIT split criteria keyword" on page 120. 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 or VisualInfo archive.

**STARTUP\_TRACEFILE** *filename*

Specifies the full file name of the startup trace file. When a non-empty file name is specified, all CommonStore 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. If the keyword is not specified, a startup trace file is not written.

**EXAMPLE:**

```
STARTUP_TRACEFILE C:\Program Files\ibm\cssap\startup.trace
```

**Note**

The startup trace file is re-written at each start of the CommonStore Server.

**STORAGETYPE ADSM | VI | ONDEMAND**

Using this keyword, you specify the archive system to which the logical archive is attached. CommonStore needs this information to select the proper archiving agent. You must specify the storage type for each logical archive that you define. Specify one of the following values:

- ADSM for Tivoli Storage Manager archives
- VI for Content Manager archives
- ONDEMAND for Content Manager OnDemand archives

**EXAMPLE:**

```
STORAGETYPE ADSM
```

**Note**

This keyword refers to the corresponding ARCHIVE statement and is used for all archives. Any further archiving parameters that you specify apply to the archive with this setting.

**SYSTEMTYPE DOMINOSYSTEM | EXCHANGESYSTEM | SAPSYSTEM**

Specifies whether CommonStore is used for Lotus® Domino™, Exchange 2000, or that CommonStore is used for SAP. These settings affect only the LUM licensing part.

**EXAMPLE:**

**TEMPPATH** *path*

Specifies the directory in which the CommonStore Server writes temporary files needed for processing.

If this setting is missing in your server configuration profile, CommonStore checks the environment variable TMPDIR. If this variable is not set either, the temporary files are written to the system's temporary directory.

**EXAMPLE:**

```
TEMPPATH c:\temp
```

**TP** *service*

Using this 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**

If set to ON, the CommonStore Server writes trace information to the trace file.

If you specify one or more of the following parameters instead of ON or OFF, you can force the CommonStore Server to write only specific trace information:

- FILEIO (for information on the input and output file activities)
- ARCHPRO (for information coming from the archpro program)
- AGENTS (for information coming from the Content Manager agents)

The value ON includes all of these parameters.

**Examples**

- TRACE ON
- TRACE ARCHPRO

**Note**

This parameter should be used only for the purpose of detecting problems. The default value is **OFF**. Do not delete the trace file while the CommonStore Server is running as this affects further writing to this file.

**TRACEFILE** *filename*

Specifies the trace file for the CommonStore Server. All trace information stored is stored in this file. The value filename specifies the path and the name of this file. CommonStore uses this setting only if tracing has been activated. The default value is archint.trace.

**EXAMPLE:**

```
TRACEFILE C:\Program Files\ibm\cssap\server\instance01\archint.trace
```

**Attention**

Do *not* delete a trace file while the CommonStore Server is running. Stop the CommonStore Server first by using the archstop command.

**TRACEMAX** *number*

Specifies the maximum size of the CommonStore Server trace file in KB.

**EXAMPLE:**

```
TRACEMAX 500
```

**TRANSFORM** *filter*

Using this keyword, you can specify an optional command to be invoked before archiving documents. The value of *filter* is a shell command that accepts the data delivered by SAP R/3 from standard input and writes the data to standard output. A non-zero exit code returned by *filter* is interpreted as a failure and results in an archiving error being reported to R/3.

**EXAMPLE:**

```
TRANSFORM cat
```

**Notes**

- It is assumed that *filter* is re-entrant (that is, 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.
- Where this is an issue, the CommonStore administrator is responsible for establishing an overall archiving process which holds up against audits. CommonStore itself performs checks on neither the command specified nor the data generated by this command.

**TRANSFORM CLASS** '*application\_name*'

Enables the Java user exit for HTTP transmission. Specify the name of the external application as the value, enclosed in single quotes. You must specify this keyword for every archive that you want to enable the user exit for. To do so, add the keyword and the value to the appropriate ARCHIVE statements in the server configuration profile (usually archint.ini). Using the TRANSFORM CLASS keyword also requires you to set the REMOTEHOST or the WORKDIR keyword. See Chapter 21, "Converting documents to TIFF before archiving" on page 135 for more information. Note that you cannot use this keyword in conjunction with the TRANSFORM keyword.

**USER** *username*

Using this keyword, you can specify the SAP R/3 user name. The password corresponding to the user name and destination will be stored in the archint.cfg configuration file.

**EXAMPLE:**

**Note**

This keyword refers to the corresponding DESTINATION statement.

**USERPROFILE ON|OFF**

Makes an external application use a custom profile when it is invoked through a user exit. Possible values are ON and OFF.

Use this keyword in conjunction with the TRANSFORM CLASS, and the REMOTEHOST or WORKDIR keywords. See Chapter 21, “Converting documents to TIFF before archiving” on page 135 for more information.

**VIAGENTS** *number*

For use with Content Manager and VisualInfo only. Using this keyword, you specify the number of client sessions (name: *archagentvi*) that the CommonStore server starts in parallel. The default value is 0.

**EXAMPLE:**

```
VIAGENTS 3
```

**VIUSER** *username*

For use with Content Manager and VisualInfo only. Using this keyword, you can specify the user name for the log-in procedure.

**WB\_ERROR** *workbasket \_name*

Using this Content Manager-specific keyword, you can specify the workbasket where documents are saved that proved faulty when they were processed by the Content Manager agent. Usually, this workbasket is empty. Specify a corresponding workbasket in Content Manager.

**EXAMPLE:**

```
WB_ERROR SapScanSaveWB_A11
```

**Note**

This keyword refers to the corresponding ARCHIVE statement and is used only for Content Manager or VisualInfo archives. You only need it to archive documents via bar code using the late archiving method.

**WB\_SCAN** *workbasket \_name*

For use with Content Manager and VisualInfo only. This keyword allows you to specify the workbasket in which the scanning application temporarily stores scanned documents. Under normal circumstances, the workbasket is empty after the archive agent has processed these documents. Specify an appropriate workbasket in Content Manager or VisualInfo.

**EXAMPLE:**

```
WB_SCAN SapScanWB_A11
```

**Note**

This keyword refers to the corresponding ARCHIVE statement and is only used with Content Manager and VisualInfo archives. You only need it to archive documents via bar code using the late archiving method.

**WEBDPS** *number*

Specifies the number of parallel sessions for CommonStore Web access. The default value is 0.

**EXAMPLE:**

```
WEBDPS 5
```

**Note**

By default, Web access to the CommonStore archive is not enabled. To enable Web access, specify the WEBDPS keyword.

**WEBPORT** *port*

Using this 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 in the *~archive* section 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 8085 by default. If no Web server is running on the machine on which the CommonStore Server is running, the default TCP/IP port 8085 can be used.

**WEBROOT** *path*

Specifies the directory in which the HTTP interface of the CommonStore Server expects to find the files necessary for Web operations, such as browser viewing.

**EXAMPLE:**

```
WEBROOT /home/csadm1/webroot
```

**WORKDIR** *path*

Specifies the working directory of an external application that is linked with CommonStore for SAP through a user exit. Use this keyword if the external application resides on the same computer as the CommonStore Server. Contrary, if the external application resides on a remote computer, use the REMOTEHOST keyword.

If you set the WORKDIR and REMOTEHOST keywords together, the WORKDIR statement is ignored. To set the WORKDIR keyword correctly, specify the full path to the working directory, enclosed in single quotes. You must set the WORKDIR or the REMOTEHOST keyword for every archive that you want to access over an external application. To do so, add

the keyword and the value to the appropriate ARCHIVE statements in the server configuration profile (usually archint.ini).

You must use all these keywords in conjunction with the TRANSFORM CLASS keyword. See Chapter 21, “Converting documents to TIFF before archiving” on page 135 for more information.



---

## Appendix B. CommonStore Server commands

This command reference serves as a quick look-up guide that allows more experienced users to control CommonStore from a Windows Command Prompt. To illustrate the command syntax, syntax diagrams are employed. If you are not familiar with reading syntax diagrams, read the brief explanation in Appendix F, "Reading syntax diagrams" on page 199.

---

### archadmin

#### Purpose

This program allows a connection to a CommonStore Server to be opened in order to view the messages issued by the CommonStore Server. It is possible to open the connection across machine and platform boundaries.

#### Format

**archadmin**

```
→ archadmin [-i ini file] [-m machine] [-p port number] →
```

#### Parameters

**-m** *machine*

Specifies the machine name or IP address of the computer on which the archpro program is running.

**-p** *port number*

Specifies the fixed port used by the archpro program.

**-i** *ini file*

Specifies the path and the file name of the server configuration profile used by the archpro program. Using this parameter, you can specify a file on the local machine only.

**-h** Displays help information on how to use the archadmin command.

#### Comments

You connect a computer to another computer running the archpro program by specifying the machine name and the port number (parameters *-m* and *-p*). If you do not specify a machine name, CommonStore assumes that the machine to connect to is the one named `local_host`. The fixed port number can also be read from the server configuration profile. If you neither specify *-p*, nor *-i*, the required information is taken from the standard server configuration profile, the `archint.ini` file. Only port numbers above 5000 are accepted. Connections between different operating systems, for example Windows and AIX, are supported.

## Examples

### **archadmin**

Connects to the archpro program by reading the port number from the archint.ini file

### **archadmin -p 5510**

Connects to the archpro program by using the fixed port 5510

### **archadmin -m obelix -p 5510**

Connects to the archpro program running on a computer named obelix; the connection is established by using the fixed port 5510

### **archadmin -m 9.164.10.20 -p 5510**

Connects to the archpro program running on a computer whose IP address is 9.164.10.20; the connection is established by using the fixed port 5510

### **archadmin -i C:\Program Files\IBM\cssap\server\archint2.ini**

Connects to the archpro program running on the local machine. The port number is read from the specified server configuration profile (archint2.ini).

#### Note

If the CommonStore Server is installed on a machine other than the one from which you want to run the archadmin command, you must copy the message catalog file CSSrvMsg.dll to the directory containing the archadmin.exe file.

---

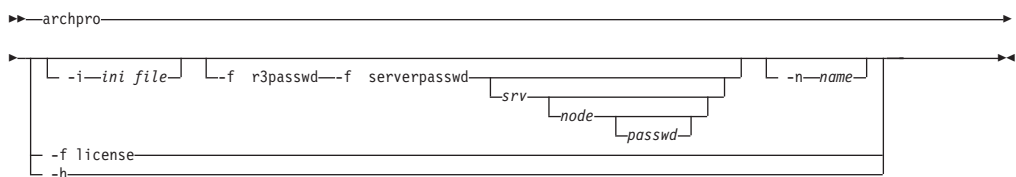
## archpro

### Purpose

The archpro program is the continuously running CommonStore main program which controls all other CommonStore components.

### Format

#### **archpro**



### Parameters

#### **-i ini file**

Specifies the path and the file name of the server configuration profile that you want to use, where *ini file* is the file name including path information.

#### **-f serverpasswd [srv [node [passwd]]]**

Use this parameter to specify the passwords for Tivoli Storage Manager, Content Manager, and Content Manager OnDemand. You only have to do this once, when you set up CommonStore.

**-f r3passwd**

Use this parameter to specify the password of a logical R/3 system. You only have to do this when you set up CommonStore for SAP and when you must change the password.

**-f license**

Use this parameter to enroll a production license. You are then prompted to specify the license file.

**-n name**

Specifies the instance name of the server instance that you want to use.

**-h** Displays help information on how to use the archpro command.

## Comments

Specify the name of the server configuration profile (ini file) by using the *-i* parameter if the CommonStore software is distributed among several subdirectories of the root directory. Specify the *-i* parameter before any other parameter.

## Examples

**archpro**

Starts the CommonStore Server with the default server configuration profile

**archpro -i C:\Program Files\IBM\cssap\server\archint2.ini**

Starts the CommonStore Server with the specified server configuration profile

**archpro -f serverpasswd**

Causes CommonStore to prompt you for all archive passwords

**archpro -f serverpasswd SRV**

Causes CommonStore to prompt you for the passwords of the archive and of all nodes or users with access to this archive on the server named SRV

**archpro -f serverpasswd SRV USR**

Causes CommonStore to prompt you for the passwords of the archive and of the node or user named USR on the server named SRV

**archpro -f serverpasswd SRV USR PWD**

Specifies the password PWD for the node or user USR with access to the archive on the server named SRV. Using the parameter in this way omits the prompting for the password.

**archpro -f license**

Causes CommonStore to prompt you for a license file of a productive license in order to enroll it

---

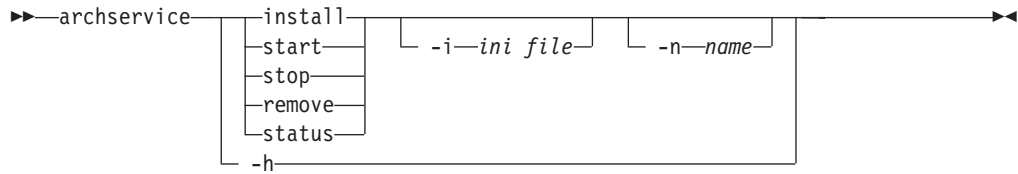
## archservice

### Purpose

This program contains the whole service functionality of CommonStore for Exchange Server.

## Format

### archservice



## Parameters

- h** Displays help information on how to use the archservice command
- i ini file** Specifies the path and file name of the server configuration profile that you want to use, where *ini file* stands for the full path and the file name
- install** Installs the CommonStore service
- n name** Specifies the name for an instance of the CommonStore service
- remove** Removes the CommonStore service
- start** Starts the CommonStore service
- status** Displays the current status of the CommonStore service
- stop** Stops the CommonStore service

## Comments

You must specify the name of the server configuration profile (ini file) by using the *-i* parameter if the CommonStore software is distributed among several direct subdirectories of the root directory.

The instance name permits multiple installations of CommonStore service on a single machine.

The corresponding service instance is labeled CommonStore\_<name>.

## Examples

### archservice install

Installs CommonStore as a Windows 2000 service

### archservice install -i C:\Program Files\IBM\cssap\server\archint2.ini -n 2

Installs an instance of the CommonStore service using the server configuration profile archint2.ini, located in the C:\Program Files\IBM\cssap directory. The new instance is named CommonStore\_2 (the prefix CommonStore\_ plus the value that you specify).

### archservice remove -n 2

Removes the instance CommonStore\_2 of the CommonStore service

### archservice start -n 2

Starts the instance CommonStore\_2 of the CommonStore service

**archservice stop -n 2**

Stops the instance CommonStore\_2 of the CommonStore service

**archservice status -n 2**

Displays the status of the CommonStore service instance CommonStore\_2

**Note:**

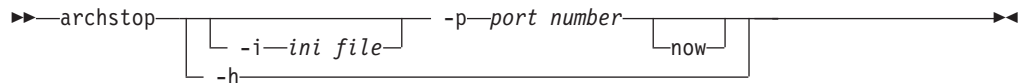
Do not start the archservice program from the command line *without* parameters. This way of running the archservice program is restricted to internal calls.

## archstop

### Purpose

This program completely stops the CommonStore Server by means of a regular shutdown.

### Format

**archstop**

### Parameters

**-p port**

Stops the archpro instance that uses the specified port

**-i ini file**

Stops the archpro instance using the port listed in the specified server configuration profile

**now**

Stops the specified archpro instance immediately, without waiting for active jobs to complete

**-h** Displays help information on how to use the archstop command

### Comments

The port number is essential in establishing a connection between a computer and the archpro program. The fixed port number can also be read from the server configuration profile. If you neither specify **-p**, nor **-i**, the required information is taken from the standard server configuration profile, the archint.ini file. Only port numbers above 5000 are accepted.

### Examples

**archstop**

Stops archpro using the port number listed in the standard server configuration profile

**archstop -p 5510**

Stops the archpro instance using port 5510 after all jobs have been completed

**archstop -p 5510 now**

Stops the archpro instance using port 5510 immediately

**archstop -i C:\Program Files\IBM\cssap\server\archint2.ini**

Stops the archpro instance using the port listed in the specified server configuration file

---

## Appendix C. Sample profiles

The following sections describe the sample profiles for Tivoli Storage Manager, Content Manager, and Content Manager OnDemand as delivered on the product CD-ROM. Although these profiles were tested in a particular environment, it is unlikely that you can simply copy a profile as it is. Most probably, you must make adjustments for a profile to work with your setup.

If, for example, you decide to use archives of more than one type, you can adapt the sample profile file for Content Manager by adding Tivoli Storage Manager archives as described in the sample profile for Tivoli Storage Manager.

---

### CommonStore Server on Windows using Tivoli Storage Manager

```
#####  
#                                                                 #  
#           CommonStore Interface to SAP R/3 ArchiveLink         #  
#                                                                 #  
#   (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#                                                                 #  
#                   Profile for CommonStore                       #  
#                                                                 #  
#####  
  
#-----#  
# Path (directory) of the CommonStore binaries                  #  
#-----#  
BINPATH          C:\Program Files\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:\Program Files\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        5000  
  
#-----#  
# 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         sapsver
  TP         sapdp00
  LOGICAL_SYSTEM T90CLNT090
  CLIENT     800
  USER      MUSTER

#-----#
# Technical connection parameters when ADSM is used as archive.
# Further entries with explicitly 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

```

---

## CommonStore Server on UNIX using Tivoli Storage Manager

```

#####
#
#           CommonStore Interface to SAP R/3 ArchiveLink
#
#   (c) Copyright IBM Corporation 1997, 2002. All rights reserved.
#
#           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        5000
#-----#
# 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.
# Further entries with explicitly 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
```

## CommonStore Server on Windows using Content Manager

```
#####  
#  
#           CommonStore Interface to SAP R/3 ArchiveLink           #  
#           (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#           Profile for CommonStore                               #  
#####  
  
#-----#  
# Path (directory) of the CommonStore binaries                    #  
#-----#  
BINPATH          C:\Program Files\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:\Program Files\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        5000  
  
#-----#  
# 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.
# 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
```

---

## CommonStore Server on UNIX using Content Manager

```
#####  
#  
#           CommonStore Interface to SAP R/3 ArchiveLink           #  
#           (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#           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     5000  
#-----#  
# 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.
# 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
```

## CommonStore Server on Windows using Content Manager Version 8

```
#####  
#  
#           Sample configuration profile for           #  
#           IBM Content Manager CommonStore for SAP 8.1   #  
#           on Windows using Content Manager Version 8   #  
#           (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#####  
  
#-----#  
# Path (directory) of the CommonStore binaries           #  
#-----#  
BINPATH      C:\Program Files\ibm\cssap\server\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:\Program Files\ibm\cssap\server\instance01  
  
#-----#  
# REPORT      ON|OFF                                     #  
# Switches reporting to STDOUT on or off                 #  
#-----#  
REPORT      ON  
  
#-----#  
# TRACE      ON OFF RFC_OFF ...                          #  
# Switches trace levels                                  #  
# Examples for usage:                                    #  
# TRACE      ON                                         #  
# TRACE      ON RFC_OFF                                 #  
#-----#  
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 CM8 is used as archive.
# Different entries with explicitly defined archive ID are needed
# if different CM8 Servers and/or different Item Types
# should be used for storing R/3 documents.
#-----#
ARCHIVE A1
  STORAGETYPE     CM
  LIBSERVER       LIBSERV2
  CMUSER          user
  ITEM_TYPE       itemtypeA1
  LOGICAL_SYSTEM  T90CLNT090

#-----#
# Number of parallel instances of the CommonStore child programs
#-----#
DISPATCHERS      2
ADSMAGENTS        0
VIAGENTS          0
ODAGENTS          0
CMAGENTS          2
ARCHWINS          2
WEBDPS            0

#-----#
# TCP/IP port numbers used by CommonStore.
# ARCHPRO_PORT is used by archstop, archbc and the Windows DLL.
# WEBPORT is used by the web dispatcher for the internet access.
#-----#
ARCHPRO_PORT      5500
WEBPORT           5580

#-----#
# LUM
#-----#
SYSTEMTYPE        SAPSYSTEM

#-----#
# End of profile
#-----#
END

```

## CommonStore Server on Windows using Content Manager OnDemand

```
#####  
#  
#           CommonStore Interface to SAP R/3 ArchiveLink           #  
#  
#   (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#  
#           Profile for CommonStore                               #  
#  
#####  
  
#-----#  
# Path (directory) of the CommonStore binaries                   #  
#-----#  
BINPATH          C:\Program Files\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:\Program Files\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        5000  
  
#-----#  
# 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.
# 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'
    OUSER             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

```

## CommonStore Server on UNIX using Content Manager OnDemand

```
#####  
#  
#           CommonStore Interface to SAP R/3 ArchiveLink           #  
#  
#   (c) Copyright IBM Corporation 1997, 2002. All rights reserved. #  
#  
#           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     5000  
  
#-----#  
# 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.
# 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 D. Troubleshooting

This section provides solutions to known problems. Please refer to this section before you call IBM technical support. The most common problems are covered here. Applying a solution described in this book is usually less time-consuming than using external help. In case of problems with the supported archive systems, see the corresponding sections in this book:

- “Tivoli Storage Manager – troubleshooting” on page 62
- “Content Manager – troubleshooting” on page 66
- “Content Manager OnDemand – troubleshooting” on page 79

**Problem:** Archiving takes too long. Where is the bottleneck?

**Solution:** See the most common reasons:

- The archive server is overloaded. Content Manager and Tivoli Storage Manager can import only a limited number of documents simultaneously.
- The number of archiving agents is too low. If you create archiving jobs faster than the current number of agents can import documents, the documents are written to a queue. Increase the number of agents by increasing the value of the appropriate keywords in the server configuration profile (usually the archint.ini file):

### ADSMAGENTS

For ADSM and Tivoli Storage Manager

### VIAGENTS

For Content Manager

Do not specify more than ten agents because this slows down the system due to swapping.

- The CommonStore Server has too little memory.
- Tracing is enabled.

**Problem:** The CommonStore Server does not start.

**Solution:** The CommonStore Server checks at startup whether all settings are correct and whether it was possible to establish a connection to the archive servers. Furthermore, all paths and files specified in the server configuration profile (usually archint.ini) must be accessible. Proceed as follows:

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 the archpro program, enable tracing by setting the keyword as follows:

```
TRACE ON
```

Look for error messages in the CommonStore Server trace files archint.trace and startup.trace.

2. Determine which child process has problems with the connection. The archpro program normally displays a corresponding error message.

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 agent at a time.

**Problem:** How can I tell that a CommonStore child component is working (is ready)?

**Solution:** The connection is working when the archpro program displays the following messages:

- archpro.exe is informed that xxx has started (from the agents)
- archpro.exe is informed that xxx is ready to obtain order (from the agents)

The message about xxx's start is sent by the child process immediately after the start. It means that a connection between archpro.exe and the child process has been established. The ready message is sent by the child after the corresponding check has been done. For the agents, this 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 correctly.

**Problem:** The Windows commands **net start** and **net stop** do not start or stop the CommonStore service.

**Solution:** Use **archservice start** and **archservice stop** instead.

---

## Reporting errors to the support team

To report an error to the CommonStore support team, open a problem management record (PMR). Make sure that you include the information listed in this section. When asked for files, include the versions that were created at the time when the error occurred.

- Description of your environment. Try to be as precise as possible when specifying the number of SAP R/3 installations, the hardware configuration, the client configuration, the archive systems and their version numbers, any installed fixpacks, and other relevant software.
- Scenario description. What do you want to do? What exactly does not work?
- Error messages (literally)
- Is the problem reproducible? If yes, tell us how.
- Crawler trace files
- Error log file
- Server configuration profile (usually archint.ini)
- Server trace file (usually archint.trace). Note that the archint.trace file is truncated when it has reached its maximum file size. So make sure that it contains trace information of the time when the problem occurred. If not, try to reproduce the problem and stop the system.
- Screen shots of your configuration dialog boxes. This way, we can verify the values that you entered.

- If CommonStore does not retrieve a document, can you retrieve it using the Content Manager Client or the Content Manager OnDemand Client?

**Important**

The CommonStore support team expects the administrator to have read the documentation. Most problems occur in connection with incorrectly configured archives. In such cases, we ask you to consult Tivoli Storage Manager, Content Manager, or Content Manager OnDemand support.



---

## Appendix E. CommonStore Server return codes

Refer to the following list to look up the meaning of a particular return code. The codes are listed in numerical order. Therefore, take down the number in parantheses when you receive a return code message.

**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 occurred.

**CS\_RC\_CHILDINIT\_FAILED (-3)**

Initialization 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 because the startup check of the corresponding archive failed.

**CS\_RC\_VERSION\_ERROR (-6)**

CommonStore does not start because it detected a child process that was created by the wrong version of a program file. Replace the corresponding executable file with the correct version.

**CS\_RC\_CHILD\_TERMINATED (-10)**

CommonStore has detected that a child process has terminated unexpectedly. The child process is restarted automatically.

**CS\_RC\_SHUTDOWN (-99)**

CommonStore was shut down by a shutdown request from the archstop program.

**CS\_RC\_SHUTDOWN\_NOW (-100)**

CommonStore was shut down by an immediate shutdown request from the archstop program.

**CS\_RC\_NOMEM (-110)**

A CommonStore process is running out of memory.

**CS\_RC\_NOTFOUND (-115)**

The requested data was not found. See the CommonStore trace file for further details.

**CS\_RC\_ERRDELETE (-116)**

The archived document or component cannot be deleted. This error code can also occur when data is appended to a component or a component is updated.

**CS\_RC\_NOTSUPPORTED (-118)**

CommonStore is unable to carry out requested operation. Such operations can be, for example, index transfer requests sent to an agent of Tivoli Storage Manager or invalid actions for an update operation.

**CS\_RC\_FILENOTFOUND (-200)**

CommonStore cannot find a file or document.

**CS\_RC\_UNKNOWNDOC (-201)**

The requested document cannot be found in the archive.

- CS\_RC\_QUERYNOTFOUND (-202)**  
The document cannot be found in the archive. The query was unsuccessful.
- CS\_RC\_ACCESSDENIED (-203)**  
You do not have the proper access rights to process the archived document in this way.
- CS\_RC\_DOCEXISTS (-204)**  
The document cannot be archived because the same document already exists in the archive.
- CS\_RC\_ERRCERT (-205)**  
CommonStore failed when it tried to administer a certificate.
- CS\_RC\_COMPNOTFOUND (-206)**  
The component you want to append data to cannot be found in the archive. It probably does not exist.
- CS\_RC\_CONTREP\_NOTFOUND (-207)**  
The content repository (archive ID) you specified cannot be found in the server configuration profile (usually archint.ini).
- CS\_RC\_INVALIDOFFSET (-208)**  
The offset specified for the part retrieval goes beyond the end of document.
- CS\_RC\_FREESEARCH\_NOTFOUND (-210)**  
The specified pattern cannot be found in a free search request.
- CS\_RC\_ATTRSEARCH\_NOTFOUND (-211)**  
The specified pattern cannot be 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)**  
The document cannot be modified in the archive because it was archived with CommonStore version 1.
- CS\_RC\_LOGSYS\_NOTFOUND (-215)**  
The DESTINATION statement in the server configuration profile does not contain the specified logical system or it does not contain any logical system at all.
- CS\_RC\_NO\_ATTR\_ARCHIVED (-216)**  
The plain document data was archived successfully, but all attributes provided in the attribute list were dropped because the archive cannot store them. This message is typically issued by the TSM agent when processing an archiving request with additional attributes created by CommonStore.
- CS\_RC\_NOCOPYGROUP (-217)**  
CommonStore cannot use the specified TSM management class due to a problem with the copy group.
- CS\_RC\_TRANSFORM\_FAILED (-219)**  
The invocation of the TRANSFORM command failed.
- CS\_RC\_NO\_AGENT (-220)**  
The CommonStore Server has received a request for an agent that is not configured in the server configuration profile (usually archint.ini). This request has been cancelled immediately.



**CS\_RC\_QUEUE\_ERROR (-221)**

The CommonStore Server cannot queue asynchronous jobs on disks. This job has been cancelled immediately. The CommonStore Server shuts down because a normal (safe) operation is not possible any more. Check the CommonStore Server queue directory before restarting the CommonStore Server.

**CS\_RC\_SAP\_ATTR\_NOTALLOWED (-240)**

An archiving operation failed because the attribute list in the archiving request contains one of the reserved SAP attributes. CommonStore creates these attributes automatically. They must not 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)**

An error occurred when CommonStore tried to open a file or request its status.

**CS\_RC\_FILEREAD\_ERROR (-251)**

An error occurred when CommonStore tried to read data from a file.

**CS\_RC\_FILEWRITE\_ERROR (-252)**

An error occurred when CommonStore tried to write data to a file.

**CS\_RC\_ADSM\_ERROR (-260)**

An error has occurred in the TSM agent, but the related API call did not fail.

**CS\_RC\_VI\_ERROR (-261)**

An error has occurred in the Content Manager agent, but the related API call did not fail.

**CS\_RC\_OD\_ERROR (-262)**

An error has occurred in the OnDemand agent. Check the csserror.log file for a description of the error.

**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) mandatory 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 search attribute pattern is incorrect.

**CS\_DO\_ARCHIVELIST\_EMPTY (-1004)**

A search operation failed because the list of archive IDs is empty.

**CS\_DO\_FOLDER\_ISEMPTY (-1006)**

The folder operation cannot be completed because the folder is empty.

- CS\_VI\_RETRIEVE\_ERROR (-1112)**  
The retrieval operation failed although the API functions did not return an error. The error occurred during 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 Content Manager API are inconsistent. The are numbers missing in the sequence.
- CS\_VI\_INDEXCLASS\_NOTFOUND (-1118)**  
The index class cannot be found on the specified Content Manager server.
- CS\_VI\_CONTENTCLASS\_NOTFOUND (-1120)**  
The content class cannot be found on the specified Content Manager server.
- CS\_VI\_NO\_DATA\_RETURNED (-1121)**  
An API function does not return the requested data. However, the API function itself did not fail.
- CS\_BC\_RFC\_ABORT\_BY\_USER (-7095)**  
A user has stopped Archbc processing (no error).
- CS\_BC\_RFC\_ERROR\_TABLE (-7096)**  
The creation of the bar-code entry table failed. CommonStore was unable to send the bar codes to SAP.
- CS\_BC\_RFC\_ERROR\_INSERT (-7097)**  
The bar codes could not be sent to SAP because the remote function call ARCHIV\_BARCODE\_INSERT\_RFC resp. BAPI\_BARCODE\_SENDLIST failed.
- CS\_BC\_RFC\_ERROR\_CONNECTION (-7098)**  
CommonStore could not establish a connection with SAP. The remote function calls ARCHIV\_BARCODE\_INSERT\_RFC or BAPI\_BARCODE\_SENDLIST could not be carried out. No bar codes were sent to SAP.
- CS\_BC\_RFC\_NO\_DATA\_TO\_SEND (-7099)**  
The bar-code table is empty. Thus, bar codes cannot be sent to SAP.
- CS\_RC\_BC\_ARCHIVE\_FAILED (-7100)**  
The request to archive and send bar codes failed because the archiving operation failed. The bar code was not sent to SAP.
- CS\_VI\_ITEM\_IN\_WRONG\_INDEXCLASS (-7111)**  
An item cannot be re-indexed because it neither resides in the scan index class nor in the target component index class.
- CS\_VI\_ARCHIVE\_HAS\_NO\_SCAN\_IC (-7125)**  
The operation failed because a scan index class for the specified content repository (archive ID) is not defined.
- CS\_VI\_ARCHIVE\_HAS\_NO\_SCAN\_WB (-7127)**  
The operation failed because a scan workbasket for the specified content repository (archive ID) is not defined.
- CS\_VI\_ARCHIVE\_HAS\_NO\_ERROR\_WB (-7128)**  
The operation failed because an error workbasket for the specified content repository (archive ID) is not defined.

**CS\_RC\_CWI\_R3\_CONNECTION\_ERROR (-7201)**

The request to create a work item failed because CommonStore could not connect to SAP.

**CS\_RC\_CWI\_R3\_FAILED (-7202)**

SAP returned an error as it received the request to create a work item.

**CS\_RC\_CWI\_ARCHIVE\_FAILED (-7203)**

A work item could not be created because the archiving operation failed. The request to create a work item was not sent to SAP.

**CS\_RC\_SOCKET\_PROBLEM (-10000)**

A problem with the socket communication in CommonStore occurred. See the CommonStore trace file for further details.

**CS\_RC\_NO\_HANDLER (-10001)**

A CommonStore process received a request for which a message handler was not installed.

**CS\_RC\_INTERNAL\_ERROR (-10002)**

An internal error occurred in CommonStore or in the socket communication. See the CommonStore trace file for further details.

**CS\_RC\_WRONG\_TYPE (-10003)**

The parser detects a wrong data type when it receives a message over a socket.



---

## Appendix F. Reading syntax diagrams

This appendix explains how to read the syntax diagrams as used in Chapter 6, “Working with the CommonStore Server” on page 43 and in Appendix B, “CommonStore Server commands” on page 163.

To use a diagram, follow a path from left to right, top to bottom, adding elements as you go. In these diagrams, all spaces and other characters are significant.

Each diagram begins with a double right arrowhead and ends with a right and left arrowhead pair. Lines beginning with single right arrowheads are continuation lines.

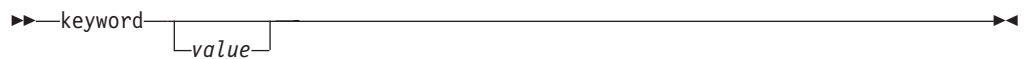


Keywords are all in lowercase, but can be entered in uppercase or in lowercase. Variable values that you provide are shown in *italics* and are usually in lowercase. Where values are shown in uppercase, they should be entered as they appear.

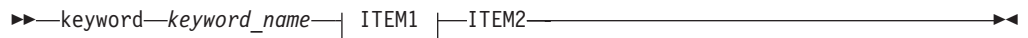
In a choice of items, the default item is always shown above the main line:



Optional syntax elements are shown below the main line:



In some cases, when an item has additional items associated with it, an additional syntax diagram is shown that represents the full syntax of that item. For example, in the following syntax diagram, additional information that can or must be specified for ITEM1 appears in the “ITEM1 Variables” syntax diagram.



### ITEM1 Variables:



### Sample syntax diagram

The following is a sample syntax diagram. It shows the expressions that you can form with the hello command.

#### Hello Command



#### Name



#### Greeting



Valid versions of the hello command are:

```
hello
hello name
hello, how are you?
hello name, how are you?
```

Note that the space before the *name\_of\_person* value is significant and that, if you leave out a value for *name\_of\_person*, you still code the comma before **how are you?**.

---

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- *IBM Content Manager CommonStore for SAP: Client Installation and User's Guide*, SH12-6743
- *IBM Content Manager OnDemand for Multiplatforms: Administrator's Guide*, SC27-0840



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