



Report Management System
Reference and Installation Guide

Version 1R3

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The SPIN-X/Report Management System is a powerful, yet easy-to-use set of programs that automates the distribution of selected portions of selected reports to selected audiences by hard-copy or on-line means. The system can be quickly and easily tailored to add new report recipients, delete old ones, add or delete reports, archive and retrieve distributions, define security and billing options and release reports for printing or viewing when appropriate. The Report Management System has five main sections, according to function: 'administration, distribution, on-line viewing, archive and retrieval, and database services.

The Report Management Administration System is menu driven, which makes it easy to learn and use. The operator maintains full console control of the Report Management Distribution System. The On-line Viewing System is a full screen, easy-to-use printout display processor.

The Report Management System ensures that the right people in the right places get the right reports at the right times.

Who Is Involved With RMS

Once the Report Management System is installed on your Unisys Series 1100/XX or 2200/XXX, actual system operation involves only the RMS administrator, the system operator, and on-line viewing recipients.

- **RMS Administrator** - controls report definition, recipient definitions, distribution lists, archiving parameters, security and billing information. The administrator prepares the system for operation, ensuring that reports are properly defined so they will reach the appropriate destination, whether it is a printer or an on-line viewer. However, the administrator does not control when the reports are actually printed.
- **System Operator** - controls day-to-day operations, including when to release reports for printing, queue initialization and system troubleshooting. The operator must have previous operations experience with the Unisys Series 1100/XX or 2200/XXX.
- **On-line Recipients** - view reports on-line instead of receiving hard copy prints. The on-line recipient may later select particular pages of a distribution for printing.

About This Manual

This manual should be used by the RMS administrator, the installer of RMS, the system operator, and any other individual who requires knowledge regarding the structure and concepts of SPIN-X/RMS.

Related Material

Report Management System documentation includes the following manuals:

SPIN-X/RMS Administrator's Guide
SPIN-X/RMS Operator's Guide
_SPIN-X/RMS On-line Viewing

System Support

If problems are encountered with the SPIN-X/Report Management System, the support line may be called at (404) 651-4567 between 8:30 am and 5:00 pm (Eastern Standard Time) Monday-Friday.

Note: To facilitate problem determination, administrators should note the number of the screen on which their problem is occurring. The screen number appears in the upper right-hand corner of all Report Management System screens. Operators and On-Line recipients should record any significant error message numbers before calling the response line.

The SPIN-X/Report Management System is a comprehensive group of programs that automates the management and distribution of reports on Unisys 1100/2200 series mainframe computers. The system provides automated distribution of reports in both on-line electronic and printed media. It also provides a means for long-term storage of critical reports and also allows selection of specific pages from a report for distribution. The system is designed for easy tailoring to the specific requirements of each customer site.

The Report Management System is composed of the following five major components:

- **Administration system** - Full-screen, user-friendly system identifies reports, defines print and on-line viewing recipients, builds distribution lists, defines the system printing environment, identifies reports for archiving and/or on-line storage, and defines any printout accounting which is to take place.
- **Distribution system** - Handles the processing and distribution of reports as they become available.
- **Archive and retrieval** - Allows for the archiving and retrieval, and reprinting of reports without having to rerun the jobs that created them.
- **On-line viewing** - Provides an effective and environmentally beneficial alternative to producing large amounts of printed paper by allowing full-screen display of reports on-line.
- **Database servers** - Provide a secured client/server environment for SPIN-X/Report Management System operations.

A sixth secondary component is also provided.

- **Database Reorganization** - Optimizes the Run-Time Database files by unloading and reloading them.

2.1 What is Report Management?

In today's fast-paced, complex work environment, quick access to information is critical. However, with the ever increasing volume of reports being generated, distributing the correct information to the appropriate parties is becoming more and more difficult. This increased volume intensifies the burden on data center staff and can lead to an increase in distribution errors. In addition, the actual report recipients are often burdened by having to wade through large amounts of data to find the information they need to accomplish their tasks. The need to bring this flow of information under control has spurred the development of report management. Report management is a structured framework, under management control, by which selected information is automatically distributed to the appropriate people in a timely and effective manner. Implementation of report management reduces the number of errors in the distribution process, enables report recipients to more effectively accomplish their tasks and reduces the cost of report distribution by both restricting the flow of unnecessary paper and cutting the manpower required to distribute it.

2.2 Who is Involved in Report Management?

Effective report management is the result of a concerted effort. It is not a trivial or solitary endeavor. Reaping the full benefits of report management requires a coordinated implementation and maintenance effort by management, the data center staff, and the people who receive reports. Management must set the policies and supply the resources necessary to enable the full use of report management capabilities. The data center staff must create the structure under which report management will be implemented, maintained, and operated. And finally, the report recipients must define their needs and utilize the capabilities of report management to accomplish their tasks as effectively as possible.

2.2.1 Management

Management must assume the responsibility of implementing report management while also providing the resources necessary to make the implementation successful. The policies required will vary from organization to organization and will depend upon the specific distribution and work requirements of the departments and personnel involved. An analysis should be performed to determine what policies, management controls, and resources will be required for the successful implementation of report management. Management must set guidelines to help determine on-line versus hard-copy reports benefits and restrictions. They will also be involved in setting any security related policies regarding report distribution and page selection. Before report management technologies can be implemented, management must commit the resources necessary to perform the required analysis and planning. Resources will also be required during the transition from current report distribution mechanisms to these new technologies. Management should be prepared to provide access to these resources.

2.2.2 Data Center

Implementation and maintenance of the report management system is the data center staff's responsibility. This includes establishing the mechanisms required for recipient requests for information, security restrictions, physical delivery of the reports, and day-to-day operation and maintenance of all of the processes required to accomplish report management.

The data center will have two major areas of responsibility in the day-to-day operation and maintenance of report management: report management administration and report management operation. The administrator defines and maintains report definitions, recipients, distribution lists, printer definitions, reprint requests, any auditing requirements, and configurations. The operator handles the actual processing of distributions and execution of the appropriate systems on the mainframe. One of the objectives of report management is to reduce the amount of effort required to perform these day-to-day tasks.

2.2.3 Report Recipients

Reports may either be printed or viewed on-line. The report recipient can easily determine which reports are best viewed on-line and which ones must be printed: if auditing has been implemented, the decision to print will carry a cost. Recipients can also provide valuable information regarding the contents of reports and what particular information in each report is critical to performing their assigned tasks so that they can receive or view only those pages they need. Of course, the guidelines set by management will help define how report recipients can best use report management from an organizational standpoint.

2.3 How Does SPIN-X/RMS Work?

The SPIN-X/Report Management System (SPIN-X/RMS) is a series of programs which provides the Unisys 1100/2200 series mainframe computer the components required to establish report management. SPIN-X/RMS is comprised of four major components: the Administration System, the Distribution System, the Archive and Retrieval System, and the On-line Viewing System. These components are packaged in two separate bundles. The first bundle includes two database servers, the SPIN-X/Common Data Bank, the SPIN-X/RMS Administration System, and the SPIN-X/RMS Distribution System. The second bundle contains the SPIN-X/RMS Archive and Retrieval System and the SPIN-X/RMS On-line Viewing System. The Administration System, the Distribution System, the Archive and Retrieval System, and the On-line Viewing System all require the database server. The RMS Database Server and the Admin Database Server are each real separate instances of the same application software which are both referred to as the "database engine".

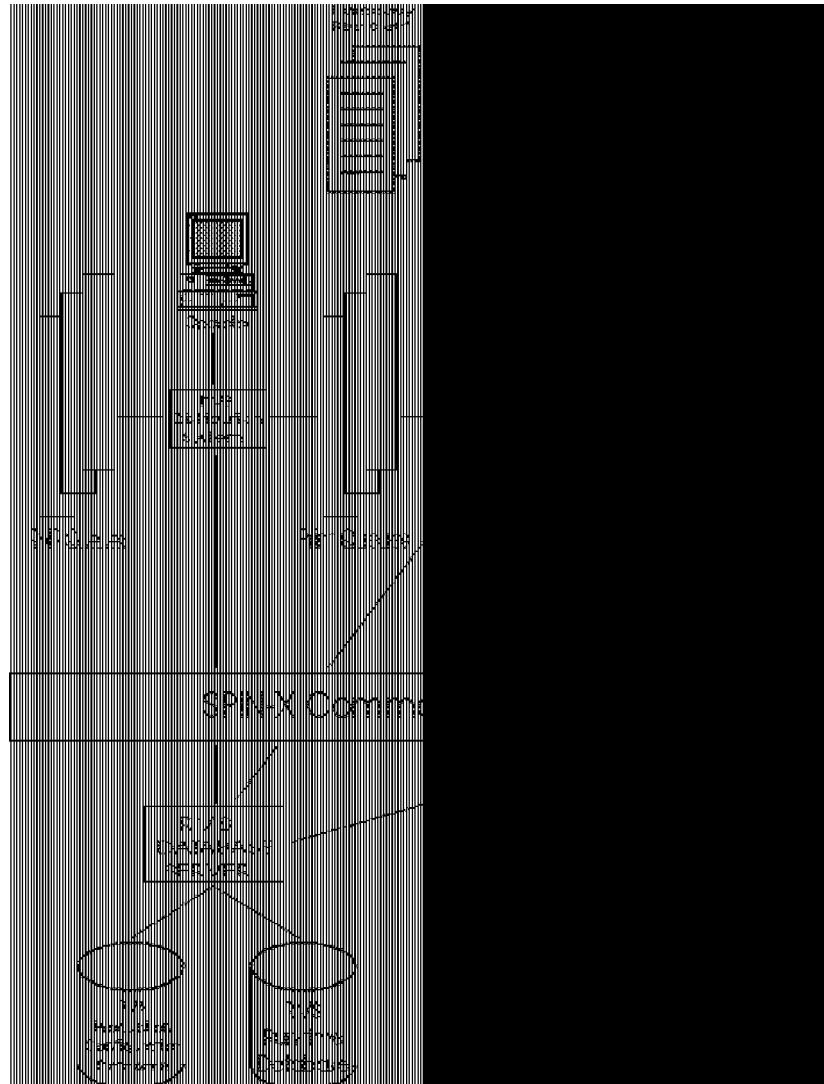


Figure 2-1

Figure 2-1 shows the relationship between the different components of SPIN-X/RMS. The database servers provide access to all SPIN-X/RMS configuration and on-line databases. Access to the database servers is provided by the SPIN-X/Common Data Bank (SPIN-X/CDB). This common bank provides inter-system communications and security. The common bank is a client/server structured messaging facility with built-in security. As the name indicates, the database servers register as servers with the SPIN-X/CDB.

The administration system accesses the SPIN-X/RMS working and production configuration databases via the SPIN-X/CDB and the database servers. The distribution system accesses both the production configuration and on-line databases in order to accomplish its task of report distribution. The archive and retrieval system and the on-line viewing system also access both the production configuration and on-line databases.

2.3.1 The SPIN-X/RMS Database Servers

The SPIN-X/RMS Database Servers are comprised of two servers: the working database server and the production and on-line database server. These servers are controlled by the SPIN-X/RMS administrator and operator. The administrator determines when working configuration databases are ready for committal to production. The operator controls when the actual committal to production is to take place. The administrator may also request resetting of the working configuration databases from the production databases.

2.3.2 The RMS Administration System

The RMS administrator uses the RMS Administration System to define and maintain all the configuration information required by RMS. This includes the definition of reports, recipients, printers, distribution lists, page selection, formatting, security, and accounting. The administration system also provides access to the other components of SPIN-X/RMS which the administrator controls. This provides a single point of entry for the SPIN-X/RMS administrator. Interfaces are provided for committing the working configuration databases to production and vice versa, for retrieving and reprinting archived reports, and for on-line viewing.

2.3.3 The RMS Distribution System

The RMS Distribution System accepts reports for processing from the OS1100 symbiont queues, loads them into the on-line databases via the database server, and performs any print distributions which are to take place. It is controlled by the system operator. The distribution system interfaces to a configurable system console for processing commands via an unsolicited keyin. The distribution system is designed to work with as little operator intervention as possible. Once input queues have been initialized, the distribution system will take care of processing and submitting all distributions for printing. The SPIN-X/RMS Distribution System interfaces with both SPIN-X/Central and SPIN-X/Xpress for printing. Prints can also be submitted to non-SPIN-X controlled printers; however, enhanced banner page information and automatic formatting will not be available.

2.3.4 The RMS Archive and Retrieval System

The RMS Archive and Retrieval System performs all the required archiving, any retrieval requests made, and any reprinting required. This system is controlled by both the system operator and the RMS administrator. The archive process requires the system operator to mount archive media when requested. Retrieval involves both the RMS administrator and the system operator. The administrator requests which reports are to be retrieved, and the operator locates and mounts the archive media. Reprinting is performed by the administrator.

2.3.5 The RMS On-line Viewing System

The RMS On-line Viewing System provides secured access to the on-line reports. The on-line viewing system is used by the RMS administrator and by OS1100 users who have been defined as having access to distributions for particular recipients. The administrator will have access to all reports stored in the on-line database and archive media of RMS. User-ids which are not defined as administrators will only have access to the reports, or portions of reports, which are destined to the recipients who have been configured for access.

2.3.6 The RMS Database Reorganization System

The RMS Database Reorganization System provides file reorganization support for the RMS Run-Time Database. In addition, it assists the RMS administrator with the relocation of the Run-Time files from fixed disk to removable packs and vice versa.

As reports are added to, removed from, and added to the RMS Run-Time Database, on occasion disk sectors may be used inefficiently. The two files contained therein (RUNTADB and LFCYCLDB) are the largest and most active of the RMS files. The Database Reorganization System includes a batch utility that will optimize these files by unloading and reloading them.

2.4 What are the Benefits of RMS?

The objective of report management is to provide a structured framework under management control by which selected information is automatically distributed to the appropriate people in a concise, timely, and efficient manner. The benefits derived from RMS will vary from organization to organization, and the extent of the benefits will depend upon the commitment by those involved in the report management process. These benefits include cost reduction, cost recovery for printing services, increased control and security over the report environment, more effective reports, and environment benefits.

2.4.1 Cost Reduction and Cost Recovery

RMS provides several mechanisms that encourage both cost reduction and cost recovery. Costs can be reduced mainly by reducing the materials required for printing and the personnel required for the printing and distribution process. By providing advanced print accounting capabilities, a more viable mechanism for print charge-back can also be implemented.

Several cost reductions can be obtained by using RMS. First, and most obvious, is a reduction in the amount of paper required for printing. By utilizing both report page selection and on-line viewing, printing can be reduced significantly. However, many costs over and above paper are involved every time a report is printed. A reduction in printer consumables other than paper, such as toner, eraser rods, staples, electricity, freon, click charges, etc., will also be achieved. Also, since less volume is being printed, the cost of maintaining the inventory of paper will be reduced, and so is the cost of printer maintenance. Reductions in the man-hours required to support all aspects of printing frees personnel to perform more productive tasks. By using the archive and retrieval functions of RMS, a lost report does not require the re-running of entire jobs to recreate reports. This will save CPU cycles and data center staff time.

By using the print accounting capabilities provided by RMS, a more realistic and viable charge-back system can be implemented. When used in conjunction with SPIN-X/Central and/or SPIN-X/Xpress, SPIN-X/RMS provides the capability of placing one of three different account numbers in the system log file printing log entries. Traditionally, the OS1100 printer driver places the account number of the job which produced the report in these log entries. SPIN-X/RMS can cause the account number for the producer, the recipient, or a predefined third party to be placed in the printing log entries. Then by using standard charge-back systems which access the OS1100 system log file for print accounting, the appropriate entity can be billed for the print.

2.4.2 Report Environment Control

RMS also provides a greater level of control over the printing environment. Each day many reports are generated that are neither required nor desired. However, the reports continue to print simply because there is no central point of control for report distribution. By using RMS and implementing a well-planned report management process, these reports can easily be identified and eliminated. Individuals often receive much more information than they could ever need; however, the information they do need is buried somewhere deep inside a large generalized report. By using RMS page selection capabilities, only the desired pages of a generalized report can be distributed based upon individual needs. Another advantage is that when the number of required copies changes, the data center programming staff does not become involved in altering runstreams to submit additional or fewer copies of reports for printing. Instead, the RMS administrator simply updates the RMS configuration databases to reflect changes in the distribution. Greater levels of security can be obtained by using the RMS page selection and on-line viewing features.

2.4.3 Report Effectiveness

By reducing report distributions to only those pages with pertinent information, the distributions become more effective. Report recipients no longer have to pore over large reports looking for the information they require. Also, when used in conjunction with SPIN-X/Central and SPIN-X/Xpress, SPIN-X/RMS generates enhanced report banner pages. These banner pages contain a full report description and mailing address for the recipient. Thus, by simply glancing at the banner page report description, the recipient can identify the report contents. By providing a full mailing address, mis-directed reports are less likely, and are more easily returned to their appropriate recipients. After all, a lost report is as ineffective as a report can get.

2.4.3.1 Banner Pages

Banner pages are an integral part of RMS. The Banner pages printed through SPIN-X/RMS combine information contained in the configuration databases and the Unisys 1100/2200 mainframe queue entries. The information in the boxes at the top and bottom of the Banner page is maintained in the RMS configuration databases.

Features of RMS Banner pages include:

- Report Description box contains four lines (up to 68 characters per line) of description about the report.
- Complete identification fields, including User-id and other pertinent information are produced from the queue entry on the Unisys mainframe.
- The Account Number on the banner page will ordinarily be that of the job which @SYMd the report. However, if you are using RMS accounting, it may be that of the recipient of the distribution or a third party defined either for the report or the distribution.
- The Recipient Address box, (at the bottom of the page), contains six lines, (up to 68 characters per line), and allows you to enter a complete address to make sure the report reaches its destination.
- Page Count is displayed in the right side of the Recipient Address box. This count is complete when the full report is printed but only approximate when page selection is used.

A sample SPIN-X/RMS Banner page appears on the following page.

**GSU COMPUTER CENTER
UNISYS 1100/2200**

REPORT DESCRIPTION

*GEORGIA STATE INSTRUCTIONAL RESOURCE CENTER
NEW ACQUISITIONS REPORT
FOR PERIOD JANUARY THRU NOVEMBER 1990
GEORGIA STATE UNIVERSITY RESEARCH FOUNDATION, INC.,
ATLANTA, GA 30303*

USERID - SYSCAK

ACCOUNT NUMBER - AC0000103521

RUNID - SYCAKA

FILENAME - 071992131559*IRCACQ-PRINT(1)

PARTNAME - *The Part Name*

PARTNUMBER - 00

DATE - JULY 19, 1992

TIME - 17:16:02

DEVICE - PRT1

FORMAT - F600

QUEUE - PR

BIN - 845

DELIVER TO

*MR. MONROE JONES
COMPUTER CENTER, UNIVERSITY PLAZA
GEORGIA STATE UNIVERSITY ATLANTA, GA 30303*

Pages 2

Figure 2: Sample RMS Banner Page

2.4.4 Environmental Benefits

Using RMS can result in significant environmental benefits. If an environmental awareness program is not currently instituted in your organization, RMS can provide an effective tool for starting one. Most organizations today encourage their employees to operate in an efficient, cost effective, yet environmentally sound fashion. Implementing RMS gives employees a tool that assists them in this endeavor. RMS can drastically reduce the amount of paper, toner, plastic toner containers, electricity, freon, and other such items involved in the printing process. By encouraging and enabling employees to use less paper and printing consumables, work will be accomplished in a more efficient, cost effective, and environmentally sound manner.

3.1 Overview

The Report Management System is comprised of several components which work in conjunction to provide a full report management and distribution system. This chapter provides a technical overview of these components and how they interrelate. Each system component is described in detail, followed by a discussion on component interdependencies. Charts and diagrams are provided, when appropriate, to clarify discussions on component relationships.

3.2 SPIN-X/RMS Components

This section defines the components which constitute SPIN-X/RMS. Each component is described in detail. The major components discussed are SPIN-X/RMS configuration elements, the SPIN-X/RMS program file, SPIN-X/RMS databases, the DPS 1100 screen library file, and the SPIN-X/Common Data Bank.

3.2.1 SPIN-X/RMS Configuration Elements

The system configuration for SPIN-X/RMS is maintained in a pair of symbolic elements in the main RMS program file. The first element defines all the parameters required for executing and locating all the RMS system components. Parameters such as filenames, qualifiers, operator keyins, etc., are maintained in this element. The parameters are in the form of SGS cards. These cards are used by SSG SKEL's which are provided for starting all the individual SPIN-X/RMS components. The second element contains a listing of tapes which are to be used by the SPIN-X/RMS archive component. A tape list for each day of the month is maintained in the form of an SGS card. These cards are used by an SSG SKEL known as the tape librarian.

3.2.1.1 RMS/SGS Element Contents

The SPIN-X/RMS system configuration SGS's are located in a symbolic element, in the SPIN-X/RMS main program file, named RMS/SGS. The configuration element is initially created during the system installation process. The RMS/SGS element can be modified as required after installation; however, care must be taken to ensure that the system will have access to all required items. For example, if the filename for a particular database has been changed, the database must be copied to the new name before the system can be executed again.

The RMS/SGS elements contains the following statements:

```

RMS version,date,time,site-id
QUAL PROD, qualifier
QUAL WORK, qualifier
FILE REPORT, filename,tracks
FILE RECIP, filename,tracks
FILE DIST, filename,tracks
FILE PGSLEC, filename,tracks
FILE FORMAT, filename,tracks
FILE DEVICE, filename,tracks
FILE SCMASK, filename,tracks
FILE USERID, filename,tracks
FILE ACOUNT, filename,tracks
FILE USRREA, filename,tracks
FILE RUNDTA, filename,tracks
FILE LFCYCL, filename,tracks
FILE RMS-PROG, filename,tracks
RUNCARD ADMIN, user-id,account-number,project-id
RUNCARD DIST, user-id,account-number,project-id
OPTS BDI, common-bank-bdi
OPTS KEYIN, unsolicited-operator-keyin
OPTS CONSOLE, operator-console-mnemonic
OPTS QUEUE, output-queue
OPTS ADMIN-SERV, server-name
OPTS DIST-SERV, server-name
OPTS ONLINE,Y|N
OPTS ARCHIVE,Y|N
OPTS ONLINE-LIFE, retention-period
OPTS ARCHIVE-LIFE, retention-period
OPTS DIR-LIFE, retention-period
OPTS RMS-REALTIME, ON/OFF
OPTS DBE-REALTIME, ON/OFF
OPTS BANNER-PGCTR ALL/ZERO/NONE
OPTS VIEWR-BRKPNT, <5 digits>, Y|N
OPTS SPLIT-DB, <NO/YES/INIT/MERGE>
OPTS DB-CYCLES, <# retention cycles>
OPTS PF-CYCLES, <# retention cycles>
OPTS RPT-CYCLES, <# retention cycles>
OPTS SITE1, <id1>,<id2>,<id3>,<id4>
OPTS CDB-MAX,<# servers>,<# clients>
OPTS RELOAD-RIGHTS,<ADMIN/USER>

```

All of the SGS's listed above and defined on the next pages must be included in the RMS/SGS element. They can be placed in the element in any order. Comments can be placed in the element by using a SPACE-PERIOD-SPACE before the comment text.

The following chart defines the SGS cards, any valid options and restrictions which may apply.

Table 3.1 - RMS/SGS CARDS

CARD	OPTIONS	RESTRICTIONS
RMS	<i>version</i> - The current RMS version. <i>date</i> - The RMS Installation date. <i>time</i> - The RMS Installation time. <i>site-id</i> - System site-id.	None. MM/DD/YY HH:MM:SS A valid OS1100 site-id.
QUAL PROD	<i>qualifier</i> - The production set database qualifier.	A valid OS1100 qualifier.
QUAL WORK	<i>qualifier</i> - The working set database qualifier.	A valid OS1100 qualifier.
FILE REPORT	<i>filename</i> - The report database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE RECIPI	<i>filename</i> - The recipient database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE DIST	<i>filename</i> - The distribution database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE PGSLEC	<i>filename</i> - The page selection rules database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE FORMAT	<i>filename</i> - The format database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE DEVICE	<i>filename</i> - The device database file name <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE SCMASK	<i>filename</i> - The selection mask database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric vale.
FILE USERID	<i>filename</i> - The user-id database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE ACOUNT	<i>filename</i> - The account number database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE USRREA	<i>filename</i> - The user-id/recipient relational database file name. <i>tracks</i> - The number or tracks reserved	A valid OS1100 file name. A numeric value.
FILE RUNDTA	<i>filename</i> - The run-time report content database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE LFCYCL	<i>filename</i> - The directory entry and life cycle database file name. <i>tracks</i> - The number or tracks reserved for the database.	A valid OS1100 file name. A numeric value.
FILE RMS-PROG	<i>filename</i> - The main RMS program file name. <i>tracks</i> - The number or tracks reserved for the database.	A fully qualified, valid OS1100 file name. A numeric value.
RUNCARD ADMIN	<i>user-id</i> - The user-id under which the RMS administrator will execute. <i>account-number</i> - The account number under which the RMS administrator will execute. <i>project-id</i> - The project-id under which the RMS administrator will execute. *NOTE: This runcard must provide access to all of the SPIN-X/RMS files.	A valid OS1100 user-id. A valid OS1100 account number. A valid OS1100 project- id

Table 3.1 - RMS/SGS CARDS (continued)

CARD	OPTIONS	RESTRICTIONS
RUNCARD DIST	<p><i>user-id</i> - The user-id under which the RMS distribution system will execute. This user-id must have ER MODPS\$, SCONSOL and SSSMOQUE\$ privileges.</p> <p><i>account-number</i> - The account number under which the RMS distribution system will execute.</p> <p><i>project-id</i> - The project-id under which the RMS distribution system will execute.</p>	<p>A valid OS1100 user-id.</p> <p>A valid OS1100 account-number.</p> <p>A valid OS1100 project-id.</p>
OPTS BDI	<p><i>Common-bank-bdi</i> - The bank descriptor index of the RMS/CDB.</p> <p><i>Common-bank-entry-point</i> - The entry point for the RMS/CDB. This address is required only for CDB versions prior to CDB 2R1. For versions 2R1 and later it is ignored.</p>	<p>A valid OS1100 bank descriptor index in octal.</p> <p>A valid OS1100 address in octal.</p>
OPTS KEYIN	<p><i>unsolicited-operator-keyin</i> - The keyin which the RMS operator will use to operate the RMS distribution system. An asterisk "*" will automatically be appended to this keyin by the distribution system.</p>	<p>A valid OS1100 operator keyin.</p>
OPTS CONSOLE	<p><i>operator-console-mnemonic</i> - The mnemonic for default RMS operator console.</p>	<p>Either SYMSG, IOMSG, RSICOM, HDWCON, or USER4 thru USER7.</p>
OPTS QUEUE	<p><i>output-queue</i> - The default output queue which is to be used by RMS for printing of RMS generated reports.</p>	<p>A valid OS1100 queue-id.</p>
OPTS ADMIN-SERV	<p><i>server-name</i> - The RMS administrator database server name (for CDB 2R1)</p> <p><i>server-number</i> - The RMS administrator database server index number (for CDB 1R1).</p>	<p>ADBDBE</p> <p>Two digit number surrounded by double quotes.</p>
OPTS DIST-SERV	<p><i>server-name</i> - The RMS distribution database server name (for CDB 2R1).</p> <p><i>server-number</i> - The RMS distribution database server number (for CDB 1R1).</p>	<p>DISDBE</p> <p>Two digit number surrounded by double quotes.</p>
OPTS ONLINE	<p>Y N - A boolean value defining whether or not report data should be maintained on-line by default.</p>	<p>A single character. Either Y or N.</p>
OPTS ARCHIVE	<p>Y N - A boolean value defining whether or not report data should be archived by default.</p>	<p>A single character. Either Y or N.</p>
OPTS ONLINE-LIFE	<p><i>retention period</i> - The number of days report data should be retained on-line by default. This value is ignored if ONLINE is N.</p>	<p>Four numeric characters surrounded by double quotes.</p>
OPTS ARCHIVE-LIFE	<p><i>retention period</i> - The number of days report data should be retained on archive media. This value is ignored if ARCHIVE is N.</p>	<p>Four numeric characters surrounded by double quotes.</p>
OPTS TAPE-TYPE	<p>type can be U9S, U9V or U47 for archivetales.</p>	
OPTS DIR-LIFE	<p><i>retention period</i> - The number of days report directory entries should be maintained in the system. This value must be greater than or equal to both the ONLINE-LIFE and ARCHIVE-LIFE retention periods.</p>	<p>Four numeric characters surrounded by double quotes.</p>

CARD	OPTIONS	RESTRICTIONS
OPTS RMS-REALTIME	ON/OFF - The Selected Option controls whether or not the RMS distribution system operates in realtime mode.	ON = realtime OFF = not realtime
OPTS DBE-REALTIME	ON/OFF - The Selected Option controls whether or not the RMS database server operates in realtime mode.	ON = realtime OFF = not realtime
OPTS BANNER-PGCTR	ALL/ZERO/NONE - The selected option controls the printing of the page count on the banner page in the right margin of the recipient name and address area.	ALL = all reports ZERO = only when page count = zero NONE = suppress at all times
OPTS VIEWR-BRKPNT	<5 digit number> - This number specifies for the Viewer how many directory records are to be evaluated before performing a viewer breakpoint. <Y/N> - This entry specifies whether or not to generate a Fast-View parameter.	00500 (recommended) Y = generate N = do not generate
OPTS SPLIT-DB	NO YES INIT MERGE - RMSFIX provides the capability to divide the database file RUNDTADB into physical files (RUNDTADB and RUNDTADB2) and to merge the two files back into one. The specified option tell RMSFIX how to rebuild the file and also informs the RMS database server how the file is structured.	NO = not split YES = is split INIT = split RUNDTADB MERGE = merge into one file
OPTS DB-CYCLES	<# cycles> - This option provides the cycle specification for the Configuration Database files, both Working and Production sets. RUNDTADB and LFCYCLDB are excluded as they are limited to one cycle each.	3 = default
OPTS PF-CYCLES	<# cycles> This option is the cycle retention specification for the RMS program file.	3 = default
OPTS RPT-CYCLES	<# cycles> This option is the cycle retention specification for message and report files.	3 = default
OPTS SITE1	<id> This option specifies up to four remote site ids that are allowed console input. By using the option identifiers SITE2, SITE3, and SITE4 the limit of four ids can be raised to a maximum of sixteen.	<id1>,<id2>,<id3>,<id4>
OPTS CDB-MAX	<# servers> - This option specifies the maximum number of servers supported by the RMS CDB. <# clients> - This option specifies the maximum number of clients supported by the RMS CDB.	5 = default 10 = default
OPTS RELOAD-RIGHTS	<ADMIN/USER> ADMIN restricts the right to reload archived reports to the RMS administrator. USER will enable VIEWER users to reload those archived reports that they are authorized to see.	default is ADMIN

3.2.1.2 TAPE/SGS Element Contents

The SPIN-X/RMS tape librarian SGS's are located in a symbolic element, in the SPIN-X/RMS main program file, named TAPE/SGS. The tape library configuration element is initially created during the system installation process. The TAPE/SGS element can be modified as required after installation; however, care must be taken to ensure that the system will have access to all required items.

The RMS/SGS elements contains the following statements:

TAPE *day-of-month reel-number [,reel-number...]*

The following chart defines the SGS cards, any valid options and restrictions which may apply.

Table 40.2 - RMS/SGS TAPE CARD

CARD	OPTIONS	RESTRICTIONS
TAPE	<i>day-of-month</i> - The day of the month the tape list is to be used.	A two digit numeric value between 01 and 31.
	<i>reel-number</i> - The tape reel number to be called for archiving.	A valid OS110 reel number

An SGS card for each day of the month that the RMS archive system will run must be provided. The cards can be placed in any order in the element. Comments can be placed in the element by using a SPACE-PERIOD-SPACE before the comment text.

3.2.2 SPIN-X/RMS Program File

There is one main SPIN-X/RMS program file. This file contains all the absolute elements, SSG SKEL's, add streams, run streams, and SGS elements which comprise SPIN-X/RMS. The program file name is found on the FILE RMS-PROG SGS card. The default SPIN-X/RMS program file name is RMS*RMS.

3.2.2.1 Program File Layout

The following chart shows the elements which are contained in the SPIN-X/RMS program file, each one's type, and a description of the function of each element.

Table 3.2 - RMS Program File Layout (continued on next page)

Element Name	Type	Description
RMS/SGS	SYM	This element contains the SGS cards which define the RMS system configuration, this element is accessed by all SSG type elements except LIBRARIAN/SKEL.
RMS-ADMIN	ABS	This processor performs an @ADD of element ADMIN/START.
ADMIN/START	SYM	This add stream executes an @SSG on element ADMIN/SKEL.
ADMIN/SKEL	SSG	This SSG SKEL provides the administration system menu options.
ADMIN	ABS	This absolute is the RMS administration system.
DOWNDBE	ABS	This absolute terminates an RMS database engine.
ADMDBE/START	SYM	This run stream starts the RMS working set database engine.
ADMDBE/STOP	SYM	This run stream stops the RMS working set database engine.
ADMDBE/SKEL	SSG	This SSG SKEL executes the RMS working set database engine.
DISDBE/START	SYM	This run stream starts the RMS production set database engine
DISDBE/STOP	SYM	This run stream stops the RMS production set database engine
DISDBE/SKEL	SSG	This SSG SKEL executes the RMS production set database engine
RM050	ABS	This absolute is the RMS database engine.
UPDATE/SKEL	SSG	This SSG SKEL submits the batch process which updates the production RMS databases from the working set.
RMSUPD/START	SYM	This run stream starts the RMS production set database update from working set batch process.
RMSUPD/SKEL	SSG	This SSG SKEL updates the RMS production set databases from the working set databases.
RESET/SKEL	SSG	This SSG SKEL submits the batch process which resets the working RMS databases from the production set.
RMSRST/START	SYM	This run stream starts the RMS working set database reset from the production set batch process.
RMSRST/SKEL	SSG	This SSG SKEL resets the RMS working set databases from the production set databases.
REPORTS/SKEL	SSG	This SSG SKEL submits the batch process which generates the reports requested by the RMS administrator.
RMSRPT/START	SYM	This run stream starts the RMS report generation batch process.
RMSRPT/SKEL	SSG	This SSG SKEL generates the reports requested by the RMS administrator.
ADRPT	ABS	This absolute is the RMS report generation program.
RECOVER/SKEL	SSG	This SSG SKEL submits the batch process which retrieves and reprints distributions as requested by the RMS administrator.
RMSREC/START	SYM	This run stream starts the retrieve and reprint of distributions as requested by the RMS administrator.
RMSREC/SKEL	SSG	This SSG SKEL retrieves and reprints the distributions requested by the RMS administrator.
RM250	ABS	This absolute is the RMS archive retrieval program.

Table 3.2 - RMS Program File Layout (continued)

Element Name	Type	Description
PRINT	ABS	This absolute is the RMS distribution reprint program.
RMSARC/START	SYM	This run stream starts the RMS archive batch process when appropriate.
RMSARC/SKEL	SSG	This SSG SKEL executes the RMS archive program.
LIBRARIAN/SKEL	SSG	This SSG SKEL provides a simple tape librarian for the RMS archive batch process.
TAPE/SGS	SYM	This element contains the SGS cards which define the tapes that are to be used for archiving during any particular day.
RM200	ABS	This absolute is the RMS archive program.
RMSPUR/START	SYM	This run stream starts the RMS purge batch process when appropriate.
RMSPUR/SKEL	SSG	This SSG SKEL executes the RMS purge process.
RM210	ABS	This absolute is the RMS run-time directory sort and dump program.
RM220	ABS	This absolute is the RMS archive report program.
RM150	ABS	This absolute is the RMS run-time database purge program.
RMS/START	SYM	This run stream starts the RMS distribution system.
RMS/SKEL	SSG	This SSG SKEL executes the RMS distribution system.
RMS	ABS	This absolute is the RMS distribution system.
RMS-VIEW	ABS	This processor performs an @ADD of element VIEW/START.
VIEW/START	SYM	This add stream starts the RMS on-line view process.
VIEW/SKEL	SSG	This SSG SKEL execute the RMS on-line view program.
VIEWR	ABS	This absolute is the RMS on-line view program.
WAIT	ABS	This absolute is a processor which executes a delay.
RMS-FIX	ABS	This processor performs @ADD of element FIX/START.
FIX/START	SYM	This addstream executes an @SSG on element FIX/SKEL.
FIX/SKEL	SSG	This SSG SKEL provides the database reorganization system setup screens.
RMSFIX/START	SYM	This add stream executes an @SSG on element RMSFIX/SKEL.
RMSFIX/SKEL	SSG	This SSG SKEL provides the batch job for database reorganization.
SAVE-DB	ABS	This absolute saves the Run-Time Database.
VERFY-DB	ABS	This absolute verifies the saved copy of the Run-Time Database.
LOAD-DB	ABS	This absolute reloads the Run-Time Database.

Any other elements which may be located in the main SPIN-X/RMS program file are related to the installation process, and are not relevant to the day to day operations of the system.

3.2.2.2 Program File Accessibility

The SPIN-X/RMS program file must be accessible to the RMS administrator, the RMS distribution system, the database engines, the archive and retrieval processes, and any on-line viewing user. If access to the RMS main program file is not to be given to all on-line viewing users, a separate file may be created which contains the elements required to execute the on-line viewer. The following elements must be copied for correct operation of the on-line viewer from a separate file: RMS-VIEW, VIEW/START, VIEW/SKEL, VIEWR and RMS/SGS.

3.2.3 SPIN-X/RMS Databases

SPIN-X/RMS maintains several database files which define how the system is to process reports, where those reports are located, and the contents of the individual reports. These files are segmented into two databases: the configuration database and the run-time database. The configuration database defines how SPIN-X/RMS is to process the reports which are received. The run-time database defines the location and contents of the individual reports processed. MSAM file structures are used to support each database.

3.2.3.1 Configuration Databases

Two sets of the SPIN-X/RMS configuration databases are maintained. A production set is maintained which is used for the actual processing of reports which are being received. A working set is also maintained so the RMS administrator can make working changes to the configuration databases without affecting the production system's processing. The working set databases are committed to production by the RMS administrator when appropriate.

The SPIN-X/RMS configuration databases are comprised of 10 files. These files define the mechanism for identifying reports, the reports themselves, recipients, devices, formats, on-line viewing user-id's, user-id to recipient relationships, page selection rules, valid account numbers and distribution lists. The filenames for the databases are constructed as follows:

1) Working Set Configuration Databases

<u>Filename</u>	<u>Description</u>
<i>qual-work*file - report</i>	Report Definition Database
<i>qual-work*file-rerip</i>	Recipient Address Database
<i>qual-work*file-dist</i>	Distribution List Database
<i>qual-work*file-pgslec</i>	Page Selection Rules Database
<i>qual-work*file-format</i>	Format Definition Database
<i>qual-work*file-device</i>	Device Definition Database
<i>qual-work*file-scmask</i>	Selection Mask Filter Database
<i>qual-work*file-userid</i>	User-id Definition Database
<i>qual-work*file-acount</i>	Account Number Definition Database
<i>qual-work*file-usrrea</i>	User-id/Recipient Relational Database

2) Production Set Configuration Databases

<u>Filename 2</u>	<u>Description</u>
<i>qual-prod*file-report</i>	Report Definition Database
<i>qual-prod*file-recipient</i>	Recipient Address Database
<i>qual-prod*file-dist</i>	Distribution List Database
<i>qual-prod*file-pgslec</i>	Page Selection Rules Database
<i>qual-prod*file-format</i>	Format Definition Database
<i>qual-prod*file-device</i>	Device Definition Database
<i>qual-prod*file-scmask</i>	Selection Mask Filter Database
<i>qual-prod*file-userid</i>	User-id Definition Database
<i>qual-prod*file-acount</i>	Account Number Definition Database
<i>qual-prod*file-usrrea</i>	User-id/Recipient Relational Database

The files are cataloged with a reserve equal to their respective tracks as defined by the FILE SGS cards.

3.2.3.2 Run-Time Databases

One SPIN-X/RMS run-time database is maintained and used by the production system. The run-time database are comprised of two files. These files maintain the actual report data, life cycle records, and directory entries. The filenames for these databases are constructed as follows:

1) Production Run-Time Databases

<u>Filename</u>	<u>Description</u>
<i>qual-prod*file-rundta</i>	Report Data Database
<i>qual-prod*file-lfcycl</i>	Life-Cycle And Directory Database

The files are cataloged with a reserve equal to their respective tracks as defined by the FILE SGS cards.

3.2.3.3 Database File Accessibility

The SPIN-X/RMS database files must be accessible to three separate entities. These entities must all be able to assign the database files in a non-privileged mode. The three entities which access the database files are the RMS administrator in both demand and batch modes, the working set database engine in batch mode, and the production set database engine in batch mode. The configuration databases are all cycled when being updated; thus, in order to avoid file cycling problems, the file cycles must all be cataloged with the same accessibility. The non-privileged assignment also ensures that any database files which may have been unloaded by the EXEC are rolled-back before being copied or modified.

3.2.4 DPS 1100 Screen Library

Several SPIN-X/RMS components have full screen interfaces. These programs all use DPS 1100 as their screen driver. Therefore, a SPIN-X/RMS screen library file must be provided. This file is named RDPS*RMSS\$SCREENS. DPS 1100 has been bound into all the programs using full screen interfaces, thus, DPS 1100 does not have to be resident on the system hosting SPIN-X/RMS for the full screen interfaces to work. The SPIN-X/RMS screen library is loaded on the host during the installation process.

3.2.5 SPIN-X/Common Data Bank

SPIN-X/RMS makes use of the SPIN-X/Common Data Bank (SPIN-X/CDB) for inter-system communications and security. If you accepted the default name for the CDB during the install process it will be referred to as RMSCDB in the program file and elsewhere. The common bank is a client/server structured messaging system. Servers register with the common bank as providers of services. Whenever a client requires a service, it attaches to the common bank with an attach to server request. The common bank extracts the client's user-id and passes it to the server with the attach request. The server can then validate the user-id to determine if the request is valid and whether limitation may exist. The SPIN-X/CDB is usually installed prior to the installation of SPIN-X/RMS. See the SPIN-X/CDB Installation section for more information regarding the common bank and its installation.

3.3 SPIN-X/RMS Component Interdependencies

SPIN-X/RMS is composed of four primary systems, the SPIN-X Common Data Bank, and two RMS database servers. The four primary systems are: RMS Administration, RMS Distribution, RMS Archive & Retrieval, RMS On-Line Viewing. Each system is made up of several components. The combination of these components being used in a coordinated manner constitute the systems. Therefore, an understanding of the relationships between the SPIN-X/RMS components is highly beneficial to the effective administration of these systems. This section describes which components combine to create the four systems, the interdependencies between system components, and any restrictions which may apply.

3.3.1 SPIN-X/RMS Overview

Figure 3.1 shows the relationship of the four primary systems which constitute SPIN-X/RMS. The four systems are designed to run in a seamless, easy-to-use environment. When appropriate, the systems start automatically.

The Administration System is started by the RMS administrator when work needs to be done. The Administration System, however, will automatically start the required database engines when appropriate.

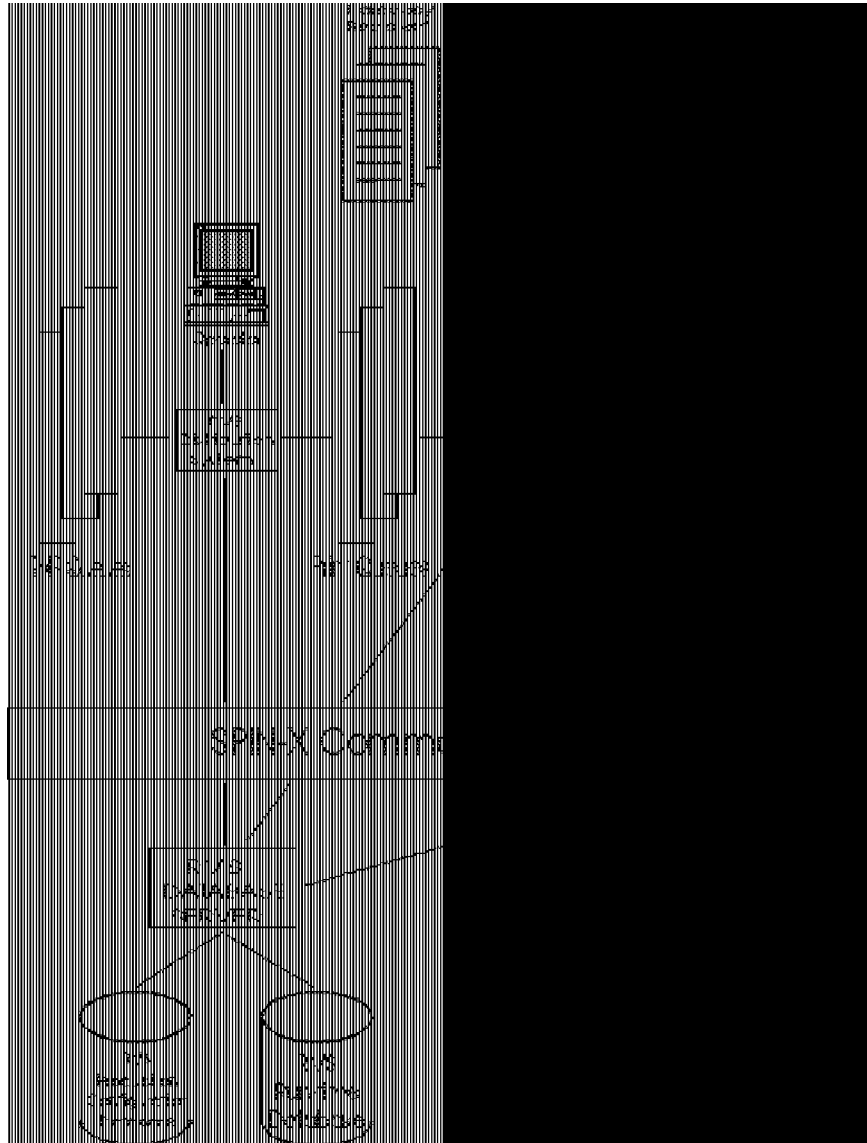
Following system installation the administrator will need to input the required data which will define the reports, recipients, distributions and etc. Work must also be done when there is a need to update one or more Configuration files as when adding or deleting a recipient, changing a device description and so forth.

The Distribution System and the Distribution System Database Engine may be started by the operator, or by the SYSS*LIB\$.AUTO\$START element upon system start-up. Otherwise, the Distribution System and its database engine run continuously, except during production database updates and resets. During update and reset operations, the Distribution System must be brought down and restarted by the operator. The database engines are cycled automatically by RMS Administration.

The Archive and Retrieval System runs as a scheduled batch job and two non-scheduled batch jobs. The scheduled batch job may also be started in the SYSS*LIB\$.AUTO\$START element. One of the non-scheduled batch jobs is submitted by the scheduled batch job, and the other is submitted by the RMS administrator for recovery and reprint.

The On-line Viewing System is started by the on-line recipients when report viewing is desired.

Figure 3.1. SPIN-X/RMS Overview



3.3.2 The RMS Administration System

The RMS Administration system is used by the RMS administrator to maintain and manage SPIN-X/RMS. The administration of SPIN-X/RMS includes modifying the working set configuration databases, committing modifications to the production set databases when appropriate, generating reports from either the working set or production set configuration databases, retrieving and reprinting distributions from archive when required, and viewing reports on-line when necessary.

3.3.2.1 Administration System Component Interrelationships

The Administration System is executed via a single processor. The processor is RMS-ADMIN and is located in the SPIN-X/RMS program file. This processor must be executed from a demand session with full screen capabilities. The RMS-ADMIN demand session must have access to the SPIN-X/RMS configuration databases and the SPIN-X/RMS program file. The following SGS elements, SSG SKEL's, addstreams, runstreams, and absolutes are used by the RMS-ADMIN processor.

RMS-ADMIN uses:

RMS/SGS
 ADMIN/START
 ADMIN/SKEL
 ADMIN
 DOWNDBE
 ADMDBE/START
 DISDBE/START
 UPDATE/SKEL
 RMSUPD/START
 RESET/SKEL
 RMSRST/START
 REPORTS/SKEL
 RMSRPT/START
 RECOVER/SKEL
 RMSREC/START
 VIEW/SKEL
 VIEWR
 WAIT

For a detailed description of each component, see the Program File Layout subsection (3.2.2.1) in this chapter.

Several of the batch runstreams which are submitted by the RMS Administration System use other SSG SKEL's and processors which are not listed above. These relationships are defined below.

ADMDBE/START uses:	RMS/SGS
ADMDBE/SKEL	
RM050	
DISDBE/START uses:	RMS/SGS
DISDBE/SKEL	
RM050	
RMSUPD/START uses:	RMS/SGS
RMSUPD/SKEL	
DOWNDBE	
DISDBE/START	
RMSRST/START uses:	RMS/SGS
RMSRST/SKEL	
DOWNDBE	
DISDBE/START	
RMSRPT/START uses:	RMS/SGS
RMSRPT/SKEL	
DOWNDBE	
ADMDBE/START	
ADRPT	
RMSREC/START uses:	RMS/SGS
RMSREC/SKEL	
RM250	
PRINT	

The following diagram shows the relationships between the components of the SPIN-X/RMS Administration System. Note that most of the processes of the Administration System connect to the Administration System Database Engine (DISDBE) via the SPIN-X Common Data Bank. The update and reset processes terminate and start the Distribution System Database Engine. The reports process connects to the Distribution System Database Engine via the SPIN-X/CDB if production set reports are requested. The On-line viewer connects to the Distribution System Database Engine for report viewing.

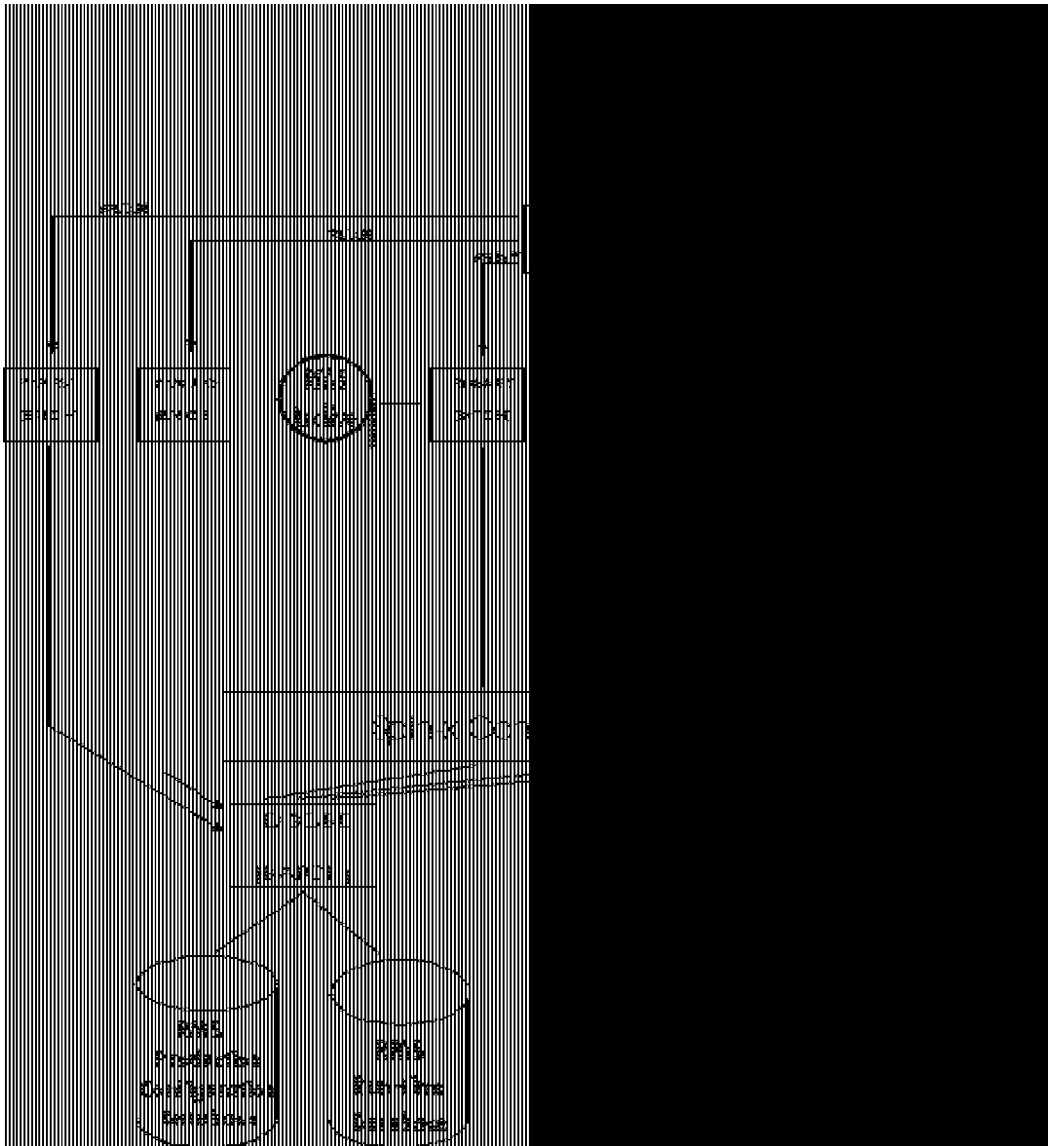


Figure 40.2. SPIN-X/RMS Administration System Overview

3.3.3 The RMS Distribution System

The RMS Distribution System controls the day-to-day processing and distribution of reports as they become available to the system. It loads the run-time databases with the actual report data and generates all structures required for on-line viewing and archiving. It also generates all hard-copy printouts required for each distribution defined.

3.3.3.1 Distribution System Component Interrelationships

The Distribution System is started by either the operator or by the SYSS\$*LIB\$.AUTO\$START element if so included. The runstream is RMS/START and is located in the SPIN-X/RMS program file. This file should be placed in the SYSS\$LIB\$*RUN\$. program file as element RMS. This allows the operator to simply issue an ST RMS from the system console. The RMS Distribution System run must have SSSMOQUE and SSSCONSOL privileges. The following SGS elements, SSG SKEL's, and absolutes are used by the RMS/START runstream.

RMS/START uses:
 RMS/SGS
 RMS/SKEL
 RMS

For a detailed description of each component, see the Program File Layout subsection in this chapter.

The following diagram shows the relationships between the components of the SPIN-X/RMS Distribution System. Note that all of the processes of the Distribution System connect to the Distribution System Database Engine via the SPIN-X Common Data Bank.

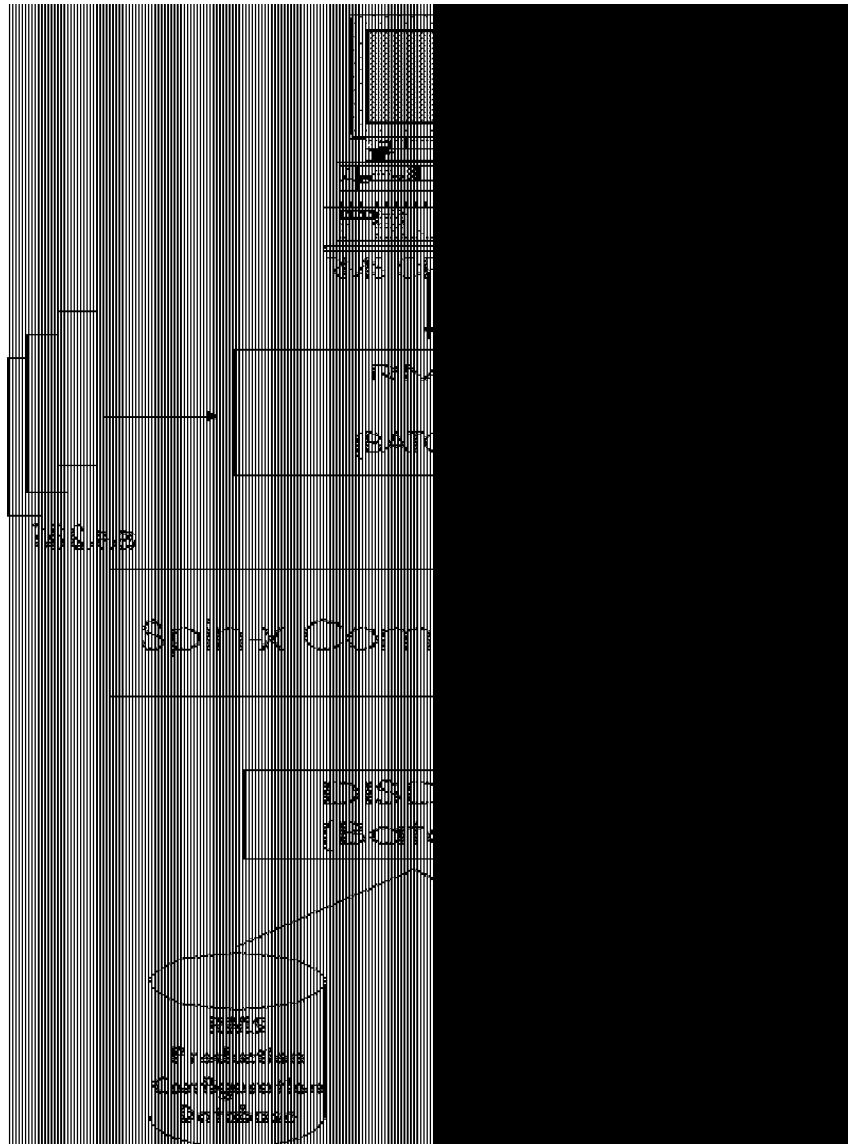


Figure 40.3. SPIN-X/RMS Distribution System Overview

3.3.4 The RMS Archive System

The RMS Archive System controls the archiving of selected reports to the desired archive media. It copies report data and distribution records from the run-time databases as defined by the configuration databases.

3.3.4.1 Archive System Component Interrelationships

The Archive System is started by either the operator or by the SYSS*LIB\$.AUTO\$START element if so included. The runstream is RMSARC/START and is located in the SPIN-X/RMS program file. This runstream is backlogged and set to run once a day at noon by default. The starting time can be changed by simply changing the start time on the @RUN card in the RMSARC/START run stream. RMSARC/START submits a run-time database purge and clean-up batch job once it completes the archive. The purge runstream deletes the data from the on-line database which is available for deletion. It also generates a report of all reports and distributions which were archived. This report is required for the retrieval of archived reports. The purge runstream then resubmits the archive runstream for execution at noon the following day. These runstreams must run under the RMS administrator's user-id, account number, project-id combination.

RMSARC/START uses:

- RMS/SGS
- RMSARC/SKEL
- LIBRARIAN/SKEL
- TAPE/SGS
- RM200
- RMSPUR/START

RMSPUR/START uses:

- RMS/SGS
- RMSPUR/SKEL
- RM210
- RM220
- RM150
- RMSARC/START

For a detailed description of each component, see the Program File Layout subsection (3.2.2.1) in this chapter.

The following diagram shows the relationships between the components of the SPIN-X/RMS Archive System. Note that all of the processes of the Archive System connect to the Distribution System Database Engine via the SPIN-X Common Data Bank.

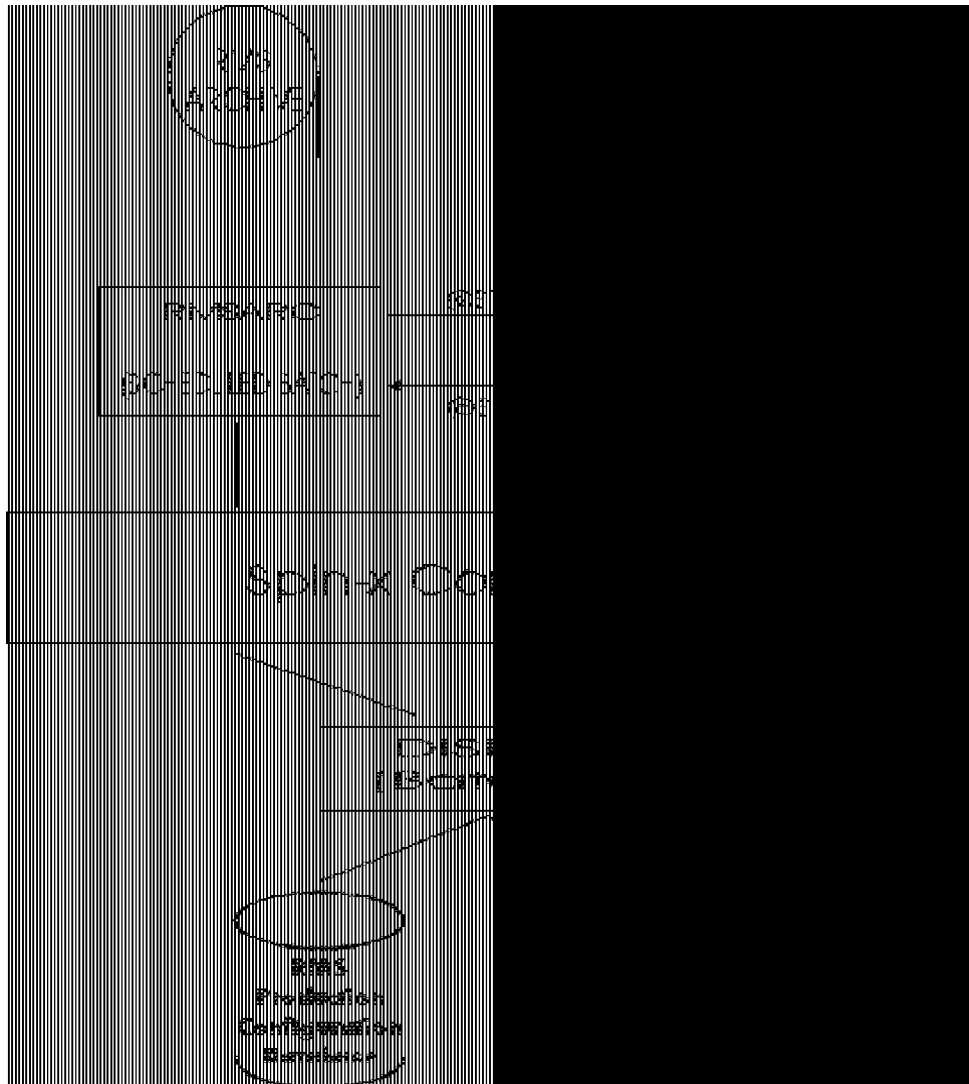


Figure 40.4.0 SPIN-X/RMS Archive System Overview

3.3.5 The On-line Viewing System

The RMS On-line Viewing System controls the viewing of selected reports by authorized user-ids. It provides a directory of all report distributions which are accessible by the user-id. Distributions which have been archived are marked as such. Security is supplied by a check on the user-id which is executing the On-line Viewing System against definitions in the SPIN-X/RMS configuration databases. The security check takes place with-in the SPIN-X/CDB and the Distribution System Database Engine. The SPIN-X/CDB extracts the run's user-id and passes it to the database engine for validation.

3.3.5.1 On-line Viewing System Component Interrelationships

The On-line Viewing System is started by the on-line recipient. The processor is RMS-VIEW and is located in the SPIN-X/RMS program file. This processor causes the execution of the On-line Viewer.

RMS-VIEW uses:

- RMS/SGS
- VIEW/START
- VIEW/SKEL

For a detailed description of each component, see the Program File Layout subsection (3.2.2.1) in this chapter.

The following diagram shows the relationships between the components of the SPIN-X/RMS On-line Viewing System. Note that all of the processes of the On-line Viewing System connect to the Distribution System Database Engine via the SPIN-X Common Data Bank.

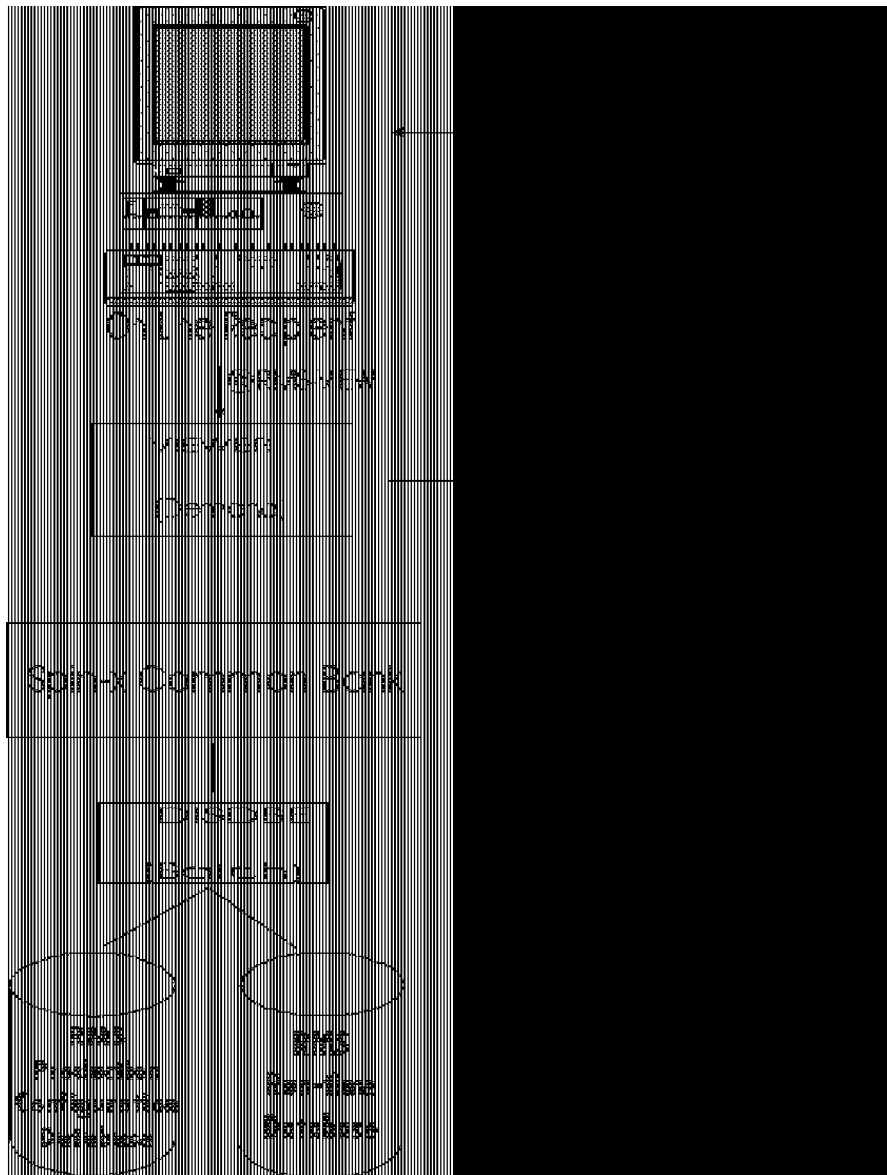


Figure 3.5. SPIN-X/RMS On-line Viewing System Overview

3.3.6 The Database Reorganization System

The RMS Database Reorganization System provides file reorganization support for the RMS Run-Time Database. In addition, it assists the RMS administrator with the relocation of the Run-Time files from fixed disk to removable packs and vice versa.

3.3.6.1 The Database Reorganization System Component Interrelationships

The Database Reorganization System is composed of two processes: reorganization setup and batch processing. Reorganization setup is performed through a demand session of the RMS administrator. That session is used to record the run-time specifications and to submit a run request for the batch job. SSG runstreams located in the SPIN-X/RMS program file control and coordinate the two components. The first of these is called by the processor RMS-FIX also located in the SPIN-X/RMS program file. RMS-FIX uses:

RMS/SGS	provides system defaults
FIX/START	starts reorganization setup
FIX/SKEL	provides reorganization setup
RMSFIX/START	starts the batch job
RMSFIX/SKEL	provides runstream for batch job

The following diagram shows a relationship between the processes and the Run-Time Database files.

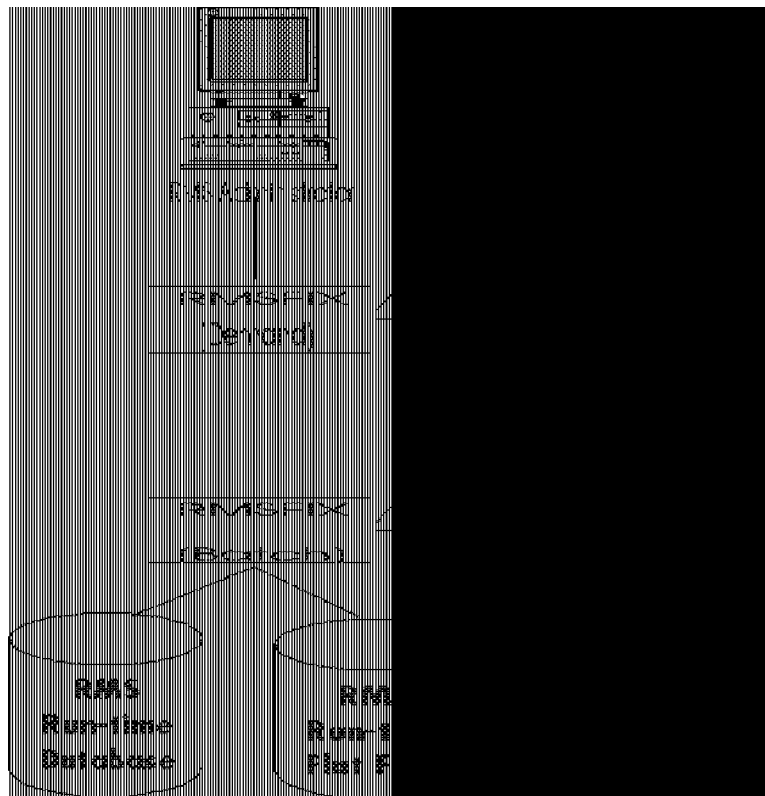


Figure 40.6. SPIN-X/RMS Database Reorganization System Overview

4.1 Overview

The SPIN-X/RMS installation consists of three separate processes: tape load, system installation and database set-up. The tape load and system installation are to be performed by the Unisys OS1100 system administrator. The database set-up is to be performed by the RMS administrator. The tape load process copies all the files from the release tape into the appropriate host disk files. Once the tape load has completed, SPIN-X/RMS must be installed. The system installation process sets up all the SPIN-X/RMS runstreams, addstreams, programs and execution parameters required by the system.

After installation has completed, the SPIN-X/RMS databases must be set-up. The database set-up **must be performed** under the SPIN-X/RMS administrator s the user-id, account-id and project-id. The database files are all cataloged as private files and must all be accessible to the SPIN-X/RMS administrator.

ll the SPIN-X CDB with the following command:

4.2 Release Package Contents

Each SPIN-X/RMS release tape contains the following files:

*COPYRIGHT	SPIN-X copyright statement
*INSTALL	absolutes and runstreams which control installation/maintenance processes
*RMS	application absolutes and runstreams, RMS program file
*HELP-SCRNS	application system help screens
*RMS\$SCREENS	screen definitions for Unisys DPS software used in RMS online applications
*CDB	SPIN-X/RMS common bank installation file

4.3 SPIN-X/RMS Tape Load

The installation/maintenance processes are performed at a local site through the use of the *INSTALL software. The install software must be run under a DEMAND session which has been logged on with the RMS administrator's account number.

Begin the installation procedure by making the release tape available to computer Operations and by logging on to a DEMAND session. After logon, input the following ECL statements:

```
>@ASG,T      TEMP.,///256
>@ASG,TJ     TAPE.,<equip. type>,RMS<cust #>,,NORING
>@MOVE       TAPE.,1
>@COPY,G     TAPE.,TEMP.
>@TEMP.INSTALL
```

These statements will call for the tape to be mounted, will copy the second file to the local host, and will execute the INSTALL element.

The INSTALL element will display the SPIN-X/RMS Installation menu.

```

▲                               SPIN-X/ R M S System Installation
▲                               Version 1R3A
▲   *****
▲   * SPIN-X/ R M S (c) 1994 - Georgia State Univeristy Foundation, Inc.*
▲   * Atlanta, Georgia 30303 U.S.A. -- All Rights Reserved. *
▲   *****
▲   * NOTE:  R M S interfaces with the EXEC to perform specialized *
▲   *         functions. The Userid under which R M S runs must have *
▲   *         SSSMOQUE & S$CONSOLE Privileges. *
▲   *****
▲
▲   A) Load tape .....UNDONE
▲   ----- New Install -----
▲   B) Install RMS software .....UNDONE
▲   C) Initialize RMS databae files .....UNDONE
▲   D) Create CDB installation file .....UNDONE
▲   ----- Maintenance -----
▲   E) Install RMS new release .....UNDONE
▲   F) Convert RMS database .....UNDONE
▲
▲   F) Print README file
▲   Q) Quit/Exit
▲                               (A,B,C,D,E,F,Q) ▲

```

The initial status for each menu selection (A-Q) will be "UNDONE". As each step is selected and completed, it's status will change to "DONE".

In all cases, first select step A, Load Tape. This load process will copy all of the release tape files to disk and will catalog them under the qualifier "RMS\$INSTALL". When the load is completed, the installation menu will be redisplayed with the Load Tape status of "DONE".

After the Tape Load is completed, the installation can be interrupted following the completion of any step by selecting the menu option "Q". To resume the installation process, recall the installation menu by keying the following commands from a DEMAND session.

```
>@USE PROG,RMS$INSTALL*INSTALL.
>@ADD PROG.MENU/SSG
```

During the "Quit" process at the end of the installation, you will be given the option to remove the install files (RMS\$INSTALL) from disk or to save them for future reference.

When performing a first time install, the important menu steps are B, C, and D: E and F are used for upgrade maintenance. The steps can be completed in the order listed or, for convenience, step D (installation of common data bank) can be completed before beginning step C (initialization of RMS database files).

After you press "B" the following screen is displayed.

```

      ▲                               SPIN-X/RMS System -- Install
      ▲
      ▲ *****
      ▲ * SPIN-X/RMS (c) 1990   - Georgia State University Foundation, Inc. *
      ▲ *                               Atlanta, Georgia 30303 U.S.A.      *
      ▲ * All Rights Reserved.                                           *
      ▲ *****
      ▲
      ▲ This procedure will install the latest SPIN-X/RMS absolutes
      ▲ and runstreams in a local program file (RMS*RMS). Local
      ▲ variables will be requested through screen prompts and
      ▲ they will be stored in the program file element RMS/SGS.
      ▲
      ▲ The first two prompts will permit you to specify an
      ▲ alternate <qualifier>*<filename> for the program file.
      ▲
      ▲ Do you want to continue, or save the install files and stop?
      ▲ Enter "C" to continue, any other key to stop .... (C/<Enter>) Δc

```

Press "C" to continue the installation process.

4.4 SPIN-X/RMS System Installation

RMS System installation creates a local operative version of the RMS program file. Select step B, Install RMS software to begin RMS system installation. When B is selected, you will receive a version notice, some general information and a few lines of instructions. Next a series of prompts will be given whose responses will be used to build the RMS program file element RMS/SGS which is necessary for program implementation. Key the appropriate response at the prompt. To accept the default values {in braces}, just press the XMIT key.

First general SPIN-X/RMS installation questions will be asked.

>Enter the SPIN-X/RMS Qualifier {RMS}>

This is the qualifier that is used to identify the RMS program file. The default qualifier is "RMS". An alternate qualifier such as "RMSTST" might be used to install a parallel system for test purposes.

>Enter the Program File Name {RMS}>

This is the name to be used for the RMS program file. The default name is "RMS".

>Enter the Production Set Database Qualifier {RMS} >

Enter the qualifier to be used by the SPIN-X/RMS production set configuration and run-time databases. This qualifier is used to differentiate the production set SPIN-X/RMS databases from the working set databases. The default qualifier is **RMS**.

>Enter the Working Set Database Qualifier {RMS-WORK} >

Enter the qualifier to be used by the SPIN-X/RMS working set configuration databases. This qualifier is used to differentiate the working set SPIN-X/RMS databases from the production set databases. The default qualifier is **RMS-WORK**.

The following questions concern the SPIN-X/RMS Administration System. The runstreams which are set-up for the Administration System require access to the RMS databases.

>Enter the user-id for the RMS administrator {your-user-id} >

Enter the user-id to be used by the SPIN-X/RMS administrator runstreams. This user-id must have access to both the SPIN-X/RMS working set and production set databases. These databases are cataloged as private for security reasons. The default user-id is the one of the current run which is installing SPIN-X/RMS.

>Enter the account-id for the RMS administrator {your-account} >

Enter the account-id to be used by the SPIN-X/RMS administrator runstreams. This account number must have access to both the SPIN-X/RMS working set and production set databases. These databases are cataloged as private for security reasons. The default account number is the one of the current run which is installing SPIN-X/RMS.

>Enter the project-id for the RMS administrator {your-project-id} >

Enter the project-id to be used by the SPIN-X/RMS administrator runstreams. This project-id must have access to both the SPIN-X/RMS working set and production set databases. These databases are cataloged as private for security reasons. The default project-id is the one of the current run which is installing SPIN-X/RMS.

Next, questions regarding the SPIN-X/RMS Distribution System will be asked. The responses will be integrated into the Distribution System runstreams making them site dependent.

>Enter the user-id for RMS Distribution {your-user-id} >

Enter the user-id to be used by the SPIN-X/RMS Distribution System runstreams. This user-id must have SSSMOQUE and SSSCONSOL privileges since the distribution system executes ER SMOQUE\$, ER KEYIN\$, and ER COM\$. The default user-id is the one of the current run which is installing SPIN-X/RMS.

>Enter the account-id for RMS Distribution {your-account} >

Enter the account-id to be used by the SPIN-X/RMS Distribution System runstreams. This account number must have SSSMOQUE and SSSCONSOL privileges since the distribution system executes ER SMOQUE\$, ER KEYIN\$, and ER COM\$. The default account number is the one of the current run which is installing SPIN-X/RMS.

>Enter the project-id for RMS Distribution {your-project-id} >

Enter the project-id to be used by the SPIN-X/RMS Distribution System runstreams. This project-id must have SSSMOQUE and SSSCONSOL privileges since the distribution system executes ER SMOQUE\$, ER KEYIN\$, and ER COM\$. The default project-id is the one of the current run which is installing SPIN-X/RMS.

>Enter the RMS Common Bank BDI {0400600} >

This is the BDI the RMS/CDB will use when communicating with the EXEC. The Unisys Systems Administrator must supply this number. If a BDI other than the default is used, enter the BDI used in octal. The default BDI is **0400600**.

>Specify the maximum number of servers and clients to be supported by the CDB:

Max servers {5}
Max clients {10}

>Enter the default console for RMS {SYSMSG} >

Enter the system console which is to be used as the default operator console for the SPIN-X/RMS Distribution System. Valid options are **SYSMSG**, **IOMSG**, **RSICOM**, **HDWCON**, **USER5**, **USER6**, **USER7**. The default operator console is **SYSMSG**.

>An "*" will automatically be appended to the keyin. >Enter the RMS operator keyin {RMS} >

Enter the unsolicited operator keyin which will be used for operating and controlling the SPIN-X/RMS distribution system. This keyin will be used by the RMS operator to submit commands to the distribution system. An "*" will be appended to the keyin provided by the installation process. Therefore, do not include an "*" on the keyin being provided. The default keyin is **RMS**. The operator keyin will be **RMS***.

>Enter the default output queue for RMS generated output {PR} >

Enter the output queue which is to be used by SPIN-X/RMS for system output. This includes items such as the RMS log file, the SPIN-X/RMS database reports, etc. The default queue-id is **PR**.

>Enter the RMS Distribution Database Engine servername {DISDBE} >

Enter the server index to be used by the SPIN-X/RMS Distribution Database Engine. This database engine is used by the SPIN-X/RMS Distribution System, Archive and Retrieval, Reports, and On-line Viewing. The server indexes must be coordinated with any SPIN-X/CDB indexes being used by SPIN-X/Xpress, SPIN-X/Central, or other instantiations of SPIN-X/RMS.

>Enter the RMS Administration Database Engine server name {ADMDBE} >

Enter the server index to be used by the SPIN-X/RMS Administration Database Engine. This database engine is used by the SPIN-X/RMS Administration System, and Reports. The server indexes must be coordinated with any SPIN-X/CDB indexes being used by SPIN-X/Xpress, SPIN-X/Central, or other instantiations of SPIN-X/RMS.

>Enter the number of days for archive retention {21} >

Enter the number of days which archive tapes are to be saved. A hard label expiration date is placed on the tape for this number of days from creation. Tapes used for archiving, therefore, cannot be reused prior to this period. The default is 21 days.

>Enter the tape equipment type to be used for Archive tapes. Typical tape type choices are: U9V/U9S/{U47}**>Enter the default number of days for on-line retention {1} >**

Enter the number of days which print data and distributions are to be retained for on-line viewing or reprinting. This value determines the number of days which a file will be maintained in the run-time SPIN-X/RMS databases. Once this retention period has been reached, print data and distributions will be purged from the run-time databases. If the files have been archived, they can be retrieved and placed back in the run-time databases. Setting a retention period of zero (0) will cause files to be purged as soon as all required processing is completed. The default is 1 day.

>Specify whether Archive reload rights are to be limited to the RMS administrator (ADMIN) or to be extended to all Viewer users (USER).

Enter your selection now - {ADMIN}/USER

>Enter your RMS authorization code (xxxxxx)>

Enter your SPIN-X customer number in the format "RMS<cust #>".

After all the responses to the prompts have been given a display similar to the following will confirm that system installation has started.

```
--INSTALL PROCESSING UNDERWAY--
```

```
Files being installed are:
```

```
RMS*RMS
RMS*HELP-SCRNS
RMS*RMS$SCREENS
```

```
PRINT$ sent to temp file RMS$INSTALL*INSTALL-BRK
PRINT$ will be SYMd to PR
```

The following SGS values are preset. If required, use your editor to revise them.

OPTS RMS-REALTIME, OFF	- do not run RMS in realtime
OPTS DBE-REALTIME, OFF	- do not run DBE in realtime
OPTS SPLIT-DB, NO	- do not split RUNTADB
OPTS BANNER-PGCTR, ALL	- print page count on banner page.
OPTS VIEWR-PARMS, 00500, N	- set Viewer bkpt to 500
OPTS DB-CYCLES, 6	- set database max cycles to 6 (for Config. files only)
OPTS PF-CYCLES, 3	- set print\$ max cycles to 3
OPTS RPT-CYCLES, 3	- set reports max cycles to 3

At the conclusion of system installation, the breakpoint file RMS\$INSTAL*INSTALL-BRK will be SYMd to the RMS default output queue. The installation menu will then be redisplayed. Continue with the database initialization phase, option C.

4.5 SPIN-X/RMS Database Set-up

Once the SPIN-X/RMS system installation has completed, the database initialization can be performed. RMS database initialization causes the database files to be set up for first use. All existing information in the files will be deleted. The SPIN-X/RMS databases **must** be set-up under the user-id, account-id and project-id defined for the RMS administrator during the system installation process.

Two types of database set-up processes are available when installing SPIN-X/RMS. The first, performed by selecting step C on the installation menu, is a database initialization. Initializing the databases causes all information within the databases to be deleted. Any definitions made by the RMS administrator will be erased. Therefore initialization should usually only occur when initially installing SPIN-X/RMS. Exceptions relate to test environments and/or non-standard processing procedures. The second choice, performed by selecting step F, is a database upgrade. This option is used if a previous version of SPIN-X/RMS has been installed and database migration is required.

Before initialization is performed, you will be prompted to supply the file qualifiers as follows:

>Use the file qualifiers from the install just done? ({Y}|N)>

Input "Y" for yes, "N" for no.

An RMS program file must exist with the completed element RMS/SGS that contains the definitions for the database files to be initialized.

>Does the RMS/SGS element exist? (Y|{N})>

A "N" response will cause the run to abort so that you can make the required element.

If you responded with a "Y" the following warning is displayed:

```

▲ ***** W A R N I N G *****
▲ *
▲ * The initialization process will clear all RMS databases. *
▲ * This process should only be run when first installing RMS.*
▲ *
▲ ***** W A R N I N G *****
▲ *
▲ *   PRODUCTION DATABASE QUALIFIER = RMS           *
▲ *   WORKING   DATABASE QUALIFIER = RMS-WORK      *
▲ *
▲ ***** W A R N I N G *****
▲
▲
▲**** SPIN-X/RMS Installation Verification ****
▲
▲Are you sure you wish to initialize the RMS databases (Y|N)? an

```

After the warning message the user is prompted to continue the initialization process.

>Are you sure you wish to initialize the RMS databases? (Y|N)>

If "Y" is selected the initialization of the databases is performed and the user is returned to the Install menu.

Once the SPIN-X/RMS databases have successfully been set-up and the CDB has been installed, the SPIN-X/RMS administrator can begin executing and defining the report management environment under which SPIN-X/RMS is to run. See the *SPIN-X Report Management System Administrator's Guide* for information regarding defining and configuring SPIN-X/RMS.

4.6 Installing the RMS Common Bank Library

The SPIN-X Common Bank Library (CDB) must be installed using SOLAR or COMUS.

Step "D" of the installation process creates both a SOLAR/INSTALL and a COMUS/INSTALL add-stream element in a SYSSLIB\$*[libname] file. The COMUS element is for sites that may not have SOLAR installed. Pressing "D" causes the following screen to be displayed:

```

▲          SPIN-X/RMS System -- Create CDB Install File
▲ *****
▲ * SPIN-X/RMS (c) 1990   - Georgia State University Foundation, Inc. *
▲ *                               Atlanta, Georgia 30303 U.S.A.       *
▲ * All Rights Reserved.                                           *
▲ *****
▲
▲NOTE: Items in brackets "[]" are defaults; in parentheses "()" are options
▲
▲          SPIN-X/RMS Version 1R3A
▲
▲ You must be signed on in "privileged" mode to create the CDB installation
▲ file. If you are not, return to the installation menu by entering
▲ a negative response to the following prompt. From the menu, print
▲ a copy of the README file and then Quit. During the exit process,
▲ respond with a "S" to save the installation files. Once you have
▲ returned to your Demand session, enter privileged mode and then recall
▲ the installation menu as per the README file. Select the Create option
▲ and continue with a positive response to the following prompt.
▲
▲ Are you in PRIV mode (Y/{N}) ▲

```

Are you in PRIV mode (Y/{N}) If you answer in the affirmative then you will receive the following prompts for more information.

Privileged mode assumed

Enter the RMS Common Bank Library NAME

Enter (?) for more Information, or (A) to abort
Press "Enter" to use the Default Name RMSCDB.

PRINT\$ will be written to RMSS\$INSTALL*CREATCDB-BRK, and SYMd to the RMS default queue.

If you have performed "B) Install RMS software," you may answer with "Y" to the following prompt; else, answer with "N."

Use the BDI specified in the RMS install just done? ({Y}/N)

This completes the information that you need to provide the CDB install process. If you answer "N", then you will be prompted for the BDI you wish to use.

The following sample element is the SOLAR/INSTALL element created in the SY\$LIB\$*[*libname*] file after an install that accepted all the defaults (in italics).

```
PRODUCT name,RMSCDB level,2R1 mode,AFCB;  
FILE      mode,AFCB source,SY$LIB$*RMSCDB ;  
          dest,SY$LIB$*RMSCDB attributes,WRITEABLE,NOROLLOUT  
AFCB      mode,AFCB file,SY$LIB$*RMSCDB ;  
          bank, 0400601,SPINXCDB,SPINXCDB, ;  
          ''DYNAMIC'', ''TS QUEUING'', ''GUARANTEED ENTRY POINT''
```

The CDB software included on the release tape will not be installed by the install process: the install process creates only the sample element shown above. CDB installation should be done under the Security officer's i.d. or by someone with SMOQUE\$ and S\$CONSOLE privileges. Your site administrator would provide the necessary site dependent syntax for the process, but a general syntax would be:

```
@QUAL SOLAR  
@COMUS  
INSTALL LOCAL=SY$LIB$*[LIBNAME].INSTALL/RMSCDB
```

4.7 Update Installation Only

If RMS has already been installed at your site, then step "E", Install RMS new release should be selected from the Install menu. This option gives the user the ability to replace only the RMS absolutes while keeping any SKELs that may have been modified for local use. After you press "E", the following screen is displayed:

```

▲                               SPIN-X/RMS System -- Revise
▲ *****
▲ * SPIN-X/RMS (c) 1990   - Georgia State University Foundation, Inc. *
▲ *                               Atlanta, Georgia 30303 U.S.A.      *
▲ * All Rights Reserved.                                           *
▲ *****
▲
▲ The revision process is used to create a +1 cycle of the RMS Program
▲ File which contains the latest absolutes and runstreams. Local
▲ variables in the current Program File element RMS/SGS are used
▲ to update the run cards and program statements in the new version.
▲ Any local revisions that have been made to the elements in the
▲ production version will be lost. Locally added elements, however,
▲ can be retained by using option "U" below. The Program File
▲ is revised by selecting:
▲
▲   R) Replace - replace the entire Program File with the new
▲               release (@COPY <no options> ... )
▲   U) Update  - update the Program File with the release file but
▲               retain all locally developed absolutes and runstreams,
▲               e.g., RMS backup, etc. (@COPY,P ... )
▲
▲Select one:  Replace, Update or Abort (R)/U/A) ▲

```

The "U" option uses @COPY,P so that all elements in the program file on disk which do not match the names of elements on the release tape will remain in the file after the install revise has finished.

You will be prompted to enter the SPIN-X/RMS Qualifier {default is RMS} and the program file name {default is RMS}.

The output to the screen is sent to the breakpoint file "RMS\$INSTALL*REVISE-BRK." and SYMd to the RMS log-file queue in case it needs to be examined.

4.8 RMS Database Conversion

When a new release comes out, the format of the databases (recipient, distribution etc.) can change, for instance, a new field could be added. If this occurs it becomes necessary to build new databases since the new version of RMS will be looking for these changes. Because of the investment of time that was involved in setting up these databases it is very important that these conversions be performed without losing data. Therefore we recommend that these conversions be done with the help of our RMS support staff. When you choose option "F" from the Install menu the following screen will be displayed.

```
▲
▲
▲      **** SPIN-X/RMS Database Conversion ****..
▲
▲      No support for database file conversion is provided
▲      beginning with software release RMS1R2J. If you need
▲      conversion support, contact SPIN-X/RMS support staff
▲      for assistance.
▲
▲              TELEPHONE: (404)651-4567
▲              FAX:       (404)651-4579
▲
▲      ▲Press ENTER to return to menu. ▲
```

4.9 Exiting RMS Install

When you choose "Q" from the Installation Menu You are given the option of saving the installation files (see below).

```

▲
▲          SPIN-X/ R M S Installation Exit
▲
▲The RMS$INSTALL files have value only to the installation procedures.
▲They can be reloaded from the release tape if necessary. Do you
▲want to save them on disk or remove them? (S/(R)) AS
▲
▲
▲          *** RMS$INSTALL files NOT REMOVED from disk ***
▲          You can re-start with install procedures beginning with the
▲          installation menu by entering the following commands from
▲          your DEMAND session:
▲
▲          >GUSE PROG,RMS$INSTALL*INSTALL.
▲          >GADD,L PROG.MENU/SSG
▲
▲          Press ENTER to complete the Exit ▲

```

After pressing "Enter" a final message will be displayed:

```

▲
▲ -----
▲          .....**** SPIN-X/CDB SGS Message ****.....
▲
▲          You may now INSTALL the RMS Common Bank with either SOLAR
▲          or COMUS. With SOLAR, use the following element name when
▲          prompted for the product descriptor SGS:
▲
▲          SYS$LIB$*RMSCDB.INSTALL/SOLAR
▲
▲          With COMUS, use the following install statement:
▲
▲          INSTALL LOCAL=SYS$LIB$*RMSCDB.INSTALL/COMUS
▲
▲ -----
▲          ..**** SPIN-X/RMS Installation Exit Message ****..
▲
▲          All procedures are closed. Continue with your DEMAND
▲          session.
▲
▲

```

This completes the installation of the SPIN-X/RMS software.

A.1 Overview

This section defines the error messages which are generated by the different components of SPIN-X/RMS. Each message is followed by a short description and corrective actions which can be taken. Messages prefixed by an asterisk (*) indicate that the SPIN-X customer support line should be called.

A.2 RMS Administration System Messages

The following messages are generated by the SPIN-X/RMS Administration System. Some of the messages are displayed on the operator console, while others are displayed in the message line of the full screen displays. Batch job errors, statuses, and warnings are sent to the operator console. Demand program errors, statuses, and warnings are displayed on the bottom line of the full screen displays, or in the PRINT\$ file if not in full screen mode.

A.2.1 Administration System PRINT\$ File Messages

These messages are generated by the Administration System before entering full screen mode. They are displayed in the PRINT\$ file.

No reply from Database Engine, server <n>. Retry? (Y/N)

Contact the RMS system administrator concerning the availability of the RMS database server. Use of the program is precluded until the server is active. <n> is the server number to which the program attempted to attach, information which may be of interest to the system administrator.

A.2.2 Administration System Full Screen Messages

These messages are generated by the Administration System while in full screen mode. These messages are displayed on the bottom message line.

MSG001 - FUNCTION PERFORMED SUCCESSFULLY [- <msg>]

Standard Administrator program completion acknowledgment in lieu of a more specific message. [- <msg>] is used to indicate the number of records added, modified, or deleted by those programs which perform updates on multiple records.

ERR002 - CORRECT BLINKING FIELDS

Most general error message. When errors are detected, the cursor is placed in the first (top left) erroneous field and the message displayed pertains to the error detected there.

ERR003 - VALID ACTIONS ARE [AD]D, [CL]EAR, [DE]LETE, [DI]SPLAY, [MO]DIFY

An invalid action was placed in the action code field.

ERR004 - REQUIRED FIELD MISSING

A required field on the screen is not filled in properly.

ERR006 - UNDEFINED FUNCTION KEY <pfk>

The function key entered, <pfk>, has no meaning for this program.

ERR007 - FUNCTION KEY <pfk> INVALID IN CONTEXT

In the Administrator a function key which is supported by the program has been entered but cannot be processed under the current circumstances. This usually results for a request to display another record while an add, modify, or delete is in progress. The error also occurs on the Report Distribution screen if recipient selection is requested before a report has been selected for display.

ERR008 - I/O ERROR FL-<n>,FN-<n>,K-<n>,E<n>,<n> <msg>

A fatal error has occurred. <n> represent the various codes indicating the error and the circumstances under which it occurred. <msg> provides a brief English description, where <msg> is:

- 02 DUPLICATE KEY**
- 10 END OF FILE**
- 21 SEQUENCE ERROR**
- 22 DUPLICATE KEY**
- 23 RECORD NOT FOUND**
- 24 BOUNDARY VIOLATION**
- 30 HARDWARE I/O ERROR**
- <n> SYSTEM ERROR**
- <n> FILE SERVER ACCESS ERROR**
- <n> LK01-STATUS**

The last three messages indicate a program error of some sort. Some security violations produce this message. Specifically, an attempt to run the Administrator program without administrator authority produces this message. Contact the RMS System Administrator for further instructions.

ERR009 - RECORD ALREADY EXISTS

In the Administrator program an attempt has been made to add a duplicate record. On screens which perform multiple record adds the duplication is with a record already on file, not with another line on the screen.

MSG010 - SELECT MASK CHARACTERS USING 'X'

This is the instruction given for adding Selection Mask records.

ERR011 - RECORD NOT FOUND

A record requested for display does not exist. On Administrator program summary screens, end of file has been reached as a result of either scrolling to the end or requesting a start key greater than that of any record in the file. This message is sometimes used in the Administrator program to indicate a reference error during an add or a modify when a field contains the key of another type of record. In the on-line viewer this message indicates a request for a page which does not exist. The page request can be either a specific request or an implicit request as a result of scrolling backwards or forwards while at the beginning or end of the distribution, respectively.

MSG012 - REPEAT TRANSACTION TO DELETE

Prompt displayed in the Administrator program after a record has been displayed in preparation for deletion.

MSG013 - RECORD DISPLAYED FOR MODIFICATION

Prompt displayed in the Administrator program after a record has been displayed in preparation for modification.

MSG014 - REPEAT FUNCTION KEY TO ABANDON UPDATE FUNCTION

Displayed by the Administrator program if a request to return to the previous screen (PF5) or the main menu (PF3) is entered while an add, modify, or delete is in progress. Following this message either function key will be honored on the next transmission regardless of which was first entered.

ERR015 - SELECTED ACTION INVALID IN CONTEXT

Displayed on the Distribution Third-Party Billing screen of the Administrator program if the normally valid values 'DI', 'AD', 'DE', or 'CL' are entered. This screen is an addendum to the Report Distribution List and the only relevant action is 'MO', modify.

ERR016 - ONLY VALID ACTIONS AT THIS TIME ARE <action> AND 'CL'

Displayed by the Administrator program if the action is changed while an add, modify or delete is in progress or if the user fails to reenter 'DE' if a delete is in progress. <action> is the action first entered (the type of update in progress).

ERR018 - SELECTION MASK RECORD MISSING

Displayed on the Report Definition screen of the Administrator program when an add is requested and the Selection Mask record requested does not exist. If the Selection Mask field is left blank key '\$DEFAULT' (record supplied with RMS) will be used.

MSG019 - ADD RECORD. ENTER ONE CHARACTER IN MASK FOR EACH ' _ ' IN TEMPLATE

Prompt displayed by the Report Definition screen of the Administrator program after an add has been requested successfully.

ERR020 - VALID SELECTION CHARACTERS ARE SPACE, A-Z, 0-9, @, \$, AND -

Displayed by the Report Definition screen of the Administrator program indicating an erroneous character has been entered in the selection values.

ERR021 - MODIFICATION OF THIS TYPE RECORD PROHIBITED

Displayed by the Selection Mask and User-id/Recipient Access screens of the Administrator program if a modify is requested. Modification of these types of records is prohibited.

ERR022 - REFERENCED BY <msg>

Displayed by the Administrator program after a request for delete of any record referenced by another. No record may be deleted until all references to it have been removed. <msg> indicates the type of the first record encountered for which the delete was requested, the field in the record containing the reference if necessary to remove ambiguity, and all or part of the referencing record's key unless that is obvious.

MSG023 - SELECT: R-REPORT DETAIL, D-DISTRIBUTION, S-SELECT DISTRIBUTION

Selection prompt displayed on the Report Summary screen of the Administrator program.

ERR024 - SAME KEY REQUESTED AS PREVIOUS: NO ACTION TAKEN

Displayed on the Report Distribution List and Recipient Summary screens of the Administrator program. In the former case the message is displayed when neither data fields nor a function key were entered; in the latter, a starting key must have been entered on the previous transmission and left unchanged on this transmission. This handling is obsolete. Most screens now treat these conditions as requests to present the next screen.

ERR025 - NO ACTION WAS REQUESTED

Displayed on those Administrator program screens which allow updates to multiple records when add, modify, or delete is requested but none of the records displayed on the screen were selected for update (or, in the case of an add, no records were added on the blank screen). The message is also displayed on the Report Distribution List screen if a request to access the Page Selection Rules screen was entered (action 'RU') but no distributions were selected. It also appears on the Recipient Summary and Recipient Selection List screens in situations which should be interpreted as requests for the next screen. On the former the message appears when no records were selected and the Start Recipient was blank for the previous transmission and remains so for this transmission; on the latter the message appears when no records were selected and neither Recipient nor Address Selection fields were changed.

ERR026 - DEVICE RECORD MISSING

Indicates that the device name specified does not exist.

ERR027 - KEY CHANGE INCONSISTENT WITH ACTION

Appears on the Report Definition and Report Distribution List screens if a request to access the Page Selection Rules (action 'RU') is accompanied by a change to the Report Name on the screen. Appears on the Report Distribution List screens if a request to access the Distribution Third-Party Billing screen (action 'BL') or a request for a modify or delete is accompanied by a change to the Report Name on the screen.

ERR028 - REPORT RECORD MISSING

Indicates that the report specified does not exist.

ERR029 - EXTRANEIOUS FIELD: CONTEXT ALLOWS NO DATA HERE

Appears on Administrator program screens allowing multiple record adds when data fields have been entered on a line where key fields are blank.

ERR030 - PRIOR DISPLAY REQUIRED

Appears on the Report Definition and Report Distribution List screens if a request to access the Page Selection Rules (action 'RU') is entered while no Report or Distributions are displayed. Appears on Administrator program screens which can update more than one record after a request for a modify or delete unless the previous transmission was a display.

ERR031 - RECIPIENT RECORD MISSING

Indicates that the recipient address record specified does not exist.

ERR032 - MASK ALREADY DEFINED IN RECORD <mask>

Appears on the Selection Mask screen of the Administrator program following the second transmission of an add if the mask entered has already been used in another selection mask record. <mask> is that record's key.

ERR033 - DUPLICATE KEY

Appears on Administrator program screens allowing multiple record adds when key fields entered on one line match those entered on another.

MSG034 - SELECT RECORDS FOR ACTION USING 'X'

Typical input prompt for Administrator program screen which modifies and/or deletes multiple records.

MSG035 - SELECT RECORD FOR DETAIL DISPLAY BY TYPING 'X' IN COLUMN ONE

Input prompt for Recipient Summary screen of Administrator program.

ERR036 - UNDEFINED QUEUE

Indicates that the queue-id supplied on the device screen is not configured to the EXEC. Contact your OS1100 system administrator to determine the appropriate queue-id.

ERR037 - MASK ALREADY DEFINED FOR REPORT - <rpt>

Appears on the Report Definition screen of the Administrator program after the second transmission of an add attempt when a report already exists which uses these same values in its selection mask. <rpt> is the name of the report.

MSG038 - REPEAT FUNCTION KEY TO TERMINATE SESSION

Appears on the Main Menu screen of the Administrator program after the entry of PF3: the function key must be entered twice to exit the Administrator.

MSG039 - END OF LIST

Appears on screens capable of displaying multiple records along with an otherwise blank screen when end of file is reached without producing any records for display. File position is typically restored to the beginning.

ERR040 - ONLY VALID ACTION AT THIS TIME IS '<act>'

Appears on the Page Selection Rules screen of the Administrator program if an inappropriate action is entered while an add, modify, or delete is in progress.

ERR041 - INVALID ACTION

Appears on the Page Selection Rules screen if an invalid action is entered.

ERR042 - ONLY ONE LEVEL OF PARENTHESES IS ALLOWED

Indicates that only one level of parenthesis is currently supported on the Page Selection Rules screen.

ERR043 - UNMATCHED PARENTHESIS

Indicates that all opening parentheses are not matched with closing parentheses on the Page Selection Rules screen.

ERR044 - NO DATA ENTERED

Indicates that no rules have been defined on the Page Selection Rules screen. Page selection rule records which restrict nothing are prohibited.

MSG047 - ACCOUNT RECORD MISSING

Indicates that the account number specified has not been defined.

ERR048 - BILL REPORT RECIPIENT OR THIRD PARTY

Appears on the Third Party Billing screen of the Administrator program when a modify attempt indicates billing to the recipient but a specific bill-to recipient is also specified.

A.3 SPIN-X/RMS Distribution System Messages

The following messages are generated by the SPIN-X/RMS Distribution System. Some of the messages are displayed on the operator console, while others are placed in the distribution printout files. System errors, statuses, and warnings are sent to the operator console. Any I/O errors which occur while reading report job printfiles are placed in the distribution printfiles.

A.3.1 Distribution System Main Program Console Messages

These messages are generated by the RMS Distribution System main program activity. They are displayed upon the RMS operator's console.

***RMS001: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command code displayed and call the support line.

***RMS002: Internal Messaging Error Status <status>**

The RMS interactivity messaging system returned an error. Record the status code and call the support line.

***RMS003: Stack Error Status <status>**

An RMS stack error has occurred. Record the status code and call the support line.

RMS004: RMS Console I/O Redirected to Message Group <cons>

Indicates the message group to which the RMS Distribution System 2 will output console messages. Console IDs and numbers: SYSMMSG (0), IOMSG (1), RSICOM (2), HDWCON (3), USER4 (4), USER5 (5), USER6 (6), USER7 (7).

RMS005: RMS Console I/O Redirected to Site Id <site-id>

Indicates the demand console to which the RMS Distribution System will output console messages.

A.3.2 Distribution System Dispatcher Console Messages

These messages are generated by the RMS Distribution System message dispatcher activity. They are displayed upon the RMS operator's console.

***RMS101: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command code displayed and call the support line.

***RMS102: Status <status> Returned On Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS103: RMS Exiting . . .

The RMS system is executing a normal exit.

RMS104: RMS Killed . . .

RMS was terminated by an operator's /KILL command. This is an abortive exit.

RMS105: RMS Trace On . . .

The RMS operator has initiated the trace facilities.

RMS106: RMS Trace Off . . .

The RMS operator has disengaged the trace facilities.

RMS107: RMS Dump Completed . . .

RMS has completed processing the operator's /DUMP command.

RMS108: RMS System Reset in Progress . . . Please Wait

Appears in response to the /RESET command.

RMS109: Exit Request Being Processed . . . Please Wait

Appears in response to the /EXIT command if RMS is still processing a report for distribution. RMS will not exit with report(s) still processing.

RMS110: Report Requeued for Future Processing . . . Quit Completed

Appears in response to /QUIT command. Processing of current report is aborted, and the report is requeued for future processing.

***RMS111: Status <status> Returned On Message Check**

The RMS internal interactivity messaging check function returned a bad status. Record the status and call the support line.

***RMS112: An Internal Activity Synchronization Error Has Occurred**

Two or more RMS internal activities have failed to synchronize. Call the support line.

***RMS113: An Internal Report ID Mismatch Had Occurred**

Report processing has failed to synchronize. Call the support line.

***RMS114: An Unexpected Data Base No Find Condition Has Occurred**

Indicates no \$DEFAULT report definition and recipient address is defined. Check the RMS configuration databases to see if a \$DEFAULT report definition exist, and if a \$DEFAULT recipient address exists. If either is not, define the missing \$DEFAULT record. If both do exist, call the support line.

RMS115: Database I/O Error Status <status> Returned

An I/O error has occurred while trying to read the database. Record the status and attempt to determine the problem (not catalogued, disabled, etc.). See the System Administrator.

RMS116: RMS System Cleared and Reset . . .

Appears in response to certain errors. RMS will clear memory buffers, clear the stack, clear the message queues and reset itself.

RMS117: File <filename> Queue <queue-id> - In Progress

Appears in response to STATUS keyin. Displays what file from which queue is currently being processed.

RMS118: RMS Inactive . . .

RMS is idle and has no queues activated.

***RMS119: An Invalid Log Action <code> Was Requested**

An invalid internal log file request occurred. Record the action code and call the support line.

***RMS120: A Bad Log File Function Call <code> Was Made**

An invalid log file function was requested. Record the function code and call the support line.

RMS121: @CAT Facility Status <status> Returned For RMS Log File

Provides facility status codes for cataloging of the RMS log file. See the System Administrator.

RMS122: @ASG Facility Status <status> Returned For RMS Log File

Provides facility status codes for assigning of the RMS log file. See the System Administrator.

RMS123: @USE Facility Status <status> Returned For RMS Log File

Provides facility status codes for linking of the RMS log file name. See the System Administrator.

RMS124: @BKRPT Status Code <status> Returned For RMS Log File

Provides facility status codes for output redirection to the RMS log file. See the System Administrator.

RMS125: @FREE Facility Status <status> Returned For RMS Log File

Provides facility status codes for freeing of the RMS log file. See the System Administrator.

RMS126: @SYM Status Code <status> Returned For RMS Log File

Provides facility status codes for symbiont processing of the RMS log file. See the System Administrator.

RMS127: RMS Log File Status <status>, I/O Error <error> Returned

A bad status was returned while attempting I/O to the RMS log file. See the System Administrator.

RMS128: * WARNING *** RMS Logging Disabled. . .**

An error has occurred with respect to the log file, and logging has been disabled. If you require the log file, you should bring RMS down because no logging will take place. This message is always preceded by one of messages RMS119 to RMS127. Take the appropriate actions required to enable RMS logging.

RMS129: RMS Log File Flushed . . .

The log file has been closed and submitted for printing. A new log file has been opened.

RMS130: Invalid Queue Name "<queue-id>" Specified On RMS Command Line

An invalid queue name was entered on the RMS Distribution System processor call line as the default output for the RMS log file.

RMS131: ER KEYIN\$ Register/Deregister Error Status <status> Returned

An error status was returned by ER KEYIN\$ while trying to register for the RMS console keyin. Call the System Administrator.

A.3.3 Distribution System Operator Interface Console Messages

These messages are generated by the RMS Distribution System operator console interface activity. They are displayed upon the RMS operator's console.

***RMS201: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS202: Status <status> Returned On Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS203: "<command>" Is An Invalid Operator Command

The operator entered an unknown command.

RMS204: "<queue-id>" Is An Invalid Queue Name

An invalid queue name was entered.

RMS205: ER KEYIN\$ Error Status <status> Returned

May be caused by not running the RMS Distribution System under a user ID with SSSCONSOLE privilege. See the System Administrator.

RMS206: "<level>" Is An Invalid Trace Level

An invalid trace level was entered.

A.3.4 Distribution System SMOQUE\$ Console Messages

These messages are generated by the RMS Distribution System SMOQUE\$ handling program activity. They are displayed upon the RMS operator's console.

***RMS301: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS302: Status <status> Returned on Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS303: SMOQUE\$ Status <status> Returned For Function <code>

A bad SMOQUE\$ status was returned for the displayed function. May be caused by not running under User-id with SMOQUE\$ privilege.

***RMS304: Invalid Internal Action - <code>**

An invalid SMOQUE\$ action code was received. Record the action code and call the support line.

RMS305: Queue "<queue-id>" Already Initialized

Appears in response to an INIT command for a queue already initialized.

RMS306: Queue "<queue-id>" Not Initialized

Appears in response to a RELEASE command for a queue that was never initialized.

RMS307: RMS Waiting . . .

RMS is waiting for queue entries.

RMS308: RMS Processing . . .

RMS is processing queue entries.

RMS309: RMS Inactive . . .

RMS is idle. No queues are initialized.

RMS310: Queue "<queue-id>" Initialized

Appears in response to INIT command having been accepted.

RMS311: Queue "<queue-id>" Released

Appears in response to RELEASE command having been accepted.

RMS312: No More Queues Initialized . . .

Indicates no more queues are initialized to the RMS Distribution System.

RMS313: All Queues Released

Indicates all queues have been released by the RMS Distribution System.

RMS314: <number> Queue(s) Initialized

Appears in response to STATUS keyin. Indicates number of queues initialized.

RMS315: Queue - <queue-id>

Appears in response to STATUS keyin. Provides names of queues initialized.

A.3.5 @HEAD3 = Distribution System Job Loader Console Messages

These messages are generated by the RMS Distribution System report job run-time database loader activity. They are displayed upon the RMS operator's console.

***RMS501: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS502: Status <status> Returned On Message Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS503: Job Load In Progress - File <filename>

Returned on a STATUS keyin. Indicates the job is being loaded into the RMS database.

A.3.6 Distribution System Page Scanner Console Messages

These messages are generated by the RMS Distribution System report page scanning program activity. They are displayed upon the RMS operator's console.

***RMS601: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS602: Status Returned on Message <status> Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

A.3.7 Distribution System Printout Console Messages

These messages are generated by the RMS Distribution System distribution printout program activity. They are displayed upon the RMS operator's console.

***RMS701: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS702: Status <status> Returned on Message <code> Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS703: File Write Error <status> Code <code> Returned

An error was returned from the output I/O routine when creating a distribution.

RMS704: An Error Occurred While Creating RMS Output Files

A file creation error occurred while creating the output file for a distribution.

RMS705: @CAT Facility Status <status> Returned for RMS Output Files

The @CAT command was not processed due to an error being returned.

RMS706: @ASG Facility Status <status> Returned for RMS Output Files

The @ASG command was not processed due to an error being returned.

RMS707: @USE Facility Status <status> Returned for RMS Output Files

The @USE command was not processed due to an error being returned.

RMS708: @FREE Facility Status <status> Returned for RMS Output Files

The @FREE command was not processed due to an error being returned.

RMS709: @SYM Status Code <status> Returned for RMS Output Files

The @SYM command was not processed due to an error being returned.

***RMS710: DIDS0 Status Code <status> Returned for RMS Output Files**

A file translation error occurred while creating the output file. Call the RMS support line.

RMS711: Distribution In Progress - File <filename>

Returned from the STATUS keyin. The output file is being created.

A.3.8 Database Server Access Messages

These messages are generated by the RMS Distribution System database server interface routines. They are displayed upon the RMS operator's console.

RMS901: RMS '<device>' ATTACHING TO DATABASE SERVER '<server>'.

Displayed before attempting to connect to the database server. <device> is a twelve character device name which must be unique for the current session for the server requested. <server> is the two digit server number to which the job is attaching.

RMS902: RMS '<device>' INITIALIZED

Confirmation that the batch program has attached to the database server.

RMS903: RMS UNABLE TO ATTACH TO SERVER <server> - AT

Requested server is not available. Arrange for database server to be started if possible. A response of 'A' causes the batch program to reattempt attachment to the database server; 'T' causes termination.

RMS904: '<device>' ALREADY ACTIVE RMS904: TERMINATING

The program has been denied access to the database because another program is attached as <device>. The program will terminate. This situation can occur erroneously due to corruption of the RMS/Xpress Common Bank; reloading the common bank will correct the situation.

RMS905: '<device>' TERMINATING RMS905: INITIALIZATION ERROR <error>.

Displayed after initialization failed due to an error other than missing server or duplicate device. <error> is the code returned by the common bank access routine.

***RMS906: '<device>' TERMINATING - COM\$ ERROR**

An internal COM\$ error has occurred. Call the support line.

RMS908: '<device>' EXITED

Displayed after detachment from the database server.

A.3.9 Read File Printout Messages

These messages are written into RMS distribution printfiles when errors occur while reading report job printfiles for processing.

RMS800 File Read Error: I/O Error <status> Encountered

I/O error status was returned while reading the input file. See the System Administrator.

RMS801 File Read Error: ER TLBL\$ Error <status> Encountered

An error occurred while processing the input file tape label. See the System Administrator.

RMS802 Read File Error: Bad File Label <label>

Indicates a bad Type 050 label in the input file. See the System Administrator.

RMS803 File Read Error: Bad SDF Image <image>

Indicates a bad SDF image in the input file. See the System Administrator.

RMS804 File Read Error: Bad Type 060 Control Image <image>

Indicates a bad Type 060 control image in the input file. See the System Administrator.

RMS805 File Read Error: Unknown Code Type <code>

An unknown or unsupported code type was encountered in an SDF image. See the System Administrator.

***RMS806 File Read Error: Internal Error <status>**

Indicates an internal error occurred while processing the input file. Record the status and call the support line.

***RMS807 File Read Error: DIDS Packet Error <status>**

An internal packet error occurred. Record the status and call the support line.

***RMS808 File Read Error: Bad DIDS Image <image>**

An internal translation error occurred. Record the status and call the support line.

***RMS809 File Read Error: DIDSOC Call Error <status>**

An internal file access error occurred. Record the status and call the support line.

***RMS899 File Read Error: Unknown DIDSIO Status <status>**

An unknown status record was received from the internal translation routine. Record the status and call the support line.

A.4 SPIN-X/RMS Archive & Retrieval System Messages

The following messages are generated by the SPIN-X/RMS Archive and Retrieval System. All these messages are displayed on the operator console. System errors, statuses, and warnings are sent to the RMS operator's console.

RMS901: RMS '<device>' ATTACHING TO DATABASE SERVER '<server>'.

Displayed before attempting to connect to the database server. <device> is a twelve character device name which must be unique for the current session for the server requested. <server> is the two digit server number to which the job is attaching.

RMS902: RMS '<device>' INITIALIZED

Confirmation that the batch program has attached to the database server.

RMS903: RMS UNABLE TO ATTACH TO SERVER <server> - AT

Requested server is not available. Arrange for database server to be started if possible. A response of 'A' causes the batch program to reattempt attachment to the database server; 'T' causes termination.

RMS904: '<device>' ALREADY ACTIVE RMS904: TERMINATING

The program has been denied access to the database because another program is attached as <device>. The program will terminate. This situation can occur erroneously due to corruption of the RMS/Xpress Common Bank; reloading the common bank will correct the situation.

RMS905: '<device>' TERMINATING RMS905: INITIALIZATION ERROR <error>.

Displayed after initialization failed due to an error other than missing server or duplicate device. <error> is the code returned by the common bank access routine.

RMS906: '<device>' TERMINATING - COM\$ ERROR

An internal COM\$ error has occurred. Call the support line.

RMS908: '<device>' EXITED

Displayed after detachment from the database server.

A.5 SPIN-X/RMS On-line Viewing System Messages

The following messages are generated by the SPIN-X/RMS On-line Viewing System. All these messages are displayed on the bottom line of the viewing system screens.

ERR046 - NUMBER OUT OF RANGE

Appears on the Menu screen of the Online program when the month or day fields of the date selection field are numeric but invalid (February is always valid).

ERR049 - UNAUTHORIZED ACCESS

Contact RMS system administrator for access to the On-line viewing system.

MSG050 - SELECT: P-PRINT, V-VIEW

Input prompt for On-line Menu screen.

ERR051 - NEGATIVE RANGE

A negative page range was selected for printing.

MSG052 - <n> DISTRIBUTIONS PRINTED

Appears on Menu screen of On-line program after print(s) were selected there. <n> is the number of distributions printed.

MSG053 - NOT FOUND

Appears on Viewer screen after an unsuccessful search.

ERR054 - PRINT ERROR <err>

A CSF command error while attempting to build or @SYM a file in the on-line program. <err> indicates the process in progress when the error occurred:

- 301 @ASG
- 302 @USE
- 303 @FREE
- 304 @SYM
- 305 error returned by DIDS to SDF routine

MSG055 - STRING FOUND BEGINNING IN COLUMN <col>

Confirmation on the Viewer screen following a successful search. <col> is the column in the line relative to its beginning in which the first character of the string is found. The starting column for the display will be adjusted, but only so much as is necessary for the string to be displayed on the screen in its entirety.

MSG056 - BOUNDARIES: [TOP] [BOTTOM] [LEFT] [RIGHT]

Appears on the Viewer screen after a screen has been displayed as a result of a GO command or function key. It indicates which boundaries of the page the current screen has reached (or exceeded, when allowed).

MSG057 - <n> PAGES <msg>

Used by the Viewer screen for several purposes:

0 PAGES HAD BEEN SELECTED

if print requested before any pages were selected

<n> PAGES SELECTED FOR PRINT

following successful selection

<n> PAGES PRINTED

following successful print

<n> PAGES SELECTED FOR PRINT; REPEAT FUNCTION KEY TO ABANDON

if an attempt to return to the menu (PF5) or exit the program (PF3) is entered while selected pages have not been printed.

ERR058 - COMMAND ERROR AT CHARACTER <n>. <msg>

This is the Viewer's message for errors in the Command field. <n> is the character position in the field at which the error was detected. <msg> describes the error as follows:

INVALID NUMBER/EXPRESSION/RANGE
INVALID COMMAND
UNMATCHED QUOTATION MARKS
STRING OR NUMBER TOO LONG
EXTRANEIOUS CHARACTERS OR FIELD
ARGUMENT MISSING
DUPLICATE PAGE FIELD
DUPLICATE LINE FIELD
DUPLICATE COLUMN FIELD
INVALID RANGE
RANGE DOES NOT EXIST
UNDEFINED SEARCH ARGUMENT

MSG059 - FILE SERVER TEMPORARILY UNAVAILABLE. TRY AGAIN LATER

The RMS Database Server has gone down. Further execution of the program is pointless until the server has been reactivated.