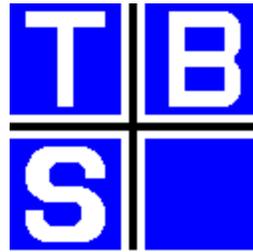


RAPID

Version 3 Release 4.3

User Guide



Rapid is one of the portfolio of products marketed and supported by TBS Software Inc. This portfolio includes products to facilitate enterprise-wide messaging and office automation across heterogeneous platforms, and products which complement IBM's OfficeVision/MVS, enriching its functionality and usability, and simplifying the development of mail-enabled applications.

[SMTP-Send for z/OS and OS/390](#)

SMTP-Send for z/OS and OS/390 lets you easily integrate e-mail distribution capabilities into your MVS Batch, TSO and CICS applications.

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RAPID/Batch-TSO Provides a bi-directional gateway to DISOSS to simplify the development of mail-enabled Batch applications. It includes TSO dialogs to mail datasets from TSO.

RAPID/CICS Provides a bi-directional gateway to DISOSS to simplify the development of mail-enabled CICS applications.

PIXI Allows users to move almost any documents between IBM MVS Office systems and personal workstations (PC, PS/2 etc.) in a simple, cost-effective manner.

CLASY Provides automatic backup and archiving of mail in Personal Services or PS/CICS. Makes more effective use of on-line storage by moving non-essential documents off-line.

DSR Monitors the storage of documents in Personal Services or DISOSS and the Application Services Document Cabinet.

Hupdate/Rupdate	Provides on-line administration of the DISOSS HUP data set and/or Routing data set.
OV/Assist	Substantially simplifies the administration of IBM's OfficeVision/MVS.
OV/Context	Allows a user to search for documents in their File Cabinet which contain a particular text-string.
OV/Re-Router	Provides automatic re-routing of a Personal Services user's mail to any other user on the e-mail network.
OV/Reminder	Automatically distributes a Note or document to other e-mail users or to the user's own In-Basket on a specified day.
OV/Fax	Integrates FAX facilities with the Office System enabling any connected user, or mail-enabled application, to send or receive Faxes. Application Fax and AutoFax features provide added integration with business applications.
OV/Bulletin	Integrates bulletin-board facilities with the Office system. Enables any connected user, or mail-enabled application, to post a bulletin. CICS users can view the bulletins, and request a copy.

For further information on any of these products please contact the address on the following page.

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Preface

RAPID Version 3 Release 4.3

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Introduction

Purpose of this book

This manual describes how RAPID can be used to develop 'mail enabled' applications. These applications may send mail items to the electronic mail system. For example, Batch reports could be router to a managers email inbasket, rather than being printed and sent though the internal mail, using the RAPID/Batch Interface. Applications can also be designed to receive mail. For example, you may design an application to receive a request to add a new user to the Office system. The program would validate the request and then perform the necessary addition. The program could then send a message back to the originator to indicate that the request was complete.

Audience for this book

This manual describes how to use RAPID to interface systems to DISOSS. It is primarily intended for the Systems Programmer responsible for the DISOSS system, although "[Writing your own CICS interface](#)" may be used by Application Programmers to produce end-user systems.

The RAPID package provides several standard methods of getting documents into and out of DISOSS, and also provides examples of ways you can create your own interfaces.

Other books you may need

There are 3 volumes that accompany the RAPID system software:

- *RAPID Installation and Administration* manual, which explains how to install, customize and administer the RAPID system.
- *RAPID Problem Determination* manual, which describes the detailed working of RAPID, and lists messages and codes.
- *RAPID User Guide*, which provides information on how to develop and install an interface between RAPID and other systems.

About this release

The listing below details RAPID Version 3 releases and lists out the functional enhancements and corrections applied to each release.

V343 Various changes made to enable RAPID to function in the year and beyond. In addition improved error handling in RAPIDGT3 has been incorporated.

V342 This release covers a variety of fixes and enhancements:

- New installation verification transactions ZAPF and ZAPT.
- RAPUSRC1 user exit now uses a subject field length of 60 characters.
- The 'Change Password' clist now supplies the 'reply' details.
- The 'Change Password' command now works with user exit RAPUSRCK.
- ZAPM now issues a warning message when a large number of COD requests are outstanding.
- ZAP6 now refreshes the screen when ENTER is pressed with no function details entered.
- RAPIDGS2 now uses the latest version of the MVS enqueue program.
- RAPIDGS3 does not attempt to open the CARDFILE DD when the parm passed is 'P'.
- RAPIDGS3 does not leave an MVS enqueue if the SYSOUT DD is missing.
- RAPIDGS3 does not include lines which begin with the x'03' control character.
- Message RAPID116 no longer contains the RAPID version number.
- ZAPQ and ZAPK transactions do not 'deadlock' each other.
- RAPRPORT now correctly spells 'successfully'.
- APIOBTN now reports the correct user id when logging the 'user not signed-on' message.
- APIMAIL/APIOUT enhanced so that the ZPMAILBX file can be allocated using an FCT entry.
- RAPIDGS3 enhanced to reject documents that exceed a defined size limit.
- APIGS3/APIGT3 enhanced to make error codes returned more detailed.
- APIMAIL enhanced to allow bad requests to be removed from the mailbox and allow processing to continue.

V341 Change to fix three bugs - version number incorrectly displayed, external references not delivered, profile fields not displayed correctly when input from variable length file.

V340 Password validation user exit (RAPUSRCK) added.

V335 Added support for 'NOTE' document type.

Note: This has resulted in minor changes to the TSO CLISTS and PANELs to add support for NOTES.

V333 New program to maintain copylist records. RAPID conversion routine changed to allow optional RPE character in RFT documents and to increase the right margin in 8100I documents. Fix so that RAPID recognises a cancelled status returned by a remote node. RAPSEND CLIST fixed to allow any input DCA level to be specified. Fix so that a batch outtray name may be up to 8 characters.

V332 Change to fix an occasional OBTAIN error from the APIQ. The MVS ENQ command now enqueues on DSname rather than DDname, allowing the same mailbox DDname to be used in both Test and Production systems. Also contains a fix for RAPID failing to close a Batch out-tray after having written to it.

V331 Change to allow a systems wide MVS ENQ. Also changed to allow for the DISOSS 3.4 APIQ layout after PTF UP80775.

V330 This release is intended to improve the performance of RAPID. The major changes are:

- Mail for all RAPID users is received using OBTAIN ALL.
- Confirmation of delivery processing has been altered to take advantage of DISOSS 3.3 facilities (while still working with 3.2).
- The default length APIQ restriction has been lifted. The APIQ may now be defined as any size supported by DISOSS.
- 'G' records are no longer used by RAPID.
- MVS ENQ issued when accessing batch files to ensure data integrity. This is used for both CICS 1.6 and 1.7.
- Message file processing altered to generate a single record per request.
- The single-threading restriction has been lifted. The RAPID transactions may now be multi-threaded.
- New control file maintenance system which processes requests by function rather than record.
eg Add USER record rather than add B, E and P records.
- New message file enquiry system with summary and detail screens.
- Optional routing of error messages to operator console.

V320 Change to allow 'OBTAIN ALL' processing for increased performance. Change to allow special users to be set up to cancel any document sent to it, for example APIMASTR. A new closedown transaction, ZAPZ, to shut RAPID.

V312 Fix for problem of RAPID adding spaces into RFT documents passed through the internal reader when the document size is greater than 8K. Also a fix for RAPID losing 1 character from RFT documents passed in via the internal reader. Fix to add an RCR at the bottom of each document page for 5520 document processing.

V311 Language support for the DISTINFO document, allowing the DISOSS

HOSTDEF language parameter to be set to the local language.

V310 The first release of RAPID 3 drew together the improvements made during the life of version 2. These are summarised below:

- RAPID changed to prevent a document being filed in the HDL with spaces in the message area (as DISOSS will not allow you to delete it).
- GCID support added to the sign-on field together with inbound and outbound GCID translation of the document profile.
- Support for a variable length internal reader file.

In addition, RAPID Version 3 has the following new features:

- Two new batch interface programs, RAPIDGS3 and RAPIDGT3, which allow all DISOSS commands to be issued from the batch environment.
- Two new CICS interface programs, APIGS3 and APIGT3, which are the CICS equivalents of the RAPIDGS3 and RAPIDGT3 programs.
- A series of TSO CLISTS and ISPF panels to 'front-end' the RAPIDGS3 program.
- Document profile fields expanded to the full DISOSS-supported size, provided that APIGS3/RAPIDGS3 and APIGT3/RAPIDGT3 programs are used.

Product Overview

RAPID provides a single generalised bi-directional link between DISOSS and other applications.

RAPID shields the application programmer from the intricacies of DIA/DCA, IBM's Office Systems Architectures, and from the asynchronous nature of DISOSS processing. It also allows the application programmer to interface to DISOSS from environments other than CICS.

RAPID consists of a series of COBOL (CICS and BATCH) and ASSEMBLER programs together with a number of maintenance and diagnostic routines.

[Figure 1](#) gives a diagrammatic representation of the RAPID system.

Input to RAPID is via two (identical) VSAM files, the MAILBOX and the MAILSACK. The Mailbox file is for interfaces that do not reside in the RAPID/DISSOSS CICS region. The Mailsack is for CICS interfaces that are running in the same CICS region as RAPID.

On the outward-bound side RAPID accepts documents from DISOSS and actions them in one of two basic ways:

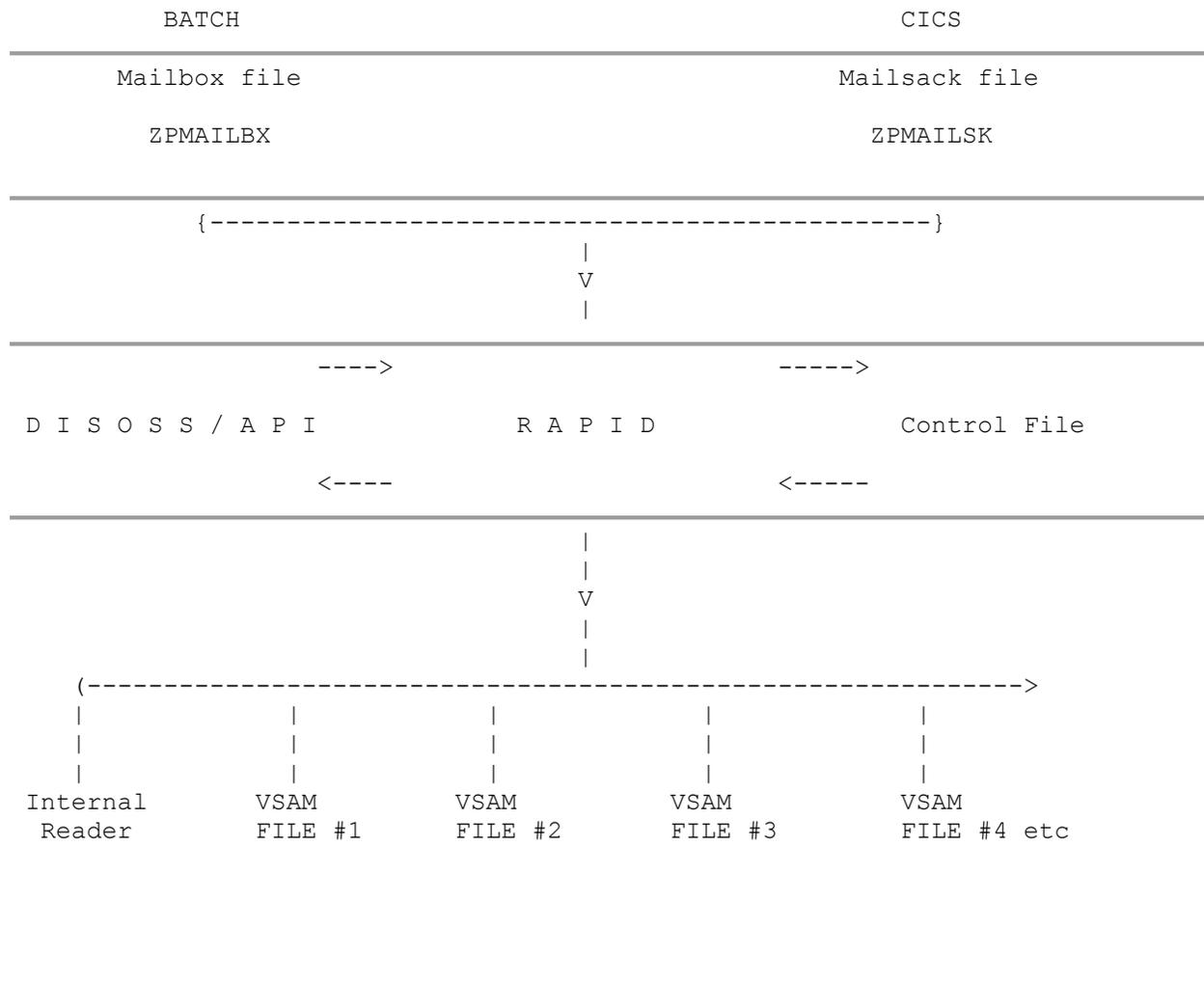
1. Writes them to an internal reader together with customised JCL
2. Writes them to a designated VSAM file

Details of how the documents are to be processed are held on the RAPID control file by means of a 'interface' record. Subsequent processing can then be actioned as required; RAPID, therefore, requires one, or more, interface programs for the end-user.

For RAPID, the "RAPID User Guide" describes the interfaces that are supplied as part of the RAPID package, and also explains how to create your own.

For RAPID/Base, additional documentation will have been supplied for the relevant sub-system.

Figure 1. The RAPID system



RAPID destinations

Introduction

RAPID users are identified to DISOSS by associating a transaction of ZAPI (or the customised equivalent of) to an API user on the HUP. Documents sent to these users are intercepted by RAPID and can then be processed in a variety of ways. The type of processing required is determined by the "interface" record on the RAPID control file.

Users can create their own interfaces or change the activities of the supplied ones - for example to invoke DISOSS translations so that all documents delivered to a destination are in the required DCA level(s).

For most destinations RAPID will copy the document onto the VSAM file indicated by a DD name on the interface record. Exceptions to this are listed below:

INTRDR The document is sent via the internal reader to the JES input queues. RAPID will associate the document with the JCL contained in the JCL records on the RAPID control file that have the same identifier as the user name.

INTRDR2 Another internal reader for sending both documents and a full document profile out to a batch system.

Full details of actions required to create RAPID users or to create/amend a RAPID destination can be found in ["Creating or changing a destination"](#).

Creating or changing a destination

Each RAPID destination consists of the following:

1. HUP entry in DISOSS
2. User record on the RAPID control file
3. Interface record on the RAPID control file
4. A destination file (except for the exceptions previously mentioned)

Documents written to the destination file can then be accessed using the supplied program modules - see ["Writing your own CICS interface"](#).

RAPID can invoke DISOSS translation facilities (via the sign-on) so that a destination always receives a specific DCA level (or levels). RAPID can also invoke GCID translations in a similar way. The sign-on is controlled (initially) by the INTERFACE record.

All the above requirements are discussed in the following sections.

HUP entry

Documents intended for RAPID should have a HUP entry coded as shown in [Figure 2](#).

Figure 2. Example RAPID HUP entry

```
ADD USERTYPE=API,  
    DDN=DSVHOST,  
    SA=username,  
    TRANID=ZAPI,  
    REQPWD=password
```

- INTERFACE ID** This is the name of the interface to which the user belongs. This value must match the key of an interface record.
- LIST INTERVAL** The interval which RAPID will wait between successive LIST commands. This allows you to control the amount of processing which is done by RAPID. If the interval is set to 0 then RAPID will issue a LIST command each time DISOSS notifies it of mail. If the interval is non-zero then RAPID will only issue a LIST command if no LIST has been issued within the last 'list-interval' minutes. This interval is used in DISOSS 3.2 for confirmation processing. In later releases of DISOSS this interval is used only if new mail arrives while a list is in progress.
- Note:** This interval should be less than the RDRF interval, if RDRF processing is being used. Under DISOSS 3.2 RAPID is not notified of changes in confirmation status. This means that it has to 'poll' DISOSS by issuing LIST commands at regular intervals. The LIST commands are initiated, for all RAPID users, at RAPID Startup and repeated at the time specified in the 'list-interval'. For this reason the list interval must be non-zero with DISOSS 3.2.
- CANCEL MAIL** Specify 'Y' if RAPID is to automatically CANCEL any mail sent to this user otherwise specify 'N'. This may be used for special users (eg APIMASTR) who would not normally be sent mail. Specifying 'Y' causes RAPID to CANCEL the mail and DISOSS generates a status message which is sent back to the originator.
NOTE: If the interface name is DISOSSPS then this must be set to 'Y'.
- PASSWORD** The DISOSS password for the user. This must match the value specified in the HUP.

Interface record

This can be set up using the RAPID on-line maintenance program - see the 'RAPID Installation and Administration Guide' for details.

The interface screen is used to add and amend interface records. The fields which may be entered are:

- INTERFACE ID** The name of the interface. This may be used in either the user record (see ["User records"](#)) or the 'TO SYS' parameter in the APIGS3/RAPIDGS3 programs (see).
The interface id is the Key field of the record.
- DESTINATION CODE** This is a two character code used internally by RAPID. This must be unique for each interface. Customer defined codes must start with a 'U'.
- RDRF PROCESSING** This specifies whether or not RDRF processing is required for the interface. RDRF processing causes a document sent to many recipients to be collected together so that only one document is written to the out-tray with a list of recipients. If RDRF processing is not specified the document will be written

to the out-tray multiple times. Only specify RDRF processing if your interface documentation requests it.

INTERVAL	This specifies the amount of time to wait during RDRF processing. If no new documents arrive in the interval then the document is written to the out-tray. This value is not required if RDRF processing is not requested.
SIGN-ON USERID	This is the name of the user which RAPID will use to make request on-behalf-of all users for this interface. This user determines the DCA levels and GCIDs which may be received by users of the interface. This user must be defined to RAPID and in the DISOSS HUP. If the userid does not belong to the interface then any DCA/GCID specifications will be ignored.
PRINT IMAGE	Specify 'Y' if the interface is to receive print image documents from DISOSS. If 'Y' is specified then the line width and ASA fields must be entered.
LINE WIDTH	The number of characters per line which RAPID is to put in the output document for a print image document. The line is truncated at this value. Not valid if print image is 'N'.
ASA	Whether or not the ASA controls are to be passed to the interface. If 'N' is specified only the '1' (new page) control is passed to the interface. Not valid if print image is 'N'.
AS NOTE	Whether or not the interface can process the 'NOTE' document type. If 'N' is specified the document is passed to the application as an EDITABLE document. You should check the application documentation before setting this flag to 'Y'.
DCA LEVELS	Specify a list of up to 10 (9 if print image = 'Y') DCA levels which the interface can process. If no DCA levels are specified and print-image is 'N' then all DCA levels will be received.
GCID	This field defines what GCIDs the interface can process. The value may be: 'L' Use the local GCID value from ZAPTABA. 'A' All GCIDs may be received. 'U' User defined list of up to 10 GCID values may be entered. The values should be input as x-y, where x and y are numbers. For example 313-285 is UK English.

The interface may be either a VSAM file or the Internal reader. If the filename is left blank then it is assumed to be an internal reader.

NOTE: If the interface is an internal reader then all users of the interface must be defined with JCL records.

For a vsam file specify

FILENAME	The name of the file the documents are to be written to.
BATCH	Specify 'Y' if the file is to be used by a batch process (eg RAPIDGT3). If the value is 'Y' then RAPID will issue MVS ENQ on the filename and open the file before writing data to it. The file will be closed and MVS DEQ issued after the data is written.
TRANSACTION	If the file is a CICS file then you may specify the name of a transaction to be STARTed whenever any document is written to the file.
APIOUT FORMAT	Specify 'Y' if the document is going to be processed using APIGT3 or RAPIDGT3 otherwise specify 'N'.
FLAGS	These fields are reserved for special RAPID interfaces and should not be input or modified by customers.

For an internal reader specify

ASA CONTROLS	Specify 'Y' if RAPID is to include the ASA control from the document in the data sent to the internal reader. If the document is not print image (ie does not have an ASA control) then RAPID will generate a space as the ASA control. This can be used to prevent '/' or '/'* combinations which may occur in the document from causing a JCL error by forcing the document text into column 2 of the output.
SUPPRESS LV	This is used, in combination with the '@', to determine how RAPID responds to variable substitutions in the JCL skeleton record. If a variable is shorter than its maximum possible length and has been padded with low-values (because of the '@') then RAPID will remove the low-values. Any characters to the right of the low-values will be shifted left into the space occupied by the low-values. An example of the effect of the SUPPRESS LV and '@' can be seen in the table below.

Line in JCL record	SUPPRESS LV	Output JCL
USER= (%USER)	N	USER= (JONES)
USER= (%USER)	Y	USER= (JONES)
USER= (@USER)	N	USER= (JONES . . .)
USER= (@USER)	Y	USER= (JONES)

Using JCL records with the internal reader is described in more detail in .

FORMATTED Specify 'Y' if RAPID is to write the document to the internal reader with a formatted profile in front of the document. This option produces an output similar to the RAPIDGT3 program.

FLAGS These fields are reserved for special RAPID interfaces and should not be input or modified by customers.

The Interface file

An interface file is a VSAM KSDS file. The RAPID.JCL dataset contains a member ZPUSROUT (shown in [Figure 3](#)) which can be used as model JCL.

Figure 3. Example JCL to Create an 'Out-tray'

```
//ZPUSROUT JOB
//*****
//* EXAMPLE JOB TO CREATE A USER 'OUT-TRAY' *
//*****
//STEP10 EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//DD1 DD UNIT=SYSDA,DISP=SHR,
// VOL=SER=NNNNNN <== CHANGE TO YOUR INSTALLATION STANDARDS
//SYSIN DD *
DELETE RAPID.ZPUSROUT FILE(DD1)
DEFINE CLUSTER (NAME(RAPID.ZPUSROUT) -
VOL(NNNNNN) -
FILE(DD1) -
FREESPACE(25 25) -
CYLINDERS(1 1) -
UNIQUE -
SHAREOPTIONS(2 3)) -
DATA (NAME(RAPID.ZPUSROUT.DATA) -
RECORDSIZE(2000 8192) -
KEYS(12 0)) -
INDEX (NAME(RAPID.ZPUSROUT.INDEX) -
IMBED -
REPLICATE)
/*
//*
//STEP20 EXEC PGM=RAPSETUP,TIME=(0,5)
//STEPLIB DD DISP=SHR,DSN=RAPID.LOAD <== CHANGE
// DD DISP=SHR,DSN=SYS1.COBLIB <== TO YOUR
//INCARDFL DD DISP=SHR,DSN=RAPID.JCL(USROUT1) <== INSTALLATION
//OUTPUTFL DD DISP=(,PASS),UNIT=SYSDA, <== STANDARDS
// DSN=&&APISET, <==
// SPACE=(TRK,(1,1)), <==
// DCB=(RECFM=VB,LRECL=4100,BLKSIZE=6144) <==
//SYSUDUMP DD SYSOUT=*
//*
//STEP30 EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=* <==
//INPUT DD DISP=(OLD,DELETE),DSN=&&APISET <==
//OUTPUT DD DISP=SHR,DSN=RAPID.ZPUSROUT <==
```

```
//SYSIN      DD      *                                     <==
  REPRO INFILE(INPUT)  OUTFILE(OUTPUT)
/*
//
```

This file will need defining to CICS in the standard way. The FCT entry should be based on ZPMAILSK for files that will be processed from within the same CICS-DISSO region; batch interfaces should have an FCT based on the ZPMAILBX file.

GCID support.

In order to classify the characters used in different countries, IBM has defined a two-part coding system (for example 337-256) known as a GCID.

The first part of the code (337 in the example) is the Character Set Global Identifier (GGID), which identifies all the valid characters. The second part of the code (256 in the example) is the Code Page Identifier (GPID) which defines the exact hexadecimal value for the characters (called the Codepoint). The combination of GGID and GPID gives the GCID which uniquely identifies the allowable characters and their code points.

All IBM Personal Services products use the multilingual (337-256) character set and so this approach is implemented within RAPID. RAPID assumes that all input requests are in the local GCID and uses the table in ZAPTABA (see the Installation Guide for details of the ZAPTABA customisation table) to translate input to multilingual. Any documents that come out from DISOSS are assumed to be in multilingual and are translated to the local GCID using the table in ZAPTABA.

If a program makes a request to RAPID using a GCID other than the local GCID it should identify the GCID in the profile GCID and document GCID fields on the RAPIDGS3/APIGS3 parameters.

If a program wishes to receive documents from DISOSS in other than the local GCID then it should invoke the DISOSS GCID SIGN-ON by means of the GCID field on the Interface record as described in ["Creating or changing a destination"](#).

Any programs which use GCID's other than the local or multilingual GCID will require additional GCID tables set up in DISOSS. They will require tables to translate from

- Input GCID to multilingual (for PS/CICS)
- Input GCID to library (for filing documents)

Note

1. PTF UP80513 (PUT tape 8703) needs applying before you can add your own GCID translate tables to DISOSS. Also bear in mind that distribution to SNADS nodes, such as 5520 and S36, may result in unviewable or incorrectly displayed documents.
2. Documents created on a PC using DW4 may contain cursor draw characters. These characters are created using GCID 340-259 (symbols) which has no translation table defined in DISOSS. If you intend to send documents from the PC then you will need to define translation tables for
 - code-page 259 (symbols) to GCID 337-256 (multilingual)
 - code-page 259 (symbols) to your local GCID

Refer to your DISOSS manuals for details of how to do this.

RAPID/Batch

In to DISOSS: Supplied with RAPID is a full function batch interface program RAPIDGS3. This allows all DISOSS commands to be used from the batch environment.

So, for example, an RJE device could submit JCL to execute RAPIDGS3 and therefore take part in the DISOSS environment.

Another use would be to execute RAPIDGS3 at the end of any batch application to route the output produced through to DISOSS users, or to be filed in the DISOSS library.

Out from DISOSS: RAPID will also take documents obtained from DISOSS and send them externally. One method is for RAPID to write the document to an Internal Reader together with some JCL to copy or process the document.

Alternatively, RAPID contains a program to process documents written to a VSAM KSDS file used as an 'Out-tray'. This program, RAPIDGT3, converts the profile into a series of parameters which are written to a sequential file.

Inbound - Using RAPIDGS3

This program provides a method of utilising the full set of DISOSS commands from a batch environment. It thus allows the user to access DISOSS library, distribution and application services.

The interface allows the user to communicate with DISOSS using a series of parameters. The parameters identify the type of request and are used to build up the profile record for the RAPID Mailbox dataset.

In addition the request may also contain a document, which may be any sequential dataset. The document will be passed into DISOSS as a series of text records on the RAPID Mailbox.

The parameters may be passed to the program in one of two ways:

1. Card Image. The parameters are stored on a sequential dataset (RECFM=FB, LRECL=80) with one parameter per record. The document, if required, is stored in a separate dataset. The parameter file is identified by the ddname CARDFILE. This method can only be used for one request per program execution.

2. With document. The parameters are stored with the document(s) to be processed. This method may be used for multiple requests, where each request has the following format:
 - a. Low-values record (35 bytes at least)
 - b. Parameter records (one parameter per record)
 - c. High-values record (35 bytes at least) (only if document present)
 - d. Document records (one record per line, if print-image)

Note: The parameter records must be in the same format as the document, that is, they must have ASA controls if the document has ASA controls. However, the low- and high-values records must always start in column even if the dataset is defined with ASA controls.

The document, if present, is identified by the DDname LISTDSN. It may be any sequential (or member of a partitioned) dataset.

The DCB information for the file is examined to determine the record type (Fixed or Variable) and whether the file ASA control-characters as the 1st byte of each record.

This means that although LISTDSN may contain many documents they must all be the same format.

Four points need to be noted:

1. A PARM field should be added to the EXEC for RAPIDGS3: a PARM of D indicates that the document and parameters are separate. PARM P indicates that both parameters and document are on the LISTDSN file. No PARM assumes no document (and therefore no LISTDSN).
2. ASA files - these will have blank lines inserted by RAPID in response to the ASA control-characters. This can result in a page being too large for a single Mailsack record and RAPID having to split it across records.
3. Variable length files - the interface processes these as if they were fixed-length with a record-length equal to the largest found in the first 350 records on the file. This value is used for all documents on the file so a particular document may have lines longer than expected.
4. Use of '*' and '/' - Personal Services does not allow the character '*' in the Document Name or the characters '*' or '/' in the Author. The '*' character is the default 'cut-off' character and the '/' character is the 'OR' character.

An example of the JCL for running RAPIDGS3 is shown in [Figure 4](#).

Figure 4. Example JCL for running RAPIDGS3

```

//*
//* STEP10 WILL RUN THE RAPIDGS3 PROGRAM
//*
//STEP10 EXEC PGM=RAPIDGS3, PARM=' ' <==== Note A
//STEPLIB DD DSN=RAPID.LOAD, DISP=SHR <==== Note B

```

```

//ZPMAILBX DD DSN=ZPVSAM11.DCICS.ZPMAILBX,DISP=SHR          <=== Note C
//SYSOUT   DD SYSOUT=*
//LISTDSN  DD DSN=your.document,DISP=SHR                    <=== Note A
//CARDFILE DD *                                             <=== Note A
COMMAND   SEND
;
; other parameters for command      (Note D)
;
//

```

Note A The PARM statement identifies where RAPIDGS3 is to find the request parameters. The parameter may be

- ' ' - (blank) - parameters on CARDFILE (no LISTDSN required)
- 'P' - parameters and documents on LISTDSN (no CARDFILE required)
- 'D' - parameters on CARDFILE and document on LISTDSN

Note B This needs to be changed to your load library.

Note C The Mailbox File dataset name will need tailoring to your installation standards.

C

Note D The parameters which may be used are described in

D

[RAPIDGS3 return codes.](#)

These messages are produced by the program RAPIDGS3:

- 0000** Okay, processing completed.
- 0099** Program parameter incorrect.
- 0100** Unable to access LISTDSN.
- 0101** LISTDSN empty.
- 0102** Logic error in LISTDSN.
- 0103** Error reading LISTDSN.
- 0104** Function sequence error.
- 0105** Function invalid.
- 0106** Parameter sequence error.
- 0107** Unsupported parameter.
- 0150** Permitted document size exceeded.

- 02xx** Invalid parameter data, xx is the parameter number.
- 03xx** Parameter invalid for request, xx is the parameter number.
- 04xx** Subparameter invalid for request, xx is the parameter number.
- 05xx** Mandatory parameter missing, xx is the parameter number.
- 06xx** Mandatory subparameter missing, xx is the parameter number.
- 07xx** ZPMAILBX error, xx is the VSAM return code.
- 08xx** Rejected by user exit, xx is the return code from RAPUSRCK.
- 09xx** CONTROL error, xx is the VSAM return code.
- 10xx** CARDFILE error, xx is the VSAM return code.

RAPID can extract documents from DISOSS and 'wrap' JCL around them, using document profile data as substitution JCL, and using the document data itself as input to a program (such as IEBGENER).

This is achieved using JCL records on the RAPID control file to store both JCL and reference pointers. Several examples of using this technique are supplied as standard, and details of these are given later in this section.

When sending non-print image documents out through the Internal Reader, problems can occur if the data contains X'6161' strings, that is // characters. These will be interpreted by JES as JCL cards if they occur in columns 1 and 2. This problem becomes more likely with RFT/Extended documents containing image data.

RAPID will prevent this problem by moving any non print-image document passed through the internal reader 1 character to the right. For most purposes this is unlikely to cause any problems. If you intend to produce a specialised application using the internal reader and wish to prevent RAPID from moving the data, the interface record should be customised for non ASA-controls using the RAPID maintenance system.

[How the interface operates](#)

One or more "special" users are defined on the RAPID control file. When mail is sent to any of these users, RAPID intercepts the mail and creates a batch JCL deck containing the document text as instream data. This JCL deck is then submitted to JES using a CICS transient data queue which is defined as an internal reader.

The JCL deck, which is taken from the RAPID control file, can have parameters taken for the document (for example Document name and sender name) substituted into it before the job is submitted. This means that the processing performed by the job can be controlled to a large or small extent from the user's input document.

Once the job has been submitted RAPID has no more control over it and it is processed in exactly the same way as any other batch job.

Defining the Internal reader

Before requests are sent to an internal reader, records need to be added to the ZPCONTL file, using the on-line maintenance suite. Changes may also be required to the CICS DCT table and the CICS Start-up deck, in order to define the internal reader. The steps to be performed are listed below.

1. Define an internal reader to CICS.
2. Set the internal reader length on ZAPTABA.
3. Set up an Interface record.
4. Set up a User record.
5. Set up a JCL record.

Note: During the installation process an standard internal reader called "ZRDR" should have been created.

Internal reader definition

An internal reader is used to submit jobs onto the JES input queue. It is defined to CICS by an entry in the Destination Control table (DCT) and by an entry in the CICS JCL. The DCT entry for a standard Internal reader is shown in [Figure 5](#).

Figure 5. DCT table updates for an Internal reader

```

*****
*          DCT ENTRIES FOR THE SAMPLE BATCH APPLICATION          *
*                                                                 *
*****
ZAINTRDR DFHDCT TYPE=SDSCI,                                     C
          DSCNAME=ZINTRDR, TYPEFLE=OUTPUT,                     C
          BLKSIZE=133, RECSIZE=133, RECFORM=FIXBLK
ZRDR     DFHDCT TYPE=EXTRA,                                     C
          DESTID=ZRDR,                                          C
          DSCNAME=ZAINTRDR,                                     C
          OPEN=INITIAL

```

For information on adding this entry, contact your CICS system programmer. Remember that DCT entries of type=EXTRA must follow all other DCT entries.

The DCT entry identifies the internal reader ZRDR with the DCB information specified with record ZINTRDR.

For every Internal reader set up in the DCT, there must be a DDname in the CICS JCL. An example definition is given below:

The maximum length value which can be specified for an internal reader is 254 characters under JES2 and 80 characters under JES3. In practice, the maximum value is 133 characters since print-image documents will be truncated at this line-length by the internal processing in DISOSS.

Note: If you are using JES3 and require more than 80 characters, then you will have to use a VSAM file for the output. See for details.

Interface record, Internal reader type

An example of the panel used when adding a new internal reader interface definition to the Control File is shown in [Figure 6](#). To reach this panel, enter the on-line maintenance suite with transaction "ZAPX" or the customised equivalent. From this panel, type "INSERT" as the function, "INTERFACE" as the type and enter a key for the record that you are adding. This key can be up to 8 characters in length.

Once one record of the correct type is entered on the control file, it is possible to clone a new record using the existing record. This is done by displaying the existing record on the screen (using a function of "ENQUIRE" and the key of the existing record), and then overtyping the function with "INSERT" and the key with the new key. This creates a new record which can then be amended as required.

Some standard destinations should have been set up at installation time. The destinations TSO, DATASET and DCFOUT are described in more detail in the Standard RAPID Users.

Figure 6. The Interface panel for INTRDR type destinations

```
ZAP0                                RAPID SYSTEM                                DATE: 19/05/95
FUNCTION: ENQUIRE                   CONTROL FILE MAINTENANCE                   TIME: 12:43:12
TYPE: INTERFACE KEY: BATCHDSN        QUAL:
----- Destination record maintenance -----
DESTINATION CODE: IF                RDRF PROCESSING: A                INTERVAL (HH:MM:SS): 00:01:00

SIGN-ON USERID: RAPMASTR
```

```

TO RECEIVE:-
PRINT IMAGE: Y      LINE WIDTH: 0080      ASA: N      AS NOTE: N
DCA LEVELS:
GCIDS: U 00313-00285

FOR AN OUTTRAY
SUPPLY FOLLOWING:-  FILENAME:                BATCH:      TRANSACTION:
                   APIOUT FORMAT:          FLAGS:

FOR AN INTERNAL READER
SUPPLY FOLLOWING:-  ASA CONTROLS: N          SUPPRESS LOW VALUES: Y
                   FORMATTED: Y           FLAG:

-----
PF1=HELP          2=          3=          4=EXIT          5=PREV REC    6=NEXT REC
PF7=              8=          9=          10=             11=           12=QUIT
RAPCFM12 ENQUIRY ONLY, INPUT FUNCTION/TYPE OR PF KEY

```

For a description of the fields see the chapter Rapid Destinations.

[User record](#)

You must define one or more user records for every destination record.

The User record panel is obtained from the main menu by typing a function of "INSERT", a type of "USER" and a unique key that will match the recipient to whom you will address the distribution. An example panel is shown in [Figure 7](#).

The destination that is specified on this record must match a destination record that already exists on the control file.

[Figure 7. The User maintenance panel](#)

```

ZAP1                      RAPID SYSTEM                      DATE: 19/05/95
FUNCTION: ENQUIRE         CONTROL FILE MAINTENANCE      TIME: 12:56:42
TYPE: USER                KEY: ZMDVTRE                          QUAL:
----- User record maintenance -----

INTERFACE ID: BATCHDSN

LIST INTERVAL: 00:01:00 (HH:MM:SS)

CANCEL MAIL: N

PASSWORD: TIM

```

```

-----
PF1=HELP          2=          3=          4=EXIT          5=PREV REC      6=NEXT REC
PF7=             8=          9=          10=            11=            12=QUIT
RAPCFM12 ENQUIRY ONLY, INPUT FUNCTION/TYPE OR PF KEY
-----

```

For a description of the fields see the chapter Rapid Destinations.

The JCL records

When mail is sent to an internal reader, RAPID will use the recipient userid as a key when searching for JCL on the control file. If a JCL record is not found then the program will report an error.

The JCL can be set up using the RAPID on-line maintenance program - see the 'RAPID Installation and Administration Guide' for details.

The JCL screen allows a user to add and amend JCL records. Up to 50 lines of JCL may be input. Lines may be added and deleted by specifying 'I' or 'D' respectively in the first column. Within the JCL certain substitutions may be made from fields in the document profile. The substitutions which may be made are:

sender name	name of the person who sent document	SUSR
sender node	node " " " " " "	SLOC
recipient name	name of person document is sent to	RUSR
recipient node	node " " " " " "	RLOC
recipient	DISOSS userid who received document	USER
message	the message attached to the document	MESS
document name	the name of the document	NAME
subject	the subject of the document	SUBJ
author	authors of the document	AUTH
keyword	keywords for the document	KEYW
Originator details	Reserved (for use by RAPREPORT program)	OREPLY

To invoke the JCL substitution enter the variable name preceded by either @ (field will be padded with low-values) or % (field will be padded with spaces).

An example JCL record is shown in [Figure 8](#).

Figure 8. Example JCL record

```
ZAP3                      RAPID SYSTEM                      DATE: 04/01/89
FUNCTION: ENQUIRE        CONTROL FILE MAINTENANCE          TIME: 13:46
TYPE: JCL                 KEY: TSO                        QUAL:
----- JCL record maintenance -----
*****TOP OF DATA*****
//ZPDB#TSO JOB (ZP,DB,TSO), 'CML * 008',
//          MSGCLASS=A, CLASS=W, NOTIFY=ZMPROD
/*ROUTE PRINT RMT138
//* * * * *
//*          D B C I C S   T S O   I N T E R F A C E          *
//* * * * *
//*SE 'PLEASE REPLY YES TO THIS AND FOLLOING COMMANDS'
//*SE '%MESS                      ', USER=(@RUSR  ),
//*SE '%MESS, USER=(@RUSR  ), LOGON
//DUMMY          EXEC PGM=IEBGENER
-----
PF1=HELP          2=          3=          4=EXIT          5=PREV REC          6=NEXT REC
PF7=BACKWARD      8=FORWARD  9=          10=          11=          12=QUIT
RAPCFM12 ENQUIRY ONLY, INPUT FUNCTION/TYPE OR PF KEY
```

The Standard RAPID Users

To provide examples of the uses of the JCL record 3 special DISOSS users are supplied with the system and their roles are listed below. The RAPID control file entries and the JCL procedures need to be customised for your own installation standards. The JCL procedures are provided on the RAPID.JCL library created during installation.

DATASET This user will cause the document to be placed into a sequential dataset. The dataset name is to be supplied by the sender and should be entered into the message area of the send request (first 44 characters only, ensure the dataset name is entered in upper case). To accomplish this RAPID will load a job onto the JES input queue via the internal reader which will execute procedure DATASET. This procedure is explained below.

Any DCA level of document can be sent, although the receiving system will need to be able to handle the document.

DCFOUT This user will cause the document to be placed into the PDS named in the procedure DCFOUT with a member name equal to the first characters of the document name. To accomplish this RAPID will load a job onto the JES input queue via the internal reader which will execute procedure DCFOUT. This procedure is explained below.

Any DCA level of document can be sent, although the receiving system will need to be able to handle the document.

TSO This user will cause the contents of the message area to be formatted into a TSO send message. RAPID uses the USERSET TSO set up as part of the RAPID installation to route the documents. The TSO user to receive the message should be entered as the recipient. The location should be given as TSO. RAPID will load a job onto the JES input queue via the DISOSS EXEC which will execute procedure DATAMSG. This procedure is explained below.

The supplied JCL procedures are:

DATASET This procedure firstly sets up an IEFBR14 on the output dataset to allow a referback on the DCB information (STEP010). Next the mailsack records are copied to the dataset (STEP020). It will then execute program RAPRPORT (STEP030 or STEP040) and using the supplied parm input (generated by RAPID when sending documents out) format either a failure message to inform the sender that the transfer of the document failed or a message to inform the sender that the transfer succeeded.

DCFOUT This procedure will firstly copy the mailsack records to the PDS dataset (STEP010). It will then execute program RAPRPORT (STEP020 or STEP030) and using the supplied parm input (generated by RAPID when sending documents out) format either a failure message to inform the sender that the transfer of the document failed or a message to inform the sender that the transfer succeeded.

DATAMSG This procedure executes program IEFBR14 the standard IBM supplied dummy exec program. Its purpose is simply to give the job a valid jobstep as this procedure is usually present in the job created by RAPID to send JES send messages to TSO users.

The JES send messages are loaded after the jobcard and before the exec of this procedure.

[Defining your own BATCH users](#)

If you wish to define your own special users then this can be easily accomplished by adding the following records to the RAPID control file using the online maintenance system. They should also be added to the HUP.

The records to be added are:

User record This will name the special DISOSS recipient and provide RAPID with usage details. The *Interface Id* field should be set to either:

INTRDR The standard Internal Reader. This will perform any JCL substitutions and insert the document contents after the last line of the JCL.

INTRDR2 The formatted internal reader. This will perform any JCL substitutions and insert the formatted profile and document contents after the last line of the JCL. Details of the values contained in the formatted profile may be found in . The document contents are separated from the profile by a line of '+' characters.

JCL record This will supply the JCL to be used and any substitutions required.

RAPID can write the results of requests or distributions to a VSAM file known as an 'Out-tray'. These results can be processed by the batch program supplied (RAPIDGT3), or by a user-written CICS interface making use of the APIGT3 program.

The 'out-tray' should be set up as detailed in the ["Creating or changing a destination"](#)

The RAPIDGT3 program could be supplied to users to run when required, or could be made to run automatically whenever mail is delivered to the Out-tray file. Again, ["Creating or changing a destination"](#) gives details of how to set this up.

Using RAPIDGT3

This program provides a method of processing documents that RAPID has placed on a batch 'out-tray'.

Specifically the following types of document are supported by the program:

UNSOLICITED These may be either documents or messages which have been sent to a RAPID user.

SOLICITED These may be either replies or documents generated as a reply to a DISOSS command. The document may be a Search Results List, a Confirmation or a DCA document.

Either one or all of the items on an 'out-tray' may be read and interpreted. Optionally, the items may be deleted from the out-tray after they have been processed.

The interface produces a set of parameters, and also a set of data records if the item is a document.

The output parameters may be passed by the program in one of two ways:

1. Card Image -

OUTTRAY This is the dataset which holds the out-tray item(s) that are to be interpreted.

LISTDSN This is the normal destination for the data records from the item(s) being interpreted.

CARDFILE This is the normal destination for the Parameters from the item(s) being interpreted.

Execution Parameters

Several different values may be specified as program parameters. Up to five parameters are allowed, in any order. (e.g. PARM='NDS')

- D** This program parameter is used to specify that the separators between items are to be displayable. If this program parameter is not specified, the separator preceding the output parameters is a line of low-values, and the separator preceding the document is a line of high-values. If this program parameter is specified, the separators are a line of hyphens ('-') and a line of plus signs ('+') respectively. The separators are always produced unless the program parameter 'S' (single item only) is present and 'M' (mixed parameters and document) is not present.
- M** This program parameter is used to specify that the output parameters and the document records are both to be put onto the LISTDSN dataset. If this program parameter is not specified the output parameters go to CARDFILE and the document records (if any) go to LISTDSN.
- N** This program parameter is used to specify that the items are not to be deleted from the out-tray after they have been interpreted. If it is not present then each item that is interpreted is deleted.
- P** This program parameter is used to specify that the document part of the interpreted item is not to be generated. Only the profile is interpreted and the output parameters are generated as usual.
- S** This program parameter is used to specify that only a single item on the out-tray is to be processed. The first item in key sequence order is processed. All other items on the out-tray are ignored.

RAPID/TSO

The RAPID-TSO Interface enables TSO-based users to participate in the DISOSS environment. Users can produce a document using, for example, DCF (or any TSO based Management Information System), and then distribute or file the document to DISOSS.

RAPID/TSO is actually a 'front-end' to the RAPID/Batch program (RAPIDGS3), and you should familiarise yourself with this before implementing this section.

The system centres on TSO CLISTS, which request and manage the required DISOSS details from the user, call the RAPIDGS3 program, and display either a "Document passed to DISOSS" message or an error message.

The document is written to the RAPID ZPMAILBX file for processing.

Because each site will have different levels of TSO users (with varying requirements), the techniques, CLISTS and PANELS described here are for **example** only; you should use them as the basis for producing your own RAPID/TSO interfaces(s).

The Interface is supplied on three libraries:-

```
RAPID.CLIST
RAPID.PANELS
RAPID.LOAD
```

These libraries are created as part of the RAPID installation.

Before you can use the TSO Interface you will need to customise the following:

1. BATCHDSN JCL
This can be amended using the Control File Maintenance transaction ZAPX. You will need to ensure that the JOB card information is correct.
2. RAPALLOC and RAPCDFSS
These are on the RAPID.CLIST library. They contain comments indicating the parameters that you will need to amend.

Once you have performed the customisation you will need to allocate the CLIST/PANEL libraries so that they are accessible. To permanently install the RAPID/TSO CLISTS you will need to perform the following steps:

1. Change your TSO LOGON procedure to include the following
- 2.
- 3.
4. SYSPROC - RAPID.CLIST
5. ISPPLIB - RAPID.PANELS
6. Change the Main Menu to include an option for 'Office Systems' which invokes the RAPMENU CLIST (Using 'SELECT CMD(RAPMENU)').
7. Customise the CLISTS as required.

As a temporary measure, if you cannot change the LOGON procedures, you can allocate the RAPID CLIST and PANELS datasets by executing the RAPALLOC CLIST from the TSO READY prompt. This CLIST (invoked by 'EX RAPID.CLIST(RAPALLOC)') will append the

CLIST and PANELS libraries to the existing concatenation. After this has been done you can then invoke the RAPID/TSO menu, from within ISPF, using the RAPMENU command (ie typing TSO RAPMENU).

Note: The RAPID/TSO Interface programs are written in COBOL; consequently, it may be necessary to include your COBOL subroutine library in the STEPLIB concatenation.

RAPID/TSO Main Menu

The RAPID/TSO menu is invoked by command RAPMENU. This can be integrated into your current ISPF menu system by giving an 'Office Systems' option and selecting the command to display the menu.

Some of the options require a STATUS dataset which RAPID uses to return information about requests (For example, Confirmation of delivery information, documents retrieved from the library etc). If you intend to use the options which require a STATUS dataset you must create a STATUS dataset using the 'Change Defaults' option. You can create a STATUS dataset by typing 'A' against the STATUS dataset. To delete the STATUS dataset, type 'D' against the name. The DCB information for the STATUS dataset must match the DCB of the internal reader used by RAPID (default ZRDR).

Note: If you have RACF or another security system in place, jobs submitted from the RAPID/DISOSS region will need UPDATE access to this file.

If a user is to receive unsolicited mail in TSO then they will need to be defined as RAPID/TSO users as described in "[Setting up RAPID/TSO users.](#)".

Users who do not want to receive mail in TSO can still use the CLISTs for the SEND, FILE and SEARCH options by using the default userid TSO (Or their DISOSS userid, if they are defined as API users). However, they will not be able to receive mail or use the 'Change Password' option.

Setting up RAPID/TSO users.

Each TSO user will require following definitions to be made before they are able to receive mail (and file private documents).

DISOSS

The TSO user must be defined in the DISOSS HUP, preferably with a PASSWORD specified. The user must be defined as an API user with a transaction id of ZAPI (or customised equivalent). You can use the 'APIMASTR' user as a model for the definition.

Note: Remember to add access codes if you want to use the library.

RAPID

The TSO user must be defined on the RAPID control file with the following records:

USER The name and password specified must match the values specified on the DISOSS HUP entry. This record should be defined as described in ["Creating or changing a destination"](#). The INTERFACE ID should be set to INTRDR2 and the LIST INTERVAL to 1 minute.

JCL This record should be setup similar to the record shown in [Figure 10](#).

TSO

In order to receive mail the user must have a Mail dataset defined. This dataset can be defined using the 'Change defaults' option on the RAPID/TSO panel. Typing an 'A' against the MAIL dataset will create it, typing 'D' can be used to delete it.

You should also change the Sender's Id and password to be the DISOSS id and password which you have defined.

Note: The DCB information for the MAIL dataset must match the DCB of the internal reader used by RAPID (default ZRDR).

Figure 10. Example JCL record for unsolicited mail

```
ZAP3                                RAPID SYSTEM                                DATE: 22/12/88
FUNCTION: INSERT                     CONTROL FILE MAINTENANCE                TIME: 09:30:00
TYPE: JCL                            KEY: USERID                                QUAL:
----- JCL record maintenance -----
***** TOP OF DATA *****
//JOB CARD JOB (ACCOUNT), 'RAPID * 08', CLASS=0,
//          MSGCLASS=A, NOTIFY=USERID
//*
//*          R A P I D   M A I L   P R O C E S S O R
//*
//OUTPUT   EXEC PGM=IEBGENER
//SYSPRINT DD   SYSOUT=*
//SYSOUT   DD   SYSOUT=*
```

```

//SYSIN      DD      DUMMY
//SYSUT2     DD      DISP=MOD,DCB=(USERID.RAPID.MAIL) ,
//           DSN=USERID.RAPID.MAIL
//SYSUT1     DD      *
d
d
***** BOTTOM OF DATA *****
-----
PF1=HELP PF2=          PF3=          PF4=EXIT   PF5=PREV  PF6=NEXT
PF7=BACKWARD PF8=FORWARD PF9=          PF10=          PF11=          PF12=QUIT
RAPCFM13 INPUT RECORD DETAILS, THEN PRESS <ENTER> TO INSERT

```

Each of the CLISTS can be called independently depending on the function required, or via the RAPID/TSO menu. The functions which are available are:

- RAPMENU** This is the RAPID/TSO main menu. All of the RAPID/TSO functions can be accessed from here by selecting an option.
 - RAPSDOC** This command is used to send a TSO file to a DISOSS user. The command can be entered against a file/member in the 'Dataset List Utility' (Option 3.4) or by entering 'TSO RAPSDOC filename' on any ISPF panel. If RAPSDOC is invoked from the RAPID/TSO menu then the filename is blank.
 - RAPSEND** This is an Edit macro which invokes the RAPSDOC command. RAPSEND can be entered while Editing a file in order to send the file to a DISOSS User. Optionally, you can enter a recipient name with the command ie 'RAPSEND cml'.
- Note:** You must 'save' before invoking RAPSEND if you have made any changes to the file.
- RAPFILE** This command is used to store a TSO dataset in the DISOSS library. The command can be used in the same way as RAPSDOC.
 - RAPSMMSG** This command can be used to send a message to a DISOSS user.
 - RAPSRCH** Issues a command to search the DISOSS library and return a list of documents meeting the search criteria. The resulting list is returned to the STATUS dataset.
 - RAPRTRV** Used to get one of the list of documents, found by a RAPSRCH command, and return it to the STATUS dataset.
 - RAPDLET** Used to delete one of the list of documents, found by a RAPSRCH command, from the DISOSS library.
 - RAPPSWD** This can be used by RAPID/TSO users to change their DISOSS password. The password is changed in DISOSS (by DISOSS) AND on the RAPID control file (by RAPID). Because of the time delay between RAPID and DISOSS, no further requests should be made until a positive confirmation has been received.
 - RAPWORK** This executes a TSO EDIT command for the user's STATUS dataset.
 - RAPMAIL** This executes a TSO EDIT command for the user's MAIL dataset.

Note: Each of the CLISTS has a HELP screen which can be used to give more information.

The CLISTS can easily be integrated into an existing TSO Function using a 'hook'. For example, if you want to send a dataset created by a function to DISOSS you can insert 'RAPSDOC filename' in the CLIST. When the function has created the file, the RAPSDOC panel will be presented to the user for him to enter distribution details.

Alternatively, the function may create the file and then allow the user to select the 'Send' option from a menu and type in the filename as shown in the RAPMENU panel supplied.

When RAPID/TSO is to be invoked as a sub-system (such as from a TSO application like DCF or SAS) it is the function of the "hook" to determine that a document (which must be a sequential dataset) is destined for DISOSS. If DISOSS is the destination, the "hook" must simply invoke the RAPSDOC CLIST passing the filename (eg RAPSDOC 'RAPID.JCL(TESTMAIL)').

The user is then presented with a "RAPID/TSO" panel to request DISOSS related details from the user. Following successful input, these details are formatted and the RAPID/Batch program invoked.

The subsystem module will validate the user-extracted DISOSS details and display a message for the user. If any validation or general error condition is found, then the panel is redisplayed with an error message.

If the validation is successful then the module will determine the formatting of the document in terms of page depth, width, and DISOSS DCA level.

When the user exits from the panel, using the 'END' key, control is returned back to the invoking command.

Before RAPID/TSO can be run successfully some tailoring to installation standards and the setting of installation options will need to be carried out. The CLIST itself contains documentation on how it operates and on the areas to be customised.

The CLISTS which require customisation are RAPALLOC and RAPCDFS.

The RAPALLOC CLIST is used to append the RAPID datasets to the SYSPROC and ISPLIB concatenation. This is intended only as a temporary measure until a suitable LOGON procedure can be defined.

The RAPCDFS CLIST will require the most customisation. This CLIST is used to establish the RAPID/TSO environment for each TSO user.¹ Some of the parameters, for example the UNIT and VOLUME, used for dataset allocations will need customisation to suit your installation. You

¹ Whenever a TSO user invokes any of the RAPID/TSO options for the first time this panel is displayed. The default he enters are then stored and used by the other CLISTS. This CLIST also creates the CARDFILE dataset which is assumed to exist by all other CLISTS.

may also wish to protect/remove some of the fields, e.g. RAPID Dataset names, from the panel to prevent accidental user modification or to enforce your installation standards.

The CLISTs supplied provide the main functions users are likely to require. RAPID does, however, support all DISOSS functions, and you can build your own CLISTs to execute RAPIDGS3, using the supplied ones as patterns.

Writing your own CICS interface

Introduction.

Although RAPID protects the application programmer from many of the problems of the DISOSS Application Programming Interface (API), a basic knowledge of DISOSS processing, especially the Document Interchange Architecture (DIA) commands available, would be a useful pre-requisite to this section.

An interface to DISOSS can be created to many systems by using the interfaces already supplied with the RAPID package, especially the RAPID/Batch programs.

You can, however, write your CICS based interface using the two program modules supplied: APIGS3 for passing documents into DISOSS, and APIGT3 for processing documents received from DISOSS. These programs are effectively CICS versions of the batch programs RAPIDGS3 and RAPIDGT3.

Users who intend to receive documents from DISOSS should familiarise themselves with "[RAPID destinations](#)" before using the APIGT3 module.

N.B. All input to RAPID should use either APIGS3 or RAPIDGS3. No attempt should be made by user-written programs to format records to be written to the Mailsack or Mailbox files.

This program allows an application programmer to access DISOSS library, distribution and application services. It can be considered to be a CICS version of the RAPID/Batch program, RAPIDGS3.

Specifically the following services are available to user-written programs:

- Send a document to another DISOSS user
- File document in the HDL
- Search for documents in the HDL
- Retrieve a document from the HDL
- Delete a document from the HDL
- Modify the host document library index entry for a document
- List status of documents previously distributed/awaiting delivery
- Obtain documents awaiting delivery
- Cancel documents awaiting delivery
- Change a users password

How the interface operates

The interface is a CICS program which is LINKed to with a commarea. The commarea contains the name of the mailsack dataset, the name of a TSQ containing the request, and space for a four digit return code.

Each record on the TSQ contains either a parameter and data or a block of the document. The parameter records are written first and then the document. The document is separated from the parameters by a record containing a high values in the first byte.

A parameter is a profile field (eg document name, user name).

A block of the document is either one line (for a print image document) or up to 8168 bytes of data.

The interface program uses the TSQ data to build a RAPID mailsack record which it then writes to the mailsack dataset (the name of which is quoted in the commaera).

ERROR RECOVERY - the interface program does not attempt to ROLLBACK any file changes made. The application program should perform the necessary recovery procedures.

Using the interface

The interface is invoked via a LINK command using the standard CICS command; a 20 byte commarea is passed. An example is given in [Figure 11](#).

The name of the TSQ should be unique to the transaction calling APIGS3 and should be deleted before and after processing the request. One convention for naming the TSQ is to use the transaction ID followed by the task number (EIBTRNID, EIBTASKN).

Figure 11. Example LINK for APIGS3

```
WORKING-STORAGE SECTION.  
  
01  WS-INTERFACE          PIC X(8) VALUE 'APIGS3  '.  
01  WS-COMMAREA.  
    05  WS-RETURN-CODE    PIC X(4) .  
    05  WS-MAILSACK-NAME  PIC X(8) .  
    05  WS-TSQ-NAME       PIC X(8) .  
  
PROCEDURE DIVISION.  
  
    EXEC CICS LINK
```

```
PROGRAM (WS-INTERFACE)
COMMAREA (WS-COMMAREA)
LENGTH (20)
END-EXEC.
```

Return codes

The return code from the interface is four digits long.

- 0000 command successfully processed
- 0099 internal failure formatting date
- 0104 function sequence error
- 0105 the function is invalid
- 0106 parameter sequence error
- 0107 unsupported parameter
- 02xx invalid parameter data
- 03xx parameter invalid for request
- 04xx sub-parameter invalid for request
- 05xx mandatory parameter missing
- 06xx mandatory subparameter missing
- 07xx mailsack write error, where xx is EIBRESP
- 10xx TSQ read error, where xx is EIBRESP

Other than for return codes 07xx and 10xx, xx is the number of the parameter in question, as detailed in the following list:

1. Reserved
2. Reserved
3. DCA LEVEL
4. REPLY
5. USER NAME
6. PASSWORD
7. QUALIFIER
8. FROM DATE
9. TO DATE
10. PRIORITY
11. PERSONAL
12. PROF GCID
13. MESSAGE
14. RECIPIENT
15. PROCESS
16. CREATED
17. DOC DATE
18. EXPIRES
19. CLASS
20. DOC NAME

21. FCAB REF
22. SUBJECT
23. AUTHOR
24. KEYWORD
25. ACCESS
26. CORRELATE

Parameters

The parameters are passed to APIGS3 on the TS queue with one parameter per TS record. The parameters which may be entered and the validation performed are described in .

Document

The data for a document is passed as a series of blocks on TSQ records following the profile parameters. The document is separated from the profile by a record with high-values in the first byte.

For a print image document the block is one line of the document, including the ASA control (if present).

For any other document the block is whatever size the program passes, up to a maximum of

This module allows an application programmer to process documents and messages sent to an API user and also replies to API commands. It can be considered as a CICS based version of the RAPID/Batch program, RAPIDGT3.

Specifically the following types of document are supported by the program:

UNSOLICITED These may be either documents or messages which have been sent to a RAPID user.

SOLICITED These may be either replies (ie an ACK/NAK) or documents generated as a reply to a DISOSS command. The document may be a Search Results List, a Confirmation or a DCA document.

How The Interface Operates

The interface is a program which allows another program to interpret RAPID out-tray records. The program reads an out-tray and interprets the first item. The contents are written to a TSQ and the out-tray records are deleted.

The interface is invoked by a standard CICS LINK command passing a commarea containing the name of the out-tray and the name of the TSQ to be written to.

Interface Considerations

- TSQ NAMES - it is the responsibility of the calling program to ensure that the TSQ to be used is unique and is empty before LINKing. The TSQ should be deleted as soon as it is finished with. One convention for naming TSQs is to use the transaction ID followed by the task number (EIBTRNID, EIBTASKN).
 - ERROR RECOVERY - the interface program does attempt any error recovery. It is the responsibility of the calling program to ensure necessary recovery procedures are performed (for example, ROLLBACK). The TSQ should be deleted as these are not usually defined as recoverable resources and would not be rolled back.
-

Using The Interface

The interface is invoked by an EXEC CICS LINK command passing a byte commarea. The commarea contains the name of the out-tray, the name of the TSQ and space for a four digit return code. An example is shown in [Figure 12](#).

Figure 12. Example LINK for APIGT3

```
WORKING-STORAGE SECTION.  
  
01  WS-INTERFACE          PIC X(8) VALUE 'APIGT3'.  
01  WS-COMMAREA.  
    05  WS-RETURN-CODE    PIC X(4).  
    05  WS-OUT-TRAY      PIC X(8).  
    05  WS-TSQ-NAME      PIC X(8).  
  
PROCEDURE DIVISION.  
  
    EXEC CICS LINK  
        PROGRAM (WS-INTERFACE)  
        COMMAREA (WS-COMMAREA)  
        LENGTH (20)  
        END-EXEC.
```

Return codes

The return code from APIGT3 is four bytes long.

- 0000 command successfully processed
- 0001 no items on out tray
- 0100 error from RAPIDOUT

- 10xx error writing to TSQ, where xx is EIBRESP
- 20xx error reading out tray record, where xx is EIBRESP
- 30xx error deleting out tray record, where xx is EIBRESP
- 40xx error unlocking out tray file, where xx is EIBRESP

Parameters

The data from the profile of the out-tray item is placed on the TSQ as a series of parameters. The parameters which may be output are described in .

Document

The document is placed on the TSQ as a series of records containing from 1 to 8190 bytes of data.

The document contents are separated from the profile parameters by a record containing high-values in the first byte.

For documents which are not print-image, each record contains a block of data. All characters are part of the document.

For print-image documents, each record on the TSQ contains one line of the text. An ASA character is always put in the first character position.

APPENDICES

This chapter describes the parameters which may be used in the RAPIDGS3 (batch interface) and APIGS3 (CICS interface). The parameters which may be specified and the validation performed is identical in both programs. The input for the RAPIDGS3 program is taken from a sequential file and for the APIGS3 program from a CICS Temporary Storage queue.

The chapter is divided into 3 sections:

Section 1 This section lists all the parameters which may be entered and the restrictions on length and number of occurrences.

Section 2 This section lists all the commands which may be entered and tabulates the mandatory and optional parameters for each command.

Section 3 This section gives an example of a FILE command.

Input Parameters

These fields are used to set up the profile record. The parameters have the following formats:

- PARAMETER 10 byte character
- PARAMETER VALUE n byte character

The PARAMETER VALUE may be treated as 3 subfields for some parameters. These are:

- FIELD1 9 byte character
- FIELD2 9 byte character
- FIELD3 4 byte character

The first parameter in any request must be the 'COMMAND' parameter. The other parameters may be passed in any order.

Where subparameter fields are used, they are identified as such by the first character of the parameter area being a blank.

ACCESS The access codes of the document. Used by DISOSS to control access to documents stored in the library. Multiple access codes may be entered by using a blank subparameter field.

Access codes may be entered as x or x-y indicating either a single or a range of codes respectively. Access codes are in the range 0 to 2048 and may be entered

as 1 to 4 digit numbers. An access code of 0 gives universal access to the document.
NB RAPID supports up to 8 access codes. A range of access codes counts as 2 codes.

AUTHOR The author(s) of the document. Used by DISOSS as a search term. Multiple authors may be entered using a subparameter of spaces.

- AND - used to restrict a search all the specified author names must match.
- OR - used to expand a search any of the specified author name may match.

ANDs and ORs may not be mixed in one request

NB RAPID supports up to 20 authors each of maximum length 20 characters. To file a document in the library authors are specified as

```
AUTHOR   A N AUTHOR
          A N OTHER
```

To find a document in the library

```
AUTHOR   A N AUTHOR
OR        A N OTHER
```

COMMAND This parameter identifies the DISOSS command to be performed. The DISOSS command is placed in field1 and any subcommand in field2. The valid commands are described in ["Commands available"](#).

```
COMMAND  SEND      DOCUMENT
```

Note: The sub-parameter is optional for documents and messages but must be specified for a 'NOTE', otherwise RAPID will assume that the item is a document.

CORRELATE A field which will be returned to the user in the reply, to enable the user to match replies with original requests. Maximum length is 16 characters.

```
CORRELATE SEND0010
```

CLASS The document class. Determines which DISOSS dataset in the DISOSS library the document is stored in. RAPID supports up to 16 characters.

CLASS MEMO

CREATED The date (and optionally time) the document was created.
The format is dd/mm/yy hh|mm, the time may be omitted if not required.
A single character may be entered if the value is less than

CREATED 16/1/85 12|34

DCA LEVEL A numeric code which indicate the type of document. Valid values are from 1 to 65535 and may be entered as a 1 to 5 digit number.
If the document is a print image then a DCA level of 1403 should be specified and the following subparameters are valid

- CHARS - the number of characters per line of input document
- LINES - the number of lines per page of the input document
For a document with ASA controls this field represents the maximum possible number of lines on any one page.

The CHARS and LINES parameters are used by RAPID to set the page size of the output document (ie the values shown by 'FORMAT PAGE' in DW/370). The page size is determined as shown below:

Page-width = CHARS * Font-width /
Page-length = LINES /

- OUTPUT - the required output DCA level
RAPID supports
 - R convert print image to RFT
 - F convert print image to FFT
 - 5 convert print image to 5520I
 - 8 convert print image to 8100I
- FONT - the output font (x-y where x=font id y=font width)
The default font-id is 87 and font-width is
- ASA - whether or not the input contains ASA controls (Y or N)
If the document contains ASA controls then RAPID will paginate the document according to the control characters, otherwise the document will be paginated according to the LINES parameter.
- MARGIN - number of characters to drop from left of input line
If a document contains an unwanted left margin then this parameter may be used to discard the unwanted margin. Any characters in the margin will be lost.

For example to send a formatted DCF document into DISOSS for a PS370 user to revise in DW370 specify

DCA LEVEL
CHARS

```

LINES
  ASA      N
MARGIN
  OUTPUT   R

```

Note: The DCA LEVEL parameter cannot be specified for a 'NOTE'. If the DCA LEVEL is not specified in batch, it will default to 1403 and CHARS will default to 80 (or the DCB of the dataset if in batch).

DDN The unique name assigned by DISOSS to a document sent to another user. The name is a three part identifier which is placed in fields 1, 2 and 3 on the parameter card.

```
DDN      DSVHOST  APIUSER
```

DIST CORR This field is used to return receipt acknowledgment. If a request is sent with receipt-acknowledgment then this field will be returned, in the status document, when the user actions the request. The IBM Office products require that this field is 15 bytes long. The first characters must be valid hexadecimal characters (ie 0-9, A-F), and the last character must be alphabetic (ie A-Z).

```
DIST CORR 00112233445566S
```

DOC DATE The date the requestor associates with the document. This is the date which is used in a search for the document.
Format is dd/mm/yy.
A single character may be entered if the value is less than

```
DOC DATE  3/4/87
```

DOC NAME The name of the document.
RAPID supports up to 44 characters.

```
DOC NAME  MINUTES OF DISOSS MEETING
```

EXPIRES The date the document expires. This field is for information only and does not cause the document to be deleted from the library.
Format is dd/mm/yy.
A single character may be entered if the value is less than

```
EXPIRES   31/12/99
```

FCAB REF A field identifying the location of a document which is not stored on the HDL (ie an external document).
RAPID supports up to 44 characters.

```
FCAB REF  UNDERNEATH THE ARCHES
```

FROM DATE Used to restrict a library search to documents filed after a certain date. The date used for the search is the DOC DATE field.
Format is dd/mm/yy.

FROM DATE 1/1/87

KEYWORD Keywords which may be used to restrict a library search. Multiple keywords may be entered by using a subparameter of spaces.

- AND - used to restrict a search, all the specified keywords must match.
- OR - used to expand a search, any of the specified keywords may match.

ANDs and ORs may not be mixed in one request

NB RAPID supports up to 20 keywords each of maximum length 60 . characters.

To file a document in the library keywords are specified as

```
KEYWORD  A KEYWORD  
          ANOTHER KEYWORD
```

To find a document in the library

```
KEYWORD  A KEYWORD  
AND      ANOTHER KEYWORD
```

LADN The unique name assigned by DISOSS to every document stored in the DISOSS library.

Format is yyyyymmddhhmmssccNODE. Where

- yyyy is the year (including century)
- mm is the month
- dd is the day
- hh is the hour (in 24 hour format)
- mm is the minute
- ss is the second
- cc is the hundredths
- NODE is the name of the DISOSS host

LADN 1987020414235640DSVHOST

SRL NAME The name which the user wishes to assign to the search results list. If this name is the same as a previous search made by the user the old list is overwritten with the new list.

This may require subparameters depending on the DISOSS command

- ENTRY - the number of an item in the list

- COUNT - the number of items to retrieve

The list name may be up to 8 characters.

SRL NAME SRLNAME

MESSAGE A message which will accompany a document sent to another user. The message may be entered as one parameter of up to 256 characters or as 4 parameters of up to 64 characters.

MESSAGE This is an example of a single message line

PASSWORD The requestors DISOSS password. This parameter may also have a subparameter if the command is CHANGE.

- NEW PASS - this is the new password the user would like

The old and new passwords may be up to 8 character long.

PASSWORD CURRENT
NEW PASS NEWPASS

PERSONAL Indicates that a document is to be distributed as a personal document. Valid values are Y or N.

PERSONAL N

PRIORITY Indicates that a document is to be distributed as a priority document. Valid values are Y or N.

PRIORITY N

PROCESS The name of the process to execute on a document. Currently DISOSS supports SUBMIT and PRINT. A description of the parameters required can be found in the DIA reference manual.

- PARAMS - parameters which are passed to the process
- PASSWORD - password required for the process

PROCESS name may be up to 32 characters long.

PROF GCID The GCID which the profile is in. This field identifies the character set encoding used to create the profile.

- DOC GCID

The GCID used to encode to document.

The format of the GCID is x-y, where x and y are between 1 and

```
PROF GCID 337-256
DOC GCID 337-256
```

RECIPIENT The qualified name of the user to whom the document is being sent. More than one recipient may be entered by using a subparameter of spaces. The user name should be entered in field1 and the location in field2. The location field must be entered for each recipient. The name and location fields may be up to 8 characters. Up to recipients may be specified.

```
RECIPIENT APIUSER1 DSVHOST1
          APIUSER2 DSVHOST2
```

REPLY Indicates whether a reply is required after the execution of the request. Valid values are Y or N. If Y is specified then a reply is always generated and 'reply to' details are required. If N is specified and the command fails, a reply will be generated if the 'reply to' details are supplied. The reply may be sent to a user-id or a sequential dataset:

TO USER the qualified name of the reply recipient. The user name should be entered in field1 and the location in field2.

TO DSN up to 44 characters containing the Dataset Name that the reply is to be written to.

TO SYS the interface id where the reply is to be written. This must correspond to the key of a destination record on the control file. If this value is not entered it will default to 'BATCHDSN' (if TO DSN specified) or 'BATCHUSR' (if TO USER specified).

APPEND If this value is set to 'Y' then the original 'NOTE' is appended to the reply. This option is only valid when a note is being sent.

RCPT ACK If this value is set to 'Y' then a status will be returned when the recipient first actions the document. You must specify DIST CORR when using receipt acknowledgment.

For example, a TSO user can obtain a reply to a command by specifying

```
REPLY      Y
TO SYS     TSO
TO USER    TSOID1    TSO
```

Note: If not specified, REPLY will default to 'N'.

SUBJECT The subject of the document.
This field may be up to 60 characters.

SUBJECT THE SUBJECT OF THE DOCUMENT

TO DATE Used to restrict the document search to documents filed before a certain date.
Format is dd/mm/yy.

UPDATED The date and time the document was last updated.
The format is dd/mm/yy hh|mm.
A single character may be entered if the value is less than

UPDATED 16/1/85 12|34

USER NAME The userid/node of the requestor

USER NAME APIUSER DSVHOST

Commands available

This section describes the commands which may be issued and the parameters which may be specified.

ACK Acknowledge receipt of mail

- USER NAME Mandatory
- PASSWORD Optional
- DIST CORR Mandatory
- RECIPIENT Mandatory

The subcommand field must be set to 'ACTIONED'.

CANCEL Cancel receipt of a document on the delivery queue.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- DDN Mandatory
- CORRELATE Optional

CHANGE Change a users password

- USER NAME Mandatory
- PASSWORD Mandatory

- CORRELATE Optional

DELETE Delete a document from the HDL.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- document Mandatory

The document may be identified using either

1. LADN
 2. SRL NAME (including ENTRY)
- CORRELATE Optional

EXECUTE Execute a process on a document.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- document Mandatory

The document may be identified using either

1. DCA LEVEL
2. FCAB REF
3. LADN
4. SRL NAME (using ENTRY)

If the document is identified using DCA LEVEL or FCAB REF then the following fields may also be entered

- PROF GCID (for DCA LEVEL only)
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CLASS
- CREATED
- EXPIRES
- DOC DATE
- CORRELATE Optional

FILE File a document on the HDL

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- document Mandatory

The document may be identified using either

1. DCA LEVEL
2. FCAB REF

The following fields may also be entered

- PROF GCID (for DCA LEVEL only)
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CLASS
- CREATED
- EXPIRES
- DOC DATE
- ACCESS Optional
- CORRELATE Optional

LIST List the status of documents awaiting delivery/sent.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Mandatory
- CORRELATE Optional

The list command may also have subcommands either

1. FULL - return a full list (default)
2. SHORT - return the summary status

MODIFY Change the HDL indexes for a document.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- AUTHOR Optional
- KEYWORD Optional
- ACCESS Optional

- CORRELATE Optional

The document may be identified using either

1. LADN
2. SRL NAME (with ENTRY)

The modify command may also have subcommands either

1. ADD - add the fields to the indexes (default)
2. DELETE - delete fields from the indexes

NB Only access codes may be deleted.

OBTAIN Get a document (or documents) from the delivery queue

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Mandatory
- DDN Optional (Mandatory with DDN subcommand)
- PRIORITY Optional
- CORRELATE Optional

The obtain command may also have subcommands either

1. ALL - get all items from delivery queue (default)
2. DDN - get specific item from delivery queue
3. PERSONAL - get all personal items from delivery queue
4. MESSAGES - get all messages from delivery queue

RETRIEVE Retrieve a document from the HDL.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Mandatory
- document Mandatory

The document may be identified using either

1. LADN
 2. SRL NAME (with ENTRY and COUNT)
- CORRELATE Optional

The retrieve command may also have subcommands either

1. DOCUMENT - return document and profile (default)

2. CONTENTS - return document contents only
3. PROFILE - return document profile only
4. LIST - return search results list

SEARCH Search the HDL for documents matching search criteria

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Mandatory
- FROM DATE Optional
- TO DATE Optional
- SRL NAME Mandatory
- DOC NAME Optional
- CLASS Optional
- AUTHOR Optional
- KEYWORD Optional
- CORRELATE Optional

SEND Send a document/message to other DISOSS users.

- USER NAME Mandatory
- PASSWORD Optional
- REPLY Optional
- document Optional

The document may be identified using either

1. DCA LEVEL
2. FCAB REF
3. LADN
4. SRL NAME (with ENTRY)

If the document is identified using DCA LEVEL or FCAB REF then the following fields may also be entered

- PROF GCID (for DCA LEVEL only)
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CLASS
- CREATED
- EXPIRES
- DOC DATE
- MESSAGE Optional (unless no document entered)

- PRIORITY Optional
- PERSONAL Optional
- RECIPIENT Mandatory
- CORRELATE Optional
- DIST CORR Optional (unless RCPT ACK is specified)

The send command may have the following subcommands:

1. MESSAGE - Send a message only
2. PROFILE - Send the document profile, of a library document, only
3. DOCUMENT - Send a document
4. NOTE - Send a NOTE

Example of an input command

This example shows the format of an input command. Each line on the example represents either a new input line (for RAPIDGS3) or a new TS record (for APIGS3). Member RAPIDGS3 on the RAPID.JCL library gives an example of a SEND command.

```

PARAMETER*DATA
  SUBPARAM*FIELD1  FIELD2
-----+-----1-----+-----2-----+-----3-----+--
COMMAND  FILE
USER NAME APIUSER  DSVHOST
PASSWORD APIPASS
REPLY    Y
  TO DSN  ANY.SEQ.DATASET
CORRELATE TEST COMMAND
DOC NAME  THIS IS A TEST DOCUMENT
SUBJECT   THIS IS A TEST SUBJECT
CLASS     TEST
ACCESS    200-300

DCA LEVEL
  OUTPUT  R
  ASA     Y
MARGIN
LINES
CHARS
  FONT    124-86
AUTHOR    A PERSON
          A N OTHER
KEYWORD    TEST KEYWORD
          ANOTHER KEYWORD
PROF GCID  337-256
  DOC GCID  337-256
CREATED    01/02/87 12:45
EXPIRES    31/12/99

```

DOC DATE 01/02/87
UPDATED 05/02/87 08:30

This chapter describes the parameters which may be generated by RAPIDGT3 (batch interface) and APIGT3 (CICS interface). The parameters which may be generated are identical in both programs. The output from RAPIDGT3 program is written to a sequential file and for the APIGT3 program to a CICS Temporary Storage queue.

The chapter is divided into 4 sections:

- Section 1** This section lists all the parameters which may be returned and describes the format of the output parameter.
- Section 2** This section lists all the type of document which may be returned and the parameters which occur for that type.
- Section 3** This section describes the types of document which may be returned.
- Section 3** This section gives an example of a reply to a retrieve command.

Output Parameters

The parameters output come from the out-tray profile record, and have the following format:

PARAMETER 10 byte character

PARAM n byte character

VALUE

The PARAM VALUE may be treated as 3 subfields for some parameters. These are

FIELD1 9 byte character

FIELD2 9 byte character

FIELD3 4 byte character

The first parameter will be one of the following

REPLY The item is a system generated response to a DISOSS command.

NOTE The item is a 'NOTE'.

MESSAGE The item is a message, with no attached document.

PROFILE The item is a document profile without an attached document.

DOCUMENT The item is a document profile with an attached document.

- COD DOC** The item is a confirmation of delivery document.
- SRL DOC** The item is a search results list document.

The first parameter in any reply indicates the type of item on the out-tray, and has a value which indicates the type of DISOSS command that generated the item. If the value is 'RECEIVED' then the item was received as the result of an unsolicited distribution. Otherwise the value is the name of the DISOSS command which produced the response.

The DISOSS functions that create items are listed below. Not all functions can create all of the above item types. The item types that may be generated by a particular function are given in brackets.

- RECEIVED** The item has been received as an unsolicited distribution from another DISOSS user. (DOCUMENT, NOTE, MESSAGE, PROFILE)
- CANCEL** Cancel receipt of a document on the delivery queue. (REPLY)
- CHANGE** Change a users password. (REPLY)
- DELETE** Delete a document from the host document library. (REPLY)
- EXECUTE** Execute a process on a document. (REPLY)
- FILE** Store a document in the host document library. (REPLY)
- LIST** List the status of documents sent/awaiting delivery. (DOCUMENT, REPLY)
- MODIFY** Change the indices of a document in the host document library. (REPLY)
- OBTAIN** Get one or more items from the delivery queue. (DOCUMENT, PROFILE, MESSAGE, REPLY)
- RETRIEVE** Retrieve a document from the host document library. (DOCUMENT, PROFILE, REPLY)
- SEARCH** Search the host document library for documents matching the search criteria. (SRL DOC, REPLY)
- SEND** Request distribution of a document to other DISOSS users. (COD DOC, REPLY)

The other parameters may be in any order.

Some parameters may have subparameter fields. These subparameters follow the parameter to which they relate. They are identified as subparameters by the first character of the parameter area being a blank.

A 'NOTE' will not have MESSAGE or DCA LEVEL fields. The 'NOTE' document type is always returned in print-image format ie one line of text per record.

- AUTHOR** The author(s) of the document. Used by DISOSS as a search term. Multiple authors are indicated using a subparameter of spaces.

NB RAPID supports up to 20 authors each of maximum length 20 characters.
A document's authors are specified as

```
AUTHOR      A N AUTHOR
            A N OTHER
```

CLASS The document class. Determines which DISOSS dataset in the DISOSS library the document is stored in.
NB RAPID supports up to a maximum of 16 characters.

```
CLASS      MEMO
```

CORRELATE A field which was specified by the user in a request, to enable the user to match replies with original requests.
Maximum length is 16 characters.

```
CORRELATE  SEND0010
```

CREATED The date and time the document was created.
The format is dd/mm/yyyy hh|mm.

```
CREATED    16/01/1985 12|34
```

DATE-TIME The date-time key used by RAPID for the response.
The format is dd/mm/yyyy hh|mm|ss.

```
DATE-TIME  06/01/1985 14|04|50
```

DCA LEVEL A numeric code which indicates the type of document. This is a five digit number in the range 00001 to
For a document in print image format, the DCA level is and the following subparameters are shown

- CHARS - the number of characters per line of document
- LINES - the number of lines per page of the document

```
DCA LEVEL
CHARS
LINES
```

DDN The unique name assigned by DISOSS to a document sent to another user. The name is a three part identifier which is placed in fields 1, 2 and 3 on the parameter card.

```
DDN        DSVHOST  APIUSER
```

DEST-CODE The two character code defined in RAPID as the destination code.

DEST-CODE I3

DIST CORR A unique identifier for the distribution. This is generated by the application which created the distribution. If the request has been sent with receipt acknowledgment, then this field should be returned in the ACK. The field may be up to 15 characters long.

DIST CORR 00112233445566S

DOC DATE The date associated with the document. This is the date which is used in a search for the document.
Format is dd/mm/yyyy.

DOC DATE 03/04/1987

DOC NAME The name of the document.
RAPID supports up to 44 characters for the document name.

DOC NAME MINUTES OF DISOSS MEETING

EXPIRES The date the document expires. This field is for information only and does not cause the document to be deleted from the library.
Format is dd/mm/yyyy.

EXPIRES 31/12/1999

FCAB REF A field identifying the location of a document which is not stored on the HDL (ie an external document).
RAPID supports up to 60 characters for the external reference.

FCAB REF UNDERNEATH THE ARCHES

KEYWORD Keywords which may be used to restrict a library search. Multiple keywords are shown with a subparameter of spaces.
NB RAPID supports up to 20 keywords each of maximum length characters.

KEYWORD KEYWORD1
KEYWORD2

LADN The unique name assigned by DISOSS to every document stored in the DISOSS library.
Format is yyyyymmddhmmssccNODE. Where

- yyyy is the year (including century)

The name and location fields may be up to 8 characters. Up to recipients may be shown.

Note: If a request is sent to more than 50 recipients, it will arrive as several documents each with up to 50 recipients.

```
RECIPIENT APIUSER1 DSVHOST1
          APIUSER2 DSVHOST2
```

REPLY

Indicates if a reply was requested by the originator(sender) of the document/message. Values are Y or N.

- TO SYS - the originating system (normally DISOSSPS)
- TO USER - the originating userid and location
- APPEND - If this is 'Y' then the sender has requested that the document text should be appended to the bottom of any reply which is sent. This field will only appear for a 'NOTE'.
- RCPT ACK - If this is 'Y' then the sender has requested that an acknowledgment should be returned when the request is first 'actioned'.

```
REPLY      Y
TO SYS     DISOSSPS
TO USER    PSUSER1 DSVHOST
```

SENT DATE

The date and time the document was sent.
The format is dd/mm/yyyy hh|mm.

```
SENT DATE 16/01/1985 12|34
```

SRL NAME

The name which the user assigned to the search results list. If this name is the same as a previous search made by the user the old list will have been overwritten with the new list.
The list name may be up to 8 characters.

- COUNT - The number of items found (5 digits)

```
SRL NAME   SRLNAME
COUNT
```

SUBJECT

The subject of the document.
This field may be up to 60 characters.

```
SUBJECT    THE SUBJECT OF THE DOCUMENT
```

UPDATED

The date and time the document was last updated.

The format is dd/mm/yyyy hh|mm.

UPDATED 16/01/85 12|34

USER NAME The userid/node of the recipient of the distribution.

USER NAME APIUSER1 DSVHOST

Types of output

For each of the item types that may appear on an out-tray, the following gives a list of all the parameters that may appear.

DOCUMENT RECEIVED A document received as an unsolicited distribution from another DISOSS user.

- DATE-TIME
- DEST-CODE
- DCA LEVEL
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- UPDATED
- SENT DATE
- NAK CODE
- CORRELATE
- DIST CORR

NOTE RECEIVED A 'NOTE' received as an unsolicited distribution from another DISOSS

user.

- DATE-TIME
- DEST-CODE
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- SUBJECT
- AUTHOR
- UPDATED
- SENT DATE
- NAK CODE
- CORRELATE
- DIST CORR

**MESSAGE
RECEIVED**

A message received as an unsolicited distribution from another DISOSS user.

- DATE-TIME
- DEST-CODE
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- SENT DATE
- NAK CODE
- CORRELATE
- DIST CORR

**PROFILE
RECEIVED**

A document profile received as an unsolicited distribution from another DISOSS user.

- DATE-TIME
- DEST-CODE
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- FCAB REF
- SUBJECT
- AUTHOR
- KEYWORD
- UPDATED
- SENT DATE
- NAK CODE
- CORRELATE
- DIST CORR

REPLY CANCEL DISOSS reply to a cancel command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

REPLY CHANGE DISOSS reply to a change password command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

REPLY DELETE DISOSS reply to a delete HDL document command.

- DATE-TIME
- DEST-CODE

- RECIPIENT
- CORRELATE
- NAK CODE

REPLY EXECUTE

DISOSS reply to an execute process command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

REPLY FILE

DISOSS reply to a file document command.

- DATE-TIME
- DEST-CODE
- LADN
- RECIPIENT
- CORRELATE
- NAK CODE

REPLY MODIFY

DISOSS reply to a modify HDL document indices command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

REPLY LIST

DISOSS reply to a list delivery queue command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

DOCUMENT LIST

A document received in response to a list command containing the status of all a user's documents awaiting delivery or distribution.

- DATE-TIME
- DEST-CODE
- DCA LEVEL
- PROF GCID

- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CORRELATE
- UPDATED
- NAK CODE

REPLY OBTAIN DISOSS reply to an obtain document awaiting delivery command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE

DOCUMENT OBTAIN A document obtained from the delivery queue with an obtain command.

- DATE-TIME
- DEST-CODE
- DCA LEVEL
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CORRELATE
- DIST CORR
- UPDATED

- SENT DATE
- NAK CODE

**PROFILE
OBTAIN**

A document profile obtained from the delivery queue with an obtain command.

- DATE-TIME
- DEST-CODE
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- FCAB REF
- SUBJECT
- AUTHOR
- KEYWORD
- CORRELATE
- DIST CORR
- UPDATED
- SENT DATE
- NAK CODE

**MESSAGE
OBTAIN**

A message obtained from the delivery queue with an obtain command.

- DATE-TIME
- DEST-CODE
- REPLY
- USER NAME
- DDN
- PRIORITY
- PERSONAL
- PROF GCID
- MESSAGE
- RECIPIENT
- CORRELATE
- DIST CORR

- SENT DATE
- NAK CODE

**REPLY
RETRIEVE**

DISOSS reply to a retrieve HDL document command.

- DATE-TIME
- DEST-CODE
- RECIPIENT
- CORRELATE
- NAK CODE
- LADN

**DOCUMENT
RETRIEVE**

Document retrieved from the HDL.

- DATE-TIME
- DEST-CODE
- DCA LEVEL
- PROF GCID
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- SUBJECT
- AUTHOR
- KEYWORD
- CORRELATE
- UPDATED
- NAK CODE
- LADN

**PROFILE
RETRIEVE**

Document profile retrieved from the HDL.

- DATE-TIME
- DEST-CODE
- PROF GCID
- RECIPIENT
- CREATED
- DOC DATE
- EXPIRES
- CLASS
- DOC NAME
- FCAB REF
- SUBJECT

- AUTHOR
- KEYWORD
- CORRELATE
- UPDATED
- NAK CODE
- LADN

REPLY SEND DISOSS reply to a distribution request.

- DATE-TIME
- DEST-CODE
- DDN
- RECIPIENT
- CORRELATE
- NAK CODE

COD DOC SEND A confirmation of delivery document.

- DATE-TIME
- DEST-CODE
- DDN
- RECIPIENT
- NAK CODE

One of the following will be returned

- CORRELATE
- DIST CORR

REPLY SEARCH DISOSS reply to an HDL search command.

- DATE-TIME
- DEST-CODE
- SRL NAME
- RECIPIENT
- CORRELATE
- NAK CODE

SRL DOC SEARCH A formatted document containing information about one or more documents on the HDL that matched the criteria of the search command.

- DATE-TIME
- DEST-CODE
- SRL NAME

- PROF GCID
- RECIPIENT
- CORRELATE
- NAK CODE

The output document contents

Handling a SEARCH RESULTS Document.

A search results list document (SRL DOC) is interpreted in a similar manner to the output parameters. A list of data for each entry in the list is produced detailing the document found in the DISOSS library.

The first data for each entry is always the number of the entry's position in the list. The other data may appear in any order. Not all entries will contain every item.

AUTHOR The author(s) of the document. Used by DISOSS as a search term. Multiple authors are indicated using a subparameter of spaces.
NB RAPID supports up to 20 authors each of maximum length 20 characters.
A documents authors are specified as

```
AUTHOR      A N AUTHOR
            A N OTHER
```

CLASS The document class. Determines which DISOSS dataset in the DISOSS library the document is stored in.
NB RAPID supports up to a maximum of 16 characters.

```
CLASS      MEMO
```

CREATED The date and time the document was created.
The format is dd/mm/yyyy hh|mm.

```
CREATED    16/01/1985 12|34
```

DCA LEVEL A numeric code which indicates the DCA level of the document. Values range from 00001 to 65535 and are shown as a 5 digit number.

```
DCA LEVEL
```

DOC DATE The date associated with the document. This is the date which is used in a search for the document.

Format is dd/mm/yyyy.

DOC DATE 03/04/1987

DOC GCID The GCID which the document is in. This field identifies the character set encoding used in the document. The format of the GCID is xxxxx-yyyyy, where xxxxx and yyyy are between 00001 and

DOC GCID 00337-00256

DOC NAME The name of the document.
RAPID supports up to 44 characters for the document name.

DOC NAME MINUTES OF DISOSS MEETING

ENTRY The position of the document description within the search results list. This number is quoted with the name of the search results list if the document is to be subsequently retrieved from the DISOSS library. The number is displayed as five digits.

EXPIRES The date the document expires. This field is for information only and does not cause the document to be deleted from the library.
Format is dd/mm/yyyy.

EXPIRES 31/12/1999

FCAB REF A field identifying the location of a document which is not stored on the HDL (ie an external document).
RAPID supports up to 60 characters for the external reference.

FCAB REF UNDERNEATH THE ARCHES

KEYWORD Keywords which may be used to restrict a library search. Multiple keywords are shown with a subparameter of spaces.
NB RAPID supports up to 20 keywords each of maximum length characters.

KEYWORD A KEYWORD
ANOTHER KEYWORD

LADN The unique name assigned by DISOSS to every document stored in the DISOSS library.
Format is yyyyymmddhhmmssccNODE. Where

- yyyy is the year (including century)

- mm is the month
- dd is the day
- hh is the hour (in 24 hour format)
- mm is the minute
- ss is the second
- cc is the hundredths
- NODE is the name of the DISOSS host

LADN 1987020414235640DSVHOST

SUBJECT The subject of the document.
This field may be up to 60 characters.

SUBJECT THE SUBJECT OF THE DOCUMENT

UPDATED The date and time the document was last updated.
The format is dd/mm/yyyy hh|mm.

UPDATED 16/01/1985 12|34

Handling a CONFIRMATION Document.

A confirmation of delivery document (COD DOC) is interpreted in a similar manner to the output parameters. A status is given for each recipient in the document.

The confirmation list is separated from the profile parameters by a record containing high-values in the first byte.

The confirmation document is basically a list of status information for the recipients of a distribution. Each list consists of only those recipients whose status is known and has not previously been reported (i.e. the status of a particular recipient is only returned once).

RECIPIENT The name and node of the recipient. A single subparameter STATUS will appear, for each recipient, to give the status of the distribution to the recipient.

RECIPIENT APIUSER DSVHOST
STATUS DELIVERED

The values for STATUS are

ACTIONED The recipient has 'actioned' (ie viewed, printed or deleted) the mail item. This status will only be returned if the original request was sent with receipt acknowledgment.

The following status value text messages are taken from ZAPTABA. These values are installation dependant and may have been customised for your national language.

- DELIVERED** The distributed item has been delivered to the recipient destination address.
- CANCELLED** The distribution was cancelled before delivery.
- **INVALID RECIPIENT** The recipient specified could not be located.
- **ERROR** A non-recoverable error occurred when sending to this recipient.

Handling a normal Document.

A document received from DISOSS should be interpreted depending on the DCA LEVEL field. If the document is DCA LEVEL 1403 then each line of output represents a line of the document. If the DCA LEVEL is another value then the output records should be treated as a continuous data steam and interpreted according to the DCA LEVEL.

Examples of output documents

This example shows a reply to a RETRIEVE command.

```
SUBPARAM*FIELD1   FIELD2   FIELD3
-----+-----1-----+-----2-----+-----3-----
REPLY            RETRIEVE
USER NAME       APIUSER   DSVHOST
DEST-CODE       I3
DATE-TIME       04/05/1987 12:11:56
NAK CODE
CORRELATE       TEST COMMAND
DOC NAME        THIS IS A TEST DOCUMENT
SUBJECT         THIS IS A TEST SUBJECT
CLASS           TEST
DCA LEVEL
LINES
CHARS
AUTHOR           A PERSON
                 A N OTHER
KEYWORD          TEST KEYWORD
                 ANOTHER KEYWORD
PROF GCID       00345-00678
  DOC GCID       00123-00345
CREATED         01/02/1987 12:45
EXPIRES          31/12/1999
DOC DATE        01/02/1987
LADN            1987123112345678DSVHOST
UPDATED         12/11/1987 13:56
```

This example shows the entries that may be expected from a search results list document.

```
DOC NAME  THIS IS A TEST DOCUMENT
SUBJECT   THIS IS A TEST SUBJECT
CLASS     TEST
FCAB REF  THIS IS ONLY FOR AN EXTERNAL DOCUMENT
DCA LEVEL
AUTHOR    A PERSON
          A N OTHER
KEYWORD   TEST KEYWORD
          ANOTHER KEYWORD
DOC GCID  00123-00345
CREATED   01/02/1987 12:45
EXPIRES   31/12/1999
DOC DATE  01/02/1987
LADN      1987123112345678DSVHOST
UPDATED   12/11/1987 13:56
```

This example shows the kind of output produced for a confirmation of delivery document.

```
SUBPARAM*FIELD1  FIELD2
-----+-----1-----+-----2-----+-----3-----+-
RECIPIENT APIUSER1 DSVHOST
STATUS    DELIVERED
RECIPIENT NOTAUER DSVHOST
STATUS    ** INVALID RECIPIENT
RECIPIENT APIUSER3 DSVHOST
STATUS    DELIVERED
```

Most of the RAPID files are very volatile with records constantly being added and deleted. As a consequence it is possible that the files may become disorganised. This disorganisation may cause a performance degradation of RAPID or at worst it may cause RAPID to terminate.

It is, therefore, imperative that the RAPID files be monitored on a regular basis. The regularity will depend on the level of activity and this can only be judged by monitoring RAPID in its production environment.

This monitoring should be sensitive to the number of CI/CA splits, the availability of freespace and extents. Ideally, there should be no CI/CA splits and there should be no extents (i.e. the file should be within its primary space allocation).

Should the number of splits become excessive, the freespace reduce significantly or the extents become excessive, a reorganisation of the file is recommended using the standard VSAM utilities. The reorganisation itself may not, for example, remove all the extents. In these cases the files should be backed up, the cluster definition changed, the cluster deleted and redefined and the file restored from the backup.

For further information on the RAPID system files, their contents and volatility, see the RAPID Installation and Administration Guide chapter titled The RAPID System Files.

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