

# Commit Mainframe Sources to a VCR

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IKAN Development N.V.  
Kardinaal Mercierplein 2  
2800 Mechelen  
BELGIUM

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# Introduction

The *CommitMainframeToVcr* solution makes it possible to commit mainframe sources to a (non-mainframe) Version Control Repository. It is part of the *IKAN ALM for IDMS* solution.

This document describes the installation procedure and the functionality of the solution.

Supported Version Control Repositories: Clearcase and Subversion.

IKAN Development expects the reader of this document to have an understanding of mainframe terminology (ISPF, JCL, REXX programs, etc.).

# Terminology

VCR	VCR stands for Version Control Repository. Such software keeps track of changes on software items and provides additional functionalities regarding changes on software items (e.g., Check-out and Check-in).
IDMS	IDMS is a Database system developed by Computer Associates. The official name is <i>CA IDMS/DB</i> and it is a trademark of Computer Associates.
IDD	IDD is an Integrated Data Dictionary application in an IDMS environment.

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# Installation Procedure

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**Note:** The *CommitMainframeToVcr* solution uses the IKAN ALM Common Utilities in several programs. For installation instructions concerning those utilities, refer to the *Install\_Common\_Uilities.doc* document.

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## 3.1. Installation

### Extracting the Zip File

Extract the *CommitToVcr.zip* file to the folder you want to use to install the *CommitToVcr* utilities.

The extract operation will create the following 10 files in the target folder:

ISPMLIB.BIN

ISPSLIB.BIN

ISPPLIB.BIN

REXX.BIN

ISPMLIB.SEQ

ISPSLIB.SEQ

ISPPLIB.SEQ

REXX.SEQ

CopyVCRandCommit.xml

RuncommitVcr.cmd

### Uploading the BIN Files

Upload only the \*.BIN files to the mainframe. These files must be uploaded to the mainframe with the binary option. The default prefix to be used will be IKANALM.VCR followed by ISPMLIB, ISPSLIB, ISPPLIB and REXX for the ISPF Message, Skeleton, Panel and REXX libraries respectively.

The \*.SEQ files are for reference purposes only. The content of those files is the same as the content of the .BIN files, with this difference that their format is readable on a Windows platform.

### Running IEBUPDTE

Run a mainframe IEBUPDTE procedure to create and populate the ISPF Message, Panel, Skeleton and REXX libraries.

This procedure expects that the extracted .zip files are uploaded to files with the suffix BIN.

For example:

```
//ADCDMSTA JOB (5145,00000,2233,T), 'IKAN',
//          MSGLEVEL=(1,1),MSGCLASS=X,
//          CLASS=A,REGION=0M,
//          NOTIFY=&SYSUID
//*****
//          SET UNIT=SYSDA
//ADDMBR PROC TARGET=
//ADDCNTL EXEC PGM=IEBUPDTE,
//          PARM=NEW,COND=(4,LT)
//SYSUT1 DD DUMMY
//SYSUT2 DD DISP=(MOD,CATLG,CATLG),,DSN=&TARGET,
//          UNIT=&UNIT,SPACE=(CYL,(2,2,180)),
//          LRECL=80,BLKSIZE=0,RECFM=FB,DSORG=PO,
//          DSNTYPE=LIBRARY
//SYSPRINT DD SYSOUT=*
//SYSIN DD DISP=SHR,DSN=&TARGET..BIN
//          PEND
//ISPMLIB EXEC ADDMBR,TARGET=IKANALM.VCR.ISPMLIB
//ISPPLIB EXEC ADDMBR,TARGET=IKANALM.VCR.ISPPLIB
//ISPSLIB EXEC ADDMBR,TARGET=IKANALM.VCR.ISPSLIB
//ISPCLIB EXEC ADDMBR,TARGET=IKANALM.VCR.REXX
```

In the JCL above, the symbolic TARGET identifies the PDSE which will be allocated automatically and which will be populated with the necessary members by the *IEBUPDTE* procedure. The procedure assumes that you uploaded the necessary files from the PC to the mainframe as an *IKANALM.VCR.<type>.BIN* with the <type> being *ISPMLIB*, *ISPPLIB*, *ISPSLIB* or *REXX*. If you did not use this naming convention, you need to adjust the procedure above to meet your dataset naming.

Adjust the Job card to your site's standards.

## Changing Member CCRA000

If you uploaded the IKAN ALM files to datasets that do not match the default *IKANALM.VCR.<type>* with the <type> being *ISPMLIB*, *ISPPLIB*, *ISPSLIB* or *REXX*, you have to change the member *CCRA0000* in the *REXX* library accordingly. This *REXX* program will allocate the necessary ISPF files (Panels, Messages, Skeletons and *REXX* libraries).

## Modifying REXX CCPDS000

Modify the *REXX CCPDS000* program to specify the Types that are supported for PDS libraries.

The first *SELECT* statement within the *check\_type* procedure must be adjusted to support the Type names that are valid at the customer's site. The Type specified in this *REXX* program will be used to determine the extension of the transferred members from this particular PDS.

## Modifying REXX IKANFTP9

Modify the *REXX IKANFTP9* program to set the table that translates the Type information into an extension to be used in the name of the file that will be transferred to the FTP server.

Within this *REXX* program, a table has been set up to accommodate the Type to extension conversion. The 'INIT\_rexx' procedure starts with a number of lines of the format *extent.n = 'IDD type or PDS type' 'extension'* with *n* ranging from 1 to 12.

These lines are followed by the line *extent.0 = 12* indicating the total number of lines in the table. This means that if you change the number of table entries, the value in *extent.0* should match the number of lines in the table.

For example:

```
Added line: extent.13 = 'PANEL' 'pnl'
Modified line: extent.0 = 13
```

## Modifying Skeleton CCSASET

Change the member CCSASET in the Skeleton library to correspond to the names of the dataset that have been installed for IKAN ALM. It also contains the names of (general) ISPF datasets.

```
//JOB LIB DD DISP=SHR,DSN=IKANALM.COMMON.LOADLIB
//          SET DCMMSG=IKANALM.IDD001.DCMMSG
//          SET REXXLIB1=IKANALM.VCR.REXX
//          SET REXXLIB2= IKANALM.IKAN.COMMON.REXX
//          SET ISPPLIB=ISP.SISPPENU      ISPF ISPPLIB
//          SET ISPSLIB=ISP.SISPSLIB      ISPF ISPSLIB
//          SET ISPMLIB=ISP.SISPMENU      ISPF ISPMLIB
//          SET ISPTLIB=ISP.SISPTENU      ISPF ISPTLIB
//          SET TRACE=NO
```

The //JOB LIB declaration should point to the Load Library where you installed the IKAN ALM Common Utilities.

The symbolic DCMMSG should point to the Message Area File of IDMS. If you do not run IDMS, you should set this symbolic to a dataset that exists, or remove the steps that use this symbolic completely from Skeleton member CCSA0002. Make sure that the Skeleton JCL is still valid when you update the member.

The symbolic REXXLIB1 points to the REXX library where you installed the *CommitMainframeToVcr* software.

The symbolic REXXLIB2 should point to the REXX library where you installed the IKAN ALM Common Utilities.

The symbolic ISPPLIB, ISPSLIB, ISPMLIB and ISPTLIB should point to the IBM supplied ISPF libraries. If you don't know the names of the IBM supplied ISPF Libraries, you may find the answer by running the command TSO ISRFIND from any panel in ISPF or the command ISRFIND from the TSO prompt under ISPF (option 6 from the primary options panel). Just select <enter> on the first screen and this will show you all the DDnames that have been allocated for your ISPF session. Scroll down the list until you see the DDnames ISPPLIB, ISPSLIB, ISPMLIB and ISPTLIB and write down the name of the corresponding dataset.

## Modifying Skeleton CCSA0002

When IDMS sources are selected for downloading to a VCR, the procedure assumes that the IDMS sources are written to the IDMS folder in the VCR. This value is set in skeleton CCSA0002 in step COMBOFTP with the statement FOLDER=IDMS in DDname PREFFTP00. If needed, modify this setting to a different folder. The procedure will not function properly if you choose NOT to use a folder for IDMS sources.

## 3.2. Implementation

### Punching IDMS Sources

When IDD sources are exported from the IDD (the PUNCH command), the option WITH COBOL is used when punching IDD Records. If you do not allow Records to be processed in COBOL syntax, the PUNCH option should be changed in the REXX CCRADDDL program in the *do\_ddl* procedure. The required Punch option should be changed to the option required.

If you change the `WITH COBOL` option to the option `WITH RECELE`, it is the responsibility of the user that all IDD Elements which are needed by the Record definition are present in the target IDD.

## Checking Naming Convention

When selecting the IDD components to be transferred to the FTP server, the name of the specified IDD component can be checked to prevent that components are being transferred that do not comply with the naming standards for IDD components.

The REXX 'naming convention' check programs are distributed as-is, without any check, meaning that all names are accepted.

There are several REXX programs that are called by the REXX `CCGI0000` program to check your site's naming conventions for IDD components. This allows you to write your own naming convention check program for IDD components and will prevent that IDD components that do not meet your naming convention can be committed to the VCR. All REXX 'naming convention' check programs should be called with the statement: `ikanmsg = <Rexxprogram>(ikanent ikandict)` with the `<Rexxprogram>` being `CCGIPRC`, `CCGIPRO`, `CCGISUB`, `CCGISCH`, `CCGIMAP`, `CCGIDIA`, `CCGIADS`, `CCGIREC`, `CCGITAB`, `CCGITXT`, `CCGIFIL` or `CCGIMOD` for checking naming convention for Process, Program, Subschema, Schema, Map, Dialog, Adsa Application, Record, Table, Help text, File and Module respectively. The parameter `ikanent` should contain the name of the IDD component to be checked.

The parameter `ikandict` should contain the name of the Dictionary where the IDD component is located.

The REXX program that does the naming convention check must return a value which will be used to determine whether the check was successful or not. If this value is 'empty', the check is considered to be successful.

If this value is not empty, the check is considered to have failed and the value is passed to ISPF as the identifier for an ISPF Message ID. In this case you have to make sure that the Message ID you are passing back is a valid ISPF Message ID and is available in the ISPF Message Library allocation.

The Message ID `IKAN000N` has been reserved as a general Message ID to indicate an error in the name of the IDD entity according to the naming convention check.

The short message of `IKAN000N` tells the user: 'Naming Convention'.

The long message of `IKAN000N` tells the user: 'Entity Name <entity name> does not comply with the Naming Convention'.

The REXX program that executes the check can be modified to specify a specific Message ID per IDD type.

## 3.3. Installation of the Ant Task

An Ant Task needs to be defined in a Scheduler, unless you want to run the task manually.

Components:

**RuncommitVcr.cmd** (see the command file below)

```
rem sources have been downloaded from the mainframe to a FTP rem server file system
rem these files will be copied by our Ant task
rem CopyVCRandCommit.xml
set JAVA_HOME=D:\java\jdk1.5.0_09
set ANT_HOME=D:\javatools\ant1.7.1
cd /D %ANT_HOME%\bin
ant -buildfile e:\ikan\system\Scripts\COPYVCRandCommit.xml -lib e:\ant -logfile
e:\CommitVcr\Logfiles\CommitMainframeToVcr.log -Dbasedir=e:\CommitVcr
set JAVA_HOME= should point to the location where the Java Jdk has been installed.
set ANT_HOME= should point to the location where Ant has been installed.
```

If you did not yet install Ant, ask your administrator to install it for you or download Ant from <http://ant.apache.org/bindownload.cgi>.

The `-buildfile` parameter should point to the location where the Ant script (CopyVCRandCommit.xml) that will populate the VCR with the mainframe sources can be found.

The `-lib` parameter should point to the folder where the Ant software has been installed.

The `-logfile` parameter should point to the file and location where the execution log will be stored.

The `-Dbasedir=` parameter defines a property called 'basedir' and should point to a folder that is used by the script as a temporary folder.

---

**Note:** The settings are case-sensitive.

---

### CopyVCRandCommit.xml

This is the Ant script that will copy the sources from the FTP file server to the temporary folder that is indicated by the `basedir` property.

# Using the Solution

## 4.1. General

The Pf3 key (END command) will cancel an operation and will display the previous screen.

If an operation is canceled this way and selections have been made on the current screen, the cancel operation will result in showing a confirmation panel on which you need to confirm that you really want to cancel the operation.

```

----- Confirm Exit -----

You pressed PF3/PF4 but you have Entries in
the Queue to be committed to your VCR.
Are you sure you do NOT want to process your
Entries?

Are you sure you want to Abort your Process?  (Y/N)

END will cancel the confirmation
  
```

The default value will be O. This value must be changed to Y or N. Entering Y will abort the selection process and the selected items on the screen will be deselected.

The Pf1 key (HELP command) will show additional information about the current screen:

```

----- Help "COPY SOURCES to VCR" -----
Option ==> 

The FTP User and FTP Password are needed to transfer sources from the
the Mainframe to your VCR. The User and Password are needed to 'Open' the
Target URL.

The Target Directory allows you to set a Directory within the default
FTP Directory that is set by the FTP server.

The Project is used to commit the Sources to.

Setting the Transfer IDMS to Y, will allow you to specify the Idms entities
that should be committed to the VCR.
Setting the Pds Transfer to Y, will allow you to specify one or more Pds
Datasets that contain Sources that should be Committed to the VCR.

Setting Show Directory to Y, will show you the content of the Target Directory
you specified.

Press Pf3 to return          Press Enter for more Help
  
```

The Help screen displays additional information that will help the user to fill in the screens. In some cases more Help information can be displayed by hitting the Enter key (as shown in the example above). If the solution encounters errors in an input field, a standard ISPF (short) message is displayed. If the message does not supply enough information to solve the input field error, press the Pf1 key to show a long ISPF message with more information about the error.

## 4.2. Starting the solution

Start the solution from the TSO prompt under ISPF (option 6) with the command `ex '<rexplib>(CCRA0000)'` or use one of the ISPF options if the solution has been installed as an ISPF application.

The initial screen (CCPA0000) will be displayed:

```
-----Commit Sources to VCR----- Enter required field
OPTION  ===>

Ftp User      : administrator
Ftp Password  : 
Repeat Ftp Password : 
Ftp Url       : 192.168.253.153
Ftp Target Directory (Enter below)
pio/clearcase
VCR Type      : CLEARCASE
VCR Project or Clearcase View Path (Enter below):
Pr/View : \\hercikanxp\cc_views\changeadmin_view_vob_pio1
VCR Repo(sitory) Location/Predefined Directory for root of VOB (Below):
Repo/VOB: vob_pio1
Transfer Idms Source      : N (Y/N)
          Central Version: 20
          Dictionary      : APPLDICT
Transfer Pds Sources      : N (Y/N)
Process Transfer Requests: N (Y/N) Total Requests: 0
Show FTP Directory       : N (Y/N)

Press End to cancel                                     Press PF01 for Help
```

Ftp User	The FTP User is used to log on to the FTP server.
Ftp Password	The password needs to be entered twice to verify that the password has been typed correctly.
Ftp Url	The FTP url identifies the remote FTP server to which the sources will be transferred.
Ftp Target Directory	The target directory identifies the directory to which the files will be transferred. This directory must be a subdirectory under control of the target FTP server. The target directory may contain subfolders. Additional subfolders can be defined when selecting Pds members for file transfer. The folder specified when selecting Pds members will be used as a subfolder under the Target Directory. For example: if the Target Directory specifies pio/clearcase and the folder for the type Cobol Pds specifies Cobol then the Cobol Pds members will be transferred to pio/clearcase/Cobol on the FTP server.
VCR Type	The VCR type determines the type of VCR in which you want to commit your sources. At this moment, Subversion and Clearcase are supported.

Pr/View	The Project (Pr) identifies the project of the Subversion VCR to which one wants to commit sources. View identifies the Clearcase View if one wants to commit to a Clearcase VCR.
Repo/VOB	In the case of a Subversion VCR, the solution needs to know the location of the repository for the project. In case of a Clearcase view, the Vob must be specified here.
Transfer Idms Source	If you want to transfer IDMS IDD sources to the VCR, set the value to Y, otherwise set it to N.
Central Version	If the user wants to transfer IDMS IDD sources, the <i>CommitSourcestoVcr</i> solution needs to know the IDMS Central Version number that identifies the IDMS system with which the solution should communicate to pick up the sources.
Dictionary	The dictionary identifies the IDD Dictionary in which the IDMS sources are located.
Transfer Pds Sources	Setting the 'Transfer Pds Sources' to Y will enable the user to specify Pds datasets, from where one can select members that need to be transferred.
Process Transfer Requests	Setting the 'Process Transfer Request' to Y will submit a job which will transfer the specified sources to the remote FTP server. As long as this value is set to N, one can select additional IDMS and/or Pds members to be transferred. The total request field will show the number of selected components so far. After processing the outstanding requests, the total request field will be reset to zero. If the outstanding request is zero and you set the 'Process Transfer Request' to Y, no job will be submitted.
Show FTP Directory	Setting the 'Show FTP Directory' to Y will show the content of the specified directory at the remote FTP Server.

### 4.3. Transferring IDMS sources

If you have set the *Transfer Idms Sources* option to Y (and the Central Version Number and Dictionary have been supplied) the following screen will be displayed.

```

----- Commit IDMS Entities to VCR -----
Option ==>                               Scroll
Ready N (Y/N)
Commit to: \\hercikanxp\cc_views\changeadmin_view_vob_pio1
From Dict: APPLDICT in Central Version: 20

S Entity                                Type Version Schema
ikanmaps                                map 1                                *Init*
***** Bottom of data *****
    
```

Press the Pf1 key for additional information. Pressing Pf1 once more, will show which Types are supported. The first time you access this screen, one empty line will be displayed with the indication *\*Init\** in the outer right column.

The columns *Entity*, *Type* and *Version* must be filled in. The following types (3 characters) are supported:

SCH	Schemas
SUB	Subschemas
DIA	Dialogs
REC	IDD Records
MOD	IDD Modules (not being Module Language Process)
ADS	Adsa Applications
PRO	Programs
MAP	Maps
TAB	Edit/Code Tables
PRC	Ads/O Process
FIL	File

If the type specified equals SUB, the column 'Schema' should be filled in as well.

If you want to process more than one IDD object, type 'T' in the first column (column S) and press ENTER. A new line will be added with its data equal to the last entry on the screen. It is possible to type 'T' in front of every line. The number of new lines will be equal to the number of lines that contain the character 'T' in column S.

If you want to deselect an IDD object, put a 'D' in front of the line for the object that should be deselected. In the outer right column the string '\*Deselected\*' will be displayed.

If you have finished, type Y in the *Ready* field and press ENTER. This will bring you back to the initial screen where you can select to process Pds members and/or process the transfer requests.

Pressing the Pf3 key will abort the selection process. If IDD utilities have been selected already, a confirmation screen will be displayed and the user needs to confirm that the abort should occur (see the section [General](#) (page 8)).

If, on the initial screen, you indicated that you want to process Pds members by setting the 'Transfer Pds Sources' option to Y, you will be forwarded automatically to the Pds member selection screen.

## 4.4. Selecting Pds Members

```

----- Commit PDS Members to VCR (test) ----- Row 1 of 19
Option ==> █                                     Scroll ==> CSR
Ready N (Y/N)
S Pds                (Sub)Folder                Type                Selected

ikanalm.idd001.cobol  *Empty*                cobol                0                *Init*
ikanalm.ikan.common.asm *Empty*                asm                  0                *Init*
*Empty*              *Empty*                *Empty*             0                *Init*

```

In the *Pds* column, you should type the name of an existing Pds from which you want to select members. The *Type* must be filled in as well. This type is mapped to an extension which will be added to the member name(s) when the selected member(s) are transferred to a PC.

The column *(Sub)Folder* allows you to specify the Subfolder into which the members of the chosen Pds will be transferred with the 'FTP Target Directory' being the 'main folder'.

The column *Type* must indicate the type of the members that you are going to select from the Pds displayed. The name of the *Type* must match one of the *Types* that have been defined in the REXX *CCPDS000* program (see [Installation](#) (page 3)).

The column between *Type* and *Selected* is a read-only column. It indicates the number of members that have already been selected from the Pds to be processed.

The column *Selected* will show whether a Pds has already been processed (value blank) or not (value \*Init\*).

The values entered on the screen will be saved over sessions. In total, 19 Pds names can be saved this way.

The *Types* defined by default are 'COBOL', 'ASM' and 'JCL'. For more information on expanding the number of types supported, refer to the section [Installation](#) (page 3).

During the processing of the transfer requests, the *Type* entered on the screen above will be translated to an extension. For more information on how to translate *Types* to extensions, refer to the section [Installation](#) (page 3).

## 4.5. Selecting Members

```
----- Select Members for Commit to VCR ----- Row 1 of 12
Option ==>                                     Scroll ==> CSR

Ready N (Y/N)
Dataset: IKANALM.IDD001.COBOL                    Type: COBOL

S Member      User      Size Created      Modified      Time
IKANDMLC     ADCDMST      866 2010.183     2011.118     08:58:56 *Init*
IKANFILE     ADCDMST      255 2010.183     2010.183     11:24:39 *Init*
IKANIDD      ADCDMST      207 2010.183     2010.183     11:24:42 *Init*
IKANLOAD
IKANMAPS
IKANMODL
IKANPRCS
IKANRECC
IKANRECS
IKANSCHM
IKANSUBS
IKANTABL
```

This screen displays a number of read-only columns, being the Member Name, the User who last updated the Member, the Size of the Member (in bytes), the Date Created (year, day number), the Date Modified (year, day number) and the Time of Creation/Modification (hh:mm:ss). The columns User up to and including Time will only show data if ISPF statistics are available for the member.

The first time this screen is displayed, it will have the value \*Init\* in the last column, indicating that the Member has not been selected so far. From the moment a Member is selected by typing an *s* in the first column (column *S*), the text \*Init\* will automatically change into \*Selected\*. If a member has been selected by accident, then type a *d* in the first column (column *S*). The indication \*Selected\* will automatically change into spaces and the member will not be processed.

After having selected the Members, type *Y* in the *Ready* field. This will remember the Members selected and will bring you to the previous panel.

Pressing the Pf3 key will cancel the process. If you selected members to be transferred, a confirmation screen will be displayed to confirm if you really want to cancel the process. See [General](#) on page 8.

## 4.6. Processing Transfer Requests

If the Process Transfer Requests has been set to Y and the number of selected members equals to one or more, the following screen will be displayed.

```

----- ADD jobcard info -----
Option ==> █

Enter your jobcard below

==> //ADCDMSTA JOB (5145,00000,2233,T), 'IKAN',
==> //          MSGLEVEL=(1,1),MSGCLASS=R,
==> //          CLASS=A,REGION=0M, TYPRUN=SCAN,
==> //          NOTIFY=&SYSUID
==> // *
==> // *

Press PF3 to Return/Cancel or Enter to Submit

```

The user must specify the JCL jobcard to be used for the batch job that will transfer the IDMS and/or Pds members to the FTP server as indicated on the initial panel.

Pf3 (END Command) will abort the submission of the job. The selections will stay valid until a job is requested again or until the solution is stopped.

## 4.7. Showing the FTP Directory

Typing Y in the Show FTP Directory on the initial screen will start a process that will show the content of the specified Folder on the FTP server.

The starting folder is the name of the folder that was specified as the 'FTP target Directory' on the initial screen when starting this solution. This folder (the current folder) is displayed on the second line of the screen after the string 'Dir:'.

The screen will show two lines per file:

Line1 column1 will show the creation/modification date in the format as delivered by the FTP server, Line 1 column2 will show the time that the file has been created/modified and Line1 column3 will show the number of bytes of the file. If the 'file' is a folder, the 'file' will show as <DIR> indicating that this is a folder.

Line2 will show the name of the file. If the 'file' is a folder, it will show the name of the folder.

If the 'file' has the value '..', this will indicate 'return to the parent folder' if applicable.

Every line that indicates a <DIR> can be selected by typing an 'S' in front of that line.

If the folder indicates '.', the content of the parent folder will be displayed unless the current folder is the same as the 'FTP Target Folder'.

```
----- Show Ftp Directory Content ----- Row 1 of 8
Option ==> █
URL: 192.168.253.153
Dir: pio
Date      Time/File  Bytes
-----
          <DIR>    *Parent Folder*
          .
04-19-11  04:18PM    <DIR>
          clearcase
04-28-10  03:42PM    <DIR>
          cobol
05-10-10  08:21PM    <DIR>
          DocuL fkr
04-14-11  11:05AM    <DIR>
          Ikan
05-12-10  05:40PM    <DIR>
          lfkr
04-28-11  10:59AM    <DIR>
          Mainframe
01-22-10  11:16PM    10670998
          SCM4ALLUserGuide.pdf
```